



COAL LITHOLOGY LOG

COAL
SONDE TYPE: COAL COMBINATION SONDE
LOG SUITE: GAMMA RAY, L.S. DENSITY, CALIPER

BOREHOLE: BP-1
CLIENT: BP Exploration Coal Division

AREA: Sukunka North
COUNTRY: Canada
DATE LOGGED: July 3/80

DEPTH SCALE: 200:1
LOG SCALE: 1.0" = 4.00'S

BOREHOLE DATA

PERMANENT DATUM	F 100 ft level
ELEVATION OF P.D.	888
MEASUREMENTS FROM	F.L.L.
DEPTH REACHED	114.49
CASING SHOE	114.36
CASING SIZES	1 H TO 4 1/2" TO 2 1/2"

FLUID DATA

NATURE	DRILL FLUID
SG	
LEVEL	
VISCOSITY	
PH	
BHT	

OPERATION DATA

FIRST READING	113m
LAST READING	00m
INTERNAL LOGGED	113m
UNIT-TRUCK No	46/24
ENGINEER	KE/SJD
WITNESS	SM

667

EQUIPMENT AND RECORDING DATA

LOG	EQUIPMENT		TAPING			PANEL		CAL COEFF	DEPTHS		SEAM LOG RUN		
	SONDE	SOURCE	LOG TAPED	RECORD SPEED	DIRECT OF REPLAY	SPEED	TC SECS		NORM	FROM		TO	
GAMMA RAY	118	5845											
L.S. DENSITY	118	510API	Y	9m/m	D	9m/m	1	-	1.5	113m	0m	113m	Y
CALIPER		530SDU	Y	9m/m	D	9m/m	1/3	6.8	-	113m	0m	113m	Y
			Y	9m/m	D	9m/m	1/3	-	-	113m	0m	113m	

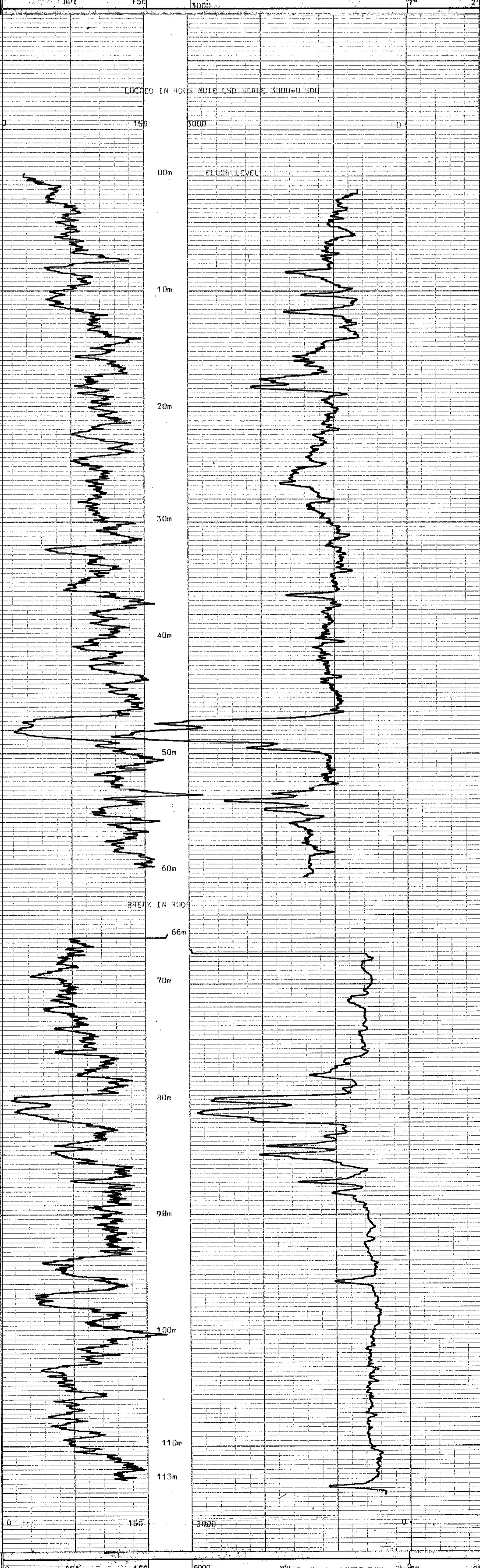
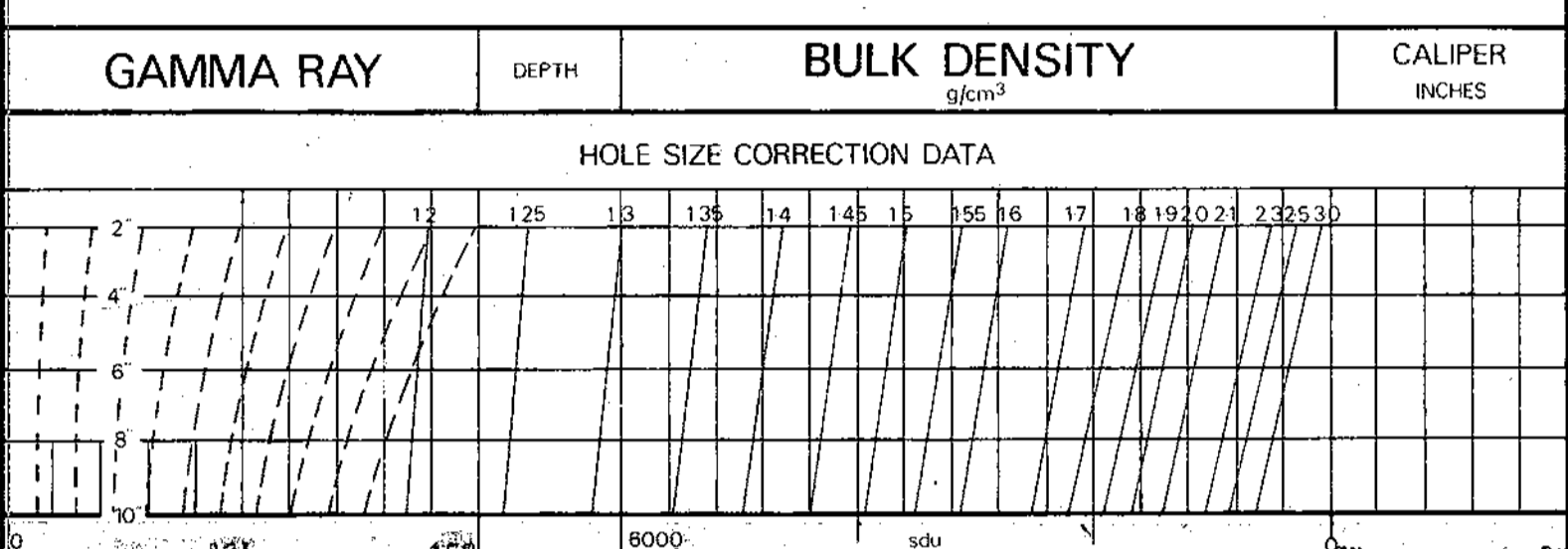
COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)
FROM: 86m 51m
TO: 78m 46m
INTERVAL: 08m 05m
INTERVAL TOTAL: 13m

ADDITIONAL SONDES RUN				REMARKS
SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG	
204	N=N	200:1		BOREHOLE LOGGED FROM 113m--66m AND 60m--00m BECAUSE OF BROKEN ROD LSD SCALE 3000-0

BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No 367	VALUE 51 @ 2" DIAM	JIG CAL DATE 17/06/80	JIG VALUE 530	SDU @ g/cm ³	7 ins 940 cps
JIG MARK SHOWN AT ABOVE VALUE -		JIG No 0338	SPAN 3000	NORM SDU = 6.8	2 ins 472 cps



GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
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BOREHOLE: BP-1 AREA: Sukunka North
CLIENT: BP Exploration Coal Division COUNTRY: Canada

COAL LITHOLOGY LOG



PR Sukunka 80/319 BP1

Neutron-Neutron

BOREHOLE BP-1

CLIENT BP Exploration Coal Division

AREA Sukunka North

COUNTRY Canada

DATE LOGGED 07/03/80

DEPTH SCALE 200:1

2 OF 4 LOGS

BOREHOLE DATA REFER TO Lithology LOG

OPERATION DATA REFER TO Lithology LOG

EQUIPMENT AND RECORDING DATA

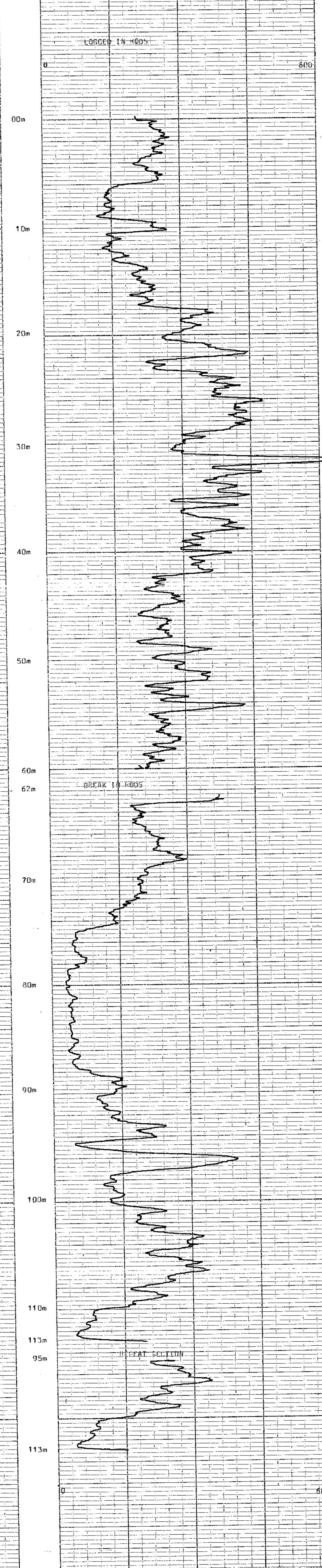
LOG	TAPING	PANEL	CAT
LOG	RECORDING	T.C.	NORM
TAPED	SPEED	REPLAY	SECS
N-N	Y	9m/m	D
		9m/m	1
			8.2

REMARKS

LOGGED IN RODS

667

DEPTH	0	SNU	600
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DEPTH	0	SNU	600
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BOREHOLE BP-1
CLIENT BP Exploration Coal Division

AREA Sukunka North
COUNTRY Canada



BOREHOLE BP-1 *BP-1*
 CLIENT BP Exploration Coal Division

AREA Sukunke North
 DEPTH SCALE 2001

COUNTRY Canada
 DATE LOGGED 07/09/80 3 OF 4 LOGS

SEAM

THICKNESS

LOG

BOREHOLE DATA REFER TO LITHOLOGY LOG
 OPERATION DATA REFER TO LITHOLOGY LOG
 EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE
 LOG LOG TAPPING PANEL SIDEWALL POSITION
 LOG RECORDING SPEED FEET NORM
 CALIPER Y 3m/m R 3m/m 1/3 7.85
 BR DENSITY Y 3m/m R 3m/m 1/3 7.85
 SOURCE SONDE AND CALIBRATION
 REFER TO LITHOLOGY LOG

SEAM THICKNESS LOG INTERVALS

SONDE TYPE:
 COAL COMBINATION SONDE

LOG SUITE:
 CALIPER
 BR DENSITY

FROM	85m	51m
TO	75m	45m
INTERVAL	09m	05m
FROM		
TO		
INTERVAL		
TOTAL		± 13m

REMARKS
 Logged In Rods

667

B P B SEAM THICKNESS LOG

CALIPER INCHES

DEPTH

BED RESOLUTION DENSITY

dia

6000

cps

8000

46m

48m

50m

51m

78m

80m

82m

84m

86m

CALIPER INCHES

DEPTH

BED RESOLUTION DENSITY

dia

15000

cps

8000

BOREHOLE BP-1
 CLIENT BP Exploration Coal Division

AREA Sukunke North
 COUNTRY Canada

SEAM THICKNESS LOG



COAL QUALITY LOG

SONDE TYPE:
COAL COMBINATION
SONDE

LOG SUITE:
GAMMA RAY
L.S. DENSITY

BOREHOLE BP-1
CLIENT 99 Exploration Coal Division
AREA Sukunka North
COUNTRY Canada
DATE LOGGED 07/03/80

DEPTH SCALE
20.1
4 OF 4 LOGS

BOREHOLE DATA REFER TO LITHOLOGY LOG
OPERATION DATA REFER TO LITHOLOGY LOG
EQUIPMENT AND RECORDING DATA
COAL COMBINATION SONDE

LOG TAPPING SIDEWALL POSITION
LOG RECORDING SPEED 1.5 NORM
GAMMA RAY 3m/m 2 1.5
L.S. DENSITY 3m/m 1 5.8

COAL QUALITY LOG INTERVALS
FROM 85m TO 51m
INTERVAL 0.5m

REMARKS
Logged in Rods LSD SCALE 3000-0

667

B P B COAL QUALITY LOG

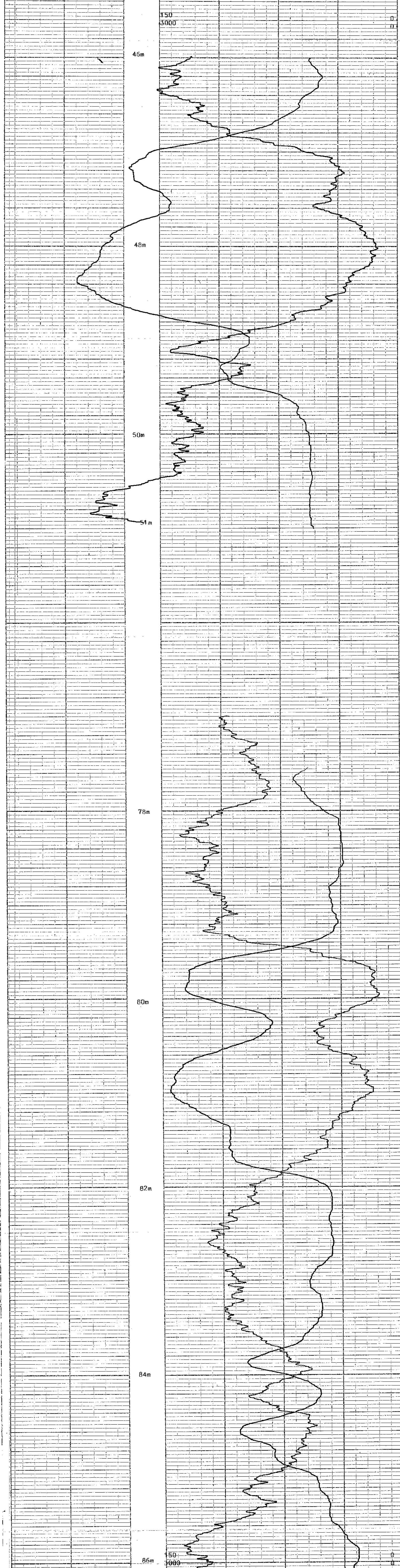
LOGGED IN RODS LSD SCALE 3000-0500

DEPTH	GAMMA RAY	
	COAL BULK DENSITY	g/cm^3

HOLE SIZE CORRECTION DATA

2"	12	125	13	135	14	145	15	155	16	17	18	19	20	22	24	30
4"																
6"																
8"																

150	APR	0
3000	s.d.u.	0



3000	s.d.u.	0
150	APR	0
	COAL BULK DENSITY	g/cm^3
DEPTH	GAMMA RAY	



BOREHOLE BP-1
CLIENT 99 Exploration Coal Division
AREA Sukunka North
COUNTRY Canada
COAL QUALITY LOG



COAL LITHOLOGY LOG

SONDE TYPE: _____
 COAL COMBINATION: _____
 SONDE: _____

LOG SUITE:
 GAMMA RAY
 L.S. DENSITY
 CALIPER

BOREHOLE: BP-3 1980 CLIENT: BP-3
 AREA: SUKUNKA NORTH DEPTH SCALE: 200:1
 COUNTRY: CANADA DATE LOGGED: 25/07/80
 PERMANENT DUM: _____ FLUID LEVEL: _____
 ELEVATION OF # D: _____ HOLE LEVEL: _____
 MESS/REMARKS FROM: _____ DRILLER: _____
 DEPTH REACHED: 220m FL: _____
 CASING SHAPE: INCHES IN HOLES TO: _____
 CASING SIZES: 1 TO: _____ 2 TO: _____ 3 TO: _____ 4 TO: _____

EQUIPMENT AND RECORDING DATA													
COAL COMBINATION SONDE				TAPING			PANEL		CAL COEFF		DEPTHS		SEAM LOG RUN
LOG	EQUIPMENT	SONDE	SOURCE	CAIBRATOR	LOG TAPE	RECORD SPEED	DIRECT OF REPLAY	SPEED	TC SECS	NORM	FROM	TO	INTERVAL
CCS	110	5845											
GAMMA RAY			510AD1	Y	9m/m	D	9m/m	1		1.5	21.8	01m	21.8
DENSITY			530SDU	Y	9m/m	D	9m/m	1/3	5.7	-	21.8	01m	21.8
CALIPER			SIDEWALL POSITION	Y	9m/m	D	9m/m	1/3	-	-	21.8	01m	21.8
CALIPER ON TAPE ONLY LOGGED IN RODS													

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

FROM	59m	47m	INTERVAL	
TO	55m	39m	TOTAL	
INTERVAL	04m	08m		12m

ADDITIONAL SONDES RUN: SONDE 204 LOG N-n GENERAL SCALE 200:1 DETAIL SCALE LOG

REMARKS: LOGGED IN RODS L.S.D SCALE 3000-05DU

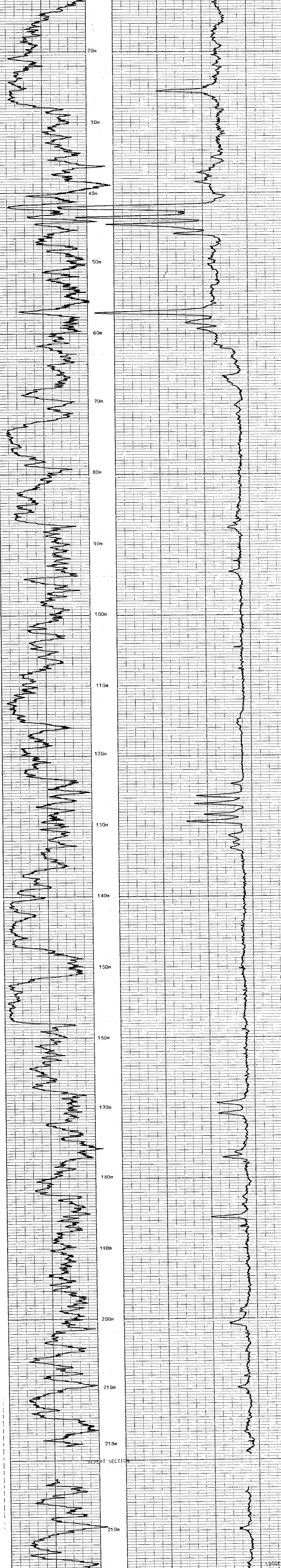
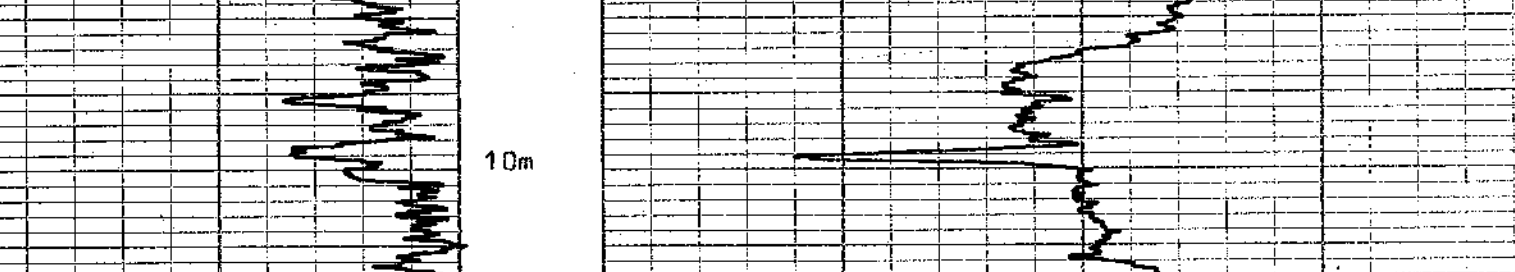
BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No 367	VALUES 10 @ 2" DIAM	JIG CAL DATE 17/06/80	JIG VALUE 530	SDU @	g/cm ³	7	ins	cps
JIG MARK SHOWN AT ABOVE VALUE -x0.1		JIG No 033B	SPAN 3000	NORM	SDU	6.7	ins	cps

GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
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HOLE SIZE CORRECTION DATA



GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
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BOREHOLE: BP-3/1980 AREA: SUKUNKA NORTH
 CLIENT: BP-3 EXP., COAL DIVISION COUNTRY: CANADA

COAL LITHOLOGY LOG



72 Sakunka 301319

BOREHOLE BP-3/1980 **BP-3**
 CLIENT BP, EXP., COAL DIVISION

AREA SIKUNKA NORTH
 DEPTH SCALE 20:1

COUNTRY CANADA
 DATE LOGGED 23/07/80 2 OF 4 LOGS

COAL

QUALITY

LOG

BOREHOLE DATA REFER TO LITHOLOGY LOG
 OPERATION DATA REFER TO LITHOLOGY LOG
 EQUIPMENT AND RECORDING DATA
 COAL COMBINATION SONDE

LOG	TAPPING	SIDEWALL POSITION	COAL CODE
GAMMA RAY	RECORD SPEED 3m/ft	2	1.5
LS DENSITY	RECORD SPEED 3m/ft	1	5.7

SONDE TYPE:
 COAL COMBINATION SONDE

LOG SUITE:
 GAMMA RAY
 L.S. DENSITY

COAL QUALITY LOG INTERVALS

FROM	TO	INTERVAL	FROM	TO	INTERVAL
59m	47m	12m	55m	39m	16m
55m	41m	14m	51m	35m	16m
51m	39m	12m	47m	31m	16m
47m	31m	16m	43m	27m	16m
43m	27m	16m	39m	23m	16m
39m	23m	16m	35m	19m	16m
35m	19m	16m	31m	15m	16m
31m	15m	16m	27m	11m	16m
27m	11m	16m	23m	7m	16m
23m	7m	16m	19m	3m	16m
19m	3m	16m	15m	0m	15m

REMARKS
 LOGGED IN RDD#1 / LSD SCALE 3000-6500

667

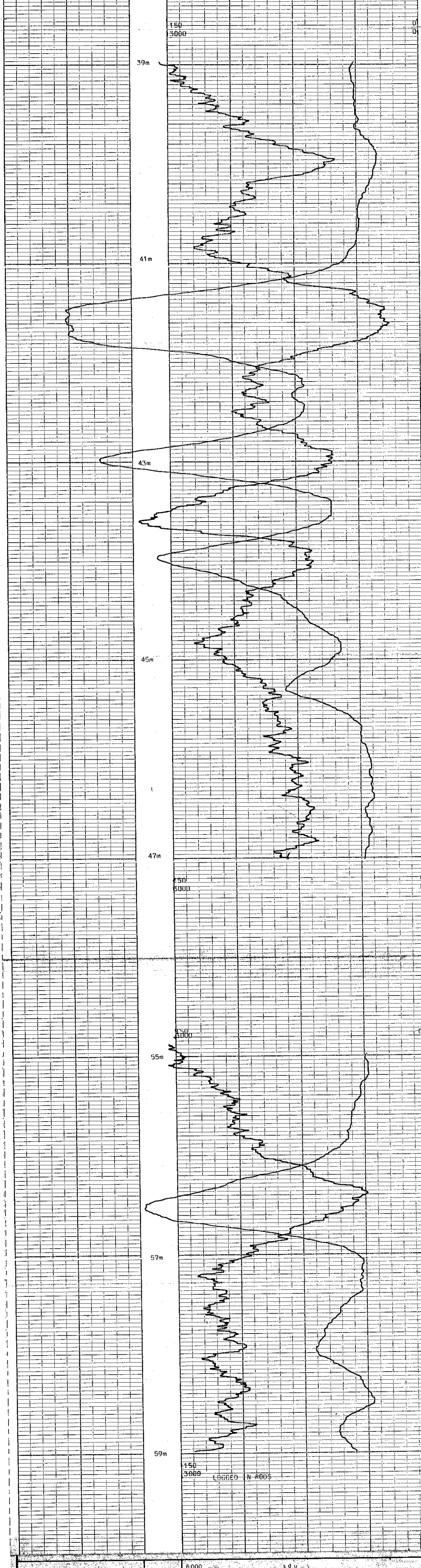
B P B COAL QUALITY LOG

DEPTH	GAMMA RAY	COAL BULK DENSITY
		g/cm ³

HOLE SIZE CORRECTION DATA

DEPTH	1.2	1.25	1.3	1.35	1.4	1.45	1.5	1.55	1.6	1.7	1.8	1.9	2.0	2.2	2.4	3.0
2"																
4"																
6"																
8"																

150	API	0
6000	s.d.u	0



6000	s.d.u	0
150	API	0

DEPTH	GAMMA RAY	COAL BULK DENSITY
		g/cm ³



BOREHOLE BP-3/1980
 CLIENT BP, EXP., COAL DIVISION

AREA SIKUNKA NORTH
 COUNTRY CANADA

COAL QUALITY LOG



22 Sukunka 80(3)A

BOREHOLE BP-3/1980 BP-3
 CLIENT BP, EXP., COAL DIVISION

AREA SUKUNKA NORTH DEPTH SCALE 20:1
 COUNTRY CANADA

DATE LOGGED 23/07/80 1 OF 4 LOGS

BOREHOLE DATA REFER TO LITHOLOGY LOG

OPERATION DATA REFER TO LITHOLOGY LOG

EQUIPMENT AND RECORDING DATA

SEAM THICKNESS LOG

SONDE TYPE:

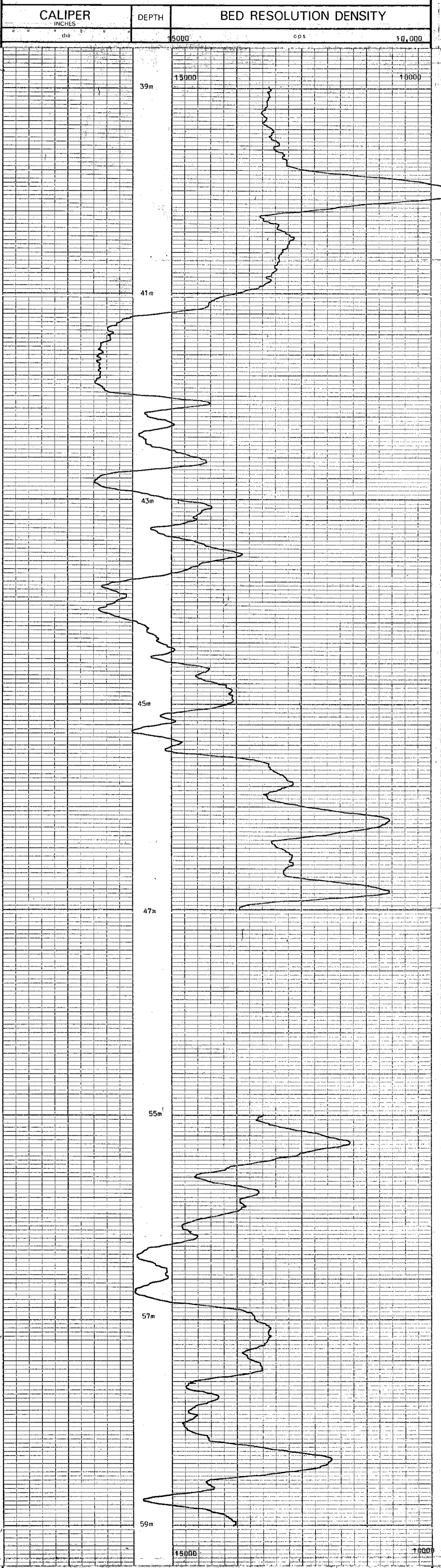
COAL COMBINATION SONDE

LOG SUITE:
 CALIPER
 BR DENSITY

LOG	TAPING	PANEL	COEF
	TOP RECORD		
	RECORD		
	DEPTH		
	OF		
	SPEED		
	SECS		
	NORM		
CALIPER	Y	3m/d	1
BR DENSITY	Y	3m/d	1/3 7.95

SOURCE SONDE AND CALIBRATION
 REFER TO LITHOLOGY LOG

B P B SEAM THICKNESS LOG



CALIPER INCHES	DEPTH	BED RESOLUTION DENSITY cps
dia		15,000
		10,000



BOREHOLE BP-3/1980
 CLIENT BP, EXP., COAL DIVISION

AREA SUKUNKA NORTH
 COUNTRY CANADA

SEAM THICKNESS LOG

6667



Pr. Sukunka 80 (319)

NEUTRON-NEUTRON LOG

80-03

BOREHOLE BP-3/1980

CLIENT BP, EXP., COAL DIVISION

AREA SUKUNKA NORTH

COUNTRY CANADA

DATE LOGGED 23/07/80

DEPTH SCALE 200:1

4 OF 4 LOGS

BOREHOLE DATA REFER TO LITHOLOGY LOG

OPERATION DATA REFER TO " LOG

EQUIPMENT AND RECORDING DATA

LOG TAPPING PANEL TEST

LOG RECORDING SPEED SECS 1.00

TAPE SPEED REPEAT 9m/m

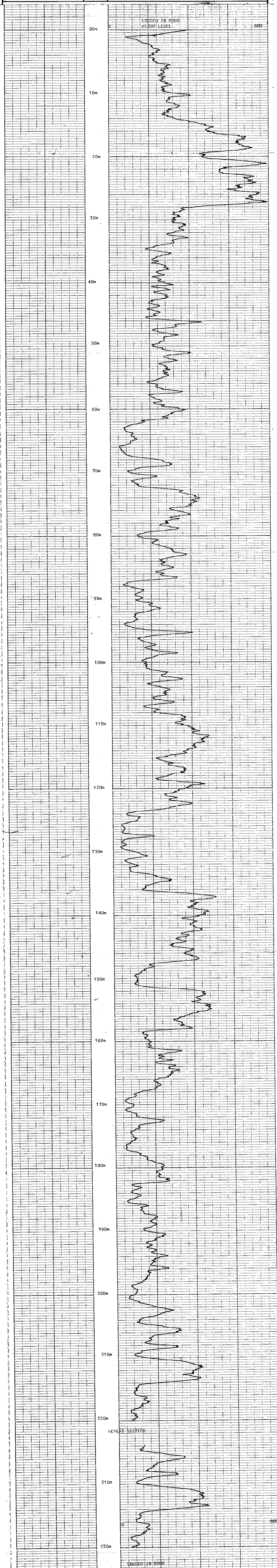
N-H Y 9m/m D 9m/m 1 .02

SOURCE 104 SURF

REMARKS

LOGGED IN RODS

667

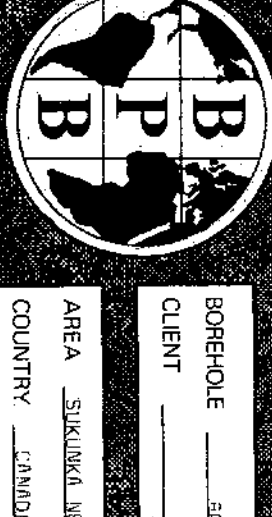


DEPTH	NEUTRON-NEUTRON LOG.	0	SNU	800
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BOREHOLE BP-3/1980
 CLIENT BP, EXP., COAL DIVISION

AREA SUKUNKA NORTH
 COUNTRY CANADA



COAL LITHOLOGY LOG

SONDE TYPE: _____
 COAL COMBINATION: _____
 SONDE: _____
 LOGS SUITE: _____
 GAMMA RAY: _____
 L.S. DENSITY: _____
 CALIPER: _____

BOREHOLE: 8004
 CLIENT: BP
 AREA: SUKUNKA NORTH
 COUNTRY: CANADA
 DATE LOGGED: 04/06/82
 DEPTH SCALE: 200'
 1 OF 3 LOGS

BOREHOLE DATA
 STRATIGRAPHIC UNIT: _____
 ELEVATION @ TD: _____
 CASING DEPTH: _____
 CASING SIZE: _____
 BIT SIZES: 1 1 1/2 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

NAME: _____
 LEVEL: _____
 VISCOSITY: _____
 OPERATIONAL DATA
 PRESS. REGION: _____
 INTERNAL LOGGING: _____
 LOGGING NUMBER: _____
 WITNESS: _____

667

EQUIPMENT AND RECORDING DATA

LOG	EQUIPMENT	TAPING	PANEL	CAL. COR.	DEPTH	SEAM LOG RUN
SONDE	SOURCE	LOG LAPED	RECORD SPEED	FC SECS	FROM	TO
GAMMA RAY	584S	Y	9m/m	D	0	430
DENSITY	530SDU	Y	9m/m	D	0	430
CALIPER		Y	9m/m	D	NO PLATED CUT	GENERAL (LOGGED IN HCD5)

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)
 FROM: _____ TO: _____ INTERVAL: _____ TOTAL: _____

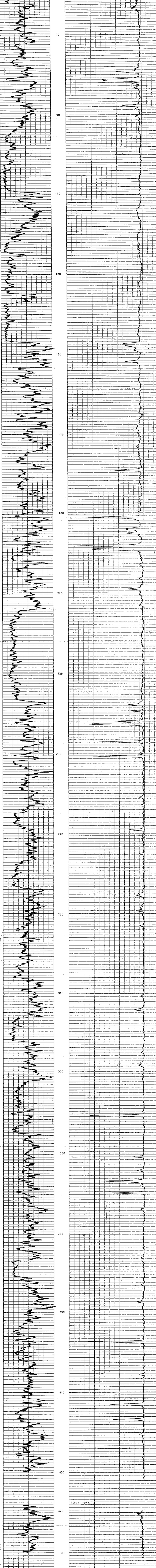
ADDITIONAL SONDES RUN: _____
 REMARKS: LOGGED IN HCD5

BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No 367 VALU 510 @ 2 DIAM
 JIG MARK SHOWN AT ABOVE VALUE
 JIG CAL DATE: 17/06/80 JIG VALU: 510 SEU @: 81cm³ PPS: 6.5
 JIG No 0338 SPAN: 3000 NORM: 500 CPS

GAMMA RAY DEPTH BULK DENSITY CALIPER
 HOLE SIZE CORRECTION DATA



GAMMA RAY DEPTH BULK DENSITY CALIPER
 BOREHOLE: 8004 AREA: SUKUNKA NORTH
 CLIENT: BP COUNTRY: CANADA
COAL LITHOLOGY LOG



Dr. Services 804212

NEUTRON-NEUTRON LOG

80-04

BOREHOLE 8004

CLIENT BP

AREA SUKUNKA NORTH

COUNTRY CANADA

DATE LOGGED 12/28/80

2 OF 3 LOGS

BOREHOLE DATA REFER TO LITHOLOGY LOG

OPERATION DATA REFER TO LITHOLOGY LOG

EQUIPMENT AND RECORDING DATA

LOG TAPPING

LOG RECORDING SPEED 3000 RPM

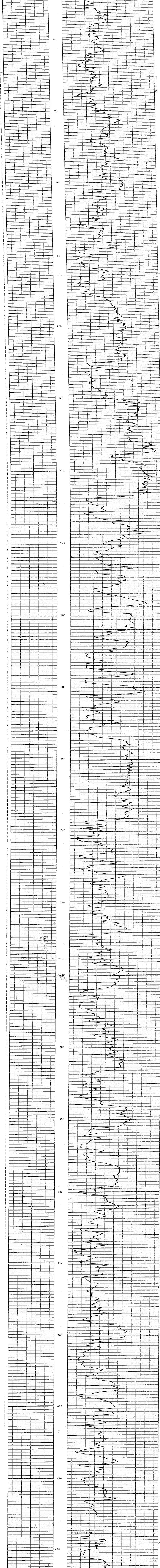
LOG NUMBER 0

LOG DATE 12/28/80

LOG TIME 11:17

LOG LOCATION IN LOGS

667

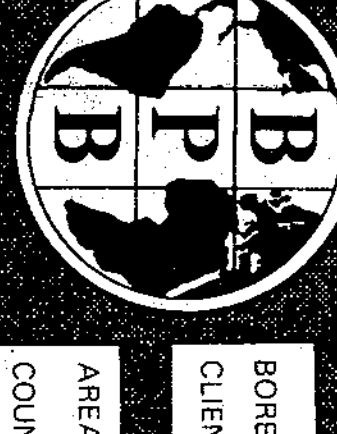


BOREHOLE 8004

CLIENT BP

AREA SUKUNKA NORTH

COUNTRY CANADA



COAL QUALITY LOG

SONDE TYPE: _____
 COAL COMBINATION: _____
 SONDE: _____

LOG SUITE: _____
 GAMMA RAY _____
 U.S. DENSITY _____

BP-Subsida 80314

BOREHOLE: BP 8004
 CLIENT: BP Exp., COAL DIVISION
 AREA: SUKLIKU NORTH
 COUNTRY: CANADA
 DATE LOGGED: 10/08/80
 DEPTH SCALE: 20.1
 5 OF 4 LOGS

BOREHOLE DATA: REFER TO LITHOLOGY LOG
 OPERATION DATA: REFER TO LITHOLOGY LOG
 EQUIPMENT AND RECORDING DATA: _____
 COAL COMBINATION SONDE: _____

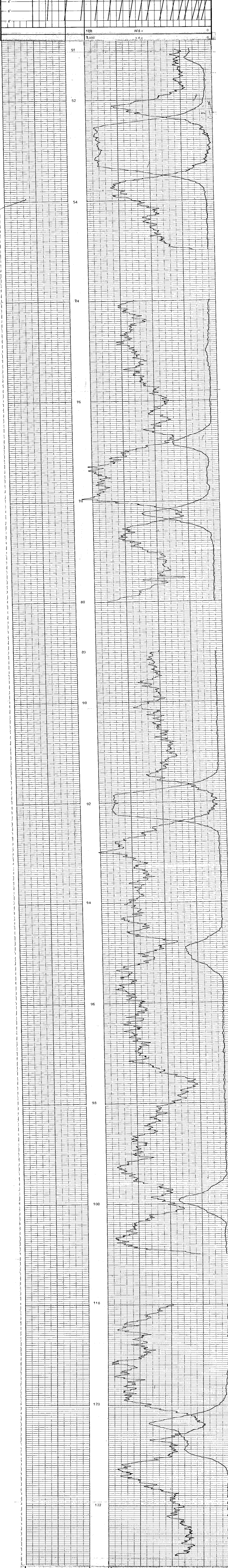
LOG: _____
 TRENCH: _____
 LOG RECORD: _____
 SPEED: _____
 SENSITIVITY: _____
 SOURCE SONDE AND CALIBRATION: _____

COAL QUALITY LOG INTERVALS

FROM	1.2m	1.0m	5.0m	5.5m
TO	1.1m	9.9m	7.4m	5.1m
INTERVAL	3m	1.2m	5m	4m
FROM				
TO				
INTERVAL				
REMARKS:				

667

BPB COAL QUALITY LOG



DEPTH	COAL BULK DENSITY g/cm ³	GAMMA RAY
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BOREHOLE: BP 8005
 CLIENT: BP Exp., COAL DIVISION
 AREA: SUKLIKU NORTH
 COUNTRY: CANADA

COAL QUALITY LOG

NY 18807 R



COAL LITHOLOGY LOG

SONDE TYPE:
COAL COMBINATION SONDE

LOG SUITE:
GAMMA RAY
L.S. DENSITY
CALIPER

BOREHOLE BP 8005
CLIENT BP EXP., COAL DIVISION

AREA SUKUNKA NORTH
COUNTRY CANADA
DATE LOGGED 10/05/88

DEPTH SCALE 200:1
1 OF 4 LOGS

BOREHOLE DATA
PERMANENT DATUM FLOOR LEVEL
ELEVATION OF P.O. FLOOR LEVEL
MEASUREMENTS FROM BPB
DEPTH REACHED 129m 477ft.
CASING SHOE 5ft.
BIT SIZES 1 3/8 TO 2 TO 4 TO 3 TO 5ft. 2 TO

FLUID DATA
NATURE: QUICK CFI
SG LEVEL
VISCOSITY
Rate of mass temp. BH.T.

OPERATION DATA
FIRST READING 128m
LAST READING U
INTERVAL LOGGED 128m
UNIT-TRUCK NO. 48/HELLCOSTER
ENGINEER R. C. BIRNIE
WITNESS

667

EQUIPMENT AND RECORDING DATA

LOG	EQUIPMENT			TAPING			PANEL			CAL COEFF	DEPTHS			SEAM LOG RUN
	SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECT OF REPLAY	SPEED	TC SECS	NORM		FROM	TO	INTERVAL	
GAMMA RAY	110	5845	510API	Y	9m/m	R	9m/m	1	-	1.42	128	0	128	
L.S. DENSITY			530SDU	Y	9m/m	R	9m/m	.3	6.5	-	128	0	128	
CALIPER			-	Y	9m/m	R	9m/m	.3	-	-	128	0	128	

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

FROM	123m	101m	80m	55m	INTERVAL TOTAL
TO	118m	89m	74m	51m	27m
INTERVAL	5m	12m	6m	4m	

ADDITIONAL SONDES RUN				REFER TO ADDITIONAL HEADINGS	REMARKS
SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG		
NEUTRON-NEUTRON					
VERTICALITY					

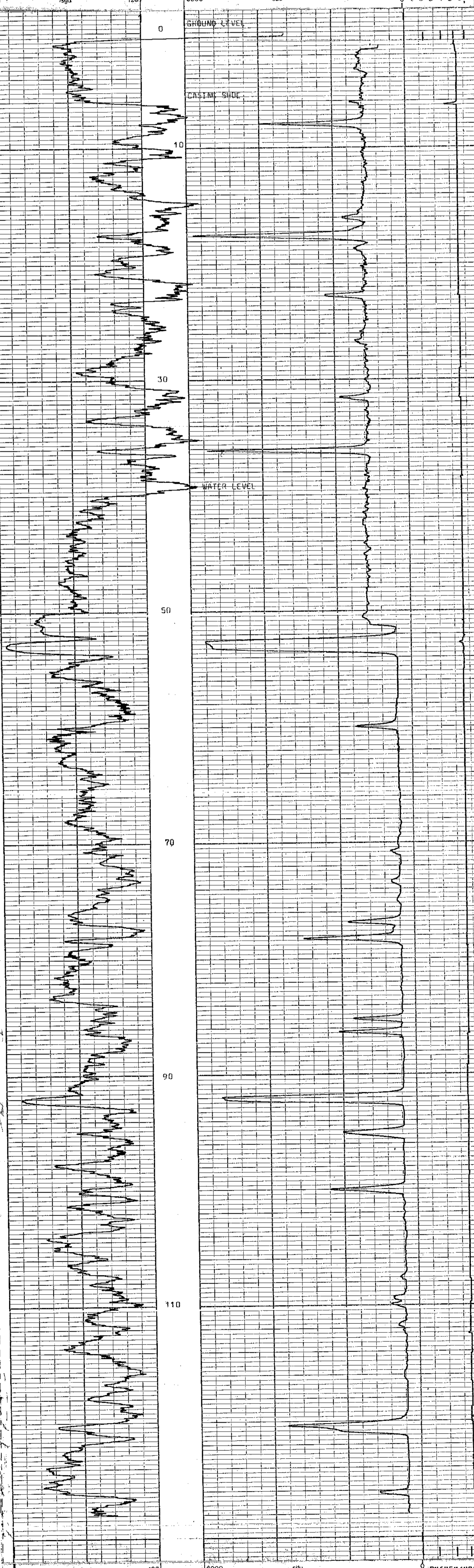
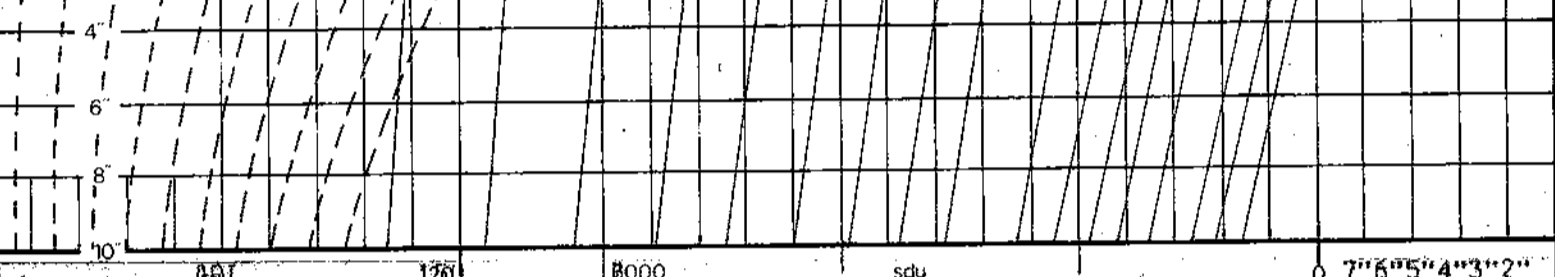
BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No. 367 VALUE 510API 1" DIAM JIG CAL DATE 17/06/80 JIG VALUE 530SDU @ g/cm³ 2 ins 480 cps
JIG MARK SHOWN AT ABOVE VALUE = JIG No. 0358 SPAN 7000 NORM SOLID = 6.5 7 ins 890 cps

GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
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HOLE SIZE CORRECTION DATA

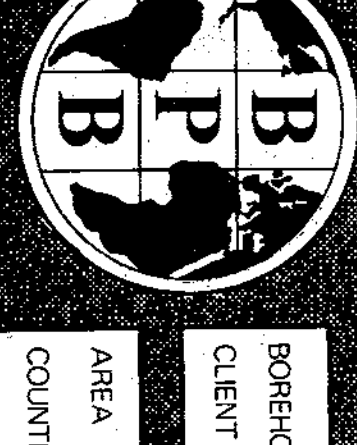


GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
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BOREHOLE BP 8005 AREA SUKUNKA NORTH
CLIENT BP EXP., COAL DIVISION COUNTRY CANADA

COAL LITHOLOGY LOG



BP-8005

CLIENT BP EXP., COAL DIVISION

AREA SASKINAK NORTH

COUNTRY CANADA

DATE LOGGED 10/08/80

DEPTH SCALE 100.1

COAL LITHOLOGY LOG

SONDE TYPE
COAL COMBINATION
SONDE

LOG SUITE
GAMMA RAY
L.S. DENSITY
CALIPER

FLUID DATA
QUICK SEL

OPERATION DATA

WITNESSES

667

EQUIPMENT AND RECORDING DATA

Table with columns: LOG, EQUIPMENT, TAPING, PANEL, CAL COEFF, DEPTHS, SEAM LOG RUN. Includes rows for Gamma Ray, Density, and Caliper.

BPB COAL LITHOLOGY LOG CALIBRATION DATA

Table with columns: JIG No, VALUE, JIG CAL DATE, JIG MARK, SPAN, NORM, CPS.

Table with columns: GAMMA RAY, DEPTH, BULK DENSITY, CALIPER.

HOLE SIZE CORRECTION DATA

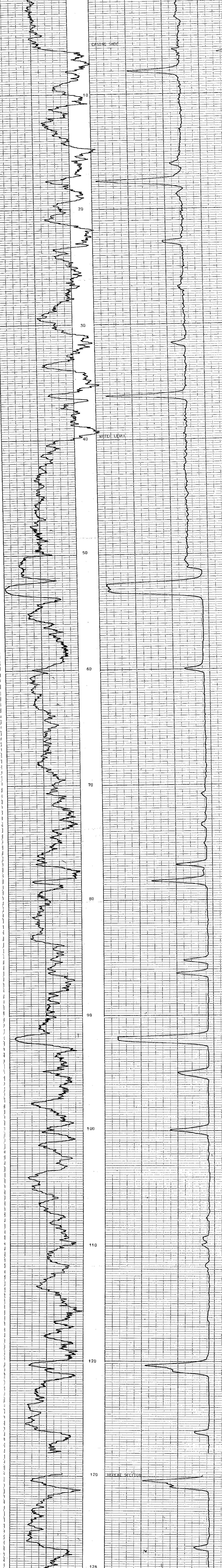
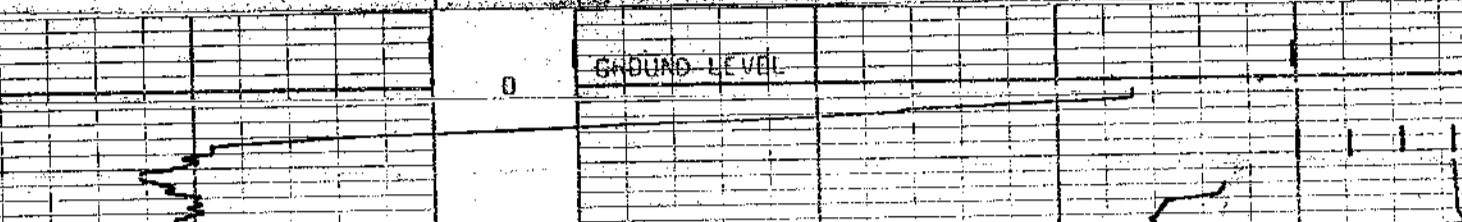
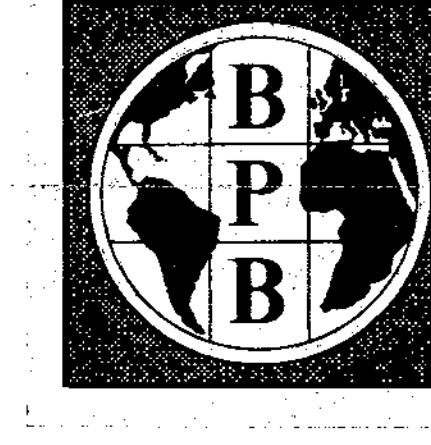


Table with columns: GAMMA RAY, DEPTH, BULK DENSITY, CALIPER.



BOREHOLE BP 8005 AREA SASKINAK NORTH
CLIENT BP EXP., COAL DIVISION COUNTRY CANADA
COAL LITHOLOGY LOG



PR - Sukunka 80(2)B

NEUTRON NEUTRON LOG
80-05

BOREHOLE BP 8005
CLIENT BP EXP., COAL DIVISION

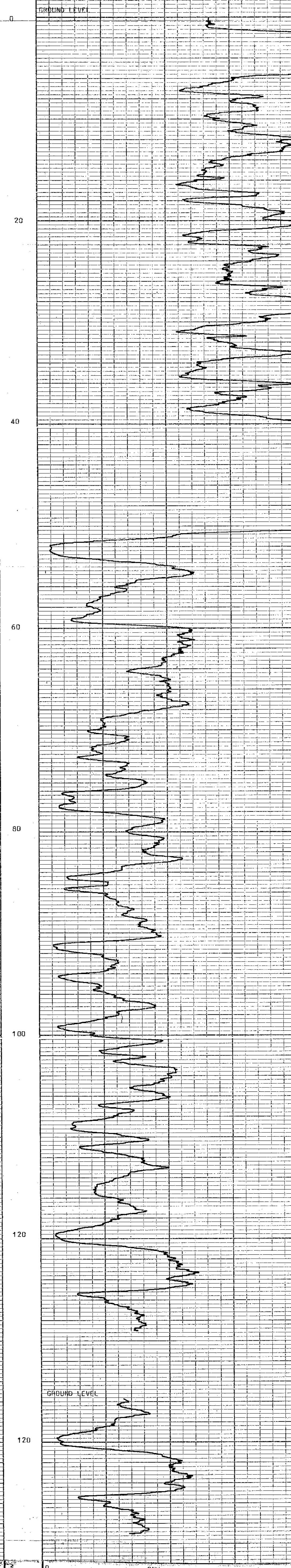
AREA SUKUNKA NORTH
COUNTRY CANADA
DATE LOGGED 17/08/80
DEPTH SCALE 2001
2 OF 4 LOGS

BOREHOLE DATA REFER TO LITHOLOGY LOG
OPERATION DATA REFER TO LITHOLOGY LOG
EQUIPMENT AND RECORDING DATA

LOG	TAPPING	PANEL	CAL
LOG	RECORD	DEPTH	COEFF
TABED	SPEED	NO. OF	
NEUTRON	9m/m	D	9m/m
		1	.82
	204		6762

REMARKS
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NEUTRON-NEUTRON LOG
DEPTH 0 750
SNLI



NEUTRON-NEUTRON LOG
DEPTH 0 750
SNLI



BOREHOLE	BP 8005	AREA	SUKUNKA NORTH
CLIENT	BP EXP., COAL DIVISION	COUNTRY	CANADA



BP 80-05

BOREHOLE BP 8005
CLIENT BP EXP., COAL DIVISION

AREA SUKUNKA NORTH
COUNTRY CANADA

DATE LOGGED 17/08/80

BOREHOLE DATA REFER TO LITHOLOGY LOG

OPERATION DATA REFER TO LITHOLOGY LOG

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SOURCE

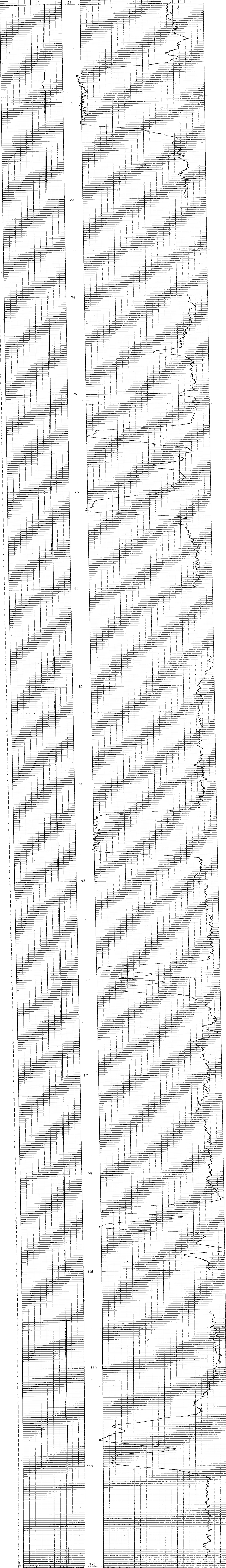
SONDE TYPE: LOG

COAL COMBINATION: SONDE

LOG SUITE: CALIPER

BR DENSITY

B P B SEAM THICKNESS LOG



CALIPER INCHES

DEPTH

BED RESOLUTION DENSITY cps



BOREHOLE BP 8005
CLIENT BP EXP., COAL DIVISION

AREA SUKUNKA NORTH
COUNTRY CANADA

SEAM THICKNESS LOG

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B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: SNTR 10 MEADOW SEAM
 PROJECT: SUKUNKA NORTH 1980 . DATE: 11 August 1980
 LOCATION: _____ . ELEVATION: 1670 m
 GEOLOGIST: C. BICKFORD

Thick.	Depth	LITHOLOGY	(Sample No.)
(m)	(m)		
		ROOF:	
0.38+	0.00	SANDSTONE: Very fine-grained, silty, strongly orange-weathering, thin-bedded, abundant plant debris. Chimney-type structures at base.	
0.06	0.06	MUDSTONE: Dark grey, carbonaceous, sheared.	
0.09	0.15	COAL: Sheared and pulverized.	
0.09	0.24	MUDSTONE: Black, carbonaceous, sheared, in part. Rusty weathering.	(SNTR 10/1)
0.09	0.33	COAL/MUDSTONE: Sheared coal with 30% bands of sheared, black, carbonaceous mudstone.	
0.10	0.43	COAL: Sheared and pulverized.	
0.03	0.46	MUDSTONE: Black, canneloid, sheared, large pieces.	(SNTR 10/2)
0.37	0.83	COAL: Sheared; in places pulverized.	
0.09	0.92	MUDSTONE: Black, canneloid, abundant very thin bright coal bands. Sheared, large pieces. Attitude: 133/34 NE.	
0.04	0.96	COAL: Sheared and pulverized.	
0.01	0.97	MUDSTONE: Black, very carbonaceous; thickness ranges from nil to 0.01 m.	(SNTR 10/3)
0.04	1.01	COAL: Bright, hard.	
0.05	1.06	MUDSTONE: Black, carbonaceous, abundant thin bright coal bands.	
0.02	1.08	SILTSTONE: Black, carbonaceous, argillaceous, rooty.	
0.30+	1.38+	SANDSTONE: Very fine-grained, chocolate brown, bluish-grey weathering, rooty. Attitude: 116/40 NE. Some large plant impressions (prostrate logs?). Thin to medium, very irregular beds.	

B.P. CANADA LTD. COAL GROUP

TRENCH NUMBER: SNTR 12 PUMP SEAM SCALE: 1:20
 PROJECT: SUKUNKA NORTH 1980 DATE: 12 August 1980
 LOCATION: _____ ELEVATION: 1570 m
 GEOLOGIST: C. BICKFORD/M.A. CHOWDRY

Thick. (m)	Depth (m)	LITHOLOGY (Sample No.)
		ROOF:
0.40+		MUDSTONE(CLAYSTONE): Slightly carbonaceous, dark, grey, cornflakes.
0.61	0.00	MUDSTONE: Essentially claystone, medium to dark grey, rubbly, carbonaceous, with finely broken plant fragments.
0.22	0.22	MUDSTONE: Black, carbonaceous, with coaly layers. Sheared and decayed. Very gradational (SNTR 12/1)
0.97	1.19	COAL: Chunky, dominantly dull lustrous, hard where un-weathered, cleated. Sheared in places. (SNTR 12/2)
0.16	1.35	MUDSTONE: Dark brownish-grey, rubbly; soft weathering, rooty, rare bright coal bands. Top 0.01 m sheared and carbonaceous. Attitude: 100/5 S. (SNTR 12/3)
0.05	1.40	COAL: Dull lustrous, blocky, hard.
0.06	1.46	MUDSTONE: Black, canneloid.
0.07	1.53	COAL: Sheared and pulverized.
0.07	1.60	MUDSTONE: Black, sheared, cornflakes. (SNTR 12/4)
0.14	1.74	MUDSTONE: Black, carbonaceous, abundant thin bright coal bands.
0.25	1.99	MUDSTONE: Brownish-grey, carbonaceous, scattered plant fragments, slightly listricated. (SNTR 12/5)
0.22	2.21	COAL: Sheared. Appears dull, lustrous.
0.21	2.42	COAL: Dull lustrous, blocky (SNTR 12/6)
0.05	2.47	MUDSTONE: Black, carbonaceous, abundant bright coal bands.
0.01	2.48	COAL: Bright
0.03	2.51	COAL: Dull lustrous. (SNTR 12/7)
0.10	2.61	MUDSTONE: Black, carbonaceous, becoming brownish towards base.

B.P. CANADA LTD. COAL GROUP

TRENCH NUMBER: SNTR 13 PUMP SEAM SCALE: 1:20
 PROJECT: SUKUNKA NORTH 1980 DATE: 12 August 1980
 LOCATION: _____ ELEVATION: _____
 GEOLOGIST: C. BICKFORD

Her dug out, same seam as found at SNTR 12. Not logged due to proximity to SNTR 12. Attitude here: 167/27 SW.

The seam outcrops along the side of the hill and appears to underlie the hill.

B.P. CANADA LTD. COAL GROUP

TRENCH NUMBER: SNTR 14 PUMP SEAM SCALE: 1:20
 PROJECT: SUKUNKA NORTH 1980 DATE: 12 August 1980
 LOCATION: _____ ELEVATION: 1581 m ±
 GEOLOGIST: C. BICKFORD

Thick. (m)	Depth (m)	LITHOLOGY	(Sample No.)
0.19+		ROOF: MUDSTONE: Dark brown, silty, rubbly, gradational.	
0.13	0.00	MUDSTONE: Dark brownish-grey, sheared, pulverized.	
0.61	0.61	COAL: Sheared.	
0.10	0.71	COAL: Dull lustrous, hard, blocky, with mud on cleats.	(SNTR 14/1)
0.08	0.79	MUDSTONE: Black, carbonaceous, sheared and listricated.	
0.05	0.84	COAL: Pulverized.	
0.05	0.89	MUDSTONE: Black, carbonaceous, sheared.	
0.01	0.90	COAL: Sheared.	
0.01	0.91	MUDSTONE: Black, carbonaceous, sheared.	
0.06	0.97	COAL: Sheared	
0.05	1.02	MUDSTONE: Black, carbonaceous, sheared and listricated.	
0.06	1.08	COAL: Sheared.	
0.06	1.14	MUDSTONE: Black, carbonaceous, listricated; abundant thin bright coal bands in top 0.01 m.	
0.05	1.19	COAL: Bright	
0.06	1.25	COAL: Dull lustrous.	
0.04	1.29	COAL: Bright.	
0.10	1.39	MUDSTONE: Black, carbonaceous, with scattered thin bright coal bands. Sheared at top.	
0.05	1.44	COAL: Dull and bright, lustrous.	
0.06	1.50	MUDSTONE: Carbonaceous, sheared, thin bright coal bands.	
0.10	1.60	MUDSTONE: Black, carbonaceous, listricated; scattered bright coal bands.	

B.P. CANADA LTD. COAL GROUP

Page 1 of 2

TRENCH NUMBER: SNTR 15 GRIZZLY SEAM SCALE: 1:20
 PROJECT: SUKUNKA NORTH 1980 DATE: 13 August 1980
 LOCATION: _____ ELEVATION: 1580 m ±
 GEOLOGIST: C. BICKFORD

Thick. (m)	Depth (m)	LITHOLOGY (Sample No.)
		ROOF?:
0.27+	0.00	MUDSTONE: Dark grey, carbonaceous.
0.07	0.07	COAL: Dull banded, lustrous.
0.13		MUDSTONE: Black, carbonaceous
0.13		MUDSTONE: Black, canneloid, abundant very thin bright coal bands.
0.14		COAL: Dull banded, lustrous.
0.04		MUDSTONE: Black, canneloid, as above.
0.07		COAL: Dull banded, lustrous.
0.11		MUDSTONE: Black, carbonaceous, sheared.
0.16		COAL: Dull, muddy
0.11		COAL: Dull, lustrous
0.01		MUDSTONE: Black, carbonaceous; abundant thin bright coal bands.
0.15		COAL: Dull lustrous, hard, blocky.
0.04		MUDSTONE: Dark grey, orange weathering; plant fragments.
0.05		MUDSTONE: Black, carbonaceous, abundant thin bright coal bands.
0.02		COAL: Bright
0.04		MUDSTONE: Black, carbonaceous, as above.
0.22		COAL: Dull lustrous, muddy, in part.
0.11		MUDSTONE: Dark brownish-grey, carbonaceous, abundant thick and thin bright coal bands.
0.09		MUDSTONE: Black, canneloid, abundant thin, bright coal bands; blocky; in places almost grading to coal.

B.P. CANADA LTD. COAL GROUP

TRENCH NUMBER: SNTR 15 GRIZZLY SEAM SCALE: 1:20
PROJECT:
LOCATION: ELEVATION:
GEOLOGIST:

Table with 3 columns: Thickness (m), Depth (m), and LITHOLOGY. Rows include descriptions of coal and mudstone layers.

B.P. CANADA LTD. COAL GROUP

TRENCH NUMBER: SNTR 16 PUMP SEAM SCALE: 1:20
 PROJECT: SUKUNKA NORTH 1980 DATE: 13 August 1980
 LOCATION: _____ ELEVATION: 1580 m ±
 GEOLOGIST: C. BICKFORD

Thick. (m)	Depth (m)	LITHOLOGY	(Sample No.)
		ROOF:	
0.28+		MUDSTONE: Brown, rubbly, gradational.	
0.09	0.00	MUDSTONE: Dark grey to black, carbonaceous.	
0.52	0.52	COAL: Weathered, indistinguishable.	
0.05	0.07	COAL: Dull lustrous, blocky with mud on cleats.	
0.01	0.58	COAL: Sheared.	(SNTR 16/1)
0.01	0.59	MUDSTONE: Brown, carbonaceous, sheared.	
0.04	0.63	COAL: Dull banded, lustrous, sheared.	
0.13	0.76	MUDSTONE: Dark brown to black, carbonaceous; abundant thin bright coal bands.	
0.06	0.82	COAL: Sheared	
0.03	0.85	MUDSTONE: Black, carbonaceous, abundant thin coal bands.	
0.05	0.90	MUDSTONE: Black, carbonaceous, sheared, "cornflakes".	(SNTR 16/2)
0.03	0.93	COAL: Dull lustrous, sheared.	
0.03	0.96	MUDSTONE: Black, carbonaceous, sheared. Thickness ranges from nil to 0.03 m.	
0.08	1.04	COAL: Dull lustrous, blocky.	
0.03	1.07	MUDSTONE: Black, carbonaceous, listricated; abundant thin bright coal bands.	
0.07	1.14	COAL: Dull banded, lustrous, blocky.	
0.06	1.20	COAL: Bright, blocky.	
0.05	1.25	COAL: Dull lustrous, blocky.	
0.05	1.30	MUDSTONE: Dark brownish-grey, carbonaceous, slightly listricated.	

B.P. CANADA LTD. COAL GROUP Page 1 of 2

TRENCH NUMBER: SNTR 17 PUMP SEAM SCALE: 1:20
 PROJECT: SUKUNKA NORTH 1980 DATE: 13 August 1980
 LOCATION: _____ ELEVATION: 1598+
 GEOLOGIST: C. BICKFORD

Thick. (m)	Depth (m)	Lithology	(Sample No.)
		ROOF:	
0.41+	0.00	MUDSTONE: brown, rubbly.	
0.31	0.30	COAL: weathered.	} (SNTR 17/1)
0.24	0.54	COAL: dull banded, lustrous.	
0.08	0.62	MUDSTONE: dark brown, carbonaceous; scattered thin bright coal bands.	
0.02	0.64	COAL: sheared.	
0.05	0.69	MUDSTONE: black, carbonaceous; 50% bright coal bands.	
0.07	0.76	COAL: sheared and pulverised.	
0.05	0.81	MUDSTONE: black, carbonaceous, abundant coal bands to 0.007 m thick.	} (SNTR 17/2)
0.12	0.93	MUDSTONE: black, carbonaceous, with 50% bands of bright coal to 0.002 m thick.	
0.03	0.96	MUDSTONE: black, canneloid, hard, with abundant very thin bright coal bands.	
0.10	1.06	COAL: bright.	
0.06	1.12	MUDSTONE: dark brownish-grey.	
0.01	1.13	COAL: bright.	
0.05	1.18	COAL: dull, lustrous.	
0.03	1.21	MUDSTONE: black, carbonaceous, abundant thin bright coal bands. Attitude: 159/10. NE..	
0.06	1.27	MUDSTONE: dark brownish-grey, carbonaceous.	
0.14	1.41	MUDSTONE: carbonaceous/COAL: interlaminated black, carbonaceous mudstone and bright coal, as lentils and laminae locally reaching a thickness of 0.02 m.	

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: SNTR 18 (Page 1 of 4)PROJECT: SUKUNKA NORTH 1980DATE: 14 August 1980

LOCATION: _____

ELEVATION: _____

GEOLOGIST: C. Bickford

Thick. (m)	Depth (m)	Lithology (Sample No.)
1.50+		SANDSTONE - very fine-grained, silty, thin-bedded, rippled, gradational. Attitude: 126/13 SW.
0.41		MUDSTONE/SILTSTONE - grading up to SANDSTONE, very fine-grained/SILTSTONE - interlaminated, planar-laminated at base, rippled above. Thin-bedded, with occasional roots and plant fragments.
0.55		MUDSTONE - brown, silty, several ferruginous bands in top 0.18m; thin-bedded, blocky.
0.04		COAL - bright.
0.03		MUDSTONE - brown, slightly carbonaceous.
0.04		MUDSTONE - ferruginous, bright orange-weathering.
0.31		MUDSTONE - dark grey, slightly carbonaceous at base; black, carbonaceous at top; thin-bedded, rubbly.
0.08		MUDSTONE - ferruginous, nodular, bright orange-weathering.
1.60		MUDSTONE - dark brownish-grey, slightly silty, abundant carbonaceous phases, rubbly; minor (ca. 5%) bright coal bands. Thin-bedded.
1.55		MUDSTONE - dark brownish-grey, slightly silty, abundant carbonaceous phases, rubbly; with discrete bands and lenses of bright coal to 0.06 m thick, aggregating 10% of the interval. Abundant plant fragments. Patchily rusty-weathering; gradational at top.
0.81		SILTSTONE/MUDSTONE (80-20) ca. thin to medium interbeds of medium grey, clean siltstone and dark grey silty mudstone with carbonaceous phases and bright coal bands. Silts locally contain delicate muddy laminae.
0.06		MUDSTONE - dark brown to black, carbonaceous, abundant thick bright coal bands; locally rusty-weathering in centre.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: SNTR 18 (Page 2 of 4)PROJECT: SUKUNKA NORTH 1980DATE: 14 August 1980

LOCATION: _____ ELEVATION: _____

GEOLOGIST: C. Bickford

Thick. (m)	Depth (m)	Lithology (Sample No.)
		ROOF:
0.53	0.00	SILTSTONE - dark brown, minor very fine-grained sandstone and mudstone phases. Interval is generally argillaceous. Abundant plant fragments, with some well-preserved leaves; thin-bedded, blocky to rubbly; locally rusty-weathering.
0.09	0.09	MUDSTONE - block, carbonaceous, scattered thin bright coal bands. (SNTR 18/21)
0.88	0.97	COAL - dull lustrous, soft. (SNTR 18/20)
0.06	1.03	COAL/MUDSTONE (50-50) interlaminated bright coal and black, carbonaceous mudstone. (SNTR 18/19)
0.14	1.17	MUDSTONE - black, carbonaceous, listricated, abundant thin bright coal bands in middle. (SNTR 18/19)
0.48	1.65	COAL - dull lustrous, slightly sheared. (SNTR 18/18)
0.19	1.84	COAL - dull and bright, lustrous, hard. (SNTR 18/17)
0.21	2.05	COAL - bright banded, blocky, slightly sheared. (SNTR 18/16)
0.28	2.33	COAL - bright, blocky, very light. (SNTR 18/16)
0.02	2.46	MUDSTONE - black, carbonaceous, intensely sheared. (SNTR 18/15)
0.26	2.72	COAL - intensely sheared. (SNTR 18/15)
0.24	2.96	COAL - dull banded, lustrous, sheared. (SNTR 18/14)
0.13	3.09	COAL - dull lustrous, hard. (SNTR 18/13)
0.24	3.33	MUDSTONE - black, carbonaceous, tough. (SNTR 18/12)
0.06	3.139	MUDSTONE - black, canneloid. (SNTR 18/12)
0.08	3.47	COAL - dull lustrous, slightly sheared, hard. (SNTR 18/11)

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: SNTR 18 (Page 3 of 4)PROJECT: SUKUNKA NORTH 1980DATE: 14 August 1980

LOCATION: _____

ELEVATION: _____

GEOLOGIST: C. Bickford

Thick. (m)	Depth (m)	Lithology (Sample No.)
0.15	3.62	MUDSTONE - black, carbonaceous, abundant thick and thin coal bands (particularly at top). Gradational. (SNTR 18/10)
0.30	3.92	MUDSTONE - dark brown to black, carbonaceous, rooty (SNTR 18/10)
0.04	3.96	MUDSTONE - black, carbonaceous, with 50% thick bright coal bands. (SNTR 18/9)
0.03	3.99	COAL - sheared and pulverised. (SNTR 18/9)
0.21	4.20	MUDSTONE - black, carbonaceous, with locally abundant thin bright coal bands. (SNTR 18/8)
0.05	4.25	COAL - dull lustrous.
0.03	4.28	MUDSTONE - black, carbonaceous, abundant thin bright coal bands; slightly sheared.
0.12	4.40	COAL - dull lustrous, hard.
0.03	4.43	COAL - sheared and pulverised
0.02	4.45	MUDSTONE - black, carbonaceous, abundant thin bright coal bands. (SNTR 18/7)
0.03	4.48	COAL - bright, slightly sheared.
0.03	4.51	MUDSTONE - black, carbonaceous, abundant thin bright coal bands.
0.04	4.55	COAL - bright.
0.05	4.60	MUDSTONE - black, carbonaceous, thin bright coal bands.
0.01	4.61	COAL - bright.
0.10	4.71	MUDSTONE - black, carbonaceous, scattered, thin bright coal bands; blocky (SNTR 18/6)

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: SNTR 18 (Page 4 of 4)

PROJECT: SUKIUNKA NORTH 1980 . DATE: 14 August 1980 .

LOCATION: _____ ELEVATION: _____

GEOLOGIST: C. Bidkford

Thick. (m)	Depth (m)	Lithology	(Sample No.)
0.06	4.77	COAL - sheared and pulverised.	(SNTR 18/5)
0.10	4.87	MUDSTONE - black, sheared and listricated, "cornflakes"	(SNTR 18/4)
0.16	5.03	COAL - sheared and listricated.	(SNTR 18/3)
0.13	5.16	MUDSTONE - black, carbonaceous, hard.	(SNTR 18/2)
0.04	5.20	COAL - bright.	} (SNTR 18/1)
0.01	5.21	MUDSTONE - black, carbonaceous.	
0.03	5.24	COAL - bright.	
0.01	5.25	MUDSTONE - black, very carbonaceous.	
0.04	5.29	COAL - sheared and pulverised.	
0.32	5.61	MUDSTONE - black carbonaceous, abundant thin bright coal bands, very carbonaceous in part. Thin bedded, listricated.	
0.17	5.78	COAL - dull lustrous, blocky.	
0.05	5.83	MUDSTONE - black, carbonaceous, sheared. "cornflakes".	
0.05	5.88	MUDSTONE - black, carbonaceous, sheared, pulverised at base.	
0.10	5.98	MUDSTONE - dark brownish -grey.	
0.02	6.00	COAL - pulverised.	
0.02	6.02	MUDSTONE - brown, pulverised.	
0.02	6.04	COAL - bright.	
0.10+	6.14+	MUDSTONE - black, carbonaceous, abundant thin bright coal bands.	

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: SNTR 19 (Page 1 of 2)
 PROJECT: SUKUNKA NORTH 1980 . DATE: 14 August 1980
 LOCATION: _____ . ELEVATION: 1498⁺
 GEOLOGIST: C. Bickford

Thick. (m)	Depth (m)	Lithology (Sample No)
0.45		MUDSTONE - dark brownish-grey, rubbly, slightly silty.
0.40		MUDSTONE - dark grey, slightly carbonaceous at base, 10% coal as discrete bands to 0.03 m.
0.32	0.00	ROOF: MUDSTONE - dark brownish-grey, rubbly, slightly silty, with ferruginous phases.
0.11	0.11	MUDSTONE black, carbonaceous, basal 0.06 m very carbonaceous, sheared, and gradational to coal. (SNTR 19/10)
0.79	0.90	COAL - sheared. (SNTR 19/9)
0.13	1.03	MUDSTONE - black, very carbonaceous, soft, slightly sheared. (SNTR 19/8)
0.80	1.83	COAL - dull lustrous, slightly sheared. (SNTR 19/7)
0.50	2.33	COAL - sheared. (SNTR 19/6)
0.02	2.35	MUDSTONE - black, sheared. (SNTR 19/6)
0.16	2.51	COAL - sheared. (SNTR 19/6)
0.18	2.69	MUDSTONE - black, carbonaceous, abundant thick coal bands. (SNTR 19/5)
0.19	2.88	COAL - sheared. (SNTR 19/4)
0.10	2.98	MUDSTONE - black, carbonaceous, abundant thick bright coal bands, sheared. (SNTR 19/3)
0.16	3.14	COAL sheared. (SNTR 19/2)
0.08	3.22	COAL - dull lustrous, sheared. (SNTR 19/2)
0.10	3.32	MUDSTONE - black, canneloid, hard. (SNTR 19/1)
0.13	3.45	MUDSTONE - dark grey to black, carbonaceous, abundant thin bright coal bands.
0.14	3.59	MUDSTONE - ferruginous.

B.P. CANADA LTD. COAL GROUP (Page 1 of 2)

TRAVERSE / TRENCH NUMBER: SNTR 20 GRIZZLY SEAM
 PROJECT: SUKUNKA NORTH 1980 DATE: 22 August 1980
 LOCATION: _____ ELEVATION: 1400-
 GEOLOGIST: C. Bickford/A. Chowdry

Thick.	Depth	Lithology	(Sample No.)
(m)	(m)		
		ROOF:	
0.23+	0.00	MUDSTONE - dark grey, rubbly, pinkish-white-weathering, carbonaceous at top.	
0.08	0.08	COAL - weathered.	(SNTR 20/1)
0.05	0.13	MUDSTONE - black, carbonaceous, weathered, with occasional thin bright coal bands.	(SNTR 20/1)
0.05	0.18	MUDSTONE - dark grey, silty, rubbly, chalky pinkish-white-weathering.	(SNTR 20/1)
0.35	0.53	COAL - dull, slightly sheared and weathered.	(SNTR 20/2)
0 to 0.04	0.57	MUDSTONE - black, carbonaceous, appears to be lenticular, width 0.35m. sheared, surface disturbance?	(SNTR 20/3)
0.26	0.83	COAL - dull banded, slightly sheared.	(SNTR 20/4)
0.15	0.98	COAL - bright; hackly fracture.	(SNTR 20/5)
0.06	1.04	COAL - dull, very hard, minor vitriolite. Probably high ash.	(SNTR 20/6)
0.43	1.47	COAL - dull banded, lustrous. Closely-spaced cleats, near normal to stratification. Friable.	(SNTR 20/7)
0.29	1.76	COAL - dull banded, lustrous, slightly sheared.	(SNTR 20/8)
0.35	2.11	COAL - dull and bright, lustrous, slightly sheared.	(SNTR 20/9)
1.37	3.48	COAL - dull lustrous, with tiny bright bands, slightly sheared, closely cleated, blocky and hard.	(SNTR 20/10)
0.19	3.67	MUDSTONE - dark brownish-grey, carbonaceous, slightly sheared. Occasional bright coal bands.	(SNTR 20/11)

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: MTR 1 (Page 1 of 3)
 PROJECT: MERRICK 1980 . DATE: 4 August 1980
~~XXXXXXXX~~ A. Chowdry/ . ELEVATION: E1 1448[±]
 GEOLOGIST: C. Bickford

Thick. (m)	Depth (m)	Lithology (Sample No.)
0.35+		SANDSTONE - very fine-grained, clean, thin-bedded, light to medium grey, orange-weathering. Tiny ripples.
0.24		SILTSTONE/MUDSTONE - interbedded, clean siltstone and silty mudstone (becoming carbonaceous at top.) Blocky to rubbly, thin-bedded, light brown, brown-weathering, Attitude: 141/70 SW.
		INTERVAL TO BASE OF CADOMIN: 34.5 m.
0.23		MUDSTONE - dark grey, rubbly, with carbonaceous phases, becomes silty at top.
0.21		MUDSTONE - dark brownish-grey, silty, orange-weathering, rubbly.
0.09		COAL - sheared, weathered.
0.07		MUDSTONE - dark brown, carbonaceous, thick bright coal bands, rubbly.
0.48		MUDSTONE - dark grey, olive to orange-weathering, rubbly, generally, silty. Basal 0.18 carbonaceous; above is 0.10 - ferruginous band, with concretions. Abrupt, listricated.
0.55 to 0.65		SANDSTONE - very fine-grained, light brownish-grey, buff to tan-weathering: rooty, with carbonised plant fragments. Clean, thick-bedded; erosional.
0 to 0.10		MUDSTONE - dark grey, carbonaceous. Rubbly, listricated, with some thick bright coal bands.
0.27		COAL - sheared.
3.99 to 4.13		SANDSTONE - very fine-grained, with minor thin silty, rubbly interbeds; otherwise clean, thin to medium-bedded. Rooty at top; rippled, planar-bedded, blocky. Some large horizontal burrows. Light grey; tan to buff locally orange-weathering. Silty beds about 0.30 apart. Attitude: 135/69 SW Erosional

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: MTR 1 (Page 2 of 3)
 PROJECT: MERRICK 1980 DATE: 4 August 1980
~~LOCATION~~ A. Chowdry/ ELEVATION: E1 1448⁺
 GEOLOGIST: C. Bickford

Thick. (m)	Depth (m)	Lithology
0.09 to 0.23		SILTSTONE - argillaceous, grading down to MUDSTONE, silty, medium grey, orange to grey-weathering; scattered bright coal lenses. Platy to rubble.
0.10		MUDSTONE - dark grey, brown-weathering, carbonaceous, abundant thick bright coal bands, rubbly.
0.10		COAL - sheared.
0.13		MUDSTONE - dark grey, carbonaceous, sheared.
0.23		SILTSTONE - brown, brown-weathering, rooty, blocky. Basal 0.09 grades down to silty, carbonaceous, pulverised mudstone. Siltstones are vaguely laminated.
0.13		COAL - sheared and broken. (MTR 1/1)
0.07		MUDSTONE - dark grey, carbonaceous, sheared, orange-weathering.
0.08		COAL - sheared.
0.02		MUDSTONE - dark grey, carbonaceous, sheared.
0.04		COAL - sheared.
0.05		MUDSTONE - dark grey, carbonaceous, sheared.
0.04		COAL - sheared.
0.09		MUDSTONE - dark grey, carbonaceous, abundant thin bright coal bands, sheared, orange-weathering.
0.15		MUDSTONE/COAL (50:50) - canneloid throughout, sheared; large pieces.
0.17		MUDSTONE - dark grey, carbonaceous, sheared and pulverised.
0.24		COAL - sheared. Pulverised at top.
0.22		MUDSTONE - dark grey, carbonaceous, abundant thick bright coal bands (20% of interval). Sheared.
0.54		MUDSTONE - light to brownish grey, some silty phases, lustricated, rooty, rubbly, with minor bright coal

B.P. CANADA LTD. COAL GROUP

TRENCH NUMBER: MTR 6 SCALE: 1:20
 PROJECT: MERRICK 1980 DATE: 7 August 1980
 LOCATION: _____ ELEVATION: 1501
 GEOLOGIST: C. BICKFORD

Thick. (m)	Depth (m)	Lithology	(Sample No.)
		ROOF:	
0.20+	0.00	SANDSTONE: very fine-grained, silty, brown-weathering, rooty, blocky, thin-bedded.	
		---HORIZON 33 m below LOWER CADOMIN---	
0.31	0.31	MUDSTONE: medium grey; white weathering, except in top 0.10 m which is brown, and brown-weathering, with thick coal bands. Basal 0.03 m is slightly carbonaceous. Rubbly.	
0.10	0.41	MUDSTONE: black, carbonaceous to canneloid, rubbly, with abundant thin bright coal bands.	
0.13	0.54	MUDSTONE: dark brown, carbonaceous, sheared.	
0.14	0.68	COAL: pulverised.	
0.10	0.78	COAL/MUDSTONE (50:50) - sheared, pulverised, coal, with sheared lenses of rusty-weathering mudstone. Possible sigmoidal structures.	
0.35	1.13	COAL: sheared.	
0.05	1.18	COAL/MUDSTONE (50:50) - interlaminated, pulverised coal and medium brownish-grey, sheared mudstone.	
0.23	1.41	MUDSTONE: medium brownish-grey, slightly carbonaceous, sheared.	
0.06	1.49	MUDSTONE: light grey, very silty, rubbly.	
2.00+	3.47+	SANDSTONE: very fine-grained, light grey, buff-weathering, locally silty, medium-bedded, strongly calcareous, compare to upper Gething sandstones. Attitude 132/63 SW.	

B.P. CANADA LTD. COAL GROUP Page 1 of 2

TRENCH NUMBER: MTR 7 SCALE: 1:20
 PROJECT: MERRICK 1980 DATE: 7 August 1980
 LOCATION: _____ ELEVATION: 1490
 GEOLOGIST: C. BICKEORD

Thick. (m)	Depth (m)	Lithology	(Sample No.)
		ROOF:	
0.54+	0.00	SILTSTONE/MUDSTONE: thin to medium interbeds of orange-weathering siltstone, locally with sandy laminae, and brown-weathering silty mudstone, with occasional thin carbonaceous laminae. Mudstones are rubbly; siltstones are blocky. Abrupt.	
0.01	0.01	MUDSTONE: dark grey to black, carbonaceous; rubbly to powdery.	
0.07	0.08	MUDSTONE: black, canneloid, blocky.	
0.03	0.11	MUDSTONE: black, carbonaceous, sheared.	
0.03	0.14	COAL: sheared and pulverised.	
0.11	0.25	MUDSTONE: dark grey to black, carbonaceous, sheared; gradational.	
0.18	0.43	MUDSTONE: dark brown to brownish-grey; slightly silty, rubbly. Abrupt.	
1.05	1.48	COAL: sheared. (MTR 7/1)	
0.29	1.77	COAL/MUDSTONE (50:50) - ferruginous, nodular strongly rusty-weathering nodules and lenses of mudstone in sheared coal. Compare to rusty band in MTR 2. (MTR 7/2)	
0.44	2.21	COAL: sheared. (MTR 7/3)	
0.26	2.47	MUDSTONE: dark grey, carbonaceous, rubbly	
0.52	2.99	MUDSTONE: greyish-brown, brown to orange-weathering, slightly silty, rubbly. Abrupt.	
0.14	3.13	COAL: sheared and pulverised.	
0.05	3.18	MUDSTONE: black, carbonaceous, sheared and pulverised.	
0.47	3.65	MUDSTONE: brownish-grey, brown-weathering at top, rusty-weathering and silty at base. Rubbly.	

B.P. CANADA LTD. COAL GROUP

Page 2 of 2

TRENCH NUMBER: MTR 7 SCALE: 1:20
 PROJECT: MERRICK 1980 DATE: 7 August 1980
 LOCATION: _____ ELEVATION: 1490
 GEOLOGIST: C. BICKFORD

Thick. (m)	Depth (m)	Lithology	(Sample No.)
0.77	4.42	MUDSTONE/COAL (50:50) - 0.01 to 0.10 m interbeds of sheared, black, carbonaceous mudstone and sheared coal.	(MTR 7/4)
0.36	4.78	COAL: sheared.	(MTR 7/5)
0.06	4.84	MUDSTONE: black, carbonaceous, sheared.	(MTR 7/6)
0.19	5.03	MUDSTONE: medium grey to brown, brown-weathering, rubbly.	(MTR 7/7)
0.25	5.28	MUDSTONE: black, cannelloid, with abundant very thin bright coal bands.	(MTR 7/8)
0.35	5.63	MUDSTONE: dark brown, slightly carbonaceous, abundant carbonaceous and coaly laminae.	(MTR 7/9)
0.21	5.84	MUDSTONE: dark brown, slightly carbonaceous, a few coaly laminae.	
1.08	6.92	MUDSTONE: medium grey, silty grading down to SILTSTONE: dark grey, argillaceous. Unit is rubbly and very thinly-bedded. Gradation.	
0.67	7.59	SILTSTONE: medium grey tan to grey-weathering, clean thin-bedded, blocky, gradational. Attitude: 140/64 SW.	
1.41	9.00	SANDSTONE: very fine-grained, thinly-bedded, orange-weathering, clean, strongly calcareous.	
4.00	13.00	SANDSTONE: fine-grained, thin to medium-bedded, clean, greyish-brown-weathering. Minor recessive bands of very fine-grained, argillaceous sandstone.	
4.20	17.20	CONCEALED INTERVAL: to top of MTR 8. Probably inter-bedded sandstone and mudstone.	

B.P. CANADA LTD. COAL GROUP

TRENCH NUMBER: MTR 8 SCALE: 1:20
 PROJECT: MERRICK 1980 DATE: 7 August 1980
 LOCATION: _____ ELEVATION: 1489
 GEOLOGIST: C. BICKFORD

Thick. (m)	Depth (m)	Lithology	(Sample No.)
		ROOF:	
0.62+	0.00	MUDSTONE: brown-weathering, blocky to rubbly, silty, locally sheared. Minor thin beds of dark grey mudstone with bright coal lenses. Attitude: 146/83 SW.	
0.28	0.28	COAL: sheared.	(MTR 8/1)
0.06	0.34	MUDSTONE: black, canneloid, abundant very thin bright coal bands.	(MTR 8/2)
0.20	0.54	MUDSTONE: black, very carbonaceous; sheared and pulverised.	(MTR 8/3)
0.26	0.80	MUDSTONE: dark brown; slightly carbonaceous at top. Listricated.	(MTR 8/4)
1.06	1.86	COAL: sheared.	(MTR 8/5)
0.89	2.75	COAL: sheared, hard, larger pieces. Appears to be dull lustrous.	(MTR 8/6)
0.24	2.99	COAL: sheared and pulverised.	(MTR 8/7)
0.08	3.07	COAL: dull, hard, sheared.	(MTR 8/8)
0.37	3.44	MUDSTONE: dark grey, brownish-grey-weathering, grading to carbonaceous mudstone in top.) 11 m.	(MTR 8/9)
0.25	3.69	MUDSTONE: black, carbonaceous, abundant, very thin, bright coal bands, sheared to conflakes.	(MTR 8/10)
0.56	4.25	MUDSTONE: medium greyish-brown, rubbly, slightly carbonaceous. Light grey-weathering, Gradational.	
0.44+	4.69+	MUDSTONE: light greyish-brown, light brown-weathering, rubbly, slightly silty.	

B.P. CANADA LTD. COAL GROUP Page 1 of 3

TRENCH NUMBER: MTR 10 SCALE: 1:20
 PROJECT: MERRICK 1980 DATE: 8 August 1980
 LOCATION: _____ ELEVATION: 1421 m at top of highest coal.
 GEOLOGIST: C. BICKFORD

Thick. (m)	Depth (m)	Lithology	(Sample No.)
		ROOF:	
1.86		SANDSTONE: very fine-grained, thin to medium-bedded, orange to golden-weathering, rippled. Very thinly-bedded, silty and rubbly towards base. Attitude: 132/61 SW.	
		Gradational.	
0.25	0.00	SILTSTONE: brown, tan-weathering, rubbly, grading down to MUDSTONE - dark brown, rubbly.	
0.09	0.09	COAL: dull banded, lustrous; hard, blocky.	
0.12	0.21	MUDSTONE: black, carbonaceous; abundant thin and thick bright coal bands.	
0.06	0.27	COAL: sheared and pulverised.	
0.10	0.37	MUDSTONE: dark brown to black; canneloid at top with abundant very thin bright coal bands; carbonaceous at base. Slightly sheared. Gradational.	
0.35	0.72	MUDSTONE: dark brown, locally carbonaceous, scattered thin bright coal bands, hard, rubbly, brown to orange-weathering, slightly sheared.	
0.05	0.77	MUDSTONE: black, carbonaceous, abundant thin bright coal bands. Sheared, listricated, "cornflakes".	
0.60	1.37	MUDSTONE: light brown, light brownish-grey-weathering, rubbly, slightly silty, rooty.	
0.21	1.58	SANDSTONE: very fine to fine-grained, silty, thin irregular platy beds, orange-weathering; abundant carbonaceous laminae.	
0.31	1.89	SILTSTONE: argillaceous, tan and orange-weathering, rubbly.	
0.44	2.33	SANDSTONE: very fine-grained, silty, thin irregular beds, orange-weathering, platy to blocky. Attitude at base: 138/60 SW. Abrupt.	
0.28	2.61	COAL: sheared, hard. (MTR 10/1)	

TRENCH NUMBER: MTR 10 SCALE: 1:20
 PROJECT: MERRICK 1980 DATE: _____
 LOCATION: _____ ELEVATION: _____
 GEOLOGIST: C. BICKFORD

Thick. (m)	Depth (m)	Lithology	(Sample No.)
0.38	2.99	MUDSTONE: dark brown to black, carbonaceous, with abundant bright coal bands to 0.01 m thick. Platy.	
0.05	3.04	COAL: bright, slightly sheared. Lenticular; thickness ranges from nil to 0.05 m.	
0.06	3.10	MUDSTONE: dark brown, very silty, some listrication gradational.	
1.06	4.16	SANDSTONE: very fine-grained, silty at top, rooty at top, thin to thick-bedded, blocky, orange-weathering.	
0.48	4.64	SILTSTONE: dark grey, argillaceous, becoming dark brown sandy at base. Blocky, concretionary, rusty-weathering in middle.	
0.19	4.83	MUDSTONE: dark brown to black, carbonaceous, with abundant very thin bright coal bands. Blocky.	
0.09	4.92	SILTSTONE: brown, blocky, argillaceous; roly at base, thickness ranges from 0.06 to 0.09 m.	
0.02	4.94	COAL: bright, mud on cleats.	} (MTR 10/2)
0.07	5.01	COAL: dull, hard; mud on cleats.	
0.11	5.12	MUDSTONE: black, canneloid, abundant very thin bright coal bands. Mud on cleats. (MTR 10/3)	
0.42	5.54	COAL: sheared, with 0.01 m rusty band from 0.14 to 0.15 m below top. (MTR 10/4)	
0.33	5.87	MUDSTONE: dark brownish-grey, carbonaceous rooty, locally listricated, rubbly to blocky. (MTR 10/5)	
0.18	6.05	COAL: bright banded, blocky, hard. (MTR 10/6)	
0.08	6.13	MUDSTONE: black, carbonaceous, abundant thin bright coal bands.	} (MTR 10/7)
0.02	6.15	COAL: sheared and pulverised.	

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: MTR 1A

PROJECT: MERRICK 1980

DATE: 8 August 1980

LOCATION: _____

ELEVATION: _____

1414

GEOLOGIST: C. BICKFORD

Thick. (m)	Depth (m)	Lithology	(Sample No.)
		ROOF:	
0.25+		MUDSTONE: brown, silty, blocky, thin to medium-bedded. Attitude: 138/65 SW.	
0.02		COAL: dull, lustrous, very hard.	
0.20		COAL: sheared, hard.	
0.48		MUDSTONE: brown, thin-bedded, blocky to rubbly, grading down to SILTSTONE: brown, orange-weathering, medium-bedded, blocky.	
0.02		COAL: bright, lenticular, ranging in thickness from nil to 0.02 m.	
0.06		MUDSTONE: brown, slightly carbonaceous.	
0.03		COAL: bright, lenticular, ranging in thickness from nil to 0.03 m.	
0.36		MUDSTONE: brown, thin-bedded, rubbly, locally listricated. Occasional carbonaceous phases. Silty at base.	
0.73		SANDSTONE: very fine-grained, very silty, thick-bedded, blocky to rubbly. Some plant fragments. Brown; orange-weathering. Large scale low-angle cross-laminated at base.	
0.13		SANDSTONE: very fine-grained/SILTSTONE/MUDSTONE (40:40:20) - interlaminated, brownish-grey silty sandstone, siltstone, and silty mudstone. Possibly burrowed. Irregular base with 0.03 m relief; thickness ranges from 0.13 to 0.16 m.	
0:03		MUDSTONE: black, carbonaceous, listricated, abundant thin bright coal bands. Thickness ranges from nil to 0.03 m,	
0.06		COAL: sheared and pulverised.	
0.12		MUDSTONE: black, carbonaceous, sheared.	
0.43		COAL: sheared.	(MTR #2/1)

B.P. CANADA LTD. COAL GROUP Page 1 of 2

TRAVERSE / TRENCH NUMBER: MTR 15
 PROJECT: MERRICK 1980 DATE: 8 August 1980
 LOCATION: _____ ELEVATION: 1321
 GEOLOGIST: C. BICKFORD

Thick. (m)	Depth (m)	Lithology	(Sample No.)
		ROOF:	
7.50+	0.00	SANDSTONE: very fine-grained, silty at base, medium-to thick-bedded, planar-bedded, small-scale low-angle cross-laminated. Medium brownish-grey. Orange and brown weathering. Attitude: 140/51 SW.	
0.09	0.09	MUDSTONE: black, canneloid.	
0.04	0.13	COAL: bright.	
0.07	0.20	COAL: sheared.	
0.25	0.45	MUDSTONE: brown, a few thin bright coal bands. Top 0.04 m is carbonaceous.	
0.05	0.50	COAL: sheared.	
0.36	0.86	MUDSTONE: brown, minor carbonaceous and coaly streaks.	
0.13	0.99	MUDSTONE: dark brown to black, carbonaceous, with abundant thin bright coal bands. Gradational.	
0.55	1.54	MUDSTONE: brown, slightly silty, abundant very thin bright coal streaks, occasionally reaching thickness of 0.005 m.	
0.58	2.12	COAL: sheared, particularly at top. (MTR 15/1)	
0.59	2.71	SANDSTONE: fine-grained, silty, thin to medium-bedded, orange-brown-weathering. Gradational.	
0.23	1.94	SILTSTONE: brown, argillaceous, massive, rubbly, a few roots. Rusty-weathering.	
0.81	3.75	SILTSTONE/MUDSTONE (50:50) - medium-scale interbeds of brown, sandy, rusty-weathering, siltstone and brown, sheared mudstone, with carbonaceous phases.	
0.09	3.84	MUDSTONE: black, carbonaceous, sheared, abundant, very thin bright coal streaks.	

B.P. CANADA LTD. COAL GROUP

TRaverse / TRENCH NUMBER: MTR 16
 PROJECT: MERRICK 1980 DATE: August 14th, 1980
 LOCATION: _____ ELEVATION: _____
 GEOLOGIST: A. CHOWDRY

Thickness (M)	Depth (M)	LITHOLOGY
0.40+		SANDSTONE: deep orange weathering, very fine grained, small-scale cross-lamination, rootlets.
0.37		MUDSTONE: silty bands, slightly coaly, grading upward into sandstone.
0.65		MUDSTONE: black, very carbonaceous, highly sheared, contains thin coal bands.
0.25		SILTSTONE/MUDSTONE: interbedded, silty, orangy weathering thinly laminated, finely broken plant matter, tiny ripples.
	ROOF	
0.14		MUDSTONE: black, somewhat canneloid, thinly bedded. MTR 16/9
0.18	0.00	MUDSTONE: black, thinly bedded to rubbly, locally highly carbonaceous passing to canneloid coal. MTR 16/8
0.39	0.39	COAL: sheared with zones of pulverized coal, earthy weathering on cleat faces. 4 cen. thick orange band towards top. MTR 16/7
0.41	0.80	COAL: highly sheared, friable, corn flaky, listricated. MTR 16/6
0.24	1.04	COAL: blocky, hard, sheared with distinct rusty/orange weathering band (within this zone is a discrete 6 cm orange band) MTR 16/5
0.19	1.23	COAL: highly pulverized, sheared, coal type indeterminate. MTR 16/4
0.31	1.54	COAL: blocky, highly cleated - cleats covered with earthy lining, appears dull lustrous, few bright bands. MTR 16/3
0.08	1.62	MUDSTONE: dark grey to black, very carbonaceous, sheared, gradational to coal. MTR 16/2
0.21	1.83	MUDSTONE: medium grey, clayey, rubbly, sheared, little or no carbonaceous matter, gradational upward.

B.P. CANADA LTD. COAL GROUP

TRAVERSE / TRENCH NUMBER: MTR 17
 PROJECT: MERRICK 1980 . DATE: _____
 LOCATION: _____ . ELEVATION: _____
 GEOLOGIST: A. CHOWDRY

Thickness (M)	Depth (M)	LITHOLOGY
4.0		SANDSTONE: fine-grained, medium bedded, fluvial, ridge forming.
0.25		SILTSTONE: distinct orange weathering, very thinly-bedded, very fine-grained, abundant rootlets.
1.0		MUDSTONE: black, listricated, corn flaky, locally carbonaceous.
0.19		MUDSTONE: distinct deep orange weathering, medium grey fresh.
0.18		MUDSTONE: dark grey to black, carbonaceous, rubbly, gradational at top.
0.18		SILTSTONE: medium/light grey, thinly bedded, argillaceous finely broken plant debris.
0.70		MUDSTONE: dark grey, locally black and carbonaceous, highly sheared, locally rusty orange weathering.
0.47		SANDSTONE: light grey and brownish grey, orange weathering, very fine grained, thinly-bedded, and laminated, rootlets, low angle to parallel small-scale cross-lamination, silty laminae; grain size increasing upward.
0.22		MUDSTONE: medium to dark grey, carbonaceous, silty upwards, tiny rootlets, gradational.
0.19	0.00	CANNELOID MUDSTONE: frequently coaly especially towards base, sheared and listricated. MTR 17/7
0.87	0.87	COAL: highly sheared and corn flaky, earthy lining on cleat surfaces, listricated. MTR 17/6
0.23	1.1	COAL: dull, sheared, listricated, distinct orange weathering bands. MTR/5
0.27	1.37	COAL: sheared, dull, hard, some pulverized layers. MTR 17/4

B.P. CANADA LTD. COAL GROUP

HILL SEAM

TRAVERSE / TRENCH NUMBER: MTR 51 (page 2 of 2)

PROJECT: MERRICK 1980

DATE: 16 August 1980

LOCATION: _____ ELEVATION: 1610+

GEOLOGIST: C. Bickford

Thick. (m)	Depth (m)	Lithology	(Sample No.)
0.19 to 0.30	0.00	Roof: MUDSTONE - brown, intensely weathered, carbonaceous at base.	(MTR 51/R)
0.21	0.21	COAL - sheared	(MTR 51/1)
0.04	0.25	MUDSTONE - black, carbonaceous to cannelloid, tough, blocky.	(MTR 51/2)
0.08	0.33	COAL - sheared	(MTR 51/3)
0.10	0.43	MUDSTONE - dark brownish - grey, carbonaceous, sheared.	(MTR 51/4)
1.06	1.49	COAL sheared	(MTR 51/5)
0 to 0.04	1.53	MUDSTONE - black, carbonaceous, rusty-weathering, lenticular.	(MTR 51/6)
0.30	1.83	COAL - sheared.	(MTR 51/7)
0 to 0.02	1.85	MUDSTONE - black, carbonaceous, rusty-weathering, lenticular.	(MTR 51/8)
0.52	2.37	COAL - sheared.	(MTR 51/9)
0.22	2.59	Floor: MUDSTONE - black, carbonaceous, thin bright coal bands.	(MTR 51/10)
0.16	2.75	SILTSTONE - brown, rooty.	
0.02+	2.77+	SANDSTONE - fine grained, thin bedded, rippled, abundant carbonaceous laminae, rooty, orange-weathering, Attitude: 118/25 SW.	

B.P. CANADA LTD. COAL GROUP

TRENCH NUMBER: Triangle - T1 SCALE: 1:20
 PROJECT: Creek-East Side-Triangle DATE: July 24, 1980
 LOCATION: _____ ELEVATION: 1151 m
 GEOLOGIST: R. Melin

Thick.	Ply	
(m)		
		Note: Located 85 m from creek intersection, within 20 meters, downstream from T1 strata becomes near vertical.
.38		Siltstone to argillaceous sandstone, medium grey, buff to rust weathering, Conchoidal fracturing, finely bedded, calcareous, some ironstone concretions, becomes finer up section into thin mudstone siltstone bands and then into a large sandstone bed. Attitude: 337°/48° NE.
.23	8	Roof, siltstone, muddy, medium grey, abundant fine carbonaceous plant impressions, bedding uneven to indistinct, minor carbonaceous laminae. Sharp contact roof/ coal.
.17) 7	Coal, dull and bright, quite hard however breaking into a powder rather than lumps, slightly muddy portions.
.22) 6	Mudstone, very carbonaceous, minor poor coal laminae and mudstone grading to coal.
)	*Analyzed as Ply 4
.11) 5	Coal, black, badly weathered, appears to be very muddy, soft.
.13) 4	Carbonaceous, mudstone, black, listricated surfaces, thin coaly laminae throughout.
1.02	3	Coal, black, bright and dull, hard and more vitreous up section.
.20	2	Carbonaceous mudstone, grading to poor coal, black, dull, soft, crumbly.
.18	1	Siltstone/mudstone, gradational contact with underlying sandstone, dark grey, micaceous, carbonaceous debris throughout.
1.5+		Base, Sandstone, dark to dirty grey, argillaceous to very fine grained, carbonaceous rootlets and debris throughout, very micaceous, non-calcareous, grades muddy up section.

Coal Analysis
CONFIDENTIAL

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DETAILED COAL

1980 N.E. B.C. THERMAL COAL

CONFIDENTIAL

PROPERTY Sukunka North

BOREHOLE/TRENCH 80-1

SEAM #2

PLY	LITHO (1:20)	THICK m	MOIST %	ASH %	VOL %	F.C %	BTU/LB	S %	FSI	HGI	SG
1/2/R		0.25		88.1							
79.43		0.02									
1/2/1		0.11									
1/2/1		0.59	1.4	4.4	19.6	74.6	14561	.57			
		0.31									
1/2/2		0.07		57.4						65	
		0.45									
1/2/5		0.06									
		0.06									
		0.03	1.1	16.2	22.5	60.4	12741	.36	5	58	1.40
		0.08									
		0.05									
1/2/4		0.03									
		0.10	1.2	35.5	18.2	47.1	9811	.54	1	54	1.55
		0.04									
1/2/5		0.03									
		0.04									
		0.03									
		0.01	1.2	23.8	19.6	55.4	11298	.35	1 1/2	58	1.48
		0.13									
1/2/5		0.07									
		0.06									
		0.03									
		0.13									
		0.06									
		0.03									
		0.03									
		0.11									

CONFIDENTIAL

GEOLOGICAL BRANCH ASSESSMENT REPORT

ANALYSIS - AIR DRIED BASIS

DR - ASH FREE BASIS

00 667

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH

80-01

SEAM # 1

PLY	LITHO (1:20)	THICK m	MOIST %	ASH %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
1/1/R 46.27		0.25		90.6							
		0.49									
1/1/1		0.09	1.1	24.7	17.8	56.4	10799	.37	1	64	1.53
		0.10									
1/1/2		0.09		58.4						55	
		0.04									
		0.03									
		0.02									
1/1/3		0.02	1.2	6.8	24.2	67.8	14495	.47	2	51	1.53
		0.03									
		0.03									
		0.03									
		0.14									
		0.09									
		0.04									
		0.07									
1/1/4		0.03									
		0.06									
		0.09	1.2	7.5	26.2	65.1	13908	.39	5	57	1.52
		0.09									
		0.02									
		0.04									
		0.15									
		0.45									
1/1/5		0.01									
		0.04		60.3						58	
		0.15									
		0.21									
1/1/F		0.17									
		0.12		63.8						50	
		0.21									
		0.12									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH 80-1

SEAM #3

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.02									
		0.12									
		0.02									
1/3/R		0.03									
		0.08	0.7	43.5	15.0	40.8	8204	.26	1	48	1.67
83.58		0.09									
		0.09									
1/3/1		0.01									
		0.05	1.1	18.1	21.1	59.7	12355	.39	3½	63	1.42
		0.05									
		0.13									
1/3/2		0.14		84.8						NSS	
		0.05									
		0.17									
		0.28									
		0.04									
1/3/3		0.04									
		0.08	1.0	29.9	17.8	51.3	10367	.36	1	63	1.54
		0.01									
1/3/1		0.03									
		0.02									
		0.30									
1/3/E		0.01		51.0						53	
		0.05									
		0.11									
1/3/F		0.05									
		0.12									
		0.05									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH 80-2

SEAM # 1 Old B Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.25									
2/1/R		0.12		85.0						46	
170.60		0.09									
2/1/1		0.08 0.04 0.01 0.06	.9	4.0	26.1	69.0	14679	.56	6½	64	1.30
		0.13									
2/1/2		0.12 0.17	.6	9.1	27.0	63.3	14045	.51	8½	88	1.32
		0.12									
2/1/F		0.13 0.06 0.03		66.2						50	
		0.17 0.02 0.01 0.02									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS


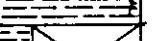
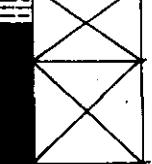

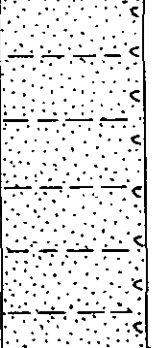


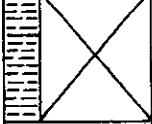

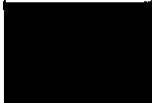
DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH BP 80-02

SEAM # 2 Lower B Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH %	VOL %	F.C. %	BTU/LB	S %	FSI	HGI	SG
2/2/R		0.14		69.7						53	
2/2/1		0.08	0.9	31.8	16.5	50.8	9823	.39	1	73	1.59
180.90		0.20									
		0.27									
2/2/2		0.07		63.7						88	
		0.07									
		0.93									
2/2/3		0.07 0.09 0.02 0.05 0.04 0.05 0.02 0.07 0.01	1.0	18.2	21.2	59.6	12153	.47	2½	62	1.43
2/2/4		0.04 0.01									
		0.10 0.01 0.12 0.35	74.9							50	
2/2/4		0.04 0.24									
2/2/5		0.04 0.06 0.21									

continued next page

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH BP80-02

SEAM # 2 Lower B Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
183.99		0.11	1.0	24.0	19.4	55.6	11324	.36	1	59	1.49
2/2/5		0.05									
		0.04									
2/2/6		0.03									
		0.06									
		0.05									
		0.11									
		0.01									
		0.02									
2/2/6		0.06		79.6						NSS	
		0.15									
		0.33									
		0.04									
		0.01									
		0.04									
2/2/7		0.01	1.1	8.6	26.5	63.8	13959	.45	8	66	1.32
		0.04									
		0.04									
		0.03									
		0.10									
		0.04									
2/2/F		0.06		63.5						51	
		0.02									
		0.04									
		0.02									
		0.05									
		0.07									
		0.10									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH 80-2

SEAM #3 Grizzly Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.25									
		0.66									
282.22		0.18		58.9						53	
2/3/1		0.15		78.2						46	
2/3/2		0.05									
2/3/3		0.09	1.3	46.1	17.0	35.6	7646	.49	4½	60	1.70
		0.07									
2/3/4		0.30		75.7						46	
		0.07									
2/3/5		0.12	0.9	23.0	15.2	60.9	11269	.46	1	70	1.53
		0.15									
2/3/6		0.14	1.1	18.4	25.9	54.6	10982	.34	N/A	80	1.53
2/3/7		0.18	1.2	4.8	18.8	75.2	14455	.52	1½	72	1.35
		0.03									
		0.11									
2.3.8		0.13	1.1	9.0	20.3	69.6	13765	.62	1½	78	1.37
		0.17									
		0.10									
		0.05									
2/3/9		0.08		64.7						50	
		0.07									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH 80-2

SEAM #3 Grizzly Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
284,46											
2/3/10		0.10	1.1	36.3	19.1	43.5	9373	.45	5½	62	1.58
		0.05									
		0.07									
		0.05									
2/3/11		0.11		72.4						50	
		0.08									
		0.06									
2/3/12		0.23	1.2	43.7	17.2	37.9	7900	.40	4½	58	1.67
		0.08									
2/1/F		0.14		70.0						51	
		0.25									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH 80-3

SEAM #1 Old B Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
3/1/R		0.16		71.3						56	
41.64		0.06									
		0.18									
3/1/1		0.32	0.9	3.0	20.5	75.6	14807	.55	1½	66	1.32
		0.12									
3/1/2		0.13	0.9	6.1	20.4	72.6	14407	.48	3	68	1.33
3/1/3		0.07									
		0.30		80.1						50	
3/1/3		0.16									
		0.06									
		0.12									
3/1/4		0.11									
		0.15	1.8	12.7	19.5	66.0	13404	.57	4	76	1.39
3/1/5		0.17		76.9						46	
		0.37									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

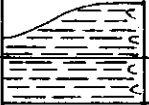
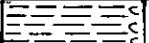

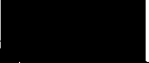
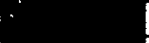


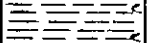
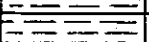
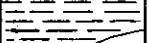
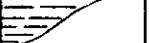






















DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH 80-3

SEAM #2

PLY	LITHO (1:20)	THICK m	MOIST %	ASH %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
56.63		0.12									
3/2/R		0.14		84.9						NSS	
3/2/I		0.05		65.6						51	
3/2/2		0.20	1.1	18.5	17.0	63.4	12363	.46	1	64	1.44
3/2/3		0.09									
		0.03	1.0	32.6	15.2	51.2	10057	.41	1	58	1.56
		0.19									
3/2/F		0.15		90.2						NSS	
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH 80-3

SEAM #3

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.30									
126.60		0.20									
3/3/1		0.10	0.5	22.2	21.7	55.6	11835	.65	8	76	1.46
3/3/2		0.09		72.8						47	
3/3/3		0.10	1.0	27.9	19.9	51.2	11100	.54	7½	74	1.49
3/3/4		0.08		54.2						53	
3/3/5		0.20	0.5	21.0	19.5	59.2	12046	.56	5	71	1.46
		0.15									
3/3/6		0.25		56.5						53	
		0.33									
3/3/7		0.22	0.9	42.7	15.0	41.4	8459	.43	1½	59	1.69
		0.18									
		0.02									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

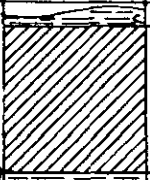
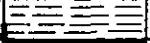


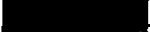


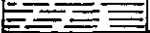
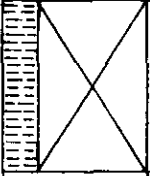

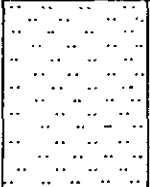


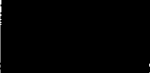
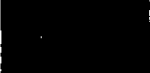




DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Jilg

BOREHOLE/TRENCH 80-4

SEAM #1

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.38									
78.80 4/1/R5		0.12		91.3						NSS	
4/1/1		0.09	0.6	21.9	19.1	58.4	11422	.52	1½	NSS	1.50
4/1/2		0.04		86.6						NSS	
4/1/3		0.10	0.6	23.4	20.2	55.8	11330	.63	2	62	1.51
4/1/4		0.04		79.0						NSS	
4/1/5		0.05	0.6	37.1	17.2	45.1	9031	.41	1	NSS	1.66
4/1/6		0.11		72.9							
		0.45									
		0.27									
		0.50									
		0.40									
4/1/7				82.1						NSS	
4/1/8		0.20	0.9	9.6	18.2	71.3	13656	.51	½	58	1.41
4/1/9		0.10	0.9	4.7	20.8	73.6	14798	.60	2½	65	1.32
		0.15									
4/1/10		0.13	0.7	10.2	19.2	69.9	13616	.60	1	65	1.40
		0.32									
		0.31									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS




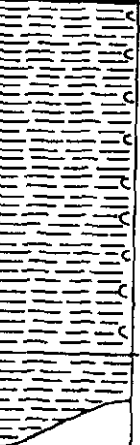
DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Jilg

BOREHOLE/TRENCH 80-4

SEAM #4

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
190.21		0.25									
		0.28									
4/4/1		0.21	0.6	8.7	19.6	71.1	14005	.71	1½	68	1.37
		0.92									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS


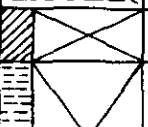


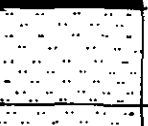
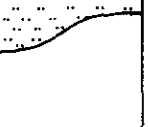


DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Jilg

BOREHOLE/TRENCH 80-4

SEAM # 5

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.21									
		0.14									
		0.40									
198.35		0.10									
4/5/1		0.24	0.5	22.4	19.0	58.1	11847	0.71	7½	77	1.46
4/5/2		0.11	0.5	37.2	15.5	46.8	9405	0.79	2	72	1.63
		0.25									
											

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Jilg

BOREHOLE/TRENCH 80-4

SEAM #6

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
4/6/R		0.45		88.8						NSS	
241.33											
4/6/1		0.07	0.5	1.9	22.9	74.7	15279	.64	8½	80	1.29
		0.07									
		0.02									
4/6/2		0.04									
		0.01									
		0.03									
4/6/2		0.13		85.8						NSS	
		0.27									
		0.13									
		0.02									
4/6/3		0.04	0.7	9.6	23.4	66.5	14019	.71	8½	84	1.55
		0.02									
		0.03									
		0.02									
		0.03									
		0.02									
		0.07									
		0.03									
		0.01									
		0.02									
		0.13									
		0.12									
		0.03									
		0.25									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Merriak SILG!!!

BOREHOLE/TRENCH BP 80-04

SEAM _____

PLY	LITHO (1:20)	THICK m	MOIST %	ASH %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
596.67.		0.09									
4/11/1		0.14	0.7	4.4	23.2	71.7	14957	.61	9	NSS	1.31
		0.06									
		0.03									
		0.05									
		0.06									
		0.11									
		0.12									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

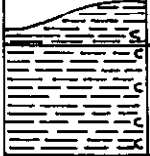


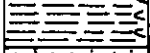

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Merrick

BOREHOLE/TRENCH BP 80-05

SEAM #2

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB.	S %	FSI	HGI	SG
36.06		0.29									
5/2/1		0.12									
		0.07	1.1	3.1	33.9	61.9	14557	.65	8	56	1.30
		0.05									
		0.15									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS



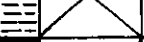
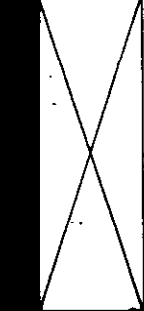
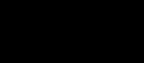
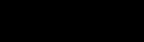
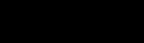

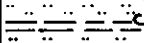
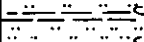


DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Merrick

BOREHOLE/TRENCH BP 80-05

SEAM #3

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
5/3/R		0.02	90.8							NSS	
		0.05									
		0.23									
		0.82									
5/3/1		0.21	1.2	3.3	34.3	61.2	14495	.52	8½	63	1.30
		0.05									
5/3/2		0.02	1.3	1.5	35.3	61.9	14899	.52	7½	64	1.27
5/3/3/		0.03	1.2	19.2	29.2	50.4	12211	.48	7½	60	1.42
		0.02									
		0.01									
		0.08									
		0.29									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS




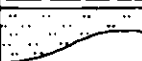
DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Merrick

BOREHOLE/TRENCH BP 80-05

SEAM # 3A

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
59.90		0.25									
5/3A/1		0.14	0.7	27.3	38.7	33.3	10617	1.82	6½	63	1.60
		0.19									
											

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Merrick

BOREHOLE/TRENCH BP 80-05

SEAM # 4

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.25									
76.69		0.01									
5/4/1		0.16	0.9	9.7	36.6	52.8	13571	.61	7½	61	1.34
5/4/2		0.02									
5/4/3		0.14									
		0.05		72.5							
		0.03	1.0	24.5	28.7	45.8	11214	.60	8	NSS	1.43
		1.00									
5/4/4		0.32	1.1	10.6	33.4	54.9	13550	.77	7½	64	1.32
		0.08									
		0.57									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

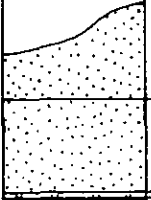
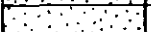
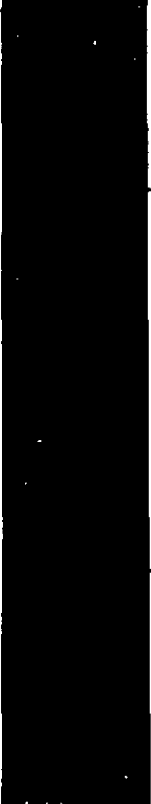
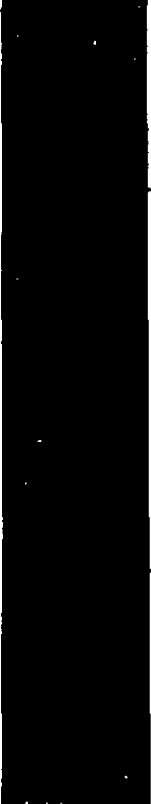
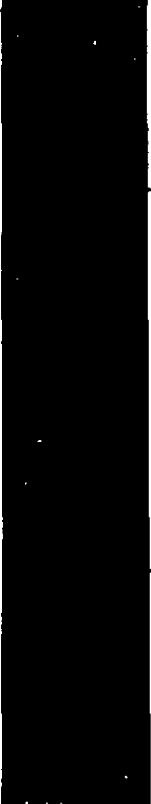
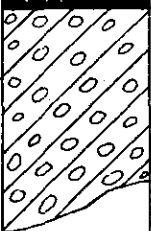
DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH SNT. 2

SEAM Cadomin Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.25									
		0.04									
SNT 2/2		0.50	8.7	13.5	24.3	53.5	9477	.35		127	1.53
SNT 2/3		1.00	7.3	5.1	27.1	60.5	10292	.42		112	1.48
SNT 2/4		0.64	.76	14.9	26.8	50.7	9039	.33		135	1.59
											
Wt. Av.		2.14	7.71	9.98	26.37	55.96	9728	.38			
*Wt. Av.		2.14	-	-							
(Total Seam Ash - 9.98%)											

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS


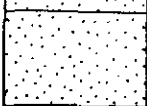

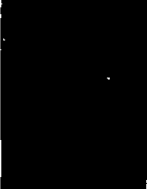

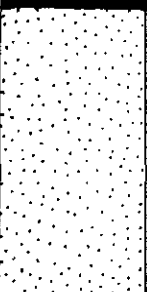

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH SNT. 3

SEAM Cadomin Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
											
		0.25									
SNT 3/1		0.50	7.2	8.9	27.6	56.3	10168	.33		102	1.51
SNT 3/2		0.50	6.1	3.2	27.0	63.7	11492	.45		97	1.45
SNT 3/3		0.54	6.9	7.3	26.3	59.5	10593	.36		109	1.49
		0.75									
											
Wt. Av.		1.54	6.67	6.45	26.68	59.23	10638	.37			
*Wt. Av.		1.54	-	-							
				(Total Seam Ash 6.43%)							

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH SNT. 6

SEAM Cadomin Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.25									
SNT 6/1		0.50	9.3	5.3	27.1	58.3	10602	.39		122	1.47
SNT 6/2		0.50	6.7	5.3	25.7	62.3	11023	.48		102	1.48
SNT 6/3		0.38	4.1	4.9	28.6	62.4	11972	.53		98	1.41
		0.29									
		0.45									
		0.58									
Wt.Av.			6.91	5.19	27.02	6089	11137	.46			
*Wt.Av.			-	-							
			(Total Seam Ash 5.19%)								

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH SNT. 12

SEAM (above Cadomin)

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.22									
SNT 12/2		0.97	7.2	25.5	23.3	44.0	8328	.32		75	1.60
SNT 12/3		0.16		80.4						NSS	
		0.05									
		0.06									
SNT 12/4		0.07	5.5	45.2	18.4	32.9	6353	.34		74	1.75
		0.14									
SNT 12/5		0.25		82.9						NSS	
SNT 12/6		0.22	3.6	28.6	22.7	45.1	9308	.42		65	1.56
		0.21									
		0.05									
		0.01									
		0.03									
		0.10									
		0.10									
		0.10									
		0.09									
		0.12									
		0.05									
		0.29									
Wt. Av		1.79	5.52	30.57	22.08	41.82	8130	.34			
*Wt. Av.		1.79	-	-							

(Total Seam Ash 39.83%)

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH SNT. 18

SEAM Grizzly Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.25									
		0.09									
SNT18/20		0.88	7.6	9.9	25.3	57.2	10327	0.21		95	1.51
		0.06									
SNT18/19		0.14	2.7	61.4	15.0	22.9		0.17		61	1.98
SNT18/18		0.48	4.9	15.9	26.3	54.9	10453	0.28		96	1.49
SNT18/17		0.19	3.4	8.4	26.9	61.5	12060	0.35		91	1.40
		0.21									
SNT18/16		0.28	2.5	6.4	26.7	64.4	12759	0.43		78	1.38
		0.02									
SNT18/15		0.26	1.9	25.3	25.5	49.3	10535	0.40		86	1.49
SNT18/14		0.24	1.5	12.0	20.7	65.8	12601	0.5		70	1.42
SNT18/13		0.13	1.0	38.0	15.9	45.1	8920	0.40		49	1.63
		0.24									
Wt. Av.		2.69	4.44	12.78	25.00	57.74	11062	0.33			
		0.06									
		0.08									
(Total Seam Ash 16.17%)											

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

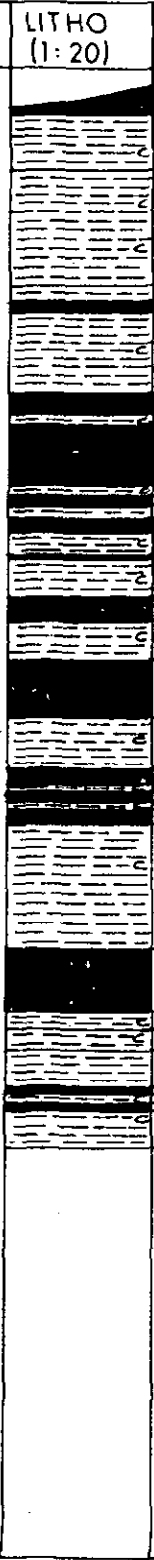
DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH SNT. 18

SEAM Grizzly Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.15									
		0.30									
		0.04									
		0.03									
		0.21									
		0.05									
		0.03									
		0.12									
		0.03									
		0.02									
		0.03									
		0.03									
		0.04									
		0.05									
		0.01									
		0.10									
		0.06									
		0.10									
		0.16									
		0.13									
		0.04									
		0.01									
		0.03									
		0.01									
		0.04									
		0.32									
		0.17									
		0.05									
		0.05									
		0.10									
		0.02									
		0.02									
		0.02									
		0.10									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH SNT. 19

SEAM Pump Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.11									
SNT 19/9		0.79	7.4	14.8	26.2	51.6	9700	.38		97	1.52
SNT 19/8		0.13	6.0	38.6	21.7	33.7	6071	.20		94	1.82
SNT 19/7		0.80	6.7	7.3	29.1	56.9	10862	.36		98	1.46
		0.50	3.5	18.5	25.6	52.4	10163	.42		74	1.50
SNT 19/6		0.02									
		0.16									
SNT 19/5		0.18		60.6							
SNT 19/4		0.19	2.9	7.8	29.9	59.4	11894	.36		90	1.41
SNT 19/3		0.10		65.0							
		0.16									
SNT 19/2		0.08	5.8	20.0	25.2	51.0	10403	.49		74	1.51
		0.20									
Wt. Av.		2.83	5.59	14.70	26.83	52.89	10165	.39			
*Wt. Av.		2.83	-	-							
								(Total Seam Ash 15.59%)			

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

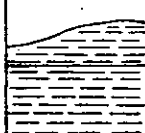



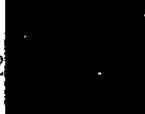


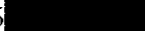
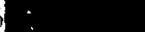


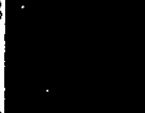
DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sunkuna North

BOREHOLE/TRENCH SNT. 20

SEAM Grizzly Seam

PLY	LITHO (1: 20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.23									
		0.08									
		0.05									
		0.05									
SNT 20/2		0.35	6.8	14.7	27.6	50.9	9516	.27		122	1.56
SNT 20/3		0.04	4.8	14.2	28.8	52.2	9996	.25		NSS	1.63
SNT 20/4		0.26	5.1	6.0	28.7	60.2	11161	.40		109	1.50
SNT 20/5		0.15	2.3	6.6	30.1	61.0	12531	.31		74	1.41
SNT 20/6		0.06	1.9	32.3	23.9	41.9	9225	.27		49	1.61
SNT 20/7		0.43	5.5	25.8	23.5	45.2	8257	.21		110	1.65
SNT 20/8		0.29	5.4	21.5	24.1	49.0	8665	.22		99	1.64
SNT 20/9		0.35	7.0	5.0	28.1	59.9	11014	.29		NSS	1.45

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS





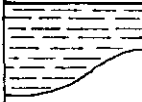
DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Sukunka North

BOREHOLE/TRENCH SNT. 20

SEAM Grizzly Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
SNT20/10		1.37	3.1	6.0	29.6	61.3	11078	.23		NSS	1.48
SNT20/11		0.19		78.3							
SNT20/12		0.74	3.7	12.3	27.1	56.9	10744	.31		NSS	1.48
		0.26									
											
Wt Av.		4.04	4.42	11.45	27.68	56.44	10408	.25			
*Wt.Av.		4.04	-	-							
		(Total Seam Ash 13.48)									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Merrick

BOREHOLE/TRENCH MT. 2

SEAM Merrick Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
SNT 2/1		0.17									
		1.28	3.4	8.2	30.3	58.1	11571	.58		70	1.42
		0.20									
		0.09									
		0.13									
		1.10									
Wt Av.			3.4	8.2	30.3	58.1	11571	.58			
* Wt Av.			-	-			(Total Seam Ash 8.2)				

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

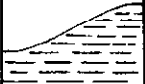
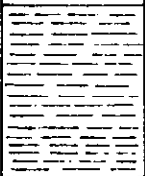


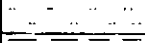
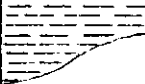
DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Merrick

BOREHOLE/TRENCH MT. 3

SEAM Rusty Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
											
		0.45									
MT 3/1		0.13		47.6			incomplete Analysis			90	
MT 3/2		1.97	10.3	7.2	28.4	54.1	10051	.36		72	1.47
		0.09									
		0.14									
											

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

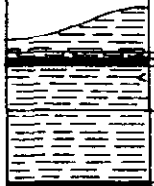
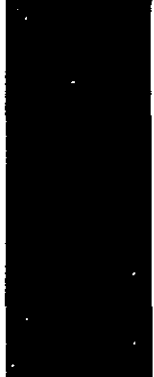



DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Merrick

BOREHOLE/TRENCH MT. 7

SEAM _____

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
											
MT 7/1		1.05	9.5	10.9	28.2	51.4	9816	.33		77	1.49
MT 7/2		0.29	5.9	14.2	32.6	47.3	9856	.53		74	1.53
MT 7/3		0.44	6.0	16.8	29.4	47.8	9460	.40		69	1.53
											
Wt. Av.		1.78	8.05	12.9	25.21	49.85	9733	.34			
*Wt. Av.		1.78	-	-							
(Total Seam Ash 12.9%)											

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

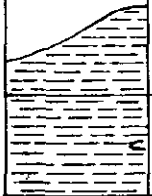


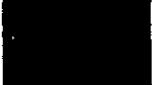

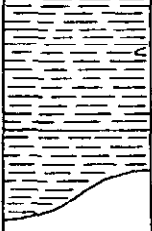
DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Merrick

BOREHOLE/TRENCH MT. 8

SEAM _____

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.26									
MT 8/5		1.06	10.4	12.1	28.1	49.4	9252	.27		82	1.55
MT 8/6		0.89	9.9	4.5	30.7	55.1	10527	.29	1	91	1.43
MT 8/7		0.24	8.6	9.4	29.9	52.1	9910	.39		92	1.50
MT 8/8		0.08	9.5	14.2	31.1	45.2	8960	.67		79	1.50
		0.37									
Wt. Av.		2.27	10.08	8.97	29.71	52.25	9902	.36			
*Wt. Av.		2.27	-	-							
		(Total Seam Ash 8.97%)									

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS



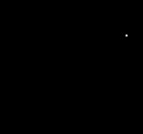
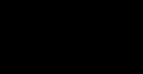

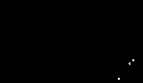
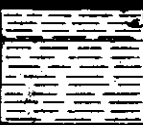
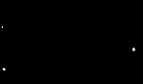


DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Merrick

BOREHOLE/TRENCH MT. 16

SEAM _____

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
MT 16/8		0.18	8.1	39.8	20.8	31.3	5750	.33		118	1.78
MT 16/7		0.39	9.1	4.9	29.3	56.7	10484	.41		79	1.46
MT 16/6		0.41	11.5	5.1	29.5	53.9	9855	.33		94	1.47
MT 16/5		0.24	6.8	14.8	33.6	44.8	9145	.42		77	1.57
MT 16/4		0.19	10.6	7.3	29.2	52.9	9573	.15		106	1.51
MT 16/3		0.31	7.8	12.2	31.4	48.6	9647	.42		70	1.49
MT 16/2		0.08	4.2	47.4	22.7	25.7	5263	.35		NSS	1.84
		0.21									
MT 16/1		0.23	7.0	21.2	30.9	40.9	8085	.40		75	1.59
		0.32									
Wt. Av.		2.03	8.64	14.03	29.02	47.33	8987	.35			
*Wt. Av.		2.03	-	-							
(Total Seam Ash				21.87%)							

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS











DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Merrick

BOREHOLE/TRENCH MT. 21

SEAM _____

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
MT 21/9		0.24	10.7	28.7	26.0	34.6	6889	.38		74	1.62
MT 21/8		0.35	10.4	6.5	30.0	53.1	8475	.44		83	1.46
MT 21/7		0.34	11.3	6.4	31.0	51.3	9932	.41		76	1.44
MT 21/6		0.56	13.7	7.9	29.2	49.2	9241	.25		90	1.49
MT 21/5		0.21	11.8	21.5	32.7	34.0	7685	.30		76	1.62
MT 21/4		0.17	12.3	7.5	28.2	52.0	9322	.12		94	1.51
MT 21/3		0.44	14.3	13.3	29.3	43.1	8487	.38		66	1.49
MT 21/2		0.51	16.3	25.9	25.5	32.3	6807	.26		86	1.61
		0.06									
		0.24									
Wt. Av.		2.82	13.09	14.46	28.76	43.69	8357	.32			
*Wt. Av.		2.82	-	-							

(Total Ash Seam 14.46%)

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

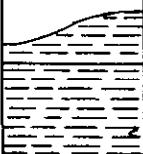

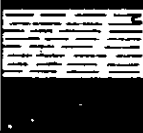

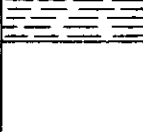



DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Merrick

BOREHOLE/TRENCH MT. 22

SEAM _____

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.24									
MT 22/6		0.20	9.9	14.6	27.2	48.3	9047	0.43		79	1.52
MT 22/5		0.72	11.4	4.3	27.5	56.8	10502	0.39		82	1.51
MT 22/4		0.35	8.8	10.7	30.4	50.1	9559	0.36		76	1.50
MT 22/3		0.46	9.0	7.9	28.5	54.8	10202	0.40		68	1.46
MT 22/2		0.18									
MT 22/1		0.15	13.1	27.4	21.2	38.3	6767	0.27		116	1.65
		0.45									
Wt. Av.		1.88	10.51	9.51	27.69	52.69	9723	.39			
*Wt. Av.		1.88									
				(Total Seam Ash 15.03%)							

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Merrick

BOREHOLE/TRENCH MT. 51

SEAM Hill Seam

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.30									
MT 51/1		0.21	5.2	6.4	29.3	59.1	12022	.58		NSS	1.41
MT 51/2		0.04		71.9							
MT 51/3		0.08	6.3	14.2	28.7	50.8	10243	.48		NSS	1.47
MT 51/4		0.10		90.9							
MT 51/5		1.06	6.6	4.6	29.7	58.9	11706	.49		96	1.38
MT 51/6		0.04		71.9							
MT 51/7		0.30	6.1	3.6	30.3	60.0	11821	.46		106	1.38
MT 51/8		0.02		52.5							
MT 51/9		0.52	6.7	3.5	30.3	59.5	11727	.56		103	1.58
		0.22									
Wt. Av.		2.17	6.46	4.80	30.24	59.48	11816	.51			
*Wt. Av.		2.17	-	-							
				(Total Seam Ash 10.14%)							

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS


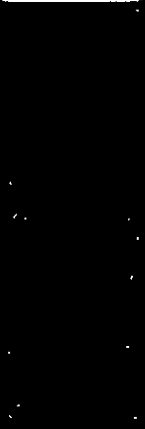
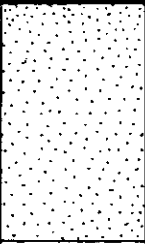
DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Jilg

BOREHOLE/TRENCH JT. 2

SEAM Upper Main

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.38									
		1.14	9.5	16.2	26.1	48.2	9109	.36		121	1.57
		0.62									
Wt. Av.		1.14	9.5	16.2	26.1	48.2	9109	.36			
*Wt. Av.		1.14									
	(Total Seam Ash 16.2%)										

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS









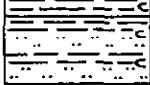

DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Triangle

BOREHOLE/TRENCH TT1

SEAM Lower Minnes

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
											
		0.23									
		0.17									
		0.22									
		0.11									
		0.13									
TT 1/3		1.02	1.5	5.8	23.7	69.0	14507	.69	4.50		
TT 1/2		0.20	1.6	23.1	21.1	54.2	11296	.59	2.50		
		0.18									
											
Wt. Av.			1.56	8.57	23.29	66.63	13993	.67			
* Wt. Av.			-	-							

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS


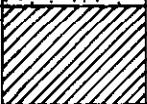


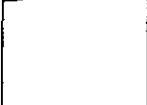
DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Rocky Creek

BOREHOLE/TRENCH TT2

SEAM _____

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
TT 2/2		0.25	1.6	3.4	24.6	70.4	14515	.67	3.50		
											
TT 2/1		0.79	2.0	50.0	13.9	34.1	6740	.32	0.50		
											
		0.11									

Results
Questionable

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS

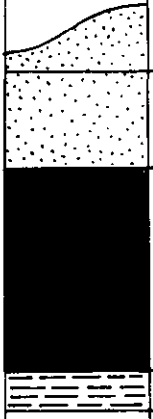
DETAILED COAL SECTION

1980 N.E. B.C. THERMAL COAL PROJECT

PROPERTY Triangle

BOREHOLE/TRENCH TT8

SEAM Upper Minnes

PLY	LITHO (1:20)	THICK m	MOIST %	ASH. %	VOL. %	F.C. %	BTU/ LB	S %	FSI	HGI	SG
		0.25									
		0.54	6.0	5.4	29.4	59.2	11848	.64			
		0.10									
Wt. Av.		.54	6.0	5.4	29.4	59.2	11848	.64			
*Wt. Av.		.54	-	-							
(Total Seam Ash 5.4%)											

ANALYSIS - AIR DRIED BASIS

* DRY - ASH FREE BASIS