

MOUNT KLAPPAN COAL PROJECT
LOST - FOX AREA
GEOLOGICAL REPORT
1984

APPENDIX VI

VOLUME I

1981, 1982, 1983 TRENCH DATA



GULF CANADA RESOURCES INC.
COAL DIVISION

709

APPENDIX VI

VOLUME I

LOST-FOX AREA

1981, 1982, 1983 TRENCH DATA

CONFIDENTIAL
COAL ANALYSIS DATA
HAS BEEN REMOVED

APPENDIX VI

VOLUME I

LOST-FOX AREA

1981, 1982, 1983 TRENCH DATA

For each trench where available:

Data Source Summary

Descriptive Log

Stratigraphic Log

Coal Quality Analyses

1:10 000 Trench Location Maps

1981 Reflectance Data

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNXXTRC81009

DATE - 12/04/84

- HISTORY -

START DATE - / /
END DATE - / /

CONTRACTOR - GULF CANADA RES
GEOLOGIST - J. INNIS.

OPERATOR - GULF CANADA RES
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1568.00

ZONE - 9
NORTHING - 6344150.00
EASTING - 511305.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571432
LONGITUDE - 1284846

- ORIENTATION -

LENGTH - 2.25
SIZE WIDTH - 0.7
SIZE HEIGHT - 1.0

INCLINATION - 0.0
AZIMUTH - 0.0

ROOF STRIKE - 175
ROOF DIP - 85
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: XX DATA SOURCE: TRCB1009

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	0.00	0.40	0.40			MUDSTONE	CARB
	0.40	0.58	0.18			COAL	C-2
	0.58	0.63	0.05			CLAYSTONE	CARB
	0.63	1.03	0.40			COAL	C-4
	1.03	1.15	0.12			COAL	C-3 BRITTLE
	1.15	1.19	0.04			MUDSTONE	UNCONSOLIDATED
	1.19	1.23	0.04			COAL	C-4
	1.23	1.32	0.09			COAL	C-5
	1.32	1.40	0.08			COAL	C-3 WEATHERED
	1.40	1.64	0.24			COAL	C-5
	1.64	1.74	0.10			CLAYSTONE	CARB C-2 STRINGERS

* DENOTES MEASURED BCA

84/12/02

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

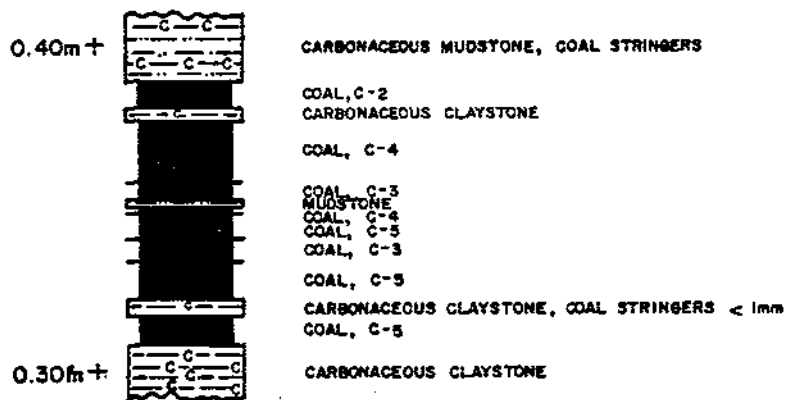
PAGE 2

PROJECT: KPN BLOCK: XX DATA SOURCE: TRCB1009


<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	1.74	1.95	0.21			COAL	C-5
	1.95	2.25	0.30			CLAYSTONE	CARB

* DENOTES MEASURED BCA
NEWPAGE

	ROCK	COAL
1.55	0.05	0.18
		0.40
	0.04	0.12
		0.04
		0.09
	0.08	0.24
	0.10	0.21
TOTAL	0.19	1.36



ATTITUDE OF ROOF : 175/85° W
 ATTITUDE OF FLOOR : N/A

GULF CANADA RESOURCES INC.		
<small>Coal Division</small>		
<small>CALGARY</small>	<small>ALBERTA</small>	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
KPN-TRC-31-009		
<small>DRAWN BY:</small>	<small>DATE:</small> 16-11-81	<small>SCALE:</small> 1:50
<small>LOGGED BY:</small> J. INNIS	<small>DRAWING No.</small>	
<small>APPROVED BY:</small>	<small>DATE:</small>	

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC81017

DATE - 12/04/84

- HISTORY -

START DATE - / /
END DATE - / /

CONTRACTOR - GULF CANADA RES
GEOLOGIST - R. BREZOUSKI

OPERATOR - GULF CANADA RES
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1568.00

ZONE - 9
NORTHING - 6343378.00
EASTING - 507955.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571407
LONGITUDE - 1285206

- ORIENTATION -

LENGTH - 2.37
SIZE WIDTH - 0.7
SIZE HEIGHT - 1.0

INCLINATION - 0.0
AZIMUTH - 0.0

ROOF STRIKE - 40
ROOF DIP - 52
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

84/12/02

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC81017

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	0.00	0.12	0.12			COAL	C-2 CLAYSTONE BANDS
	0.12	0.30	0.18			CLAYSTONE	COAL BANDS C-2
	0.30	0.38	0.08			COAL	C-2
	0.38	0.54	0.16			COAL	C-5
	0.54	0.65	0.11			CLAYSTONE	CARB COALY STRINGERS
	0.65	0.94	0.29			COAL	C-3
	0.99	1.05	0.06			COAL	C-1 BRITTLE
	1.05	1.16	0.11			CLAYSTONE	CARB VIT. STRINGERS
	1.16	1.21	0.05			COAL	C-3

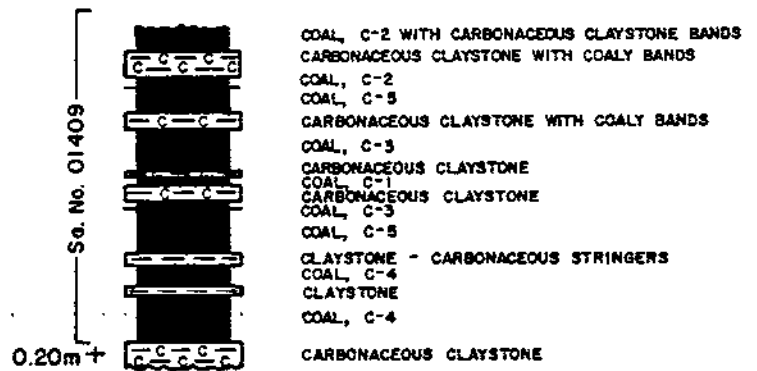
* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC81017

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	1.21	1.52	0.31			COAL	C-5
	1.52	1.59	0.07			CLAYSTONE	BN CARB STRINGERS
	1.59	1.74	0.15			COAL	C-4
	1.74	1.79	0.05			CLAYSTONE	BN CARB STRINGERS
	1.79	2.17	0.38			COAL	C-4
	2.17	2.37	0.20			CLAYSTONE	CARB COAL

* DENOTES MEASURED BCA
NEWPAGE

	ROCK	COAL
2.17	0.18	0.12
		0.06
		0.16
	0.11	
		0.29
	0.08	0.06
	0.11	0.06
		0.31
	0.07	0.16
	0.06	
TOTAL	0.57	1.60



ATTITUDE OF ROOF : 040/52° E
 ATTITUDE OF FLOOR : N/A

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCHING LOGS		
KPN-TRC-81-017		
DRAWN BY:	DATE: 16-11-81	SCALE: 1:50
PREPARED BY: J. INNIS	DRAWING No.	
APPROVED BY:	DATE:	

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNXXTRC81018

DATE - 12/04/84

- HISTORY -

START DATE - / /
END DATE - / /

CONTRACTOR - GULF CANADA RES
GEOLOGIST - R. BREZOUSKI

OPERATOR - GULF CANADA RES
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1562.00

ZONE - 9
NORTHING - 6343475.00
EASTING - 508030.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571410
LONGITUDE - 1285201

- ORIENTATION -

LENGTH - 2.74
SIZE WIDTH - 0.7
SIZE HEIGHT - 1.0

INCLINATION - 0.0
AZIMUTH - 0.0

ROOF STRIKE - 0
ROOF DIP - 25
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

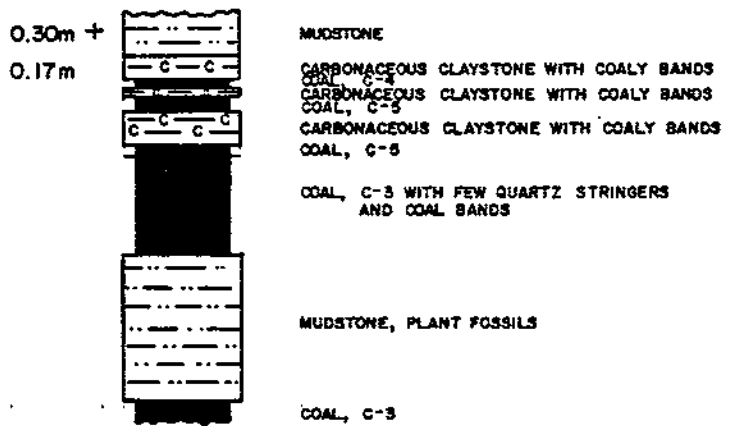
=====

PROJECT: KPN BLOCK: XX DATA SOURCE: TRC81018


<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	0.00	0.30	0.30			MUDSTONE	BN
	0.30	0.47	0.17			CLAYSTONE	CARB IRON STAINS
	0.47	0.53	0.06			COAL	C-4
	0.53	0.57	0.04			CLAYSTONE	CARB COALY STRINGERS
	0.57	0.66	0.09			COAL	C-5 IRON STAINING
	0.66	0.88	0.22			CLAYSTONE	CARB COALY BANDS
	0.88	0.97	0.09			COAL	C-5 IRON OXIDE STAINING
	0.97	1.64	0.67			COAL	C-3 QUARTZ & SHALE BANDS
	1.64	2.64	1.00			MUDSTONE	BN PLANT FOSSILS
	2.64	2.74	0.10			COAL	COAL IN STREAM

* DENOTES MEASURED BCA
NEWPAGE

	ROCK	COAL
	0.04	0.06
	0.22	0.09
		0.09
		0.67
	1.00	
		0.10 +
TOTAL	1.26	1.01



ATTITUDE OF ROOF : 000/25°W
ATTITUDE OF FLOOR : N/A

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCHING LOGS		
KPN-TRC-81-018		
DRAWN BY:	DATE: 16-11-81	SCALE: 1:50
PREPARED BY: J. INNIS		DRAWING No.
APPROVED BY:	DATE:	

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC81019

DATE - 12/04/84

- HISTORY -

START DATE - / /
END DATE - / /

CONTRACTOR - GULF CANADA RES
GEOLOGIST - R. BREZOUSKI

OPERATOR - GULF CANADA RES
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1769.00

ZONE - 9
NORTHING - 6344395.00
EASTING - 505870.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571440
LONGITUDE - 1285410

- ORIENTATION -

LENGTH - 4.71
SIZE WIDTH - 0.7
SIZE HEIGHT - 1.0

INCLINATION - 0.0
AZIMUTH - 0.0

ROOF STRIKE - 55
ROOF DIP - 35
ROOF DIR -

FLOOR STRIKE - 70
FLOOR DIP - 34
FLOOR DIR -

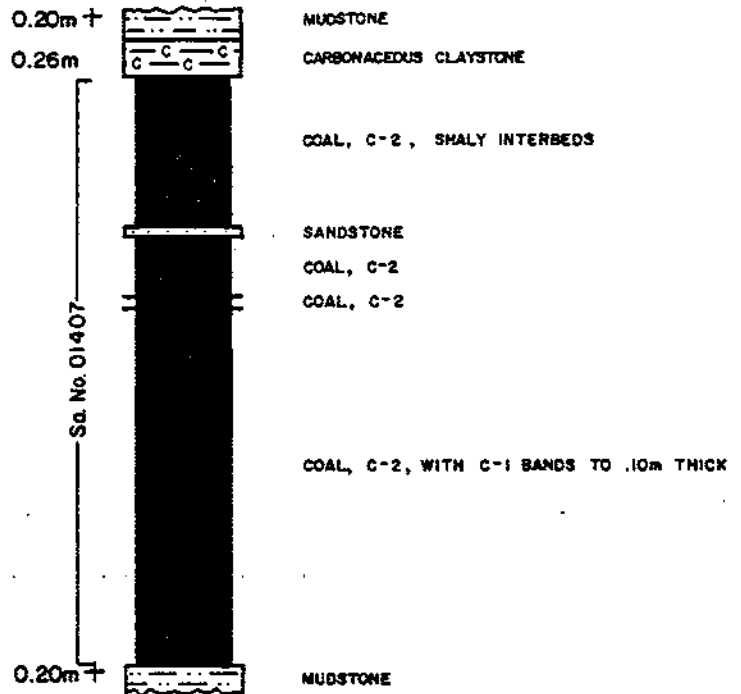
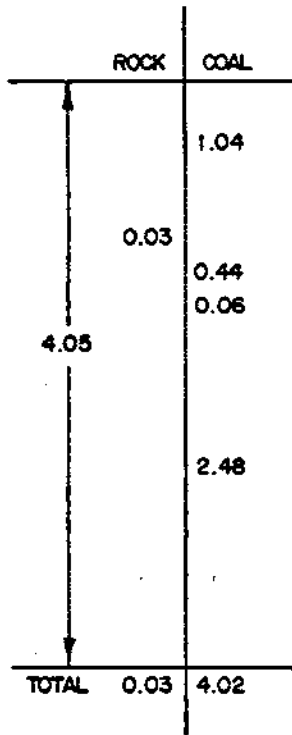
*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC81019

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	0.00	0.20	0.20			MUDSTONE	GY
	0.20	0.46	0.26			CLAYSTONE	CARB SOME COALY BANDS
	0.46	1.50	1.04	01407		COAL	C-2
	1.50	1.53	0.03	01407		MUDSTONE	BN
	1.53	1.97	0.44	01407		COAL	C-2
	1.97	2.03	0.06	01407		COAL	C-2
	2.03	4.51	2.48	01407		COAL	C-2 C-1 BANDS
	4.51	4.71	0.20			MUDSTONE	CARB.GY PLANT FOSSILS

* DENOTES MEASURED BCA
NEWPAGE



ATTITUDE OF ROOF : 055/35°SE
 ATTITUDE OF FLOOR : 070/34°SE

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCHING LOGS		
KPN-TRC-81-019		
DRAWN BY:	DATE: 16-11-81	SCALE: 1:50
PREPARED BY: J. INNIS		DRAWING No.
APPROVED BY:	DATE:	

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC81020

DATE - 12/04/84

- HISTORY -

START DATE - / /
END DATE - / /

CONTRACTOR - GULF CANADA RES
GEOLOGIST - R. BREZOUSKI

OPERATOR - GULF CANADA RES
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1781.00

ZONE - 9
NORTHING - 6344460.00
EASTING - 505720.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571442
LONGITUDE - 1285419

- ORIENTATION -

LENGTH - 2.78
SIZE WIDTH - 0.7
SIZE HEIGHT - 1.0

INCLINATION - 0.0
AZIMUTH - 0.0

ROOF STRIKE - 40
ROOF DIP - 61
ROOF DIR -

FLOOR STRIKE - 15
FLOOR DIP - 22
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/02

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC81020

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	0.00	0.10	0.10			MUDSTONE	BN
	0.10	0.21	0.11			CLAYSTONE	CARB.BLK VIT. BANDS
	0.21	0.25	0.04			CLAYSTONE	CARB.BLK
	0.25	0.32	0.07			CLAYSTONE	BN
	0.32	0.39	0.07			CLAYSTONE	COAL <.5 CM
	0.39	0.40	0.01			CLAYSTONE	IRON OXD
	0.40	0.55	0.15			COAL	C-5
	0.55	0.62	0.07			CLAYSTONE	CARB VITRINITE STRINGERS
	0.62	0.81	0.19			CLAYSTONE	BN PLANT FOSSILS
	0.81	0.95	0.14			COAL	C-3 FE OXID. BANDS

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB1020

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	0.95	1.15	0.20			CLAYSTONE	CARB VITRINITE
	1.15	1.37	0.22			COAL	C-4
	1.37	1.68	0.31			COAL	C-5
	1.68	1.80	0.12			CLAYSTONE	CARB PLANT FOSSILS, COAL STRINGERS
	1.80	2.11	0.31			COAL	C-2
	2.11	2.53	0.42			COAL	C-3
	2.53	2.68	0.15			CLAYSTONE	VITRINITE BANDS
	2.68	2.78	0.10			MUDSTONE	GY

* DENOTES MEASURED BCA
NEWPAGE

	ROCK	COAL
	0.07	0.15
	0.19	
		0.14
	0.20	
		0.22
	0.12	
		0.31
		0.31
		0.42
TOTAL	0.58	1.55

2.13

0.10m +
0.04m
0.07m
0.07m
0.01m

Sa No. 01408

0.15m
0.10m +



MUDSTONE
CARBONACEOUS CLAYSTONE WITH COALY BANDS

COAL, C-5
CARBONACEOUS CLAYSTONE WITH COALY BANDS
CLAYSTONE WITH PLANT FOSSILS

COAL, C-3
CARBONACEOUS CLAYSTONE WITH COALY BANDS

COAL, C-4


COAL, C-5
CARBONACEOUS CLAYSTONE WITH COAL BANDS
AND PLANT FOSSILS

COAL, C-2

COAL, C-3

CARBONACEOUS CLAYSTONE WITH COALY BANDS
MUDSTONE

ATTITUDE OF ROOF : 040/61°SE
ATTITUDE OF FLOOR : 015/22°SE

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCHING LOGS		
KPN-TRC-81-020		
DRAWN BY:	DATE: 16-11-81	SCALE: 1:50
PREPARED BY: J. INNIS	DRAWING No.	
APPROVED BY:	DATE:	

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNXXTRC81021

DATE - 12/04/84

- HISTORY -

START DATE - / /
END DATE - / /

CONTRACTOR - GULF CANADA RES
GEOLOGIST - R. BREZOUSKI

OPERATOR - GULF CANADA RES
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1800.00

ZONE - 9
NORTHING - 6344410.00
EASTING - 506060.00

LICENCE/LEASE NUMBER - 0.

LATITUDE - 571441
LONGITUDE - 1285359

- ORIENTATION -

LENGTH - 2.35
SIZE WIDTH - 0.7
SIZE HEIGHT - 1.0

INCLINATION - 0.0
AZIMUTH - 0.0

ROOF STRIKE - 93
ROOF DIP - 19
ROOF DIR -

FLOOR STRIKE - 95
FLOOR DIP - 32
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/02

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

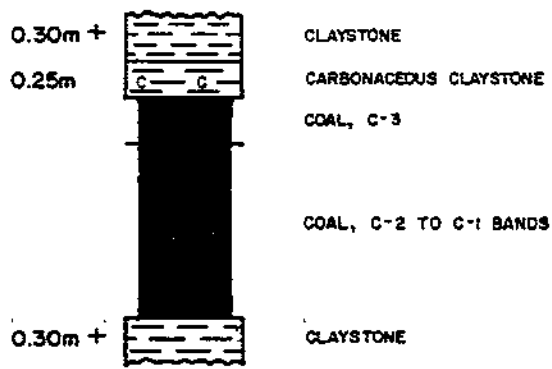
PROJECT: KPN BLOCK: XX DATA SOURCE: TRC81021

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	0.00	0.30	0.30			CLAYSTONE	GY
	0.30	0.55	0.25			CLAYSTONE	CARB
	0.55	0.85	0.30			COAL	C-3
	0.85	2.05	1.20			COAL	C-2 C-1 CHUNKS
	2.05	2.35	0.30			CLAYSTONE	GY


* DENOTES MEASURED BCA
NEWPAGE

	ROCK	COAL
		0.30
		1.20
TOTAL	0.00	1.50

1.50



ATTITUDE OF ROOF : 093/19°S
 ATTITUDE OF FLOOR : 095/32°S

GULF CANADA RESOURCES INC.		
<small>Coal Division</small>		
<small>CALGARY</small>	<small>ALBERTA</small>	
MT. KLAPPAN COAL PROJECT		
TRENCHING LOGS		
KPN-TRC-81-021		
<small>DRAWN BY:</small>	<small>DATE: 16-11-81</small>	<small>SCALE: 1:50</small>
<small>PREPARED BY: J. INNIS</small>		<small>DRAWING No.</small>
<small>APPROVED BY:</small>	<small>DATE:</small>	

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNXXTRC81022

DATE - 12/04/84

- HISTORY -

START DATE - / /
END DATE - / /

CONTRACTOR - GULF CANADA RES
GEOLOGIST - R. BREZOUSKI

OPERATOR - GULF CANADA RES
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1806.00

ZONE - 9
NORTHING - 6344420.00
EASTING - 506270.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571441
LONGITUDE - 1285346

- ORIENTATION -

LENGTH - 1.98
SIZE WIDTH - 0.7
SIZE HEIGHT - 1.0

INCLINATION - 0.0
AZIMUTH - 0.0

ROOF STRIKE - 123
ROOF DIP - 11
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

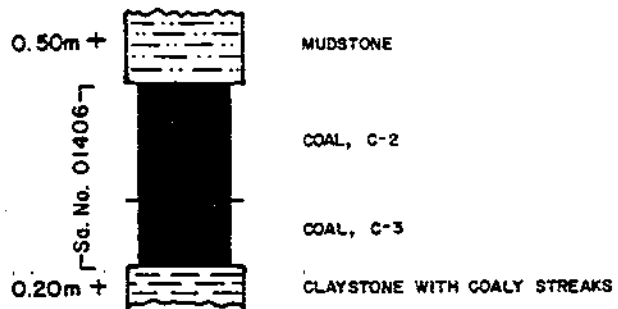
=====

PROJECT: KPN BLOCK: XX DATA SOURCE: TRC81022

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	0.00	0.50	0.50			MUDSTONE	GY.THNB
	0.50	1.30	0.80			COAL	C-2 HARD AND CHUNKY
	1.30	1.78	0.48			COAL	C-3
	1.78	1.98	0.20			CLAYSTONE	BN COALY STREAKS

* DENOTES MEASURED BCA
NEWPAGE

	ROCK	COAL
		0.80
		0.48
TOTAL	0.00	1.28



ATTITUDE OF ROOF : 123/11°S
 ATTITUDE OF FLOOR : N/A

GULF CANADA RESOURCES INC.		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROJECT		
TRENCHING LOGS		
KPN-TRC-81-022		
DRAWN BY:	DATE: 10-11-81	SCALE: 1:50
PREPARED BY: J. INNIS	DRAWING No.	
APPROVED BY:	DATE:	

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNXXTRC81023

DATE - 12/04/84

- HISTORY -

START DATE - / /

END DATE - / /

CONTRACTOR - GULF CANADA RES
GEOLOGIST - R. BREZOUSKI

OPERATOR - GULF CANADA RES
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1778.00

ZONE - 9
NORTHING - 6344500.00
EASTING - 506255.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571444
LONGITUDE - 1285347

- ORIENTATION -

LENGTH - 4.82

INCLINATION - 0.0
AZIMUTH - 0.0

SIZE WIDTH - 0.7
SIZE HEIGHT - 1.0

ROOF STRIKE - 120
ROOF DIP - 40
ROOF DIR -

FLOOR STRIKE - 120
FLOOR DIP - 26
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

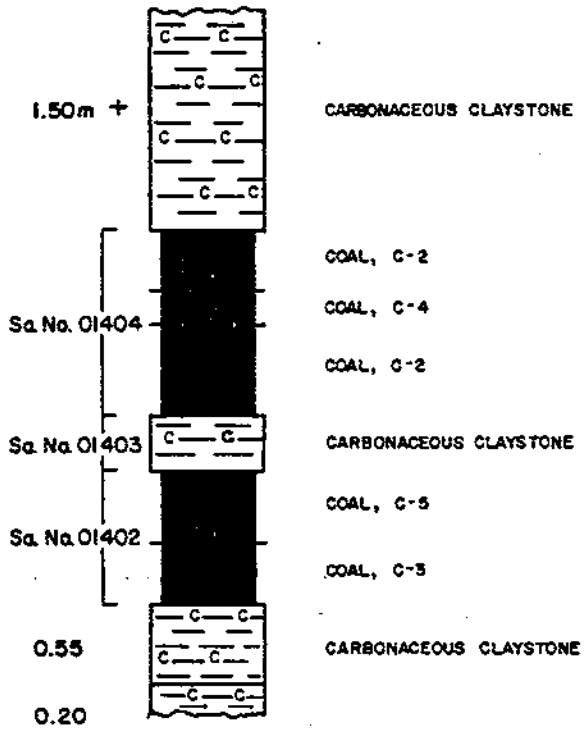
=====

PROJECT: KPN BLOCK: XX DATA SOURCE: TRC81023

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	0.00	1.50	1.50			CLAYSTONE	CARB COALY BANDS
	1.50	1.90	0.40			COAL	C-4
	1.90	2.11	0.21			COAL	C-2
	2.11	2.75	0.64			CLAYSTONE	COALY
	2.75	3.15	0.40			COAL	C-5
	3.15	3.65	0.50			COAL	C-3
	3.65	4.07	0.42			COAL	C-3
	4.07	4.62	0.55			CLAYSTONE	COALY
	4.62	4.82	0.20			CLAYSTONE	CARB

* DENOTES MEASURED BCA
NEWPAGE

	ROCK	COAL
		0.40
		0.21
		0.64
	0.40	
		0.50
		0.42
TOTAL	0.40	2.17



ATTITUDE OF ROOF : 120/40°S
 ATTITUDE OF FLOOR : 120/26°S

GULF CANADA RESOURCES INC.		
<small>Coal Division</small>		
<small>CALGARY</small>	<small>ALBERTA</small>	
MT. KLAPPAN COAL PROJECT		
TRENCHING LOGS		
KPN-TRC-81-023		
<small>DRAWN BY:</small>	<small>DATE: 16-11-81 SCALE 1:30</small>	
<small>PREPARED BY: J. INNIS</small>	<small>DRAWING No.</small>	
<small>APPROVED BY:</small>	<small>DATE:</small>	

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNXXTRC81024

DATE - 12/04/84

- HISTORY -

START DATE - / /

END DATE - / /

CONTRACTOR - GULF CANADA RES
GEOLOGIST - R. BREZOUSKI

OPERATOR - GULF CANADA RES
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1528.00

ZONE - 9
NORTHING - 6343585.00
EASTING - 508180.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571414
LONGITUDE - 1285152

- ORIENTATION -

LENGTH - 3.16
SIZE WIDTH - 0.7
SIZE HEIGHT - 1.0

INCLINATION - 0.0
AZIMUTH - 0.0

ROOF STRIKE - 130
ROOF DIP - 58
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: XX DATA SOURCE: TRC81024

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.10	0.10			MUDSTONE	CARB.GY
	0.10	0.36	0.26			MUDSTONE	CARB.DK.GY COAL STRINGERS
	0.36	0.64	0.28			MUDSTONE	DK.BN
	0.64	0.74	0.10			COAL	C-5
	0.74	1.34	0.60			MUDSTONE	DK.GY C-1 STRINGERS
	1.34	1.46	0.12			SANDSTONE	FG FOSSILS
	1.46	1.98	0.52			MUDSTONE	CARB.DK.GY SPARKLES
	1.98	2.00	0.02			CLAYSTONE	CARB.DK.BN
	2.00	2.22	0.22			COAL	C-5
	2.22	2.27	0.05			CLAYSTONE	LT.BN

* DENOTES MEASURED BCA

84/12/02

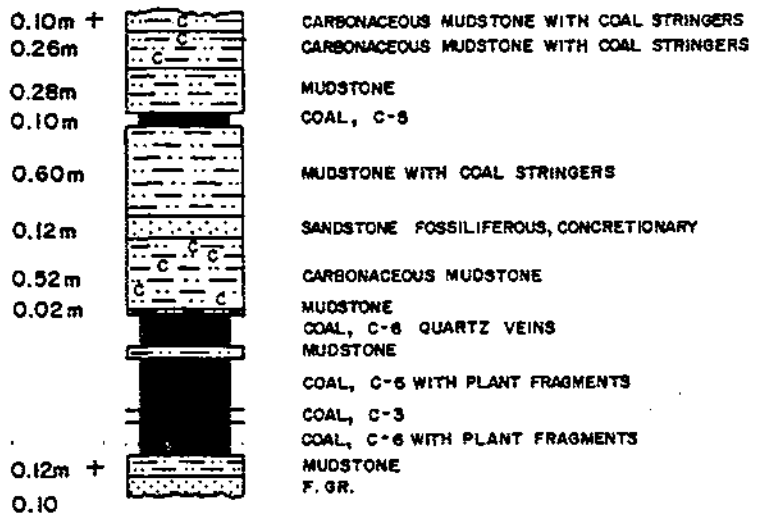
GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: XX DATA SOURCE: TRC81024

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	2.27	2.63	0.36			COAL	C-6 PLANT FRAGMENTS
	2.63	2.73	0.10			COAL	C-3
	2.73	2.94	0.21			COAL	C-6
	2.94	3.06	0.12			MUDSTONE	DK.GY
	3.06	3.16	0.10			SANDSTONE	FG.GY

	ROCK	COAL
↑	0.05	0.22
1.04		0.36
↓		0.10
		0.21
TOTAL	0.05	0.89



ATTITUDE OF ROOF : 130/58°N
 ATTITUDE OF FLOOR : N/A

GULF CANADA RESOURCES INC.		
<small>Coal Division</small>		
<small>CALGARY</small>	<small>ALBERTA</small>	
MT. KLAPPAN COAL PROJECT		
TRENCHING LOGS		
KPN-TRC-81-024		
<small>DRAWN BY:</small>	<small>DATE: 10-11-81</small>	<small>SCALE 1:50</small>
<small>PREPARED BY: J. INNIS</small>	<small>DRAWING No.</small>	
<small>APPROVED BY:</small>	<small>DATE:</small>	

LOST-FOX AREA

1982 TRENCH DATA

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC82020

DATE - 12/02/84

- HISTORY -

START DATE - 07/19/82
 END DATE - 07/19/82

CONTRACTOR -
 GEOLOGIST - SWANBERGSON

OPERATOR - GCR I
 SURVEYOR -

REMARKS - ROOF NOT REACHED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1600.00

ZONE - 9
 NORTHING - 6343970.00
 EASTING - 511030.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571426
 LONGITUDE - 1284902

- ORIENTATION -

LENGTH - 6.00

INCLINATION - 30.0
 AZIMUTH - 10.0

SIZE WIDTH - 0.5
 SIZE HEIGHT - 1.1

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 275
 FLOOR DIP - 19
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

ROCK	COAL
	0.12
	0.42
0.15	
0.05	
	0.38
0.19	
0.10	0.08
0.10	
0.16	
	0.16
	0.15
0.18	
	0.20
0.15	
0.20	
	0.16
0.09	0.10
TOTAL	1.37
	1.77

So No 03476



COAL: HIGHLY WEATHERED

COAL: DULL BANDED

CLAYSTONE: CARBONACEOUS
SHALE: DARK GRAY, SOFT

COAL

CLAYSTONE: CARBONACEOUS
SHALE: HARD, MINOR COAL STRINGERS, DARK GRAY
COAL: HIGHLY WEATHERED
CLAY: CARBONACEOUS

SHALE

COAL: SOME HARD

COAL

SHALE: HARD, MINOR COAL STRINGERS, GRAY

COAL: DULL & BRIGHT

MUDSTONE: COAL STRINGERS UP TO 5CM; COAL

INTRUDED BY (70%) CALCITE VEINS

SHALE: HARD IN PART POSSIBLE CONCRETIONS

MINOR COAL STRINGERS

COAL: HIGHLY WEATHERED

MUDSTONE: SOFT


COAL: DULL & BRIGHT

CLAYSTONE: CARBONACEOUS

SHALE: HARD, GRAY, MASSIVE

0.15 m
0.25 + m

ATTITUDE OF ROOF : N/A
 ATTITUDE OF FLOOR : 095/19° S
 FORMATION :
 UTM COORDINATES : 6343970 N, 511030 E
 MAP CARD NUMBER :
 AIR PHOTO NUMBER :
 TRENCH DEPTH : 1.1m
 TRENCH WIDTH : 0.5m
 TRENCH LENGTH : 6.0m
 TRENCH BEARING : 010°
 TRENCH SLOPE : 030°

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
TRC-82-020		
DRAWN BY:		SCALE
LOGGED BY: E. SWANBERGSSON		DATE July 19/82
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC82031

DATE - 12/02/84

- HISTORY -

START DATE - 07/02/82
 END DATE - 07/02/82

CONTRACTOR -
 GEOLOGIST -

OPERATOR - GCR1
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1785.00

ZONE - 9
 NORTHING - 6344483.00
 EASTING - 506275.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571443
 LONGITUDE - 1285346

- ORIENTATION -

LENGTH - 9.10

INCLINATION - 4.0
 AZIMUTH - 31.0

SIZE WIDTH - 1.3
 SIZE HEIGHT - 1.2

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 326
 FLOOR DIP - 44
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE



ROCK	COAL
0.09	0.16
0.07	0.41
4.61	2.12
0.05	1.15
0.12	0.16
	0.28
TOTAL 0.33	4.28

0.09m
0.07m
0.30m

0.20m

So No 03438



COAL, C-2, UNCONSOLIDATED
CLAYSTONE, CARBONACEOUS, COAL BANDS
CLAYSTONE, CARBONACEOUS

COAL, C-2
CLAYSTONE, CARBONACEOUS

COAL, C-2, MINOR CLAYSTONE INTERBEDS
CLAYSTONE, CARB. COAL INTERBEDS WITH
UNCONSOLIDATED CLAY

COAL, C-2, MINOR IRON STAINING, MINOR
CLAYSTONE BANDS

CLAYSTONE, CARBONACEOUS, DARK GRAY


COAL, C-2, FAIRLY CONSOLIDATED WITH
CARBONACEOUS CLAYSTONE INTERBEDS

COAL, C-3, UNCONSOLIDATED, WEATHERED, SOME
IRON STAINING
CLAY, UNCONSOLIDATED, GRAY

COAL, C-2, VERY UNCONSOLIDATED, IRON STAINING

CLAYSTONE, MEDIUM GRAY

ATTITUDE OF ROOF : N/A
ATTITUDE OF FLOOR : 146/44 S
FORMATION :
UTM COORDINATES : 6344483 N, 506275 E
MAP CARD NUMBER :
AIR PHOTO NUMBER :
TRENCH DEPTH : 1.16 m
TRENCH WIDTH : 1.3 m
TRENCH LENGTH : 9.1 m
TRENCH BEARING : 031°
TRENCH SLOPE : 004°

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
TRC-82-031		
DRAWN BY: D. DURANT		SCALE 1:50
LOGGED BY: K. JENNER		DATE August 3, 1982
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC82032

DATE - 12/04/84

- HISTORY -

START DATE - 07/02/82
 END DATE - 07/02/82

CONTRACTOR -
 GEOLOGIST - JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1807.00

ZONE - 9
 NORTHING - 6344420.00
 EASTING - 506287.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571441
 LONGITUDE - 1285345

- ORIENTATION -

LENGTH - 4.45

INCLINATION - 27.0
 AZIMUTH - 15.0

SIZE WIDTH - 0.7
 SIZE HEIGHT - 0.9

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 317
 FLOOR DIP - 40
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

ROCK	COAL
1.80	0.82
0.05	0.57
0.11	0.25
TOTAL 0.16	1.64

0.15 + m
0.07 m
So No 03439
0.04 + m



CLAYSTONE: FLOOR
CLAYSTONE: CARBONACEOUS, WEATHERED, COAL BANDS


COAL, C-2

CLAYSTONE: DARK GRAY

COAL, C-2

CLAYSTONE: CARBONACEOUS WEATHERED
COAL, C-2 MINOR SILTSTONE INTERBEDS
CLAYSTONE: DARK GRAY, ROOF

ATTITUDE OF ROOF : N/A
ATTITUDE OF FLOOR : 137/40°S
FORMATION :
UTM COORDINATES : 6344420 N, 506287 E
MAP CARD NUMBER :
AIR PHOTO NUMBER :
TRENCH DEPTH : 0.86 m
TRENCH WIDTH : 0.74 m
TRENCH LENGTH : 4.45 m
TRENCH BEARING : 015°
TRENCH SLOPE : 0.27°

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
TRC-82-032		
DRAWN BY: D. DURANT		SCALE 1:50
LOGGED BY: K. JENNER		DATE Aug. 3/82
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC82036

DATE - 12/02/84

- HISTORY -

START DATE - 08/18/82
 END DATE - 08/18/82

CONTRACTOR -
 GEOLOGIST - LOUIE

OPERATOR - GULF CAN RES
 SURVEYOR -

REMARKS - FLOOR NOT REACHED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1535.00

ZONE - 9
 NORTHING - 6344150.00
 EASTING - 508375.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571432
 LONGITUDE - 1285140

- ORIENTATION -

LENGTH - 7.60

INCLINATION - 8.0
 AZIMUTH - 192.0

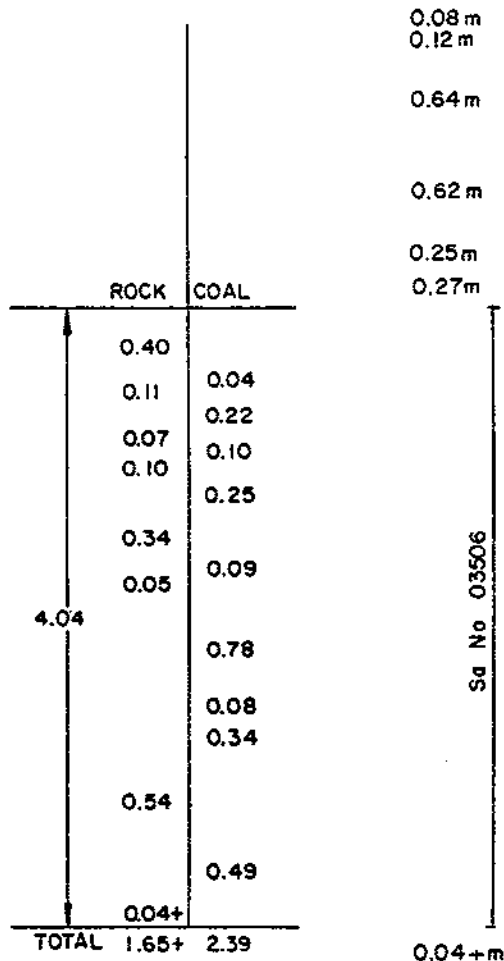
SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.0

ROOF STRIKE - 349
 ROOF DIP - 56
 ROOF DIR - E

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====



SILTSTONE: FINE GRAY, WEATHERS TAN, FRESH GRAY, HARD
 CLAYSTONE: CARBONACEOUS, GRAY, SOFT

CLAYSTONE: INTERBEDDED WITH MINOR SILTSTONE, CARBONACEOUS, MORE RESISTANT THAN ABOVE COAL STRINGERS, SILTSTONE AS ABOVE

CLAYSTONE: CARB., COAL STRINGERS, WARPS AROUND A MORE MASSIVE MUDSTONE, FOSSILIFEROUS

MUDSTONE: HARD, MINOR COAL STRINGERS, WEATHERED ORANGE BROWN FRESH GRAY, IRON STAINING

CLAYSTONE: MINOR COAL STRINGERS, FOSSILIFEROUS
 COAL: C-1
 CLAYSTONE: THIN COAL STRINGERS, CARB., QUARTZ VEINED
 COAL: C-3
 CLAY: C-3 QUARTZ VEINED, CONTORTED
 CLAYSTONE: WITH COAL STRINGERS, HARD
 COAL: C-2
 CLAYSTONE: HARD, CARBONACEOUS
 COAL: C-2 & C-3, QUARTZ VEINED, IRON STAIN, WARPED WITH THIN CLAY BANDS
 CLAYSTONE: HARD, COAL BANDS, CARBONACEOUS
 COAL: C-2 & C-3, QUARTZ VEINED, WARPED
 CLAYSTONE: COAL STRINGERS, HARD
 COAL: C-2, QUARTZ VEINED, MINOR CLAYSTONE
 COAL: C-1, WEATHERED, FRIABLE, IRON STAINING
 COAL: C-1, INTERBEDDED CLAY & COAL STRINGERS
 CLAYSTONE: MINOR COAL, IRON STAINED, CARBONACEOUS, VERY SOFT
 COAL: C-3, IRON STAINED, VERY WEATHERED
 SILTSTONE: WEATHERED

ATTITUDE OF ROOF : 164 / 56° N
 ATTITUDE OF FLOOR : N/A
 FORMATION :
 UTM COORDINATES : 6344150 N, 508375 E
 MAP CARD NUMBER :
 AIR PHOTO NUMBER :
 TRENCH DEPTH : .95m
 TRENCH WIDTH : .88m
 TRENCH LENGTH : 7.6m
 TRENCH BEARING : 192°
 TRENCH SLOPE : 8°

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
TRC-82-036		
DRAWN BY: A. MURRAY	SCALE 1:50	
LOGGED BY: C. LOUIE	DATE Aug. 18/82	
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC82037

DATE - 12/02/84

- HISTORY -

START DATE - 08/18/82
 END DATE - 08/18/82

CONTRACTOR -
 GEOLOGIST - LOUIE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - FLOOR NOT REACHED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1550.00

ZONE - 9
 NORTHING - 6343837.00
 EASTING - 508150.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571422
 LONGITUDE - 1285154

- ORIENTATION -

LENGTH - 3.20

INCLINATION - 37.0
 AZIMUTH - 78.0

SIZE WIDTH - 0.7
 SIZE HEIGHT - 1.0

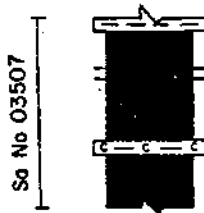
ROOF STRIKE - 280
 ROOF DIP - 6
 ROOF DIR - N

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE


=====

ROCK	COAL
0.09	0.26
	0.06
1.28	0.45
0.09	0.33
TOTAL 0.18	1.10



CLAY : CARB., WEATHERS TAN & GRAY, FRESH BROWN-GRAY
 COAL : C-3
 COAL : C-2
 COAL : C-3, MINOR CARBONACEOUS CLAYSTONE BANDS
 CLAY : CARBONACEOUS
 COAL : C-2

ATTITUDE OF ROOF : 100/06° N
 ATTITUDE OF FLOOR : N/A
 FORMATION :
 UTM COORDINATES : 6343837 N, 508150 E
 MAP CARD NUMBER :
 AIR PHOTO NUMBER :
 TRENCH DEPTH : 0.96m
 TRENCH WIDTH : 0.72 m
 TRENCH LENGTH : 3.2 m
 TRENCH BEARING : 78°
 TRENCH SLOPE : 37°

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
TRC-82-037		
DRAWN BY:		SCALE 1 : 50
LOGGED BY: G. LOUIE		DATE
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC82038

DATE - 12/02/84

- HISTORY -

START DATE - 07/19/82
 END DATE - 07/19/82

CONTRACTOR - OPERATOR - GCRI
 GEOLOGIST - SWANBERGSON SURVEYOR -

REMARKS - ROOF NOT REACHED, FLOOR ATTITUDE NOT TAKEN AT TRUE
 FLOOR

- LOCATION -

PROVINCE - BC
 ELEVATION - 1660.00

ZONE - 9
 NORTHING - 6343900.00
 EASTING - 510130.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571424
 LONGITUDE - 1284956

- ORIENTATION -

LENGTH - 4.00

INCLINATION - 40.0
 AZIMUTH - 85.0

SIZE WIDTH - 0.6
 SIZE HEIGHT - 1.4

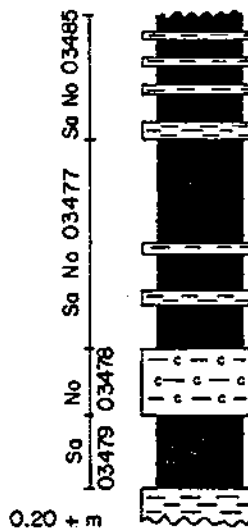
ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 325
 FLOOR DIP - 43
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

	ROCK	COAL
	0.05	0.10
	0.05	0.24
	0.05	0.12
		0.19
		0.70
3.19	0.07	0.24
	0.10	0.30
	0.48	
		0.50
TOTAL	0.80	2.39



COAL : WEATHERED
MUDSTONE : GRAY, SOFT
COAL : DULL & BRIGHT, MINOR MUDSTONE, GY, SOFT
MUDSTONE
COAL : MINOR MUDSTONE
MUDSTONE
COAL : MINOR MUDSTONE
MUDSTONE : GRAY BROWN

COAL : W/ MINOR MUDSTONE, IRON STAINED

MUDSTONE : GRAY, SOFT
COAL
MUDSTONE : GRAY, SOFT
COAL

CLAYSTONE : CARBONACEOUS, MINOR FERRUGINOUS
MUDSTONE

COAL : MINOR SHALE SPLITS

MUDSTONE

ATTITUDE OF ROOF : N/A
ATTITUDE OF FLOOR : 145/43N(not true floor)
FORMATION :
UTM COORDINATES : 6343900N, 510130 E
MAP CARD NUMBER :
AIR PHOTO NUMBER :
TRENCH DEPTH : 1.4 m
TRENCH WIDTH : 0.6 m
TRENCH LENGTH : 4.0 m
TRENCH BEARING : 085°
TRENCH SLOPE : 040°

GULF CANADA RESOURCES INC.		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
TRC-82-038		
DRAWN BY:		SCALE
LOGGED BY: E. SWANBERGSON		DATE July 19/82
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC82042

DATE - 12/02/84

- HISTORY -

START DATE - 07/02/82
END DATE - 07/02/82

CONTRACTOR -
GEOLOGIST -

OPERATOR - GCR
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1820.00

ZONE - 9
NORTHING - 6344396.00
EASTING - 506160.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571440
LONGITUDE - 1285353

- ORIENTATION -

LENGTH - 6.86

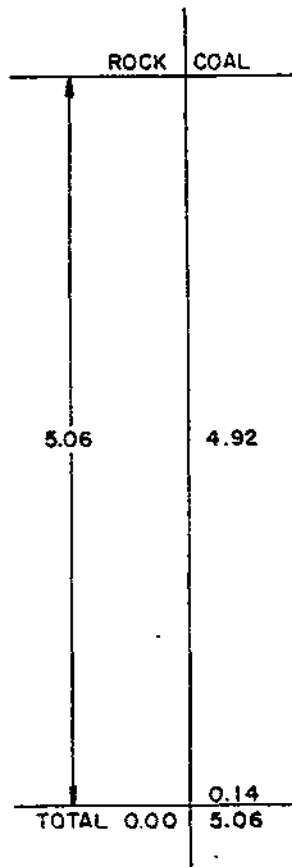
INCLINATION - 20.0
AZIMUTH - 35.0

SIZE WIDTH - 0.6
SIZE HEIGHT - 0.9

ROOF STRIKE - 291
ROOF DIP - 49
ROOF DIR - S

FLOOR STRIKE - 327
FLOOR DIP - 59
FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE



0.40 + m

Sa No 03440

0.38 + m



SILTSTONE, INTERBEDDED NODULAR SILTSTONE

COAL, C-2 CARBONACEOUS CLAYSTONE INTERBEDS


COAL, UNCONSOLIDATED, WEATHERED

SILTSTONE



* OVERTURNED SEAM

ATTITUDE OF ROOF : 111/49° S
 ATTITUDE OF FLOOR : 147/59° S
 FORMATION :
 UTM COORDINATES : 6344396 N, 506160 E
 MAP CARD NUMBER :
 AIR PHOTO NUMBER :
 TRENCH DEPTH : 0.85 m
 TRENCH WIDTH : 0.56 m
 TRENCH LENGTH : 6.86 m
 TRENCH BEARING : 035°
 TRENCH SLOPE : 020°

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
TRC-82-042		
DRAWN BY: D. DURANT		SCALE
LOGGED BY: K. JENNER		DATE Aug. 3/82
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC82043

DATE - 12/02/84

- HISTORY -

START DATE - 07/02/82
 END DATE - 07/02/82

CONTRACTOR -
 GEOLOGIST -

OPERATOR -
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1825.00

ZONE - 9
 NORTHING - 6344354.00
 EASTING - 505695.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571439
 LONGITUDE - 1285420

- ORIENTATION -

LENGTH - 7.39

INCLINATION - 17.0
 AZIMUTH - 155.0

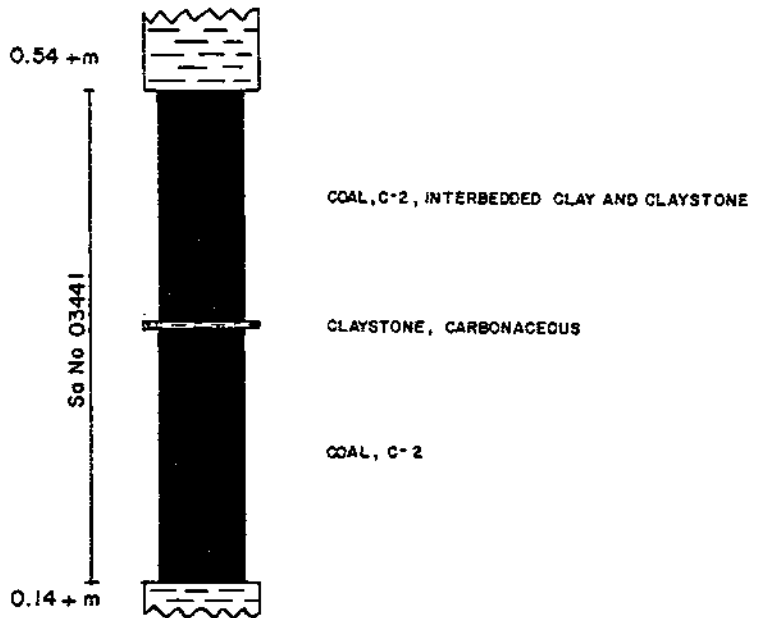
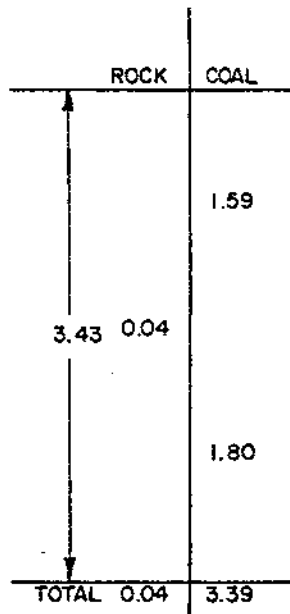
SIZE WIDTH - 1.9
 SIZE HEIGHT - 1.3

ROOF STRIKE - 198
 ROOF DIP - 10
 ROOF DIR - E


FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====



ATTITUDE OF ROOF : 018/10° E
 ATTITUDE OF FLOOR : N/A
 FORMATION :
 UTM COORDINATES : 6344350 N, 505705 E
 MAP CARD NUMBER :
 AIR PHOTO NUMBER :
 TRENCH DEPTH : 1.27 m
 TRENCH WIDTH : 1.86 m
 TRENCH LENGTH : 7.39 m
 TRENCH BEARING : 155°
 TRENCH SLOPE : 17°

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
TRC-82-043		
DRAWN BY:		SCALE
LOGGED BY: K. JENNER		DATE Aug. 2/82
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC82044

DATE - 12/02/84

- HISTORY -

START DATE - 08/08/82
 END DATE - 08/08/82

CONTRACTOR -
 GEOLOGIST -

OPERATOR -
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1745.00

ZONE - 9
 NORTHING - 6344350.00
 EASTING - 505560.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571439
 LONGITUDE - 1285428

- ORIENTATION -

LENGTH - 4.16

INCLINATION - 26.0
 AZIMUTH - 112.0

SIZE WIDTH - 1.1
 SIZE HEIGHT - 1.1

ROOF STRIKE - 329
 ROOF DIP - 19
 ROOF DIR - E

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



	ROCK	COAL
	0.07	0.10
	0.06	0.05
	0.20	1.10
	0.10	0.20
		0.78
	0.10	
TOTAL	0.53	3.49

4.02

0.54 + m

So No 03444

0.28 + m



CLAYSTONE : CARBONACEOUS, COAL INTERBEDS

COAL : C-3
 COAL : C-2
 CLAYSTONE : CARBONACEOUS
 COAL : C-2, CARBONACEOUS CLAYSTONE INTERBEDS
 CLAYSTONE : CARBONACEOUS COAL INTERBEDS
 CLAYSTONE

COAL : C-2, CARBONACEOUS CLAYSTONE
 CLAYSTONE : CARBONACEOUS

COAL : C-2

CLAYSTONE

COAL : C-2

CLAYSTONE

ATTITUDE OF ROOF : 149/19° N
 ATTITUDE OF FLOOR : N/A
 FORMATION :
 UTM COORDINATES : 6344350 N, 505560 E
 MAP CARD NUMBER :
 AIR PHOTO NUMBER :
 TRENCH DEPTH : 1.05 m
 TRENCH WIDTH : 1.10 m
 TRENCH LENGTH : 4.16 m
 TRENCH BEARING : 112°
 TRENCH SLOPE : 25°

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
TRC-82-044		
DRAWN BY:	SCALE 1:50	
LOGGED BY: K. JENNER	DATE Aug. 8/82	
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC82045

DATE - 12/02/84

- HISTORY -

START DATE - 08/08/82
 END DATE - 08/08/82

CONTRACTOR -
 GEOLOGIST -

OPERATOR -
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1825.00

ZONE - 9
 NORTHING - 6344100.00
 EASTING - 505490.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571431
 LONGITUDE - 1285433

- ORIENTATION -

LENGTH - 6.98

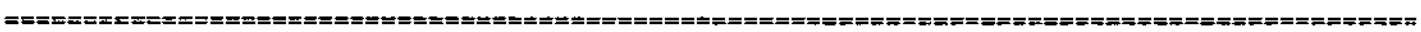
INCLINATION - 24.0
 AZIMUTH - 135.0

SIZE WIDTH - 0.8
 SIZE HEIGHT - 1.1

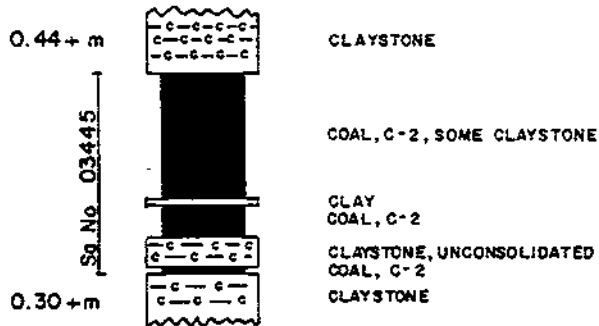
ROOF STRIKE - 209
 ROOF DIP - 10
 ROOF DIR - E

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



	ROCK	COAL
		0.82
	0.05	0.20
	0.19	0.07
TOTAL	0.24	1.09



ATTITUDE OF ROOF : 029/10° E
 ATTITUDE OF FLOOR : N/A
 FORMATION :
 UTM COORDINATES : 6344100N, 505490 E
 MAP CARD NUMBER :
 AIR PHOTO NUMBER :
 TRENCH DEPTH : 1.12 m
 TRENCH WIDTH : 0.76 m
 TRENCH LENGTH : 6.98 m
 TRENCH BEARING : 135°
 TRENCH SLOPE : 24°

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
TRC-82-045		
DRAWN BY:		SCALE 1:50
LOGGED BY: K. JENNER		DATE Aug. 8/82
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNFCTRC82046

DATE - 12/02/84

- HISTORY -

START DATE - 08/01/82
 END DATE - 08/01/82

CONTRACTOR -
 GEOLOGIST - C. LOUIE

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1320.00

ZONE - 9
 NORTHING - 6346980.00
 EASTING - 504900.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571604
 LONGITUDE - 1285508

- ORIENTATION -

LENGTH - 8.00

INCLINATION - 12.0
 AZIMUTH - 80.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 0.9

ROOF STRIKE - 324
 ROOF DIP - 84
 ROOF DIR - N

FLOOR STRIKE - 340
 FLOOR DIP - 69
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE



	ROCK	COAL
		1.55
2.42	0.07 0.09	0.15
		0.56
TOTAL	0.16	2.26

0.18m
0.10m
0.05m

Su No 03851

0.38m

2.44m

0.11m
0.07m
0.04m
0.10m
0.19m

1.70m

0.23m
0.13m

0.35m



SANDSTONE: FINE GRAIN, MEDIUM GRAY
CLAYSTONE: SANDY
SILTSTONE: DARK GRAY, WITH COAL BANDS

COAL: C-2, MINOR CLAYSTONE, POSSIBLE NOSE OF FOLD, OCCASSIONAL QUARTZ VEIN

CLAYSTONE: CARBONACEOUS, MINOR COAL LENSES
CLAY: UNCONSOLIDATED DARK BROWN
COAL: WEATHERED

COAL: C-2, FREQUENT QUARTZ VEINS, HARD

CLAYSTONE: DARK GRAY, MINOR COAL LENSES

CLAYSTONE


COAL: C-3
SILTSTONE: DARK GREY
COAL: C-3, IRON STAINING PREVALENT
CLAYSTONE: SILTY
COAL: C-3, QUARTZ VEINS AND NODULES

CLAYSTONE: SILTY

COAL: C-2, MINOR CLAYSTONE BANDS
CLAYSTONE

CLAYSTONE: CARBONACEOUS, MINOR COAL LENSES

ATTITUDE OF ROOF : 144/84° N
ATTITUDE OF FLOOR : 160/69° N
FORMATION :
UTM COORDINATES : 6346980 N, 504900 E
MAP CARD NUMBER :
AIR PHOTO NUMBER :
TRENCH DEPTH : .90 m
TRENCH WIDTH : .90 m
TRENCH LENGTH : 8.00 m
TRENCH BEARING : 080°
TRENCH SLOPE : 12°

GULF CANADA RESOURCES INC.		
Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
TRC-82-046		
DRAWN BY: R. MAYLOR	SCALE 1:50	
LOGGED BY: C. LOUIE	DATE Aug. 1/82	
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC82047

DATE - 12/02/84

- HISTORY -

START DATE - 08/08/82
 END DATE - 08/08/82

CONTRACTOR -
 GEOLOGIST -

OPERATOR -
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1805.00

ZONE - 9
 NORTHING - 6344150.00
 EASTING - 505000.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571432
 LONGITUDE - 1285502

- ORIENTATION -

LENGTH - 9.80

INCLINATION - 28.0
 AZIMUTH - 52.0

SIZE WIDTH - 0.8
 SIZE HEIGHT - 1.1

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

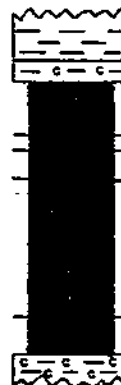
FLOOR STRIKE - 221
 FLOOR DIP - 21
 FLOOR DIR - E

*** NOTE *** 0 INDICATES NO VALUE



	ROCK	COAL
		0.35
		0.13
		0.17
		0.95
		0.28
TOTAL	0.00	1.88

0.33 + m
0.15 m
Sa No Q3446
0.12 + m



CLAYSTONE

CLAYSTONE: CARBONACEOUS

COAL: C-2, IRON STAINING


COAL: C-3, CARBONACEOUS CLAYSTONE BANDS

COAL: C-4, CARBONACEOUS CLAYSTONE BANDS

COAL: C-2, CLAYSTONE BANDS, CARBONACEOUS

COAL: C-3, CARBONACEOUS CLAYSTONE BANDS

ATTITUDE OF ROOF : N/A
ATTITUDE OF FLOOR : 041/21° S
FORMATION :
UTM COORDINATES : 6344150 N, 505000 E
MAP CARD NUMBER :
AIR PHOTO NUMBER :
TRENCH DEPTH : 1.09 m
TRENCH WIDTH : 0.81 m
TRENCH LENGTH : 9.80 m
TRENCH BEARING : 052°
TRENCH SLOPE : 28°

GULF CANADA RESOURCES INC.		
CALGARY	Coal Division	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
TRC-82-047		
DRAWN BY:		SCALE 1:50
LOGGED BY: K. JENNER		DATE Aug. 8/82
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC82048

DATE - 12/02/84

- HISTORY -

START DATE - 08/08/82
END DATE - 08/08/82

CONTRACTOR - OPERATOR -
GEOLOGIST - SURVEYOR -

REMARKS -

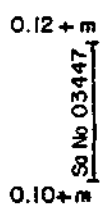
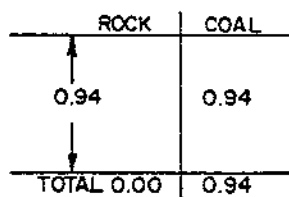
- LOCATION -

PROVINCE - BC
ELEVATION - 1745.00
LICENCE/LEASE NUMBER - 0
ZONE - 9
NORTHING - 6344410.00
EASTING - 504710.00
LATITUDE - 571441
LONGITUDE - 1285519

- ORIENTATION -

LENGTH - 3.30
INCLINATION - 10.0
AZIMUTH - 160.0
SIZE WIDTH - 0.7
SIZE HEIGHT - 0.9
ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -
FLOOR STRIKE - 220
FLOOR DIP - 5
FLOOR DIR - E

*** NOTE *** 0 INDICATES NO VALUE




CLAYSTONE

COAL, C-2, CLAY BANDS

CLAYSTONE

ATTITUDE OF ROOF : N/A
 ATTITUDE OF FLOOR : 040/05°S
 FORMATION :
 UTM COORDINATES : 6344410 N, 504710 E
 MAP CARD NUMBER :
 AIR PHOTO NUMBER :
 TRENCH DEPTH : .85 m
 TRENCH WIDTH : .73 m
 TRENCH LENGTH : 3.3 m
 TRENCH BEARING : 160°
 TRENCH SLOPE : 10°

GULF CANADA RESOURCES INC.		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROJECT TRENCH LOG -TRC-82-048		
DRAWN BY:		SCALE 1:50
LOGGED BY: K. JENNER		DATE Aug. 8/ 82
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC82049

DATE - 12/02/84

- HISTORY -

START DATE - 08/19/82
 END DATE - 08/19/82

CONTRACTOR -
 GEOLOGIST - JENNER

OPERATOR - GCR I
 SURVEYOR -

REMARKS - ROOF NOT REACHED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1592.00

ZONE - 9
 NORTHING - 6343970.00
 EASTING - 505250.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571426
 LONGITUDE - 1285447

- ORIENTATION -

LENGTH - 5.50

INCLINATION - 35.0
 AZIMUTH - 99.0

SIZE WIDTH - 0.7
 SIZE HEIGHT - 1.2

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 312
 FLOOR DIP - 29
 FLOOR DIR - E

*** NOTE *** 0 INDICATES NO VALUE



ROCK	COAL
1.49	0.89
0.11	0.49
TOTAL 0.11	1.38

0.04 m
 0.37 m
 0.10 m
 0.26 m
 0.48 + m



CLAYSTONE: CARBONACEOUS
 COAL: C-2, CARB. CLAYSTONE & CLAYSTONE BANDS
 CLAYSTONE
 COAL: C-2
 CLAYSTONE AND CARBONACEOUS CLAYSTONE
 COAL: C-2, CARBONACEOUS CLAYSTONE INTERBEDS
 CLAYSTONE: CARBONACEOUS, COAL INTERBEDS, WEATHERED
 CLAYSTONE

ATTITUDE OF ROOF : N/A
 ATTITUDE OF FLOOR : 077/19°
 FORMATION :
 UTM COORDINATES : 6342950 N, 515014 E
 MAP CARD NUMBER :
 AIR PHOTO NUMBER :
 TRENCH DEPTH : 1.24 m
 TRENCH WIDTH : 0.68 m
 TRENCH LENGTH : 5.5 m
 TRENCH BEARING : 099°
 TRENCH SLOPE : 035°

GULF CANADA RESOURCES INC.		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROJECT		
TRENCH LOG		
TRC-82-049		
DRAWN BY:		SCALE 1 : 50
LOGGED BY: K. JENNER		DATE Aug. 19/82
APPROVED BY:		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC83001

DATE - 12/02/84

- HISTORY -

START DATE - 07/05/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - J ELDER

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1654.00

ZONE - 9
 NORTHING - 6344700.00
 EASTING - 505544.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571450
 LONGITUDE - 1285429

- ORIENTATION -

LENGTH - 3.20

INCLINATION - 32.0
 AZIMUTH - 193.0

SIZE WIDTH - 0.7
 SIZE HEIGHT - 1.3

ROOF STRIKE - 310
 ROOF DIP - 60
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

		(m)	
	ROCK	COAL	
1.57	0.05	0.10	
			0.32
			0.07
			0.12
		0.10	0.22
			0.47
			0.12
TOTAL	0.15	1.42	



CLAYSTONE
 COAL: WEATHERED
 CLAYSTONE, CARBONACEOUS
 COAL: C-4 WEATHERED
 COAL: C-4
 COAL: WEATHERED, MINOR C-4 BANDS
 COAL: C-2
 CLAYSTONE, CARBONACEOUS, MINOR C-4 BANDS
 COAL: C-4
 COAL: WEATHERED
 OVERBURDEN

* OVERTURNED SEAM

ATTITUDE OF ROOF : 130/60S
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6344700mN, 505544mE
 ELEVATION : 1654m
 MAP CARD NUMBER : 1 10
 TRENCH DEPTH : 1.30m
 TRENCH WIDTH : 0.70m
 TRENCH LENGTH : 3.20m
 TRENCH BEARING : 193°
 TRENCH SLOPE : 32°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC. Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG KPN-TRC-83001		
DRAWN BY: J. ELDER	SCALE: 1:50	
LOGGED BY: J. ELDER	DATE: 05/07/83	
APPROVED BY: C.W.		

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPM BLOCK: LR DATA SOURCE: TRC83001

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
00	0.00	0.50	0.50			OVERBURDEN	
00	0.50	0.62	0.12			COAL	WEATHERED
00	0.62	1.09	0.47			COAL	C-4.BLK
00	1.09	1.19	0.10			CLAYSTONE	CARB MINOR C-4 BANDS
00	1.19	1.41	0.22			COAL	C-2.BLK
00	1.41	1.53	0.12			COAL	BLK WEATHERED;MINOR C-4 BANDS
00	1.53	1.60	0.07			COAL	C-4.BLK
00	1.60	1.92	0.32			COAL	C-4.BLK WEATHERED
00	1.92	1.97	0.05			CLAYSTONE	CARB
00	1.97	2.07	0.10			COAL	WEATHERED, FLOOR NOT REACHED

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC83002

DATE - 12/02/84

- HISTORY -

START DATE - 07/06/83
END DATE - / /

CONTRACTOR -
GEOLOGIST - K JENNER

OPERATOR - GCRI
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1649.00

ZONE - 9
NORTHING - 6344727.00
EASTING - 505600.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571451
LONGITUDE - 1285426

- ORIENTATION -

LENGTH - 4.79

INCLINATION - 7.0
AZIMUTH - 39.0

SIZE WIDTH - 1.0
SIZE HEIGHT - 1.0

ROOF STRIKE - 302
ROOF DIP - 36
ROOF DIR - S

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

(m)	
ROCK	COAL
	0.12
	0.33
	0.20
	0.42
	0.52
TOTAL	1.59


0.34+m



CLAYSTONE, MINOR PLANT FOSSILS
 COAL: C-2
 COAL: C-2, MINOR IRON STAINING
 COAL: C-2
 COAL: C-2, MINOR CLAYSTONE BANDS, WTHR'D, CARB
 COAL: C-2, WEATHERED, UNCONSOLIDATED

* OVERTURNED SEAM

ATTITUDE OF ROOF : 122/36S
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6344727mN, 505600mE
 ELEVATION : 1649m
 MAP CARD NUMBER : 1 10
 TRENCH DEPTH : 0.98m
 TRENCH WIDTH : 1.01m
 TRENCH LENGTH : 4.79m
 TRENCH BEARING : 039°
 TRENCH SLOPE : 07°S
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC. <small>Coal Division</small>		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG KPN-TRC-83002		
DRAWN BY: S. FAWCETT	SCALE: 1:50	
LOGGED BY: K. JENNER	DATE: 05/07/83	
APPROVED BY: C.M.		

PROJECT: KPH BLOCK: LR DATA SOURCE: TRC83002

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.34	0.34			CLAYSTONE	DK.GY. MINOR PLANT FOSSILS
	0.34	0.46	0.12			COAL	C-2.BLK
	0.46	0.79	0.33			COAL	C-2.BLK MINOR IRON STAINING
	0.79	0.99	0.20			COAL	C-2.HEATH.BLK MINOR CLAYSTONE
	0.99	1.41	0.42			COAL	C-2.BLK UNCONSOLIDATED; WEATHERED
	1.41	1.93	0.52			COAL	C-2.BLK
	1.93	2.11	0.18			OVERBURDEN	FLOOR NOT REACHED

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC83003

DATE - 12/02/84

- HISTORY -

START DATE - 07/13/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - K JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - SAMPLE NO. 2642

- LOCATION -

PROVINCE - BC
 ELEVATION - 1570.00

ZONE - 9
 NORTHING - 6343343.00
 EASTING - 507949.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571406
 LONGITUDE - 1285206

- ORIENTATION -

LENGTH - 7.73

INCLINATION - 24.0
 AZIMUTH - 140.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.2

ROOF STRIKE - 210
 ROOF DIP - 12
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



(m)		ROCK	COAL
2.54			0.79
			0.37
			0.11
			0.10
			0.12
			0.19
		0.05	0.18
			0.19
			0.31
			0.13
	TOTAL	0.05	2.49

0.62m

0.07

0.13m



OVERBURDEN

CLAYSTONE

COAL: C-3, INTERBEDDED CARBONACEOUS CLAYSTONE

COAL: C-2, LAMINATED CARBONACEOUS CLAYSTONE

COAL: C-1, C-4 INTERBEDDED

COAL: C-1

COAL: C-3

COAL: C-2, INTERBEDDED CLAYSTONE

COAL: C-2, INTERBEDDED SILTSTONE

CLAYSTONE

COAL: C-2, INTERBEDDED C-3

COAL: C-2, CARBONACEOUS CLAYSTONE LAMINATED

COAL: C-2

CLAYSTONE

ATTITUDE OF ROOF : 030/12S
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6343343mN, 507949mE
 ELEVATION : 1570m
 MAP CARD NUMBER : 19
 TRENCH DEPTH : 1.16m
 TRENCH WIDTH : 0.90m
 TRENCH LENGTH : 7.73m
 TRENCH BEARING : 140°
 TRENCH SLOPE : 24°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG

KPN-TRC-83003

DRAWN BY: S. FANCETT

SCALE: 1:50

LOGGED BY: K. JENNER

DATE: 13/07/83

APPROVED BY: C.M.

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83003

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.62	0.62			OVERBURDEN	SLUMPED; ROOF NOT ATTAINED
	0.62	0.69	0.07			CLAYSTONE	
	0.69	1.48	0.79			COAL	C-3.BLK INTERBEDDED CARB CLAYSTONE
	1.48	1.85	0.37			COAL	C-2.BLK LAMINATED CARB CLAYSTONE
	1.85	1.96	0.11			COAL	C-1 INTERBEDDED COAL C-1 & C-4
	1.96	2.06	0.10			COAL	C-1
	2.06	2.18	0.12			COAL	C-3.BLK
	2.18	2.37	0.19			COAL	C-2.BLK INTERBEDDED CLAYSTONE
	2.37	2.55	0.18			COAL	C-2.BLK
	2.55	2.60	0.05			CLAYSTONE	
	2.60	2.79	0.19			COAL	C-2.BLK INTERBEDDED COAL C-3

* DENOTES MEASURED BCA

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83003

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	2.79	3.10	0.31			COAL	C-2.BLK LAMINATED CARB CLAYSTONE
	3.10	3.23	0.13			COAL	C-2
	3.23	3.36	0.13			CLAYSTONE	CARB FLOOR

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC83004

DATE - 12/02/84

- HISTORY -

START DATE - 07/14/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - K JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - SAMPLE NO. 2643

- LOCATION -

PROVINCE - BC
 ELEVATION - 1570.00

ZONE - 9
 NORTHING - 6343630.00
 EASTING - 508158.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571415
 LONGITUDE - 1285153

- ORIENTATION -

LENGTH - 5.49
 SIZE WIDTH - 1.1
 SIZE HEIGHT - 1.2

INCLINATION - 22.0
 AZIMUTH - 15.0

ROOF STRIKE - 280
 ROOF DIP - 59
 ROOF DIR - S

FLOOR STRIKE - 281
 FLOOR DIP - 54
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE



(m)		0.11+m
ROCK	COAL	0.24
	0.08	
0.11	0.08	
0.06	0.04	
	0.11	
0.19		
0.23		
0.08		
0.14		
0.07	0.06	
	0.16	
0.08	0.14	
0.11		
	0.89	
	0.21	
	0.31	
	0.14	
0.11	0.22	
TOTAL	1.18	2.44
		0.53+m



CLAYSTONE

CLAYSTONE
COAL: C-2 UNCONSOLIDATED
COAL: C-2, INTERBEDDED CLAYSTONE
CLAYSTONE, COAL LAMINAE
COAL: C-2
CLAYSTONE
COAL: C-2, INTERBEDDED CLAYSTONE
CLAYSTONE, CARBONACEOUS

CLAYSTONE, COAL LAMINAE
CLAYSTONE, HARD
CLAYSTONE, CARBONACEOUS, COAL LAMINAE
COAL: WEATHERED
CLAYSTONE, CARBONACEOUS
COAL: C-2, C-3
CLAYSTONE, CARBONACEOUS, QUARTZ VEINING
COAL: C-2, C-3
CLAYSTONE, CARBONACEOUS, COAL LAMINAE

COAL: C-2, MINOR CLAYSTONE LAMINAE

COAL: C-2, C-3, INTERBEDDED CLAYSTONE

COAL: C-2, IRON STAINING

COAL: C-3, INTERBEDDED CLAYSTONE
CLAYSTONE, CARBONACEOUS
COAL: C-2

CLAYSTONE

ATTITUDE OF ROOF : 100/59S
 ATTITUDE OF FLOOR: 101/54S
 UTM COORDINATES : 6343630mN, 508158mE
 ELEVATION : 1570m
 MAP CARD NUMBER : 1 9
 TRENCH DEPTH : 1.15m
 TRENCH WIDTH : 1.08m
 TRENCH LENGTH : 5.49m
 TRENCH BEARING : 015°
 TRENCH SLOPE : 22°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC. <small>Coal Division</small>		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG KPN-TRC-83004		
DRAWN BY: S. FAWCETT	SCALE: 1:50	
LOGGED BY: K. JENNER	DATE: 14/07/83	
APPROVED BY: C.W.		

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83004

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.11	0.11			CLAYSTONE	BRONNISH-GRAY COLOUR ROOF
	0.11	0.35	0.24			CLAYSTONE	GY
	0.35	0.43	0.08			COAL	C-2.BLK UNCONSOLIDATED
	0.43	0.51	0.08			COAL	C-2.BLK INTERBEDDED CLAYSTONE
	0.51	0.62	0.11			CLAYSTONE	COAL LAMINATIONS
	0.62	0.66	0.04			COAL	C-2
	0.66	0.72	0.06			CLAYSTONE	
	0.72	0.83	0.11			COAL	C-2.BLK INTERBEDDED CLAYSTONE
	0.83	1.02	0.19			CLAYSTONE	CARB
	1.02	1.25	0.23			CLAYSTONE	COAL LAMINATIONS
	1.25	1.33	0.08			CLAYSTONE	CONSOLIDATED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83004

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP ID	SEAM ID	LITHOLOGY	DESCRIPTION
	1.33	1.47	0.14			CLAYSTONE	CARB COAL LAMINATIONS
	1.47	1.53	0.06			COAL	BLK HEATH
	1.53	1.60	0.07			CLAYSTONE	CARB
	1.60	1.76	0.16			COAL	C-3 COAL C-2 & C-3
	1.76	1.84	0.08			CLAYSTONE	CARB QTZ VEINED
	1.84	1.98	0.14			COAL	C-3.BLK COAL
	1.98	2.09	0.11			CLAYSTONE	CARB COAL LAMINATIONS
	2.09	2.98	0.89			COAL	C-2.BLK MINOR CLAYSTONE LAMINATIONS
	2.98	3.19	0.21			COAL	C-3.BLK COAL C-2 & C-3; INTERBEDDED CLAYSTONE
	3.19	3.50	0.31			COAL	C-2.BLK IRON STAINING

* DENOTES MEASURED BCA

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC83005

DATE - 12/02/84

- HISTORY -

START DATE - 07/15/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - K JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - SAMPLE NO. 2644

- LOCATION -

PROVINCE - BC
 ELEVATION - 1545.00

ZONE - 9
 NORTHING - 6343798.00
 EASTING - 508170.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571421
 LONGITUDE - 1285153

- ORIENTATION -

✓ ✓ LENGTH - 3.08

INCLINATION - 32.0
 AZIMUTH - 81.0

SIZE WIDTH - 1.1
 SIZE HEIGHT - 1.6

ROOF STRIKE - 340
 ROOF DIP - 46
 ROOF DIR - E

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

(m)	
ROCK	COAL
0.12	0.05
0.05	0.09
	0.21
	0.14
0.09	0.15
0.14	0.12
0.05	0.22
	0.27
TOTAL	0.45 1.25

0.36+m

0.18



CLAYSTONE, WEATHERED

CLAYSTONE, CARBONACEOUS
 COAL: WEATHERED UNCONSOLIDATED
 CLAY, UNCONSOLIDATED, HARD
 COAL: C-3
 CLAYSTONE, CARBONACEOUS
 COAL: C-4, IRON STAINING
 COAL: C-3, UNCONSOLIDATED
 CLAY
 COAL: C-3, WEATHERED
 REPLACED TREE, QUARTZ VEINING
 COAL: C-4, LITRIC SURFACES
 CLAYSTONE, CARBONACEOUS
 COAL: C-3

COAL: C-2, UNCONSOLIDATED

CLAYSTONE, IRON STAINING

0.22+m

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: 180/34E
 UTM COORDINATES : 6343905mN, 508195mE
 ELEVATION : 1545m
 MAP CARD NUMBER : 1 9
 TRENCH DEPTH : 1.58m
 TRENCH WIDTH : 1.09m
 TRENCH LENGTH : 3.08m
 TRENCH BEARING : 081°
 TRENCH SLOPE : 32°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC.		
Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83005		
DRAWN BY: S. FAWCETT	SCALE: 1:50	
LOGGED BY: K. JENNER	DATE: 15/07/83	
APPROVED BY: C.M.		

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83005

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.54	0.54			CLAYSTONE	CARB. WEATH.
	0.54	0.59	0.05			COAL	WEATHERED; UNCONSOLIDATED
	0.59	0.65	0.06			CLAY	UNCONSOLIDATED
	0.65	0.71	0.06			CLAYSTONE	
	0.71	0.80	0.09			COAL	C-3
	0.80	0.85	0.05			CLAYSTONE	MINOR CLAYSTONE
	0.85	1.06	0.21			COAL	C-4 IRON STAINING
	1.06	1.20	0.14			COAL	C-3 UNCONSOLIDATED
	1.20	1.29	0.09			CLAY	M. BN
	1.29	1.35	0.06			COAL	
	1.35	1.44	0.09			COAL	HIGHLY WEATHERED
	1.44	1.58	0.14			CLAYSTONE	REPLACED TREE; QUARTZ VEIN

* DENOTES MEASURED BCA

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83005

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	1.58	1.70	0.12			COAL	C-4
	1.70	1.75	0.05			CLAYSTONE	CARB.
	1.75	1.97	0.22			COAL	C-3
	1.97	2.24	0.27			COAL	C-2 WEATHERED
	2.24	2.46	0.22			CLAYSTONE	IRON STAINING

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC83006

DATE - 12/02/84

- HISTORY -

START DATE - 07/16/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - K JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - SAMPLE NO. 2645

- LOCATION -

PROVINCE - BC
 ELEVATION - 1540.00

ZONE - 9
 NORTHING - 6343877.00
 EASTING - 508210.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571423
 LONGITUDE - 1285150

- ORIENTATION -

LENGTH - 4.60

INCLINATION - 28.0
 AZIMUTH - 70.0

SIZE WIDTH - 1.2
 SIZE HEIGHT - 1.2

ROOF STRIKE - 296
 ROOF DIP - 26
 ROOF DIR - S

FLOOR STRIKE - 298
 FLOOR DIP - 15
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

		(m)	
	ROCK	COAL	
2.47		0.57	0.44+m
		0.30	
	0.05	0.10	
		0.22	
		0.06	
		0.16	
		0.16	
		0.13	
		0.13	
		0.05	
	0.09	0.24	
	0.07	0.08	
		0.06	
TOTAL	0.21	2.26	0.43+m



CLAYSTONE, UNCONSOLIDATED

COAL: C-2, MINOR C-1

COAL: C-3, MINOR C-2

CLAYSTONE

COAL: C-2, MINOR CLAYSTONE

COAL: C-4, MINOR C-1

COAL: C-3

COAL: C-2

COAL: C-5

COAL: C-4

COAL: C-2, MINOR C-1

COAL: C-1

FOSSIL TREE

COAL: UNCONSOLIDATED


CLAYSTONE

COAL: C-4

COAL: C-3

CLAYSTONE

ATTITUDE OF ROOF : 116/26S
 ATTITUDE OF FLOOR : 118/15S
 UTM COORDINATES : 6343877mN, 508210mE
 ELEVATION : 1540m
 MAP CARD NUMBER : 19
 TRENCH DEPTH : 1.23m
 TRENCH WIDTH : 1.22m
 TRENCH LENGTH : 4.60m
 TRENCH BEARING : 070°
 TRENCH SLOPE : 28°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC. <small>Coal Division</small>		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG KPN-TRC-83006		
DRAWN BY: D. MAY	SCALE: 1:50	
LOGGED BY: K. JENNER	DATE: 15/07/83	
APPROVED BY: C.M.		

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPH BLOCK: LR DATA SOURCE: TRC83006

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.44	0.44			CLAYSTONE	UNCONSOLIDATED ROOF
	0.44	1.01	0.57			COAL	C-2
	1.01	1.31	0.30			COAL	C-3 MINOR COAL C-2
	1.31	1.36	0.05			CLAYSTONE	UNCONSOLIDATED
	1.36	1.46	0.10			COAL	C-2 MINOR CLAYSTONE
	1.46	1.68	0.22			COAL	C-4 MINOR COAL C-1
	1.68	1.74	0.06			COAL	C-3
	1.74	1.90	0.16			COAL	C-2
	1.90	2.06	0.16			COAL	C-5 COAL INTERBEDDED CLAYSTONE
	2.06	2.19	0.13			COAL	C-4

• DENOTES MEASURED BCA

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPH BLOCK: LR DATA SOURCE: TRC83006

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	2.19	2.32	0.13			COAL	C-2 MINOR COAL C-1
	2.32	2.37	0.05			COAL	C-1
	2.37	2.46	0.09			CLAYSTONE	CARB FOSSIL TREE
	2.46	2.70	0.24			COAL	UNCONSOLIDATED
	2.70	2.77	0.07			CLAYSTONE	M. BN
	2.77	2.85	0.08			COAL	C-4
	2.85	2.91	0.06			COAL	C-3
	2.91	3.34	0.43			CLAYSTONE	FLOOR

• DENOTES MEASURED BCA
NEMPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC83007

DATE - 12/02/84

- HISTORY -

START DATE - 07/16/83
END DATE - / /

CONTRACTOR -
GEOLOGIST - K JENNER

OPERATOR - GCRI
SURVEYOR -

REMARKS - ROOF ATTITUDE NOT OBTAINED

- LOCATION -

PROVINCE - BC
ELEVATION - 1530.00

ZONE - 9
NORTHING - 6344075.00
EASTING - 508365.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571430
LONGITUDE - 1285141

- ORIENTATION -

LENGTH - 12.36
SIZE WIDTH - 0.8
SIZE HEIGHT - 0.9

INCLINATION - 4.0
AZIMUTH - 26.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 308
FLOOR DIP - 79
FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

(m)	
ROCK	COAL
	0.08
	0.05
	0.14
0.07	0.06
0.13	
0.09	0.17
0.17	0.12
	0.20
	0.37
0.07	
0.06	0.05
	0.20
	0.19
0.12	
	0.65
0.08	
6.80	0.31
0.05	0.09
	0.87
0.07	
	0.26
0.10	0.09
	0.09
	0.34
	0.29
0.55	
	0.31
0.18	
	0.13
TOTAL	1.74
	5.06

0.54
0.09
0.90+m



COAL: UNCONSOLIDATED
 COAL: C-2
 COAL: UNCONSOLIDATED
 COAL: C-2
 CLAYSTONE
 CLAYSTONE, CARBONACEOUS
 COAL: C-4, IRON STAINING
 CLAYSTONE, CARBONACEOUS
 COAL: C-2
 CLAYSTONE
 COAL: C-2, UNCONSOLIDATED
 COAL: C-2
 CLAYSTONE, COALY
 COAL: C-2
 CLAYSTONE
 COAL: C-3
 COAL: C-2
 SILTSTONE
 COAL: C-2, MNR INTERBEDDED CLAYSTONE & SILTST
 CLAYSTONE
 COAL: C-2
 CLAYSTONE, CARBONACEOUS
 COAL: C-4
 COAL: C-2, C-3, MINOR INTERBEDDED SILTSTONE
 CLAYSTONE
 COAL: C-2
 COAL: C-4
 CLAYSTONE, UNCONSOLIDATED
 COAL: C-2
 COAL: C-5
 COAL: C-2
 CLAYSTONE
 COAL: C-4, MINOR INTERBEDDED CLAYSTONE
 CLAYSTONE
 COAL, HIGHLY WEATHERED, UNCONSOLIDATED
 CLAYSTONE, CARBONACEOUS
 SILTSTONE (FOSSIL TREE)
 CLAYSTONE, INTERBEDDED COAL, C-2
 COAL: C-3
 CLAYSTONE, COAL STRINGERS
 SILTSTONE
 CLAYSTONE

*FOLDING WITHIN TRENCH

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: 128/79N
 UTM COORDINATES : 6344075mN, 508365mE
 ELEVATION : 1530m
 MAP CARD NUMBER : 1 9
 TRENCH DEPTH : 0.93m
 TRENCH WIDTH : 0.84m
 TRENCH LENGTH : 12.36m
 TRENCH BEARING : 026°
 TRENCH SLOPE : 04°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC. Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG KPN-TRC-83007		
DRAWN BY: SCOTT FANCETT	SCALE: 1:50	
LOGGED BY: KIR JENNER	DATE: 16/07/83	
APPROVED BY: C.M.		

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83007

BCA	DEPTH	DEPTH	DEPTH	SAMP.	SEAM	LITHOLOGY	DESCRIPTION
	FROM	TO	THICK.	ID	ID		
	0.00	0.08	0.08			COAL	UNCONSOLIDATED
	0.08	0.13	0.05			COAL	C-2.BLK
	0.13	0.27	0.14			COAL	
	0.27	0.33	0.06			COAL	C-2.BLK
	0.33	0.40	0.07			CLAYSTONE	M.BH
	0.40	0.48	0.08			CLAYSTONE	COAL STRINGERS
	0.48	0.53	0.05			CLAYSTONE	CARB.
	0.53	0.70	0.17			COAL	C-4.BLK IRON STAINING
	0.70	0.79	0.09			CLAYSTONE	CARB.
	0.79	0.91	0.12			COAL	C-2.BLK
	0.91	1.08	0.17			CLAYSTONE	

* DENOTES MEASURED BCA

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83007

BCA	DEPTH	DEPTH	DEPTH	SAMP.	SEAM	LITHOLOGY	DESCRIPTION
	FROM	TO	THICK.	ID	ID		
	1.08	1.28	0.20			COAL	C-2.BLK UNCONSOLIDATED
	1.28	1.65	0.37			COAL	
	1.65	1.72	0.07			CLAYSTONE	
	1.72	1.77	0.05			COAL	
	1.77	1.83	0.06			CLAYSTONE	
	1.83	2.03	0.20			COAL	
	2.03	2.22	0.19			COAL	C-2.BLK
	2.22	2.34	0.12			SILTSTONE	
	2.34	2.99	0.65			COAL	C-2.BLK INTERBEDDED CLAYSTONE AND SILTSTONE
	2.99	3.07	0.08			CLAYSTONE	M.BH
	3.07	3.38	0.31			COAL	C-2.BLK
	3.38	3.43	0.05			CLAYSTONE	CARB.

* DENOTES MEASURED BCA

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMNTRC83008

DATE - 12/02/84

- HISTORY -

START DATE - 07/17/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - K JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1955.00

ZONE - 9
 NORTHING - 6340985.00
 EASTING - 507905.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571250
 LONGITUDE - 1285209

- ORIENTATION -

LENGTH - 25.99

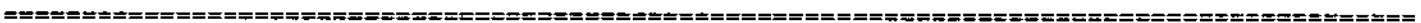
INCLINATION - 6.0
 AZIMUTH - 15.0

SIZE WIDTH - 0.8
 SIZE HEIGHT - 0.8

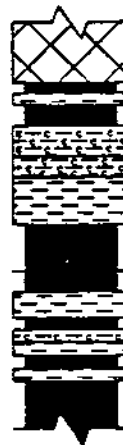
ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



(m)		
	ROCK	COAL
2.30	0.08	0.07
	0.20	0.14
	0.14	
	0.31	
		0.31
		0.14
	0.17	
	0.08	0.08
	0.09	0.09
	0.08	0.24
TOTAL	1.23	1.07



OVERBURDEN

COAL: C-2
 CLAYSTONE, INTERBEDDED SAND
 COAL: C-2, C-4
 CLAYSTONE, MINOR CARBONACEOUS
 CLAYSTONE, FOSSIL TREE, CARBONACEOUS
 CLAYSTONE, INTERBEDDED COAL, C-2
 COAL: C-3, C-4, MINOR CARBONACEOUS CLAYSTONE
 COAL: C-1, C-2
 CLAYSTONE, HARD
 COAL: C-4
 CLAYSTONE, CARBONACEOUS
 CLAYSTONE, COAL STRINGERS
 COAL: C-3
 UNCONSOLIDATED CLAY
 COAL: C-2

*WARPING WITHIN TRENCH

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6340985mN, 507905mE
 ELEVATION : 1955m
 MAP CARD NUMBER : H 9
 TRENCH DEPTH : 0.76m
 TRENCH WIDTH : 0.76m
 TRENCH LENGTH : 25.99m
 TRENCH BEARING : 015°
 TRENCH SLOPE : 06°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC. Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG KPN-TRC-83008		
DRAWN BY: SCOTT FAWCETT	SCALE: 1:50	
LOGGED BY: KIM JENNER	DATE: 17/07/83	
APPROVED BY: C.W.		

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: MN DATA SOURCE: TRC83008

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.43	0.43			CLAYSTONE	UNCONSOLIDATED; ROOF OVERBURDEN
	0.43	0.50	0.07			COAL	C-2.BLK
	0.50	0.58	0.08			CLAYSTONE	INTERBEDDED WITH SAND
	0.58	0.72	0.14			COAL	C-4.BLK COAL C-2 & C-4
	0.72	0.92	0.20			CLAYSTONE	SLIGHTLY CARB
	0.92	1.06	0.14			CLAYSTONE	CARB FOSSIL TREE
	1.06	1.37	0.31			CLAYSTONE	CARB INTERBEDDED WITH COAL C-2
	1.37	1.68	0.31			COAL	C-4.BLK COAL C-3 & C-4; MINOR CLAYSTONE
	1.68	1.82	0.14			COAL	C-2.BLK COAL C-1 & C-2
	1.82	1.99	0.17			CLAYSTONE	HARD
	1.99	2.07	0.08			COAL	C-4.BLK

* DENOTES MEASURED BCA

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: MN DATA SOURCE: TRC83008

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	2.07	2.15	0.08			CLAYSTONE	CARB
	2.15	2.24	0.09			CLAYSTONE	COAL STRINGERS
	2.24	2.33	0.09			COAL	C-3.BLK
	2.33	2.41	0.08			CLAY	UNCONSOLIDATED
	2.41	2.65	0.24			COAL	C-2.BLK
	2.65	2.73	0.08			CLAYSTONE	CARB
	2.73	3.02	0.29			OVERBURDEN	FLOOR NOT OBTAINED

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMNTRC83009

DATE - 12/02/84

- HISTORY -

START DATE - 07/17/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - K JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - NO ROOF ATTITUDE

- LOCATION -

PROVINCE - BC
 ELEVATION - 1960.00

ZONE - 9
 NORTHING - 6340955.00
 EASTING - 507920.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571249
 LONGITUDE - 1285208

- ORIENTATION -

LENGTH - 5.20
 SIZE WIDTH - 0.6
 SIZE HEIGHT - 0.5

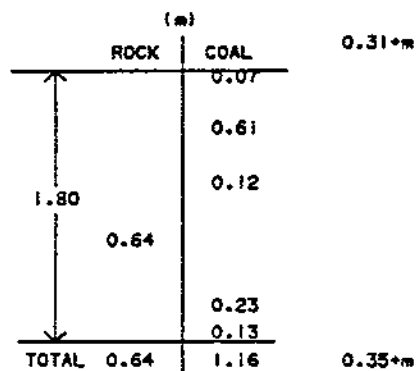
INCLINATION - 31.0
 AZIMUTH - 54.0

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 299
 FLOOR DIP - 36
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====



CLAYSTONE
 COAL: UNCONSOLIDATED, WEATHERED

COAL: C-2, MINOR CLAYSTONE AND SILTSTONE

COAL: C-5

CLAYSTONE, CARBONACEOUS

COAL: C-4

COAL: UNCONSOLIDATED, WEATHERED

CLAY, UNCONSOLIDATED

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: 119/036S
 UTM COORDINATES : 6340955mN, 507920mE
 ELEVATION : 1960m
 MAP CARD NUMBER : H 9
 TRENCH DEPTH : 0.53m
 TRENCH WIDTH : 0.57m
 TRENCH LENGTH : 5.20m
 TRENCH BEARING : 054°
 TRENCH SLOPE : 31°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC.		
Coal Division		
CALGARY		ALBERTA
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83009		
DRAWN BY: SCOTT FAWCETT	SCALE: 1:50	
LOGGED BY: KIM JENNER	DATE: 17/07/83	
APPROVED BY: C.M.		

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: MN DATA SOURCE: TRC83009

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.31	0.31			CLAYSTONE	ROOF ROCK
	0.31	0.38	0.07			COAL	BLK UNCONSOLIDATED:WEATHERED
	0.38	0.99	0.61			COAL	C-2.BLK MINOR CLAYSTONE
	0.99	1.11	0.12			COAL	C-5.BLK
	1.11	1.42	0.31			CLAYSTONE	CARB
	1.42	1.75	0.33			CLAYSTONE	CARB LISTRIC SURFACES
	1.75	1.98	0.23			COAL	C-4.BLK
	1.98	2.11	0.13			COAL	BLK UNCONSOLIDATED:WEATHERED

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMNTRC83010

DATE - 12/02/84

- HISTORY -

START DATE - 07/17/83
END DATE - / /

CONTRACTOR -
GEOLOGIST - K JENNER

OPERATOR - GCRI
SURVEYOR -

REMARKS - NO ROOF ATTAINED

- LOCATION -

PROVINCE - BC
ELEVATION - 1945.00

ZONE - 9
NORTHING - 6341035.00
EASTING - 507925.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571251
LONGITUDE - 1285208

- ORIENTATION -

LENGTH - 5.75

INCLINATION - 11.0
AZIMUTH - 26.0

SIZE WIDTH - 0.6
SIZE HEIGHT - 0.9

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 303
FLOOR DIP - 26
FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

(m)	
ROCK	COAL
	0.57
0.09	0.13
0.27	0.25
2.50	0.07
	0.10
	0.08
	0.06
	0.21
	0.27
TOTAL	0.91
	1.59

0.55
0.06
0.19**



COAL

CLAYSTONE, CARBONACEOUS
COAL: C-3

CLAYSTONE, MINOR CARBONACEOUS INTERBEDS

COAL: C-4

CLAYSTONE, CARBONACEOUS
COAL: C-2, IRON STAINING

CLAYSTONE, CARBONACEOUS, COAL BANDS

CLAYSTONE, HARD

COAL: C-2, WEATHERED

CLAYSTONE, CARBONACEOUS, MINOR QUARTZ VEINING

COAL: C-2, MINOR CLAY

COAL: C-3, MINOR IRON STAINING

CLAYSTONE, UNCONSOLIDATED

COAL: C-2, FAIRLY WEATHERED
CLAYSTONE

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: 123/26N
 UTM COORDINATES : 6341035mN, 507925mE
 ELEVATION : 1945m
 MAP CARD NUMBER : H 9
 TRENCH DEPTH : 0.85m
 TRENCH WIDTH : 0.55m
 TRENCH LENGTH : 5.75m
 TRENCH BEARING : 026°
 TRENCH SLOPE : 11°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
KPN-TRC-83010

DRAWN BY: SCOTT FAWCETT

SCALE: 1:50

LOGGED BY: KIM JENNER

DATE: 17/07/83

APPROVED BY: C.W.

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: MN DATA SOURCE: TRC83010

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.59	0.59			OVERBURDEN	ROOF NOT REACHED
	0.59	1.16	0.57			COAL	COAL SPOIL
	1.16	1.25	0.09			CLAYSTONE	CARB
	1.25	1.38	0.13			COAL	C-3.BLK
	1.38	1.65	0.27			CLAYSTONE	H.GY
	1.65	1.90	0.25			COAL	C-4.BLK
	1.90	1.97	0.07			CLAYSTONE	CARB
	1.97	2.07	0.10			COAL	C-2.BLK IRON STAINING
	2.07	2.28	0.21			CLAYSTONE	CARB COAL BANDS
	2.28	2.36	0.08			CLAYSTONE	HARD
	2.36	2.42	0.06			COAL	C-2.BLK WEATHERED

* DENOTES MEASURED BCA

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: MN DATA SOURCE: TRC83010

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	2.42	2.61	0.19			CLAYSTONE	CARB MINOR QTZ VEINING
	2.61	2.82	0.21			COAL	C-2.BLK MINOR CLAY
	2.82	3.09	0.27			COAL	C-3.BLK MINOR IRON STAINING
	3.09	3.64	0.55			CLAYSTONE	CONSOLIDATED TO UNCONSOLIDATED
	3.64	3.70	0.06			COAL	C-2.BLK FAIRLY WEATHERED
	3.70	3.89	0.19			CLAYSTONE	FLOOR ROCK

* DENOTES MEASURED BCA
NEW PAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMTRC83011.

DATE - 12/02/84

- HISTORY -

START DATE - 07/17/83

END DATE - / /

CONTRACTOR -

GEOLOGIST - K JENNER

OPERATOR - GCRI

SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC

ELEVATION - 1924.00

ZONE - 9

NORTHING - 6341309.00

EASTING - 507884.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571300

LONGITUDE - 1285210

- ORIENTATION -

LENGTH - 6.55

INCLINATION - 19.0

AZIMUTH - 14.0

SIZE WIDTH - 0.7

SIZE HEIGHT - 0.9

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

FLOOR STRIKE - 277

FLOOR DIP - 5

FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

	(m)		
	ROCK	COAL	
0.79		0.22	0.71±m
		0.14	
		0.11	
		0.12	
TOTAL	0.20	0.59	0.23±m



CLAYSTONE: HARD, MINOR CARBONACEOUS INTERBEDS

COAL: C-2, MINOR CLAYSTONE AND SLTST INTERBEDS

COAL: C-3
 CLAYSTONE, CARBONACEOUS, MINOR QUARTZ VEINING
 COAL: C-2, C-3
 CLAY, IRON STAINING, FOSSIL TREE
 COAL: C-3
 CLAYSTONE

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: 097/05S
 UTM COORDINATES : 6341309mN, 507884mE
 ELEVATION : 1924m
 MAP CARD NUMBER : 1 9
 TRENCH DEPTH : 0.87m
 TRENCH WIDTH : 0.65m
 TRENCH LENGTH : 6.55m
 TRENCH BEARING : 014°
 TRENCH SLOPE : 19°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC.

CALGARY

Coal Division

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
 KPN-TRC-83011

DRAWN BY: SCOTT FANCETT	SCALE: 1:50
LOGGED BY: KIM JENNER	DATE: 17/07/93
APPROVED BY: C.M.	

PROJECT: KPN BLOCK: MN DATA SOURCE: TRC83011

BCA	DEPTH FROM	DEPTH TO	INTRYAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.71	0.71			CLAYSTONE	HARD;MINOR CARB. ROOF
	0.71	0.93	0.22			COAL	C-2.BLK MINOR CLAY AND SILT
	0.93	1.07	0.14			COAL	C-3.BLK
	1.07	1.17	0.10			CLAYSTONE	HARD;MINOR CARB;QTZ VEINING
	1.17	1.28	0.11			COAL	C-3.BLK COAL C-2 & C-3
	1.28	1.38	0.10			CLAY	IRON STAINING;FOSSIL TREE
	1.38	1.50	0.12			COAL	C-3.BLK
	1.50	1.73	0.23			CLAYSTONE	HARD FLOOR

* DENOTES MEASURED BCA.
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMNTRC83012

DATE - 12/02/84

- HISTORY -

START DATE - 07/17/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - K JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1900.00

ZONE - 9
 NORTHING - 6341455.00
 EASTING - 507858.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571305
 LONGITUDE - 1285212

- ORIENTATION -

LENGTH - 7.38

INCLINATION - 21.0
 AZIMUTH - 22.0

SIZE WIDTH - 0.6
 SIZE HEIGHT - 0.8

ROOF STRIKE - 280
 ROOF DIP - 5
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

		(m)		
		ROCK	COAL	
↑ 1.43 ↓		0.06	0.08	0.46+m
		0.29	0.11	
			0.13	
			0.59	
TOTAL		0.52	0.91	0.20+m



CLAYSTONE, UNCONSOLIDATED, MINOR SAND

COAL: C-2
CLAYSTONE, CARBONACEOUS
COAL: C-2, MINOR UNCONSOLIDATED INTERBED
CLAYSTONE, CARBONACEOUS, INTERBEDDED COAL
COAL: C-3
CLAYSTONE

COAL: C-2, C-3, MINOR INTERBEDDED CLYST & SLTST

CLAYSTONE

ATTITUDE OF ROOF : 100/05S
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6341455mN, 507858mE
 ELEVATION : 1900m
 MAP CARD NUMBER : 19
 TRENCH DEPTH : 0.76m
 TRENCH WIDTH : 0.59m
 TRENCH LENGTH : 7.38m
 TRENCH BEARING : 022°
 TRENCH SLOPE : 21°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
KPN-TRC-83012

DRAWN BY: SCOTT FANCETT

SCALE: 1:50

LOGGED BY: KIM JENNER

DATE: 17/07/83

APPROVED BY: C.W.

PROJECT: KPN BLOCK: MN DATA SOURCE: TRC83012

BCA	DEPTH FROM	DEPTH. INTRVAL ID	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.46	0.46			CLAYSTONE	UNCONSOLIDATED ROOF
	0.46	0.54	0.08			COAL	C-2.BLK
	0.54	0.60	0.06			CLAYSTONE	CARBONACEOUS
	0.60	0.71	0.11			COAL	C-2 UNCONSOLIDATED
	0.71	1.00	0.29			CLAYSTONE	CARB INTERBEDDED COAL
	1.00	1.13	0.13			COAL	C-3.BLK
	1.13	1.30	0.17			CLAYSTONE	HARD
	1.30	1.89	0.59			COAL	C-3.BLK COAL C-2 & C-3; INTERBEDDED CLAY AND SIL T
	1.89	2.09	0.20			CLAYSTONE	H.BN FLOOR

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMNTRC83013

DATE - 12/02/84

- HISTORY -

START DATE - 07/18/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - K JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1860.00

ZONE - 9
 NORTHING - 6341575.00
 EASTING - 507905.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571309
 LONGITUDE - 1285209

- ORIENTATION -

LENGTH - 6.97

INCLINATION - 30.0
 AZIMUTH - 42.0

SIZE WIDTH - 0.5
 SIZE HEIGHT - 0.8

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 314
 FLOOR DIP - 15
 FLOOR DIR - E

*** NOTE *** 0 INDICATES NO VALUE



	(m)		
	ROCK	COAL	
		0.12	0.44+m
		0.61	
	0.18		
	0.09	0.10	
TOTAL	0.27	0.83	0.54+m



CLAYSTONE, WEATHERED
 COAL: C-2, MINOR UNCONSOLIDATED CLAY
 COAL: C-2, UNCONSOLIDATED
 CLAYSTONE, CARBONACEOUS, COAL STRINGERS
 CLAYSTONE, UNCONSOLIDATED
 COAL: C-3
 CLAYSTONE

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: 134/15NE
 UTM COORDINATES : 6341575mN, 507905mE
 ELEVATION : 1860m
 MAP CARD NUMBER : 1 9
 TRENCH DEPTH : 0.79m
 TRENCH WIDTH : 0.52m
 TRENCH LENGTH : 6.97m
 TRENCH BEARING : 042°
 TRENCH SLOPE : 30°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC.		
Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY TRENCH LOG KPN-TRC-83013		
DRAWN BY: S. FAWCETT	SCALE: 1:50	
LOGGED BY: K. JENNER	DATE: 18/07/83	
APPROVED BY: C.M.		

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: MN DATA SOURCE: TRC83013

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.44	0.44			CLAYSTONE	POSSIBLE ROOF; HEATHERED LIGHT BROWN
	0.44	0.56	0.12			COAL	C-2.BLK MINOR CLAY
	0.56	1.17	0.61			COAL	C-2.BLK UNCONSOLIDATED
	1.17	1.35	0.18			CLAYSTONE	CARB COAL STRINGERS CARBONACEOUS
	1.35	1.44	0.09			CLAYSTONE	UNCONSOLIDATED
	1.44	1.54	0.10			COAL	C-3.BLK
	1.54	2.08	0.54			CLAYSTONE	

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMNT83014

DATE - 12/02/84

- HISTORY -

START DATE - 07/18/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - K JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1950.00

ZONE - 9
 NORTHING - 6340505.00
 EASTING - 507585.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571234
 LONGITUDE - 1285228

- ORIENTATION -

LENGTH - 4.10

INCLINATION - 29.0
 AZIMUTH - 174.0

SIZE WIDTH - 0.8
 SIZE HEIGHT - 1.1

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 264
 FLOOR DIP - 12
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE



		(m)	
		ROCK	COAL
1.20			0.46
	0.39		0.05
		0.12	0.09
TOTAL		0.51	0.69



0.59+m
CLAYSTONE
COAL: C-2
CLAYSTONE
COAL: C-2, C-3, MINOR CLAYSTONE
COAL: C-3, C-4
CLAYSTONE: CARBONACEOUS
COAL: C-2, C-4
0.36+m
CLAYSTONE

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: 084/12S
 UTM COORDINATES : 6340505mN, 507585mE
 ELEVATION : 1950m
 MAP CARD NUMBER : H 9
 TRENCH DEPTH : 1.13m
 TRENCH WIDTH : 0.78m
 TRENCH LENGTH : 4.10m
 TRENCH BEARING : 174°
 TRENCH SLOPE : 29°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC.		
Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83014		
DRAWN BY: S. FAWCETT	SCALE: 1:50	
LOGGED BY: K. JENNER	DATE: 18/07/83	
APPROVED BY: C.N.		

PROJECT: KPH BLOCK: MN DATA SOURCE: TRC83014

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	0.00	0.59	0.59			CLAYSTONE	ROOF
	0.59	1.05	0.46			COAL	C-2.BLK
	1.05	1.44	0.39			CLAYSTONE	
	1.44	1.50	0.06			COAL	C-3.BLK COAL C-2 & C-3;MINOR CLAYSTONE
	1.50	1.58	0.08			COAL	C-3.BLK
	1.58	1.70	0.12			CLAYSTONE	CARB CARBONACEOUS
	1.70	1.79	0.09			COAL	C-4.BLK COAL C-2 & C-4
	1.79	2.15	0.36			CLAYSTONE	FLOOR

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMNT83015

DATE - 12/02/84

- HISTORY -

START DATE - 07/19/83
END DATE - / /

CONTRACTOR -
GEOLOGIST - J ELDER

OPERATOR - GCRI
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1715.00

ZONE - 9
NORTHING - 6338470.00
EASTING - 510635.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571128
LONGITUDE - 1284927

- ORIENTATION -

LENGTH - 3.13

INCLINATION - 35.0
AZIMUTH - 55.0

SIZE WIDTH - 0.5
SIZE HEIGHT - 1.4

ROOF STRIKE - 315
ROOF DIP - 35
ROOF DIR - N

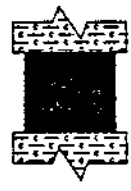
FLOOR STRIKE - 300
FLOOR DIP - 30
FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

(m)	
ROCK	COAL
0.53	0.53
TOTAL 0.00	0.53

0.58+m
 SA. NO.
 03551
 0.25+m



CLAYSTONE, CARBONACEOUS, MINOR IRON STAINING
 COAL: C-4, WEATHERED, IRON STAINING
 CLAYSTONE, CARBONACEOUS

ATTITUDE OF ROOF : 135/35N
 ATTITUDE OF FLOOR: 120/30N
 UTM COORDINATES : 6338470mN, 510635mE
 ELEVATION : 1715m
 MAP CARD NUMBER : H 8
 TRENCH DEPTH : 1.43m
 TRENCH WIDTH : 0.47m
 TRENCH LENGTH : 3.13m
 TRENCH BEARING : 055°
 TRENCH SLOPE : 35°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC. Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG KPN-TRC-83015		
DRAWN BY: R. MAYLOR	SCALE: 1:50	
LOGGED BY: J. ELDER	DATE: 19/07/83	
APPROVED BY: C.W.		

PROJECT: KPN BLOCK: MN DATA SOURCE: TRC83015

BCA	DEPTH FROM	DEPTH TO	INTRYAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.20	0.20			CLAYSTONE	CARB ROOF
	0.20	0.58	0.38			CLAYSTONE	CARB MINOR OXIDIZED COAL
	0.58	1.11	0.53	03551		COAL	C-4, BLK WEATHERED AND OXIDIZED
	1.11	1.36	0.25			CLAYSTONE	CARB FLOOR

* DENOTES MEASURED BCA
NEHPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION
15/MAR/84 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC83015											
	HD1		3551	10.85	11.43	52.80	24.92	0.36	20.69		



- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMNT83016

DATE - 12/02/84

- HISTORY -

START DATE - 07/19/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - J ELDER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - NO ROOF ATTITUDE

- LOCATION -

PROVINCE - BC
 ELEVATION - 1695.00

ZONE - 9
 NORTHING - 6338420.00
 EASTING - 510635.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571127
 LONGITUDE - 1284927

- ORIENTATION -

LENGTH - 3.45

INCLINATION - 40.0
 AZIMUTH - 57.0

SIZE WIDTH - 0.5
 SIZE HEIGHT - 0.9

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

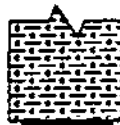
FLOOR STRIKE - 305
 FLOOR DIP - 40
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

(m)		
	ROCK	COAL
0.36	0.08	0.16
		0.12
TOTAL	0.08	0.28

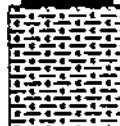
0.66m



CLYST, CARB. FOSSILIFEROUS, INTBD COAL LAM

COAL: C-4, MINOR CLAYSTONE INTERBEDS
CLAYSTONE, IRON STAINING
COAL: C-4

0.83



CLAYSTONE, CARBONACEOUS, MINOR COAL INTERBEDS

0.22



COAL: C-4, MINOR CARBONACEOUS CLAYSTONE

1.27m

CLAYSTONE, CARBONACEOUS, MINOR COAL INTERBEDS

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: 125/40N
 UTM COORDINATES : 6338420mN, 510635mE
 ELEVATION : 1695m
 MAP CARD NUMBER : H 8
 TRENCH DEPTH : 0.87m
 TRENCH WIDTH : 0.50m
 TRENCH LENGTH : 3.45m
 TRENCH BEARING : 057°
 TRENCH SLOPE : 40°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC.
Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
KPN-TRC-83016

DRAWN BY: R. MAYLOR

SCALE: 1:50

LOGGED BY: J. ELDER

DATE: 19/07/83

APPROVED BY: C.M.

PROJECT: KPN BLOCK: MN DATA SOURCE: TRCB3016

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. TO	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.20	0.20			CLAYSTONE	CARB FOSSILIFEROUS; ROOF ROCK
	0.20	0.66	0.46			CLAYSTONE	CARB MINOR COAL; IRON STAINING
	0.66	0.82	0.16			COAL	C-4. BLK MINOR CLAYSTONE
	0.82	0.90	0.08			CLAYSTONE	IRON STAINING
	0.90	1.02	0.12			COAL	C-4. BLK
	1.02	1.85	0.83			CLAYSTONE	CARB MINOR COAL
	1.85	2.07	0.22			COAL	C-4. BLK MINOR CARB CLAYSTONE
	2.07	2.84	0.77			CLAYSTONE	CARB MINOR COAL
	2.84	3.34	0.50			CLAYSTONE	CARB MINOR COAL INTERBEDDED

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMNTRC83017

DATE - 12/02/84

- HISTORY -

START DATE - 07/19/83

END DATE - / /

CONTRACTOR -

GEOLOGIST - J ELDER

OPERATOR - GCRI

SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC

ELEVATION - 1685.00

LICENCE/LEASE NUMBER -

0

ZONE - 9

NORTHING - 6338390.00

EASTING - 510625.00

LATITUDE - 571126

LONGITUDE - 1284927

- ORIENTATION -

LENGTH - 4.30

INCLINATION - 25.0

AZIMUTH - 50.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 0.8

ROOF STRIKE - 305

ROOF DIP - 20

ROOF DIR - N

FLOOR STRIKE - 295

FLOOR DIP - 20

FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

(m)	
ROCK	COAL
1.25	0.36
	0.32
0.40	0.17
	0.85
TOTAL	0.85

0.95+m
SA.NO.
03552

SA.NO.
03553
1.11+m



CLAYSTONE, CARBONACEOUS, COAL STRINGERS

COAL: C-4, WEATHERED


CLAYSTONE, CARBONACEOUS, MINOR COAL STRINGERS

COAL: C-4

COAL: C-5

CLAYSTONE, CARBONACEOUS, MINOR COAL AT TOP

ATTITUDE OF ROOF : 125/20N
 ATTITUDE OF FLOOR : 115/20N
 UTM COORDINATES : 6338390mN, 510625mE
 ELEVATION : 1685m
 MAP CARD NUMBER : H 8
 TRENCH DEPTH : 0.76m
 TRENCH WIDTH : 0.86m
 TRENCH LENGTH : 4.30m
 TRENCH BEARING : 050°
 TRENCH SLOPE : 25°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC.		
Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83017		
DRAWN BY: R. MAYLOR	SCALE: 1:50	
LOGGED BY: J. ELDER	DATE: 19/07/83	
APPROVED BY: C.M.		

PROJECT: KPH BLOCK: MN DATA SOURCE: TRC83017

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.50	0.50			CLAYSTONE	ROOF ROCK
	0.50	0.95	0.45			CLAYSTONE	CARB COAL STRINGERS
	0.95	1.31	0.36	03552		COAL	C-4.BLK HIGHLY OXIDIZED
	1.31	1.71	0.40			CLAYSTONE	CARB MINOR COAL
	1.71	2.03	0.32	03553		COAL	C-4.BLK
	2.03	2.20	0.17	03553		COAL	C-5.BLK
	2.20	3.31	1.11			CLAYSTONE	CARB MINOR COAL NEAR TOP; FLOOR ROCK

* DENOTES MEASURED BCA
NEWPAGE

15/MAR/84

GULF CANADA RESOURCES INC. - COAL DIVISION
HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC83017											
	HD1		3552	5.78	22.65	61.78	9.79	0.55	22.69		
	HD1		3553	7.28	11.62	65.80	15.30	0.51	25.07		



- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMNTRC83018

DATE - 12/02/84

- HISTORY -

START DATE - 07/19/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - J ELDER

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1675.00

ZONE - 9
 NORTHING - 6338355.00
 EASTING - 510635.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571125
 LONGITUDE - 1284927

- ORIENTATION -

LENGTH - 3.40

INCLINATION - 30.0
 AZIMUTH - 30.0

SIZE WIDTH - 0.5
 SIZE HEIGHT - 0.8

ROOF STRIKE - 290
 ROOF DIP - 25
 ROOF DIR - N

FLOOR STRIKE - 295
 FLOOR DIP - 25
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE



		(m)		
	ROCK	COAL		
0.90	0.14	0.20	0.92	0.30
	0.30			
TOTAL	0.44	0.46		




CLAYSTONE, CARBONACEOUS, COAL STRINGERS

COAL: C-4, WEATHERED
CLAYSTONE, CARBONACEOUS, MINOR COAL STRINGERS
CLAYSTONE

COAL: C-4, WEATHERED, MINOR CLAYSTONE LAMINAE
CLAYSTONE

ATTITUDE OF ROOF : 110/25N
 ATTITUDE OF FLOOR: 115/25N
 UTM COORDINATES : 6338355mN, 510635mE
 ELEVATION : 1675m
 MAP CARD NUMBER : H 8
 TRENCH DEPTH : 0.84m
 TRENCH WIDTH : 0.53m
 TRENCH LENGTH : 3.40m
 TRENCH BEARING : 030°
 TRENCH SLOPE : 30°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC.		
<small>Coal Division</small>		
<small>CALGARY</small>	<small>ALBERTA</small>	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83018		
<small>DRAWN BY:</small> R. TAYLOR	<small>SCALE:</small> 1:50	
<small>LOGGED BY:</small> J. ELDER	<small>DATE:</small> 20/07/83	
<small>APPROVED BY:</small> C.W.		

PROJECT: KPN BLOCK: MN DATA SOURCE: TRC83018

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.30	0.30			CLAYSTONE	
	0.30	0.92	0.62			CLAYSTONE	CARB COAL STRINGERS. ROOF ROCK.
	0.92	1.12	0.20			COAL	C-4. BLK WEATHERED.
	1.12	1.26	0.14			CLAYSTONE	CARB MINOR COAL.
	1.26	1.56	0.30			CLAYSTONE	M. GY WEATHERED. TAN-ORANGE; HARD.
	1.56	1.82	0.26			COAL	C-4. BLK WEATHERED; MINOR CLAYSTONE.
	1.82	2.12	0.30			CLAYSTONE	FLOOR ROCK

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMNT83019

DATE - 12/02/84

- HISTORY -

START DATE - 07/19/83
END DATE - / /

CONTRACTOR -
GEOLOGIST - J ELDER

OPERATOR - GCRI
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1665.00

ZONE - 9
NORTHING - 6338335.00
EASTING - 510620.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571124
LONGITUDE - 1284927

- ORIENTATION -

LENGTH - 4.00

INCLINATION - 40.0
AZIMUTH - 65.0

SIZE WIDTH - 0.4
SIZE HEIGHT - 0.7

ROOF STRIKE - 315
ROOF DIP - 30
ROOF DIR - N

FLOOR STRIKE - 310
FLOOR DIP - 25
FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

(m)	
ROCK	COAL
	0.67
1.48	0.42
	0.39
TOTAL	1.06

0.50±m

0.14

SA. NO.
03554

SA. NO.
03555

1.48±m



CLAYSTONE, IRON STAINED

CLAYSTONE, CARBONACEOUS

COAL: C-4, WEATHERED

CLAYSTONE, CARBONACEOUS, MINOR COAL LAMINAE

COAL: C-4, WEATHERED, CLAYSTONE INTERBEDS

CLAYSTONE, CARBONACEOUS

ATTITUDE OF ROOF : 135/30N
 ATTITUDE OF FLOOR: 130/25N
 UTM COORDINATES : 6338335mN, 510620mE
 ELEVATION : 1665m
 MAP CARD NUMBER : H 8
 TRENCH DEPTH : 0.70m
 TRENCH WIDTH : 0.41m
 TRENCH LENGTH : 4.00m
 TRENCH BEARING : 065°
 TRENCH SLOPE : 40°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC.
Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
KPN-TRC-83019

DRAWN BY: R. MAYLOR

SCALE: 1:50

LOGGED BY: J. ELDER

DATE: 20/07/83

APPROVED BY: C.M.

PROJECT: KPN BLOCK: MW DATA SOURCE: TRC83019

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.50	0.50			CLAYSTONE	IRON STAINING
	0.50	0.64	0.14			CLAYSTONE	CARB ROOF
	0.64	1.31	0.67	03554		COAL	C-4. BLK HEATHERED
	1.31	1.73	0.42			CLAYSTONE	CARB MINOR COAL
	1.73	2.12	0.39	03555		COAL	C-4 HEATHERED; OXIDIZED; CLAYSTONE INTERBEDS
	2.12	3.10	0.98			CLAYSTONE	CARB FLOOR
	3.10	3.60	0.50			CLAYSTONE	

* DENOTES MEASURED BCA
NCHPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION
 15/MAR/84 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FST
TRC83019											
	HD1		3554	11.06	28.10	38.95	21.89	0.31	15.26		
	HD1		3555	9.70	23.57	45.37	21.36	0.36	17.61		



- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMNTRC83020

DATE - 12/02/84

- HISTORY -

START DATE - 07/19/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - J ELDER

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1650.00

ZONE - 9
 NORTHING - 6338320.00
 EASTING - 510610.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571123
 LONGITUDE - 1284928

- ORIENTATION -

LENGTH - 4.50

INCLINATION - 45.0
 AZIMUTH - 75.0

SIZE WIDTH - 0.4
 SIZE HEIGHT - 0.7

ROOF STRIKE - 290
 ROOF DIP - 30
 ROOF DIR - N

FLOOR STRIKE - 310
 FLOOR DIP - 30
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

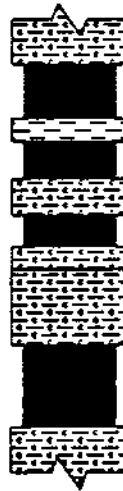
=====

(m)	
ROCK	COAL
0.15	0.36
0.24	0.25
0.15	0.21
0.50	
	0.55
TOTAL	1.04
	1.37

1.10+m

SA. NO.
03556

1.00+m



CLAYSTONE, CARBONACEOUS

COAL: C-4, IRON STAINING

CLAYSTONE

COAL: C-4, IRON STAINING

CLAYSTONE, CARBONACEOUS, MINOR COAL STRINGERS

COAL: C-5, MINOR CARBONACEOUS CLAYSTONE INTBD


CLAYSTONE, CARBONACEOUS

CLAYSTONE, CARBONACEOUS, MINOR COAL INTERBEDS

COAL: C-5, IRON STAINING, MINOR CLAYSTONE INTBD

CLAYSTONE, CARBONACEOUS

ATTITUDE OF ROOF : 110/30N
 ATTITUDE OF FLOOR: 130/30N
 UTM COORDINATES : 6338320mN, 510610mE
 ELEVATION : 1650m
 MAP CARD NUMBER : H 8
 TRENCH DEPTH : 0.66m
 TRENCH WIDTH : 0.43m
 TRENCH LENGTH : 4.50m
 TRENCH BEARING : 075°
 TRENCH SLOPE : 45°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC.		
Coal Division		
CALGARY		ALBERTA
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83020		
DRAWN BY: R. MAYLOR		SCALE: 1:50
LOGGED BY: R. MAYLOR		DATE: 20/07/83
APPROVED BY: C.M.		

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPM BLOCK: MN DATA SOURCE: TRC83020

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.70	0.70			CLAYSTONE	
	0.70	1.10	0.40			CLAYSTONE	CARB ROOF ROCK
	1.10	1.46	0.36	03556		COAL	C-4.BLK OXIDIZED
	1.46	1.61	0.15	03556		CLAYSTONE	BN
	1.61	1.86	0.25	03556		COAL	C-4.BLK OXIDIZED
	1.86	2.10	0.24	03556		CLAYSTONE	CARB MINOR COAL
	2.10	2.31	0.21	03556		COAL	C-5.BLK MINOR CARB CLAYSTONE;WEATHERED
	2.31	2.46	0.15	03556		CLAYSTONE	CARB
	2.46	2.96	0.50	03556		CLAYSTONE	CARB NUMEROUS THIN COAL STRINGERS
	2.96	3.51	0.55	03556		COAL	C-5.BLK IRON STAINING;OXIDIZED;MINOR CLAY

* DENOTES MEASURED BCA

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPM BLOCK: MN DATA SOURCE: TRC83020

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	3.51	3.77	0.26			CLAYSTONE	CARB FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION
 15/MAR/84 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC83020											
	HD1		3556	9.53	37.17	34.32	18.98	0.29	13.52		



- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMTRC83021

DATE - 12/02/84

- HISTORY -

START DATE - 07/20/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - R MAYLOR

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1848.00

ZONE - 9
 NORTHING - 6339520.00
 EASTING - 509545.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571202
 LONGITUDE - 1285031

- ORIENTATION -

LENGTH - 6.00

INCLINATION - 20.0
 AZIMUTH - 55.0

SIZE WIDTH - 0.8
 SIZE HEIGHT - 1.4

ROOF STRIKE - 290
 ROOF DIP - 40
 ROOF DIR - N

FLOOR STRIKE - 310
 FLOOR DIP - 30
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

(m)		ROCK	COAL	
0.79			0.11	0.40+m
	0.25			
	0.10			
	0.05		0.18	0.05
			0.10	0.48
TOTAL	0.40		0.39	0.30
				0.11
				0.06
				0.45
				0.30+m



CLAYSTONE
 COAL
 CLAYSTONE
 CLAYSTONE, CARBONACEOUS
 COAL: C-3
 CLAYSTONE, CARBONACEOUS
 COAL: C-2
 CLAYSTONE, CARBONACEOUS
 CLAYSTONE
 CLAYSTONE, CARBONACEOUS, MINOR COAL LAMINAE
 CLAYSTONE
 CLAYSTONE, CARBONACEOUS
 CLAYSTONE
 CLAYSTONE, CARBONACEOUS
 CLAYSTONE

ATTITUDE OF ROOF : 110/40N
 ATTITUDE OF FLOOR: 130/30N
 UTM COORDINATES : 6339520mN, 509545mE
 ELEVATION : 1848m
 MAP CARD NUMBER : H 8
 TRENCH DEPTH : 1.43m
 TRENCH WIDTH : 0.75m
 TRENCH LENGTH : 6.00m
 TRENCH BEARING : 055°
 TRENCH SLOPE : 20°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC. Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG KPN-TRC-83021		
DRAWN BY: D. MA	SCALE: 1:20	
LOGGED BY: J. ELDER	DATE: 20/07/83	
APPROVED BY: C.G.		

PROJECT: KPN BLOCK: MN DATA SOURCE: TRC83021

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.40	0.40			CLAYSTONE	GRAY-BROWN; ROOF
	0.40	0.51	0.11			COAL	LT. BN WEATHERED GRAY BROWN; UNCONSOLIDATED; I RON STAINING
	0.51	0.76	0.25			CLAYSTONE	
	0.76	0.86	0.10			CLAYSTONE	CARB
	0.86	1.04	0.18			COAL	C-3.BLK DULL TO BRIGHT BANDED; MINOR CLAYSTONE; IRON STAINING
	1.04	1.09	0.05			CLAYSTONE	CARB FLOOR
	1.09	1.19	0.10			COAL	C-4.BLK DULL BANDED; MINOR CLAYSTONE; OXIDIZED
	1.19	1.25	0.06			CLAYSTONE	CARB
	1.25	1.73	0.48			CLAYSTONE	GRAY-BROWN

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: MN DATA SOURCE: TRC83021

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	1.73	2.03	0.30			CLAYSTONE	CARB MINOR COAL
	2.03	2.14	0.11			CLAYSTONE	GRAY-BROWN
	2.14	2.25	0.11			CLAYSTONE	CARB
	2.25	2.31	0.06			CLAYSTONE	
	2.31	2.76	0.45			CLAYSTONE	CARB
	2.76	3.06	0.30			CLAYSTONE	IRON STAINING; GRAY-BROWN

* DENOTES MEASURED BCA
NEHPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMNTRC83022

DATE - 12/02/84

- HISTORY -

START DATE - 07/20/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - J ELDER

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1828.00

ZONE - 9
 NORTHING - 6339445.00
 EASTING - 509505.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571200
 LONGITUDE - 1285034

- ORIENTATION -

LENGTH - 3.50

INCLINATION - 45.0
 AZIMUTH - 42.0

SIZE WIDTH - 0.5
 SIZE HEIGHT - 0.7

ROOF STRIKE - 185
 ROOF DIP - 15
 ROOF DIR - E

FLOOR STRIKE - 330
 FLOOR DIP - 20
 FLOOR DIR - E

*** NOTE *** 0 INDICATES NO VALUE



(m)		
ROCK	COAL	
0.33	0.33	0.35+m
		0.05
TOTAL	0.00	0.31
		0.06
		0.39
		0.20+m




CLAYSTONE, WEATHERED
 CLAYSTONE, CARBONACEOUS
 COAL

CLAYSTONE, CARBONACEOUS, IRON STAINING
 CLAYSTONE, IRON STAINING

CLAYSTONE, CARB. WTHRD, MNR COAL FRAGMENTS

SILTSTONE, IRON STAINING

ATTITUDE OF ROOF : 185/15E
 ATTITUDE OF FLOOR: 150/20E
 UTM COORDINATES : 6339445mN, 509505mE
 ELEVATION : 1828m
 MAP CARD NUMBER : H 8
 TRENCH DEPTH : 0.70m
 TRENCH WIDTH : 0.50m
 TRENCH LENGTH : 3.50m
 TRENCH BEARING : 042°
 TRENCH SLOPE : 45°
 TRENCH BLOCK : M.N.

GULF CANADA RESOURCES INC. <small>Coal Division</small>		
<small>CALGARY</small>	<small>ALBERTA</small>	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG KPN-TRC-83022		
DRAWN BY: D. MAY	SCALE: 1:50	
LOGGED BY: J. ELDER	DATE: 20/07/83	
APPROVED BY: C.M.		

PROJECT: KPM BLOCK: MN DATA SOURCE: TRC83022

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.75	0.75			CLAYSTONE	GY OXIDIZED
	0.75	0.80	0.05			CLAYSTONE	CARB ROOF
	0.80	1.13	0.33			COAL	C-4, BLK. WEATH IRON STAINING
	1.13	1.44	0.31			CLAYSTONE	CARB IRON STAINING
	1.44	1.50	0.06			CLAYSTONE	IRON STAINING
	1.50	1.89	0.39			CLAYSTONE	CARB. WEATH IRON STAINING; COAL FRAGMENTS
	1.89	2.89	1.00			SILTSTONE	GRAY-BROWN; IRON STAINING

* DENOTES MEASURED BCA
NEWPAGE

15/MAR/84

GULF CANADA RESOURCES INC. - COAL DIVISION M.S.
SIMPLE SAMPLE SUMMARY PAGE 1
APPARENT THICKNESS
KLAPPAN PROJECT

DATA SOURCE	SEAM	SAMPLE ID	DEPTH FROM	DEPTH TO	PERCENT REC	RECOVERED COAL	ROCK	MISSING COAL	ROCK	TOTAL COAL-ROCK
TRC83023		3559	1.24	2.68	100.00	0.94	0.50	0.00	0.00	0.94- 0.50
TRC83024		3560	0.50	1.12	100.00	0.28	0.34	0.00	0.00	0.28- 0.34



- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMSTRC83023

DATE - 12/02/84

- HISTORY -

START DATE - 07/20/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - J ELDER

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1775.00

ZONE - 9
 NORTHING - 6339275.00
 EASTING - 509445.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571154
 LONGITUDE - 1285037

- ORIENTATION -

LENGTH - 4.90

INCLINATION - 20.0
 AZIMUTH - 75.0

SIZE WIDTH - 0.5
 SIZE HEIGHT - 0.8

ROOF STRIKE - 350
 ROOF DIP - 30
 ROOF DIR - E

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

(m)	
ROCK	COAL
1.44	0.52
	0.20
	0.10
	0.12
TOTAL	0.94
0.50	

0.60+m
 0.19
 0.08
 0.37
 SA. NO.
 03559
 0.53
 0.50+m



CLAYSTONE
 CLAYSTONE, CARBONACEOUS
 COAL: C-4
 CLAYSTONE, CARBONACEOUS
 COAL: C-4
 COAL: C-2
 CLAYSTONE
 COAL: C-2
 COAL: C-4
 CLAYSTONE, CARBONACEOUS
 CLAYSTONE

ATTITUDE OF ROOF : 170/30E
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6339275mN, 509445mE
 ELEVATION : 1775m
 MAP CARD NUMBER : H 8
 TRENCH DEPTH : 0.83m
 TRENCH WIDTH : 0.50m
 TRENCH LENGTH : 4.90m
 TRENCH BEARING : 075°
 TRENCH SLOPE : 20°
 TRENCH BLOCK : M.S.

GULF CANADA RESOURCES INC. Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG KPN-TRC-83023		
DRAWN BY: O. MAY	SCALE: 1:50	
LOGGED BY: J. ELDER	DATE: 07/07/83	
APPROVED BY: C.M.		

PROJECT: KPN BLOCK: MS DATA SOURCE: TRC83023

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.60	0.60			CLAYSTONE	GRAY-BROWN
	0.60	0.79	0.19			CLAYSTONE	CARB ROOF
	0.79	0.87	0.08			COAL	C-4.BLK QTZ VEINING;IRON STAINING
	0.87	1.24	0.37			CLAYSTONE	CARB MINOR COAL
	1.24	1.76	0.52	03559		COAL	C-4.BLK IRON STAINING;MINOR CARB CLAYSTONE
	1.76	1.96	0.20	03559		COAL	C-2.BLK
	1.96	2.46	0.50	03559		CLAYSTONE	IRON STAINING
	2.46	2.56	0.10	03559		COAL	C-2.BLK
	2.56	2.68	0.12	03559		COAL	C-4.BLK
	2.68	3.21	0.53			CLAYSTONE	CARB MINOR COAL;OXIDIZED, FLOOR
	3.21	3.71	0.50			CLAYSTONE	

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION
15/MAR/84 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE RESIDUAL ID	RESIDUAL MOISTURE%	ASH% FIXED CARBON%	FIXED MATTER%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC83023											
	HD1		3559	8.93	26.64	45.18	19.25	0.31	17.49		



- DATA SOURCE SUMMARY -

DATA SOURCE - KPNMSTRC83024

DATE - 12/02/84

- HISTORY -

START DATE - 07/22/83
 END DATE - / /

CONTRACTOR - OPERATOR - GCRI
 GEOLOGIST - J ELDER SURVEYOR -

REMARKS - NO ATTITUDE OBTAINED ON ROOF OR FLOOR

- LOCATION -

PROVINCE - BC ZONE - 9
 ELEVATION - 1690.00 NORTHING - 6339130.00
 LICENCE/LEASE NUMBER - 0 EASTING - 509395.00
 LATITUDE - 571150
 LONGITUDE - 1285040

- ORIENTATION -

LENGTH - 4.00 INCLINATION - 40.0
 AZIMUTH - 70.0
 SIZE WIDTH - 0.2
 SIZE HEIGHT - 0.8
 ROOF STRIKE - 0 FLOOR STRIKE - 0
 ROOF DIP - 0 FLOOR DIP - 0
 ROOF DIR - FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE




(m)		
	ROCK	COAL
↑	0.45	0.20
↓	0.05	0.08
	0.12	
TOTAL	0.17	0.28

0.25+m
0.17
↑
SA. NO.
03560
↓
0.30+m



CLAYSTONE
CLAYSTONE, CARBONACEOUS, IRON STAINING
COAL: WTHRD, MNR CARB CLYST, LAMINAE, FE STN
SILTSTONE, UNCONSOLIDATED
CLAYSTONE, CARBONACEOUS, MINOR COAL STRINGERS
COAL: WEATHERED
CLYST, CARB, MNR COAL LAMINAE, IRON STAINING

ATTITUDE OF ROOF : NOT OBTAINED
ATTITUDE OF FLOOR: NOT OBTAINED
UTM COORDINATES : 6339135mN, 509395mE
ELEVATION : 1690m
MAP CARD NUMBER : H 8
TRENCH DEPTH : 0.77m
TRENCH WIDTH : 0.24m
TRENCH LENGTH : 4.00m
TRENCH BEARING : 070°
TRENCH SLOPE : 40°
TRENCH BLOCK : M.S.

GULF CANADA RESOURCES INC.		
Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG KPN-TRC-83024		
DRAWN BY: C. NOOAS	SCALE: 1:50	
LOGGED BY: J. ELDER	DATE: 22/07/83	
APPROVED BY: C.W.		

PROJECT: KPN BLOCK: MS DATA SOURCE: TRC83024

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.25	0.25			CLAYSTONE	
	0.25	0.42	0.17	03560		CLAYSTONE	CARB OXIDIZED ROOF
	0.42	0.62	0.20	03560		COAL	BLK MINOR CARB. CLAYSTONE; WEATHERED; IRON STAINING
	0.62	0.67	0.05	03560		SILTSTONE	UNCONSOLIDATED
	0.67	0.79	0.12	03560		CLAYSTONE	CARB MINOR COAL
	0.79	0.87	0.08	03560		COAL	WEATHERED
	0.87	1.17	0.30			CLAYSTONE	CARB MINOR COAL; IRON STAINING; OXIDIZED, FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION
15/MAR/84 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC83024											
	HD1		3560	4.93	43.95	40.35	10.77	0.28	15.10		



15/MAR/84

GULF CANADA RESOURCES INC. - COAL DIVISION
SIMPLE SAMPLE SUMMARY
APPARENT THICKNESS
KLAPPAN PROJECT

K-H.
PAGE 1

DATA SOURCE	SEAM	SAMPLE ID	DEPTH FROM	DEPTH TO	PERCENT REC	RECOVERED COAL	ROCK	MISSING COAL	ROCK	TOTAL COAL-ROCK
TRC83045		3563	1.80	2.70	100.00	0.90	0.00	0.00	0.00	0.90- 0.00



- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC83025

DATE - 12/02/84

- HISTORY -

START DATE - 07/22/83
END DATE - / /

CONTRACTOR -
GEOLOGIST - R MAYLOR

OPERATOR - GCRI
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1510.00

ZONE - 9
NORTHING - 6345210.00
EASTING - 510255.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571506
LONGITUDE - 1284948

- ORIENTATION -

LENGTH - 2.50
SIZE WIDTH - 0.5
SIZE HEIGHT - 0.8

INCLINATION - 30.0
AZIMUTH - 160.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 290
FLOOR DIP - 30
FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

		(m)	
		ROCK	COAL
0.63		0.15	0.20
			0.28
TOTAL		0.15	0.48

0.30+m

0.17

0.75+m



OVERBURDEN

CLAYSTONE

COAL: C-5, MINOR LAMINAE

CLAYSTONE, CARBONACEOUS

COAL: C-5, WEATHERED, MINOR CLAYSTONE LAMINAE

CLAYSTONE, CARBONACEOUS

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR : 110/30S
 UTM COORDINATES : 6345210mN, 510255mE
 ELEVATION : 1510m
 MAP CARD NUMBER : J 8
 TRENCH DEPTH : 0.75m
 TRENCH WIDTH : 0.50m
 TRENCH LENGTH : 2.50m
 TRENCH BEARING : 160°
 TRENCH SLOPE : 30°
 TRENCH BLOCK : 8.C.

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
 KPN-TRC-83025

DRAWN BY: SCOTT FANCETT

SCALE: 1:50

LOGGED BY: ROSS MAYLOR

DATE: 22/07/83

APPROVED BY: C.W.

PROJECT: KPN BLOCK: BC DATA SOURCE: TRC83025

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.50	0.50			OVERBURDEN	
	0.50	0.67	0.17			CLAYSTONE	GRAY-BROWN; ROOF
	0.67	0.87	0.20			COAL	C-5.BLK MINOR CLAYSTONE
	0.87	1.02	0.15			CLAYSTONE	CARB IRON STAINING
	1.02	1.30	0.28			COAL	C-5.BLK MINOR CLAYSTONE; WEATHERED
	1.30	2.05	0.75			CLAYSTONE	CARB. BN FLOOR

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC83026

DATE - 12/02/84

- HISTORY -

START DATE - 07/22/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - R MAYLOR

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1538.00

ZONE - 9
 NORTHING - 6344905.00
 EASTING - 510477.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571456
 LONGITUDE - 1284935

- ORIENTATION -

LENGTH - 4.00

INCLINATION - 40.0
 AZIMUTH - 20.0

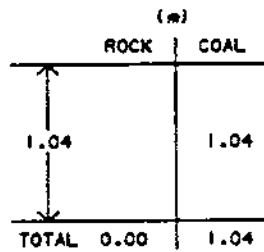
SIZE WIDTH - 0.6
 SIZE HEIGHT - 1.5

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====



0.60+m

0.17

0.60+m



OVERBURDEN

CLAYSTONE, CARBONACEOUS

COAL: WEATHERED, MINOR CLAYSTONE LAMINAE

CLAYSTONE

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: 065/35S
 UTM COORDINATES : 6344905mN, 510477mE
 ELEVATION : 1538m
 MAP CARD NUMBER : 1 8
 TRENCH DEPTH : 1.50m
 TRENCH WIDTH : 0.60m
 TRENCH LENGTH : 4.00m
 TRENCH BEARING : 020°
 TRENCH SLOPE : 40°
 TRENCH BLOCK : B.C.

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOC
KPN-TRC-83026

DRAWN BY: SCOTT FANCETT

SCALE: 1:50

LOGGED BY: ROSS MAYLOR

DATE: 22/07/83

APPROVED BY: C.W.

PROJECT: KPN BLOCK: BC DATA SOURCE: TRC83026

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.60	0.60			OVERBURDEN	
	0.60	0.77	0.17			CLAYSTONE	CARB. GY ROOF
	0.77	1.81	1.04			COAL	WEATHERED; MINOR CLAYSTONE; MINOR IRONSTONE
	1.81	2.41	0.60			CLAYSTONE	GY FLOOR

* DENOTES MEASURED BCA
NEHPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC83028

DATE - 12/02/84

- HISTORY -

START DATE - 07/23/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - G SEVE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - ROOF ATTITUDE NOT OBTAINED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1580.00

ZONE - 9
 NORTHING - 6344416.00
 EASTING - 507503.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571441
 LONGITUDE - 1285232

- ORIENTATION -

LENGTH - 7.00

INCLINATION - 0.0
 AZIMUTH - 78.0

SIZE WIDTH - 0.7
 SIZE HEIGHT - 1.3

ROOF STRIKE - 349
 ROOF DIP - 45
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



(m)	
ROCK	COAL
	0.61
	0.17
	0.55
	0.32
	0.27
0.06	0.27
0.08	
	1.00
	0.50
	1.26
TOTAL	0.14
	4.95

5.09



COAL: SPOIL INTERBEDDED CARB CLYST

COAL: C-4, UNCON, MNR CARB CLYST BANDS

COAL: SPOIL

COAL: SPOIL

COAL: C-3
CLAYSTONE, CARB


COAL: C-4
CLAYSTONE, F. STAINED WTHRD

COAL: UNCON, MNR CLYST BANDS

COAL: C-3, MORE CONS TOWARDS BASE

COAL: C-4, C-5, UNCON, INCREASING CLAY
CONTENT TOWARDS BASE

ATTITUDE OF ROOF : 169/45SW
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6344416mN, 507503mE
 ELEVATION : 1580m
 MAP CARD NUMBER : 1 9
 TRENCH DEPTH : 1.3m
 TRENCH WIDTH : 0.7m
 TRENCH LENGTH : 7.0m
 TRENCH BEARING : 078°
 TRENCH SLOPE : 0°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC.		
<small>Coal Division</small>		
<small>CALGARY</small>	<small>ALBERTA</small>	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83028		
<small>DRAWN BY:</small> C. LOUIE	<small>SCALE:</small> 1:50	
<small>LOGGED BY:</small> G. SEVE	<small>DATE:</small> 23/06/83	
<small>APPROVED BY:</small> C.N.		

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83028

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.61	0.61			COAL	BLK SPOIL; INTERBEDDED CARB CLAYSTONE; ROOF NOT OBTAINED
	0.61	0.78	0.17			COAL	C-4.BLK UNCONSOLIDATED; MINOR CARB CLAYSTONE BANDS
	0.78	1.33	0.55			COAL	BLK UNCONSOLIDATED COAL SPOIL
	1.33	1.65	0.32			COAL	BLK UNCONSOLIDATED COAL SPOIL
	1.65	1.92	0.27			COAL	C-3.BLK
	1.92	1.98	0.06			CLAYSTONE	CARB.DK.GY
	1.98	2.25	0.27			COAL	C-4.BLK UNCONSOLIDATED
	2.25	2.33	0.08			CLAYSTONE	WEATH IRON STAINING
	2.33	3.33	1.00			COAL	BLK UNCONSOLIDATED; MINOR CLAYSTONE BANDS

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83028

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	3.33	3.83	0.50			COAL	C-3.BLK MORE CONSOLIDATED TOWARDS BASE
	3.83	5.09	1.26			COAL	BLK COAL C-4 & C-5; UNCONSOLIDATED; INCREASING CLAY CONTENT TOWARD BASE

* DENOTES MEASURED BCA
NEW PAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC83029

DATE - 12/02/84

- HISTORY -

START DATE - 07/23/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - G SEVE

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1575.00

ZONE - 9
 NORTHING - 6344635.00
 EASTING - 507490.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571448
 LONGITUDE - 1285233

- ORIENTATION -

LENGTH - 2.40

INCLINATION - 19.0
 AZIMUTH - 65.0

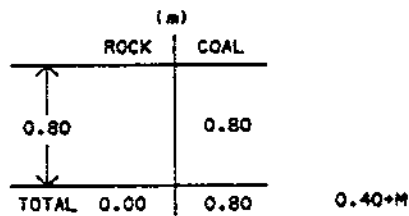
SIZE WIDTH - 0.7
 SIZE HEIGHT - 0.7

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 325
 FLOOR DIP - 40
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE





OVERBURDEN

COAL: BLOOM, UNCON, INTBD CARB CLAY

CLAY, UNCONSOLIDATED

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: APPROX 145/40N
 UTM COORDINATES : 6344635mN, 507490mE
 ELEVATION : 1575m
 MAP CARD NUMBER : 1 9
 TRENCH DEPTH : 0.70m
 TRENCH WIDTH : 0.70m
 TRENCH LENGTH : 2.40m
 TRENCH BEARING : 065°
 TRENCH SLOPE : 19°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC.
Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
KPN-TRC-83029

DRAWN BY: S. FAWCETT

SCALE: 1:50

LOGGED BY: G. SEVE

DATE: 23/07/83

APPROVED BY: C.W.

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83029

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.80	0.80			COAL	UNCONSOLIDATED; CARB. CLAYSTONE INTERBEDS
	0.80	1.20	0.40			CLAY	UNCONSOLIDATED

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC83030

DATE - 12/02/84

- HISTORY -

START DATE - 07/23/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - S MCKENZIE

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1547.00

ZONE - 9
 NORTHING - 6344770.00
 EASTING - 510505.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571452
 LONGITUDE - 1284933

- ORIENTATION -

LENGTH - 2.63

INCLINATION - 30.0
 AZIMUTH - 15.0

SIZE WIDTH - 0.5
 SIZE HEIGHT - 0.5

ROOF STRIKE - 282
 ROOF DIP - 53
 ROOF DIR - S

FLOOR STRIKE - 287
 FLOOR DIP - 42
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE



		(m)		
		ROCK	COAL	
0.17	⊕	0.00	0.17	0.33+m
TOTAL		0.00	0.17	0.26
				0.30
				0.29
				0.05
				0.60+m



MUDSTONE, MED. GREY
HEMATITE STAINED MUDSTONE, WEATHERED
COAL: C-3, WEATHERED


MUDSTONE, WEATHERED

MUDSTONE, CARBONACEOUS

MUDSTONE, CARBONACEOUS
COAL: C-3, WEATHERED

MUDSTONE, MED. GREY

ATTITUDE OF ROOF : 102/53S
 ATTITUDE OF FLOOR: 107/42S
 UTM COORDINATES : 6344770mN, 510505mE
 ELEVATION : 1547m
 MAP CARD NUMBER : 1 8
 TRENCH DEPTH : 0.49
 TRENCH WIDTH : 0.51
 TRENCH LENGTH : 2.63
 TRENCH BEARING : 015°
 TRENCH SLOPE : 30°
 TRENCH BLOCK : B.C.

GULF CANADA RESOURCES INC.		
<small>Coal Division</small>		
<small>CALGARY</small>	<small>ALBERTA</small>	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83030		
<small>DRAWN BY:</small> S. FAUCETT	<small>SCALE:</small> 1:50	
<small>LOGGED BY:</small> S. McKENZIE	<small>DATE:</small> 23/07/83	
<small>APPROVED BY:</small> C.M.		

PROJECT: KPM BLOCK: BC DATA SOURCE: TRCB3030

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.33	0.33			MUDSTONE	GY IRON STAINING; HEATHERED; ROOF
	0.33	0.50	0.17			COAL	C-3.BLK.HEATH
	0.50	0.76	0.26			MUDSTONE	HEATH
	0.76	1.06	0.30			MUDSTONE	CARB
	1.06	1.35	0.29			MUDSTONE	CARB
	1.35	1.40	0.05			COAL	C-3.BLK.HEATH
	1.40	2.00	0.60			MUDSTONE	GY FLOOR

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC83031

DATE - 12/02/84

- HISTORY -

START DATE - 07/23/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - J ELDER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - NO FLOOR ATTITUDE OBTAINED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1612.00

ZONE - 9
 NORTHING - 6344420.00
 EASTING - 510292.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571441
 LONGITUDE - 1284946

- ORIENTATION -

LENGTH - 5.50

INCLINATION - 25.0
 AZIMUTH - 5.0

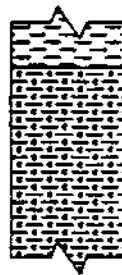
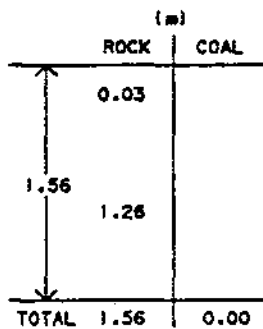
SIZE WIDTH - 0.5
 SIZE HEIGHT - 0.7

ROOF STRIKE - 300
 ROOF DIP - 15
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE


=====



CLAYSTONE

CLAYSTONE, CARB. WEATHERED, ABUNDANT COAL

ATTITUDE OF ROOF : 120/15S
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6344420mN, 510292mE
 ELEVATION : 1612m
 MAP CARD NUMBER : 1 8
 TRENCH DEPTH : 0.67m
 TRENCH WIDTH : 0.50m
 TRENCH LENGTH : 5.50m
 TRENCH BEARING : 005°
 TRENCH SLOPE : 25°
 TRENCH BLOCK : B.C.

GULF CANADA RESOURCES INC. <small>Coal Division</small>		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG KPN-TRC-83031		
DRAWN BY: C. HOAS	SCALE: 1:50	
LOGGED BY: J. ELDER	DATE: 23/07/83	
APPROVED BY: C.W.		

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: BC DATA SOURCE: TRC83031

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.30	0.30			CLAYSTONE	
	0.30	1.56	1.26			CLAYSTONE	CARB ABUNDANT COAL; WEATHERED

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC83032

DATE - 12/02/84

- HISTORY -

START DATE - 07/24/83
 END DATE - / /

CONTRACTOR - OPERATOR - GCRI
 GEOLOGIST - J ELDER SURVEYOR -

REMARKS - NO ATTITUDES OBTAINED ON ROOF OR FLOOR

- LOCATION -

PROVINCE - BC ZONE - 9
 ELEVATION - 1612.00 NORTHING - 6344135.00
 LICENCE/LEASE NUMBER - 0 EASTING - 509987.00
 LATITUDE - 571432
 LONGITUDE - 1285004

- ORIENTATION -

LENGTH - 5.20 INCLINATION - 10.0
 AZIMUTH - 95.0
 SIZE WIDTH - 0.4
 SIZE HEIGHT - 0.8
 ROOF STRIKE - 0 FLOOR STRIKE - 0
 ROOF DIP - 0 FLOOR DIP - 0
 ROOF DIR - FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



(m)	
ROCK	COAL
	0.50
0.16	0.25
	0.61
0.13	0.52
TOTAL	0.29 1.88

2.17

0.22±m

SA. NO.
04802

0.55±m



CLAYSTONE, CARBONACEOUS, MINOR COAL, ROOF

COAL: C-4, IRON STAINING

CLAYSTONE, CARBONACEOUS
COAL: WEATHERED

COAL: C-4, IRON STAINING

CLAYSTONE, OXIDIZED, IRON STAINING

COAL: C-4, C-3, WEATHERED

CLAYSTONE, IRON STAINING, FLOOR

• NO ATTITUDE ON ROOF OR FLOOR

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6344135mN, 509987mE
 ELEVATION : 1612m
 MAP CARD NUMBER : 1 8
 TRENCH DEPTH : 0.84m
 TRENCH WIDTH : 0.40m
 TRENCH LENGTH : 5.20m
 TRENCH BEARING : 095°
 TRENCH SLOPE : 10°
 TRENCH BLOCK : B.C.

GULF CANADA RESOURCES INC. Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83032		
DRAWN BY: C. LOUIE	SCALE: 1:50	
LOGGED BY: J. ELDER	DATE: 24/07/83	
APPROVED BY: C.W.		

PROJECT: KPN BLOCK: BC DATA SOURCE: TRC83032

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.22	0.22			CLAYSTONE	CARB. MINOR COAL
	0.22	0.72	0.50	04802		COAL	C-4, BLK. IRON STAINING
	0.72	0.88	0.16	04802		CLAYSTONE	CARB.
	0.88	1.13	0.25	04802		COAL	HEATH
	1.13	1.74	0.61	04802		COAL	C-4, BLK. IRON STAINING
	1.74	1.87	0.13	04802		CLAYSTONE	OXIDIZED
	1.87	2.39	0.52	04802		COAL	BLK. HEATH COAL C-3 & C-4
	2.39	2.89	0.50			CLAYSTONE	IRON STAINING; FLOOR

* DENOTES MEASURED BCA
 NEWPAGE.

GULF CANADA RESOURCES INC. - COAL DIVISION
 15/MAR/84 HEAD ANALYSIS SUMMARY

PROJ - KPN			ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM				
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC83032											
	HD1		4802	9.78	25.25	45.37	19.60	0.33	18.32		



- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC83033

DATE - 12/02/84

- HISTORY -

START DATE - 07/24/83
END DATE - / /

CONTRACTOR - OPERATOR - GCRI
GEOLOGIST - J ELDER SURVEYOR -

REMARKS - NO ATTITUDES OBTAINED ON ROOF OR FLOOR

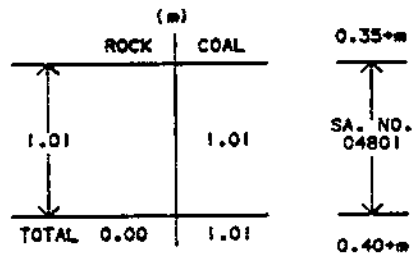
- LOCATION -

PROVINCE - BC ZONE - 9
ELEVATION - 1596.00 NORTHING - 6344266.00
LICENCE/LEASE NUMBER - 0 EASTING - 509910.00
LATITUDE - 571436
LONGITUDE - 1285009

- ORIENTATION -

LENGTH - 5.00 INCLINATION - 20.0
AZIMUTH - 20.0
SIZE WIDTH - 0.6
SIZE HEIGHT - 0.8
ROOF STRIKE - 0 FLOOR STRIKE - 0
ROOF DIP - 0 FLOOR DIP - 0
ROOF DIR - FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE




CLAYSTONE, CARBONACEOUS, IRON STAINING, ROOF

COAL: C-4, UNCON, GULL, WEATHERED, Fe STN

CLAYSTONE, CARBONACEOUS

* NO ATTITUDE ON ROOF OR FLOOR

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6344266mN, 509910mE
 ELEVATION : 1596m
 MAP CARD NUMBER : 1 8
 TRENCH DEPTH : 0.80m
 TRENCH WIDTH : 0.63m
 TRENCH LENGTH : 5.00m
 TRENCH BEARING : 020°
 TRENCH SLOPE : 20°
 TRENCH BLOCK : B.C.

GULF CANADA RESOURCES INC.		
Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83033		
DRAWN BY: C. LOUIE	SCALE: 1:50	
LOADED BY: J. ELDON	DATE: 24/07/83	
APPROVED BY: C.M.		

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: BC DATA SOURCE: TRC83033

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.35	0.35			CLAYSTONE	CARB IRON STAINING; ROOF
	0.35	1.36	1.01	04801		COAL	C-6 UNCONSOLIDATED; DULL; HEATHERED; IRON STAINING
	1.36	1.46	0.10			CLAYSTONE	CARB
	1.46	1.76	0.30			CLAYSTONE	CARB IRON STAINING; FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION
 15/MAR/84 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE RESIDUAL ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC83033											
	HD1		4801	5.82	37.28	43.70	13.20	0.34	16.08		



- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC83034

DATE - 12/02/84

- HISTORY -

START DATE - 07/24/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - S MCKENZIE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - NO ATTITUDES OBTAINED ON ROOF OR FLOOR

- LOCATION -

PROVINCE - BC
 ELEVATION - 1550.00

ZONE - 9
 NORTHING - 6344755.00
 EASTING - 510450.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571452
 LONGITUDE - 1284937

- ORIENTATION -

LENGTH - 9.35

INCLINATION - 32.0
 AZIMUTH - 147.0

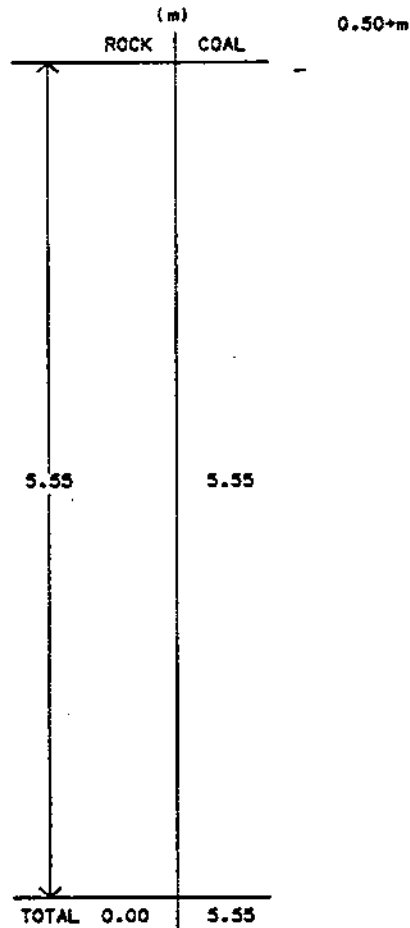
SIZE WIDTH - 0.4
 SIZE HEIGHT - 0.8

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE





OVERBURDEN: WEATHERED

COAL: SPOIL, MUDST AND MUD INTERBEDS, WTHRD, COAL SPOIL AND BLOOM, PEBBLES, M GREY

* NO ATTITUDES ON ROOF AND FLOOR, BEDDING UNDETERMINED

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6344755mN, 510450mE
 ELEVATION : 1550m
 MAP CARD NUMBER : 1 8
 TRENCH DEPTH : 0.79m
 TRENCH WIDTH : 0.40m
 TRENCH LENGTH : 9.35m
 TRENCH BEARING : 147°
 TRENCH SLOPE : 032°
 TRENCH BLOCK : B.C.

GULF CANADA RESOURCES INC.

Coal Division



CALGARY

ALBERTA

MT. KLAPPAN COAL PROPERTY

TRENCH LOG
 KPN-TRC-83034

DRAWN BY: C. LOUIE

SCALE: 1:50

LOGGED BY: S. MCKENZIE

DATE: 24/07/83

APPROVED BY: C.W.

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPM BLOCK: BC DATA SOURCE: TRC83034

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.50	0.50			OVERBURDEN	HEATH
	0.50	6.05	5.55			COAL SPOIL	MUDSTONE & MUD INTERBEDS; ALL COAL IS COAL BLOOM

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC83035

DATE - 12/02/84

- HISTORY -

START DATE - 07/24/83
END DATE - / /

CONTRACTOR -
GEOLOGIST - S MCKENZIE

OPERATOR - GCR I
SURVEYOR -

REMARKS - NO ATTITUDES OBTAINED ON ROOF OR FLOOR

- LOCATION -

PROVINCE - BC
ELEVATION - 1627.00

ZONE - 9
NORTHING - 6344325.00
EASTING - 510365.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571438
LONGITUDE - 1284942

- ORIENTATION -

LENGTH - 3.52

INCLINATION - 9.0
AZIMUTH - 164.0

SIZE WIDTH - 0.4
SIZE HEIGHT - 1.0

ROOF STRIKE - 253
ROOF DIP - 19
ROOF DIR - S

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

(m)		
ROCK	COAL	
0.79	0.79	0.31+m
TOTAL 0.00	0.79	0.28+m




OVERBURDEN

COAL: BLOOM, UNCONSOLIDATED AND WEATHERED

CLAY, ROCK FRAGMENTS

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: APPROX. 073/19S
 UTM COORDINATES : 6344325mN, 510365mE
 ELEVATION : 1627m
 MAP CARD NUMBER : 1 8
 TRENCH DEPTH : 1.04m
 TRENCH WIDTH : 0.42m
 TRENCH LENGTH : 3.52m
 TRENCH BEARING : 164°
 TRENCH SLOPE : 09°
 TRENCH BLOCK : B.C.

GULF CANADA RESOURCES INC.		
Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83035		
DRAWN BY: S. FAUCETT	SCALE: 1:50	
LOGGED BY: S. MCKENZIE	DATE: 24/07/83	
APPROVED BY: C.W.		

PROJECT: KPM BLOCK: BC DATA SOURCE: TRC83035

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
	0.00	0.31	0.31			OVERBURDEN	CLAY
	0.31	1.10	0.79			COAL SPOIL	COAL SPOIL; UNCONSOLIDATED; HEATHERED
	1.10	1.38	0.28			OVERBURDEN	CLAY & ROCK FRAGMENTS

* DENOTES MEASURED BCA
MENPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC83036

DATE - 12/02/84

- HISTORY -

START DATE - 07/23/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - R MAYLOR

OPERATOR - GCRI
 SURVEYOR -

REMARKS - NO ATTITUDES OBTAINED ON ROOF OR FLOOR

- LOCATION -

PROVINCE - BC
 ELEVATION - 1587.00

ZONE - 9
 NORTHING - 6344505.00
 EASTING - 510680.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571443
 LONGITUDE - 1284923

- ORIENTATION -

LENGTH - 3.20
 SIZE WIDTH - 0.6
 SIZE HEIGHT - 0.9

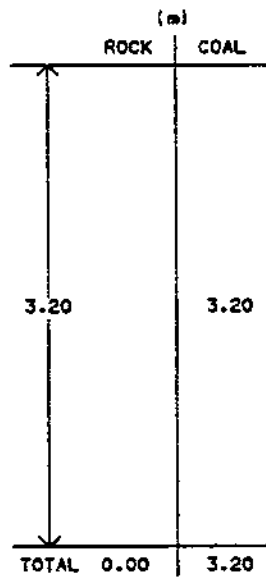
INCLINATION - 5.0
 AZIMUTH - 90.0

ROOF STRIKE - 230
 ROOF DIP - 64
 ROOF DIR - E

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====



COAL: BLOOM, WEATHERED, INTBD CARB CLAYSTONE

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: APPROX. 150/64N
 UTM COORDINATES : 6344505mN, 510680mE
 ELEVATION : 1587m
 MAP CARD NUMBER : 1 8
 TRENCH DEPTH : 0.90m
 TRENCH WIDTH : 0.60m
 TRENCH LENGTH : 3.20m
 TRENCH BEARING : 090°
 TRENCH SLOPE : 05°
 TRENCH BLOCK : B.C.

GULF CANADA RESOURCES INC.		
Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83036		
DRAWN BY: R. HAYLOR	SCALE: 1:50	
LOGGED BY: R. HAYLOR	DATE: 23/07/83	
APPROVED BY: C.W.		

PROJECT: KPH BLOCK: 8C DATA SOURCE: TRC83036

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	3.20	3.20			COAL	COAL BLOOM AND CARB. CLYST. INTERMIXED: DETAILED LOG NOT ATTAINABLE DUE TO COMPLETELY UNCONSOLIDATED NATURE OF COAL AND ROCK

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC83037

DATE - 12/02/84

- HISTORY -

START DATE - 07/23/83
END DATE - / /

CONTRACTOR - OPERATOR - GCRI
GEOLOGIST - R MAYLOR SURVEYOR -

REMARKS - NO ATTITUDES OBTAINED ON ROOF OR FLOOR

- LOCATION -

PROVINCE - BC ZONE - 9
ELEVATION - 1537.00 NORTHING - 6344935.00
EASTING - 510305.00

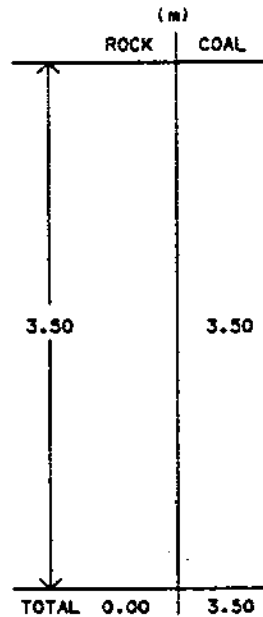
LICENCE/LEASE NUMBER - 0
LATITUDE - 571457
LONGITUDE - 1284945

- ORIENTATION -

LENGTH - 3.50 INCLINATION - 5.0
AZIMUTH - 165.0

SIZE WIDTH - 0.5
SIZE HEIGHT - 0.9
ROOF STRIKE - 273 FLOOR STRIKE - 0
ROOF DIP - 34 FLOOR DIP - 0
ROOF DIR - S FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



COAL + CLAYSTONE: CARBONACEOUS,
 COAL BLOOM, CARBONACEOUS CLAYSTONE
 INTERBEDS. DETAILED LOG NOT
 OBTAINABLE DUE TO UNCONSOLIDATED
 NATURE OF COAL AND ROCK

ATTITUDE OF ROOF : 093/34S
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6344935mN 510305mE
 ELEVATION : 1537m
 MAP CARD NUMBER : 1 8
 TRENCH DEPTH : 0.90m
 TRENCH WIDTH : 0.50m
 TRENCH LENGTH : 3.50m
 TRENCH BEARING : 165°
 TRENCH SLOPE : 05°
 TRENCH BLOCK : B.C.

GULF CANADA RESOURCES INC. <small>Coal Division</small>		
<small>CALGARY</small>	<small>ALBERTA</small>	
MT. KLAPPAN COAL PROPERTY TRENCH LOG KPN-TRC-83037		
<small>DRAWN BY: C. LOUIE</small>		<small>SCALE: 1:50</small>
<small>LOGGED BY: R. MAYLOR</small>		<small>DATE: 23/07/83</small>
<small>APPROVED BY: C.V.</small>		

PROJECT: KPN BLOCK: BC DATA SOURCE: TRC83037

BCA	DEPTH FROM	DEPTH INTERVAL TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.00	3.50			COAL	COAL AND CARB. CLYST. INTERMIXED; DETAILS LOG NOT ATTAINABLE DUE TO COMPLETELY UNCONSOLIDATED COAL AND ROCK

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC83038

DATE - 12/02/84

- HISTORY -

START DATE - 07/23/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - R MAYLOR

OPERATOR - GCRI
 SURVEYOR -

REMARKS - ROOF ATTITUDE NOT OBTAINED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1530.00

ZONE - 9
 NORTHING - 6344915.00
 EASTING - 510615.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571457
 LONGITUDE - 1284927

- ORIENTATION -

LENGTH - 5.00

INCLINATION - 25.0
 AZIMUTH - 25.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.2

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 295
 FLOOR DIP - 85
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

(m)	
ROCK	COAL
	0.70
	0.65
	0.63
	0.28
0.24	0.29
TOTAL 0.24	2.55

2.79

0.50m +



COAL: UNCONSOLIDATED MINOR CLYST INTERBEDS

COAL: C-3, IRON STAIN

COAL: C-2, MINOR CLAYSTONE INTERBEDS

COAL: C-2, CLAYSTONE INTERBEDS

CLAYSTONE, CARBONACEOUS MINOR COAL

COAL: C-3, IRON STAIN

CLAYSTONE, CARBONACEOUS-FLOOR

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: 115/85N
 UTM COORDINATES : 6344915mN 510615mE
 ELEVATION : 1530m
 MAP CARD NUMBER : 1 8
 TRENCH DEPTH : 1.20m
 TRENCH WIDTH : 0.90m
 TRENCH LENGTH : 5.00m
 TRENCH BEARING : 025°
 TRENCH SLOPE : 25°
 TRENCH BLOCK : B.C.

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
KPN-TRC-83038

DRAWN BY: C. LOUIE

SCALE: 1:50

LOGGED BY: R. NAYLOR

DATE: 07/07/83

APPROVED BY: C.W.

PROJECT: KPN BLOCK: BC DATA SOURCE: TRC83038

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.70	0.70			COAL	UNCONSOLIDATED MINOR CLAYSTON
	0.70	1.35	0.65			COAL	IRON STAINING
	1.35	1.98	0.63			COAL	C-2 MINOR CLAYSTONE
	1.98	2.26	0.28			COAL	C-2 INTERBEDDED COAL AND CLAYSTONE
	2.26	2.50	0.24			CLAYSTONE	CARB MINOR COAL
	2.50	2.79	0.29			COAL	C-3 IRON STAINING
	2.79	3.29	0.50			CLAYSTONE	CARB
	3.29	4.29	1.00			CLAYSTONE	CLAYSTONE GRADING TO SILTSTONE TOWARDS BASE OF MEASUREMENT

* DENOTES MEASURED BCA
MENPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC83039

DATE - 12/02/84

- HISTORY -

START DATE - 07/25/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - R MAYLOR

OPERATOR - GCRI
 SURVEYOR -

REMARKS - NEAREST OBTAINABLE ATTITUDE 020/46S

- LOCATION -

PROVINCE - BC
 ELEVATION - 1517.00

ZONE - 9
 NORTHING - 6345328.00
 EASTING - 505588.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571510
 LONGITUDE - 1285427

- ORIENTATION -

LENGTH - 4.80

INCLINATION - 15.0
 AZIMUTH - 107.0

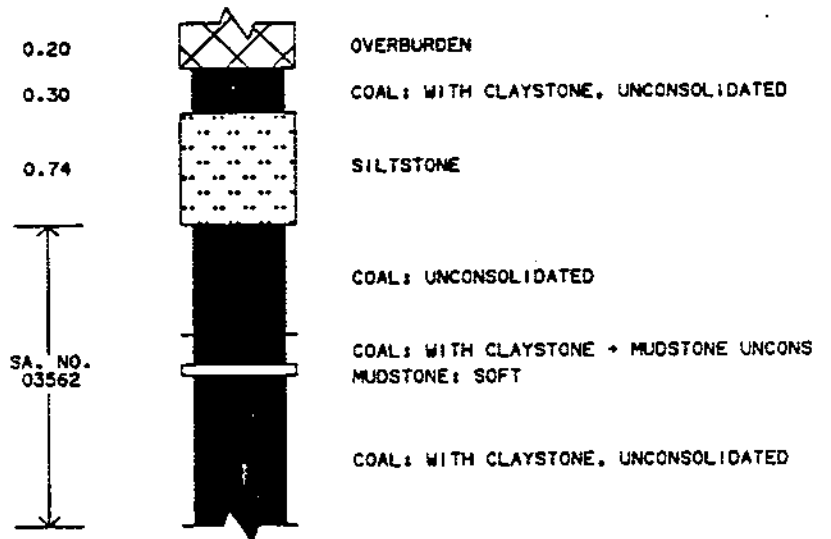
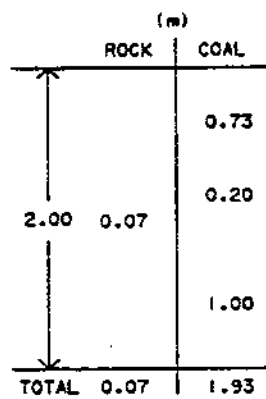
SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.7

ROOF STRIKE - 200
 ROOF DIP - 46
 ROOF DIR - S


FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====



ATTITUDE OF ROOF : 020/46S
 ATTITUDE OF FLOOR: N/A
 UTM COORDINATES : 6345328mN 505588mE
 ELEVATION : 1517m
 MAP CARD NUMBER : J 10
 TRENCH DEPTH : 1.70m
 TRENCH WIDTH : 0.90m
 TRENCH LENGTH : 4.80m
 TRENCH BEARING : 107°
 TRENCH SLOPE : 15°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC. <small>Coal Division</small>		
<small>CALGARY</small>	<small>ALBERTA</small>	
MT. KLAPPAN COAL PROPERTY TRENCH LOG KPN-TRC-83039		
<small>DRAWN BY:</small> C. LOUIE	<small>SCALE:</small> 1:50	
<small>LOGGED BY:</small> R. MAYLOR	<small>DATE:</small> 25/07/83	
<small>APPROVED BY:</small> C.M.		

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83039

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.20	0.20			OVERBURDEN	
	0.20	0.50	0.30			COAL	BLK COAL INTERBEDDED CLAYSTONE; UNCONSOLIDATED
	0.50	1.24	0.74			SILTSTONE	
	1.24	1.97	0.73	03562		COAL	UNCONSOLIDATED
	1.97	2.17	0.20	03562		COAL	COAL INTERBEDDED WITH CLAYSTONE AND MUDSTONE; UNCONSOLIDATED
	2.17	2.24	0.07	03562		MUDSTONE	SOFT
	2.24	3.24	1.00	03562		COAL	BLK COAL INTERBEDDED CLAYSTONE; UNCONSOLIDATED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION
 15/MAR/84 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC83039											
	HD1		3562	11.58	20.97	44.00	24.05	0.22	16.96		



- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC83040

DATE - 12/02/84

- HISTORY -

START DATE - 07/22/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - R MAYLOR

OPERATOR - GCRI
 SURVEYOR -

REMARKS - ROOF ATTITUDE NOT OBTAINED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1517.00

ZONE - 9
 NORTHING - 6345105.00
 EASTING - 510725.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571503
 LONGITUDE - 1284920

- ORIENTATION -

LENGTH - 3.90

INCLINATION - 4.0
 AZIMUTH - 270.0

SIZE WIDTH - 0.4
 SIZE HEIGHT - 0.7

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 310
 FLOOR DIP - 65
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE



		(m)	
		ROCK	COAL
1.49		0.08	0.09
			0.12
			0.13
			0.63
			0.10
			0.08
			0.26
TOTAL	0.08	1.41	

0.50m +

SA. NO.
03561

0.12m +



CLAYSTONE, LIGHT BROWN

COAL: C-2

COAL: C-1 WITH CLAYSTONE INTERBEDS

CLAYSTONE

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: 130/65
 UTM COORDINATES : 6345105mN 510725mE
 ELEVATION : 1517m
 MAP CARD NUMBER : J 8
 TRENCH DEPTH : 0.70m
 TRENCH WIDTH : 0.40m
 TRENCH LENGTH : 3.90m
 TRENCH BEARING : 270°
 TRENCH SLOPE : 04°
 TRENCH BLOCK : B.C.

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
KPN-TRC-83040

DRAWN BY: C. LOUIE

SCALE: 1:50

LOGGED BY: R. MAYLOR

DATE: 22/07/83

APPROVED BY: C.M.

PROJECT: KPN BLOCK: BC DATA SOURCE: TRC83040

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.50	0.50			CLAYSTONE	LT. BN ROOF
	0.50	0.59	0.09	03561		COAL	C-2.BLK
	0.59	0.71	0.12	03561		COAL	C-1.BLK
	0.71	0.84	0.13	03561		COAL	BLK UNCONSOLIDATED
	0.84	0.92	0.08	03561		CLAYSTONE	CARB MINOR COAL
	0.92	1.55	0.63	03561		COAL	C-2.BLK MINOR IRON STAINING
	1.55	1.65	0.10	03561		COAL	C-6.BLK MINOR CLAYSTONE
	1.65	1.73	0.08	03561		COAL	C-3.BLK
	1.73	1.99	0.26	03561		COAL	C-5.BLK WEATHERED
	1.99	2.11	0.12			CLAYSTONE	CARB MINOR COAL; FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION
 15/MAR/84 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FST
TRC83040											
	HD1		3561	3.98	33.63	53.08	9.31	0.41	20.33		



- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC83041

DATE - 12/02/84

- HISTORY -

START DATE - 07/23/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - R MAYLOR

OPERATOR - GCRI
 SURVEYOR -

REMARKS - FLOOR ATTITUDE NOT OBTAINED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1540.00

ZONE - 9
 NORTHING - 6345320.00
 EASTING - 506685.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571510
 LONGITUDE - 1285321

- ORIENTATION -

LENGTH - 6.40

INCLINATION - 30.0
 AZIMUTH - 10.0

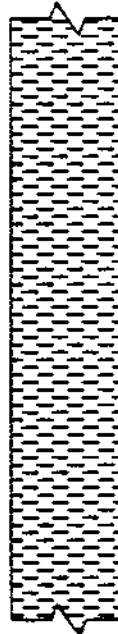
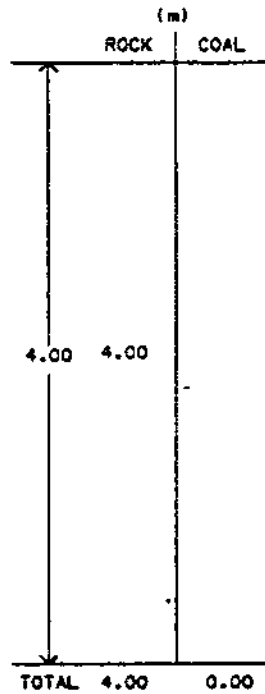
SIZE WIDTH - 0.5
 SIZE HEIGHT - 0.8

ROOF STRIKE - 285
 ROOF DIP - 30
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====



CLAYSTONE AND MUDSTONE INTERBEDS
 -CLAYSTONE CARBONACEOUS
 -MINOR NODULE SILTSTONE
 -WEATHERED AND UNCONSOLIDATED

ATTITUDE OF ROOF : 105/30S
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6345320mN, 506685mE
 ELEVATION : 1540m
 MAP CARD NUMBER : J 9
 TRENCH DEPTH : 0.80m
 TRENCH WIDTH : 0.50m
 TRENCH LENGTH : 6.40m
 TRENCH BEARING : 010°
 TRENCH SLOPE : 30°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC.		
<small>Coal Division</small>		
<small>CALDARY</small>	<small>ALBERTA</small>	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83041		
<small>DRAWN BY:</small> R. MAYLOR	<small>SCALE:</small> 1:50	
<small>LOGGED BY:</small> R. MAYLOR	<small>DATE:</small> 22/07/93	
<small>APPROVED BY:</small> C.M.		

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83041

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	4.00	4.00			CLAYSTONE	CARB MUDSTONE INTERBEDS;MINOR NODULAR SILTST ONE;WEATHERED;UNCONSOLIDATED

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC83042

DATE - 12/02/84

- HISTORY -

START DATE - 07/25/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - K JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1690.00

ZONE - 9
 NORTHING - 6344610.00
 EASTING - 507080.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571447
 LONGITUDE - 1285258

- ORIENTATION -

LENGTH - 4.94

INCLINATION - 20.0
 AZIMUTH - 55.0

SIZE WIDTH - 0.5
 SIZE HEIGHT - 1.3

ROOF STRIKE - 248
 ROOF DIP - 5
 ROOF DIR - S

FLOOR STRIKE - 234
 FLOOR DIP - 18
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

(m)		ROCK	COAL
1.61	0.10		0.17
	0.03		
	0.07		0.06
			0.68
			0.48
TOTAL	0.22	1.39	


0.37m +
0.11m



CLAYSTONE, UNCONSOLIDATED, GREY
 CLAYSTONE, CARB, MINOR IRON STAIN, WEATHERED
 COAL: C-2, WEATHERED, IRON STAIN, CLYST CARB
 CLAYSTONE, CARBONACEOUS
 CLAY
 CLAYSTONE, CARBONACEOUS
 COAL: C-3
 COAL: C-2, MINOR IRON STAIN
 COAL: C-3
 CLAYSTONE, CARBONACEOUS, COAL STRINGERS

0.15m +

ATTITUDE OF ROOF : 068/05S
 ATTITUDE OF FLOOR : 054/18S
 UTM COORDINATES : 6344610mN, 507080mE
 ELEVATION : 1690m
 MAP CARD NUMBER : 19
 TRENCH DEPTH : 1.28m
 TRENCH WIDTH : 0.51m
 TRENCH LENGTH : 4.94m
 TRENCH BEARING : 055°
 TRENCH SLOPE : 20°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC. <small>Coal Division</small>		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG KPN-TRC-83042		
<small>DRAWN BY:</small> C. LOUIE	<small>SCALE:</small> 1:50	
<small>LOGGED BY:</small> K. JENNER	<small>DATE:</small> 25/07/83	
<small>APPROVED BY:</small> C.M.		

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83042

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.11	0.11			CLAYSTONE	CARB MINOR IRON STAINING;WEATHERED; ROOF
	0.11	0.28	0.17			COAL	C-2.BLK HEATHERED;IRON STAINING;COAL INTERMIXED WITH CARB CLAYSTONE
	0.28	0.38	0.10			CLAYSTONE	CARB
	0.38	0.43	0.05			CLAY	TAN
	0.43	0.50	0.07			CLAYSTONE	CARB
	0.50	0.56	0.06			COAL	C-3.BLK
	0.56	1.24	0.68			COAL	C-2.BLK MINOR CLAYSTONE;IRON STAINING
	1.24	1.72	0.48			COAL	C-3.BLK

* DENOTES MEASURED BCA

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83042

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	1.72	1.87	0.15			CLAYSTONE	CARB.GY COAL STRINGERS COAL STRINGERS

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNBCTRC83043

DATE - 12/02/84

- HISTORY -

START DATE - 07/23/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - R MAYLOR

OPERATOR - GCR!
 SURVEYOR -

REMARKS - NO ATTITUDES OBTAINED FOR ROOF OR FLOOR

- LOCATION -

PROVINCE - BC
 ELEVATION - 1523.00

ZONE - 9
 NORTHING - 6345145.00
 EASTING - 510255.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571504
 LONGITUDE - 1284948

- ORIENTATION -

LENGTH - 3.50

INCLINATION - 5.0
 AZIMUTH - 50.0

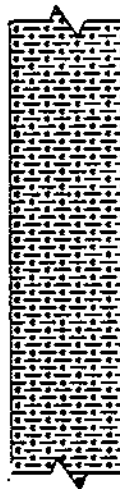
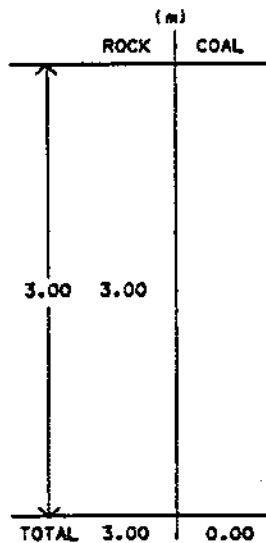
SIZE WIDTH - 0.7
 SIZE HEIGHT - 0.8

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -


*** NOTE *** 0 INDICATES NO VALUE

=====



CLAYSTONE, CARB & COAL

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6345145mN, 510255mE
 ELEVATION : 1523m
 MAP CARD NUMBER : J 8
 TRENCH DEPTH : 0.80m
 TRENCH WIDTH : 0.70m
 TRENCH LENGTH : 3.50m
 TRENCH BEARING : 050°
 TRENCH SLOPE : 05°
 TRENCH BLOCK : B.C.

GULF CANADA RESOURCES INC.		
<small>Coal Division</small>		
<small>CALGARY</small>	<small>ALBERTA</small>	
MT. KLAPPAN COAL PROPERTY		
TRENCH LOG		
KPN-TRC-83043		
<small>DRAWN BY:</small> C. LOUIE	<small>SCALE:</small> 1:50	
<small>LOGGED BY:</small> R. MAYLOR	<small>DATE:</small> 23/07/83	
<small>APPROVED BY:</small> C.M.		

PROJECT: KPN BLOCK: BC DATA SOURCE: TRC83043

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	3.00	3.00			CLAYSTONE	CARB COAL BLOOM AND CLAYSTONE CARB INTERMIXE D:DETAILED LOG NOT OBTAINED DUE TO COMP LETELY UNCONSOLIDATED NATURE OF COAL AN D ROCK

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC83044

DATE - 12/02/84

- HISTORY -

START DATE - 07/24/83
 END DATE - / /

CONTRACTOR - OPERATOR - GCRI
 GEOLOGIST - R MAYLOR SURVEYOR -

REMARKS - NEAREST OBTAINABLE ATTITUDE 070/17S

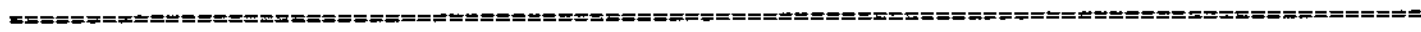
- LOCATION -

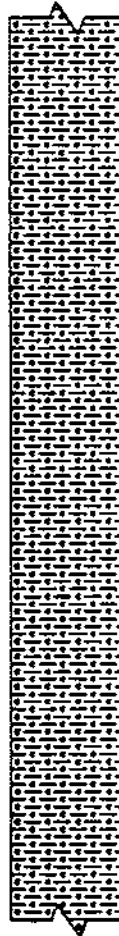
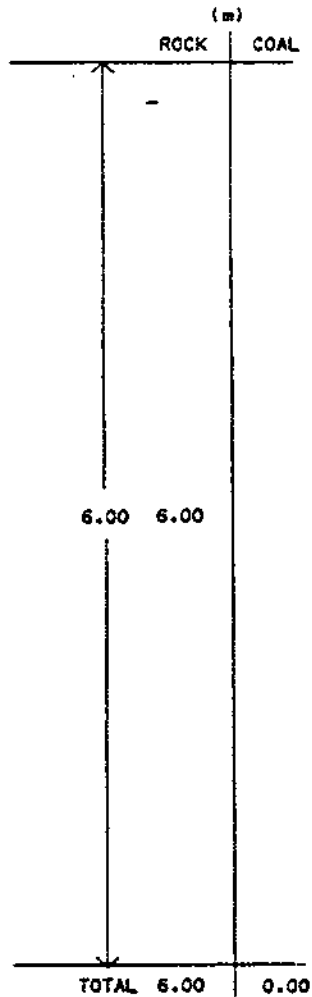
PROVINCE - BC	ZONE - 9
ELEVATION - 1510.00	NORTHING - 6345400.00
LICENCE/LEASE NUMBER - 0	EASTING - 506515.00
	LATITUDE - 571513
	LONGITUDE - 1285331

- ORIENTATION -

LENGTH - 6.40	INCLINATION - 25.0
	AZIMUTH - 140.0
SIZE WIDTH - 0.5	
SIZE HEIGHT - 1.1	
ROOF STRIKE - 0	FLOOR STRIKE - 0
ROOF DIP - 0	FLOOR DIP - 0
ROOF DIR -	FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE





GLYST & COAL, UNCON, WTRD, FROZEN GLYST
CARB DETAILED LOG NOT
OBTAINABLE

ATTITUDE OF ROOF : NEAREST ALTITUDE 070/17S
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6345400mN, 506515mE
 ELEVATION : 1510m
 MAP CARD NUMBER : J 9
 TRENCH DEPTH : 1.10m
 TRENCH WIDTH : 0.50m
 TRENCH LENGTH : 6.40m
 TRENCH BEARING : 140°
 TRENCH SLOPE : 25°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
KPN-TRC-83044

DRAWN BY: R. MAYLOR

SCALE: 1:20

LOGGED BY: R. MAYLOR

DATE: 24/07/83

APPROVED BY: C.M.

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83044

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	6.00	6.00			CLAYSTONE	CARB COAL BLOOM AND CARB CLAYSTONE INTERMIXE D:DETAILED LOG NOT OBTAINED DUE TO COMP LETELY UNCONSOLIDATED NATURE OF THE COA L AND ROCK UNCONSOLIDATED, WEATHERED, F ROZEN

* DENOTES MEASURED BCA
NEWPAGE.

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNKHTRC83045

DATE - 12/02/84

- HISTORY -

START DATE - 07/26/83
 END DATE - / /

CONTRACTOR -
 GEOLOGIST - R MAYLOR

OPERATOR - GCRI
 SURVEYOR -

REMARKS - FLOOR ATTITUDE NOT OBTAINED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1925.00

ZONE - 9
 NORTHING - 6342385.00
 EASTING - 510220.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571335
 LONGITUDE - 1284951

- ORIENTATION -

LENGTH - 3.90
 SIZE WIDTH - 0.7
 SIZE HEIGHT - 1.6

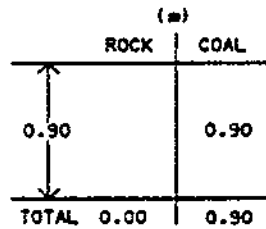
INCLINATION - 15.0
 AZIMUTH - 60.0

ROOF STRIKE - 325
 ROOF DIP - 85
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

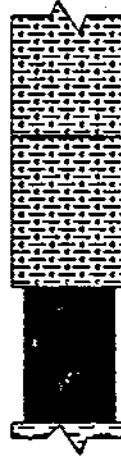




1.80+m

SA. NO.
03563

0.10+m



CLAYSTONE, CARB. MNR COAL

CLAYSTONE, WTHRED. MNR COAL, BRN

COAL: UNCON, MNR CLYST, CARB

ATTITUDE OF ROOF : 145/85S
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6342385mN, 510220mE
 ELEVATION : 1925m
 MAP CARD NUMBER : 1 8
 TRENCH DEPTH : 1.60m
 TRENCH WIDTH : 0.70m
 TRENCH LENGTH : 3.90m
 TRENCH BEARING : 060°
 TRENCH SLOPE : 15°
 TRENCH BLOCK : K.H.

GULF CANADA RESOURCES INC.
Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
KPN-TRC-83045

DRAWN BY: C. LOUIE

SCALE: 1:50

LOGGED BY: R. RAYLOR

DATE: 26/07/83

APPROVED BY: C.W.

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: KH DATA SOURCE: TRC83045

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.80	0.80			CLAYSTONE	CARB MINOR COAL;
	0.80	1.80	1.00			CLAYSTONE	BH MINOR COAL ROOF; WEATHERED
	1.80	2.70	0.90	03563		COAL	C-1.BLK UNCONSOLIDATED;MINOR CARB CLAYSTONE
	2.70	2.80	0.10			CLAYSTONE	FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION
 15/MAR/84 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC83045											
	HD1		3563	3.92	19.27	63.15	13.66	0.48	24.97		



- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC83047

DATE - 12/02/84

- HISTORY -

START DATE - 07/29/83
 END DATE - / /

CONTRACTOR - OPERATOR - GCRI
 GEOLOGIST - R MAYLOR SURVEYOR -

REMARKS - ROOF AND FLOOR ATTITUDES NOT OBTAINED

- LOCATION -

PROVINCE - BC ZONE - 9
 ELEVATION - 1715.00 NORTHING - 6344375.00
 LICENCE/LEASE NUMBER - 0 EASTING - 505506.00
 LATITUDE - 571440
 LONGITUDE - 1285432

- ORIENTATION -

LENGTH - 3.94 INCLINATION - 30.0
 SIZE WIDTH - 0.8 AZIMUTH - 110.0
 SIZE HEIGHT - 1.6
 ROOF STRIKE - 0 FLOOR STRIKE - 0
 ROOF DIP - 0 FLOOR DIP - 0
 ROOF DIR - FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

	(m)	
	ROCK	COAL
1.49	0.10	0.33
		0.25
		0.50
	0.07	0.24
TOTAL	0.17	1.32

1.00+m

SA. NO.
03567

0.07
0.30+m



OVERBURDEN

COAL: C-1, C-2, UNCON
MUDSTONE, LT BRN
COAL: UNCON, MNR MUJST

COAL: UNCON, MNR MUJST LAMINAE

MUDSTONE, FE STAIN, LT BROWN
COAL: UNCON, FROZEN MNR MUJST
CLAYSTONE, CARB.
CLAYSTONE & SILTSTONE

ATTITUDE OF ROOF : NOT OBTAINED
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6344375mN, 505506mE
 ELEVATION : 1715m
 MAP CARD NUMBER : 1 10
 TRENCH DEPTH : 1.60m
 TRENCH WIDTH : 0.80m
 TRENCH LENGTH : 3.94m
 TRENCH BEARING : 110°
 TRENCH SLOPE : 30°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
KPN-TRC-83047

DRAWN BY: G. LOUIE	SCALE: 1:50
LOGGED BY: R. MAYLOR	DATE: 29/07/83
APPROVED BY: C.W.	

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPH BLOCK: LR DATA SOURCE: TRC83047

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	1.00	1.00			OVERBURDEN	
	1.00	1.33	0.33	03567		COAL	C-1.BLK COAL C-1 & C-2 INTERMIXED;UNCONSOLIDATE D
	1.33	1.43	0.10	03567		MUDSTONE	LT.BN
	1.43	1.68	0.25	03567		COAL	BLK UNCONSOLIDATED;MINOR MUD
	1.68	2.18	0.50	03567		COAL	BLK UNCONSOLIDATED;MINOR MUDSTONE LAMINATIO NS
	2.18	2.25	0.07	03567		MUDSTONE	LT.BN IRON STAINING
	2.25	2.49	0.24	03567		COAL	BLK UNCONSOLIDATED;FROZEN;MINOR MUDSTONE LA MINATIONS
	2.49	2.56	0.07			CLAYSTONE	CARB FLOOR

* DENOTES MEASURED BCA

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPH BLOCK: LR DATA SOURCE: TRC83047

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	2.56	2.86	0.30			CLAYSTONE	LT.BN CLAYSTONE GRADING TO SILTSTONE TOWARDS BASE OF MEASUREMENT

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION
 15/MAR/84 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC83047											
	HD1		3567	7.26	33.32	43.64	15.78	0.26	17.05		



- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC83050

DATE - 12/02/84

- HISTORY -

START DATE - 08/01/83
END DATE - 08/01/83

CONTRACTOR -
GEOLOGIST - MAYLOR

OPERATOR - GCRI
SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
ELEVATION - 1693.00

ZONE - 9
NORTHING - 6344390.00
EASTING - 505435.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571440
LONGITUDE - 1285436

- ORIENTATION -

LENGTH - 6.70
SIZE WIDTH - 0.6
SIZE HEIGHT - 0.7

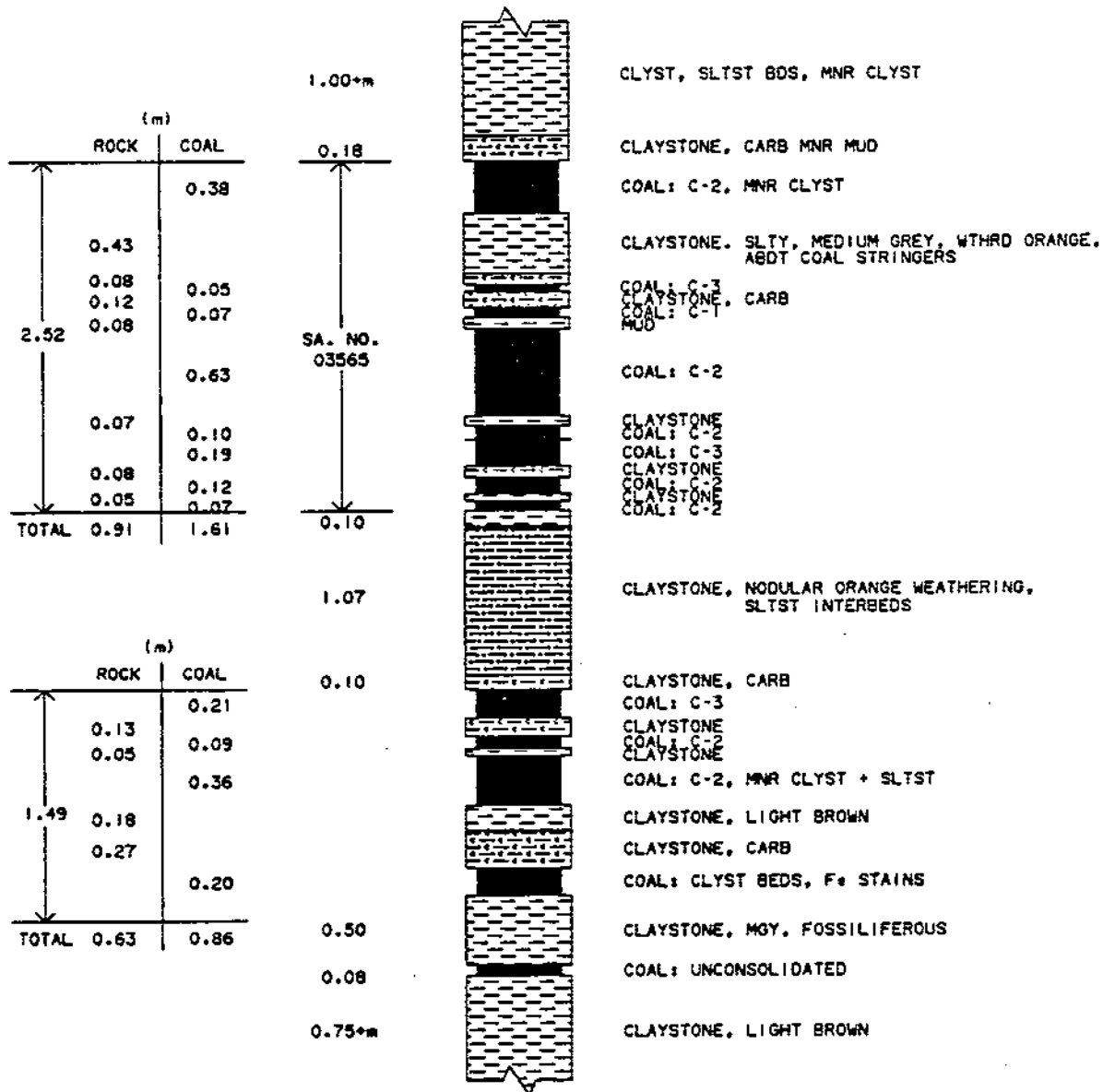
INCLINATION - 35.0
AZIMUTH - 115.0

ROOF STRIKE - 355
ROOF DIP - 55
ROOF DIR - E

FLOOR STRIKE - 355
FLOOR DIP - 35
FLOOR DIR - E

*** NOTE *** 0 INDICATES NO VALUE

=====



ATTITUDE OF ROOF : 175/55E
 ATTITUDE OF FLOOR: 175/35E
 UTM COORDINATES : 6344390mN, 505435mE
 ELEVATION : 1693m
 MAP CARD NUMBER : 1 10
 TRENCH DEPTH : 0.70m
 TRENCH WIDTH : 0.60m
 TRENCH LENGTH : 6.70m
 TRENCH BEARING : 115°
 TRENCH SLOPE : 35°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC.		
Coal Division		
CALGARY	ALBERTA	
MT. KLAPPAN COAL PROPERTY TRENCH LOG KPN-TRC-83050		
DRAWN BY: C. LOUIE	SCALE: 1:50	
LOADED BY: ROSS TAYLOR	DATE: 01/08/83	
APPROVED BY: C.W.		

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83050

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	1.00	1.00			CLYST	GY MINOR SLTST BEDS: CLAYSTONE GRAY IN COL OUR: SILTSTONE NODULAR AND ORANGE IN COL OUR: MINOR MUDSTONE: ROOF
	1.00	1.18	0.18			CLYST	CARB MINOR MUD: ROOF
	1.18	1.56	0.38	03565		COAL	C-2 MINOR CLYST
	1.56	1.99	0.43	03565		CLYST	SLTY. M. GY WEATHERS. ORANGE
	1.99	2.07	0.08	03565		CLYST	CARB ABUNDANT COAL STRINGERS
	2.07	2.12	0.05	03565		COAL	C-3
	2.12	2.24	0.12	03565		CLYST	CARB COAL STRINGERS ABUNDANT AT. BASE
	2.24	2.31	0.07	03565		COAL	C-1 MINOR SLTST
	2.31	2.39	0.08	03565		MUDSTONE	M. GY

* DENOTES MEASURED BCA

84/03/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83050

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	2.39	3.02	0.63	03565		COAL	C-2
	3.02	3.09	0.07	03565		CLYST	COAL STRINGERS TOWARDS. BASE
	3.09	3.19	0.10	03565		COAL	C-2
	3.19	3.38	0.19	03565		COAL	C-3
	3.38	3.46	0.08	03565		CLYST	COAL STRINGERS
	3.46	3.58	0.12	03565		COAL	C-2
	3.58	3.63	0.05	03565		CLYST	FE STAIN
	3.63	3.70	0.07	03565		COAL	C-2
	3.70	3.80	0.10	03565		CLYST	MINOR COAL
	3.80	4.87	1.07			CLYST	NODULAR ORANGE WEATHERING AND SILTSTONE INTERBEDS
	4.87	4.97	0.10			CLYST	CARB

* DENOTES MEASURED BCA

GULF CANADA RESOURCES INC. - COAL DIVISION
 15/MAR/84 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC83050											
	HD1		3565	5.13	30.74	52.75	11.38	0.35	19.46		



- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC83053

DATE - 12/02/84

- HISTORY -

START DATE - 07/30/83
 END DATE - 07/30/83

CONTRACTOR -
 GEOLOGIST - MAYLOR

OPERATOR - GCRI
 SURVEYOR -

REMARKS -

- LOCATION -

PROVINCE - BC
 ELEVATION - 1670.00

ZONE - 9
 NORTHING - 6344515.00
 EASTING - 505390.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571444
 LONGITUDE - 1285438

- ORIENTATION -

LENGTH - 5.10
 SIZE WIDTH - 0.5
 SIZE HEIGHT - 0.6

INCLINATION - 35.0
 AZIMUTH - 90.0

ROOF STRIKE - 325
 ROOF DIP - 20
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

(m)		
	ROCK	COAL
0.35	0.05	0.01
TOTAL	0.05	0.20
		0.30

0.25+m

0.10
0.05



OVERBURDEN

CLAYSTONE, CARB
MUDSTONE
COAL: UNCON, MNR CARB CYST
MUDSTONE
COAL: CLYST INTERBEDS, UNCON

CLAYSTONE, LT BRN

ATTITUDE OF ROOF : 145/20S
 ATTITUDE OF FLOOR: NOT OBTAINED
 UTM COORDINATES : 6344515mN, 505390mE
 ELEVATION : 1670m
 MAP CARD NUMBER : 1 10
 TRENCH DEPTH : 0.6m
 TRENCH WIDTH : 0.5m
 TRENCH LENGTH : 5.1m
 TRENCH BEARING : 090°
 TRENCH SLOPE : 35°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC.
Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
KPN-TRC-83053

DRAWN BY: C. LOUIE	SCALE: 1:50
LOGGED BY: ROSS MAYLOR	DATE: 02/08/83
APPROVED BY: C.W.	

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83053

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	1.60	1.60			OVERBURDEN	
	1.60	1.70	0.10			CLYST	CARB
	1.70	1.75	0.05			MUDSTONE	ROOF
	1.75	1.85	0.10			COAL	UNCONSOLIDATED - MINOR CARB CLYST
	1.85	1.90	0.05			MUDSTONE	FLOOR
	1.90	2.16	0.26			CLYST	CARB UNCONSOL
	2.16	2.66	0.50			CLYST	LT. BN

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC83092:

DATE - 12/02/84

- HISTORY -

START DATE - 07/25/83
END DATE - 07/25/83

CONTRACTOR -
GEOLOGIST - JENNER

OPERATOR - GCRI
SURVEYOR -

REMARKS - RE-TRENCHED LAST YEARS TRC82042 SEAM OVERTURNED

- LOCATION -

PROVINCE - BC
ELEVATION - 1820.00

ZONE - 9
NORTHING - 6344396.00
EASTING - 506160.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571440
LONGITUDE - 1285353

- ORIENTATION -

LENGTH - 5.10
SIZE WIDTH - 1.5
SIZE HEIGHT - 1.3

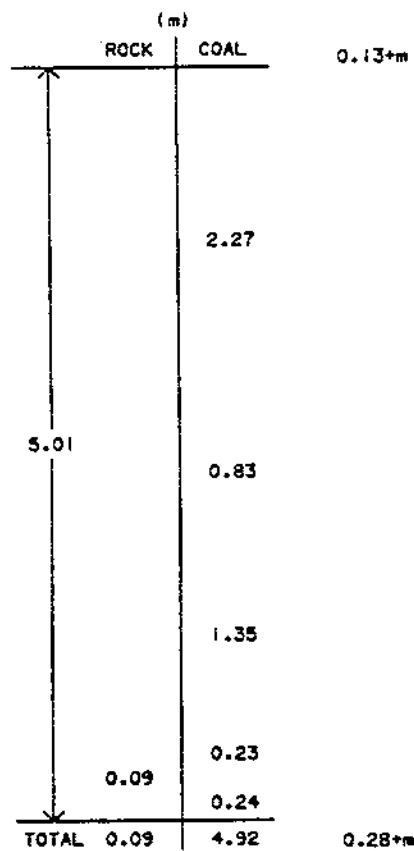
INCLINATION - 17.0
AZIMUTH - 34.0

ROOF STRIKE - 321
ROOF DIP - 63
ROOF DIR - S

FLOOR STRIKE - 317
FLOOR DIP - 40
FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====



CLAYSTONE, WEATHERED, FLOOR

COAL: C-2, C-1 BANDS, MNR FE STAIN

COAL: WEATHERED, UNCON. MNR CARB CLYST

COAL: C-2

COAL: WEATHERED, UNCONSOLIDATED
CLAYSTONE, UNCONSOLIDATED
COAL:

CLAYSTONE, SILTSTONE INTERBEDS

* OVERTURNED SEAM

ATTITUDE OF ROOF : 141/63SW
 ATTITUDE OF FLOOR: 137/40SW
 UTM COORDINATES : 6344396mN, 506160mE
 ELEVATION : 1820m
 MAP CARD NUMBER : 1 9
 TRENCH DEPTH : 1.32m
 TRENCH WIDTH : 1.48m
 TRENCH LENGTH : 5.10m
 TRENCH BEARING : 055°
 TRENCH SLOPE : 17°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC.
Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
KPN-TRC-83092

DRAWN BY:

SCALE: 1:50

LOGGED BY: K. JENNER

DATE:

APPROVED BY: C.M.

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83092

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.28	0.28			CLAYSTONE	INTERBED. SILTSTONE (ROOF)
	0.28	0.52	0.24			COAL	
	0.52	0.61	0.09			CLAYSTONE	UNCONSOLIDATED.
	0.61	0.84	0.23			COAL	WEATHERED; UNCONSOLIDATED
	0.84	2.19	1.35			COAL	C-2
	2.19	3.02	0.83			COAL	WEATHERED; UNCONSOLIDATED MINOR CARBONACEOUS CLAYSTONE
	3.02	5.29	2.27			COAL	C-2 C-1 BANDS, MINOR IRON STAIN
	5.29	5.42	0.13			CLAYSTONE	WEATHERED; (FLOOR) OVERTURNED

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC83093

DATE - 12/02/84

- HISTORY -

START DATE - 07/01/83
END DATE - 07/01/83

CONTRACTOR -
GEOLOGIST - JENNER

OPERATOR - GCRI
SURVEYOR -

REMARKS - RE-TRENCHED LAST YEARS TRC82043

- LOCATION -

PROVINCE - BC
ELEVATION - 1825.00

ZONE - 9
NORTHING - 6344355.00
EASTING - 505714.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 571439
LONGITUDE - 1285419

- ORIENTATION -

LENGTH - 7.20

INCLINATION - 24.0
AZIMUTH - 147.0

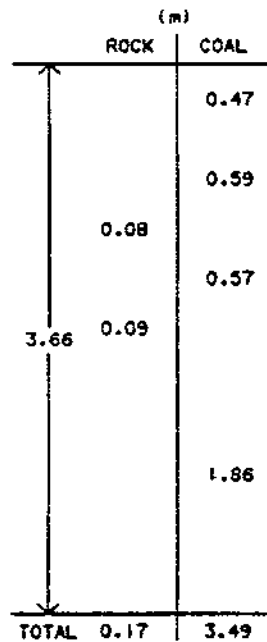
SIZE WIDTH - 2.4
SIZE HEIGHT - 1.6

ROOF STRIKE - 229
ROOF DIP - 11
ROOF DIR - S

FLOOR STRIKE - 230
FLOOR DIP - 10
FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====



0.42±m



CLAYSTONE, WEATHERED, UNCON, ROOF

COAL: WEATHERED, UNCONSOLIDATED

COAL: C-2, MNR WEATHERED CLYST

CLAYSTONE

COAL: C-2

CLAYSTONE, WEATHERED

COAL: C-2, C-1 BANDS, FE STAIN, C-3 BANDS

0.27±m

CLAYSTONE, PLANT FOSSILS, FLOOR

ATTITUDE OF ROOF : 049/11SE
 ATTITUDE OF FLOOR: 050/10SE
 UTM COORDINATES : 6344355mN, 505716mE
 ELEVATION : 1825m
 MAP CARD NUMBER : 1 10
 TRENCH DEPTH : 1.59m
 TRENCH WIDTH : 2.40m
 TRENCH LENGTH : 7.20m
 TRENCH BEARING : 147°
 TRENCH SLOPE : 24°
 TRENCH BLOCK : L.R.

GULF CANADA RESOURCES INC.
Coal Division

CALGARY

ALBERTA



MT. KLAPPAN COAL PROPERTY

TRENCH LOG
KPN-TRC-83093

DRAWN BY:

SCALE: 1:50

LOGGED BY: K. JENNER

DATE:

APPROVED BY: C.W.

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC83093

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	0.00	0.42	0.42			CLAYSTONE	WEATHERED; UNCONSOLIDATED ROOF
	0.42	0.89	0.47			COAL	WEATHERED; UNCONSOLIDATED
	0.89	1.48	0.59			COAL	C-2 MINOR WEATHERED CLAYSTONE
	1.48	1.56	0.08			CLAYSTONE	
	1.56	2.13	0.57			COAL	C-2
	2.13	2.22	0.09			CLAYSTONE	WEATHERED;
	2.22	4.08	1.86			COAL	C-2 C-1 BANDS, IRON STAIN, C-3 BANDS
	4.08	4.35	0.27			CLAYSTONE	PLANT FOSSILS FLOOR

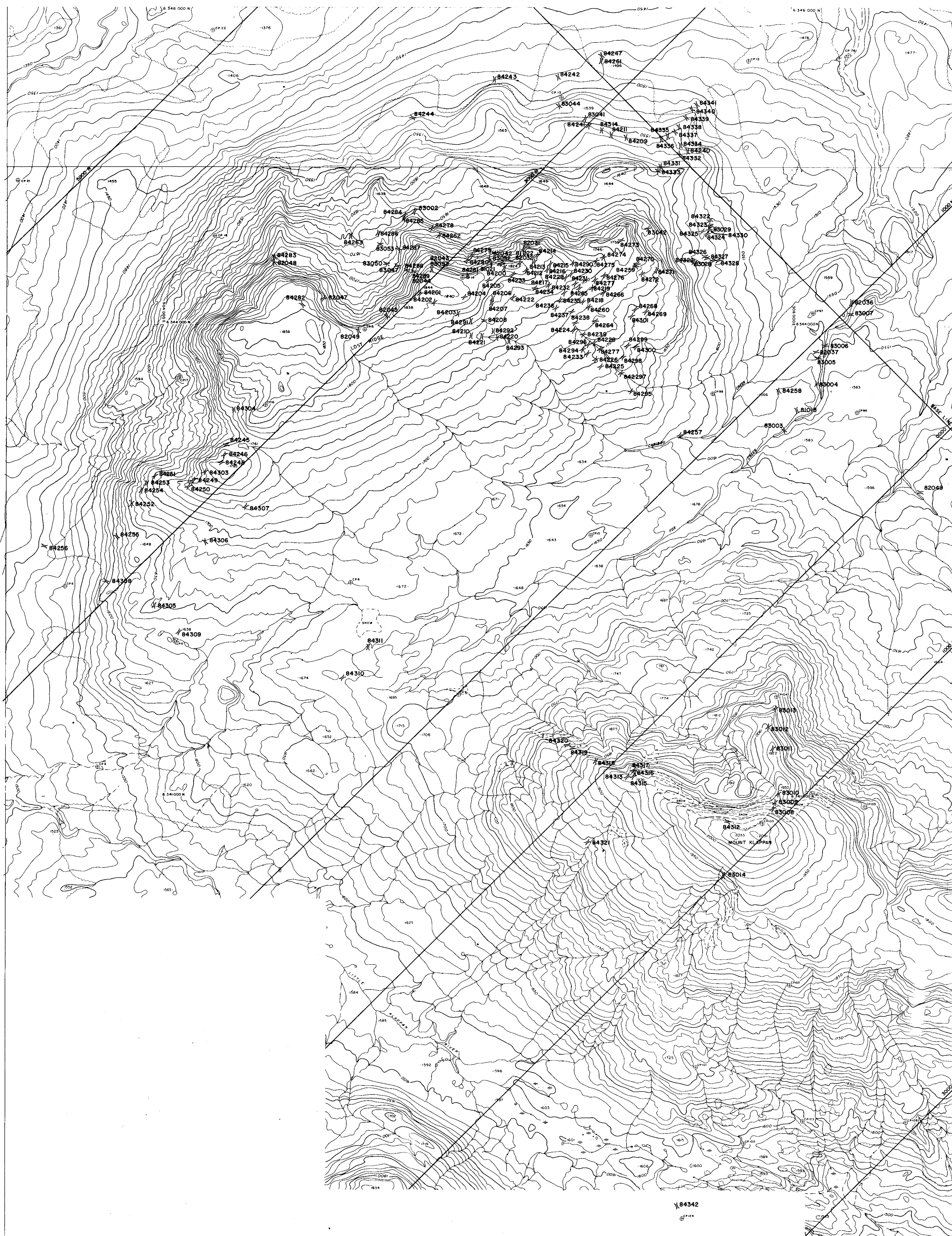
-854- NOW IN CONTACT WITH SYSTEM 2000 -
 ***** GEX - 03.01 - COCC.COAL/21
 -855- NO LONGER IN CONTACT WITH SYSTEM 2000 -

ALLOCATED.

LOST-FOX AREA

TRENCH LOCATION MAPS

1:10 000



LEGEND

BUILDING	[Symbol]
ROAD, HARD SURFACE	[Symbol]
LOOSE SURFACE	[Symbol]
CART TRACK	[Symbol]
TRAIL	[Symbol]
RAILROAD BED	[Symbol]
RIVER	[Symbol]
STREAM, DEFINITE	[Symbol]
APPROXIMATE	[Symbol]
SPLIT	[Symbol]
LAKE	[Symbol]
WATER LEVEL	[Symbol]
SWAMP	[Symbol]
BEAVER DAM	[Symbol]
TREE LINE	[Symbol]
CUT LINE	[Symbol]
CONTOURS, INDEX	[Symbol]
INTERMEDIATE	[Symbol]
DEPRESSION	[Symbol]
APPROXIMATE	[Symbol]
SPOT ELEVATION	[Symbol]
FIELD CONTROL POINT	[Symbol]
COAL LICENCE	[Symbol]

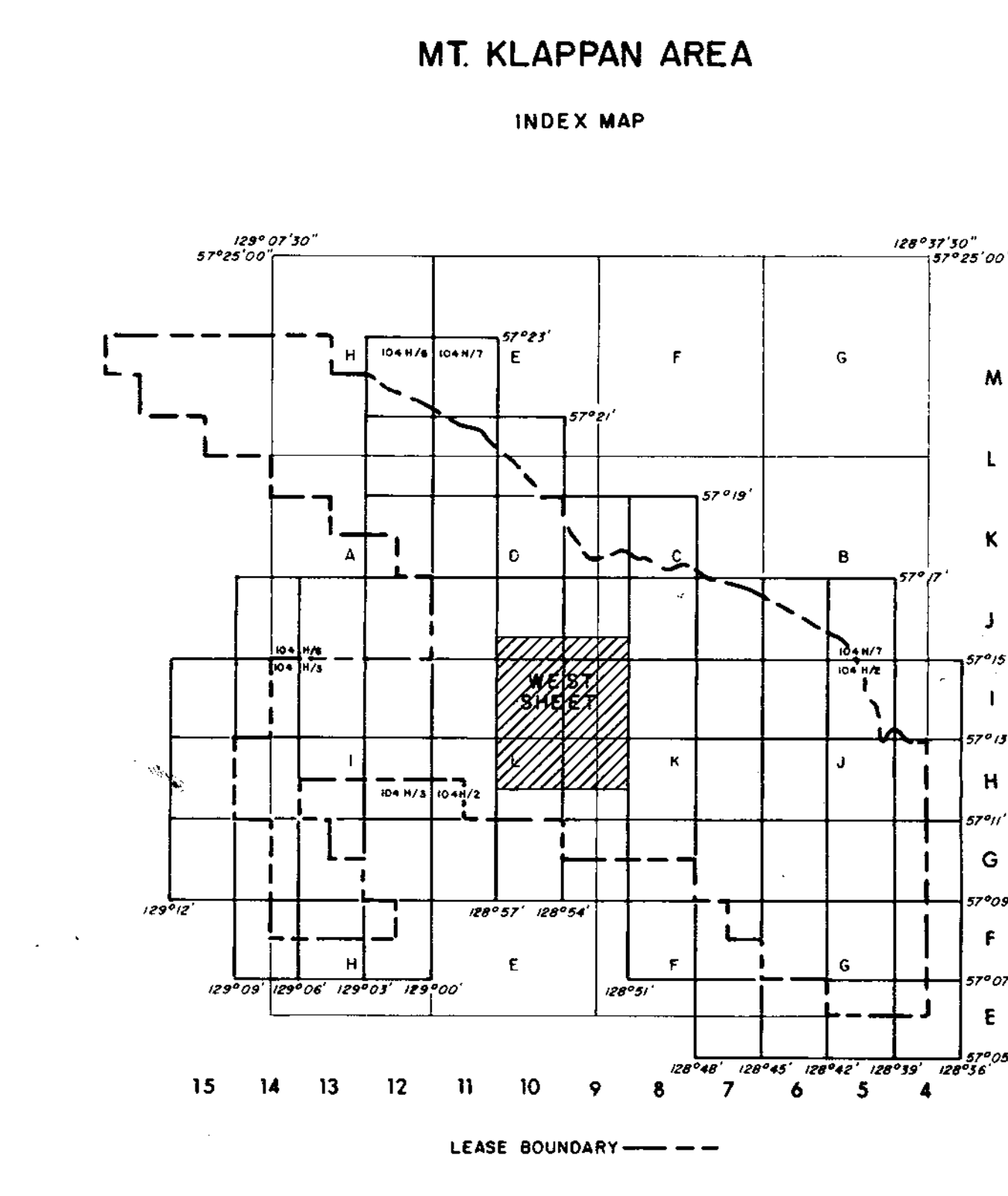
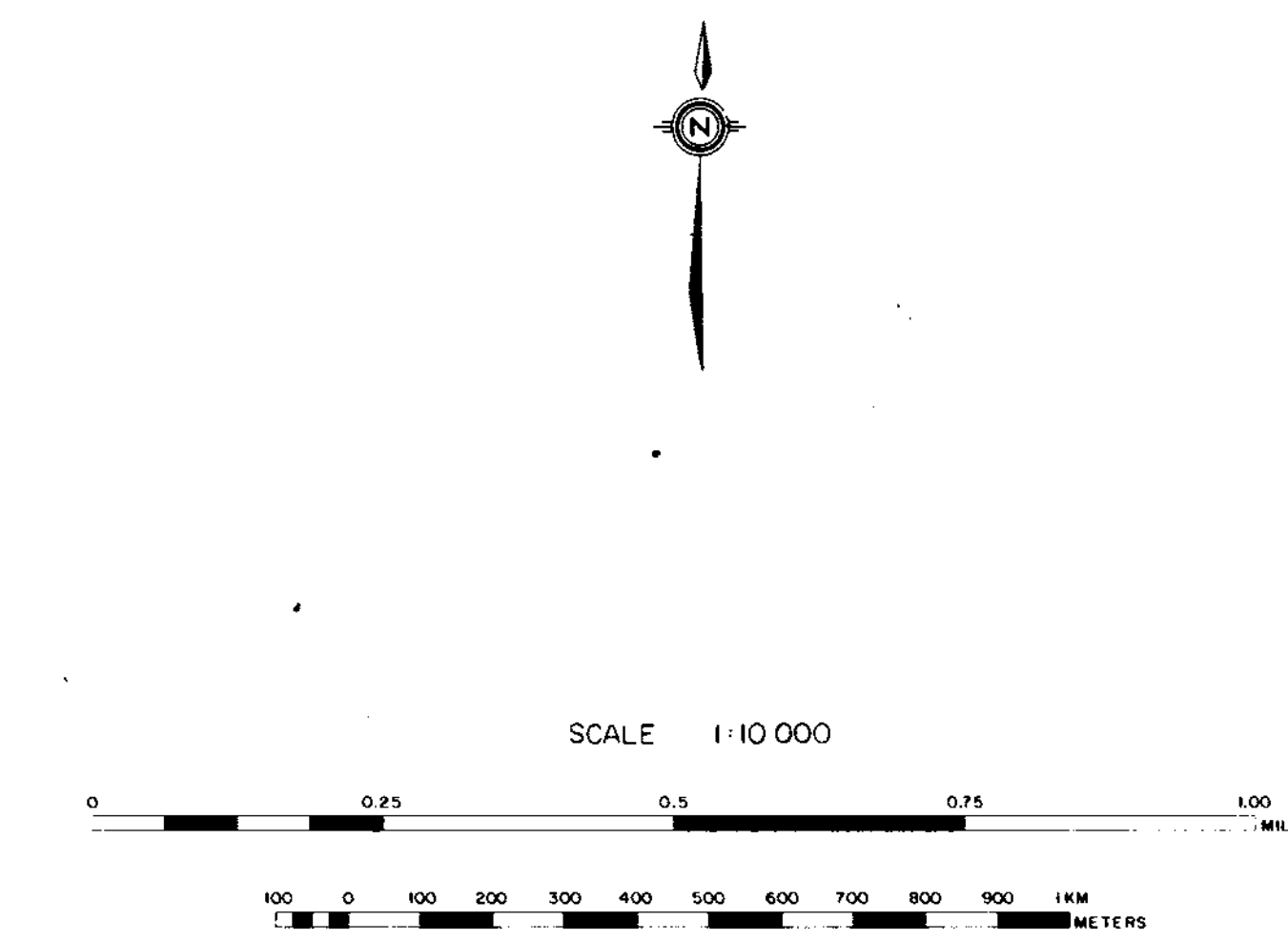
NOTES

CONTOUR INTERVAL: 10 METERS

SURVEY CONTROL: TAKEN FROM EXISTING PHOTO IDENTIFIABLE GOVERNMENT SURVEY MONUMENTS AND N.T.S. MAPS. MAPPING IS BASED ON UNIVERSAL TRANSVERSE MERCATOR GRID AND GEODETIC DATUM.

RAILROAD BED LOCATION BASED ON DATA SUPPLIED BY B.C. RAIL.

COMPILED BY WESTERN PHOTOGRAMMETRY, A DIVISION OF UNDERWOOD McLELLAN LTD., FROM FEDERAL GOVERNMENT AERIAL PHOTOGRAPHY FLOWN IN AUGUST/67 AT A SCALE OF 1:60,000 (APPROXIMATE).



709

66-Mount Klappan 85(2)A

GULF CANADA RESOURCES INC.		
CALGARY	ALBERTA	
MOUNT KLAPPAN COAL PROPERTY 1984 LOST-FOX AREA TRENCH LOCATION MAP WEST SHEET		
PREPARED BY: V.L.D.	DATE: JAN 1985	DRAWING No. KPN84LF-C03

MOUNT KLAPPAN COAL PROJECT
LOST - FOX AREA
GEOLOGICAL REPORT
1984

APPENDIX VI

VOLUME II

1984 TRENCH DATA



GULF CANADA RESOURCES INC.
COAL DIVISION

709

GR-Mount Klappan 84(3)A

APPENDIX VI

VOLUME II

**LOST-FOX AREA
1984 TRENCH DATA**

LOST-FOX AREA

1984 TRENCH DATA

APPENDIX VI

VOLUME II

**LOST FOX AREA
1984 TRENCH DATA**

For each trench where available:

Data Source Summary

Descriptive Log

Stratigraphic Log

Coal Quality Analyses

1:10 000 Trench Location Maps

LOST-FOX AREA
1984 TRENCH - SEAM SUMMARY

Filename: APP6VOL2

TRENCH	SEAM	TRENCH	SEAM	TRENCH	SEAM
* KPNLRTCB4200	I	KPNLRTCB4248	?	KPNLRTCB4296	I
* KPNLRTCB4201	I	KPNLRTCB4249	?	* KPNLRTCB4297	I
* KPNLRTCB4202	I	KPNLRTCB4250	?	* KPNLRTCB4298	K
* KPNLRTCB4203	I	KPNLRTCB4251	?	* KPNLRTCB4299	M
KPNLRTCB4204	?	KPNLRTCB4252	?	KPNLRTCB4300	N
KPNLRTCB4205	I	KPNLRTCB4253	?	KPNLRTCB4301	D
KPNLRTCB4206	I	KPNLRTCB4254	?	KPNLRTCB4302	?
KPNLRTCB4207	I	KPNLRTCB4255	?	KPNLRTCB4303	?
KPNLRTCB4208	I	KPNLRTCB4256	?	KPNLRTCB4304	?
KPNLRTCB4209	Gu	KPNLRTCB4257	?	KPNLRTCB4305	?
* KPNLRTCB4210	H	KPNLRTCB4258	?	KPNLRTCB4306	?
KPNLRTCB4211	Gu	KPNLRTCB4259	P	KPNLRTCB4307	?
* KPNLRTCB4212	J	KPNLRTCB4260	K	KPNLRTCB4308	?
* KPNLRTCB4213	L	KPNLRTCB4261	I	KPNLRTCB4309	?
KPNLRTCB4214	M	KPNLRTCB4262	I	KPNLRTCB4310	?
* KPNLRTCB4215	M	KPNLRTCB4263	C	KPNLRTCB4311	?
* KPNLRTCB4216	L	KPNLRTCB4264	K	KPNLRTCB4312	?
* KPNLRTCB4217	J	* KPNLRTCB4265	L	KPNLRTCB4313	?
* KPNLRTCB4218	K	* KPNLRTCB4266	N	KPNLRTCB4314	6J
KPNLRTCB4219	M	* KPNLRTCB4267	P	KPNLRTCB4315	?
* KPNLRTCB4220	H	KPNLRTCB4268	P	KPNLRTCB4316	?
* KPNLRTCB4221	H	* KPNLRTCB4269	P	KPNLRTCB4317	?
KPNLRTCB4222	I	KPNLRTCB4270	P	KPNLRTCB4318	?
* KPNLRTCB4223	I	KPNLRTCB4271	P	KPNLRTCB4319	?
* KPNLRTCB4224	I	* KPNLRTCB4272	P	KPNLRTCB4320	?
* KPNLRTCB4225	I	* KPNLRTCB4273	P	KPNLRTCB4321	?
* KPNLRTCB4226	I	* KPNLRTCB4274	P	KPNLRTCB4322	N
* KPNLRTCB4227	J	KPNLRTCB4275	P	KPNLRTCB4323	N
* KPNLRTCB4228	J	KPNLRTCB4276	D	KPNLRTCB4324	N
KPNLRTCB4229	L	KPNLRTCB4277	N	KPNLRTCB4325	N
KPNLRTCB4230	M	KPNLRTCB4278	I	KPNLRTCB4326	D
KPNLRTCB4231	L	KPNLRTCB4279	I	KPNLRTCB4327	D
KPNLRTCB4232	J	KPNLRTCB4280	H	KPNLRTCB4328	D
* KPNLRTCB4233	I	* KPNLRTCB4281	I	KPNLRTCB4329	?
KPNLRTCB4234	I	KPNLRTCB4282	E	KPNLRTCB4330	N
* KPNLRTCB4235	I	* KPNLRTCB4283	C	KPNLRTCB4331	I
KPNLRTCB4236	I	KPNLRTCB4284	I	KPNLRTCB4332	I
* KPNLRTCB4237	I	KPNLRTCB4285	I	KPNLRTCB4333	I
KPNLRTCB4238	I	KPNLRTCB4286	D	KPNLRTCB4334	H
KPNLRTCB4239	I	KPNLRTCB4287	?	KPNLRTCB4335	Gu
* KPNLRTCB4240	I	* KPNLRTCB4288	Gu	KPNLRTCB4336	Gu
KPNLRTCB4241	6J	* KPNLRTCB4289	H	KPNLRTCB4337	Gu
KPNLRTCB4242	E	* KPNLRTCB4290	N	KPNLRTCB4338	Gu
KPNLRTCB4243	F	KPNLRTCB4291	I	* KPNLRTCB4339	Gu
KPNLRTCB4244	I	KPNLRTCB4292	I	KPNLRTCB4340	Gu
KPNLRTCB4245	?	KPNLRTCB4293	H	KPNLRTCB4341	Gu
KPNLRTCB4246	?	KPNLRTCB4294	I	KPNLRTCB4342	?
KPNLRTCB4247	I	* KPNLRTCB4295	I		

* : Data Point Used in Resource Calculations

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84200

DATE - 01/08/85

- HISTORY -

START DATE - 07/29/84
 END DATE - 07/29/84

CONTRACTOR - ELIAS EXCAV. OPERATOR - GCRI
 GEOLOGIST - B. GLOVER SURVEYOR -

REMARKS - SEAM OVERTURNED; LOGGED FROM STRATIGRAPHIC ROOF; F
 ROZEN; POOR BEDDING IN COAL; VALID DATA POINT; COA
 L/COAL+ROCK 4.32/4.49; SAMPLE NO. 1339

- LOCATION -

PROVINCE - BC	ZONE - 9
ELEVATION - 1819.00	NORTHING - 6344374.00
LICENCE/LEASE NUMBER - 7151	EASTING - 506167.00
	LATITUDE - 571439
	LONGITUDE - 1285352

- ORIENTATION -

LENGTH - 11.00	INCLINATION - 14.0
	AZIMUTH - 5.0
SIZE WIDTH - 0.9	
SIZE HEIGHT - 1.8	
ROOF STRIKE - 299	FLOOR STRIKE - 314
ROOF DIP - 61	FLOOR DIP - 75
ROOF DIR - S	FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84200

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.50	0.50			SILTSTONE	M.GY JOINT ATTITUDE 307/80E
*	0.50	0.87	0.37			MUDSTONE	CARB.DK.GY PLANT FOSSILS
*	0.87	1.26	0.39	01339	I	COAL	C-2
*	1.26	1.29	0.03	01339	I	MUDSTONE	CARB.DK.GY
*	1.29	1.35	0.06	01339	I	COAL	C-2 NO BEDDING.
*	1.35	1.37	0.02	01339	I	CLAYSTONE	LT.BN SOFT
*	1.37	1.83	0.46	01339	I	COAL	C-2
*	1.83	1.98	0.15	01339	I	COAL	C-3' NO BEDDING
*	1.98	2.82	0.84	01339	I	COAL	C-2 SLIGHTLY WEATHERED.
*	2.82	2.86	0.04	01339	I	CLAYSTONE	LT.GY SOFT

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84200

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.86	3.17	0.31	01339	I	COAL	C-3 MINOR IRON STAINING; SLIGHTLY WEATHERED
*	3.17	3.19	0.02	01339	I	CLAYSTONE	LT.GY
*	3.19	3.32	0.13	01339	I	COAL	C-2 MINOR WEATHERING.
*	3.32	3.34	0.02	01339	I	CLAYSTONE	WEATH.BN RED COLOUR MODIFIER
*	3.34	3.61	0.27	01339	I	COAL	C-3 NO BEDDING
*	3.61	4.60	0.99	01339	I	COAL	C-2
*	4.60	4.68	0.08	01339	I	COAL	C-1
*	4.68	4.79	0.11	01339	I	COAL	C-2
*	4.79	4.86	0.07	01339	I	COAL	C-1

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84200

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.86	4.88	0.02	01339	I	CLAYSTONE	CARB. DK. GY
*	4.88	5.01	0.13	01339	I	COAL	C-1
*	5.01	5.14	0.13	01339	I	COAL	C-3 WEATHERED.
*	5.14	5.26	0.12	01339	I	COAL	C-2
*	5.26	5.34	0.08	01339	I	COAL	C-3 NO BEDDING.
*	5.34	5.46	0.12			MUDSTONE	DK. BN MODERATELY CARBONACEOUS
*	5.46	5.60	0.14			MUDSTONE	M. GY INTERBEDDED SILTSTONE; FRACTURED
*	5.60	5.63	0.03			MUDSTONE	INTERBEDDED SILTSTONE; WEATHERED; IRON STAINING
*	5.63	6.63	1.00			SILTSTONE	INTERBEDDED MUDSTONE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84200 SEAM : 1 INTERVAL(M) : 0.87 - 5.34 ELEVATION(M) : 1819.0
 GEOLOGIST : B. GLOVER DATE : DEC 20/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALY AL MJ/KG		
	0.87	↑		0.39													
				1.45													
				0.31	100.0	1339	1339	4.32 / 0.16									
				1.52				4.47									
	5.34	↓		0.48													

PLOT 1 16.05.27 THUR 20 DEC, 1984 JOB-T5TG60 GULF CANAD 0155PLR 9.0

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84201

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	1.68	1.68			SILTSTONE	LT.GY.LAM WEATHERED; IRON STAINED; COAL BEDDING FRACTURE PROMINANT; MINOR MUDSTONE LAMINAE (<5.0MM)
*	1.68	1.69	0.01			MUDSTONE	CARB.DK.GY
*	1.69	1.72	0.03	01325	I	COAL	C-3
*	1.72	1.74	0.02	01325	I	MUDSTONE	CARB.DK.GY INTERBEDDED COAL LAMINAE
*	1.74	1.83	0.09	01325	I	COAL	C-2 INTERBEDDED MUDSTONE
*	1.83	1.85	0.02	01325	I	COAL	C-1
*	1.85	2.43	0.58	01325	I	COAL	C-4
*	2.43	2.45	0.02	01325	I	COAL	C-1

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84201

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.45	2.50	0.05	01325	I	COAL	C-2 INTERBEDDED MUDSTONE
*	2.50	2.58	0.08	01325	I	MUDSTONE	DK.GY INTERBEDDED COAL LENSES.
*	2.58	2.64	0.06	01325	I	COAL	C-3
*	2.64	2.67	0.03	01325	I	MUDSTONE	CARB.GY INTERBEDDED COAL LENSES
*	2.67	2.71	0.04	01325	I	COAL	C-3 INTERBEDDED MUDSTONE LAMINAE
*	2.71	2.75	0.04	01325	I	COAL	C-2
*	2.75	2.83	0.08	01325	I	COAL	C-1
*	2.83	2.95	0.12	01325	I	COAL	C-2
*	2.95	3.11	0.16	01325	I	COAL	C-1
*	3.11	3.13	0.02	01325	I	MUDSTONE	CARB.GY MINOR COAL LENSES

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84201

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.13	3.28	0.15	01325	I	COAL	C-3
*	3.28	3.34	0.06	01325	I	COAL	C-2
*	3.34	3.76	0.42	01325	I	COAL	C-3 INTERBEDDED MUDSTONE
*	3.76	3.82	0.06	01325	I	COAL	C-2
*	3.82	3.89	0.07	01325	I	SILTSTONE	LT. GY HARD; FRACTURED
*	3.89	3.96	0.07	01325	I	COAL	C-3 INTERBEDDED MUDSTONE
*	3.96	4.01	0.05	01325	I	SILTSTONE	DK. GY WEATHERED
*	4.01	4.15	0.14	01325	I	COAL	C-4
*	4.15	4.27	0.12	01325	I	COAL	C-3
*	4.27	4.35	0.08	01325	I	SILTSTONE	DK. GY MODERATELY HARD; SHOWS BEDDING FRACTURE

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84201

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.35	4.43	0.08	01325	I	COAL	C-3
*	4.43	4.45	0.02	01325	I	MUDSTONE	CARB.DK.GY WEATHERED; MINOR COAL LAMINAE
*	4.45	4.50	0.05	01325	I	MUDSTONE	CARB.DK.GY WEATHERED; INTERBEDDED COAL LAMINAE
*	4.50	4.61	0.11	01325	I	COAL	C-3 WEATHERED
*	4.61	4.66	0.05	01325	I	SILTSTONE	DK.GY INTERBEDDED COAL LAMINAE
*	4.66	4.69	0.03	01325	I	COAL	C-2
*	4.69	5.09	0.40	01325	I	COAL	C-3
*	5.09	5.22	0.13	01325	I	COAL	C-4 INTERBEDDED MUDSTONE LAMINAE
*	5.22	5.28	0.06	01325	I	MUDSTONE	DK.GY INTERBEDDED COAL LAMINAE
*	5.28	5.37	0.09	01325	I	COAL	C-4 MINOR MUDSTONE LAMINAE

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 5

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84201

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	5.37	5.62	0.25	01325	I	COAL	C-2
*	5.62	5.66	0.04	01325	I	MUDSTONE	DK. GY WEATHERED; INTERBEDDED COAL LAMINAE
*	5.66	5.73	0.07	01325	I	COAL	C-1
*	5.73	5.74	0.01	01325	I	MUDSTONE	CARB. DK. GY
*	5.74	5.89	0.15	01325	I	COAL	C-2
*	5.89	5.97	0.08	01325	I	COAL	C-3 MINOR MUDSTONE LAMINAE
*	5.97	6.07	0.10	01325	I	COAL	C-2
*	6.07	6.13	0.06	01325	I	COAL	C-3 MINOR MUDSTONE LAMINAE
*	6.13	6.17	0.04	01325	I	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84201

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	6.17	6.22	0.05	01325	I	SILTSTONE	LT.GY IRON STAINED; WEATHERED; SOME COAL LAMINAE
*	6.22	6.36	0.14	01325	I	COAL	C-2 IRON STAINED; WEATHERED
*	6.36	6.39	0.03	01325	I	MUDSTONE	M.BN IRON STAINED; WEATHERED
*	6.39	6.48	0.09	01325	I	COAL	C-2 IRON STAINED; WEATHERED
*	6.48	6.49	0.01	01325	I	MUDSTONE	DK.GY SOFT; MINOR COAL LAMINAE
*	6.49	6.55	0.06	01325	I	COAL	C-3 MINOR MUDSTONE LAMINAE
*	6.55	6.64	0.09	01325	I	COAL	C-2
*	6.64	6.67	0.03	01325	I	MUDSTONE	DK.GY MINOR COAL LAMINAE
*	6.67	6.74	0.07	01325	I	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84201

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	6.74	6.77	0.03	01325	I	COAL	C-1 SOME IRON STAINING
*	6.77	6.81	0.04	01325	I	COAL	C-2
*	6.81	6.87	0.06	01325	I	COAL	C-3 INTERBEDDED COAL (C-2) LAMINAE
*	6.87	6.89	0.02	01325	I	MUDSTONE	DK.GY SOFT
*	6.89	7.52	0.63	01325	I	COAL	C-3 MINOR MUDSTONE LAMINAE
*	7.52	7.97	0.45	01325	I	COAL	C-1 SOME MINOR C-2 LAMINAE
*	7.97	8.37	0.40	01325	I	COAL	C-2 WEATHERED
*	8.37	8.70	0.33			MUDSTONE	DK.BLK
*	8.70	9.10	0.40			SILTSTONE	DK.GY IRON STAINED; WEATHERED; FRACTURED
*	9.10	9.16	0.06			MUDSTONE	LT.BN HARD; IRON STAINED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 8

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84201

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH INTRVAL TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	9.16	9.56	0.40			SILTSTONE	

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84-201 SEAM : 1 INTERVAL(M) : 1.69 ELEVATION(M) : 1841.5

GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. <small>1 2 3 4 5 6</small>	DRILL DEPTH <small>METRES</small>	COAL SEAM LOG	INTERVAL <small>METRES</small>		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALV AL MJ/KG		
		↑															
	1.69			0.76													
			0.08	2.08													
				0.44	100.0	1325	1325	5.46 / 0.72		7.20	13.00	12.30	87.50	2.37	25.06		
			0.02	0.69				6.68									
			0.37	0.37													
			3.33	0.28													
	4.43		3.02	0.04													
		↓															

PLOT 1 14.25.04 FRI 21 DEC, 1984 JOB-TST060 GULF CANADA DTSSPLR 9.0

GULF CANADA RESOURCES INC.

COAL DIVISION
MOUNT KLAPPAN PROJECT

SEAM DETAIL

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84201 SEAM : 1 INTERVAL(M) : 8.37 ELEVATION(M) : 1841.5
 GEOLOGIST : B. GLOVER DATE : JAN 16/85 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	4.43	↑		0.07													
				0.11													
				0.56													
				0.34													
				0.43													
				0.14													
				0.09	100.0	1325	1325										
				0.13													
				0.20													
				1.48													
	8.37	↓															

DISSPLA 9.2

GULF CANADA LHT

JOB-TSTCEGO

08.12.27 WED 16 JAN, 1985

PLOT 1

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

DATA SOURCE		SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84201												
		HD1	I	1325	7.20	13.00	67.50	12.30	0.37	25.06		

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4202

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	1.10	1.10			SILTSTONE	GY WEATHERED; IRON STAINED; HARD; FRACTURE D ALONG BEDDING
*	1.10	1.18	0.08			CLAYSTONE	WEATH.GY SOFT; PLIABLE; SLIGHTLY CARBONACEOUS
*	1.18	1.25	0.07	01326	I	COAL	C-3 MUDSTONE STRINGERS; SOFT
*	1.25	1.28	0.03	01326	I	MUDSTONE	CARB.DK.GY SOFT
*	1.28	1.33	0.05	01326	I	COAL	C-4 SOFT; BROWN MUDSTONE STRINGERS
*	1.33	1.64	0.31	01326	I	COAL	C-4 SOFT; WEATHERED; IRON STAINED; MUDSTONE LAMINAE
*	1.64	1.69	0.05	01326	I	COAL	C-3 WEATHERED
*	1.69	1.76	0.07	01326	I	COAL	C-4 WEATHERED; IRON STAINED; MUDSTONE LAMIN AE
*	1.76	1.80	0.04	01326	I	COAL	C-3 WEATHERED; IRON STAINED; SOFT

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84202

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.80	1.85	0.05	01326	I	COAL	C-4 SOFT; MUDSTONE LAMINAE; IRON STAINED; WEATHERED
*	1.85	1.99	0.14	01326	I	MUDSTONE	CARB.BN MINOR COAL LAMINAE; IRON STAINED
*	1.99	2.33	0.34	01326	I	COAL	C-2 SOFT; SLIGHTLY WEATHERED
*	2.33	2.39	0.06	01326	I	SANDSTONE	CARB.WEATH SOFT
*	2.39	2.67	0.28	01326	I	CLAYSTONE	LT.GY SOFT; PLIABLE
*	2.67	2.72	0.05	01326	I	CLAYSTONE	CARB.BLK
*	2.72	2.87	0.15	01326	I	COAL	C-3 SOFT; IRON STAINED; MINOR MUDSTONE LAMINAE
*	2.87	2.91	0.04	01326	I	MUDSTONE	LT.GY SOFT
*	2.91	3.55	0.64	01326	I	COAL	C-4 SOFT; IRON STAINED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84202

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.55	4.23	0.68	01326	I	COAL	C-3 IRON STAINED; SOFT; WEATHERED
*	4.23	4.26	0.03	01326	I	MUDSTONE	LT. BN SOFT; PLIABLE
*	4.26	4.45	0.19	01326	I	COAL	C-3 WEATHERED; IRON STAINED; SOFT
*	4.45	4.49	0.04	01326	I	COAL	C-2 SOME IRON STAINING
*	4.49	4.56	0.07	01326	I	COAL	C-4 SOFT; WEATHERED; MINOR MUDSTONE INCLUSIONS
*	4.56	4.68	0.12	01326	I	COAL	C-2 WEATHERED
*	4.68	5.31	0.63	01326	I	COAL	C-3 SOFT; WEATHERED
*	5.31	5.41	0.10	01326	I	MUDSTONE	CARB. BLK SOFT
*	5.41	5.77	0.36	01326	I	COAL	C-3 WEATHERED; SOFT

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84202

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	5.77	6.03	0.26	01326	I	COAL	C-1
*	6.03	6.06	0.03	01326	I	MUDSTONE	CARB. BLK SOFT; SLIGHTLY WEATHERED
*	6.06	6.16	0.10	01326	I	COAL	SLIGHTLY WEATHERED
*	6.16	6.26	0.10	01326	I	COAL	C-4 WEATHERED; IRON STAINED; MUDSTONE INCLUSIONS
*	6.26	6.39	0.13	01326	I	COAL	C-1 SLIGHTLY WEATHERED
*	6.39	6.48	0.09	01326	I	COAL	C-2 WEATHERED; IRON STAINED
*	6.48	6.60	0.12			MUDSTONE	CARB. DK. GY SOFT
*	6.60	6.68	0.08			SILTSTONE	DK. GY SLIGHTLY CARBONACEOUS; BEDDING FRACTURES
*	6.68	7.68	1.00			SILTSTONE	LT-M. GY HARD; BEDDING FRACTURES; WEATHERED; IRON STAINED; PLANT FOSSILS EVIDENT

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84202 SEAM : 1 INTERVAL(M) : 1.18 - 6.48 ELEVATION(M) : 1835.0
 GEOLOGIST : B. GLOVER DATE : DEC 20/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL V AL MJ/KG		
		↑															
	1.18	C	0.24	0.02													
		C		0.57													
		C	0.14														
		C		0.34													
		C	0.08														
		C	0.28														
		C	0.06														
		C		0.19													
		C		1.32	100.0	1320	1326	4.54 / 0.76	5.30								
		C	0.03														
		C		1.05													
		C	0.10														
		C		0.62													
		C	0.03														
		C		0.42													
	6.48	C															
		C															
		C															
		↓															

PLOT 1 16.06.25 THUR 20 DEC, 1984 JOB-T510200 GULF CANADA DISSEPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84203

DATE - 01/08/85

- HISTORY -

START DATE - 07/22/84
END DATE - 07/22/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - B. GLOVER

OPERATOR - GCRI
SURVEYOR -

REMARKS - VALID DATA POINT; ALL THICKNESSES ARE TRUE; TRENCH
FLOOR FROZEN; BEDS ARE OVERTURNED; COAL/COAL+ROCK
4.23/5.53; SAMPLE NO. 1327

- LOCATION -

PROVINCE - BC
ELEVATION - 1815.00

ZONE - 9
NORTHING - 6344088.00
EASTING - 505877.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571430
LONGITUDE - 1285409

- ORIENTATION -

LENGTH - 12.00

INCLINATION - 16.0
AZIMUTH - 15.0

SIZE WIDTH - 0.8
SIZE HEIGHT - 1.2

ROOF STRIKE - 284
ROOF DIP - 72
ROOF DIR - W

FLOOR STRIKE - 289
FLOOR DIP - 62
FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84203

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.85	0.85			MUDSTONE	LT-M.GY BEDDING FRACTURES; SOME PLANT FOSSILS; MODERATELY WEATHERED; MODERATELY IRON STAINED
*	0.85	0.88	0.03			MUDSTONE	CARB.DK.GY MASSIVE; HARD
*	0.88	0.95	0.07			MUDSTONE	CARB.DK.GY SOFT; INTRUSIVE COAL LENSES
*	0.95	1.14	0.19	01327	I	COAL	C-2 MODERATELY WEATHERED; SOME IRON STAINING
*	1.14	1.43	0.29	01327	I	MUDSTONE	LT.GY SLIGHTLY CARBONACEOUS; SOFT; PLIABLE
*	1.43	1.65	0.22	01327	I	COAL	C-2 BEDDING NOW UPRIGHT
*	1.65	1.67	0.02	01327	I	MUDSTONE	CARB.BLK SOFT; INTRUDED COAL LENSES
*	1.67	2.38	0.71	01327	I	COAL	C-3 MINOR MUDSTONE LENSES; FRACTURED DUE TO ICE CONTENT

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84203

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.38	2.41	0.03	01327	I	MUDSTONE	CARB.DK.BLK FROZEN
*	2.41	2.58	0.17	01327	I	COAL	C-3 SLIGHTLY WEATHERED; FROZEN
*	2.58	2.60	0.02	01327	I	SILTSTONE	M.BN WEATHERED; IRON STAINED
*	2.60	3.20	0.60	01327	I	MUDSTONE	CARB.DK.BLK COAL PARTING; SOFT
*	3.20	3.34	0.14	01327	I	COAL	C-3 MINDR MUDSTONE PARTING
*	3.34	3.63	0.29	01327	I	COAL	C-2
*	3.63	3.86	0.23	01327	I	COAL	C-3 WEATHERED; IRON STAINED
*	3.86	4.00	0.14	01327	I	SILTSTONE	LT.BN WEATHERED; IRON STAINED; HARD
*	4.00	4.20	0.20	01327	I	MUDSTONE	CARB SOFT; PLIABLE WITH COAL PARTINGS
*	4.20	5.00	0.80	01327	I	COAL	C-2 WEATHERED; FROZEN

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84203

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	5.00	5.21	0.21	01327	I	COAL	C-1
*	5.21	5.24	0.03	01327	I	COAL	C-3 SOME MUDSTONE LAMINAE
*	5.24	5.46	0.22	01327	I	COAL	C-2 SLIGHTLY WEATHERED
*	5.46	5.47	0.01	01327	I	COAL	C-4 SOME MUDSTONE LAMINAE
*	5.47	5.49	0.02	01327	I	COAL	C-2 WEATHERED
*	5.49	5.52	0.03	01327	I	COAL	C-4 MUDSTONE LAMINAE
*	5.52	5.95	0.43	01327	I	COAL	C-2 WEATHERED
*	5.95	5.97	0.02	01327	I	COAL	C-4 SOME MUDSTONE LAMINAE
*	5.97	6.14	0.17	01327	I	COAL	C-3
*	6.14	6.48	0.34	01327	I	COAL	C-2 SLIGHTLY WEATHERED; SOME IRON STAINING

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84203

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	6.48	6.56	0.08			MUDSTONE	CARB. DK. GY SOFT; COAL STRINGERS
*	6.56	6.60	0.04			SILTSTONE	M. BN WEATHERED; IRON STAINED
*	6.60	6.65	0.05			MUDSTONE	DK. GY SOFT; EASILY FRACTURED
*	6.65	7.65	1.00			MUDSTONE	

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84203 SEAM : 1 INTERVAL(M) : 0.95 - 6.48 ELEVATION(M) : 1815.0
 GEOLOGIST : B. GLOVER DATE : DEC 20/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.								
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL V AL MJ/KG			
	0.95	↑																
				0.19			↑											
				0.29														
				0.22														
				0.71														
				0.17														
				0.60														
				0.66														
				0.14		100.0	1327	1327	4.23 / 1.30									
				0.20					5.53									
				2.28														
	6.48	↓																

PLOT 1 16.06.84 THUR 20 DEC, 1984 JOB-TST060 GULF CANFOR DTSSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84204

DATE - 01/08/85

- HISTORY -

START DATE - 07/22/84
END DATE - 07/22/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - B. GLOVER

OPERATOR - GCR1
SURVEYOR -

REMARKS - ROOF ERODED; GROUND FROZEN; COAL/COAL+ROCK 1.07/1.
17; SAMPLE NO. 1328; SEAM DESIGNATION UNDETERMINED

- LOCATION -

PROVINCE - BC
ELEVATION - 1838.00

ZONE - 9
NORTHING - 6344186.00
EASTING - 505922.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571433
LONGITUDE - 1285407

- ORIENTATION -

LENGTH - 5.00

INCLINATION - 12.0
AZIMUTH - 227.0

SIZE WIDTH - 0.8
SIZE HEIGHT - 1.8

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 311
FLOOR DIP - 27
FLOOR DIR - W

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84204

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.60	0.60			SILTSTONE	LT.GY IRON STAINED; WEATHERED; FRACTURED; HARD
*	0.60	0.74	0.14			MUDSTONE	DK.GY
*	0.74	0.86	0.12			MUDSTONE	CARB.BLK SOFT
*	0.86	0.88	0.02			CLAYSTONE	WEATH.GY SOFT; PLIABLE; SEPARATES COAL FROM OVERLYING MUDSTONE; DIPS 31 NW
*	0.88	1.14	0.26	01328		COAL	C-5 SOFT
*	1.14	1.35	0.21	01328		COAL	C-3 SOME MINOR FOLD UNDULATIONS IN BEDDING
*	1.35	1.58	0.23	01328		COAL	C-2 FROZEN; BREAKS EASILY
*	1.58	1.68	0.10	01328		MUDSTONE	CARB.BLK MINOR COAL LAMINAE
*	1.68	1.84	0.16	01328		COAL	C-3 MINOR MUDSTONE INCLUSIONS

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84204

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.84	1.87	0.03	01328		COAL	C-2
*	1.87	2.05	0.18	01328		COAL	C-4 INTERBEDDED MUDDSTONE LAMINAE
*	2.05	2.65	0.60			SILTSTONE	LT.GY IRON STAINED; WEATHERED; HARD

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84205

DATE - 01/08/85

- HISTORY -

START DATE - 07/23/84
END DATE - 07/23/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - B. GLOVER

OPERATOR - GCRI
SURVEYOR -

REMARKS - ROOF ERODED; GROUND FROZEN; ONLY ABLE TO LOG UPPER
PORTION OF TRENCH DUE TO DEPTH; TRENCH IS VERTICA
L; COAL/COAL+ROCK 1.93/2.09; SAMPLE NO. 1316; BOT
TOM OF SEAM NOT REACHED

- LOCATION -

PROVINCE - BC
ELEVATION - 1814.50

ZONE - 9
NORTHING - 6344294.00
EASTING - 506072.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571437
LONGITUDE - 1285358

- ORIENTATION -

LENGTH - 14.50

INCLINATION - 16.0
AZIMUTH - 60.0

SIZE WIDTH - 1.2
SIZE HEIGHT - 2.2

ROOF STRIKE - 270
ROOF DIP - 5
ROOF DIR - S

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84205

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.50	0.50			OVERBURDEN	PR. M. BN UNCONSOLIDATED
*	0.50	0.76	0.26	01316	I	COAL	C-3 WEATHERED; POWDERED
*	0.76	0.78	0.02	01316	I	SILTSTONE	GY WEATHERED; IRON STAINED
*	0.78	0.92	0.14	01316	I	COAL	WEATHERED; POWDERED
*	0.92	0.95	0.03	01316	I	MUDSTONE	CARB. BLK MINOR COAL STRINGERS
*	0.95	0.97	0.02	01316	I	COAL	WEATHERED; POWDERED
*	0.97	1.03	0.06	01316	I	MUDSTONE	CARB MINOR COAL STRINGERS
*	1.03	1.11	0.08	01316	I	COAL	WEATHERED; POWDERED
*	1.11	1.14	0.03	01316	I	MUDSTONE	CARB SLIGHTLY WEATHERED
*	1.14	1.32	0.18	01318	I	COAL	C-3 SOFT
*	1.32	1.34	0.02	01316	I	MUDSTONE	CARB

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84205

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH INTRVAL TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.34	1.59	0.25	01316	I	COAL	C-2
*	1.59	2.59	1.00	01316	I	COAL	FROZEN; UNABLE TO LOG SAFELY BEYOND THIS POINT.

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84206

DATE - 01/08/85

- HISTORY -

START DATE - 07/27/84
END DATE - 07/27/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - B. GLOVER

OPERATOR - GCRI
SURVEYOR -

REMARKS - SEAM APPEARS TO REPRESENT BOTTOM OF COAL; TOP EROD
ED; ONLY LOWER PORTION LOGGED; COAL/COAL+ROCK .65/
.65; SAMPLE NO. 2602

- LOCATION -

PROVINCE - BC
ELEVATION - 1787.00

ZONE - 9
NORTHING - 6344174.00
EASTING - 506097.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571433
LONGITUDE - 1285356

- ORIENTATION -

LENGTH - 3.00

INCLINATION - 0.0
AZIMUTH - 25.0

SIZE WIDTH - 0.7
SIZE HEIGHT - 1.2

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 272
FLOOR DIP - 10
FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84206

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.25	0.25	02602	I	COAL	C-3 NO BEDDING
*	0.25	0.26	0.01	02602	I	COAL	IRON STAINED
*	0.26	0.52	0.26	02602	I	COAL	C-3 NO BEDDING
*	0.52	0.53	0.01	02602	I	COAL	C-4 NO BEDDING
*	0.53	0.65	0.12	02602	I	COAL	C-3 NO BEDDING
*	0.65	0.94	0.29			MUDSTONE	M.GY FRACTURED
*	0.94	1.03	0.09			MUDSTONE	FRACTURED; IRON STAINED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84206 SEAM : i INTERVAL(M) : 0.00 - 0.65 ELEVATION(M) : 1787.0

GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALY AL MJ/KG			
	0.00	↑																
	0.65	↓		0.65	100.0	2602	2602	0.65 / 0.00 0.65										

PLOT 1 10.16.10 FRI 21 DEC, 1984 JOB-TSTCE60 GULF CANADA OTISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84207

DATE - 01/08/85

- HISTORY -

START DATE - 07/23/84
END DATE - 07/23/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - B. GLOVER

OPERATOR - GCRI
SURVEYOR -

REMARKS - ROOF ERODED; APPARENT BEDDING IN COAL 051/10S; COA
L/ COAL+ROCK 3.60/3.60; SAMPLE NO. 1317

- LOCATION -

PROVINCE - BC
ELEVATION - 1785.00

ZONE - 9
NORTHING - 6344153.00
EASTING - 506690.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571432
LONGITUDE - 1285321

- ORIENTATION -

LENGTH - 18.30
SIZE WIDTH - 0.7
SIZE HEIGHT - 3.9

INCLINATION - 8.0
AZIMUTH - 180.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84207

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	3.60	3.60	01317	I	COAL	TRENCH TOO DEEP TO LOG SAFELY
*	3.60	3.99	0.39			SILTSTONE	LT-M.GY

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84207 SEAM : 1 INTERVAL(M) : 0.00 - 3.60 ELEVATION(M) : 1785.0
 GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. <small>1 2 3 4 5 6</small>	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALY AL MS/KG		
	0.00	↑															
				3.60	100.0	1317	1317	3.60 / 0.00 3.60									
	3.60	↓															

PLOT 1 • 10.16.83 FRI 21 DEC, 1984 JOB-TSTCE66 GULF CANADA DISSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84208

DATE - 01/08/85

- HISTORY -

START DATE - 07/23/84
END DATE - 07/23/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - B. GLOVER

OPERATOR - GCR1
SURVEYOR -

REMARKS - ROOF ERODED; ATTITUDE OF COAL 214/39S; TRENCH SLUM
PED IN PRIOR TO LOGGING; VERTICAL TRENCH; SAMPLE N
O. 1318

- LOCATION -

PROVINCE - BC
ELEVATION - 1782.50

ZONE - 9
NORTHING - 6344035.00
EASTING - 506048.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571429
LONGITUDE - 1285359

- ORIENTATION -

LENGTH - 4.50

INCLINATION - 37.0
AZIMUTH - 102.0

SIZE WIDTH - 0.7
SIZE HEIGHT - 4.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84208

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	4.00	4.00	01318	I	COAL	C-2 TOO DEEP TO LOG SAFELY

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84208 SEAM : i INTERVAL(M) : 0.00 - 4.00 ELEVATION(M) : 1782.5
 GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.00																
	4.00			4.00	100	1318		4.00/0.00 4.00									

PLOT 1 10.17.11 FRI 21 DEC, 1984 JOB-TSTCE60 GULF CANADA DISSEPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84209

DATE - 01/08/85

- HISTORY -

START DATE - 09/17/84
 END DATE - 09/17/84

CONTRACTOR - AVM CONST.
 GEOLOGIST - K. FOELLMER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - VALID DATA POINT; ALL THICKNESSES ARE TRUE; COAL/C
 OAL+ROCK 0.68/1.54; COAL/COAL+ROCK 0.68/1.54; SAMP
 LE NO. 4944

- LOCATION -

PROVINCE - BC
 ELEVATION - 1562.50

ZONE - 9
 NORTHING - 6345205.00
 EASTING - 506952.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571506
 LONGITUDE - 1285305

- ORIENTATION -

LENGTH - 2.90

INCLINATION - 30.0
 AZIMUTH - 160.0

SIZE WIDTH - 1.1
 SIZE HEIGHT - 1.7

ROOF STRIKE - 246
 ROOF DIP - 38
 ROOF DIR - S

FLOOR STRIKE - 239
 FLOOR DIP - 32
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84209

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.06	0.06			OVERBURDEN	CLYY.PR.BN UNCONSOLIDATED TILL
*	0.06	0.13	0.07	04944	G UPPER	COAL	SPOIL
*	0.13	0.15	0.02	04944	G UPPER	COAL	C-3
*	0.15	0.19	0.04	04944	G UPPER	MUDSTONE	DK.BN SOFT; PLASTIC
*	0.19	0.22	0.03	04944	G UPPER	COAL	C-3 IRON STAINING ON CLEAT SURFACES
*	0.22	0.31	0.09	04944	G UPPER	MUDSTONE	DK.BN MINOR THIN BANDS OF COAL (<10%)
*	0.31	0.41	0.10	04944	G UPPER	COAL	C-4
*	0.41	0.54	0.13	04944	G UPPER	COAL	C-5 MINOR MUDSTONE BLEBS
*	0.54	0.61	0.07	04944	G UPPER	COAL	C-3 MUDSTONE LAMINAE (10-20 MM); IRON STAINED
*	0.61	0.83	0.22	04944	G UPPER	SILTSTONE	BN SOFT

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84209

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.83	0.86	0.03	04944	G UPPER	COAL	C-3 MINOR CALCITE VEINING
*	0.86	0.91	0.05	04944	G UPPER	MUDSTONE	MINOR INTERBEDDED COAL LAMINAE
*	0.91	1.33	0.42	04944	G UPPER	SILTSTONE	MINOR COALY FRAGMENTS
*	1.33	1.36	0.03	04944	G UPPER	COAL	C-3 POWDERY; WEATHERED; IRON STAINED
*	1.36	1.40	0.04	04944	G UPPER	MUDSTONE	DK.BN
*	1.40	1.60	0.20	04944	G UPPER	COAL	C-3 BROKEN

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84209 SEAM : g upper INTERVAL(M) : 0.06 - 1.60 ELEVATION(M) : 1562.5
 GEOLOGIST : K. FOELLMER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
	0.06	↑		0.08 0.03												
				0.30												
			0.22	0.01	100.0	4944	4944			8.43	83.87	13.70	16.00	0.14	8.48	
			0.42	0.01												
	1.60	↓		0.20												

PLOT 1 10.18.12 FRI 21 DEC, 1984 JOB-TSTC080 GULF CANADA DISSPLA 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH% CARBON%	FIXED MATTER%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84209											
	HD1	G UPPER	4944	6.43	63.87	16.00	13.70	0.14	6.46		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84210

DATE - 01/08/85

- HISTORY -

START DATE - 07/24/84

END DATE - 07/24/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - B. GLOVER

SURVEYOR -

REMARKS - FROZEN SOLID; CONTAINS ICE CRYSTALS; VALID DATA POINT; ALL THICKNESSES ARE TRUE; COAL/COAL+ROCK 2.75 /3.22; SAMPLE NO.1319

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1780.00

NORTHING - 6343949.00

EASTING - 505960.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571426

LONGITUDE - 1285405

- ORIENTATION -

LENGTH - 11.50

INCLINATION - 22.0

AZIMUTH - 4.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 1.8

ROOF STRIKE - 267

FLOOR STRIKE - 0

ROOF DIP - 61

FLOOR DIP - 0

ROOF DIR - N

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84210

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.50	0.50			OVERBURDEN	SLTY.PR.LT.GY MODERATELY STONEY; PLASTIC
*	0.50	0.90	0.40			SANDSTONE	MG-.BN SOFT; WEATHERED; IRON STAINED
*	0.90	1.04	0.14	01319	H	COAL	C-3 BROKEN; WEATHERED
*	1.04	1.07	0.03	01319	H	COAL	C-2 WEATHERED; IRON STAINING
*	1.07	1.36	0.29	01319	H	COAL	C-2 WEATHERED; LENSES OF IRON STAINING
*	1.36	1.44	0.08	01319	H	CLAYSTONE	LT.GY SOFT; PLASTIC
*	1.44	1.88	0.44	01319	H	COAL	C-4 INTERBEDDED MUDSTONE LAMINAE; SOME IRON STAINING
*	1.88	1.97	0.09	01319	H	COAL	C-3 WEATHERED; IRON STAINED
*	1.97	2.01	0.04	01319	H	MUDSTONE	M-DK.GY SOFT; MINOR COAL LAMINAE

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84210

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.01	2.02	0.01	01319	H	COAL	C-1
*	2.02	2.11	0.09	01319	H	COAL	C-2 BROKEN; SLIGHTLY WEATHERED
*	2.11	2.24	0.13	01319	H	COAL	C-3 MINOR INTERBEDDED MUDSTONE LAMINAE
*	2.24	2.32	0.08	01319	H	MUDSTONE	CARB.DK.GY MINOR COAL LAMINAE; SOFT
*	2.32	2.43	0.11	01319	H	COAL	C-4 MINOR MUDSTONE LAMINAE; BROKEN; WEATHERED
*	2.43	2.64	0.21	01319	H	COAL	C-2 FRACTURED; SLIGHTLY WEATHERED
*	2.64	2.74	0.10	01319	H	MUDSTONE	CARB.DK.GY MINOR COAL LAMINAE
*	2.74	2.87	0.13	01319	H	COAL	C-3
*	2.87	2.94	0.07	01319	H	MUDSTONE	CARB.BLK MINOR COAL LAMINAE

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84210

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.94	2.98	0.04	01319	H	COAL	C-3 MINOR MUDSTONE LAMINAE
*	2.98	3.00	0.02	01319	H	COAL	C-3 SLIGHTLY WEATHERED
*	3.00	3.03	0.03	01319	H	COAL	C-3 WEATHERED; HEAVILY IRON STAINED
*	3.03	3.35	0.32	01319	H	COAL	C-2 MINOR MUDSTONE LAMINAE; SLIGHTLY WEATHERED
*	3.35	3.43	0.08	01319	H	MUDSTONE	CARB COAL PARTINGS APPROXIMATELY 2.0 MM
*	3.43	3.46	0.03	01319	H	COAL	C-2
*	3.46	3.63	0.17	01319	H	COAL	C-3 WEATHERED
*	3.63	3.64	0.01	01319	H	MUDSTONE	CARB IRON STAINED
*	3.64	3.86	0.22	01319	H	COAL	C-2 VERY MINOR MUDSTONE LAMINAE

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84210

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.86	3.93	0.07	01319	H	COAL	C-3 WEATHERED; IRON STAINED
*	3.93	3.94	0.01	01319	H	CLAYSTONE	LT. GY PLASTIC
*	3.94	4.12	0.18	01319	H	COAL	C-3 MUDSTONE PARTINGS; SLIGHT IRON STAINING
*	4.12	4.55	0.43			MUDSTONE	CARB MINOR COAL PARTINGS
*	4.55	5.55	1.00			SANDSTONE	FG-LT. GY WEATHERED; IRON STAINED; CRUMBLES EASILY

* DENOTES MEASURED BCA
NEWPAGE

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84211

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.07	0.07	04943	G UPPER	COAL	SPOIL; WEATHERED
*	0.07	0.42	0.35	04943	G UPPER	COAL	C-3
*	0.42	0.47	0.05	04943	G UPPER	MUDSTONE	BN SOFT; PLASTIC
*	0.47	0.62	0.15	04943	G UPPER	COAL	C-4 FRACTURED
*	0.62	0.68	0.06	04943	G UPPER	COAL	C-2 FRACTURED
*	0.68	0.70	0.02	04943	G UPPER	MUDSTONE	BN SOFT
*	0.70	0.80	0.10	04943	G UPPER	COAL	C-3 IRON STAINED; 1 CM CALCITE VEIN AT BASE
*	0.80	0.89	0.09	04943	G UPPER	COAL	C-4
*	0.89	1.39	0.50			MUDSTONE	BN SOFT; FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84211 SEAM : gupper INTERVAL(M) : 0.00 - 0.89 ELEVATION(M) : 1570.0

GEOLOGIST : K. FOELLMER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.00	↑		0.42													
				0.21	100.0	+943	+943	0.82/0.07									
	0.89	↓		0.19				0.89									

PLOT 1 10.19.20 FRI 21 DEC, 1984 JOB-TSTCE60 GULF CANADA DISSFLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84212

DATE - 01/08/85

- HISTORY -

START DATE - 07/24/84

END DATE - 07/24/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - B. GLOVER

SURVEYOR -

REMARKS - FROZEN; FROST SHATTERED; OVERTURNED; VALID DATA POINT;
COAL/COAL+ROCK 2.13/2.67; SAMPLE NO. 1320

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1815.00

NORTHING - 6344360.00

EASTING - 506316.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571439

LONGITUDE - 1285343

- ORIENTATION -

LENGTH - 7.00

INCLINATION - 9.0

AZIMUTH - 21.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 1.7

ROOF STRIKE - 304

FLOOR STRIKE - 305

ROOF DIP - 55

FLOOR DIP - 43

ROOF DIR - N

FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84212

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.60	0.60			SANDSTONE	MG-LT.BN SOFT; IRON STAINED
*	0.60	0.71	0.11			MUDSTONE	LT.GY SOFT; PLASTIC
*	0.71	1.11	0.40	01320	J	COAL	C-2 FROST SHATTERED; SOME C-1 AND C-3 FRAGMENTS
*	1.11	1.14	0.03	01320	J	MUDSTONE	CARB MINOR COAL PARTINGS; IRON STAINING; SLIGHTLY OXIDIZED
*	1.14	1.52	0.38	01320	J	COAL	C-2 FROST SHATTERED
*	1.52	1.56	0.04	01320	J	CLAYSTONE	WEATH.GY SOFT; PLIABLE; MINOR CLAY PARTING
*	1.56	1.68	0.12	01320	J	COAL	C-2 FROST SHATTERED
*	1.68	1.79	0.11	01320	J	COAL	C-3 MINOR MUDSTONE PARTINGS
*	1.79	1.84	0.05	01320	J	COAL	C-2 FROST SHATTERED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84212

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.84	1.99	0.15	01320	J	COAL	C-3 MINOR MUDSTONE PARTINGS; WEATHERED; IRON STAINED
*	1.99	2.01	0.02	01320	J	COAL	C-2
*	2.01	2.05	0.04	01320	J	SANDSTONE	FG-.LT.BN WEATHERED; IRON STAINED; MINOR COAL INCLUSIONS
*	2.05	2.21	0.16	01320	J	COAL	C-2 FROST SHATTERED
*	2.21	2.22	0.01	01320	J	MUDSTONE	CARB MINOR COAL LAMINAE
*	2.22	2.32	0.10	01320	J	COAL	C-1
*	2.32	2.34	0.02	01320	J	MUDSTONE	CARB.DK.GY COAL INCLUSIONS
*	2.34	2.36	0.02	01320	J	COAL	C-1 SLIGHTLY WEATHERED; IRON STAINED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84212

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.36	2.63	0.27	01320	J	COAL	C-2 MINOR MUDSTONE INCLUSIONS; SOME IRON STAINING; WEATHERING
*	2.63	2.69	0.06	01320	J	COAL	C-1 WEATHERED; IRON STAINED
*	2.69	2.81	0.12	01320	J	COAL	C-4 WEATHERED; IRON STAINED; MUDSTONE PARTINGS THROUGHOUT
*	2.81	2.98	0.17	01320	J	MUDSTONE	CARB.M.GY WEATHERED; IRON STAINED; MINOR COAL PARTINGS THROUGHOUT
*	2.98	3.21	0.23	01320	J	MUDSTONE	LT.GY SOFT; IRON STAINED; WEATHERED; MINOR COAL LAMINAE AT TOP AND BOTTOM
*	3.21	3.38	0.17	01320	J	COAL	C-5 WEATHERED; IRON STAINED; NUMEROUS MUDSTONE INCLUSIONS
*	3.38	4.08	0.70			MUDSTONE	LT.GY HARD; MASSIVE; SLIGHTLY WEATHERED; SOME IRON STAINING

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84212 SEAM : j INTERVAL(M) : 0.71 - 3.38 ELEVATION(M) : 1815.0

GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 3 8	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
	0.71	↑		0.40												
			0.63	0.38												
			0.45	0.16	100.0	1320	1320	2.13 / 0.54								
			0.62	0.10				2.67								
			0.47													
		HIC CIC DIC	0.17													
		HIC CIC DIC	0.23													
	3.38	↓		0.17												

PLOT 1 10.19.43 FRI 21 DEC, 1984 JOB-TSTCEGD GULF CANADA DTSSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84213

DATE - 01/08/85

- HISTORY -

START DATE - 07/24/84

END DATE - 07/24/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - B. GLOVER

SURVEYOR -

REMARKS - FROZEN; BADLY SHATTERED; ATTITUDE FROM COAL; BEDS
OVERTURNED; VALID DATA POINT; COAL/COAL+ROCK 2.23/
2.45; SAMPLE NO. 1321

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1802.00

NORTHING - 6344412.00

EASTING - 506362.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571441

LONGITUDE - 1285340

- ORIENTATION -

LENGTH - 11.00

INCLINATION - 0.0

AZIMUTH - 23.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 1.4

ROOF STRIKE - 292

FLOOR STRIKE - 0

ROOF DIP - 53

FLOOR DIP - 0

ROOF DIR - S

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84213

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.11	0.11			MUDSTONE	LT.GY SOFT; PLIABLE; WEATHERED; IRON STAINED
*	0.11	0.39	0.28			MUDSTONE	CARB.DK.GY MINOR COAL PARTINGS
*	0.39	0.79	0.40	01321	L	COAL	C-2 FROST SHATTERED
*	0.79	0.93	0.14	01321	L	COAL	C-3 WEATHERED; IRON STAINED; WITH MEDIUM GRAIN SANDSTONE NODULE (170 X 50 MM); IRON STAINING
*	0.93	1.25	0.32	01321	L	COAL	C-2 FROST SHATTERED; SOME IRON STAINING
*	1.25	1.34	0.09	01321	L	COAL	C-3 WEATHERED; IRON STAINED
*	1.34	1.61	0.27	01321	L	COAL	C-2
*	1.61	1.64	0.03	01321	L	CLAYSTONE	LT.GY PLIABLE; SOFT
*	1.64	1.68	0.04	01321	L	MUDSTONE	CARB.BLK MINOR COAL PARTINGS

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84213

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.68	1.71	0.03	01321	L	COAL	C-4 MINOR MUDSTONE PARTINGS
*	1.71	1.79	0.08	01321	L	CLAYSTONE	LT.GY FROZEN SOLID; SOFT ON MELTING
*	1.79	1.89	0.10	01321	L	COAL	C-2 SOME IRON STAINING
*	1.89	2.10	0.21	01321	L	COAL	C-3 WEATHERED; IRON STAINED; SOME MUDSTONE PARTINGS
*	2.10	2.17	0.07	01321	L	CLAYSTONE	LT.GY SOFT; PLIABLE
*	2.17	2.29	0.12	01321	L	COAL	C-2 FROST SHATTERED
*	2.29	2.34	0.05	01321	L	COAL	C-4 MUDSTONE LAMINAE; IRON STAINING; WEATHE RED
*	2.34	2.66	0.32	01321	L	COAL	C-3 MINOR MUDSTONE LAMINAE
*	2.66	2.84	0.18	01321	L	COAL	C-4 FROST SHATTERED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84213

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.84	3.34	0.50			MUDSTONE	CARB
*	3.34	3.99	0.65			MUDSTONE	LT.GY SOFT; PLIABLE; IRON STAINING; GRAY AT B ASE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84213 SEAM : 1 INTERVAL(M) : 0.39 - 2.84 ELEVATION(M) : 1802.0
 GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL. MJ/KG		
	0.39	↑															
		↓		1.22													
				0.01	100.0	1321	1321	2.23 / 0.22									
				0.38				2.45									
				0.31													
				0.27													
	2.84	↓		0.67													

PLOT 1 10.19.18 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84214

DATE - 01/08/85

- HISTORY -

START DATE - 07/24/84

END DATE - 07/25/84

CONTRACTOR - ELIAS EXCAV.

GEOLOGIST - K. JENNER

OPERATOR - GCRI

SURVEYOR -

REMARKS - FROZEN; BEDS APPARENTLY OVERTURNED; PRIMARILY SPOIL;
L; COAL/COAL+ROCK 12.87/14.71; SAMPLE NO. 1322

- LOCATION -

PROVINCE - BC

ELEVATION - 1801.50

LICENCE/LEASE NUMBER - 7151

ZONE - 9

NORTHING - 6344446.00

EASTING - 506376.00

LATITUDE - 571442

LONGITUDE - 1285340

- ORIENTATION -

LENGTH - 18.10

SIZE WIDTH - 0.9

SIZE HEIGHT - 0.9

ROOF STRIKE - 293

ROOF DIP - 69

ROOF DIR - W

INCLINATION - 6.0

AZIMUTH - 32.0

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84214

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	2.12	2.12			MUDSTONE	CARB.M.GY INTERBEDDED SILTSTONE LAMINAE; WEATHERED; D; PLANT FRAGMENTS
*	2.12	2.47	0.35	01322	M	COAL	C-2 SPOIL; FROST SHATTERED; NO VISIBLE BEDDING
*	2.47	3.32	0.85	01322	M	MUDSTONE	UNCONSOLIDATED; NO VISIBLE BEDDING
*	3.32	3.40	0.08	01322	M	COAL	C-2 SPOIL; PERHAPS C-3
*	3.40	4.30	0.90	01322	M	SILTSTONE	UNCONSOLIDATED; NO BEDDING; INTERBEDDED MUDSTONE
*	4.30	5.36	1.06	01322	M	COAL	C-3 SPOIL WITH INTERBEDDED CLAYSTONE; CARBONACEOUS
*	5.36	6.14	0.78	01322	M	COAL	C-2 BEDDING APPARENT; WEATHERED; FROZEN
*	6.14	6.75	0.61	01322	M	COAL	C-3 INTERBEDDED MUDSTONE; CARBONACEOUS CLAYSTONE
*	6.75	7.96	1.21	01322	M	COAL	C-2 UNCONSOLIDATED; NO BEDDING

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4214

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	7.96	9.25	1.29	01322	M	COAL	C-2 MINOR UNCONSOLIDATED CARBONACEOUS CLAYS TONE
*	9.25	9.91	0.66	01322	M	COAL	C-3 BEDDING ATTITUDE 194/76W
*	9.91	9.97	0.06	01322	M	SANDSTONE	WEATH UNCONSOLIDATED
*	9.97	10.46	0.49	01322	M	COAL	C-2 SPOIL; IRON STAINED; NO BEDDING; MINOR CARBONACEOUS CLAYSTONE INCLUSIONS
*	10.46	11.24	0.78	01322	M	COAL	C-2 PARTIAL BEDDING
*	11.24	11.27	0.03	01322	M	CLAYSTONE	CARB
*	11.27	11.83	0.56	01322	M	COAL	C-4 SOME C-5; IRON STAINED; PARTIAL BEDDING
*	11.83	12.48	0.65	01322	M	COAL	C-2 IRON STAINED; PARTIAL BEDDING
*	12.48	14.06	1.58	01322	M	COAL	C-2 SPOIL; NO BEDDING; IRON STAINED; WEATHE RED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84214

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	14.06	15.00	0.94	01322	M	COAL	C-3 SPOIL; MINOR CARBONACEOUS CLAYSTONE; NO BEDDING; INTERBEDDED CLAYSTONE (APPROXIMATELY 30 %)
*	15.00	16.83	1.83	01322	M	COAL	SPOIL; CLAYEY; UNCONSOLIDATED; SHATTERED; WET
*	16.83	17.92	1.09			MUDSTONE	CARB NO BEDDING; UNCONSOLIDATED; MINOR COAL SPOIL

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRCS4214 SEAM : M INTERVAL(M) : 2.12 - 16.83 ELEVATION(M) : 1801.5
 GEOLOGIST : K. JENNER DATE : JAN 16/85 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL.YAL MJ/KG		
	6.14	↑															
		4.55			100.0	1322	1322										
		2.41															
		1.27															
	11.27	0.63															
		↓															

DISSEPLA 9.2

JOB-TSTCEGO GULF CANADA LMT

08.12.31 WED 16 JAN, 1985

PLOT

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84214 SEAM : M INTERVAL(M) : 2.12 - 16.83 ELEVATION(M) : 1801.5
 GEOLOGIST : K. JENNER DATE : JAN 16/85 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	11.27	↑															
				5.56	100.0	1322	↑										
	16.83	↓					↓										

DISPLA 9.2

JOB-TSTCEGO GULF CANADA LMT

PLOT 1 12.27.14 WED 16 JAN, 1985

GULF CANADA RESOURCES INC. - COAL DIVISION
14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH% CARBON%	FIXED MATTER%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84214											
	HD1	M	1322	6.69	33.87	42.22	17.22	0.35	16.29		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84215

DATE - 01/08/85

- HISTORY -

START DATE - 07/27/84

END DATE - 07/27/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - K. JENNER

SURVEYOR -

REMARKS - PARTIAL CAVING; SEAM OVERTURNED; LOGGED FROM STRATIGRAPHIC TOP; VALID DATA POINT; COAL/COAL+ROCK 5.0 7/5.41; SAMPLE NO.1330

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1790.00

NORTHING - 6344400.00

EASTING - 506468.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571440

LONGITUDE - 1285334

- ORIENTATION -

LENGTH - 17.70

INCLINATION - 5.0

AZIMUTH - 33.0

SIZE WIDTH - 0.8

SIZE HEIGHT - 1.5

ROOF STRIKE - 284

FLOOR STRIKE - 304

ROOF DIP - 56

FLOOR DIP - 33

ROOF DIR - S

FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4215

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	2.52	2.52			SILTSTONE	UNCONSOLIDATED OVERBURDEN
*	2.52	3.95	1.43	01330	M	COAL	C-2 UNCONSOLIDATED; VERY WEATHERED; MIXED WITH OVERBURDEN NOT PART OF INTACT SEAM
*	3.95	4.52	0.57	01330	M	COAL	C-2 WEATHERED
*	4.52	4.54	0.02	01330	M	CLAYSTONE	WEATH.BN UNCONSOLIDATED
*	4.54	4.73	0.19	01330	M	COAL	C-2 WEATHERED; UNCONSOLIDATED
*	4.73	4.76	0.03	01330	M	COAL	C-3 WEATHERED
*	4.76	4.77	0.01	01330	M	CLAYSTONE	WEATH.BN BROWN-RED COLOUR
*	4.77	4.87	0.10	01330	M	COAL	C-2
*	4.87	4.94	0.07	01330	M	CLAYSTONE	WEATH.BN BROWN-RED COLOUR
*	4.94	5.19	0.25	01330	M	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84215

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	5.19	5.22	0.03	01330	M	COAL	C-2 UNCONSOLIDATED
*	5.22	5.27	0.05	01330	M	COAL	C-2
*	5.27	6.29	0.02	01330	M	CLAYSTONE	WEATH.BN UNCONSOLIDATED
*	5.29	5.42	0.13	01330	M	COAL	C-2 MINOR IRON STAINING
*	5.42	5.44	0.02	01330	M	CLAYSTONE	WEATH.BN
*	5.44	5.84	0.40	01330	M	COAL	C-2 MINOR IRON STAINING; MINOR CLAY BANDS
*	5.84	6.02	0.18	01330	M	COAL	C-3 MODERATELY IRON STAINED; UNCONSOLIDATED
*	6.02	6.36	0.34	01330	M	COAL	C-2 IRON STAINING; BEDDING ATTITUDE 310/63S
*	6.36	6.48	0.12	01330	M	COAL	C-1 CONCHOIDAL FRACTURE
*	6.48	6.82	0.34	01330	M	COAL	C-2 MINOR IRON STAINING; WEATHERED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84215

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	6.82	6.84	0.02	01330	M	CLAYSTONE	WEATH.BN
*	6.84	6.90	0.06	01330	M	SILTSTONE	
*	6.90	7.00	0.10	01330	M	COAL	C-3 MINOR IRON STAINING
*	7.00	7.10	0.10	01330	M	COAL	C-4
*	7.10	7.36	0.26	01330	M	COAL	C-3
*	7.36	7.40	0.04	01330	M	MUDSTONE	LT.BN
*	7.40	7.42	0.02	01330	M	COAL	C-2 FRAGMENTS; SPOIL
*	7.42	7.44	0.02	01330	M	SILTSTONE	BN WEATHERED; BROWN-ORANGE COLOUR
*	7.44	7.48	0.04	01330	M	COAL	C-1
*	7.48	7.57	0.09	01330	M	COAL	C-5 WEATHERED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84215

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	7.57	7.59	0.02	01330	M	COAL	C-3 HEAVY IRON STAINING
*	7.59	7.63	0.04	01330	M	COAL	C-4
*	7.63	7.67	0.04	01330	M	CLAYSTONE	M.BN MODERATELY CARBONACEOUS
*	7.67	7.70	0.03	01330	M	COAL	SPOIL; C-2 FRAGMENTS
*	7.70	7.72	0.02	01330	M	SANDSTONE	WEATH.BN BROWN-ORANGE COLOUR; WEATHERED; UNCONSO LIDATED
*	7.72	7.77	0.05	01330	M	COAL	C-2
*	7.77	7.83	0.06	01330	M	COAL	SPOIL; PERHAPS C-3; NO BEDDING
*	7.83	7.93	0.10	01330	M	COAL	SPOIL; MUDDY; C-2 - C-3
*	7.93	8.46	0.53			SILTSTONE	BN BROWN-ORANGE COLOUR; WEATHERED; MINOR M UDSTONE PARTINGS AND UNCONSOLIDATED OVE RBURDEN

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84215 SEAM : m INTERVAL(M) : 2.52 - 7.93 ELEVATION(M) : 1790.0
 GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	2.52	↑															
				2.00													
			0.02														
			0.21	0.22													
			0.07	0.10													
				0.33													
			0.02	0.13	100.0	1330	1330	5.07 / 0.34									
			0.02	0.13				5.41									
				1.38													
			0.22														
				0.46													
			0.23	0.31													
			0.24	0.19													
			0.24	0.03													
	7.93	↓		0.21													

PLOT 1 10.19.56 FRI 21 DEC, 1984 JOB-TST0660 GULF CANADA DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84216

DATE - 01/08/85

- HISTORY -

START DATE - 07/27/84

END DATE - 07/27/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCR I

GEOLOGIST - K. JENNER

SURVEYOR -

REMARKS - BEDS OVERTURNED; LOGGED FROM STRATIGRAPHIC ROOF; V
ALID DATA POINT; COAL/COAL+ROCK 2.59/2.92; SAMPLE
NO. 1331

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1789.00

NORTHING - 6344366.00

EASTING - 506448.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571439

LONGITUDE - 1285335

- ORIENTATION -

LENGTH - 19.10

INCLINATION - 11.0

AZIMUTH - 33.0

SIZE WIDTH - 0.8

SIZE HEIGHT - 1.2

ROOF STRIKE - 304

FLOOR STRIKE - 0

ROOF DIP - 53

FLOOR DIP - 0

ROOF DIR - S

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84216

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.81	0.81			SANDSTONE	FG.BN BROWN-ORANGE COLOUR; INTERBEDDED SILTSTONE LAMINAE; WEATHERED
*	0.81	0.89	0.08	01331	L	COAL	C-2 MINOR IRON STAINING
*	0.89	0.91	0.02	01331	L	CLAYSTONE	WEATH.BN
*	0.91	0.96	0.05	01331	L	COAL	C-2 WEATHERED
*	0.96	0.98	0.02	01331	L	SILTSTONE	BN BROWN-ORANGE COLOUR; WEATHERED
*	0.98	1.07	0.09	01331	L	COAL	C-2 MINOR IRON STAINING
*	1.07	1.08	0.01	01331	L	CLAYSTONE	WEATH.BN
*	1.08	1.09	0.01	01331	L	COAL	C-2
*	1.09	1.10	0.01	01331	L	COAL	C-1

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84216

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.10	1.14	0.04	01331	L	COAL	C-2
*	1.14	1.15	0.01	01331	L	SILTSTONE	BN BROWN-ORANGE COLOUR; WEATHERED
*	1.15	1.23	0.08	01331	L	COAL	C-2
*	1.23	1.24	0.01	01331	L	SILTSTONE	BN BROWN-ORANGE COLOUR; WEATHERED
*	1.24	1.39	0.15	01331	L	COAL	C-2
*	1.39	1.41	0.02	01331	L	SILTSTONE	P0D
*	1.41	2.25	0.84	01331	L	COAL	C-2
*	2.25	2.27	0.02	01331	L	CLAYSTONE	WEATH. BN
*	2.27	2.28	0.01	01331	L	COAL	C-2
*	2.28	2.29	0.01	01331	L	COAL	C-1

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84216

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.29	2.40	0.11	01331	L	COAL	C-3
*	2.40	2.43	0.03	01331	L	CLAYSTONE	CARB
*	2.43	2.48	0.05	01331	L	COAL	C-2
*	2.48	2.53	0.05	01331	L	COAL	C-3
*	2.53	2.67	0.14	01331	L	COAL	C-2
*	2.67	2.72	0.05	01331	L	CLAYSTONE	WEATH. BN UNCONSOLIDATED
*	2.72	3.02	0.30	01331	L	COAL	C-2
*	3.02	3.11	0.09	01331	L	COAL	C-3 MINOR IRON STAINING
*	3.11	3.22	0.11	01331	L	COAL	C-2 MINOR IRON STAINING
*	3.22	3.25	0.03	01331	L	COAL	C-3

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84216

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.25	3.29	0.04	01331	L	MUDSTONE	UNCONSOLIDATED; MINOR COALY STRINGERS
*	3.29	3.32	0.03	01331	L	COAL	C-3
*	3.32	3.35	0.03	01331	L	MUDSTONE	LT.BN
*	3.35	3.38	0.03	01331	L	COAL	C-3
*	3.38	3.47	0.09	01331	L	MUDSTONE	LT.BN UNCONSOLIDATED
*	3.47	3.64	0.17	01331	L	COAL	SPOIL; MINOR CARBONACEOUS CLAYSTONE INTERVALS
*	3.64	3.73	0.09	01331	L	COAL	C-4
*	3.73	4.38	0.65			SILTSTONE	INTERBEDDED MUDSTONE LAMINAE; UNCONSOLIDATED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84216 SEAM : 1 INTERVAL(M) : 0.81 - 3.73 ELEVATION(M) : 1789.0

GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. V AL MJ/KG		
	0.81	↑															
		0.02		0.02													
		0.02		0.02													
		0.01		0.01													
		0.01		0.01													
		0.02		0.02													
				0.84													
		0.02		0.02													
				0.13	100.0	1331	1331	2.59 / 0.35		11.77	28.22	24.52	35.49	0.29	14.52		
				0.24				2.92									
		0.01		0.01													
		0.01		0.01													
				0.53													
		0.01		0.01													
		0.01		0.01													
				0.26													
	3.73	↓															

PLOT 1 10.28.39 FRI 21 DEC, 1984 JOB-TST0060 GULF CANADA DISSPLR 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

DATA SOURCE		SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84216												
		HD1	L	1331	11.77	28.22	35.49	24.52	0.29	14.52		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84217

DATE - 01/08/85

- HISTORY -

START DATE - 07/27/84
 END DATE - 07/27/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - K. JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - SEAM OVERTURNED; LOGGED FROM STRATIGRAPHIC ROOF; V
 ALID DATA POINT; COAL/COAL+ROCK 2.96/3.71; SAMPLE
 NOS. 1332/1333

- LOCATION -

PROVINCE - BC
 ELEVATION - 1781.00

ZONE - 9
 NORTHING - 6344263.00
 EASTING - 506460.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571436
 LONGITUDE - 1285335

- ORIENTATION -

LENGTH - 10.50

INCLINATION - 6.0
 AZIMUTH - 24.0

SIZE WIDTH - 0.7
 SIZE HEIGHT - 1.1

ROOF STRIKE - 302
 ROOF DIP - 57
 ROOF DIR - S

FLOOR STRIKE - 301
 FLOOR DIP - 68
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84217

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.83	0.83			SILTSTONE	BN UNCONSOLIDATED; BROWN-ORANGE COLOUR; WEATHERED; INTERBEDDED MUDSTONE LAMINAE
*	0.83	1.03	0.20	01332	J	COAL	C-2 WEATHERED; IRON STAINED
*	1.03	1.15	0.12	01332	J	CLAYSTONE	WEATH.GY
*	1.15	1.17	0.02	01332	J	COAL	C-2
*	1.17	1.18	0.01	01332	J	SILTSTONE	BN BROWN-ORANGE COLOUR; WEATHERED
*	1.18	1.72	0.54	01332	J	COAL	C-2 MINOR IRON STAINING
*	1.72	1.74	0.02	01332	J	COAL	C-3
*	1.74	1.77	0.03	01332	J	COAL	C-2
*	1.77	1.78	0.01	01332	J	CLAYSTONE	WEATH.BN

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84217

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.78	1.91	0.13	01332	J	COAL	C-2
*	1.91	1.93	0.02	01332	J	SILTSTONE	
*	1.93	1.95	0.02	01332	J	COAL	C-4
*	1.95	2.17	0.22	01332	J	COAL	C-2
*	2.17	2.20	0.03	01332	J	CLAYSTONE	DK.GY
*	2.20	2.22	0.02	01332	J	COAL	C-3
*	2.22	2.31	0.09	01332	J	COAL	C-2
*	2.31	2.33	0.02	01332	J	COAL	C-6
*	2.33	2.41	0.08	01332	J	COAL	C-2
*	2.41	2.42	0.01	01332	J	COAL	C-4

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84217

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.42	2.45	0.03	01332	J	COAL	C-2
*	2.45	2.46	0.01	01332	J	COAL	C-1
*	2.46	2.48	0.02	01332	J	COAL	C-2
*	2.48	2.50	0.02	01332	J	MUDSTONE	WEATH. BN UNCONSOLIDATED
*	2.50	2.63	0.13	01332	J	COAL	C-3
*	2.63	2.67	0.04	01332	J	COAL	C-2
*	2.67	2.69	0.02	01332	J	SILTSTONE	M. BN
*	2.69	2.77	0.08	01332	J	COAL	C-3
*	2.77	2.83	0.06	01332	J	CLAYSTONE	WEATH. BN UNCONSOLIDATED
*	2.83	2.87	0.04	01332	J	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84217

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.87	2.88	0.01	01332	J	SILTSTONE	BN BROWN-ORANGE COLOUR
*	2.88	2.91	0.03	01332	J	COAL	C-2
*	2.91	2.97	0.06	01332	J	CLAYSTONE	WEATH.GY
*	2.97	3.12	0.15	01332	J	COAL	C-3
*	3.12	3.17	0.05	01333	J	CLAYSTONE	CARB MINOR COAL STRINGERS
*	3.17	3.21	0.04	01333	J	COAL	C-2 SOME IRON STAINING
*	3.21	3.23	0.02	01333	J	CLAYSTONE	CARB
*	3.23	3.25	0.02	01333	J	COAL	C-2
*	3.25	3.28	0.03	01333	J	CLAYSTONE	CARB MINOR COAL STRINGERS
*	3.28	3.30	0.02	01333	J	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84217

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.30	3.31	0.01	01333	J	COAL	C-1
*	3.31	3.35	0.04	01333	J	SILTSTONE	BN BROWN-ORANGE COLOUR; WEATHERED
*	3.35	3.40	0.05	01333	J	CLAYSTONE	CARB LISTRIC BEDDING; MINOR COAL STRINGERS
*	3.40	3.53	0.13	01333	J	COAL	C-3
*	3.53	3.57	0.04	01333	J	SILTSTONE	BN BROWN-ORANGE COLOUR; WEATHERED; UNCONSOLIDATED
*	3.57	3.65	0.08	01333	J	COAL	C-2
*	3.65	3.72	0.07	01333	J	SILTSTONE	UNCONSOLIDATED; INTERBEDDED MUDSTONE AND CARBONACEOUS CLAYSTONE LAMINAE
*	3.72	3.87	0.15	01333	J	COAL	C-2 HEAVY IRON STAINING
*	3.87	3.88	0.01	01333	J	SILTSTONE	

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 6

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84217

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.88	4.09	0.21	01333	J	COAL	C-2 IRON STAINING
*	4.09	4.10	0.01	01333	J	MUDSTONE	BN BROWN-ORANGE COLOUR
*	4.10	4.26	0.16	01333	J	COAL	C-2
*	4.26	4.30	0.04	01333	J	CLAYSTONE	WEATH.BN BROWN- ORANGE COLOUR; WEATHERED
*	4.30	4.39	0.09	01333	J	COAL	C-3
*	4.39	4.42	0.03	01333	J	CLAYSTONE	CARB COALY STRINGERS; LISTRIC SURFACES
*	4.42	4.44	0.02	01333	J	COAL	C-4
*	4.44	4.47	0.03	01333	J	COAL	C-2
*	4.47	4.52	0.05	01333	J	COAL	C-4
*	4.52	4.54	0.02	01333	J	COAL	C-2

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 7

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84217

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.54	5.07	0.53			SILTSTONE	INTERBEDDED MUDSTONE LAMINAE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

COAL DIVISION MOUNT KLAPPAN PROJECT

SEAM DETAIL

TRUE THICKNESS

DATA SOURCE: KPN LR TRCB4-217 SEAM : j INTERVAL(M) : 0.83 - 4.54 ELEVATION(M) : 1781.0
 GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
	0.83	↑		0.20												
			0.12	0.07												
				0.59												
			0.21	0.13												
			0.02	0.24	100.0	1332	1332			7.75	31.15	23.81	37.28	0.30	14.97	
			0.03	0.28												
			0.02	0.17												
			0.02	0.08												
			0.02	0.05												
			0.04	0.10												
	3.12		0.01	0.01												
			0.04	0.13												
			0.04	0.08												
			0.01	0.19	100.0	1333										
			0.01	0.21												
			0.04	0.16												
			0.05	0.08												
	4.54	↓		0.11												

2.94/0.75
3.71

PLOT 1 10.28.57 FRI 21 DEC, 1984 JOB-TST0260 GULF CANADA DISPLA 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE RESIDUAL ID	RESIDUAL MOISTURE%	ASH% CARBON%	FIXED MATTER%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84217											
	HD1	J	1332	7.76	31.15	37.28	23.81	0.30	14.97		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84218

DATE - 01/08/85

- HISTORY -

START DATE - 07/27/84

END DATE - 07/27/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - B. GLOVER

SURVEYOR -

REMARKS - ATTITUDE OF COAL MEASURES 281/73N; COAL/COAL+ROCK
1.83/2.03; SAMPLE NO. 2604

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1739.00

NORTHING - 6344152.00

EASTING - 506674.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571432

LONGITUDE - 1285322

- ORIENTATION -

LENGTH - 11.00

INCLINATION - 13.0

AZIMUTH - 38.0

SIZE WIDTH - 0.7

SIZE HEIGHT - 1.2

ROOF STRIKE - 0

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84218

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	1.00	1.00			MUDSTONE	LT.GY INTERBEDDED SILTSTONE; WEATHERED; IRON STAINED
*	1.00	1.09	0.09			CLAYSTONE	CLYY.M.GY SOFT;
*	1.09	1.12	0.03			CLAYSTONE	CARB.OK.GY
*	1.12	1.44	0.32	02604	K	COAL	C-3 WEATHERED; MINOR BEDDING
*	1.44	1.56	0.12	02604	K	COAL	C-3 SLIGHTLY WEATHERED; MINOR BEDDING
*	1.56	1.57	0.01	02604	K	MUDSTONE	CARB.OK.GY
*	1.57	1.81	0.24	02604	K	COAL	C-2 SLIGHTLY WEATHERED
*	1.81	1.83	0.02	02604	K	MUDSTONE	CARB.OK.GY MINOR COAL LAMINAE
*	1.83	1.86	0.03	02604	K	COAL	C-2 BEDDING ATTITUDE 281/73N; BEDS ARE OVER TURNED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84218

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.86	2.06	0.20	02604	K	COAL	C-3 WEATHERED; SOME IRON STAINING
*	2.06	2.07	0.01	02604	K	MUDSTONE	CARB.DK.GY
*	2.07	2.13	0.06	02604	K	COAL	C-3 WEATHERED; SOME IRON STAINING
*	2.13	2.15	0.02	02604	K	SILTSTONE	BN BROWN-ORANGE COLOUR; IRON STAINED
*	2.15	2.21	0.06	02604	K	COAL	C-2 WEATHERED
*	2.21	2.22	0.01	02604	K	MUDSTONE	CARB.DK.GY IRON STAINED
*	2.22	2.45	0.23	02604	K	COAL	C-3 WEATHERED
*	2.45	2.49	0.04	02604	K	CLAYSTONE	CLYY.LT.GY MINOR IRON STAINING
*	2.49	2.57	0.08	02604	K	COAL	C-3
*	2.57	2.58	0.01	02604	K	CLAYSTONE	CLYY.LT.GY

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84218

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	2.58	2.62	0.04	02604	K	COAL	C-4 SOFT
*	2.62	2.67	0.05	02604	K	CLAYSTONE	CLYY.LT.GY
*	2.67	2.69	0.02	02604	K	COAL	C-2
*	2.69	2.80	0.11	02604	K	COAL	C-3 SLIGHTLY WEATHERED
*	2.80	2.84	0.04	02604	K	COAL	C-3 IRON STAINED
*	2.84	2.87	0.03	02604	K	MUDSTONE	BN BROWN-ORANGE COLOUR; IRON STAINED
*	2.87	3.15	0.28	02604	K	COAL	C-2 SLIGHTLY WEATHERED
*	3.15	3.18	0.03			MUDSTONE	LT.GY SOFT
*	3.18	3.78	0.60			MUDSTONE	BN BROWN-ORANGE COLOUR; INTERBEDDED SILTST ONE LAMINAE; IRON STAINING

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84218 SEAM : k INTERVAL(M) : 1.12 - 3.15 ELEVATION(M) : 1739.0
 GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
		↑														
	1.12	█		0.44												
		█		0.24												
		█		0.23												
		█		0.23	100.0	2604	2604	1.83 / 0.20	2.03							
		█		0.23												
		█		0.17												
	3.15	█		0.28												
		█														
		↓														

PLOT 1 10.29.07 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISSEPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84219

DATE - 01/08/85

- HISTORY -

START DATE - 07/29/84
END DATE - 07/29/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - B. GLOVER

OPERATOR - GCR1
SURVEYOR -

REMARKS - NOT LOGGED OR SAMPLED

- LOCATION -

PROVINCE - BC
ELEVATION - 1742.00

ZONE - 9
NORTHING - 6344235.00
EASTING - 506746.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571435
LONGITUDE - 1285318

- ORIENTATION -

LENGTH - 9.50

INCLINATION - 0.0
AZIMUTH - 24.0

SIZE WIDTH - 0.0
SIZE HEIGHT - 0.0

ROOF STRIKE - 295
ROOF DIP - 65
ROOF DIR - W

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84219

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01		M	COAL	NO DETAILED LOG; UNIT INCERTED FOR SEAM DESIGNATION

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84220

DATE - 01/08/85

- HISTORY -

START DATE - 07/27/84

END DATE - 07/27/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - B. GLOVER

SURVEYOR -

REMARKS - VALID DATA POINT; ATTITUDE OF COAL 335/32E; COAL/C
OAL+ROCK 0.85/1.04; SAMPLE NO. 2601

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1757.50

NORTHING - 6343928.00

EASTING - 506125.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571425

LONGITUDE - 1285355

- ORIENTATION -

LENGTH - 10.00

INCLINATION - 20.0

AZIMUTH - 4.0

SIZE WIDTH - 0.4

SIZE HEIGHT - 1.8

ROOF STRIKE - 335

FLOOR STRIKE - 0

ROOF DIP - 32

FLOOR DIP - 0

ROOF DIR - E

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84220

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.56	0.56			OVERBURDEN	CLYY.GY UNCONSOLIDATED; MODERATELY STONEY
*	0.56	0.61	0.05			SILTSTONE	IRON STAINED; FRACTURED
*	0.61	0.81	0.20			MUDSTONE	DK.GY SOFT; PLASTIC
*	0.81	0.88	0.07	02601	H	COAL	C-5 IRON STAINED
*	0.88	1.01	0.13	02601	H	COAL	C-3 IRON STAINED
*	1.01	1.04	0.03	02601	H	COAL	C-2
*	1.04	1.06	0.02	02601	H	MUDSTONE	CARB SLIGHTLY WEATHERED
*	1.06	1.12	0.06	02601	H	COAL	C-2
*	1.12	1.14	0.02	02601	H	MUDSTONE	CARB INTERBEDDED COAL LAMINAE
*	1.14	1.21	0.07	02601	H	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84220

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.21	1.23	0.02	02601	H	MUDSTONE	CARB
*	1.23	1.62	0.39	02601	H	COAL	C-2 MINOR MUDSTONE LAMINAE (1.0 MM); BEDDING ATTITUDE 330/32E
*	1.62	1.71	0.09	02601	H	CLAYSTONE	CLYY.LT.BN SOFT;
*	1.71	1.73	0.02	02601	H	COAL	C-3
*	1.73	1.74	0.01	02601	H	CLAYSTONE	CLYY.LT.BN SOFT;
*	1.74	1.77	0.03	02601	H	COAL	C-3
*	1.77	1.79	0.02	02601	H	MUDSTONE	LT.GY SLIGHTLY CARBONACEOUS; SOFT; PLASTIC
*	1.79	1.80	0.01	02601	H	COAL	C-4
*	1.80	1.81	0.01	02601	H	MUDSTONE	LT.GY SLIGHTLY CARBONACEOUS; SOFT; PLASTIC

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84220

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.81	1.85	0.04	02601	H	COAL	C-4
*	1.85	1.92	0.07			MUDSTONE	CARB.DK.GY
*	1.92	1.94	0.02			MUDSTONE	CLYY.LT.GY
*	1.94	1.98	0.04			MUDSTONE	CARB.DK.GY
*	1.98	2.28	0.30			MUDSTONE	CARB.DK.GY

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

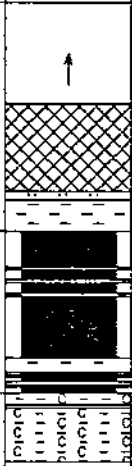
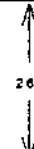
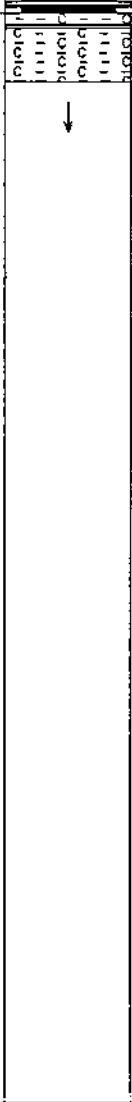
SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84220 SEAM : h INTERVAL(M) : 0.81 - 1.85 ELEVATION(M) : 1757.5

GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL V AL MJ/KG		
	0.81			0.23													
	1.85			0.38	100.0	2601	2601	0.85 / 0.19 1.04		8.25	44.20	20.59	26.96	0.19	11.11		

PLOT 1 10.29.14 FRI 21 DEC, 1984 JOB-TSTCE80 GULF CANADA DISSPLR 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84220											
	HD1	H	2601	8.25	44.20	26.96	20.59	.0.19	11.11		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84221

DATE - 01/08/85

- HISTORY -

START DATE - 07/26/84

END DATE - 07/26/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - B. GLOVER

SURVEYOR -

REMARKS - FROZEN; FRACTURED THROUGHOUT; ALL THICKNESSES ARE
TRUE; VALID DATA POINT; COAL/COAL+ROCK 4.53/4.85;
SAMPLE NO. 2602

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1770.00

NORTHING - 6343946.00

EASTING - 506030.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571426

LONGITUDE - 1285400

- ORIENTATION -

LENGTH - 13.20

INCLINATION - 12.0

AZIMUTH - 354.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 1.9

ROOF STRIKE - 276

FLOOR STRIKE - 0

ROOF DIP - 53

FLOOR DIP - 0

ROOF DIR - N

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84221

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.20	0.20			SILTSTONE	LT.GY WEATHERED; IRON STAINED
*	0.20	0.86	0.66			MUDSTONE	M.GY SOFT
*	0.86	1.26	0.40	02602	H	COAL	C-2 SLIGHTLY WEATHERED; IRON STAINED
*	1.26	1.27	0.01	02602	H	CLAYSTONE	CARB SOFT
*	1.27	1.39	0.12	02602	H	COAL	C-2 WEATHERED; IRON STAINED
*	1.39	1.41	0.02	02602	H	COAL	C-1
*	1.41	1.47	0.06	02602	H	COAL	C-2 WEATHERED
*	1.47	1.54	0.07	02602	H	COAL	C-1 SLIGHTLY IRON STAINED
*	1.54	1.84	0.30	02602	H	COAL	C-1 WEATHERED; HEAVILY IRON STAINED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4221

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.84	1.93	0.09	02602	H	COAL	C-2 WEATHERED; BADLY BROKEN; SOME IRON STAINING
*	1.93	2.04	0.11	02602	H	COAL	C-1 SLIGHTLY WEATHERED; IRON STAINED
*	2.04	2.07	0.03	02602	H	MUDSTONE	M.GY SOFT
*	2.07	2.17	0.10	02602	H	COAL	C-2 HEAVILY FRACTURED
*	2.17	2.18	0.01	02602	H	MUDSTONE	GY SOFT; PLASTIC
*	2.18	2.34	0.16	02602	H	COAL	C-1
*	2.34	2.39	0.05	02602	H	COAL	C-2 WEATHERED; SHATTERED
*	2.39	2.59	0.20	02602	H	MUDSTONE	BN IRON STAINED; SOFT; BROWN-ORANGE COLOUR
*	2.59	2.84	0.25	02602	H	COAL	C-1 FRACTURED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84221

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.84	2.91	0.07	02602	H	MUDSTONE	CARB.DK.GY SOFT
*	2.91	5.71	2.80		H	COAL	CANNOT BE LOGGED DUE TO SLUMP; WATER; M INDR MUDSTONE PARTINGS

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84222

DATE - 01/08/85

- HISTORY -

START DATE - 07/27/84

END DATE - 07/27/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCR1

GEOLOGIST - B. GLOVER

SURVEYOR -

REMARKS - POSSIBLE SLUMP BLOCK AREA; COAL/COAL+ROCK 0.40/0.5
2; SAMPLE NO. 2603

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1770.00

NORTHING - 6344189.00

EASTING - 506234.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571434

LONGITUDE - 1285348

- ORIENTATION -

LENGTH - 11.50

INCLINATION - 19.0

AZIMUTH - 2.0

SIZE WIDTH - 0.7

SIZE HEIGHT - 0.9

ROOF STRIKE - 275

FLOOR STRIKE - 0

ROOF DIP - 10

FLOOR DIP - 0

ROOF DIR - S

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4222

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.56	0.56			OVERBURDEN	DK.GY UNCONSOLIDATED; STONEY
*	0.56	0.61	0.05	02603	I	COAL	C-5 MINOR MUDSTONE LAMINAE
*	0.61	0.67	0.06	02603	I	COAL	C-4 MINOR MUDSTONE LAMINAE
*	0.67	0.81	0.14	02603	I	COAL	C-3 SPOIL; FRACTURED; BROKEN
*	0.81	0.91	0.10	02603	I	MUDSTONE	CARB SOFT; MINOR COAL LAMINAE
*	0.91	1.02	0.11	02603	I	COAL	C-3 SPOIL
*	1.02	1.04	0.02	02603	I	MUDSTONE	BN BROWN-ORANGE COLOUR; IRON STAINED; SOFT
*	1.04	1.08	0.04	02603	I	COAL	C-3 SPOIL
*	1.08	1.11	0.03			MUDSTONE	CARB.DK.GY SOFT
*	1.11	1.25	0.14			MUDSTONE	M.BN FRACTURED; NO APPARENT BEDDING

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.


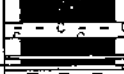
SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84222 SEAM : i INTERVAL(M) : 0.56 - 1.08 ELEVATION(M) : 1770.0

GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
	0.56	↑  ↓		0.25			↑ 2603									
	1.08	↓  ↑	0.10	0.11	100.0	2603	2603	0.40 / 0.12								
			0.02	0.11				0.52								

PLOT I 10.29.41 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84223

DATE - 01/08/85

- HISTORY -

START DATE - 07/26/84

END DATE - 07/26/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - K. JENNER

SURVEYOR -

REMARKS - SEAM OVERTURNED; LOGGED FROM STRATIGRAPHIC TOP; VAL
LID DATA POINT; COAL/COAL+ROCK 6.23/7.58; SAMPLE N
0. 1323

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1710.00

NORTHING - 6343834.00

EASTING - 506704.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571422

LONGITUDE - 1285320

- ORIENTATION -

LENGTH - 9.80

INCLINATION - 8.0

AZIMUTH - 32.0

SIZE WIDTH - 0.6

SIZE HEIGHT - 1.8

ROOF STRIKE - 311

FLOOR STRIKE - 0

ROOF DIP - 68

FLOOR DIP - 0

ROOF DIR - W

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

B4/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84223

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	1.30	1.30			MUDSTONE	LT.BN WEATHERED; IRON STAINED; INTERBEDDED SILTSTONE
*	1.30	1.52	0.22			CLAYSTONE	CARB SOFT; MINOR COAL STRINGERS
*	1.52	1.62	0.10	01323	I	COAL	C-2 WEATHERED; MINOR IRON STAINING
*	1.62	1.64	0.02	01323	I	SILTSTONE	BN WEATHERED; COAL STRINGERS; BROWN-ORANGE COLOUR
*	1.64	2.01	0.37	01323	I	COAL	C-2 MINOR IRON STAINING; PODDED SILTSTONE; WEATHERED ORANGE-BROWN
*	2.01	2.04	0.03	01323	I	CLAYSTONE	CARB LITRIC SURFACES; MINOR COAL LAMINAE (1 .0 MM)
*	2.04	2.11	0.07	01323	I	COAL	C-2 FLAT BEDDING; WEATHERED; IRON STAINED; BEDDING CHANGEABLE
*	2.11	2.48	0.37	01323	I	COAL	C-2 WEATHERED; IRON STAINED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84223

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	2.48	2.81	0.33	01323	I	MUDSTONE	CLYY.BN BROWN-ORANGE COLOUR; WEATHERED
*	2.81	2.98	0.17	01323	I	COAL	C-2 IRON STAINED
*	2.98	2.99	0.01	01323	I	CLAYSTONE	WEATH.GY UNCONSOLIDATED
*	2.99	3.52	0.53	01323	I	COAL	C-2 MINOR MUDSTONE LAMINAE (1.0 MM); IRON STAINED
*	3.52	3.53	0.01	01323	I	CLAYSTONE	LT.BN
*	3.53	3.69	0.16	01323	I	COAL	C-2 IRON STAINED
*	3.69	3.70	0.01	01323	I	SILTSTONE	BN BROWN-ORANGE COLOUR; WEATHERED
*	3.70	4.14	0.44	01323	I	COAL	C-2 SLIGHTLY WEATHERED
*	4.14	4.16	0.02	01323	I	SILTSTONE	BN BROWN-ORANGE COLOUR; WEATHERED; BEDDING ATTITUDE 290/975

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84223

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.16	4.64	0.48	01323	I	COAL	C-2 MINOR IRON STAINING
*	4.64	4.67	0.03	01323	I	CLAYSTONE	CARB.DK.GY
*	4.67	4.83	0.16	01323	I	COAL	C-2 LISTRIC SURFACES ON MINOR CARBONACEOUS CLAYSTONE STRINGERS
*	4.83	5.45	0.62	01323	I	COAL	C-2 SLIGHTLY WEATHERED; BEDDING ATTITUDE 25 7/70S
*	5.45	5.46	0.01	01323	I	SILTSTONE	WEATHERED; IRON STAINED
*	5.46	5.48	0.02	01323	I	COAL	C-1
*	5.48	5.64	0.16	01323	I	COAL	C-2 MINOR IRON STAINING
*	5.64	5.67	0.03	01323	I	COAL	C-1
*	5.67	5.79	0.12	01323	I	COAL	C-2 MINOR IRON STAINING
*	5.79	5.80	0.01	01323	I	SILTSTONE	

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84223

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	5.80	5.84	0.04	01323	I	COAL	C-2 MINOR CARBONACEOUS CLAYSTONE LAMINAE (1 .0 MM)
*	5.84	5.86	0.02	01323	I	SILTSTONE	
*	5.86	5.96	0.10	01323	I	COAL	C-2
*	5.96	5.98	0.02	01323	I	CLAYSTONE	CARB COAL STRINGERS
*	5.98	6.27	0.29	01323	I	COAL	C-2 SOFT; IRON STAINED
*	6.27	6.31	0.04	01323	I	COAL	C-4 SOFT
*	6.31	6.32	0.01	01323	I	SILTSTONE	BEDDING UNDETERMINED
*	6.32	6.51	0.19	01323	I	COAL	C-2 WEATHERED; BEDDING UNDETERMINED
*	6.51	6.53	0.02	01323	I	SILTSTONE	
*	6.53	6.63	0.10	01323	I	COAL	C-2 BEDDING UNDETERMINED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84223

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	6.63	6.95	0.32	01323	I	COAL	C-2 BEDDING ATTITUDE 305/86(VERTICAL)
*	6.95	6.96	0.01	01323	I	COAL	C-1 CONCHOIDALLY FRACTURED
*	6.96	7.20	0.24	01323	I	COAL	C-2
*	7.20	7.27	0.07	01323	I	COAL	C-4
*	7.27	7.29	0.02	01323	I	COAL	C-2
*	7.29	7.31	0.02	01323	I	SILTSTONE	BN WEATHERED
*	7.31	7.49	0.18	01323	I	COAL	C-2 UNCONSOLIDATED
*	7.49	7.50	0.01	01323	I	MUDSTONE	
*	7.50	7.59	0.09	01323	I	COAL	C-2
*	7.59	7.63	0.04	01323	I	COAL	C-4

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84223

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	7.63	7.66	0.03	01323	I	COAL	C-2
*	7.66	7.67	0.01	01323	I	SILTSTONE	BN ORANGE-BROWN COLOUR; WEATHERED
*	7.67	7.73	0.06	01323	I	COAL	C-2
*	7.73	7.81	0.08	01323	I	CLAYSTONE	CARB LISTRIC SURFACES
*	7.81	7.95	0.14	01323	I	COAL	C-2 WEATHERED; MINOR IRON STAINING
*	7.95	8.01	0.06	01323	I	COAL	C-2 WEATHERED
*	8.01	8.03	0.02	01323	I	CLAYSTONE	WEATH.BN BROWN-RED COLOUR
*	8.03	8.24	0.21	01323	I	CLAYSTONE	CARB
*	8.24	8.27	0.03	01323	I	COAL	C-3
*	8.27	8.34	0.07	01323	I	COAL	C-2

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 7

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84223

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	8.34	8.39	0.05	01323	I	CLAYSTONE	M.BN
*	8.39	8.41	0.02	01323	I	SILTSTONE	BN BROWN-ORANGE COLOUR; WEATHERED
*	8.41	8.44	0.03	01323	I	CLAYSTONE	CARB
*	8.44	8.56	0.12	01323	I	COAL	C-2
*	8.56	8.91	0.35	01323	I	MUDSTONE	LT.BN WEATHERED; GRAY WHEN FRESH; BEDDING ATTITUDE 306/70S
*	8.91	9.04	0.13	01323	I	COAL	C-2 IRON STAINED; UNCONSOLIDATED
*	9.04	9.10	0.06	01323	I	COAL	C-3 UNCONSOLIDATED
*	9.10	9.14	0.04			MUDSTONE	LT.BN WEATHERED; MEDIUM GRAY ON FRESH SURFACE S

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84223 SEAM : 1 INTERVAL(M) : 1.52 - 9.10 ELEVATION(M) : 1710.0
 GEOLOGIST : K. JENNER DATE : JAN 16/85 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
	4.54	↑		0.78												
				0.33												
				0.33												
				0.19												
				0.19												
				0.76	100.0	1323	1323									
				0.18												
				0.18												
				0.20												
				0.21												
				0.12												
				0.35												
	9.10	↓		0.19												

PLOT 1 08.12.43 HED 16 JAN, 1985 JOB-TSTE60 GULF CANADA LMT DISSPLR 9.2

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84224

DATE - 01/08/85

- HISTORY -

START DATE - 07/28/84

END DATE - 07/28/84

CONTRACTOR - ELIAS EXCAV.

GEOLOGIST - K. JENNER

OPERATOR - GCRI

SURVEYOR -

REMARKS - COAL/COAL+ROCK 4.35/5.51; VALID DATA POINT; SAMPLE
NO. 1324

- LOCATION -

PROVINCE - BC

ELEVATION - 1724.50

LICENCE/LEASE NUMBER - 7151

ZONE - 9

NORTHING - 6343964.00

EASTING - 506608.00

LATITUDE - 571426

LONGITUDE - 1285326

- ORIENTATION -

LENGTH - 7.10

INCLINATION - 18.0

AZIMUTH - 219.0

SIZE WIDTH - 0.6

SIZE HEIGHT - 2.0

ROOF STRIKE - 296

ROOF DIP - 78

ROOF DIR - N

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84224

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.80	0.80			MUDSTONE	CARB MINOR INTERBEDDED SILTSTONE LAMINAE
*	0.80	1.05	0.25	01324	I	COAL	C-3
*	1.05	1.06	0.01	01324	I	MUDSTONE	CARB SOFT
*	1.06	1.26	0.20	01324	I	COAL	C-2
*	1.26	1.36	0.10	01324	I	CLAYSTONE	CARB.DK.GY SOFT; CLAYEY
*	1.36	1.47	0.11	01324	I	COAL	C-2 QUARTZ LAMINAE ALONG CLEATS
*	1.47	1.63	0.16	01324	I	CLAYSTONE	DK.GY
*	1.63	1.77	0.14	01324	I	COAL	C-3 PLANT FOSSIL; BEDDED
*	1.77	1.88	0.11	01324	I	COAL	C-1 CONCHOIDALLY FRACTURED
*	1.88	1.90	0.02	01324	I	SILTSTONE	DK.GY HARD

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84224

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.90	1.97	0.07	01324	I	COAL	C-3 WEATHERED
*	1.97	2.39	0.42	01324	I	COAL	C-1 MINOR IRON STAINING
*	2.39	2.50	0.11	01324	I	COAL	C-3 WEATHERED
*	2.50	2.54	0.04	01324	I	MUDSTONE	CARB
*	2.54	2.65	0.11	01324	I	COAL	C-3 WEATHERED
*	2.65	2.75	0.10	01324	I	COAL	C-2
*	2.75	2.76	0.01	01324	I	MUDSTONE	CARB.DK.GY
*	2.76	2.93	0.17	01324	I	COAL	C-2 SLIGHTLY WEATHERED
*	2.93	3.37	0.44	01324	I	COAL	C-2
*	3.37	3.40	0.03	01324	I	MUDSTONE	CARB.DK.GY

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84224

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.40	3.66	0.26	01324	I	COAL	C-2 BEDDING ATTITUDE 335/VERTICAL
*	3.66	3.81	0.15	01324	I	CLAYSTONE	WEATH.GY SOFT
*	3.81	3.89	0.08	01324	I	COAL	C-3 WEATHERED
*	3.89	4.03	0.14	01324	I	CLAYSTONE	CARB SOFT
*	4.03	4.15	0.12	01324	I	COAL	C-2 WEATHERED
*	4.15	4.18	0.03	01324	I	MUDSTONE	CARB.DK.GY SOFT
*	4.18	4.79	0.61	01324	I	COAL	C-2 WEATHERED BEDDING
*	4.79	5.01	0.22	01324	I	CLAYSTONE	CLYY.LT.GY
*	5.01	5.22	0.21	01324	I	COAL	C-2 FROZEN
*	5.22	5.23	0.01	01324	I	MUDSTONE	CARB.DK.GY

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84224

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	5.23	5.36	0.13	01324	I	COAL	C-2 FRACTURED; FROZEN
*	5.36	5.39	0.03	01324	I	MUDSTONE	CARB CLAYEY
*	5.39	5.57	0.18	01324	I	COAL	C-2
*	5.57	5.67	0.10	01324	I	MUDSTONE	CARB MINOR COAL LAMINAE (2.0 MM)
*	5.67	5.82	0.15	01324	I	COAL	C-3
*	5.82	5.91	0.09	01324	I	MUDSTONE	CARB.DK.GY
*	5.91	6.05	0.14	01324	I	COAL	C-5
*	6.05	6.31	0.26	01324	I	COAL	C-4 WEATHERED
*	6.31	7.07	0.76			MUDSTONE	DK.GY SOFT; CLYY

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84224 SEAM: i INTERVAL(M) : 0.80 - 6.31 ELEVATION(M) : 1724.5
 GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.80	↑		0.25													
			0.01	0.20													
			0.10	0.11													
			0.16	0.25													
			0.02	0.60													
			0.01	0.21													
			0.01	0.61													
			0.01	0.28	100.0	1324	1324	4.35/1.10									
			0.15	0.08				5.51									
			0.14	0.12													
			0.02	0.61													
			0.22	0.21													
			0.01	0.13													
			0.02	0.18													
			0.10	0.15													
			0.09	0.15													
				0.40													
	6.31	↓															

PLOT 1 10.30.35 FRI 21 DEC, 1984 JOB-TSTCE68 GULF CANADA D155PLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84225

DATE - 01/08/85

- HISTORY -

START DATE - 07/26/84

END DATE - 07/26/84

CONTRACTOR - GCRI

OPERATOR - GCRI

GEOLOGIST - K. JENNER

SURVEYOR -

REMARKS - SEAM OVERTURNED; LOGGED FROM STRATIGRAPHIC TOP; VA
LID DATA POINT; COAL/COAL+ROCK 2.61/2.98; SAMPLE N
O. 1329

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1700.00

NORTHING - 6343750.00

EASTING - 506808.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571419

LONGITUDE - 1285314

- ORIENTATION -

LENGTH - 6.30

INCLINATION - 4.0

AZIMUTH - 40.0

SIZE WIDTH - 0.7

SIZE HEIGHT - 1.6

ROOF STRIKE - 306

FLOOR STRIKE - 317

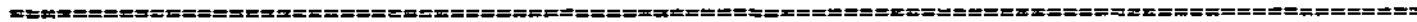
ROOF DIP - 69

FLOOR DIP - 65

ROOF DIR - S

FLOOR DIR - S

*** NOTE *** O INDICATES NO VALUE



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84225

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.40	0.40			SILTSTONE	BN BROWN-GRAY COLOUR; WEATHERED
*	0.40	0.80	0.40			CLAYSTONE	WEATH.GY CONSOLIDATED
*	0.80	0.82	0.02			CLAYSTONE	CARB MINOR COALY STRINGERS
*	0.82	0.86	0.04	01329	I	COAL	C-3 IRON STAINED
*	0.86	0.88	0.02	01329	I	COAL	C-2 IRON STAINED
*	0.88	0.90	0.02	01329	I	COAL	C-3
*	0.90	0.92	0.02	01329	I	SILTSTONE	IRON STAINED
*	0.92	0.95	0.03	01329	I	COAL	C-2 IRON STAINED
*	0.95	1.07	0.12	01329	I	COAL	C-3
*	1.07	1.13	0.06	01329	I	COAL	C-2 IRON STAINED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84225

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.13	1.15	0.02	01329	I	COAL	C-1
*	1.15	1.28	0.13	01329	I	COAL	C-2
*	1.28	1.31	0.03	01329	I	COAL	C-1 CONCHOIDALLY FRACTURED
*	1.31	1.51	0.20	01329	I	COAL	C-2
*	1.51	1.53	0.02	01329	I	COAL	C-2 IRON STAINING
*	1.53	1.58	0.05	01329	I	COAL	C-2 MINOR QUARTZ VEIN PARALLEL TO BEDDING
*	1.58	1.77	0.19	01329	I	CLAYSTONE	LT.BN
*	1.77	1.96	0.19	01329	I	COAL	C-2
*	1.96	1.99	0.03	01329	I	COAL	C-4
*	1.99	2.09	0.10	01329	I	COAL	C-2 MINOR SILTSTONE BLEBS

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84225

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	2.09	2.12	0.03	01329	I	COAL	C-5 LITRIC SURFACES ON INTERBEDDED CLAYSTONE
*	2.12	2.21	0.09	01329	I	COAL	C-2 IRON STAINING
*	2.21	2.24	0.03	01329	I	COAL	C-3
*	2.24	2.34	0.10	01329	I	COAL	C-2
*	2.34	2.39	0.05	01329	I	CLAYSTONE	WEATH.GY UNCONSOLIDATED
*	2.39	2.46	0.07	01329	I	COAL	C-2
*	2.46	2.54	0.08	01329	I	CLAYSTONE	WEATH.BN BROWN-ORANGE COLOUR; UNCONSOLIDATED
*	2.54	2.97	0.43	01329	I	COAL	C-2 MINOR IRON STAINING
*	2.97	3.00	0.03	01329	I	COAL	C-2 HIGHLY IRON STAINED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84225

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.00	3.17	0.17	01329	I	COAL	C-2
*	3.17	3.20	0.03	01329	I	CLAYSTONE	CARB LISTRIC SURFACES
*	3.20	3.79	0.59	01329	I	COAL	C-2 IRON STAINED
*	3.79	3.80	0.01	01329	I	COAL	C-1
*	3.80	3.90	0.10			CLAYSTONE	CARB LISTRIC SURFACES; MINOR COAL LAMINAE
*	3.90	4.55	0.65			SILTSTONE	M.BN WEATHERED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84-225 SEAM : 1 INTERVAL(M) : 0.82 - 3.80 ELEVATION(M) : 1700.0
 GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
		↑															
	0.82	0.82		0.86													
		0.19															
		0.57															
		0.24			100.0	1329	1329	2.61 / 0.37									
		0.08						2.98									
		0.63															
		0.93		0.80													
	3.80	3.80															
		↓															

PLOT 1 10.30.43 FRI 21 DEC, 1984 JOB-TSTCE80 GULF CANADA DISSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84226

DATE - 01/08/85

- HISTORY -

START DATE - 07/28/84

END DATE - 07/28/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - K. JENNER

SURVEYOR -

REMARKS - VALID DATA POINT; COAL/COAL+ROCK 2.90/3.42; SAMPLE
NO. 1334

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1702.50

NORTHING - 6343790.00

EASTING - 506764.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571421

LONGITUDE - 1285317

- ORIENTATION -

LENGTH - 7.10

INCLINATION - 18.0

AZIMUTH - 41.0

SIZE WIDTH - 0.6

SIZE HEIGHT - 2.0

ROOF STRIKE - 296

FLOOR STRIKE - 0

ROOF DIP - 78

FLOOR DIP - 0

ROOF DIR - E

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/12

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84226

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.39	0.39			SILTSTONE	M.GY
*	0.39	0.46	0.07			CLAYSTONE	CARB MINOR COAL STRINGERS
*	0.46	0.50	0.04			COAL	C-4
*	0.50	0.53	0.03			SILTSTONE	BN WEATHERED; ORANGE-BROWN COLOUR
*	0.53	0.63	0.10			CLAYSTONE	LT.GY UNCONSOLIDATED
*	0.63	0.73	0.10			SILTSTONE	BN ORANGE-BROWN COLOUR; FOSSILIFEROUS; INT ERBEDDED CLAYSTONE; UNCONSOLIDATED
*	0.73	0.83	0.10	01334	I	COAL	C-3
*	0.83	0.87	0.04	01334	I	CLAYSTONE	WEATH.GY IRON STAINED; FROZEN
*	0.87	1.02	0.15	01334	I	COAL	C-3 IRON STAINED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84226

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.02	1.04	0.02	01334	I	COAL	C-4 IRON STAINED
*	1.04	1.12	0.08	01334	I	COAL	C-3 IRON STAINED
*	1.12	1.18	0.06	01334	I	CLAYSTONE	WEATH. BN MINOR CLAYSTONE LAMINAE
*	1.18	1.45	0.27	01334	I	COAL	C-2 MINOR IRON STAINING
*	1.45	1.49	0.04	01334	I	SILTSTONE	BN ORANGE-BROWN COLOUR; WEATHERED
*	1.49	1.62	0.13	01334	I	COAL	C-2 MINOR IRON STAINING; SOME C-3
*	1.62	1.63	0.01	01334	I	SILTSTONE	
*	1.63	1.67	0.04	01334	I	COAL	C-2
*	1.67	1.69	0.02	01334	I	COAL	C-2
*	1.69	1.70	0.01	01334	I	SILTSTONE	BN ORANGE-BROWN COLOUR; WEATHERED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84226

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.70	1.73	0.03	01334	I	COAL	C-2
*	1.73	1.77	0.04	01334	I	CLAYSTONE	WEATH.GY UNCONSOLIDATED
*	1.77	1.83	0.06	01334	I	COAL	C-2
*	1.83	1.84	0.01	01334	I	CLAYSTONE	CARB
*	1.84	1.88	0.04	01334	I	COAL	C-2
*	1.88	1.95	0.07	01334	I	CLAYSTONE	WEATH.GY
*	1.95	2.07	0.12	01334	I	COAL	C-2 IRON STAINED
*	2.07	2.11	0.04	01334	I	COAL	C-5
*	2.11	2.12	0.01	01334	I	SILTSTONE	BN ORANGE-BROWN COLOUR
*	2.12	2.19	0.07	01334	I	COAL	C-2 IRON STAINED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84226

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.19	2.21	0.02	01334	I	COAL	C-4
*	2.21	2.23	0.02	01334	I	COAL	C-2 IRON STAINED
*	2.23	2.26	0.03	01334	I	SILTSTONE	BN RED-BROWN COLOUR
*	2.26	2.28	0.02	01334	I	COAL	C-2
*	2.28	2.32	0.04	01334	I	COAL	C-2 MINOR IRON STAINING
*	2.32	2.34	0.02	01334	I	SILTSTONE	BN RED-BROWN COLOUR
*	2.34	2.42	0.08	01334	I	COAL	C-2 MINOR IRON STAINING
*	2.42	2.47	0.05	01334	I	COAL	C-1
*	2.47	2.48	0.01	01334	I	SANDSTONE	BN RED-BROWN COLOUR
*	2.48	2.56	0.08	01334	I	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84226

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.56	2.60	0.04	01334	I	SANDSTONE	BN RED-BROWN COLOUR
*	2.60	2.63	0.03	01334	I	COAL	C-3
*	2.63	2.64	0.01	01334	I	COAL	C-4
*	2.64	2.70	0.06	01334	I	COAL	C-2 MINOR IRON STAINING
*	2.70	2.73	0.03	01334	I	SANDSTONE	WEATH. BN RED-BROWN COLOUR; CONSOLIDATED; FRIABLE
*	2.73	2.91	0.18	01334	I	COAL	C-2 MINOR C-3 LAMINAE
*	2.91	2.92	0.01	01334	I	SANDSTONE	BN RED-BROWN COLOUR
*	2.92	3.02	0.10	01334	I	COAL	C-2
*	3.02	3.04	0.02	01334	I	SANDSTONE	WEATH. BN RED-BROWN COLOUR
*	3.04	3.33	0.29	01334	I	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84226

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.33	3.36	0.03	01334	I	SANDSTONE	WEATH.BN RED-BROWN COLOUR
*	3.36	3.83	0.47	01334	I	COAL	C-2 WHITE POWDER ON CLEAVAGE PLANES TOWARDS BASE
*	3.83	3.87	0.04	01334	I	COAL	C-3
*	3.87	3.89	0.02	01334	I	COAL	C-3 HEAVY IRON STAINING
*	3.89	3.98	0.09	01334	I	COAL	C-4 LITRIC SURFACES ON LAMINATED CARBONS A ND CLAYSTONE
*	3.98	4.04	0.06	01334	I	COAL	C-2 MINOR IRON STAINING
*	4.04	4.08	0.04	01334	I	SANDSTONE	WEATH.BN RED-BROWN COLOUR
*	4.08	4.11	0.03	01334	I	COAL	C-5
*	4.11	4.15	0.04	01334	I	COAL	C-4

* DENOTES MEASURED BCA

84/12/12

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 7

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84226

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.15	4.20	0.05			CLAYSTONE	CARB MINOR COAL STRINGERS
*	4.20	5.17	0.97			SILTSTONE	LT.GY INTERBEDDED MUDSTONE; WEATHERED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

COAL DIVISION
MOUNT KLAPPAN PROJECT

SEAM DETAIL

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84 226 SEAM : 1 INTERVAL(M) : 0.73 - 4.15 ELEVATION(M) : 1702.5
 GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.73	↑		0.10													
				0.25													
				0.27													
				0.13													
				0.28													
				0.24													
				0.16													
				0.11													
				0.36													
				0.19		100.0	1334	1334	2.90 / 0.52		10.13	30.67	26.39	33.81	0.27	14.07	
				0.08					3.42								
				0.10													
				0.18													
				0.10													
				0.29													
				0.68													
	4.15	↓		0.07													

PLOT 1 10.31.09 FRI 21 DEC, 1984 JOB-TSTC160 GULF CANADOR D155FLR 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM				
DATA SOURCE	SSID	SEAM	SAMPLE RESIDUAL ID	MOISTURE%	ASH% FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALDRIFIC VALUE (MJ-KG)	SPG	FSI
TRC84226										
	HD1	I	1334	10.13	30.67	33.81	25.39	0.27		14.07

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84227

DATE - 01/08/85

- HISTORY -

START DATE - 07/28/84
END DATE - 07/28/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - B. GLOVER

OPERATOR - GCRI
SURVEYOR -

REMARKS - VALID DATA POINT; LOGGED QUICKLY DUE TO INFILLING
WITH WATER; COAL/COAL+ROCK 3.76/3.97; SAMPLE NO. 1
335

- LOCATION -

PROVINCE - BC
ELEVATION - 1700.00

ZONE - 9
NORTHING - 6343853.00
EASTING - 506793.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571423
LONGITUDE - 1285315

- ORIENTATION -

LENGTH - 8.40

INCLINATION - 0.0
AZIMUTH - 42.0

SIZE WIDTH - 0.8
SIZE HEIGHT - 2.4

ROOF STRIKE - 323
ROOF DIP - 75
ROOF DIR - N

FLOOR STRIKE - 307
FLOOR DIP - 74
FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84227

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.50	0.50			SILTSTONE	M.GY WEATHERED
*	0.50	0.55	0.05	01335	J	COAL	C-4
*	0.55	0.64	0.09	01335	J	COAL	C-3 MINOR IRON STAINING
*	0.64	0.71	0.07	01335	J	COAL	C-3 BROKEN
*	0.71	0.73	0.02	01335	J	CLAYSTONE	WEATH.GY SOFT
*	0.73	0.82	0.09	01335	J	COAL	C-3 MINOR IRON STAINING
*	0.82	1.07	0.25	01335	J	COAL	C-2 SOME C-1; MINOR IRON STAINING
*	1.07	1.10	0.03	01335	J	SANDSTONE	WEATH.BN UNCONSOLIDATED
*	1.10	1.46	0.36	01335	J	COAL	C-2 MINOR IRON STAINING
*	1.46	1.53	0.07	01335	J	CLAYSTONE	WEATH.GY MINOR IRON STAINING

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84227

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.53	2.63	1.10	01335	J	COAL	C-2 MINOR IRON STAINING (NO SPLITS)
*	2.63	2.66	0.03	01335	J	CLAYSTONE	WEATH.GY MODERATELY CARBONACEOUS
*	2.66	3.09	0.43	01335	J	COAL	C-2 MINOR IRON STAINING
*	3.09	3.11	0.02	01335	J	COAL	C-3 FRACTURED; BROKEN
*	3.11	3.17	0.06	01335	J	COAL	C-2
*	3.17	3.23	0.06	01335	J	CLAYSTONE	CARB MINOR COAL LAMINAE
*	3.23	3.86	0.63	01335	J	COAL	C-2 VERY MINOR IRON STAINING
*	3.86	3.90	0.04	01335	J	COAL	C-3 FRACTURED; BROKEN; MINOR MUDSTONE LAMINAE
*	3.90	4.28	0.38	01335	J	COAL	C-2

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4227

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.28	4.43	0.15	01335	J	COAL	C-4
*	4.43	4.47	0.04	01335	J	COAL	C-3 MINOR IRON STAINING
*	4.47	4.87	0.40			MUDSTONE	GY INTERBEDDED SILTSTONE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84227 SEAM : j INTERVAL(M) : 0.50 - 4.47 ELEVATION(M) : 1700.0
 GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL VAL MJ/KG		
	0.50	↑		0.21													
			0.01	0.34			↑										
			0.01	0.36													
			0.07	1.10													
			0.02	100.0	1335	1335	3.78 / 0.21										
			0.04	0.51			↓	3.97									
			0.04	1.24													
	4.47	↓															

PLOT 1 10.31.13 FRI 21 DEC, 1984 JOB-TSTG80 GULF CANADA DISPLAY 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84228

DATE - 01/08/85

- HISTORY -

START DATE - 07/28/84
END DATE - 07/28/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - K. JENNER

OPERATOR - GCRI
SURVEYOR -

REMARKS - COAL/COAL+ROCK 4.76/5.37; VALID DATA POINT; SAMPLE
NOS. 1336/1337/1338

- LOCATION -

PROVINCE - BC
ELEVATION - 1708.00

ZONE - 9
NORTHING - 6343902.00
EASTING - 506748.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571424
LONGITUDE - 1285318

- ORIENTATION -

LENGTH - 12.10

INCLINATION - 4.0
AZIMUTH - 40.0

SIZE WIDTH - 0.7
SIZE HEIGHT - 1.8

ROOF STRIKE - 306
ROOF DIP - 65
ROOF DIR - N

FLOOR STRIKE - 312
FLOOR DIP - 64
FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84228

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	1.26	1.26			SANDSTONE	FG LAMINAE (1.0 MM) DARK AND LIGHT
*	1.26	1.43	0.17	01336	J	COAL	C-2 UNCONSOLIDATED; WEATHERED; NO BEDDING
*	1.43	1.67	0.24	01336	J	COAL	C-2
*	1.67	1.71	0.04	01336	J	COAL	C-1
*	1.71	1.78	0.07	01336	J	COAL	C-2
*	1.78	1.80	0.02	01336	J	MUDSTONE	DK.GY
*	1.80	2.04	0.24	01336	J	COAL	C-2
*	2.04	2.06	0.02	01336	J	CLAYSTONE	CARB LISTRIC SURFACES
*	2.06	2.74	0.68	01336	J	COAL	C-2 MINOR IRON STAINING
*	2.74	2.75	0.01	01336	J	SANDSTONE	WEATH.BN UNCONSOLIDATED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84228

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.75	2.95	0.20	01336	J	COAL	C-2
*	2.95	2.96	0.01	01336	J	CLAYSTONE	WEATH.BN
*	2.96	2.99	0.03	01336	J	CLAYSTONE	CARB MINOR COAL STRINGERS
*	2.99	3.03	0.04	01336	J	COAL	C-2
*	3.03	3.04	0.01	01336	J	CLAYSTONE	CARB
*	3.04	3.07	0.03	01336	J	COAL	C-2
*	3.07	3.08	0.01	01336	J	CLAYSTONE	WEATH.BN
*	3.08	3.09	0.01	01336	J	COAL	C-2
*	3.09	3.11	0.02	01336	J	CLAYSTONE	WEATH.BN
*	3.11	3.17	0.06	01336	J	COAL	C-2 MINOR IRON STAINING

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84228

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.17	3.19	0.02	01336	J	COAL	C-1
*	3.19	3.21	0.02	01336	J	COAL	C-2
*	3.21	3.23	0.02	01336	J	CLAYSTONE	WEATH. BN
*	3.23	3.38	0.15	01336	J	COAL	C-2 MINOR IRON STAINING; WHITE DEPOSITS ON CLEATS
*	3.38	3.40	0.02	01336	J	COAL	C-1
*	3.40	3.46	0.06	01336	J	COAL	C-2
*	3.46	3.47	0.01	01336	J	COAL	C-4
*	3.47	3.51	0.04	01336	J	COAL	C-2

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC8422B

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.51	3.53	0.02	01336	J	CLAYSTONE	WEATH.GY
*	3.53	3.86	0.33	01336	J	COAL	C-2 MINOR IRON STAINING
*	3.86	3.91	0.05	01336	J	MUDSTONE	DK.GY NODULAR
*	3.91	4.09	0.18	01336	J	COAL	C-2 MINOR IRON STAINING
*	4.09	4.10	0.01	01336	J	CLAYSTONE	WEATH.BN
*	4.10	4.11	0.01	01336	J	COAL	C-4
*	4.11	4.23	0.12	01336	J	COAL	C-2
*	4.23	4.26	0.03	01336	J	COAL	C-3 LITRIC SURFACES ON CARBONACEOUS CLAYST ONE LAMINAE
*	4.26	4.28	0.02	01336	J	COAL	C-4

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 5

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84228

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.28	4.35	0.07	01337	J	CLAYSTONE	WEATH. BN
*	4.35	4.42	0.07	01337	J	COAL	C-2
*	4.42	4.45	0.03	01337	J	CLAYSTONE	WEATH. BN
*	4.45	4.52	0.07	01337	J	COAL	C-2
*	4.52	4.54	0.02	01337	J	CLAYSTONE	WEATH. BN
*	4.54	4.57	0.03	01337	J	COAL	C-2
*	4.57	4.71	0.14	01337	J	CLAYSTONE	WEATH. BN

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 6

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84228

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.71	4.74	0.03	01338	J	COAL	C-4
*	4.74	5.10	0.36	01338	J	COAL	C-2
*	5.10	5.11	0.01	01338	J	COAL	C-4
*	5.11	5.30	0.19	01338	J	COAL	C-2
*	5.30	5.31	0.01	01338	J	COAL	C-3
*	5.31	5.34	0.03	01338	J	COAL	C-2
*	5.34	5.35	0.01	01338	J	MUDSTONE	
*	5.35	5.44	0.09	01338	J	COAL	C-1 CONCHOIDAL FRACTURE

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 7

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84228

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	5.44	5.48	0.04	01338	J	COAL	C-3
*	5.48	5.61	0.13	01338	J	COAL	C-2 MINOR IRON STAINING
*	5.61	5.63	0.02	01338	J	COAL	C-4
*	5.63	5.68	0.05	01338	J	COAL	C-3
*	5.68	5.74	0.06	01338	J	COAL	C-5 UNCONSOLIDATED
*	5.74	5.90	0.16	01338	J	COAL	C-2
*	5.90	6.00	0.10	01338	J	COAL	C-3
*	6.00	6.05	0.05	01338	J	COAL	C-5
*	6.05	6.17	0.12	01338	J	COAL	C-2
*	6.17	6.23	0.06	01338	J	CLAYSTONE	WEATH. BN

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 8

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84228

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	6.23	6.41	0.18	01338	J	COAL	C-2
*	6.41	6.46	0.05	01338	J	CLAYSTONE	WEATH.BN
*	6.46	6.49	0.03	01338	J	COAL	C-1
*	6.49	6.63	0.14	01338	J	COAL	C-3
*	6.63	7.73	1.10			MUDSTONE	INTERBEDDED SILTSTONE LAMINAE

* DENDTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN_LR TRC84-228 SEAM : j INTERVAL(M) : 1.26 - 6.63 ELEVATION(M) : 1708.0
 GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/Kg		
		↑															
	1.26	█		0.52													
				0.24													
				0.68													
				0.20	100.0	1336	1336			9.54	34.56	22.31	33.59	0.23	13.52		
				0.10													
				0.28													
				0.33													
				0.18													
				0.18													
	4.28		█		0.18	100.0	1337										
				0.16													
				0.63													
		█		0.82	100.0	1338											
				0.18													
				0.17													
	6.63	█															
		↓															

PLOT 1 10.31.31 FRI 21 DEC, 1984 JOB-15TCE60 GULF CANADOR 0155PLA 9.0

47/061
537

GULF CANADA RESOURCES INC. - COAL DIVISION

14/JAN/85

HEAD ANALYSIS SUMMARY

DATA SOURCE		SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
PROJ - KPN		ANALYSIS BASIS TYPE - AD			NAME OF STANDARD - ASTM							
TRC84228												
	HD1	J		1336	9.54	34.56	33.59	22.31	0.23	13.52		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84229

DATE - 01/08/85

- HISTORY -

START DATE - 07/28/84

END DATE - 07/28/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - B. GLOVER

SURVEYOR -

REMARKS - NOT LOGGED OR SAMPLED; SEAM L

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1772.50

NORTHING - 6344318.00

EASTING - 506567.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571438

LONGITUDE - 1285328

- ORIENTATION -

LENGTH - 9.50

INCLINATION - 0.0

AZIMUTH - 24.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 0.0

ROOF STRIKE - 0

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84229

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01		L	COAL	NO DETAILED LOG; UNIT INCERTED FOR SEAM DESIGNATION

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84230

DATE - 01/08/85

- HISTORY -

START DATE - 07/28/84
END DATE - 07/28/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - B. GLOVER

OPERATOR - GCRI
SURVEYOR -

REMARKS - NOT LOGGED OR SAMPLED; SEAM M

- LOCATION -

PROVINCE - BC
ELEVATION - 1770.00

ZONE - 9
NORTHING - 6344336.00
EASTING - 506596.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571438
LONGITUDE - 1285327

- ORIENTATION -

LENGTH - 13.00

INCLINATION - 0.0
AZIMUTH - 34.0

SIZE WIDTH - 1.0
SIZE HEIGHT - 0.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84230

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01		M	COAL	NO DETAILED LOG; UNIT INCERTED FOR SEAM DESIGNATION

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84231

DATE - 01/08/85

- HISTORY -

START DATE - 07/28/84

END DATE - 07/28/84

CONTRACTOR - ELIAS EXCAV.

GEOLOGIST - B. GLOVER

OPERATOR - GCRI

SURVEYOR -

REMARKS - NOT LOGGED OR SAMPLED; SEAM L

- LOCATION -

PROVINCE - BC

ELEVATION - 1760.00

LICENCE/LEASE NUMBER - 7151

ZONE - 9

NORTHING - 6344272.00

EASTING - 506632.00

LATITUDE - 571436

LONGITUDE - 1285324

- ORIENTATION -

LENGTH - 7.00

INCLINATION - 0.0

AZIMUTH - 41.0

SIZE WIDTH - 1.1

SIZE HEIGHT - 0.0

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84231

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH INTRVAL TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01		L	COAL	NO DETAILED LOG; UNIT INCERTED FOR SEAM DESIGNATION

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84232

DATE - 01/08/85

- HISTORY -

START DATE - 07/28/84

END DATE - 07/28/84

CONTRACTOR - ELIAS EXCAV.

GEOLOGIST - B. GLOVER

OPERATOR - GCRI

SURVEYOR -

REMARKS - NOT LOGGED OR SAMPLED; SEAM J

- LOCATION -

PROVINCE - BC

ELEVATION - 1760.00

LICENCE/LEASE NUMBER - 7151

ZONE - 9

NORTHING - 6344224.00

EASTING - 506556.00

LATITUDE - 571435

LONGITUDE - 1285329

- ORIENTATION -

LENGTH - 16.00

SIZE WIDTH - 0.0

SIZE HEIGHT - 0.0

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

INCLINATION - 0.0

AZIMUTH - 36.0

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84232

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01		J	COAL	NO DETAILED LOG; UNIT INCERTED FOR SEAM DESIGNATION

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84233

DATE - 01/08/85

- HISTORY -

START DATE - 07/29/84

END DATE - 07/29/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - K. JENNER

SURVEYOR -

REMARKS - SEAM OVERTURNED; STARTING AT STRATIGRAPHIC ROOF; PARTIAL FREEZING OF COAL; ALL THICKNESSES TRUE; SHALLOW FOLDING; COAL/COAL+ROCK 6.42/6.84; VALID DATA POINT; SAMPLE NO. 1340

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1772.50

NORTHING - 6344330.00

EASTING - 506236.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571438

LONGITUDE - 1285348

- ORIENTATION -

LENGTH - 13.00

INCLINATION - 3.0

AZIMUTH - 59.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 2.6

ROOF STRIKE - 303

FLOOR STRIKE - 298

ROOF DIP - 60

FLOOR DIP - 50

ROOF DIR - S

FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84233

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.26	0.26			CLAYSTONE	CARB LISTRIC SURFACES; MINOR COAL STRINGERS
*	0.26	0.67	0.41	01340	I	COAL	C-2 MINOR IRON STAINING
*	0.67	0.76	0.09	01340	I	CLAYSTONE	WEATH.GY UNCONSOLIDATED
*	0.76	0.85	0.09	01340	I	COAL	C-4
*	0.85	0.95	0.10	01340	I	CLAYSTONE	WEATH.BN
*	0.95	1.12	0.17	01340	I	COAL	C-2
*	1.12	1.15	0.03	01340	I	COAL	C-4
*	1.15	1.24	0.09	01340	I	COAL	C-2
*	1.24	1.25	0.01	01340	I	CLAYSTONE	WEATH.BN
*	1.25	1.59	0.34	01340	I	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84233

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.59	1.63	0.04	01340	I	COAL	C-1 SEMI-CONCHOIDAL FRACTURE
*	1.63	1.70	0.07	01340	I	COAL	C-2
*	1.70	1.72	0.02	01340	I	CLAYSTONE	CARB
*	1.72	2.28	0.56	01340	I	COAL	C-2 MINOR IRON STAINING
*	2.28	2.30	0.02	01340	I	COAL	C-1
*	2.30	2.83	0.53	01340	I	COAL	C-2 MINOR IRON STAINING
*	2.83	2.94	0.11	01340	I	CLAYSTONE	WEATH. BN MODERATELY CONSOLIDATED
*	2.94	2.96	0.02	01340	I	COAL	C-2
*	2.96	3.06	0.10	01340	I	COAL	C-1
*	3.06	3.16	0.10	01340	I	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84233

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.16	3.18	0.02	01340	I	CLAYSTONE	WEATH.BN
*	3.18	3.46	0.28	01340	I	COAL	C-2 MINOR IRON STAINING
*	3.46	3.59	0.13	01340	I	COAL	C-3 LISTRIC SURFACES; SOME CARBONACEOUS CLAYSTONE LAMINAE; FROZEN
*	3.59	3.73	0.14	01340	I	COAL	C-2
*	3.73	4.03	0.30	01340	I	COAL	C-3 LISTRIC SURFACES; FROZEN
*	4.03	4.10	0.07	01340	I	COAL	C-2
*	4.10	4.15	0.05	01340	I	COAL	C-3 LISTRIC SURFACES
*	4.15	4.42	0.27	01340	I	COAL	C-2
*	4.42	4.43	0.01	01340	I	CLAYSTONE	WEATH.BN

* DENOTES MEASURED BCA

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84233 SEAM : i INTERVAL(M) : 0.26 - 7.10 ELEVATION(M) : 1772.5
 GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.								
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG			
	0.26	↑		0.41														
				0.09														
				0.10														
				0.29														
				0.45														
				0.07														
				1.11														
				0.13														
				0.07														
				1.24	100.0	1340	1340	6.42 / 0.42			11.79	20.89	23.28	44.04	0.28	17.29		
				0.01														
				0.02				6.84										
				2.39														
				0.01														
				0.01														
	7.10	↓		0.12														

PLOT 1 10.31.42 FRI 21 DEC, 1984 JOB-TSTGECO GULF CANADA DTSSPLR 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84233											
	HD1	I	1340	11.79	20.89	44.04	23.28	0.28	17.29		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84234

DATE - 01/08/85

- HISTORY -

START DATE - 08/02/84
 END DATE - 08/02/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - K. JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - SEAM OVERTURNED; LOGGED FROM STRATIGRAPHIC ROOF; DIPS AND THICKNESSES APPROXIMATED FROM THE TOP OF THE TRENCH; MINOR FOLDING AT FLOOR; NO DETAILED LOG; NOT SAMPLED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1782.50

ZONE - 9
 NORTHING - 6344243.00
 EASTING - 506367.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571435
 LONGITUDE - 1285340

- ORIENTATION -

LENGTH - 9.80

INCLINATION - 7.0
 AZIMUTH - 65.0

SIZE WIDTH - 0.8
 SIZE HEIGHT - 2.2

ROOF STRIKE - 285
 ROOF DIP - 74
 ROOF DIR - S

FLOOR STRIKE - 287
 FLOOR DIP - 82
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84234

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.50	0.50			SILTSTONE	ROOF
*	0.50	8.35	7.85		I	COAL	C-2 SOME MINOR INTERBEDDED CLAYS
*	8.35	8.85	0.50			MUDSTONE	FLOOR; GRADATIONAL FROM MUDSTONE TO SANDSTONE

* DENOTES MEASURED BCA
NEWPAGE

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84235

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	1.00	1.00			SILTSTONE	M.BN
*	1.00	1.02	0.02	02605	I	COAL	C-4 ROOF ABOVE IS SILTSTONE AND MUDSTONE
*	1.02	1.17	0.15	02605	I	COAL	C-2
*	1.17	1.21	0.04	02605	I	CLAYSTONE	WEATH.BN
*	1.21	1.30	0.09	02605	I	COAL	C-4
*	1.30	1.33	0.03	02605	I	CLAYSTONE	CARB.WEATH.GY
*	1.33	1.64	0.31	02605	I	COAL	C-2
*	1.64	1.70	0.06	02605	I	COAL	C-3
*	1.70	2.09	0.39	02605	I	COAL	C-2

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84235

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.09	2.12	0.03	02605	I	COAL	C-1
*	2.12	2.15	0.03	02605	I	MUDSTONE	
*	2.15	2.27	0.12	02605	I	COAL	C-2
*	2.27	2.34	0.07	02605	I	COAL	C-3
*	2.34	2.77	0.43	02605	I	COAL	C-2
*	2.77	2.93	0.16	02605	I	COAL	C-3
*	2.93	3.05	0.12	02605	I	CLAYSTONE	WEATH.BN
*	3.05	3.24	0.19	02605	I	COAL	C-4
*	3.24	3.29	0.05	02605	I	COAL	C-2
*	3.29	3.33	0.04	02605	I	CLAYSTONE	WEATH.BN

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84235

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.33	3.36	0.03	02605	I	COAL	C-2
*	3.36	3.42	0.06	02605	I	CLAYSTONE	WEATH.BN
*	3.42	3.51	0.09	02605	I	COAL	C-3
*	3.51	3.64	0.13	02605	I	COAL	C-2
*	3.64	4.17	0.53	02605	I	COAL	C-2
*	4.17	4.21	0.04	02605	I	CLAYSTONE	WEATH.BN
*	4.21	4.50	0.29	02605	I	COAL	C-2
*	4.50	4.53	0.03	02605	I	CLAYSTONE	CARB
*	4.53	4.66	0.13	02605	I	COAL	C-3
*	4.66	4.69	0.03	02605	I	CLAYSTONE	CARB

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84235

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.69	4.73	0.04	02605	I	COAL	C-3
*	4.73	4.85	0.12	02605	I	CLAYSTONE	CARB LICTRIC SURFACES; MINOR COAL STRINGERS; IRON STAINING
*	4.85	5.03	0.18	02605	I	COAL	C-4
*	5.03	5.05	0.02	02605	I	CLAYSTONE	WEATH.GY
*	5.05	6.50	1.45	02605	I	COAL	C-2
*	6.50	7.39	0.89			SILTSTONE	GY INTERBEDDED MUDSTONE; SOFT; BEDDING DIF FICULT TO DETERMINE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

COAL DIVISION MOUNT KLAPPAN PROJECT

TRUE THICKNESS

SEAM DETAIL

DATA SOURCE: KPN LR TRC84235 SEAM : 1 INTERVAL(M) : 1.00 - 6.50 ELEVATION(M) : 1755.0
 GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL V AL W/KG	
	↑	↑														
	1.00	↑		0.17												
				0.08												
				0.79												
				0.78												
				0.24												
				0.03												
				0.75	100.0	2605	2605	4.94 / 0.56	3.50							
				0.29												
				0.13												
				0.12												
				0.18												
				1.45												
	6.50	↓														
		↓														

PLOT 1 10.42.12 FRI 21 DEC, 1984 JOB-TST080 GULF CANADA DISPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84236

DATE - 01/08/85

- HISTORY -

START DATE - 08/02/84
 END DATE - 08/02/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - K. JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - THICKNESS APPROXIMATED FROM TOP OF TRENCH; NO DETAILED LOG; BEDDING TAKEN FROM COAL AND CLAY CONTACT ; BACKHOE SAMPLE; COAL/COAL+ROCK 3.78/3.78; SAMPLE NO. 2606

- LOCATION -

PROVINCE - BC
 ELEVATION - 1749.00

ZONE - 9
 NORTHING - 6344128.00
 EASTING - 506512.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571432
 LONGITUDE - 1285332

- ORIENTATION -

LENGTH - 21.45
 SIZE WIDTH - 0.8
 SIZE HEIGHT - 1.5

INCLINATION - 2.0
 AZIMUTH - 34.0

ROOF STRIKE - 288
 ROOF DIP - 24
 ROOF DIR - S

FLOOR STRIKE - 290
 FLOOR DIP - 25
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84236

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.50	0.50			SILTSTONE	
*	0.50	4.28	3.78	02606	I	COAL	C-2 MINOR INTERBEDDED CLAYSTONE
*	4.28	4.78	0.50			MUDSTONE	GRADATIONAL TO MASSIVE SANDSTONE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84236 SEAM : i INTERVAL(M) : 0.50 - 4.28 ELEVATION(M) : 1749.0
 GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.50	↑															
		↑		3.78	100.0	2806	2806	3.78 / 0.00			11.52	14.51	23.13	50.84	0.31	18.34	
	4.28	↓						3.78									

PLOT 1 10.42.15 FRI 21 DEC, 1984 JOB-TSTCE60 GULF CANADA DISPLA 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH% CARBON%	FIXED MATTER%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84236											
	HD1	I	2606	11.52	14.51	50.84	23.13	0.31	18.34		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84237

DATE - 01/08/85

- HISTORY -

START DATE - 08/02/84
 END DATE - 08/02/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - K. JENNER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - SEAM OVERTURNED; LOGGED FROM STRATIGRAPHIC ROOF; MINOR
 DETAIL LACKING DUE TO WATER SEEPAGE WHEN LOGGING; COAL/COAL+ROCK
 7.10/7.48; VALID DATA POINT; SAMPLE NO. 2607

- LOCATION -

PROVINCE - BC
 ELEVATION - 1734.00

ZONE - 9
 NORTHING - 6344097.00
 EASTING - 506610.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571431
 LONGITUDE - 1285326

- ORIENTATION -

LENGTH - 15.90

INCLINATION - 0.0
 AZIMUTH - 66.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.7

ROOF STRIKE - 315
 ROOF DIP - 64
 ROOF DIR - W

FLOOR STRIKE - 309
 FLOOR DIP - 79
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84237

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.73	0.73			SILTSTONE	ORNG ORANGE-BROWN COLOUR; WEATHERED
*	0.73	1.13	0.40	02607	I	COAL	C-2 MINOR IRON STAINING
*	1.13	1.17	0.04	02607	I	CLAYSTONE	
*	1.17	2.51	1.34	02607	I	COAL	C-2 MINOR IRON STAINING; SOME C-3 INTERBEDS
*	2.51	2.60	0.09	02607	I	CLAYSTONE	WEATH.GY
*	2.60	3.10	0.50	02607	I	COAL	C-2 HEAVY IRON STAINING
*	3.10	3.13	0.03	02607	I	CLAYSTONE	WEATH.GY
*	3.13	3.46	0.33	02607	I	COAL	C-2
*	3.46	3.53	0.07	02607	I	CLAYSTONE	WEATH.GY
*	3.53	4.16	0.63	02607	I	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84237

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.16	4.18	0.02	02607	I	CLAYSTONE	CARB.GY GRAY-BROWN COLOUR
*	4.18	4.55	0.37	02607	I	COAL	C-2 IRON STAINING
*	4.55	4.58	0.03	02607	I	CLAYSTONE	CARB.GY GRAY-BROWN COLOUR
*	4.58	4.60	0.02	02607	I	COAL	C-2
*	4.60	4.64	0.04	02607	I	CLAYSTONE	CARB.GY GRAY-BROWN COLOUR
*	4.64	4.94	0.30	02607	I	COAL	C-2 IRON STAINING
*	4.94	4.98	0.04	02607	I	CLAYSTONE	DK.GY
*	4.98	6.58	1.60	02607	I	COAL	C-2 SOME C-3; IRON STAINING
*	6.58	6.60	0.02	02607	I	CLAYSTONE	CARB MINOR CARBONACEOUS CLAYSTONE LAMINAE
*	6.60	8.21	1.61	02607	I	COAL	SPOIL; POSSIBLY C-2; SOME IRON STAINING

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84237

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	8.21	9.41	1.20			SILTSTONE	INTERBEDDED MUDSTONE GRADING INTO MASSIVE SANDSTONE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84-237 SEAM : i INTERVAL(M) : 0.73 - 8.21 ELEVATION(M) : 1734.0
 GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LCG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALY AL MJ/KG		
		↑															
	0.73			0.40													
				1.34													
				0.08	100.0	2607	2607	7.10 / 8.36			11.50	22.16	25.36	40.85	0.28	16.24	
				0.50				7.46									
				0.33													
				0.63													
				0.37													
	4.60																
		↓															

PLOT 1 14.25.32 FRI 21 DEC, 1984 JOB-TSTOEGO GULF CANADA DISPLAY 9.0

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84237 SEAM : 1 INTERVAL(M) : 0.73 - 8.21 ELEVATION(M) : 1734.0
 GEOLOGIST : K. JENNER DATE : JAN 16/85 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL VAL MJ/KG		
	4.60	↑		0.30													
				1.60													
				1.81	100.0	2607	2607	7.10/0.38 7.48									
	8.21	↓															

DISSPLR 9.2

GULF CANADA LMT

JOB-TSTCE60

06.12.47 WED 16 JAN, 1985

PLOT 1

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84237											
	HD1	I	2607	11.50	22.16	40.95	25.39	0.28	16.24		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84238

DATE - 01/08/85

- HISTORY -

START DATE - 08/02/84

END DATE - 08/02/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - K. JENNER

SURVEYOR -

REMARKS - SEAM OVERTURNED; LOGGED FROM STRATIGRAPHIC ROOF; SEAM THICKNESS MEASURED FROM TOP OF THE TRENCH; NO DETAILED LOG; BACKHOE SAMPLED; SAMPLE NO. 2608

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1718.00

NORTHING - 6344021.00

EASTING - 506634.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571428

LONGITUDE - 1285324

- ORIENTATION -

LENGTH - 11.00

INCLINATION - 7.0

AZIMUTH - 70.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 1.6

ROOF STRIKE - 34

FLOOR STRIKE - 0

ROOF DIP - 83

FLOOR DIP - 0

ROOF DIR - W

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84238

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.50	0.50			SILTSTONE	
*	0.50	7.30	6.80	02608	I	COAL	C-2 MINOR MUDSTONE PARTINGS
*	7.30	7.80	0.50			MUDSTONE	MINOR IRON STAINING; GRADATIONAL INTO SANDSTONE

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84239

DATE - 01/08/85

- HISTORY -

START DATE - 08/02/84
END DATE - 08/02/84

CONTRACTOR - GCRI
GEOLOGIST - K. JENNER

OPERATOR - GCRI
SURVEYOR -

REMARKS - SEAM OVERTURNED; LOGGED FROM STRATIGRAPHIC ROOF; T
THICKNESS APPROXIMATED FROM ABOVE THE TRENCH; NO DE
TAILED LOG; (~~BACKHOE SAMPLE~~) COAL/COAL+ROCK 6.2/6.2
; SAMPLE NO. 2609

- LOCATION -

PROVINCE - BC
ELEVATION - 1715.00

ZONE - 9
NORTHING - 6343951.00
EASTING - 506683.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571426
LONGITUDE - 1285321

- ORIENTATION -

LENGTH - 11.75
SIZE WIDTH - 1.2
SIZE HEIGHT - 2.6

INCLINATION - 2.0
AZIMUTH - 56.0

ROOF STRIKE - 319
ROOF DIP - 84
ROOF DIR - S

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LDG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84239

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.50	0.50			MUDSTONE	
*	0.50	6.70	6.20	02609	I	COAL	C-2 SOME C-3; MINDR CLAY BANDS
*	6.70	7.20	0.50			MUDSTONE	GRADATIONAL INTO SANDSTONE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

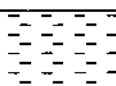
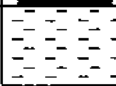
SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84239 SEAM : i INTERVAL(M) : 0.50 - 6.70 ELEVATION(M) : 1715.0

GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.50	↑ 															
	6.70	↓ 		6.20	100.0	2609	2609	6.20 / 0.00 6.20									

PLOT 1 10.42.21 FRI 21 DEC, 1984 JOB-151060 GULF CANADA DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84240

DATE - 01/08/85

- HISTORY -

START DATE - 07/28/84

END DATE - 07/28/84

CONTRACTOR - GCRI

OPERATOR - GCRI

GEOLOGIST - S. FAWCETT

SURVEYOR -

REMARKS - BEDDING CONSISTENT WITH NO APPARENT FOLDING; CLAYS
TONE PARTINGS ARE NOT CONTINUOUS; COAL/COAL+ROCK 5
.31/5.44; VALID DATA POINT; SAMPLE NOS. 6378/6379

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1560.00

NORTHING - 6345125.00

EASTING - 507340.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571504

LONGITUDE - 1285242

- ORIENTATION -

LENGTH - 6.50

INCLINATION - 40.0

AZIMUTH - 5.0

SIZE WIDTH - 0.8

SIZE HEIGHT - 1.5

ROOF STRIKE - 280

FLOOR STRIKE - 270

ROOF DIP - 38

FLOOR DIP - 20

ROOF DIR - S

FLOOR DIR - S

*** NOTE *** O INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84240

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.50	0.50			CLAYSTONE	M.GY CARBONACEOUS; CONSOLIDATED; THINLY LAMINATED
*	0.50	0.56	0.06			CLAYSTONE	BN UNCONSOLIDATED; IRON STAINED; MINOR QUARTZ VEINING; RUSTY BROWN TO LIGHT GREY COLOUR
*	0.56	1.56	1.00	06378	I	COAL	C-2 UNCONSOLIDATED; C-2 TO C-4
*	1.56	1.62	0.06	06378	I	CLAYSTONE	BN UNCONSOLIDATED; IRON STAINED; RUSTY-BROWN TO LIGHT GRAY; WEATHERED
*	1.62	1.79	0.17	06378	I	COAL	C-3 C-3 TO C-4; UNCONSOLIDATED; MINOR IRON STAINING; CLAYSTONE LAMINAE
*	1.79	1.86	0.07	06378	I	COAL	C-5 CLAYSTONE LAMINAE; PARTLY CONSOLIDATED; MINOR IRON STAINING
*	1.86	2.56	0.70	06378	I	COAL	C-2 PARTLY CONSOLIDATED; C-2 TO C-4; MINOR IRON BANDING; MODERATELY CLEATED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84240

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.56	2.69	0.13	06378	I	COAL	C-4 CLAYSTONE LAMINAE ; PARTLY CONSOLIDATED ; MINOR IRON STAINING; C-4 TO C-5
*	2.69	2.89	0.14	06378	I	COAL	C-1 WELL CLEATED; CONSOLIDATED; C-1 TO C-2
*	2.83	2.88	0.05	06378	I	COAL	C-2 WELL CLEATED; CONSOLIDATED; C-2 TO C-3
*	2.88	2.92	0.04	06378	I	COAL	C-1 WELL CLEATED; CONSOLIDATED; C-1 TO C-2
*	2.92	2.98	0.06	06378	I	COAL	C-4 C-4 TO C-5; CLAYSTONE LAMINAE ; CONSOLIDATED
*	2.98	3.11	0.13	06378	I	COAL	C-2 C-2 TO C-4; MODERATELY CLEATED; CONSOLIDATED
*	3.11	3.18	0.07	06378	I	CLAYSTONE	LT.GY SOFT; IRON STAINED
*	3.18	3.30	0.12	06379	I	COAL	C-4 C-4 TO C-5; MINOR CLAYSTONE LAMINAE

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84240

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	3.30	3.98	0.68	06379	I	COAL	C-2 MODERATELY CLEATED; CONSOLIDATED; C-2 TO C-4
*	3.98	4.05	0.07	06379	I	COAL	C-5 CLAYSTONE LAMINAE; MINOR IRON STAINING; C-5 TO C-6
*	4.05	6.00	1.95	06379	I	COAL	C-3 C-3 TO C-5; MINOR C-2; POORLY CONSOLIDATED; MINOR IRON STAINING; MINOR CLAY LAMINAE
*	6.00	6.30	0.30			CLAYSTONE	BLK COAL LAMINAE; MODERATELY CONSOLIDATED; CARBONACEOUS; MINOR IRON STAINING
*	6.30	6.40	0.10			CLAYSTONE	BF MODERATELY CONSOLIDATED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84240 SEAM: I INTERVAL(M) : 0.56 - 6.00 ELEVATION(M) : 1560.0
 GEOLOGIST : S. FAWCETT DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL VAL M2/KG	
		↑														
	0.56			1.00												
				1.49	100.0	6378										
	3.18			2.82	100.0	6379			5.31 / 0.13 5.44	11.36	15.41	23.00	50.17	0.30	19.37	
	6.00	↓		0.45												

PLOT 1 10.42.23 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISSPLA 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

DATA SOURCE		SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALDRIFIC VALUE (MJ-KG)	SPG	FSI
TRC84240												
		HD1	I	6378	11.36	15.41	50.17	23.06	0.30	19.37		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84241

DATE - 01/08/85

- HISTORY -

START DATE - 07/28/84
 END DATE - 07/28/84

CONTRACTOR - GCRI
 GEOLOGIST - S. FAWCETT
 OPERATOR - GCRI
 SURVEYOR -

REMARKS - MAINLY CLAYSTONE; NOT SAMPLED; COAL/COAL+ROCK 0.66
 /1.30

- LOCATION -

PROVINCE - BC
 ELEVATION - 1560.00
 LICENCE/LEASE NUMBER - 7169
 ZONE - 9
 NORTHING - 6345275.00
 EASTING - 506705.00
 LATITUDE - 571509
 LONGITUDE - 1285320

- ORIENTATION -

LENGTH - 5.00
 SIZE WIDTH - 1.3
 SIZE HEIGHT - 0.5
 ROOF STRIKE - 281
 ROOF DIP - 7
 ROOF DIR - S
 INCLINATION - 5.0
 AZIMUTH - 25.0
 FLOOR STRIKE - 280
 FLOOR DIP - 7
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84241

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.10	0.10			SANDSTONE	FG.LT.BN UNCONSOLIDATED;
*	0.10	0.30	0.20		G LOWER	COAL	C-3.BLK C-3 TO C-5; UNCONSOLIDATED; HIGHLY WEATHERED
*	0.30	0.51	0.21		G LOWER	CLAYSTONE	LT.GY MODERATELY CONSOLIDATED
*	0.51	0.64	0.13		G LOWER	CLAYSTONE	CARB.BLK MINOR COAL LAMINAE; UNCONSOLIDATED; HIGHLY WEATHERED
*	0.64	0.70	0.06		G LOWER	CLAYSTONE	CARB.BLK MINOR CLAYSTONE LAMINAE; CONSOLIDATED
*	0.70	0.87	0.17		G LOWER	CLAYSTONE	CARB.BLK MINOR COAL LAMINAE; MODERATELY CONSOLIDATED
*	0.87	0.94	0.07		G LOWER	CLAYSTONE	LT.GY MODERATELY CONSOLIDATED
*	0.94	1.26	0.32		G LOWER	COAL	C-5.BLK UNCONSOLIDATED; C5 ESTIMATED; HIGHLY WEATHERED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84241

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.26	1.28	0.02		G LOWER	CLAYSTONE	WH MINOR IRON STAINING; UNCONSOLIDATED
*	1.28	1.33	0.05		G LOWER	CLAYSTONE	M.GY UNCONSOLIDATED; MINOR COAL LAMINAE
*	1.33	1.40	0.07		G LOWER	COAL	C-4.BLK C-4 TO C-5; UNCONSOLIDATED; HIGHLY WEATHERED; MINOR QUARTZ VEINING
*	1.40	1.60	0.20			CLAYSTONE	LT.GY MODERATELY CONSOLIDATED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84241 SEAM : 6 lower INTERVAL(M) : 0.10 - 1.40 ELEVATION(M) : 1560.0
 GEOLOGIST : S. FAWCETT DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.10	↑															
		0.64	0.66	100	-	-	0.66/0.64	1.30									
	1.40	↓															

PLOT 1 10.42.26 FRI 21 DEC, 1984 JOB-T5T060 GULF CANADA DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84242

DATE - 01/08/85

- HISTORY -

START DATE - 07/28/84

END DATE - 07/28/84

CONTRACTOR - GCRI

OPERATOR - GCRI

GEOLOGIST - S. FAWCETT

SURVEYOR -

REMARKS - ROOF AND FLOOR NOT OBTAINED; NOT SAMPLED; NOT A VALID DATA POINT; COAL/COAL+ROCK 0.15/0.40

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1580.00

NORTHING - 6345574.00

EASTING - 506508.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571518

LONGITUDE - 1285332

- ORIENTATION -

LENGTH - 8.00

INCLINATION - 0.0

AZIMUTH - 325.0

SIZE WIDTH - 0.5

SIZE HEIGHT - 2.0

ROOF STRIKE - 290

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84242

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	1.00	1.00			CLAYSTONE	CARB.BLK INTERBEDDED CONSOLIDATED WHITE-GREY CLAYSTONES MIXED WITH OVERBURDEN
*	1.00	1.10	0.10		E	COAL	C-3.BLK CONSOLIDATED; WELL CLEATED; C3 TO C4
*	1.10	1.35	0.25		E	CLAYSTONE	CARB.BLK MINOR COAL LAMINAE
*	1.35	1.40	0.05		E	COAL	C-2.BLK C-2 TO C-3; HIGHLY OXIDIZED; WELL CLEATED
*	1.40	1.67	0.27			CLAYSTONE	CARB.BLK COAL LAMINAE; MODERATELY CONSOLIDATED
*	1.67	1.87	0.20			CLAYSTONE	LT.GY SOFT

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84242 SEAM : E INTERVAL(M) : 1.00 - 1.40 ELEVATION(M) : 1580.0

GEOLOGIST : S. FAWCETT DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
	100	↑		0.10												
	1.40	↓	0.25		100	-	-	0.15/0.25 0.40								

PLOT 1 10.42.37 FRI 21 DEC; 1984 JOB-TSTCEGO GULF CANADA DISSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84243

DATE - 01/08/85

- HISTORY -

START DATE - 07/28/84

END DATE - 07/28/84

CONTRACTOR - GCRI

OPERATOR - GCRI

GEOLOGIST - S. FAWCETT

SURVEYOR -

REMARKS - ROOF ATTITUDE NOT OBTAINED DIRECTLY SINCE IT MAY H
AVE BEEN SLUMPED; FLOOR NOT OBTAINED; NOT A VALID
POINT; COAL/COAL+ROCK 0.58/0.63; NOT SAMPLED

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1560.00

NORTHING - 6345568.00

EASTING - 506108.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571518

LONGITUDE - 1285355

- ORIENTATION -

LENGTH - 4.00

INCLINATION - 0.0

AZIMUTH - 345.0

SIZE WIDTH - 1.5

SIZE HEIGHT - 1.5

ROOF STRIKE - 300

FLOOR STRIKE - 0

ROOF DIP - 11

FLOOR DIP - 0

ROOF DIR - S

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84243

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.35	0.35			CLAYSTONE	CARB. LT. BN PARTLY CONSOLIDATED
*	0.35	0.85	0.50		F	COAL	C-2 C-2 TO C-4; HIGHLY WEATHERED
*	0.85	0.90	0.05		F	CLAYSTONE	LT. GY MINOR COAL LAMINAE; SOFT
*	0.90	0.98	0.08		F	COAL	C-4 CLAYSTONE LAMINAE
*	0.98	1.18	0.20			CLAYSTONE	M. GY SOFT; UNCONSOLIDATED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRCB4243 SEAM : F INTERVAL(M) : 0.35 - 0.98 ELEVATION(M) : 1560.0
 GEOLOGIST : S. FAWCETT DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
1 2 3 4 5 6																	
	0.35	 		0.50	100	-	-	0.50/0.05									
	0.98	----- ----- ----- -----		0.08				0.43									

PLOT 1 10.42.40 FRI 21 DEC, 1984 JOB-TSDEGO GULF CANADA DISSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84244

DATE - 01/08/85

- HISTORY -

START DATE - 07/28/84

END DATE - 07/28/84

CONTRACTOR - GCRI

OPERATOR - GCRI

GEOLOGIST - S. FAWCETT

SURVEYOR -

REMARKS - BOTH ROOF AND FLOOR UNOBTAINABLE; BEDDING DETERMINED BY A CLAY BAND IN THE COAL BLOOM; COAL/COAL+ROC K 3.3/3.39; SAMPLE NO. 1614

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1565.00

NORTHING - 6345320.00

EASTING - 505598.00

LICENCE/LEASE NUMBER - 7170

LATITUDE - 571510

LONGITUDE - 1285426

- ORIENTATION -

LENGTH - 5.00

INCLINATION - 25.0

AZIMUTH - 290.0

SIZE WIDTH - 1.3

SIZE HEIGHT - 1.8

ROOF STRIKE - 203

FLOOR STRIKE - 0

ROOF DIP - 23

FLOOR DIP - 0

ROOF DIR - E

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4244

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	2.10	2.10	01614	I	COAL	C-2 COAL BLOOM; HIGHLY WEATHERED; UNCONSOLIDATED C-2 TO C-4
*	2.10	2.19	0.09	01614	I	CLAYSTONE	BN RED-BROWN COLOUR; MODERATELY UNCONSOLIDATED; MINOR COAL LAMINAE
*	2.19	3.39	1.20	01614	I	COAL	C-2 COAL BLOOM (C-2 TO C-4); MINOR CLAYSTONE ZONES; SOFT; HIGHLY WEATHERED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84244 SEAM : 1 INTERVAL(M) : 0.00 - 3.39 ELEVATION(M) : 1565.0
 GEOLOGIST : S. FAWCETT DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALORICAL MJ/KG		
	0.00	↑															
				2.10			↑										
					100.0	1614	1614	3.30/0.09									
				0.09			↓	3.39									
	3.39	↓															
				1.20													

PLOT 1 10.42.42 FRI 21 DEC 1984 JOB-TSTCE60 GULF CANADA DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84245

DATE - 01/08/85

- HISTORY -

START DATE - 08/11/84
 END DATE - 08/11/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN

OPERATOR - GCRI
 SURVEYOR -

REMARKS - FLOOR AND ROOF ROCK NOT AVAILABLE; NEARBY ROCK ATTITUDE 296/27 S; TOPS UNKNOWN; LOGGED FROM BOTTOM OF TRENCH; NOT A TRUE THICKNESS; TRENCH NOT DUG PERPENDICULAR TO STRIKE; COAL/COAL+ROCK 0.98/0.98; Sample no. 1505

- LOCATION -

PROVINCE - BC
 ELEVATION - 1760.00

ZONE - 9
 NORTHING - 6343238.00
 EASTING - 504410.00

LICENCE/LEASE NUMBER - 7153

LATITUDE - 571403
 LONGITUDE - 1285537

- ORIENTATION -

LENGTH - 4.80

INCLINATION - 0.0
 AZIMUTH - 76.0

SIZE WIDTH - 1.3
 SIZE HEIGHT - 1.4

ROOF STRIKE - 296
 ROOF DIP - 27
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84245

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.34	0.34			MUDSTONE	M. GY COALIFIED LEAF IMPRESSIONS; 90% IRON STAINED
*	0.34	0.52	0.18	01505		COAL	BLK FROZEN; VERY HARD
*	0.52	1.05	0.53	01505		COAL	C-2 VERY WEATHERED; BROKEN; PEARLY LUSTRE ON LARGER FRAGMENTS; SOME IRON STAINING
*	1.05	1.32	0.27	01505		COAL	SPOIL; ROOF ZONE
*	1.32	1.64	0.32			OVERBURDEN	

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84246

DATE - 01/08/85

- HISTORY -

START DATE - 08/11/84
 END DATE - 08/11/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN

OPERATOR - GCRI
 SURVEYOR -

REMARKS - ROOF AND FLOOR ATTITUDES UNOBTAINABLE (NO BEDROCK)
 ; TOPS UNKNOWN; FLOOR OF TRENCH FROZEN; COAL, C-1
 CHIPS AND MUDSTONE WITH COAL STRINGERS; BROKEN; WE
 ATHERED; IRON STAINED; sample no. 1503

- LOCATION -

PROVINCE - BC
 ELEVATION - 1785.00

ZONE - 9
 NORTHING - 6343164.00
 EASTING - 504395.00

LICENCE/LEASE NUMBER - 7153

LATITUDE - 571400
 LONGITUDE - 1285538

- ORIENTATION -

LENGTH - 1.70

INCLINATION - 0.0
 AZIMUTH - 40.0

SIZE WIDTH - 1.0
 SIZE HEIGHT - 1.0

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84246

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	01503		COAL	NO DETAILED LOG; UNIT INCERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84247

DATE - 01/08/85

- HISTORY -

START DATE - 09/18/84
END DATE - 09/18/84

CONTRACTOR - AVM CONST.
GEOLOGIST - K. FOELLMER

OPERATOR - GCRI
SURVEYOR -

REMARKS - NOT LOGGED IN DETAIL DUE TO EXCESSIVE DEFORMATION;
COAL APPEARS TO BE STEEPLY DIPPING; SEAM 1; SAMPL
E NO. 4946

- LOCATION -

PROVINCE - BC
ELEVATION - 1487.00

ZONE - 9
NORTHING - 6345712.00
EASTING - 506780.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571523
LONGITUDE - 1285315

- ORIENTATION -

LENGTH - 3.80

INCLINATION - 10.0
AZIMUTH - 120.0

SIZE WIDTH - 1.0
SIZE HEIGHT - 2.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84247

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	04946	I	COAL	NO DETAILED LOG; UNIT INCERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84248

DATE - 01/08/85

- HISTORY -

START DATE - 08/12/84

END DATE - 08/12/84

CONTRACTOR - GCRI

OPERATOR - GCRI

GEOLOGIST - W. QUINN

SURVEYOR -

REMARKS - HAND TRENCH; APPARENT ATTITUDE 355/60E FROM COAL;
 TRUENESS OF THICKNESS IS UNCERTAIN; NO ROOF FOUND;
 COAL/COAL+ROCK 1.48/2.14; SAMPLE NO. 1504

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1785.00

NORTHING - 6343116.00

EASTING - 504392.00

LICENCE/LEASE NUMBER - 7153

LATITUDE - 571359

LONGITUDE - 1285538

- ORIENTATION -

LENGTH - 4.75

INCLINATION - 0.0

AZIMUTH - 60.0

SIZE WIDTH - 1.2

SIZE HEIGHT - 1.2

ROOF STRIKE - 0

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84248

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.20	0.20			CLAYSTONE	WEATH.BN EXTREMELY SOFT
*	0.20	0.32	0.12			COAL	C-2 SMALL CHIPS IN MUD
*	0.32	0.45	0.13			MUDSTONE	WEATH.BLK SMALL NONDESCRIPT COAL CHIPS
*	0.45	1.20	0.75	01504		COAL	C-3
*	1.20	1.29	0.09	01504		CLAYSTONE	WEATH IRON STAINED; SOFT; MINOR CHIPS OF COAL
*	1.29	1.35	0.06	01504		COAL	C-2 EXTREMELY IRON STAINED AND WEATHERED
*	1.35	1.39	0.04	01504		CLAYSTONE	WEATH.BN IRON STAINED; MINOR CHIPS OF COAL
*	1.39	1.44	0.05	01504		COAL	C-2 WEATHERED
*	1.44	1.69	0.25	01504		MUDSTONE	CARB.DK.GY COAL STRINGERS; MINOR IRON STAINING
*	1.69	1.76	0.07	01504		COAL	NONDESCRIPT; EXTREMELY WEATHERED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84248

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.76	1.86	0.10	01504		COAL	C-2
*	1.86	1.89	0.03	01504		CLAYSTONE	WEATH.BN BROWN-ORANGE COLOUR; EXTREMELY WEATHERED AND IRON STAINED
*	1.89	2.16	0.27	01504		COAL	C-2 MINOR IRON STAINING
*	2.16	2.28	0.12	01504		CLAYSTONE	WEATH.BN BROWN-ORANGE COLOUR; IRON STAINED; SOFT
*	2.28	2.34	0.06	01504		COAL	C-3 VERY WEATHERED
*	2.34	2.54	0.20			CLAYSTONE	WEATH.BN EXTREMELY WEATHERED; IRON STAINED; CONTAINS SOME COAL AND MUD; LARGE PIECES OF EXTREMELY IRON STAINED FINE GRAINED SANDSTONE
*	2.54	2.62	0.08			CLAYSTONE	M.GY VERY SOFT; NO FLOOR ATTITUDE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

COAL DIVISION MOUNT KLAPPAN PROJECT

SEAM DETAIL

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84248 SEAM : INTERVAL(M) : 0.45 - 2.34 ELEVATION(M) : 1785.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
	0.45	↑		0.75												
			0.08	0.08	100.0	1504	1504	1.36 / 0.53								
			0.25					1.89								
			0.03	0.17												
			0.12	0.27												
	2.34	↓		0.34												

PLOT 1 10.12.83 FRI 21 DEC, 1984 JOB-TSTCE80 GULF CANADA 01SSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84249

DATE - 01/08/85

- HISTORY -

START DATE - 08/12/84

END DATE - 08/12/84

CONTRACTOR - GCRI

OPERATOR - GCRI

GEOLOGIST - W. QUINN

SURVEYOR -

REMARKS - HAND TRENCH; ATTITUDE 308/80W FROM OUTCROP; LOGGED
FROM N.E.; FLOOR NOT SEEN; COAL/COAL+ROCK 0.53/0.
83; SAMPLE NO. 1502

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1745.00

NORTHING - 6343006.00

EASTING - 504204.00

LICENCE/LEASE NUMBER - 7149

LATITUDE - 571355

LONGITUDE - 1285549

- ORIENTATION -

LENGTH - 3.39

INCLINATION - 0.0

AZIMUTH - 34.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 0.9

ROOF STRIKE - 0

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84249

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.17	0.17			CLAYSTONE	WEATH.BN IRON STAINED; MINOR COAL CHIPS
*	0.17	0.80	0.63			CLAYSTONE	WEATH.BLK CONTAINS VERY FINE COAL CHIPS
*	0.80	1.17	0.37			CLAYSTONE	WEATH DARK BROWN TO LIGHT GRAY; CONTAINS LARGE CLASTS OF FINE GRAINED IRON STAINED SANDSTONE; WEATHERED ZONE.....
*	1.17	1.34	0.17	01502		COAL	C-2 SOME MUDSTONE
*	1.34	1.36	0.02	01502		SANDSTONE	M.BN WEATHERED; IRON STAINED
*	1.36	1.39	0.03	01502		COAL	C-2 SOME MUDSTONE
*	1.39	1.48	0.09	01502		CLAYSTONE	WEATH.GY SOME IRON STAINING; MINOR COAL
*	1.48	1.56	0.08	01502		COAL	C-4 MAJOR MUDSTONE INCLUSIONS
*	1.56	1.59	0.03	01502		CLAYSTONE	WEATH.GY IRON STAINED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84249

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.59	1.69	0.10	01502		COAL	C-4
*	1.69	1.85	0.16	01502		CLAYSTONE	WEATH.GY CONTAINS SOME COAL; IRON STAINED
*	1.85	1.99	0.14	01502		COAL	C-3
*	1.99	2.00	0.01	01502		COAL	AND MUDSTONE
*	2.00	2.05	0.05			CLAYSTONE	WEATH.BN
*	2.05	2.12	0.07			MUDSTONE	WEATH.BLK CONTAINS SOME COAL

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84249 SEAM : INTERVAL(M) : 1.17 -- 2.00 ELEVATION(M) : 1745.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
		↑															
	1.17	↓		0.17													
			0.02	0.02													
			0.09	0.09													
			0.02	0.02	100.0	1502	1502	0.53 / 0.30									
			0.16	0.16				0.83									
	2.00	↓		0.16													

PLOT : 10.42.58 FRI 21 DEC, 1984 JOB-TS10E60 GULF CANADA DISPLA 9.0

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84250

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	1.40	1.40	01506		COAL	SPOIL
*	1.40	1.52	0.12	01506		COAL	C-2 HARD; MASSIVE
*	1.52	1.54	0.02	01506		CLAYSTONE	WEATH.GY SOFT
*	1.54	1.59	0.05	01506		COAL	SPOIL
*	1.59	1.69	0.10			MUDSTONE	M.GY SOFT; FISSILE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84250 SEAM : INTERVAL(M) : 0.00 - 1.59 ELEVATION(M) : 1744.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL. MJ/KG		
	0.00	↑															
		█		1.52	100.0	1508	1508	1.57 / 0.02 1.59									
	1.59	↓															

PLOT 1 10.43.00 FRI 21 DEC, 1984 JOB-T5T0C60 GULF CANADA DISSEPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84251

DATE - 01/08/85

- HISTORY -

START DATE - 08/12/84
 END DATE - 08/12/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN

OPERATOR - GCRI
 SURVEYOR -

REMARKS - HAND TRENCH; COAL LARGELY SPOIL; LOGGED FROM N.E.;
 COAL/COAL+ROCK 1.17/1.17; SAMPLE NO. 1507

- LOCATION -

PROVINCE - BC
 ELEVATION - 1702.00

ZONE - 9
 NORTHING - 6343025.00
 EASTING - 503962.00

LICENCE/LEASE NUMBER - 7149

LATITUDE - 571356
 LONGITUDE - 1285604

- ORIENTATION -

LENGTH - 3.00

INCLINATION - 1.0
 AZIMUTH - 41.0

SIZE WIDTH - 1.2
 SIZE HEIGHT - 1.2

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 308
 FLOOR DIP - 72
 FLOOR DIR - E

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84251

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.47	0.47	01507		COAL	IN MUD (SPOIL)
*	0.47	0.62	0.15	01507		COAL	C-2 SOME MUD
*	0.62	1.17	0.55	01507		COAL	MUD AND ABUNDANT CHIPS OF VERY FINE SIL TSTONE; SPOIL
*	1.17	1.54	0.37			CLAYSTONE	WEATH.BLK MINOR AMOUNTS OF VERY FINE COAL CHIPS
*	1.54	1.74	0.20			MUDSTONE	CLYY.LT.GY FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84251 SEAM : INTERVAL(M) : 0.00 - 1.17 ELEVATION(M) : 1702.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALV AL MS/KG		
1	0.00	↑															
2		█		1.17	100.0	1507	1507	1.17 / 0.00 1.17									
3	1.17	↓															

PLOT 1 10.43.03 FRI 21 DEC, 1984 JOB-TS10C80 GULF CANADA 01SSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84252

DATE - 01/08/85

- HISTORY -

START DATE - 08/12/84
 END DATE - 08/12/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN

OPERATOR - GCRI
 SURVEYOR -

REMARKS - HAND TRENCH NOT SAMPLED; NO BEDROCK IN AREA; LOGGED FROM THE FLOOR UP; ROOF STRIKE UNOBTAINABLE; FLOOR ALMOST HORIZONTAL; EXTREMELY WEATHERED UNABLE TO DETERMINE A COAL:ROCK RATIO

- LOCATION -

PROVINCE - BC
 ELEVATION - 1657.00

ZONE - 9
 NORTHING - 6342841.00
 EASTING - 503819.00

LICENCE/LEASE NUMBER - 7149

LATITUDE - 571350
 LONGITUDE - 1285612

- ORIENTATION -

LENGTH - 3.05
 SIZE WIDTH - 1.2
 SIZE HEIGHT - 1.2

INCLINATION - 2.0
 AZIMUTH - 16.0

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 305
 FLOOR DIP - 4
 FLOOR DIR - N

*** NOTE *** O INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84252

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.20	0.20			SILTSTONE	EXTREMELY WEATHERED AND IRON STAINED; QUARTZ VEINING AND ASSOCIATED VERY FINE PYRITE GRAINS; VERY BRITTLE; HIGHLY FRACTURED
*	0.20	0.33	0.13			COAL	COAL AND MUD
*	0.33	0.35	0.02			COAL	IRON STAINED; SAND SIZE CHIPS OF COAL; GRADE OF COAL NONDESCRIPT
*	0.35	0.75	0.40			COAL	C-2 WEATHERED AND BRITTLE
*	0.75	1.39	0.64			OVERBURDEN	GRASS ROOT PENETRATION THROUGHOUT COAL

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84-252 SEAM : INTERVAL(M) : 0.20 - 0.75 ELEVATION(M) : 1557.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. V AL MJ/KG		
1 2 3 4 5		↑															
	0.20			0.55	100	-	-	0.55/0.00									
	0.75							0.55									
		↓															

PLOT 1 10.43.05 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84253

DATE - 01/08/85

- HISTORY -

START DATE - 08/12/84
END DATE - 08/12/84

CONTRACTOR - GCRI
GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
SURVEYOR -

REMARKS - HAND TRENCH; NO COAL; ENTIRELY SPOIL (C-2 - C-3) WITH SEVERAL 10-50 MM CLAY PARTINGS OF VARIOUS ATTITUDES; NEAR HORIZONTAL; FLOOR AND ROOF ROCK NOT OBTAINED; NOT SAMPLED; NO DETAILED LOG AVAILABLE

- LOCATION -

PROVINCE - BC
ELEVATION - 1687.00

ZONE - 9
NORTHING - 6342981.00
EASTING - 503912.00

LICENCE/LEASE NUMBER - 7149

LATITUDE - 571355
LONGITUDE - 1285607

- ORIENTATION -

LENGTH - 4.68

INCLINATION - 3.0
AZIMUTH - 6.0

SIZE WIDTH - 1.1
SIZE HEIGHT - 1.4

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84254

DATE - 01/08/85

- HISTORY -

START DATE - 08/12/84
 END DATE - 08/12/84

CONTRACTOR - GCRI
 GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - FLOOR AND ROOF ROCK NOT PRESENT; NO COAL FOUND; HA
 ND TRENCH; ONLY SPOIL; BLACK MINOR SPECKS OF C-1 A
 ND C-2; SOME FRAGMENTS OF LIGHT GRAY CLAYSTONE; NO
 T SAMPLED; NO DETAILED LOG AVAILABLE

- LOCATION -

PROVINCE - BC
 ELEVATION - 1680.00

ZONE - 9
 NORTHING - 6342944.00
 EASTING - 503870.00

LICENCE/LEASE NUMBER - 7149

LATITUDE - 571353
 LONGITUDE - 1285609

- ORIENTATION -

LENGTH - 3.00

INCLINATION - 4.0
 AZIMUTH - 16.0

SIZE WIDTH - 1.0
 SIZE HEIGHT - 1.1

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84255

DATE - 01/08/85

- HISTORY -

START DATE - 08/12/84

END DATE - 08/12/84

CONTRACTOR - GCRI

OPERATOR - GCRI

GEOLOGIST - D. KUNKLE

SURVEYOR -

REMARKS - FLOOR ROCK HORIZONTAL; ROOF ROCK NOT PRESENT; HAND
TRENCH; NO BEDROCK IN AREA; TRENCH LIES ON SLOPE
OF CREEK; POOR QUALITY COAL; COAL/COAL+ROCK 0.59/0
.59; NOT SAMPLED

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1611.00

NORTHING - 6342644.00

EASTING - 503730.00

LICENCE/LEASE NUMBER - 7149

LATITUDE - 571344

LONGITUDE - 1285618

- ORIENTATION -

LENGTH - 2.40

INCLINATION - 30.0

AZIMUTH - 145.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 1.5

ROOF STRIKE - 0

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84255

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.45	0.45			OVERBURDEN	TOP ERODED
*	0.45	0.68	0.23			COAL	SPOIL MIXED WITH CLAY AND SAND
*	0.68	0.82	0.14			COAL	SPOIL LIKELY C-3
*	0.82	0.94	0.12			COAL	C-4 WITH C-2 BANDS; CRUMBLY AND SHEARED
*	0.94	1.04	0.10			COAL	C-2 SPOIL SOME C-3

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84255 SEAM : ???????????? INTERVAL(M) : 0.00 - 1.04 ELEVATION(M) : 1611.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.								
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALY AL MJ/KG			
	0.45																	
	1.04			0.59	100	-	-	0.59/0.00	0.59									

PLOT 1 10.52.54 FRI 21 DEC, 1984 JOB-TSTCE60 GULF CANADA DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84256

DATE - 01/08/85

- HISTORY -

START DATE - 08/12/84

END DATE - 08/12/84

CONTRACTOR - GCRI

OPERATOR - GCRI

GEOLOGIST - W. QUINN

SURVEYOR -

REMARKS - HAND TRENCH; SAMPLE 2638; NO BEDROCK AVAILABLE; BEDDING IN COAL APPEARS ALMOST HORIZONTAL BUT DIPPING WEST; NO ATTITUDES TAKEN; ROOF ERODED; FLOOR NOT REACHED; COAL/COAL+ROCK 1.82/1.89

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1618.00

NORTHING - 6342586.00

EASTING - 503254.00

LICENCE/LEASE NUMBER - 7149

LATITUDE - 571342

LONGITUDE - 1285646

- ORIENTATION -

LENGTH - 2.25

INCLINATION - 15.0

AZIMUTH - 102.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 1.9

ROOF STRIKE - 0

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84256

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.21	0.21			OVERBURDEN	
*	0.21	0.41	0.20	02638		COAL	C-3.BLK WEATHERED
*	0.41	0.51	0.10	02638		COAL	COAL AND MUD
*	0.51	0.54	0.03	02638		CLAYSTONE	WEATH.BN
*	0.54	0.92	0.38	02638		COAL	C-2 COAL AND MUD
*	0.92	0.95	0.03	02638		CLAYSTONE	WEATH.BN SOME IRON STAINING
*	0.95	1.02	0.07	02638		COAL	C-2 COAL AND MUD; COAL CHIPS C-2; COAL CHIPS ABUNDANT
*	1.02	1.12	0.10	02638		COAL	DK.GY COAL AND MUD; MINOR AMOUNTS OF FINE COAL; IRON STAINED
*	1.12	1.13	0.01	02638		CLAYSTONE	WEATH.BN LARGER CLAYSTONE PIECES

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84256

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.13	1.83	0.70	02638		COAL	C-2 FAILY BLOCKY; VERY WEATHERED; SOME MUD; MINOR IRON STAINING THROUGHOUT
*	1.83	2.10	0.27	02638		COAL	C-3 THICK COAL BANDS; VERY SHINEY; CONCHOID AL FRACTURE; FORMS FLOOR OF TRENCH

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84-256 SEAM : INTERVAL(M) : 0.21 - 2.10 ELEVATION(M) : 1618.0

GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
	0.21	↑		0.30												
				0.38												
				0.17												
				0.97	100.0	2636	2638	1.82 / 0.07	1.89							
	2.10	↓														

PLOT 1 10.52.56 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84257

DATE - 01/08/85

- HISTORY -

START DATE - 08/27/84

END DATE - 08/27/84

CONTRACTOR - GCRI

OPERATOR - GCRI

GEOLOGIST - B. LAWSON

SURVEYOR -

REMARKS - NO DETAILED LOG; SPOIL; MINOR COAL FRAGMENTS; NOT
SAMPLED; SEAM DESIGNATION UNDETERMINED

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1605.00

NORTHING - 6343320.00

EASTING - 507300.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571405

LONGITUDE - 1285245

- ORIENTATION -

LENGTH - 2.10

INCLINATION - 1.0

AZIMUTH - 228.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 1.4

ROOF STRIKE - 0

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84258

DATE - 01/08/85

- HISTORY -

START DATE - 08/27/84

END DATE - 08/27/04

CONTRACTOR - GCRI

OPERATOR - GCRI

GEOLOGIST - B. LAWSON

SURVEYOR -

REMARKS - NO DETAILED LOG AVAILABLE; COAL SPOIL; NOT SAMPLED
; SEAM DESIGNATION UNDETERMINED

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1573.50

NORTHING - 6343590.00

EASTING - 507916.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571414

LONGITUDE - 1285208

- ORIENTATION -

LENGTH - 3.20

INCLINATION - 4.0

AZIMUTH - 172.0

SIZE WIDTH - 0.8

SIZE HEIGHT - 1.2

ROOF STRIKE - 0

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84259

DATE - 01/08/85

- HISTORY -

START DATE - 08/05/84
 END DATE - 08/05/84

CONTRACTOR - GCRI
 GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - ABUNDANT QUARTZ VEINING IN POSSIBLE SHEAR ZONE AT
 N.W. END OF TRENCH; SOME QUARTZ VEINING WITHIN THE
 TRENCH; CLAY AND MUDSTONE PARTINGS; ROOF-FOSSILIF
 EROUS SILTSTONES; FLOOR-SHALE; NO DETAILED LOG; SEA
 m designation undetermined; sample no. 2617

- LOCATION -

PROVINCE - BC
 ELEVATION - 1729.00

ZONE - 9
 NORTHING - 6344400.00
 EASTING - 507020.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571440
 LONGITUDE - 1285301

- ORIENTATION -

LENGTH - 16.00

INCLINATION - 10.0
 AZIMUTH - 106.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.9

ROOF STRIKE - 343
 ROOF DIP - 80
 ROOF DIR - W

FLOOR STRIKE - 253
 FLOOR DIP - 80
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84259

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH INTRVAL TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*.00	0.00	0.01	0.01	02617	P	COAL	NOT DETAILED LOG; UNIT INSERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84260

DATE - 01/08/85

- HISTORY -

START DATE - 08/03/84

END DATE - 08/03/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - K. JENNER

SURVEYOR -

REMARKS - SEAM OVERTURNED; NO BDG SEEN IN ROOF ROCK ; THICKN
ESS MEASURED FROM TOP; APPROXIMATE SAMPLE OBTAINED
FROM BACKHOE; SAMPLE NO. 2610

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1732.00

NORTHING - 6344116.00

EASTING - 506716.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571431

LONGITUDE - 1285319

- ORIENTATION -

LENGTH - 16.50

INCLINATION - 3.0

AZIMUTH - 42.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 1.8

ROOF STRIKE - 0

FLOOR STRIKE - 318

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84260

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.50	0.50			CLAYSTONE	WEATH NO DISTINCT BEDDING
*	0.50	5.51	5.01	02610	K	COAL	C-2 SOME C-3; MINOR MUDSTONE PARTINGS; MINOR ANKERITE INCLUSIONS IN GRAB SAMPLE
*	5.51	6.01	0.50			SILTSTONE	AND MUDSTONE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.



COAL DIVISION

MOUNT KLAPPAN PROJECT

SEAM DETAIL

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84260 SEAM : x INTERVAL(M) : 0.50 - 5.51 ELEVATION(M) : 1732.0
 GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.50	↑ 															
	5.51	↓ 		5.01	100.0	2610	2610	5.01 / 0.00 5.01		11.16	34.01	21.87	32.98	0.30	13.70		

PLOT 1 10:52.58 FRI 21 DEC, 1984 JOB-TSTCE80 GULF CANADA DISSPLR 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84260											
	HD1	K	2610	11.14	34.01	32.98	21.87	0.30	13.70		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84261

DATE - 01/08/85

- HISTORY -

START DATE - 09/17/84

END DATE - 09/17/84

CONTRACTOR - AVM CONST.
GEOLOGIST - K. FOELLMER

OPERATOR - GCRI
SURVEYOR -

REMARKS - ROOF ERODED; TRENCH BOTTOM WATER FILLED; ATTITUDE
OF CLAY BED IN UPPER PART OF SEAM 305/69S; COAL/CO
AL+ROCK 0000/0000; SAMPLE NO. 4945

- LOCATION -

PROVINCE - BC
ELEVATION - 1491.00

ZONE - 9
NORTHING - 6345682.00
EASTING - 506788.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571522
LONGITUDE - 1285315

- ORIENTATION -

LENGTH - 4.50

INCLINATION - 5.0
AZIMUTH - 205.0

SIZE WIDTH - 1.1
SIZE HEIGHT - 1.4

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84261

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.10	0.10			OVERBURDEN	
*	0.10	0.25	0.15			CLAYSTONE	DK.BN SOFT
*	0.25	0.40	0.15			MUDSTONE	BN COALY INCLUSIONS (C-5) <40%
*	0.40	0.46	0.06			MUDSTONE	LT.BN
*	0.46	0.72	0.26			MUDSTONE	INTERBEDDED COAL LAMINAE (<10%)
*	0.72	0.76	0.04			MUDSTONE	LT.BN APPROXIMATELY 20% INTERBEDDED COAL LAMINAE
*	0.76	2.46	1.70	04945 I		COAL	C-3 WEATHERED; BROKEN

* DENOTES MEASURED BCA
NEWPAGE

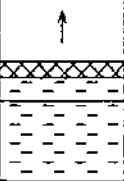
GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84261 SEAM : 1 INTERVAL(M) : 0.76 - 2.46 ELEVATION(M) : 1491.0
 GEOLOGIST : K. FOELLMER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALV AL MJ/KG		
	0.76	↑ 															
		↓		1.70		09946		1.70/0.00 1.70									
	2.46																

PLOT 1 10.53.01 FRI 21 DEC, 1984 JOB-F5TCE60 GULF CANADA DISPLAY 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84262

DATE - 01/08/85

- HISTORY -

START DATE - 08/02/84
 END DATE - 08/02/84

CONTRACTOR - GCRI
 GEOLOGIST - V. DUFORD

OPERATOR - GCRI
 SURVEYOR -

REMARKS - COAL MIXED WITH OVERBURDEN; C-2 TO C-3 FRAGMENTS PRESENT AND MIXED WITH RED-BROWN CLAY AND RUBBLE; TRENCH IN HUMMOCKY WET REGION; NO DETAILED LOG; SEAM 1; NOT SAMPLED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1662.50

ZONE - 9
 NORTHING - 6344574.00
 EASTING - 505778.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571446
 LONGITUDE - 1285415

- ORIENTATION -

LENGTH - 6.00

INCLINATION - 0.0
 AZIMUTH - 185.0

SIZE WIDTH - 1.0
 SIZE HEIGHT - 1.5

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84262

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01		I	COAL	NO DETAILED LOG; UNIT INCERTED FOR SEAM DESIGNATION

* DENOTES MEASURED BCA
NEWPAGE

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84263

DATE - 01/08/85

- HISTORY -

START DATE - 08/02/84

END DATE - 08/02/84

CONTRACTOR - GCRI

GEOLOGIST - V. DUFORD

OPERATOR - GCRI

SURVEYOR -

REMARKS - MUD AND COAL AND MUDSTONE SEEM TO INTERFINGER THRO
UGHOUT TRENCH; COAL/COAL+ROCK 0.0/2.13; NOT SAMPLE
D

- LOCATION -

PROVINCE - BC

ELEVATION - 1663.00

LICENCE/LEASE NUMBER - 7152

ZONE - 9

NORTHING - 6344568.00

EASTING - 505201.00

LATITUDE - 571446

LONGITUDE - 1285450

- ORIENTATION -

LENGTH - 3.00

SIZE WIDTH - 3.0

SIZE HEIGHT - 1.0

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

INCLINATION - 80.0

AZIMUTH - 60.0

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84263

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.50	0.50			MUDSTONE	WEATH WITH COALY FRAGMENTS AND PLANT ROOTS
*	0.50	1.55	1.05		C	CLAYSTONE	CARB WITH BRIGHT COALY STRINGERS; CRUMBLY; FISSILE; DEEPLY WEATHERED; LENSES OF YELLOW STAINED AND RUST COLOURED RUBBLY TO CRUMBLY COAL LENSES
*	1.55	1.78	0.23		C	CLAYSTONE	CARB. DK. GY THIN COALY STRINGERS THROUGHOUT; WEATHERS LIGHT GREY; BEDDING INDICATES SLIGHTLY DISTURBED
*	1.78	2.13	0.35		C	CLAYSTONE	CARB YELLOW AND RUST STAINING; ABUNDANT QUARTZ STRINGERS; COALY STRINGERS ARE BRECCIATED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84263 SEAM : C INTERVAL(M) : 0.00 - 2.15 ELEVATION(M) : 1663.0

GEOLOGIST : V. DUFORD DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.00	↑		0.50													
	0.50																
	1.63			0.00													
	2.15	↓															

PLOT 1 10.53.03 FRI 21 DEC, 1984 JOB-1STCEG0 GULF CANADA DISPLA 9.0

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84264

DATE - 01/08/85

- HISTORY -

START DATE - 08/03/84

END DATE - 08/03/84

CONTRACTOR - ELIAS EXCAV.

GEOLOGIST - K. JENNER

OPERATOR - GCRI

SURVEYOR -

REMARKS - BACKHOE SAMPLE; ENTIRE SEAM COULD NOT BE TRENCHED;
THICKNESS OBTAINED IS APPARENT SAMPLE NO. 2611

- LOCATION -

PROVINCE - BC
ELEVATION - 1721.00

LICENCE/LEASE NUMBER - 7152

ZONE - 9
NORTHING - 6344026.00
EASTING - 506753.00

LATITUDE - 571428
LONGITUDE - 1285317

- ORIENTATION -

LENGTH - 10.50
SIZE WIDTH - 1.1
SIZE HEIGHT - 2.9

INCLINATION - 3.0
AZIMUTH - 64.0

ROOF STRIKE - 265
ROOF DIP - 51
ROOF DIR - N

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84264

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.50	0.50			SILTSTONE	SOME MUDSTONE INTERBEDS
*	0.50	2.00	1.50	02611	K	COAL	C-5 CARBONACEOUS CLAYSTONE AND CARBONACEOUS MUDSTONE; HEAVILY IRON STAINED; MINOR FOLDING; SOME ANKERITE
*	2.00	2.50	0.50			MUDSTONE	

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84264 SEAM : k INTERVAL(M) : 0.50 - 2.00 ELEVATION(M) : 1721.0

GEOLOGIST : K. JENNER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.50	↑															
	2.00	↓		1.50	100.0	2811	2811	1.50/0.00 1.50									

PLOT 1 10.53.05 FRI 21 DEC, 1984 JOB-TS1CE90 GULF CANADA DISSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84265

DATE - 01/08/85

- HISTORY -

START DATE - 08/03/84

END DATE - 08/03/84

CONTRACTOR - ELIAS EXCAV.

GEOLOGIST - K. JENNER

OPERATOR - GCRI

SURVEYOR -

REMARKS - BEDS OVERTURNED; LOGGED FROM STRATIGRAPHIC ROOF; C
OAL/COAL+ROCK 2.3/3.26; VALID DATA POINT; SAMPLE N
O. 2612

- LOCATION -

PROVINCE - BC
ELEVATION - 1749.00

LICENCE/LEASE NUMBER - 7151

ZONE - 9
NORTHING - 6344248.00
EASTING - 506658.00

LATITUDE - 571435
LONGITUDE - 1285323

- ORIENTATION -

LENGTH - 8.90
SIZE WIDTH - 0.9
SIZE HEIGHT - 1.0

INCLINATION - 4.0
AZIMUTH - 42.0

ROOF STRIKE - 319
ROOF DIP - 66
ROOF DIR - S

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84265

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.62	0.62			SILTSTONE	BN BROWN-ORANGE COLOUR; WEATHERED
*	0.62	0.65	0.03			COAL	C-2 IRON STAINING
*	0.65	0.71	0.06			MUDSTONE	GY
*	0.71	0.72	0.01			COAL	C-2 IRON STAINING
*	0.72	0.79	0.07			MUDSTONE	GY
*	0.79	0.81	0.02			COAL	C-2 IRON STAINING
*	0.81	1.17	0.36			CLAYSTONE	WEATH.GY
*	1.17	1.23	0.06			COAL	C-5 CARBONACEOUS CLAYSTONE LAMINAE; LISTRIC SURFACES
*	1.23	1.26	0.03			SILTSTONE	BN BROWN-ORANGE COLOUR

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84265

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.26	1.32	0.06			CLAYSTONE	CARB COAL STRINGERS
*	1.32	1.38	0.06		L	COAL	C-4
*	1.38	1.39	0.01		L	COAL	C-2
*	1.39	1.42	0.03		L	CLAYSTONE	CARB
*	1.42	1.48	0.06	02612	L	COAL	C-3
*	1.48	1.49	0.01	02612	L	SILTSTONE	
*	1.49	1.87	0.38	02612	L	COAL	C-2 WITH 60 MM SILTSTONE NODULE DEFLECTING COAL ABOVE AND BELOW
*	1.87	1.90	0.03	02612	L	CLAYSTONE	CARB
*	1.90	2.03	0.13	02612	L	COAL	C-2 IRON STAINING

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84265

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.03	2.04	0.01	02612	L	CLAYSTONE	CARB
*	2.04	2.06	0.02	02612	L	COAL	C-2 IRON STAINING
*	2.06	2.12	0.06	02612	L	CLAYSTONE	WEATH MINOR COAL STRINGERS; SOME SILTSTONE LA MINAE; WEATHERED ORANGE-BROWN
*	2.12	2.25	0.13	02612	L	COAL	C-2 IRON STAINING
*	2.25	2.30	0.05	02612	L	CLAYSTONE	CARB
*	2.30	2.71	0.41	02612	L	COAL	C-2
*	2.71	2.75	0.04	02612	L	CLAYSTONE	WEATH.BN
*	2.75	2.81	0.06	02612	L	COAL	C-3 IRON STAINING
*	2.81	2.82	0.01	02612	L	CLAYSTONE	CARB

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84265

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.82	2.83	0.01	02612	L	COAL	C-2 IRON STAINING
*	2.83	2.84	0.01	02612	L	CLAYSTONE	
*	2.84	2.85	0.01	02612	L	COAL	C-2 IRON STAINING
*	2.85	2.87	0.02	02612	L	MUDSTONE	COALY STRINGERS
*	2.87	2.88	0.01	02612	L	COAL	C-3 IRON STAINING
*	2.88	2.97	0.09	02612	L	CLAYSTONE	WEATH.BN
*	2.97	3.07	0.10	02612	L	COAL	C-2 IRON STAINING
*	3.07	3.11	0.04	02612	L	CLAYSTONE	WEATH.BN
*	3.11	3.21	0.10	02612	L	COAL	C-2 MINOR. IRON STAINING
*	3.21	3.28	0.07	02612	L	MUDSTONE	M.BN

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 5

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4265

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.28	3.32	0.04	02612	L	COAL	C-3 MINOR IRON STAINING
*	3.32	3.36	0.04	02612	L	COAL	C-2 MINOR IRON STAINING
*	3.36	3.38	0.02	02612	L	MUDSTONE	M.BN
*	3.38	3.51	0.13	02612	L	COAL	C-3 MINOR IRON STAINING
*	3.51	3.62	0.11	02612	L	CLAYSTONE	WEATH.BN
*	3.62	3.79	0.17	02612	L	COAL	C-3 IRON STAINING
*	3.79	3.94	0.15	02612	L	COAL	C-4 MINOR IRON STAINING
*	3.94	4.06	0.12		L	SILTSTONE	FAIRLY UNCONSOLIDATED
*	4.06	4.21	0.15		L	COAL	C-3 IRON STAINING
*	4.21	4.24	0.03		L	CLAYSTONE	WEATH.BN

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84265

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.24	4.27	0.03		L	COAL	C-5
*	4.27	4.31	0.04		L	CLAYSTONE	CARB.M.BN
*	4.31	4.34	0.03		L	COAL	C-4 IRON STAINING
*	4.34	4.38	0.04		L	CLAYSTONE	CARB
*	4.38	4.40	0.02		L	COAL	C-3
*	4.40	4.53	0.13			CLAYSTONE	CARB INTERBEDDED COAL LAMINAE (<2.0 MM)
*	4.53	4.56	0.03			COAL	C-4
*	4.56	4.64	0.08			CLAYSTONE	CARB
*	4.64	4.67	0.03			COAL	C-5 IRON STAINING
*	4.67	5.36	0.69			CLAYSTONE	WEATH.BN

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

DATA SOURCE		SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84265												
	HD1	L		2612	11.40	33.34	32.30	22.96	0.28	13.34		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84266

DATE - 01/08/85

- HISTORY -

START DATE - 08/04/84

END DATE - 08/04/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - D. KUNKLE

SURVEYOR -

REMARKS - SAMPLE NO. 2613; BACKHOE TRENCH SAMPLE; LOGGED FR
OM N.E.; VALID DATA POINT; COAL/COAL+ROCK 6.4/ 9.6
4

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1732.00

NORTHING - 6344210.00

EASTING - 506815.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571434

LONGITUDE - 1285313

- ORIENTATION -

LENGTH - 17.60

INCLINATION - 2.0

AZIMUTH - 36.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 1.6

ROOF STRIKE - 288

FLOOR STRIKE - 0

ROOF DIP - 90

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84266

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	1.40	1.40			CLAYSTONE	BN. WITH IRON STAINING - ROOF
*	1.40	1.41	0.01			COAL	C-2
*	1.41	1.83	0.42			SILTSTONE	CARB. DRNG WITH PLANT FRAGMENTS
*	1.83	1.90	0.07			CLAYSTONE	CARB. DK. GY
*	1.90	2.03	0.13	02613	N	COAL	C-2
*	2.03	2.15	0.12	02613	N	COAL	C-3
*	2.15	2.16	0.01	02613	N	CLAYSTONE	WEATH. GY
*	2.16	2.31	0.15	02613	N	CLAYSTONE	WEATH. GY
*	2.31	2.47	0.16	02613	N	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84266

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.47	2.53	0.06	02613	N	CLAYSTONE	BN RED-BROWN COLOUR; WITH MINOR COAL LAMINAE
*	2.53	2.62	0.09	02613	N	COAL	C-4
*	2.62	2.66	0.04	02613	N	CLAYSTONE	CARB OXIDIZED
*	2.66	2.73	0.07	02613	N	SILTSTONE	BN RED-BROWN COLOUR
*	2.73	2.84	0.11	02613	N	COAL	C-3 WEATHERED
*	2.84	2.90	0.06	02613	N	CLAYSTONE	BN RED-BROWN COLOUR
*	2.90	2.92	0.02	02613	N	CLAYSTONE	WEATH.GY
*	2.92	2.94	0.02	02613	N	SILTSTONE	BN RED-BROWN COLOUR
*	2.94	2.96	0.02	02613	N	CLAYSTONE	CARB.WEATH

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84266

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.96	2.97	0.01	02613	N	SILTSTONE	BN BROWN-REDDISH COLOUR
*	2.97	3.05	0.08	02613	N	COAL	C-5
*	3.05	3.13	0.08	02613	N	COAL	C-3 WITH C-2 BANDS
*	3.13	3.15	0.02	02613	N	COAL	C-2
*	3.15	3.27	0.12	02613	N	COAL	C-3 WITH C-2 BANDS
*	3.27	3.33	0.06	02613	N	COAL	C-2 OXIDIZED ALONG BEDDING PLANES
*	3.33	3.39	0.06	02613	N	COAL	C-3
*	3.39	3.46	0.07	02613	N	COAL	C-2
*	3.46	3.47	0.01	02613	N	SILTSTONE	BN RED-BROWN COLOUR
*	3.47	3.63	0.16	02613	N	COAL	C-3

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84266

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.63	3.74	0.11	02613	N	COAL	C-4
*	3.74	3.81	0.07	02613	N	COAL	C-2
*	3.81	4.07	0.26	02613	N	COAL	C-3
*	4.07	4.17	0.10	02613	N	COAL	C-4 WITH C-2 BANDS
*	4.17	4.19	0.02	02613	N	COAL	C-2
*	4.19	4.27	0.08	02613	N	SILTSTONE	BN BROWN-REDDISH COLOUR
*	4.27	4.29	0.02	02613	N	COAL	C-4
*	4.29	4.30	0.01	02613	N	COAL	C-2
*	4.30	4.31	0.01	02613	N	COAL	C-4
*	4.31	4.32	0.01	02613	N	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84266

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	4.32	4.44	0.12	02613	N	COAL	C-4 WITH IRON STAINING
*	4.44	4.48	0.04	02613	N	SILTSTONE	DRNG
*	4.48	4.54	0.06	02613	N	COAL	C-4
*	4.54	4.56	0.02	02613	N	COAL	C-2
*	4.56	4.60	0.04	02613	N	COAL	C-4
*	4.60	4.66	0.06	02613	N	CLAYSTONE	WEATH.BN BROWN-GRAY COLOUR; SOFT AND PLASTIC
*	4.66	4.69	0.03	02613	N	COAL	C-4
*	4.69	4.71	0.02	02613	N	COAL	C-2
*	4.71	4.75	0.04	02613	N	COAL	C-3
*	4.75	4.87	0.12	02613	N	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84266

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.87	4.91	0.04	02613	N	COAL	C-4
*	4.91	4.99	0.08	02613	N	COAL	C-3
*	4.99	5.03	0.04	02613	N	CLAYSTONE	WEATH RED COLOURING
*	5.03	5.21	0.18	02613	N	COAL	C-4
*	5.21	5.27	0.06	02613	N	CLAYSTONE	WEATH.BN
*	5.27	5.36	0.09	02613	N	COAL	C-3
*	5.36	5.39	0.03	02613	N	CLAYSTONE	WEATH.BN
*	5.39	6.64	1.25	02613	N	COAL	C-3 WEATHERED; OXIDIZED
*	6.64	6.70	0.06	02613	N	CLAYSTONE	WEATH.GY
*	6.70	7.18	0.48	02613	N	COAL	C-3

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84266

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	7.18	7.22	0.04	02613	N	COAL	C-2
*	7.22	7.29	0.07	02613	N	CLAYSTONE	WEATH.GY
*	7.29	7.33	0.04	02613	N	SILTSTONE	BN BROWN-ORANGE COLOUR
*	7.33	7.43	0.10	02613	N	COAL	C-3
*	7.43	7.44	0.01	02613	N	COAL	C-2
*	7.44	7.48	0.04	02613	N	COAL	C-3
*	7.48	7.49	0.01	02613	N	COAL	C-2
*	7.49	7.55	0.06	02613	N	COAL	C-3
*	7.55	7.57	0.02	02613	N	COAL	C-2
*	7.57	7.69	0.12	02613	N	COAL	C-3

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84266

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	7.69	7.72	0.03	02613	N	COAL	C-2
*	7.72	7.85	0.13	02613	N	COAL	C-3
*	7.85	7.98	0.13	02613	N	SILTSTONE	RED COLOURING
*	7.98	8.13	0.15	02613	N	COAL	C-3
*	8.13	8.26	0.13	02613	N	MUDSTONE	CARB. BLK
*	8.26	8.46	0.20	02613	N	COAL	C-4
*	8.46	8.49	0.03	02613	N	COAL	C-3
*	8.49	8.53	0.04	02613	N	CLAYSTONE	WEATH. GY
*	8.53	8.66	0.13	02613	N	COAL	C-2
*	8.66	8.74	0.08	02613	N	CLAYSTONE	CARB

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84266

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	8.74	8.88	0.14	02613	N	COAL	C-2
*	8.88	8.94	0.06	02613	N	SILTSTONE	BN RED-BROWN COLOUR; FRACTURE FILL QUARTZ S.O MM
*	8.94	9.02	0.08	02613	N	COAL	C-4
*	9.02	9.14	0.12	02613	N	CLAYSTONE	GY
*	9.14	9.16	0.02	02613	N	CLAYSTONE	WEATH.BLK POSSIBLY WEATHERED COAL
*	9.16	9.21	0.05	02613	N	CLAYSTONE	GY
*	9.21	9.22	0.01	02613	N	COAL	C-2 WITH HEAVY IRON STAINING
*	9.22	9.25	0.03	02613	N	COAL	C-3
*	9.25	9.26	0.01	02613	N	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84266

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	9.26	9.35	0.09	02613	N	COAL	C-3 WITH IRON STAINED BANDS
*	9.35	9.43	0.08	02613	N	CLAYSTONE	WEATH.BN BROWN-REDDISH COLOUR; WITH QUARTZ VEINS
*	9.43	9.50	0.07	02613	N	COAL	C-2 WITH QUARTZ VEINS
*	9.50	9.52	0.02	02613	N	SILTSTONE	ORNG
*	9.52	9.65	0.13	02613	N	COAL	C-2
*	9.65	9.71	0.06	02613	N	SILTSTONE	ORNG
*	9.71	9.75	0.04	02613	N	COAL	C-2
*	9.75	9.85	0.10	02613	N	CLAYSTONE	BN BROWN-GRAY COLOUR
*	9.85	10.03	0.18	02613	N	COAL	C-2 WITH MINOR QUARTZ VEINING
*	10.03	10.13	0.10			CLAYSTONE	CARB.WEATH.BN

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84266

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	10.13	10.27	0.14			SILTSTONE	DRNG
*	10.27	10.47	0.20			CLAYSTONE	CARB. WEATH WEATHERED
*	10.47	10.51	0.04			COAL	C-4
*	10.51	10.59	0.08			CLAYSTONE	WEATH. BN
*	10.59	10.61	0.02			COAL	C-3
*	10.61	10.69	0.08			CLAYSTONE	CARB. WEATH. BLK
*	10.69	10.76	0.07			SILTSTONE	DRNG
*	10.76	11.00	0.24			CLAYSTONE	GY
*	11.00	11.04	0.04			COAL	C-3
*	11.04	12.21	1.17			SILTSTONE	BN

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 12

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84266

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	12.21	12.24	0.03			COAL	C-3
*	12.24	12.74	0.50			SILTSTONE	ORNG WITH INTERBEDDED GREY MUDSTONE
*	12.74	13.24	0.50			CLAYSTONE	CARB PROBABLY WITH COAL
*	13.24	15.24	2.00			SILTSTONE	BN FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRCB4266 SEAM : n INTERVAL(M) : 1.90 - 10.03 ELEVATION(M) : 1732.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	1.90	↑		0.25													
				0.16													
				0.18													
				0.08													
				0.11													
				0.49													
				0.72													
				0.17													
				0.12	100.0	2613	2613	627.186	7.36	44.44	22.66	25.54	0.23	11.47			
				0.33				3.13									
				0.18													
				0.08													
				1.25													
				0.48													
	7.18	↓															

PLOT 1 14.25.58 FRI 21 DEC, 1984 JOB-TSTOEGO GULF CANADA DISPLAY 9.0

GULF CANADA RESOURCES INC.

COAL DIVISION MOUNT KLAPPAN PROJECT

SEAM DETAIL

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84266 SEAM : N INTERVAL(M) : 1.90 - 10.03 ELEVATION(M) : 1732.0
 GEOLOGIST : D. KUNKLE DATE : JAN 16/85 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL VAL MJ/KG		
	7.18	↑		0.52													
			0.13														
			0.13	0.10													
			0.13	0.23													
			0.08	0.13		2613	2613	6.27/1.06	0.13								
			0.08	0.14													
			0.08	0.08													
			0.19														
			0.08	0.14													
			0.08	0.07													
			0.08	0.13													
			0.10	0.18													
	10.03	↓															

DISSEPLA 9.2

GULF CANADA LIT

JOB-TSTCEGO

WED 16 JAN, 1985

PLOT 1

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84266											
	HD1	N	2613	7.36	44.44	25.54	22.66	0.23	11.47		

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84267

DATE - 01/08/85

- HISTORY -

START DATE - 08/04/84

END DATE - 08/04/84

CONTRACTOR - ELIAS EXCAV.

GEOLOGIST - D. KUNKLE

OPERATOR - GCRI

SURVEYOR -

REMARKS - SAMPLE NO. 2614; CHANNEL SAMPLE; LOGGED FROM THE N
.E.; VALID DATA POINT; COAL/COAL+ROCK 1.73/2.13

- LOCATION -

PROVINCE - BC

ELEVATION - 1722.00

LICENCE/LEASE NUMBER - 7151

ZONE - 9

NORTHING - 6344266.00

EASTING - 506956.00

LATITUDE - 571436

LONGITUDE - 1285305

- ORIENTATION -

LENGTH - 6.70

INCLINATION - 2.0

AZIMUTH - 51.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 1.3

ROOF STRIKE - 285

ROOF DIP - 57

ROOF DIR - S

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84267

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	1.83	1.83			MUDSTONE	GY
*	1.83	1.92	0.09	02614	P	COAL	C-3 WITH C-1 BANDS; ATTITUDE OF COAL 285/90
*	1.92	1.93	0.01	02614	P	COAL	C-1 HEAVY IRON STAINING
*	1.93	1.96	0.03	02614	P	COAL	C-3
*	1.96	1.97	0.01	02614	P	MUDSTONE	CARB.DK.BN
*	1.97	2.07	0.10	02614	P	COAL	C-2
*	2.07	2.10	0.03	02614	P	COAL	C-1 WITH HEAVY IRON STAINING
*	2.10	2.14	0.04	02614	P	COAL	C-3
*	2.14	2.16	0.02	02614	P	CLAYSTONE	WEATH.GY
*	2.16	2.54	0.38	02614	P	COAL	C-3 WITH MINOR BANDS OF IRON STAINING

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84267

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.54	2.57	0.03	02614	P	CLAYSTONE	WEATH.GY
*	2.57	2.60	0.03	02614	P	COAL	C-3
*	2.60	2.61	0.01	02614	P	CLAYSTONE	WEATH.GY
*	2.61	2.62	0.01	02614	P	COAL	C-3
*	2.62	2.67	0.05	02614	P	CLAYSTONE	CARB.WEATH.BN
*	2.67	2.72	0.05	02614	P	COAL	C-2
*	2.72	2.76	0.04	02614	P	COAL	C-2 IRON STAINING
*	2.76	2.85	0.09	02614	P	COAL	C-3
*	2.85	2.87	0.02	02614	P	COAL	C-4
*	2.87	2.94	0.07	02614	P	COAL	C-3

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84267

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.94	2.96	0.02	02614	P	COAL	C-2
*	2.96	3.16	0.20	02614	P	COAL	C-3
*	3.16	3.24	0.08	02614	P	SILTSTONE	DRNG BEDDING ATTITUDE 360/75W
*	3.24	3.25	0.01	02614	P	CLAYSTONE	DK.GY
*	3.25	3.27	0.02	02614	P	COAL	C-4
*	3.27	3.28	0.01	02614	P	CLAYSTONE	WEATH.GY
*	3.28	3.42	0.14	02614	P	COAL	C-3 WITH BRIGHT BANDS AND BANDS OF HEAVY IR ON STAINING
*	3.42	3.47	0.05	02614	P	CLAYSTONE	WEATH.GY
*	3.47	3.59	0.12	02614	P	COAL	C-5

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84267

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.59	3.68	0.09	02614	P	MUDSTONE	DK.GY WITH HEAVY IRON STAINING
*	3.68	3.88	0.20	02614	P	COAL	C-4
*	3.88	3.89	0.01	02614	P	COAL	C-2
*	3.89	3.93	0.04	02614	P	CLAYSTONE	WEATH.GY
*	3.93	3.96	0.03	02614	P	COAL	C-4
*	3.96	5.26	1.30			SILTSTONE	DK.GY WITH IRON STAINING; FLOOR

* DENDTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRCB4267 SEAM : p INTERVAL(M) : 1.83 - 3.96 ELEVATION(M) : 1722.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
		↑														
	1.83	↓		0.13												
				0.17												
				0.38												
				0.49	100.0	2614	2614	1.73 / 0.40		6.34	47.53	21.66	24.45	0.22	10.58	
				0.14				2.13								
				0.12												
				0.21												
	3.96	↓														

PLOT 1 10.53.31 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISSPLA 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
14/JAN/85 HEAD ANALYSIS SUMMARY

DATA SOURCE		SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84267												
		HD1	P	2614	6.34	47.53	24.45	21.68	0.22	10.58		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84268

DATE - 01/08/85

- HISTORY -

START DATE - 08/04/84
 END DATE - 08/04/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - SAMPLE NO. 2615; BACKHOE TRENCH SAMPLE; TRENCH FLO
 ODED NOT DETAILED LOG AVAILABLE; APPROXIMATELY 1.1
 2 M COAL (C-4) AND CARBONACEOUS CLAYSTONE; SEAM 0

- LOCATION -

PROVINCE - BC
 ELEVATION - 1699.00

ZONE - 9
 NORTHING - 6344107.00
 EASTING - 507004.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571431
 LONGITUDE - 1285302

- ORIENTATION -

LENGTH - 4.50

INCLINATION - 14.0
 AZIMUTH - 55.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.8

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84268

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	02615	P	COAL	NO DETAILED LOG; UNIT INSERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84269

DATE - 01/08/85

- HISTORY -

START DATE - 08/04/84
END DATE - 08/04/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
SURVEYOR -

REMARKS - SAMPLE NO. 2616; CHANNEL SAMPLE; LOGGED FROM THE N
.E.; COAL/COAL+ ROCK 1.31/1.84

- LOCATION -

PROVINCE - BC
ELEVATION - 1696.00

ZONE - 9
NORTHING - 6344110.00
EASTING - 507094.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571431
LONGITUDE - 1285257

- ORIENTATION -

LENGTH - 6.00

INCLINATION - 3.0
AZIMUTH - 53.0

SIZE WIDTH - 0.9
SIZE HEIGHT - 1.7

ROOF STRIKE - 285
ROOF DIP - 90
ROOF DIR -

FLOOR STRIKE - 320
FLOOR DIP - 66
FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84269

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.65	0.65			MUDSTONE	GY
*	0.65	0.76	0.11			SILTSTONE	DRNG CONTAINING A PETRIFIED BRANCH (10 MM IN DIAMETER; 60 MM IN LENGTH)
*	0.76	0.81	0.05			COAL	C-5 IRON STAINING AND QUARTZ VEINS
*	0.81	0.89	0.08			MUDSTONE	CARB.LT.GY
*	0.89	0.90	0.01			COAL	C-5
*	0.90	1.01	0.11			CLAYSTONE	M.BN
*	1.01	1.12	0.11	02616	P	COAL	C-4
*	1.12	1.16	0.04	02616	P	COAL	C-3 HEAVY IRON STAINING
*	1.16	1.20	0.04	02616	P	COAL	C-4

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84269

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.20	1.23	0.03	02616	P	COAL	C-3 HEAVY IRON STAINING
*	1.23	1.32	0.09	02616	P	COAL	C-4 SOME IRON STAINING
*	1.32	1.42	0.10	02616	P	COAL	C-3 HEAVY IRON STAINING
*	1.42	1.47	0.05	02616	P	CLAYSTONE	WEATH.BN BROWN-GRAY COLOUR
*	1.47	1.51	0.04	02616	P	COAL	C-2
*	1.51	1.58	0.07	02616	P	CLAYSTONE	CARB.WEATH WITH COAL STRINGERS
*	1.58	1.61	0.03	02616	P	CLAYSTONE	WEATH.GY
*	1.61	1.66	0.05	02616	P	COAL	C-3 IRON STAINING
*	1.66	1.73	0.07	02616	P	COAL	C-5 IRON STAINING AND QUARTZ VEINS
*	1.73	1.78	0.05	02616	P	MUDSTONE	CARB.DK.GY WITH COAL BANDS

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84269

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.78	1.83	0.05	02616	P	COAL	C-5 BRIGHT BANDS; HEAVY IRON STAINING; QUARTZ VEINS
*	1.83	1.84	0.01	02616	P	COAL	C-3
*	1.84	1.86	0.02	02616	P	CLAYSTONE	WEATH. BN BROWN-GRAY COLOUR
*	1.86	1.91	0.05	02616	P	COAL	C-3
*	1.91	1.95	0.04	02616	P	COAL	C-3 HEAVY IRON STAINING; OXIDIZED
*	1.95	2.31	0.36	02616	P	COAL	C-4 TARNISH
*	2.31	2.34	0.03	02616	P	CLAYSTONE	WEATH. BN BROWN-GRAY COLOUR
*	2.34	2.38	0.04	02616	P	COAL	C-4
*	2.38	2.42	0.04	02616	P	COAL	C-3

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84269

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.42	2.45	0.03	02616	P	COAL	C-4
*	2.45	2.49	0.04	02616	P	MUDSTONE	GY BEDDING ATTITUDE 325/90
*	2.49	2.54	0.05	02616	P	CLAYSTONE	CARB.BLK
*	2.54	2.56	0.02	02616	P	COAL	C-3
*	2.56	2.60	0.04	02616	P	COAL	C-4
*	2.60	2.65	0.05			CLAYSTONE	GY WITH QUARTZ VEINS
*	2.65	2.70	0.05			CLAYSTONE	WEATH.GY
*	2.70	2.87	0.17			SILTSTONE	ORNG
*	2.87	3.97	1.10			CLAYSTONE	WEATH.GY FLOOR:BEDDING ATTITUDE 320/66S

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

COAL DIVISION MOUNT KLAPPAN PROJECT

SEAM DETAIL

TRUE THICKNESS

DATA SOURCE: KPN LR TRCB4269 SEAM : P INTERVAL(M) : 0.76 - 2.60 ELEVATION(M) : 1696.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. V. AL MJ/KG		
	0.76	↑															
	1.01	↑	0.76	0.60													
		↑		0.41													
		↑		0.12													
		↑		0.08													
		↑		0.45	100.0	2616	2616	1.25 / 0.34		5.06	53.91	20.32	20.71	0.18	9.04		
	2.60	↓		0.11													
		↓		0.08													

PLOT 1 10.53.39 FRI 21 DEC, 1984 JOB-TS1060 GULF CANADA DISSPLR 9.0

14/JAN/85 GULF CANADA RESOURCES INC. - COAL DIVISION
 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84269											
	HD1	P	2616	5.06	53.91	20.71	20.32	0.18	9.04		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84270

DATE - 01/08/85

- HISTORY -

START DATE - 08/05/84

END DATE - 08/05/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - D. KUNKLE

SURVEYOR -

REMARKS - COAL ASSUMED TO BE SIMILAR TO THAT OF TRC84259; RO
OF NOT OBTAINED; NO DETAILED LOG; SAMPLE NO. 2617

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1729.00

NORTHING - 6344420.00

EASTING - 507015.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571441

LONGITUDE - 1285302

- ORIENTATION -

LENGTH - 10.80

INCLINATION - 3.0

AZIMUTH - 51.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 1.8

ROOF STRIKE - 0

FLOOR STRIKE - 340

ROOF DIP - 0

FLOOR DIP - 80

ROOF DIR -

FLOOR DIR - W

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84270

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	02617	P	COAL	NO DETAILED LOG; UNIT INSERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84271

DATE - 01/08/85

- HISTORY -

START DATE - 08/05/84
END DATE - 08/05/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
SURVEYOR -

REMARKS - CHANNEL SAMPLE NO. 2618; ROCK ON THE N.E. AND S.W.
ENDS AND AT THE BASE OF THE TRENCH; MASSIVE TO TH
E N.E. AND SHEARED TO THE S.W.; CONSIDERABLE QUART
Z VEINING AND IRON STAINING; COAL/COAL+ROCK 2.35/2
.35

- LOCATION -

PROVINCE - BC
ELEVATION - 1704.00

ZONE - 9
NORTHING - 6344370.00
EASTING - 507160.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571439
LONGITUDE - 1285253

- ORIENTATION -

LENGTH - 3.56
SIZE WIDTH - 0.9
SIZE HEIGHT - 1.6

INCLINATION - 20.0
AZIMUTH - 38.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 245
FLOOR DIP - 35
FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84271

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	2.35	2.35	02618	P	COAL	WELL WEATHERED; CLEAT FACES VISIBLE; PRIMARILY C-2 WITH C-1 BANDS; MINOR IRON STAINING
*	2.35	2.85	0.50			SILTSTONE	GY. THKB BEDDING ATTITUDE 245/35S

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84271 SEAM : p INTERVAL(M) : 0.00 - 2.35 ELEVATION(M) : 1704.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL V AL MJ/KG		
	0.00	↑															
				2.35	100.0	2618	2618	2.35 / 0.00 2.35									
	2.35	↓															

PLOT : 10.53.41 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISSPLR 9.0

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84272.

DATE - 01/08/85

- HISTORY -

START DATE - 08/05/84
END DATE - 08/05/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
SURVEYOR -

REMARKS - CHANNEL SAMPLE NO. 2619; LOGGED FROM SOUTH TO NORTH ALONG CURVED SLASH TRENCH; COAL IS WEATHERED SOFT AND CRUMBLY WITH IRON STAINING; COAL/COAL+ ROCK 1.67/1.94

- LOCATION -

PROVINCE - BC
ELEVATION - 1717.00

ZONE - 9
NORTHING - 6344350.00
EASTING - 507060.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571439
LONGITUDE - 1285259

- ORIENTATION -

LENGTH - 5.75
SIZE WIDTH - 0.9
SIZE HEIGHT - 1.4

INCLINATION - 4.0
AZIMUTH - 231.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 289
FLOOR DIP - 90
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84272

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	1.00	1.00			MUDSTONE	GY SOFT WITH INTERBEDDED HARD NODULAR SILT STONE
*	1.00	1.02	0.02	02619	P	COAL	C-2
*	1.02	1.03	0.01	02619	P	COAL	C-4
*	1.03	1.05	0.02	02619	P	COAL	C-2
*	1.05	1.07	0.02	02619	P	COAL	C-2 WITH IRON STAINING
*	1.07	1.11	0.04	02619	P	COAL	C-3
*	1.11	1.13	0.02	02619	P	COAL	C-2 WITH IRON STAINING
*	1.13	1.31	0.18	02619	P	COAL	C-3

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84272

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.31	1.51	0.20	02619	P	CLAYSTONE	GY GRAY-BROWN COLOUR; IRON STAINING ON TOP CONTACT WITH COAL
*	1.51	1.52	0.01	02619	P	QUARTZ	HEAVY IRON STAINING
*	1.52	1.55	0.03	02619	P	COAL	C-2
*	1.55	1.56	0.01	02619	P	COAL	C-3
*	1.56	1.57	0.01	02619	P	COAL	C-2
*	1.57	1.58	0.01	02619	P	COAL	C-4
*	1.58	1.74	0.16	02619	P	COAL	C-2
*	1.74	1.77	0.03	02619	P	COAL	C-4
*	1.77	1.83	0.06	02619	P	COAL	C-2
*	1.83	2.29	0.46	02619	P	COAL	C-3

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84272

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.29	2.36	0.07	02619	P	COAL	C-2
*	2.36	2.38	0.02	02619	P	COAL	C-5
*	2.38	2.48	0.10	02619	P	COAL	C-3
*	2.48	2.53	0.05	02619	P	COAL	C-2
*	2.53	2.64	0.11	02619	P	COAL	C-3
*	2.64	2.67	0.03	02619	P	CLAYSTONE	CARB. WEATH WITH MAJOR QUARTZ INCLUSIONS
*	2.67	2.70	0.03	02619	P	CLAYSTONE	WEATH. BN BROWN-GRAY COLOUR
*	2.70	2.78	0.08	02619	P	COAL	C-3
*	2.78	2.94	0.16	02619	P	COAL	C-5
*	2.94	2.95	0.01			CLAYSTONE	WEATH. GY

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4272

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.95	2.96	0.01			CLAYSTONE	CARB.WEATH.GY
*	2.96	2.97	0.01			CLAYSTONE	WEATH.GY
*	2.97	3.12	0.15			CLAYSTONE	CARB.WEATH.BLK
*	3.12	3.15	0.03			QUARTZ	LAYER AT CONTACT WITH ADJACENT MUDSTONE
*	3.15	4.09	0.94			MUDSTONE	GY WITH CLAY BANDS; BEDDING ATTITUDE 289/9 0

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84272 SEAM : p INTERVAL(M) : 1.00 -- 2.94 ELEVATION(M) : 1717.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	1.00	↑		0.31													
		↓	0.21														
		↓		1.12	100.0	2619	2619	1.67 / 0.27 1.94		7.11	35.59	22.37	34.93	0.30	14.41		
	2.94	↓	0.83														
		↓		0.24													

PLOT 1 10.53.45 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISSPLA 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH% CARBON%	FIXED MATTER%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84272											
	HD1	P	2619	7.11	35.59	34.93	22.37	0.30	14.41		

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84273

DATE - 01/08/85

- HISTORY -

START DATE - 08/05/84

END DATE - 08/05/84

CONTRACTOR - ELIAS EXCAV.

GEOLOGIST - D. KUNKLE

OPERATOR - GCRI

SURVEYOR -

REMARKS - CHANNEL SAMPLE NO. 2620; BEDS UPRIGHT IN SHALLOW S
OUTH FACING CURVE; LOGGED FROM SOUTH TO NORTH; COA
L/COAL+ROCK 1.21/3.59

- LOCATION -

PROVINCE - BC
ELEVATION - 1757.00

LICENCE/LEASE NUMBER - 7151

ZONE - 9
NORTHING - 6344542.00
EASTING - 506920.00

LATITUDE - 571445
LONGITUDE - 1285307

- ORIENTATION -

LENGTH - 12.50

SIZE WIDTH - 0.9
SIZE HEIGHT - 2.5

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

INCLINATION - 0.0
AZIMUTH - 70.0

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84273

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.70	0.70			CLAYSTONE	DK.GY GREEN STAINED
*	0.70	0.71	0.01			CLAYSTONE	WEATH.GY
*	0.71	0.79	0.08	02620	P	COAL	SPOIL
*	0.79	0.90	0.11	02620	P	COAL	C-5
*	0.90	2.30	1.40	02620	P	CLAYSTONE	CARB.GY WEATHERED; FRIABLE; LIGHT GREEN STAIN
*	2.30	2.48	0.18	02620	P	COAL	C-5
*	2.48	2.85	0.37	02620	P	COAL	C-4 WITH SCHISTOCITY SURFACES; NO CLEATS
*	2.85	2.86	0.01	02620	P	CLAYSTONE	WEATH.WH POSSIBLE WEATHERING PRODUCT
*	2.86	3.79	0.93	02620	P	CLAYSTONE	DK.GY WEATHERED; FRIABLE; GREEN STAINED
*	3.79	3.86	0.07	02620	P	COAL	C-5

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84273

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.86	3.90	0.04	02620	P	CLAYSTONE	WEATH.GY
*	3.90	4.30	0.40	02620	P	COAL	C-5
*	4.30	4.46	0.16			CLAYSTONE	CARB.WEATH.GY
*	4.46	4.69	0.23			CLAYSTONE	CARB MINOR COALY BANDS
*	4.69	4.73	0.04			CLAYSTONE	DK.GY MASSIVE
*	4.73	4.83	0.10			CLAYSTONE	CARB.BLK
*	4.83	4.84	0.01			QUARTZ	
*	4.84	4.92	0.08			MUDSTONE	DK.GY

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

DATA SOURCE		SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84273				2620	4.85	17.22	63.62	14.31	0.74	23.71		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84274

DATE - 01/08/85

- HISTORY -

START DATE - 08/05/84
 END DATE - 08/05/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - CHANNEL SAMPLE NO. 2621 FROM THE S.W. TO THE FIRST PARTING; SAMPLE NO. 2622 FROM THE FIRST PARTING TO THE N.E. OF THE TRENCH; LOGGED FROM THE S.W.; COAL/COAL+ROCK 2.01/2.12

- LOCATION -

PROVINCE - BC
 ELEVATION - 1757.00

ZONE - 9
 NORTHING - 6344432.00
 EASTING - 506804.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571441
 LONGITUDE - 1285314

- ORIENTATION -

LENGTH - 13.30

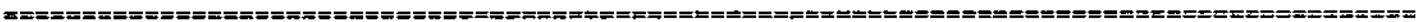
INCLINATION - 8.0
 AZIMUTH - 54.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.9

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 287
 FLOOR DIP - 7
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4274

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	1.00	1.00			OVERBURDEN	BN OVERBURDEN
*	1.00	1.11	0.11	02621	P	COAL	SPOIL - POSSIBLY WEATHERED C-2
*	1.11	1.22	0.11	02621	P	CLAYSTONE	WEATH.BN
*	1.22	2.06	0.84	02621	P	COAL	SPOIL; MINOR MUDSTONE AND SILTSTONE BED S; IRON STAINING; FROZEN
*	2.06	2.12	0.06		P	SILTSTONE	ORNG FISSILE;
*	2.12	2.27	0.15		P	MUDSTONE	DK.GY
*	2.27	2.35	0.08		P	SILTSTONE	DK.GY
*	2.35	2.51	0.16		P	CLAYSTONE	CARB.OK.BLK
*	2.51	3.57	1.06	02622	P	COAL	C-3 WITH MINOR C-2 BANDS (APPROXIMATELY 20%); WEATHERED
*	3.57	3.87	0.30			MUDSTONE	BN BROWN-GRAY COLOUR; SHEARED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

COAL DIVISION
MOUNT KLAPPAN PROJECT

SEAM DETAIL

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84274 SEAM : p INTERVAL(M) : 1.00 - 3.57 ELEVATION(M) : 1757.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG			
	1.00	↑																
		↑	0.11	0.11														
	2.06	↑		0.84	100.0	2621												
	2.51	↑	0.45					2621	2.01 / 0.56									
		↑		1.05	100.0	2622												
	3.57	↓																

PLOT 1 11.10.13 FRI 21 DEC, 1984 JOB-TST060 GULF CANADA DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84275

DATE - 01/08/85

- HISTORY -

START DATE - 08/05/84
 END DATE - 08/05/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - CHANNEL SAMPLE NO. 2623; COAL THOROUGHLY FROST SH
 ATTERED; COAL/COAL+ROCK 2.17/2.17

- LOCATION -

PROVINCE - BC
 ELEVATION - 1764.00

ZONE - 9
 NORTHING - 6344410.00
 EASTING - 506755.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571441
 LONGITUDE - 1285317

- ORIENTATION -

LENGTH - 6.20
 SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.2

INCLINATION - 3.0
 AZIMUTH - 55.0

ROOF STRIKE - 310
 ROOF DIP - 90
 ROOF DIR -

FLOOR STRIKE - 310
 FLOOR DIP - 90
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84275

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	1.40	1.40			SILTSTONE	GY IRON STAINING; EROSIONAL EVENT ISOLATES COAL FROM ROOF ROCK; CONTACT IRREGULAR
*	1.40	3.57	2.17	02623	P	COAL	C-2 SPOIL - WITH SOME C-3
*	3.57	5.47	1.90			SILTSTONE	GY WEATHERED; IRON STAINED; WITH SOME CLAY STONE

* DENOTES MEASURED BCA
NEWPAGE

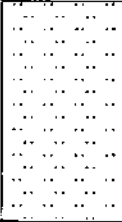
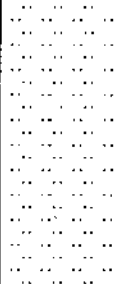
GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84275 SEAM : p INTERVAL(M) : 1.40 - 3.57 ELEVATION(M) : 1764.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	1.40	↑ 															
	3.57	↓ 		2.17	100.0	2623	2623	2.17 / 0.00 2.17									
		↓															

PLOT 1 11.10.17 FRI 21 DEC, 1984 JOB-TST0280 GULF CANADA DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84276

DATE - 01/08/85

- HISTORY -

START DATE - 08/05/84

END DATE - 08/05/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - D. KUNKLE

SURVEYOR -

REMARKS - SAMPLE NO. 2624; ROOF ERODED; NO DETAILED LOG; SEA
M 0

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1742.50

NORTHING - 6344326.00

EASTING - 506824.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571438

LONGITUDE - 1285313

- ORIENTATION -

LENGTH - 13.80

INCLINATION - 0.0

AZIMUTH - 53.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 2.2

ROOF STRIKE - 0

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84276

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	02624	0	COAL	NO DETAILED LOG; UNIT INCERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84277

DATE - 01/08/85

- HISTORY -

START DATE - 08/06/84

END DATE - 08/06/84

CONTRACTOR - ELIAS EXCAV.

OPERATOR - GCRI

GEOLOGIST - D. KUNKLE

SURVEYOR -

REMARKS - SAMPLE NOS. 2625/2626; APPARENT COAL THICKNESS 4.4
M; NO DETAILED LOG; COAL APPEARS TO BE PRIMARILY
C-3 WITH ABUNDANT C-2 AND MINOR QUARTZ; SOME OXIDA
TION; CLAY PARTINGS (20-30 MM) INCLUDED; BEDS ASSU
med to be overturned; seam n

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1746.00

NORTHING - 6344292.00

EASTING - 506758.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571437

LONGITUDE - 1285317

- ORIENTATION -

LENGTH - 7.00

INCLINATION - 0.0

AZIMUTH - 33.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 1.6

ROOF STRIKE - 0

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84277

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	02625	N	COAL	NO DETAILED LOG; UNIT INCERTED FOR SAMPLE ID.; ADDITIONAL SAMPLE TAKEN, NO. 02626

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84278

DATE - 01/08/85

- HISTORY -

START DATE - 08/04/84

END DATE - 08/04/84

CONTRACTOR - GCRI

OPERATOR - GCRI

GEOLOGIST - V. DUFORD

SURVEYOR -

REMARKS - HAND TRENCH; SAMPLE NO. 1342 ; SAMPLE TAKEN DOES NOT REPRESENT TRUE TRENCH; NOT LOGGED IN DETAIL DUE TO SLUMPING OF COAL; COAL/COAL+ROCK 4.42/4.42

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1695.00

NORTHING - 6344616.00

EASTING - 505708.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571447

LONGITUDE - 1285419

- ORIENTATION -

LENGTH - 5.47

INCLINATION - 30.0

AZIMUTH - 55.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 1.2

ROOF STRIKE - 307

FLOOR STRIKE - 292

ROOF DIP - 49

FLOOR DIP - 58

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPM BLOCK: LR DATA SOURCE: TRC84278

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.18	0.18			MUDSTONE	DK.GY ROOF ROCK; LONG THIN LEAF IMPRESSIONS ON BEDDING SURFACE; HARD; BLOCKY
*	0.18	0.27	0.09			MUDSTONE	CARB.DK.GY IRON STAINED; RUST WEATHERING NEAR COAL CONTACT; MINOR COAL PARTINGS AND STRINGS
*	0.27	4.69	4.42	01342	I	COAL	C-2.BLK MINOR IRON STAINING; SUBCONCHOIDAL FRACTURE; VERY FINE CHIPS TO BLOCKY LARGER CHIPS; VERY GOOD COAL; SOME PARTS OF COAL HAVE A PEARLY LUSTRE
*	4.69	4.99	0.30			MUDSTONE	SLTY.GY.LAM FLOOR ROCK ; NODULAR PERVASIVE; SOME CARBONACEOUS MATERIAL; VERY FINE GRAINED SAND LENSES PRESENT IN COAL; HARD

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84-278 SEAM : i INTERVAL(M) : 0.27 - 4.69 ELEVATION(M) : 1695.0
 GEOLOGIST : V. DUFORD DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
1 2 3 4 5 6		↑															
	0.27	↑															
		↑		4.42	100.0	1342	1342	4.42 / 0.00 4.42		4.31	28.82	13.92	53.15	0.33	20.35	—	
	4.69	↓															

PLOT 1 1' 10.20 FRI 21 DEC, 1984 JOB-TSTCE60 GULF CANADA DISSPLA 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH% CARBON%	FIXED MATTER%	VOLATILE	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84278											
	HD1	I	1342	4.31	28.62	53.15	13.92	0.33	20.35		

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84279

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.22	0.22			MUDSTONE	DK.GY MINOR LEAF BLADE IMPRESSIONS; BECOMES CARBONACEOUS TOWARDS COAL CONTACT; MEDIUM HARDNESS
*	0.22	0.64	0.42	01343	I	COAL	C-4.BLK FINE COAL CHIPS AND SOME CARBONACEOUS MUD PARTINGS; VERY DULL LUSTRE; VERY SOFT
*	0.64	0.92	0.28	01343	I	COAL	C-3.OK.BLK SOMEWHAT OF A PEARLY LUSTRE ON SOME CHIPS; BRITTLE
*	0.92	1.22	0.30	01343	I	COAL	C-2.BLK VERY BRIGHT AND SHINEY; SUBCONCHOIDAL FRACTURE; PENETRATION OF COAL BY GRASS ROOTS
*	1.22	1.64	0.42	01343	I	COAL	C-2.BLK LARGE CHIPS; BLOCKY; HIGHLY WEATHERED AND IRON STAINED; IRON STAINING INCREASES TOWARDS ROOF
*	1.64	1.74	0.10	01343	I	CLAYSTONE	WEATH.BN VERY SOFT; CONTAINS SOME GRASS ROOTS

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84279

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.74	1.81	0.07	01343	I	COAL	C-2.DK.BLK VARIABLE SIZE COAL CHIPS; CONTAINS SOME MUD
*	1.81	1.84	0.03	01343	I	CLAYSTONE	WEATH.BN WEATHERED AND IRON STAINED; SOME COAL CHIPS PRESENT
*	1.84	2.13	0.29	01343	I	COAL	C-2.DK.BLK VERY SHINEY AND BLOCKY; SUBCONCHOIDAL FRACTURE
*	2.13	2.16	0.03	01343	I	COAL	EXTREMELY WEATHERED AND IRON STAINED; SOME CLAYSTONE PRESENT
*	2.16	2.44	0.28	01343	I	COAL	C-2 BLOCKY; SOME WEATHERING
*	2.44	2.68	0.24	01343	I	COAL	DK.BLK FINE COAL CHIPS; WEATHERED; SOME GRASS ROOT PENETRATION NEAR WEATHERING ZONE
*	2.68	2.95	0.27	01343	I	COAL	C-2.BLK GRADE OF COAL VARIES FROM C-1 TO C-3; UNABLE TO DISTINGUISH SEPARATE UNITS; WEATHERED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84279

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.95	3.37	0.42	01343	I	COAL	DK.BLK FINE COAL CHIPS INCLUDED WITH CARBONACE OUS MUD; ROOT PENETRATION VERY SOFT
*	3.37	4.31	0.94	01343	I	COAL	C-2.BLK VERY BLOCKY; MINOR WEATHERING; VERY HIGH GRADE TOWARDS FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84279 SEAM : i INTERVAL(M) : 0.22 - 4.31 ELEVATION(M) : 1746.0

GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
	0.22	↑		1.42												
		0.10 0.21		0.07												
		↓		2.47	100.0	1343	1343	3.88 / 0.13 4.09	6.78	14.72	13.09	85.43	0.40	25.37		
	4.31	↓														

PLOT 1 11.10.22 FRI 21 DEC, 1984 JOB-TST0280 GULF CANADA DISPLA 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION

14/JAN/85

HEAD ANALYSIS SUMMARY

DATA SOURCE		SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84279												
		HD1	i	1343	6.76	14.72	65.43	13.09	0.40	25.37		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84280

DATE - 01/08/85

- HISTORY -

START DATE - 08/05/84

END DATE - 08/05/84

CONTRACTOR - GCRI

OPERATOR - GCRI

GEOLOGIST - W. QUINN

SURVEYOR -

REMARKS - NO BEDROCK FOUND IN AREA; POSSIBLY COAL IN TRENCH
 WAS SLUMPED DOWN FROM SEAM; ALL COAL CONSIST OF VE
 RY FINE CHIPS MIXED WITH MUD; NO DETAILED LOG; NOT
 SAMPLED

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1757.50

NORTHING - 6344419.00

EASTING - 505945.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571441

LONGITUDE - 1285405

- ORIENTATION -

LENGTH - 7.20

INCLINATION - 26.0

AZIMUTH - 16.0

SIZE WIDTH - 1.4

SIZE HEIGHT - 1.3

ROOF STRIKE - 295

FLOOR STRIKE - 0

ROOF DIP - 18

FLOOR DIP - 0

ROOF DIR - S

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84280

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.20	0.20			CLAYSTONE	M.BN VERY BROKEN; SLIGHTLY BEDDED; WEATHERED AND IRON STAINED
*	0.20	1.70	1.50		H	COAL	DK.BLK MIX OF COAL, MUD AND CLAY; COAL CONSIST S OF FINE CHIPS; VERY SOFT; COAL CHIPS APPEAR TO BE C-2; MOST LIKELY COAL HAS SLUMPED DOWN; ROOF ROCK UNOBTAINABLE;

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84281

DATE - 01/08/85

- HISTORY -

START DATE - 08/06/84

END DATE - 08/06/84

CONTRACTOR - GCR1

OPERATOR - GCR1

GEOLOGIST - W. QUINN

SURVEYOR -

REMARKS - ALL THICKNESSES TRUE; SEAM UPRIGHT; LOGGED FROM ST
 RATIGRAPHIC ROOF; HAND TRENCH; SAMPLE 1344; FLOOR
 ATTITUDE TAKEN FROM SURROUNDING ROCKS; CO AL/COAL+
 ROCK 4.90/5.58

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1812.50

NORTHING - 6344320.00

EASTING - 505943.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571438

LONGITUDE - 1285406

- ORIENTATION -

LENGTH - 8.00

INCLINATION - 35.0

AZIMUTH - 172.0

SIZE WIDTH - 1.6

SIZE HEIGHT - 1.1

ROOF STRIKE - 272

FLOOR STRIKE - 275

ROOF DIP - 20

FLOOR DIP - 16

ROOF DIR - S

FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84281

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.20	0.20			MUDSTONE	DK.GY VERY FINE BEDDING; ROOF
*	0.20	0.30	0.10			MUDSTONE	DK.GY SOME COAL STRINGERS; MINOR LEAF IMPRESSIONS
*	0.30	0.54	0.24	01344	I	COAL	C-2.BLK WEATHERED AND IRON STAINED
*	0.54	0.58	0.04	01344	I	MUDSTONE	CARB.DK.GY SOME COAL STRINGERS; IRON STAINING; VERY SOFT
*	0.58	0.69	0.11	01344	I	COAL	C-2.BLK MINOR IRON STAINING TOWARDS ROOF
*	0.69	0.72	0.03	01344	I	COAL	BLK COAL AND MUD PARTINGS
*	0.72	0.74	0.02	01344	I	MUDSTONE	WEATH.BLK VERY SOFT; MINOR COAL CHIPS
*	0.74	0.81	0.07	01344	I	COAL	C-2.BLK
*	0.81	0.88	0.07	01344	I	COAL	C-3.BLK

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84281

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.88	0.89	0.01	01344	I	COAL	C-2.BLK
*	0.89	0.99	0.10	01344	I	COAL	C-3.BLK IRON STAINED
*	0.99	1.29	0.30	01344	I	COAL	C-2.BLK
*	1.29	1.65	0.36	01344	I	CLAYSTONE	CARB.BLK COAL AND CLAY; VERY HARD AND COMPACTED; VERY FINE PARTICLES OF COAL IN CLAY
*	1.65	2.15	0.50	01344	I	COAL	C-2.BLK WEATHERED; IRON STAINED
*	2.15	2.18	0.03	01344	I	CLAYSTONE	BLK COAL, CLAYSTONE AND MUD PARTINGS; VERY SOFT
*	2.18	2.21	0.03	01344	I	COAL	C-2.BLK
*	2.21	2.31	0.10	01344	I	CLAYSTONE	WEATH CLAY AND MUD; IRON STAINED; VERY SOFT A ND MUCKY

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84281

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	2.31	2.43	0.12	01344	I	COAL	C-2 MINOR IRON STAINING
*	2.43	2.46	0.03	01344	I	CLAYSTONE	M.BN WEATHERED; IRON STAINED; HARD
*	2.46	2.55	0.09	01344	I	COAL	C-2
*	2.55	2.61	0.06	01344	I	CLAYSTONE	CARB.BN COAL STRINGERS IN CLAYSTONE; WEATHERED; IRON STAINED
*	2.61	2.90	0.29	01344	I	COAL	C-2 LENSES OF CONCENTRATED IRON STAINING
*	2.90	2.94	0.04	01344	I	CLAYSTONE	WEATH BAND OF CLAY WITH COAL CHIPS INCLUDED; WEATHERED; IRON STAINED
*	2.94	3.32	0.38	01344	I	COAL	C-2.DK.BLK MASSIVE AND BLOCKY; IRON STAINED THROUGH HOUT
*	3.32	3.46	0.14	01344	I	COAL	C-1.BLK VERY SHINEY
*	3.46	3.61	0.15	01344	I	COAL	C-3 BANDED COAL

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84281

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.61	3.96	0.35	01344	I	COAL	C-1.BLK BLOCKY; METALLIC LUSTRE
*	3.96	4.02	0.06	01344	I	COAL	C-2 MUD PARTINGS PRESENT
*	4.02	4.04	0.02	01344	I	COAL	C-2 THIN BAND
*	4.04	4.12	0.08	01344	I	COAL	C-3 C-1 COAL STRINGERS
*	4.12	4.20	0.08	01344	I	COAL	C-2.BLK
*	4.20	4.40	0.20	01344	I	COAL	C-3
*	4.40	4.47	0.07	01344	I	COAL	C-1
*	4.47	4.67	0.20	01344	I	COAL	C-2 MINOR WEATHERING; IRON STAINING
*	4.67	4.87	0.20	01344	I	COAL	C-1
*	4.87	5.59	0.72	01344	I	COAL	C-2.BLK SOME WEATHERING AND IRON STAINING

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 5

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84281

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	5.59	5.88	0.29	01344	I	COAL	C-2.BLK MUCH IRON STAINING
*	5.88	6.03	0.15			MUDSTONE	WEATH.BLK COAL AND MUD PARTINGS; VERY FINE COAL C HIPS; FLOOR ROCK UNOBTAINABLE ; SURROUN DING ROCKS INDICATE A VERY FINE GRAINED SANDSTONE WITH INTERBEDDED SILTSTONE L AMINAE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84-281 SEAM : INTERVAL(M) : 0.30 - 5.88 ELEVATION(M) : 1812.5
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. V AL MJ/XG	
	0.30	↑		0.24												
				0.34												
				0.55												
			0.36													
				0.50												
				0.33												
				0.10												
				0.12												
				0.08												
				0.29												
					100.0	1344	12.44									
	5.88	↓		2.94												

440/0.68
5.88

PLOT 1 11.10.28 FRI 21 DEC, 1984 JOB-1STCEGD GULF CANADA DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84282

DATE - 01/08/85

- HISTORY -

START DATE - 08/06/84

END DATE - 08/06/84

CONTRACTOR - GCRI
GEOLOGIST - W. QUINN

OPERATOR - GCRI
SURVEYOR -

REMARKS - ROOF ROCK ATTITUDE TAKEN FROM SURROUNDING ROCKS; H
AND TRENCH; SAMPLE 1345 ; FLOOR ROCK VERY BROKEN U
P; FLOOR ROCK EXTENDS ALONG HALF OF THE BOTTOM OF
TRENCH; COAL/COAL+ ROCK 1.27/1.40

- LOCATION -

PROVINCE - BC
ELEVATION - 1845.00

ZONE - 9
NORTHING - 6344129.00
EASTING - 504896.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571432
LONGITUDE - 1285508

- ORIENTATION -

LENGTH - 9.80

INCLINATION - 5.0
AZIMUTH - 133.0

SIZE WIDTH - 1.1
SIZE HEIGHT - 0.9

ROOF STRIKE - 206
ROOF DIP - 21
ROOF DIR - S

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84282

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.12	0.12			SILTSTONE	CARB.M.GY CARBONACEOUS MUDSTONE AND SILTSTONE; COAL STRINGERS PRESENT; WEATHERED; IRON STAINED; FLOOR
*	0.12	0.17	0.05	01345	E	COAL	IRON STAINING CONCENTRATED IN LENSES; COAL AND MUD PARTINGS
*	0.17	0.25	0.08	01345	E	COAL	C-3
*	0.25	0.32	0.07	01345	E	MUDSTONE	CARB.WEATH COAL AND MUD PARTINGS; SOME MINOR IRON STAINING
*	0.32	0.52	0.20	01345	E	COAL	C-3.BLK
*	0.52	0.63	0.11	01345	E	COAL	C-3 SOME IRON STAINING CONCENTRATED IN LENSES
*	0.63	0.69	0.06	01345	E	CLAYSTONE	WEATH.BLK VERY SOFT
*	0.69	1.14	0.45	01345	E	COAL	C-3 SOME MINOR BANDS OF COAL (C-2)

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84282

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.14	1.30	0.16	01345	E	COAL	C-3
*	1.30	1.52	0.22	01345	E	COAL	COAL, MUD AND CLAY MIXED TOGETHER VERY CLOSE TO SURFACE; WEATHERING ZONE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84282 SEAM : e INTERVAL(M) : 0.12 - 1.52 ELEVATION(M) : 1845.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
1 2 3 4 5 6	0.12	↑		0.13												
		↓		0.31												
	1.52	↓		0.83	100.0	1345	1345	1.27 / 0.13	1.40							

PLOT 1 11.10.32 FRI 21 DEC, 1984 JOB-TSTCE80 GULF CANADA 01SSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84283

DATE - 01/08/85

- HISTORY -

START DATE - 08/10/84
 END DATE - 08/10/84

CONTRACTOR - GCRI
 GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - COAL IS FROST SHATTERED AND UNCONSOLIDATED; BEDDING IS ASSUMED TO BE UPRIGHT; LOGGED FROM TOP DOWN; COAL/COAL+ROCK 0.60/0.73; SAMPLE NO. 1346

- LOCATION -

PROVINCE - BC
 ELEVATION - 1745.00

ZONE - 9
 NORTHING - 6344429.00
 EASTING - 504714.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571441
 LONGITUDE - 1285519

- ORIENTATION -

LENGTH - 4.10

INCLINATION - 0.0
 AZIMUTH - 159.0

SIZE WIDTH - 1.5
 SIZE HEIGHT - 1.1

ROOF STRIKE - 358
 ROOF DIP - 36
 ROOF DIR - W

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84283

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.25	0.25			MUDSTONE	M. GY BROKEN
*	0.25	0.28	0.03			CLAYSTONE	CARB. WEATH
*	0.28	0.30	0.02	01346	C	COAL	C-1 SHATTERED
*	0.30	0.31	0.01	01346	C	COAL	C-1 IRON STAINED; OXIDIZED
*	0.31	0.36	0.05	01346	C	COAL	C-2
*	0.36	0.39	0.03	01346	C	COAL	C-3
*	0.39	0.48	0.09	01346	C	COAL	C-2 MINOR IRON STAINING
*	0.48	0.50	0.02	01346	C	MUDSTONE	CARB. DK. GY
*	0.50	0.55	0.05	01346	C	COAL	C-1 MINOR OXIDATION
*	0.55	0.58	0.03	01346	C	MUDSTONE	DK. GY MINOR COAL STRINGERS

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84283

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.58	0.60	0.02	01346	C	CLAYSTONE	CARB.WEATH.GY
*	0.60	0.63	0.03	01346	C	COAL	C-4
*	0.63	0.65	0.02	01346	C	MUDSTONE	CARB.DK.GY
*	0.65	0.68	0.03	01346	C	COAL	C-1
*	0.68	0.70	0.02	01346	C	MUDSTONE	COAL BANDS
*	0.70	0.75	0.05	01346	C	COAL	C-2
*	0.75	0.79	0.04	01346	C	COAL	C-4
*	0.79	0.82	0.03	01346	C	COAL	C-2
*	0.82	0.84	0.02	01346	C	MUDSTONE	CARB.BLK
*	0.84	0.92	0.08	01346	C	COAL	C-2

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84283

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.92	1.01	0.09	01346	C	COAL	C-1 WELL BEDDED
*	1.01	1.26	0.25			MUDSTONE	BLK FOSSILIFEROUS; VERY BROKEN; BEDDING OBS CURED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84283 SEAM : c INTERVAL(M) : 0.28 - 1.01 ELEVATION(M) : 1745.0

GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
	0.28	↑		0.20												
		0.02 0.02 0.02 0.02 0.02			100.0	1346	↑ ↓	1346	0.60 / 0.13 0.73	5.97	48.20	11.12	34.71	0.24	12.16	
	1.01	↓		0.17												

PLOT 1 11.10.41 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISSPLA 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84283											
	HD1	C	1346	5.97	48.20	34.71	11.12	0.24	12.16		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84284

DATE - 01/09/85

- HISTORY -

START DATE - 08/10/84
 END DATE - 08/10/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN

OPERATOR - GCRI
 SURVEYOR -

REMARKS - HAND TRENCH; BEDS OVERTURNED; LOGGED FROM STRATIGRAPHIC ROOF; FLOOR ROCKS UNOBTAINABLE; 4.5 m OF LENGTH OF TRENCH IS ROOF ROCK; NOT SAMPLED; COAL/COAL +ROCK 0.86/0.92

- LOCATION -

PROVINCE - BC
 ELEVATION - 1713.00

ZONE - 9
 NORTHING - 6344701.00
 EASTING - 505543.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571450
 LONGITUDE - 1285429

- ORIENTATION -

LENGTH - 6.04

INCLINATION - 3.0
 AZIMUTH - 43.0

SIZE WIDTH - 1.3
 SIZE HEIGHT - 1.2

ROOF STRIKE - 296
 ROOF DIP - 73
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84284

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.25	0.25			SILTSTONE	ORNG MINOR BEDDING; ROOF ROCK
*	0.25	0.40	0.15			MUDSTONE	DK.GY THIN BEDDED
*	0.40	0.57	0.17		I	COAL	C-2 COAL AND MUD PARTINGS; VERY FINE COAL C HIPS; SPOIL
*	0.57	0.60	0.03		I	CLAYSTONE	WEATH.GY MEDIUM HARD; WELL COMPACTED
*	0.60	0.75	0.15		I	COAL	C-2.DK.BLK SPOIL; LARGE COAL CHUNKS C-2; COAL AND MUD MIXED
*	0.75	0.99	0.24		I	COAL	C-1.BLK SOME MINOR MUD CHUNKS C-1 AND C-2
*	0.99	1.02	0.03		I	CLAYSTONE	WEATH.BN CLAY LENSES; SOME FINE ROCKS INCORPORAT ED
*	1.02	1.32	0.30		I	COAL	C-1.BN MINOR LENSES AND BANDS OF BROWN-CLAY GR AVEL

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84284

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.32	1.62	0.30			CLAYSTONE	WEATH. BN BROWN CLAYEY GRAVEL WITH MINOR COAL CHI PS

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84284 SEAM : 1 INTERVAL(M) : 0.40 - 1.32 ELEVATION(M) : 1713.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL. MJ/KG		
	0.40	↑	0.05	0.17													
		↓	0.03	0.34		-	-	0.84/0.06									
	1.32	↓	0.03	0.30				0.92									

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84285

DATE - 01/08/85

- HISTORY -

START DATE - 08/10/84
END DATE - 08/10/84

CONTRACTOR - GCRI
GEOLOGIST - W. QUINN

OPERATOR - GCRI
SURVEYOR -

REMARKS - HAND TRENCH; LOGGED FROM STRATIGRAPHIC ROOF; SAMPL
E 1347; FLOOR NOT REACHED; FLOOR ATTITUDE TAKEN FR
OM SURROUNDING ROCKS COAL/COAL+ROCK 1.32/1.46; ALL
THICKNESSES ARE TRUE

- LOCATION -

PROVINCE - BC
ELEVATION - 1663.00

ZONE - 9
NORTHING - 6344682.00
EASTING - 505540.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571449
LONGITUDE - 1285430

- ORIENTATION -

LENGTH - 3.20

INCLINATION - 2.0
AZIMUTH - 31.0

SIZE WIDTH - 1.4
SIZE HEIGHT - 1.4

ROOF STRIKE - 290
ROOF DIP - 66
ROOF DIR - S

FLOOR STRIKE - 304
FLOOR DIP - 39
FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84285

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.20	0.20			MUDSTONE	DK.GY FISSILE; FOSSIL LEAF IMPRESSIONS; MINOR COAL LAMINAE; MEDIUM HARDNESS
*	0.20	0.30	0.10			CLAYSTONE	CARB.DK.GY SOFT AND BROKEN
*	0.30	0.45	0.15	01347	I	COAL	C-2 COAL AND MUD MIXED TOGETHER; VARIABLE SIZE COAL FRAGMENTS
*	0.45	0.50	0.05	01347	I	CLAYSTONE	WEATH.BN
*	0.50	0.55	0.05	01347	I	COAL	C-2 COAL SPOIL
*	0.55	0.64	0.09	01347	I	CLAYSTONE	WEATH VERY SOFT; CONTAINS VERY FINE COAL FRAG MENTS (C-2)
*	0.64	0.81	0.17	01347	I	COAL	C-2 SHATTERED; IRON STAINED AND WEATHERED
*	0.81	0.91	0.10	01347	I	COAL	C-2 SHATTERED AND IRON STAINED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84285

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.91	1.01	0.10	01347	I	COAL	C-2 COAL AND MUD; LARGE COAL CHIPS; IRON STAINED
*	1.01	1.34	0.33	01347	I	COAL	C-2 MODERATELY MASSIVE; PEARLY LUSTRE
*	1.34	1.55	0.21	01347	I	COAL	C-1 PEARLY LUSTRE; VERY SHINEY; 40 MM WEATHERED AND IRON STAINED CONCENTRATIONS TOWARDS ROOF; BLOCKY COAL
*	1.55	1.76	0.21	01347	I	COAL	C-2 SOME LARGE FRAGMENTS; IRON STAINED; FLOOR NOT REACHED; COAL CONTINUES

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84285 SEAM : i INTERVAL(M) : 0.30 - 1.76 ELEVATION(M) : 1863.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.30			0.15													
	1.76			1.12	100.0	1347	1347	1.32 / 0.14 1.48									

PLOT 1 11.10.47 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISSFLR 9.0

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84286

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.35	0.35			MUDSTONE	ORNG IRON STAINED; MUDSTONE WITH COAL STRINGERS; WEATHERED
*	0.35	0.45	0.10			CLAYSTONE	WEATH.BN MUCKY
*	0.45	0.55	0.10		D	COAL	C-3 IRON STAINED
*	0.55	0.60	0.05		D	CLAYSTONE	WEATH.BLK
*	0.60	0.70	0.10		D	COAL	C-3
*	0.70	0.80	0.10		D	COAL	MIXED WITH MUDSTONE; IRON STAINED; FRAGMENTS (C-4)
*	0.80	1.05	0.25		D	CLAYSTONE	WEATH.BN LENSES OF CLAY CONTAINING LARGE PEBBLES
*	1.05	1.13	0.08		D	COAL	C-4 SOFT
*	1.13	1.27	0.14		D	MUDSTONE	WEATH.BLK COAL CHIPS (C-4) INCORPORATED IN MUD
*	1.27	1.28	0.01		D	COAL	COAL AND MUD; WEATHERED; IRON STAINED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84286

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.28	1.48	0.20			CLAYSTONE	WEATH PEBBLY; OVERBURDEN

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84286 SEAM : D INTERVAL(M) : 0.45 - 1.28 ELEVATION(M): 1663.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
		↑															
	0.45	█				-	-	0.39/0.44									
		█						0.83									
	1.28	█															
		↓															

PLOT 1 11.11.12 FRI 21 DEC, 1984 JOB-TS1CE60 GULF CANADA DISSEPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84287

DATE - 01/08/85

- HISTORY -

START DATE - 08/11/84
END DATE - 08/11/84

CONTRACTOR - GCRI
GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
SURVEYOR -

REMARKS - MINOR FRAGMENTS ONLY IN SPOIL; HAND TRENCH; NO DE
TAILED LOG; NOT SAMPLED

- LOCATION -

PROVINCE - BC
ELEVATION - 1700.00

ZONE - 9
NORTHING - 6344488.00
EASTING - 505496.00

LICENCE/LEASE NUMBER - 7149

LATITUDE - 571443
LONGITUDE - 1285432

- ORIENTATION -

LENGTH - 3.50

INCLINATION - 23.0
AZIMUTH - 90.0

SIZE WIDTH - 1.3
SIZE HEIGHT - 0.7

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84288

DATE - 01/08/85

- HISTORY -

START DATE - 08/11/84
END DATE - 08/11/84

CONTRACTOR - GCRI
GEOLOGIST - W. QUINN

OPERATOR - GCRI
SURVEYOR -

REMARKS - VALID DATA POINT; HAND TRENCH; SAMPLE NO. 1348; CO
AL/COAL+ROCK 2.67/3.05

- LOCATION -

PROVINCE - E
ELEVATION - 1752.50

ZONE - 9
NORTHING - 6344350.00
EASTING - 505554.00

LICENCE/LEASE NUMBER - 7153

LATITUDE - 571439
LONGITUDE - 1285429

- ORIENTATION -

LENGTH - 5.10

INCLINATION - 33.0
AZIMUTH - 118.0

SIZE WIDTH - 1.8
SIZE HEIGHT - 1.6

ROOF STRIKE - 207
ROOF DIP - 50
ROOF DIR - E

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84288

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.20	0.20			SILTSTONE	M.GY WELL BEDDED; SOME MINOR MUDSTONE LAMINAE
*	0.20	0.29	0.09			CLAYSTONE	WEATH.BN WEATHERED
*	0.29	0.33	0.04			MUDSTONE	COAL STRINGERS; WEATHERED
*	0.33	0.37	0.04			CLAYSTONE	WEATH.GY IRON STAINED LENSES
*	0.37	0.39	0.02			CLAYSTONE	LT.GY WEATHERED; SOFT
*	0.39	0.40	0.01			CLAYSTONE	WEATH.GY
*	0.40	0.46	0.06			MUDSTONE	COAL STRINGERS; MINOR IRON STAINING
*	0.46	0.56	0.10			MUDSTONE	BLK COAL STRINGERS
*	0.56	0.62	0.06			MUDSTONE	WEATH VERY FINE COAL CHIPS; IRON STAINING
*	0.62	0.73	0.11	01348	G UPPER	COAL	C-4 BRITTLE; EXTREMELY WEATHERED; IRON STAINED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84288

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.73	0.90	0.17	01348	G UPPER	MUDSTONE	BN IRON STAINED; VERY FOSSILIFEROUS
*	0.90	0.94	0.04	01348	G UPPER	CLAYSTONE	WEATH.GY IRON STAINED
*	0.94	1.03	0.09	01348	G UPPER	COAL	C-2 WEATHERED; IRON STAINED
*	1.03	1.05	0.02	01348	G UPPER	COAL	C-3
*	1.05	1.07	0.02	01348	G UPPER	MUDSTONE	DK.GY IRON STAINING
*	1.07	1.10	0.03	01348	G UPPER	COAL	IN MUD
*	1.10	1.12	0.02	01348	G UPPER	COAL	C-2
*	1.12	1.13	0.01	01348	G UPPER	MUDSTONE	CLYY.WEATH.BLK
*	1.13	1.20	0.07	01348	G UPPER	COAL	C-2 SOME MUDSTONE; SOME IRON STAINING
*	1.20	1.21	0.01	01348	G UPPER	CLAYSTONE	WEATH.BN BROWN-ORANGE COLOUR; IRON STAINED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84288

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.21	1.50	0.29	01348	G UPPER	COAL	C-2 SOME C-1; PEARLY LUSTRE
*	1.50	1.63	0.13	01348	G UPPER	MUDSTONE	DK.GY FOSSILIFEROUS (PLANTS)
*	1.63	1.64	0.01	01348	G UPPER	COAL	C-1 SOME VERY FINE LAYERS OF C-1; WEATHERED
*	1.64	1.68	0.04	01348	G UPPER	COAL	C-3
*	1.68	1.70	0.02	01348	G UPPER	COAL	C-1
*	1.70	1.77	0.07	01348	G UPPER	COAL	C-3
*	1.77	2.06	0.29	01348	G UPPER	COAL	C-2
*	2.06	2.12	0.06	01348	G UPPER	COAL	C-1 EXTREMELY WEATHERED; IRON STAINED; PEARLY LUSTRE
*	2.12	2.21	0.09	01348	G UPPER	COAL	C-2

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84288

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.21	2.47	0.26	01348	G UPPER	COAL	C-3 EXTREMELY WEATHERED AND BRITTLE; IRON STAINED; SOME LEAF IMPRESSIONS AND C-1 BANDS
*	2.47	2.75	0.28	01348	G UPPER	COAL	C-4 SOME C-2; SOME LEAF IMPRESSIONS IN DULL COALS
*	2.75	2.82	0.07	01348	G UPPER	COAL	C-1 PEARLY LUSTRE
*	2.82	2.91	0.09	01348	G UPPER	COAL	C-2
*	2.91	2.97	0.06	01348	G UPPER	COAL	C-3
*	2.97	3.06	0.09	01348	G UPPER	COAL	C-4 SOME C-1 BANDS; WEATHERED GRAY-BROWN
*	3.06	3.12	0.06	01348	G UPPER	COAL	C-3
*	3.12	3.67	0.55	01348	G UPPER	COAL	C-4 SOME C-1 BANDS AND STRINGERS; STAINED GREEN

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 5

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84288

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH INTRVAL TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.67	3.82	0.15			CLAYSTONE	BN BROWN-ORANGE COLOUR; VERY SOFT; NO ATTITUDE OBTAINED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84288 SEAM : g upper INTERVAL(M) : 0.62 - 3.67 ELEVATION(M) : 1752.5
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALY AL MJ/KG		
	0.62	↑		0.19													
			0.17														
			0.22	0.11													
			0.27	0.08													
			0.07	0.27													
				0.29													
			0.13														
	3.67	↓			100.0	1348	1348	2.87 / 0.38 3.05		5.34	25.27	10.53	58.88	0.39	22.07	—	
				2.04													

PLOT 1 11.11.48 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISSPLA 8.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84288											
	HD1	G UPPER	1348	5.34	25.27	58.86	10.53	0.39	22.07		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84289

DATE - 01/08/85

- HISTORY -

START DATE - 08/11/84
 END DATE - 08/11/84

CONTRACTOR - GCRI
 GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - NO BEDROCK PRESENT; COAL IS FRACTURED; NOT SAMPLED
 ; NO ROOF OR FLOOR ATTITUDES; COAL/COAL+ROCK 0.81/
 0.95

- LOCATION -

PROVINCE - BC
 ELEVATION - 1790.00

ZONE - 9
 NORTHING - 6344340.00
 EASTING - 505598.00

LICENCE/LEASE NUMBER - 7153

LATITUDE - 571438
 LONGITUDE - 1285426

- ORIENTATION -

LENGTH - 2.38

INCLINATION - 28.0
 AZIMUTH - 120.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.2

ROOF STRIKE - 329
 ROOF DIP - 19
 ROOF DIR - E

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE.



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84289

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.28	0.28			OVERBURDEN	
*	0.28	0.30	0.02		H	COAL	SPOIL
*	0.30	0.34	0.04		H	COAL	C-3
*	0.34	0.40	0.06		H	COAL	C-4
*	0.40	0.44	0.04		H	COAL	C-1 DULL BUT CONCHOIDALLY FRACTURED; WEATHE RED DULL
*	0.44	0.46	0.02		H	MUDSTONE	WEATH.BLK COAL FRAGMENTS PRESENT
*	0.46	0.47	0.01		H	SANDSTONE	WEATH.BN UNCONSOLIDATED
*	0.47	0.49	0.02		H	COAL	C-2 SPOIL
*	0.49	0.51	0.02		H	COAL	C-1
*	0.51	0.55	0.04		H	COAL	C-2 SPOIL

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84289

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.55	0.59	0.04		H	COAL	C-3
*	0.59	0.61	0.02		H	MUDSTONE	DK.GY SOFT; MINOR COAL FRAGMENTS
*	0.61	0.64	0.03		H	COAL	C-2
*	0.64	0.65	0.01		H	CLAYSTONE	WEATH.GY IRON STAINED
*	0.65	0.69	0.04		H	COAL	C-2 SPOIL
*	0.69	0.75	0.06		H	COAL	C-2 IRON STAINED
*	0.75	0.82	0.07		H	COAL	C-3 SPOIL
*	0.82	0.86	0.04		H	COAL	C-2 SPOIL
*	0.86	0.91	0.05		H	COAL	C-4 SPOIL
*	0.91	0.97	0.06		H	COAL	C-3 SPOIL

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4289

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.97	0.99	0.02		H	SANDSTONE	WEATH. BN UNCONSOLIDATED
*	0.99	1.03	0.04		H	COAL	C-1 SPOIL
*	1.03	1.07	0.04		H	COAL	C-4
*	1.07	1.10	0.03		H	MUDSTONE	CARB. DK. GY VERY SOFT
*	1.10	1.13	0.03		H	CLAYSTONE	M. GY WEATHERED
*	1.13	1.17	0.04		H	COAL	C-2 SPOIL
*	1.17	1.23	0.06		H	COAL	C-2
*	1.23	1.38	0.15			MUDSTONE	CARB. BLK FLOOR ROCK; MINOR IRON STAINING; NO ATT ITUDE AVAILABLE

* DENOTES MEASURED BCA
NEWPAGE


GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84289 SEAM :h INTERVAL(M) : 0.28 - 1.23 ELEVATION(M) : 1790.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.28	↑  ↓				-	-	0.81/0.14 0.95									
	1.23																

PLOT 1 11.12.51 TRI 21 DEC, 1984 JOB-TST060 GULF CANADA DISPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84290

DATE - 01/08/85

- HISTORY -

START DATE - 08/06/84

END DATE - 08/06/84

CONTRACTOR - ELIAS EXCAV.

GEOLOGIST - D. KUNKLE

OPERATOR - GCRI

SURVEYOR -

REMARKS - CHANNEL SAMPLE NO. 2627; BEDS OVERTURNED; LOGGED F
ROM N .E.; COAL/COAL+ROCK 1.19/1.36;

- LOCATION -

PROVINCE - BC

ELEVATION - 1776.00

LICENCE/LEASE NUMBER - 7151

ZONE - 9

NORTHING - 6344406.00

EASTING - 506606.00

LATITUDE - 571441

LONGITUDE - 1285326

- ORIENTATION -

LENGTH - 11.50

INCLINATION - 15.0

AZIMUTH - 42.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 1.9

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

FLOOR STRIKE - 292

FLOOR DIP - 48

FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84290

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.39	0.39			MUDSTONE	BN HIGHLY FRACTURED
*	0.39	0.43	0.04			CLAYSTONE	WEATH.GY
*	0.43	0.49	0.06	02627	N	COAL	C-3 CRUMBLES EASILY
*	0.49	0.58	0.09	02627	N	COAL	C-2
*	0.58	0.61	0.03	02627	N	COAL	C-3 CRUMBLES EASILY
*	0.61	0.67	0.06	02627	N	COAL	C-2 MINOR IRON STAINING
*	0.67	0.72	0.05	02627	N	COAL	C-3
*	0.72	0.86	0.14	02627	N	CLAYSTONE	CARB.WEATH.BLK
*	0.86	0.89	0.03	02627	N	COAL	C-3
*	0.89	0.97	0.08	02627	N	COAL	C-4

* DENDTES MEASURED BCA

B4/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84290

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.97	1.01	0.04	02627	N	COAL	C-2
*	1.01	1.04	0.03	02627	N	COAL	C-3
*	1.04	1.13	0.09	02627	N	COAL	C-2
*	1.13	1.27	0.14	02627	N	COAL	C-3
*	1.27	1.29	0.02	02627	N	COAL	C-2
*	1.29	1.36	0.07	02627	N	COAL	C-3
*	1.36	1.39	0.03	02627	N	CLAYSTONE	WEATH.GY
*	1.39	1.62	0.23	02627	N	COAL	C-3
*	1.62	1.67	0.05	02627	N	COAL	C-4
*	1.67	1.73	0.06	02627	N	COAL	C-2 MINOR IRON STAINING

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84290

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.73	1.79	0.06	02627	N	COAL	C-4
*	1.79	1.93	0.14			CLAYSTONE	CARB.M.GY
*	1.93	2.78	0.85			SILTSTONE	GY MEDIUM BEDDING; BEDDING ATTITUDE FLOOR 292/48 S

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84-290 SEAM : n INTERVAL(M) : 0.43 - 1.79 ELEVATION(M) : 1776.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALV AL MJ/KG		
		↑															
	0.43	[Coal Log Pattern]		0.29			↑										
		[Coal Log Pattern]	0.14				↑										
		[Coal Log Pattern]		0.50	100.0	2027	2027	1.19 / 0.17		11.81	37.43	20.69	30.27	0.29	11.97		
		[Coal Log Pattern]	0.33				↓										
	1.79	[Coal Log Pattern]		0.40			↓										
		[Coal Log Pattern]															
		↓															

PLOT 1 11.13.19 FRI 21 DEC, 1984 JOB-75TCE60 GULF CANADA DISSPLR 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84290											
	HD1	N	2627	11.61	37.43	30.27	20.69	0.29	11.97		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84291

DATE - 01/08/85

- HISTORY -

START DATE - 08/06/84

END DATE - 08/06/84

CONTRACTOR - ELIAS EXCAV.

GEOLOGIST - V. BUFORD

OPERATOR - GCRI

SURVEYOR -

REMARKS - CHANNEL SAMPLE NO. 2628; MANY OF THE SHINEYSURFACES WERE LISTRIC SURFACES; COAL/COAL+ROCK 1.92/1.92

- LOCATION -

PROVINCE - BC

ELEVATION - 1797.50

ZONE - 9

NORTHING - 6344044.00

EASTING - 505964.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571429

LONGITUDE - 1285404

- ORIENTATION -

LENGTH - 15.50

INCLINATION - 0.0

AZIMUTH - 190.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 1.5

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

FLOOR STRIKE - 304

FLOOR DIP - 74

FLOOR DIR - E

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84291

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.90	0.90	02628	I	COAL	C-2 EQUAL PROPORTIONS C-2/C-3; FRACTURE SURFACES IN COAL ALONG BEDDING; MINOR THIN (10-20 MM) IRON STAINED LENSES; SILTSTONE BANDS WITH SLIGHT NODULAR BANDS
*	0.90	1.24	0.34	02628	I	COAL	C-2 C-2/C-3 - 70:30 PROPORTIONS
*	1.24	1.92	0.68	02628	I	COAL	C-1 C-1/C-2 - 50:50 PROPORTIONS
*	1.92	2.14	0.22			MUDSTONE	CARB WITH BRIGHT COAL STRINGERS
*	2.14	3.00	0.86			MUDSTONE	GY GRAY-BROWN COLOUR; WITH SILTSTONE NODULES (20 MM DIAMETER); RUBBLY WITH FINE GRAIN SANDSTONE LAMINAE; PLANT FRAGMENTS
*	3.00	4.20	1.20			SILTSTONE	WITH MUDSTONE AND FINE GRAIN SANDSTONE INTERBEDS; ALSO WITH IRON STAINED NODULES

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84291 SEAM : 1 INTERVAL(M) : 0.00 - 1.92 ELEVATION(M) : 1797.5
 GEOLOGIST : V. DUFORD DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
	0.00	↑														
		↑		1.92	100.0	2628	2628	1.92 / 0.00								
	1.92	↓						1.92								
		↓														

PLOT 1 11.13.87 FRI 21 DEC, 1984 JOB-TSTCC60 GULF CANADA DISPLAY 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84292

DATE - 01/08/85

- HISTORY -

START DATE - 08/06/84
 END DATE - 08/06/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - V. DUFORD

OPERATOR - GCRI
 SURVEYOR -

REMARKS - SAMPLE NO. 2629; COAL APPEARS TO BE C-2 - C-3 REPR
 ESENTATIVE OF ONLY THE LOWER PORTION OF THE SEAM;
 BACKHOE SAMPLE; BEDS APPEAR TO BE RELATIVELY FLAT
 LYING; NO DETAILED LOG; SEAM I

- LOCATION -

PROVINCE - BC
 ELEVATION - 1770.00

ZONE - 9
 NORTHING - 6343972.00
 EASTING - 506100.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571427
 LONGITUDE - 1285356

- ORIENTATION -

LENGTH - 9.20

INCLINATION - 0.0
 AZIMUTH - 178.0

SIZE WIDTH - 1.0
 SIZE HEIGHT - 2.0

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4292

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	02629	I	COAL	NO DETAILED LOG; UNIT INBERTED FOR SAMP LE ID.

* DENOTES MEASURED BCA
NEWPAGE

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84293

DATE - 01/08/85

- HISTORY -

START DATE - 08/06/84
END DATE - 08/06/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - V. DUFORD

OPERATOR - GCRI
SURVEYOR -

REMARKS - SAMPLE NO. 2630 (BACKHOE SAMPLE); TOP OF SEAM ERODED; BEDS APPEAR TO BE RELATIVELY FLAT LYING; C-1/C-2; BRITTLE COAL; SOME CONCHOIDAL FRACTURES EVIDENT; NO DETAILED LOG; SEAM H

- LOCATION -

PROVINCE - BC
ELEVATION - 1749.00

ZONE - 9
NORTHING - 6343912.00
EASTING - 506206.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571425
LONGITUDE - 1285350

- ORIENTATION -

LENGTH - 13.30

INCLINATION - 5.0
AZIMUTH - 174.0

SIZE WIDTH - 1.0
SIZE HEIGHT - 2.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84293

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	02630	H	COAL	NO DETAILED LOG; UNIT INSERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84294.

DATE - 01/08/85

- HISTORY -

START DATE - 08/06/84
 END DATE - 08/06/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - B. GLOVER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - SEAM ABOUT 0.8 M THICK; BEDS VERTICAL; NOT SAMPLED
 ; NO DETAILED LOG; SEAM J

- LOCATION -

PROVINCE - BC
 ELEVATION - 1713.00

ZONE - 9
 NORTHING - 6343835.00
 EASTING - 506656.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571422
 LONGITUDE - 1285323

- ORIENTATION -

LENGTH - 3.40

INCLINATION - 0.0
 AZIMUTH - 46.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.6

ROOF STRIKE - 284
 ROOF DIP - 84
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84294

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01		I	COAL	NO DETAILED LOG; UNIT INSERTED FOR SEAM DESIGNATION

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84295.

DATE - 01/08/85

- HISTORY -

START DATE - 08/07/84
 END DATE - 08/07/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - B. GLOVER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - BEDS ARE UPRIGHT; LOGGED FROM THE N.E.; VALID DATA
 POINT; SAMPLE NO. 2631

- LOCATION -

PROVINCE - BC
 ELEVATION - 1670.00

ZONE - 9
 NORTHING - 6343584.00
 EASTING - 506989.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571414
 LONGITUDE - 1285303

- ORIENTATION -

LENGTH - 4.40

INCLINATION - 8.0
 AZIMUTH - 45.0

SIZE WIDTH - 1.1
 SIZE HEIGHT - 1.4

ROOF STRIKE - 296
 ROOF DIP - 87
 ROOF DIR - S

FLOOR STRIKE - 307
 FLOOR DIP - 72
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84295

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	1.23	1.23			SANDSTONE	CG.S-P.GY
*	1.23	1.32	0.09			MUDSTONE	M.GY.THNB
*	1.32	1.51	0.19			MUDSTONE	CARB.BLK PLANT FOSSILS
*	1.51	1.53	0.02			CLAYSTONE	WEATH.GY
*	1.53	1.54	0.01	02631	I	COAL	C-2 IRON STAINED
*	1.54	1.68	0.14	02631	I	COAL	C-3 IRON STAINED; MINOR QUARTZ VEINS ON CLE ATS
*	1.68	1.72	0.04	02631	I	COAL	C-2 IRON STAINED
*	1.72	1.77	0.05	02631	I	COAL	C-4
*	1.77	1.78	0.01	02631	I	COAL	C-1

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84295

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.78	1.84	0.06	02631	I	COAL	C-4
*	1.84	1.91	0.07	02631	I	COAL	C-2
*	1.91	2.05	0.14	02631	I	COAL	C-2
*	2.05	2.13	0.08	02631	I	COAL	C-3
*	2.13	2.27	0.14	02631	I	COAL	C-2 MINOR IRON STAINING; OXIDIZED
*	2.27	2.28	0.01	02631	I	CLAYSTONE	CARB.BLK
*	2.28	2.31	0.03	02631	I	CLAYSTONE	M. ORNG
*	2.31	2.32	0.01	02631	I	CLAYSTONE	LT. GY
*	2.32	2.33	0.01	02631	I	COAL	C-2
*	2.33	2.34	0.01	02631	I	CLAYSTONE	BN

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84295

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	2.34	2.52	0.18	02631	I	COAL	C-2 OXIDIZED
*	2.52	2.53	0.01	02631	I	COAL	C-1
*	2.53	2.54	0.01	02631	I	SILTSTONE	LT.BN IRON STAINED; WEATHERED
*	2.54	2.56	0.02	02631	I	MUDSTONE	DK.GY
*	2.56	2.57	0.01	02631	I	COAL	C-1
*	2.57	2.77	0.20	02631	I	COAL	C-2
*	2.77	2.92	0.15	02631	I	COAL	C-1 IRON STAINED
*	2.92	2.98	0.06	02631	I	CLAYSTONE	CARB.DK.GY
*	2.98	3.02	0.04	02631	I	MUDSTONE	DK.BN
*	3.02	3.09	0.07	02631	I	COAL	C-2 MINOR IRON STAINING

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84295

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.09	3.12	0.03	02631	I	COAL	C-3
*	3.12	3.27	0.15	02631	I	COAL	C-2
*	3.27	3.33	0.06	02631	I	COAL	C-3
*	3.33	3.45	0.12	02631	I	COAL	C-2 OXIDIZED
*	3.45	3.49	0.04			MUDSTONE	ORNG WEATHERED; QUARTZ VEINING
*	3.49	3.50	0.01			COAL	C-2
*	3.50	3.67	0.17			MUDSTONE	GY FISSILE
*	3.67	3.70	0.03			CLAYSTONE	BLK
*	3.70	3.78	0.08			SILTSTONE	BN
*	3.78	3.80	0.02			CLAYSTONE	WEATH.GY

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 5

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84295

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.80	4.16	0.36			MUDSTONE	GY

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84-295 SEAM : 7 INTERVAL(M) : 1.53 - 3.45 ELEVATION(M) : 1670.0
 GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	GALV AL MJ/KG		
		↑															
	1.53	↓		0.74			↑										
				0.19	100.0	2631	2631	1.73 / 0.19									
				0.36				1.92									
	3.45	↓		0.43			↓										

PLOT 1 13.40.11 FRI 21 DEC, 1984 JOB-TSTCE80 GULF CANADA DISSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84296

DATE - 01/08/85

- HISTORY -

START DATE - 08/07/84
 END DATE - 08/07/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - B. GLOVER

OPERATOR - GCR1
 SURVEYOR -

REMARKS - COAL PRIMARILY C-2 WITH SOME C-1; MINOR IRON STAIN
 ING; APPARENT COAL THICKNESS 4.0 M; VALID DATA POI
 NT; NO DETAILED LOG; SAMPLE NO. 2632; SEAM 1

- LOCATION -

PROVINCE - BC
 ELEVATION - 1710.00

ZONE - 9
 NORTHING - 6343884.00
 EASTING - 506708.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571424
 LONGITUDE - 1285320

- ORIENTATION -

LENGTH - 6.00

INCLINATION - 4.0
 AZIMUTH - 46.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.6

ROOF STRIKE - 332
 ROOF DIP - 62
 ROOF DIR - W

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84296

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	02632	I	COAL	NO DETAILED LOG; UNIT INCERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84297

DATE - 01/08/85

- HISTORY -

START DATE - 08/07/84
 END DATE - 08/07/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - LOGGED FROM N.E. (STRATIGRAPHIC ROOF); MOST COAL S
 OFT; ROOTS WITHIN 20 cm OF TRENCH FLOOR; VALID DAT
 A POINT; COAL/COAL+ROCK 5.21/5.74; SAMPLE NO. 2633

- LOCATION -

PROVINCE - BC
 ELEVATION - 1677.00

ZONE - 9
 NORTHING - 6343700.00
 EASTING - 506925.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571418
 LONGITUDE - 1285307

- ORIENTATION -

LENGTH - 13.00
 SIZE WIDTH - 1.0
 SIZE HEIGHT - 1.7

INCLINATION - 0.0
 AZIMUTH - 42.0

ROOF STRIKE - 322
 ROOF DIP - 86
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84297

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.82	0.82			SILTSTONE	M.GY FOSSILIFEROUS
*	0.82	1.09	0.27			MUDSTONE	GY VERY FOSSILIFEROUS; FISSILE
*	1.09	1.10	0.01	02633	I	COAL	C-2
*	1.10	1.23	0.13	02633	I	COAL	C-2
*	1.23	1.26	0.03	02633	I	MUDSTONE	DK.BN
*	1.26	1.27	0.01	02633	I	COAL	C-1
*	1.27	1.32	0.05	02633	I	COAL	C-2
*	1.32	1.33	0.01	02633	I	CLAYSTONE	WEATH.GY IRON STAINED
*	1.33	1.57	0.24	02633	I	COAL	C-2 IRON STAINED; WEATHERED
*	1.57	1.58	0.01	02633	I	CLAYSTONE	WEATH.GY

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84297

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	1.58	1.60	0.02	02633	I	CLAYSTONE	DK.GY
*	1.60	1.85	0.25	02633	I	COAL	C-2
*	1.85	1.96	0.11	02633	I	COAL	C-3 WEATHERED
*	1.96	2.19	0.23	02633	I	COAL	C-2
*	2.19	2.24	0.05	02633	I	COAL	C-3
*	2.24	2.25	0.01	02633	I	COAL	C-2 IRON STAINED
*	2.25	2.30	0.05	02633	I	COAL	C-2
*	2.30	2.31	0.01	02633	I	CLAYSTONE	WEATH. ORNG
*	2.31	2.38	0.07	02633	I	CLAYSTONE	WEATH. GY
*	2.38	2.48	0.10	02633	I	COAL	C-2

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84297

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.48	2.50	0.02	02633	I	CLAYSTONE	WEATH.GY
*	2.50	2.54	0.04	02633	I	COAL	C-3 IRON STAINED
*	2.54	2.62	0.08	02633	I	CLAYSTONE	CARB.DK.GY
*	2.62	2.85	0.23	02633	I	COAL	C-2 BANDS OF C-1
*	2.85	2.86	0.01	02633	I	CLAYSTONE	WEATH.ORNG
*	2.86	2.90	0.04	02633	I	COAL	C-2
*	2.90	2.91	0.01	02633	I	CLAYSTONE	WEATH.ORNG
*	2.91	2.98	0.07	02633	I	COAL	C-2
*	2.98	3.00	0.02	02633	I	CLAYSTONE	WEATH.ORNG
*	3.00	3.12	0.12	02633	I	COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84297

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.12	3.13	0.01	02633	I	CLAYSTONE	WEATH.ORNG
*	3.13	3.36	0.23	02633	I	COAL	C-2
*	3.36	3.38	0.02	02633	I	CLAYSTONE	WEATH.ORNG
*	3.38	3.49	0.11	02633	I	COAL	C-2
*	3.49	3.50	0.01	02633	I	CLAYSTONE	WEATH.ORNG
*	3.50	3.51	0.01	02633	I	COAL	C-1
*	3.51	3.52	0.01	02633	I	CLAYSTONE	WEATH.ORNG
*	3.52	3.74	0.22	02633	I	COAL	C-1
*	3.74	3.75	0.01	02633	I	COAL	C-3
*	3.75	3.81	0.06	02633	I	COAL	C-3

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84297

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.81	3.82	0.01	02633	I	COAL	C-1
*	3.82	3.83	0.01	02633	I	COAL	C-3
*	3.83	3.86	0.03	02633	I	COAL	C-1
*	3.86	3.89	0.03	02633	I	CLAYSTONE	ORNG
*	3.89	3.97	0.08	02633	I	COAL	C-2
*	3.97	4.02	0.05	02633	I	COAL	C-3
*	4.02	4.03	0.01	02633	I	COAL	C-2
*	4.03	4.06	0.03	02633	I	CLAYSTONE	ORNG BLACK BANDS
*	4.06	4.17	0.11	02633	I	COAL	C-2
*	4.17	4.18	0.01	02633	I	CLAYSTONE	WEATH. ORNG

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84297

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.18	4.20	0.02	02633	I	COAL	C-3
*	4.20	4.23	0.03	02633	I	CLAYSTONE	WEATH.GY
*	4.23	4.28	0.05	02633	I	COAL	C-2
*	4.28	4.31	0.03	02633	I	CLAYSTONE	GY IRON STAINED
*	4.31	4.41	0.10	02633	I	COAL	C-2
*	4.41	4.42	0.01	02633	I	COAL	C-2 IRON STAINED
*	4.42	4.49	0.07	02633	I	COAL	C-2
*	4.49	4.53	0.04	02633	I	COAL	C-3
*	4.53	4.72	0.19	02633	I	COAL	C-2
*	4.72	4.73	0.01	02633	I	CLAYSTONE	DK.BN

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 7

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84297

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.73	4.84	0.11	02633	I	COAL	C-2
*	4.84	4.92	0.08	02633	I	COAL	C-2 MINDR IRON STAINING
*	4.92	4.93	0.01	02633	I	CLAYSTONE	GY MINDR IRON STAINING
*	4.93	5.26	0.33	02633	I	COAL	C-1 WEATHERED
*	5.26	5.34	0.08	02633	I	COAL	C-2
*	5.34	5.44	0.10	02633	I	COAL	C-1
*	5.44	5.57	0.13	02633	I	COAL	C-2
*	5.57	5.65	0.08	02633	I	COAL	C-3
*	5.65	5.66	0.01	02633	I	CLAYSTONE	WEATH. ORNG
*	5.66	5.79	0.13	02633	I	COAL	C-2 SPOIL

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84297

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	5.79	5.80	0.01	02633	I	COAL	C-1
*	5.80	6.06	0.26	02633	I	COAL	C-2
*	6.06	6.08	0.02	02633	I	COAL	C-1
*	6.08	6.10	0.02	02633	I	COAL	C-3
*	6.10	6.47	0.37	02633	I	COAL	C-2
*	6.47	6.48	0.01	02633	I	CLAYSTONE	WEATH. DRNG
*	6.48	6.50	0.02	02633	I	COAL	C-1
*	6.50	6.55	0.05	02633	I	COAL	C-2
*	6.55	6.60	0.05	02633	I	COAL	C-3
*	6.60	6.62	0.02	02633	I	CLAYSTONE	WEATH. GY IRON STAINED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 9

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84297

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	6.62	6.65	0.03	02633	I	COAL	C-3
*	6.65	6.78	0.13	02633	I	COAL	C-3
*	6.78	6.83	0.05	02633	I	COAL	C-2 SPOIL; MINOR WHITE CLAY BANDS
*	6.83	10.83	4.00			CLAYSTONE	M.GY FLOOR; NO ATTITUDE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84297 SEAM: i INTERVAL(M) : 1.09 - 6.83 ELEVATION(M) : 1677.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.								
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG			
		↑																
	1.09			0.14														
				0.24														
				0.70														
				0.23														
				0.23														
				0.34														
				0.14	100.0	2655	2633	5.21 / 0.53		11.56	16.32	20.20	43.92	0.37	19.07			
				0.41				5.74										
				0.19														
				0.72														
				0.81														
				0.12														
	6.83	↓		0.21														

PLOT 1 13.10.21 FRI 21 DEC, 1984 JOB-1510660 GULF CANADA 0155PLA 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE RESIDUAL ID	MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FST
TRC84297											
	HD1	I	2633	11.56	18.32	49.92	20.20	0.37	19.07		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84298

DATE - 01/08/85

- HISTORY -

START DATE - 08/07/84
END DATE - 08/07/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
SURVEYOR -

REMARKS - VALID DATA POINT; BEDS UPRIGHT; LOGGED FROM N.E. (STRATIGRAPHIC ROOF); COAL/COAL+ROCK 4.73/5.96; SAMPLE NO. 2634

- LOCATION -

PROVINCE - BC
ELEVATION - 1690.00

ZONE - 9
NORTHING - 6343805.00
EASTING - 506936.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571421
LONGITUDE - 1285307

- ORIENTATION -

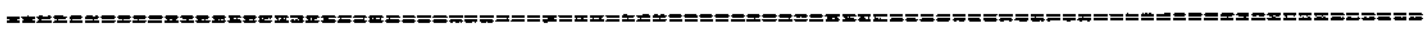
LENGTH - 11.00
SIZE WIDTH - 0.8
SIZE HEIGHT - 1.3

INCLINATION - 6.0
AZIMUTH - 40.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 323
FLOOR DIP - 63
FLOOR DIR - W

*** NOTE *** 0 INDICATES NO VALUE



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84298

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	2.00	2.00			SANDSTONE	CG.GY IRON STAINED; WEATHERED; QUARTZ VEINED
*	2.00	2.50	0.50			SILTSTONE	M.GY THINLY BEDDED; <30 MM
*	2.50	2.65	0.15			CLAYSTONE	M.GY MINOR IRON STAINING
*	2.65	2.66	0.01			COAL	C-1
*	2.66	2.72	0.06			CLAYSTONE	WEATH.GY QUARTZ VEIN CONTACT
*	2.72	2.75	0.03			COAL	C-1
*	2.75	2.78	0.03			CLAYSTONE	M.GY
*	2.78	2.79	0.01			COAL	C-1
*	2.79	2.81	0.02			MUDSTONE	CARB.BLK
*	2.81	2.86	0.05			SILTSTONE	M.GY WEATHERING ORANGE; ROOF

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84298

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.86	2.87	0.01	02634	K	COAL	C-4
*	2.87	3.06	0.19	02634	K	COAL	C-2 IRON STAINED BANDS
*	3.06	3.07	0.01	02634	K	CLAYSTONE	WEATH.ORNG
*	3.07	3.19	0.12	02634	K	COAL	C-2
*	3.19	3.21	0.02	02634	K	CLAYSTONE	WEATH.ORNG BEDDING ATTITUDE 258/80 S
*	3.21	3.32	0.11	02634	K	COAL	C-1
*	3.32	3.33	0.01	02634	K	CLAYSTONE	WEATH.DRNG
*	3.33	3.38	0.05	02634	K	COAL	C-2
*	3.38	3.42	0.04	02634	K	COAL	C-3

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84298

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.42	3.43	0.01	02634	K	SILTSTONE	M. GY WEATHERED ORANGE; BEDDING ATTITUDE 330/ 76 S
*	3.43	3.79	0.36	02634	K	COAL	C-2 MINOR IRON STAINING
*	3.79	3.84	0.05	02634	K	CLAYSTONE	CARB. WEATH
*	3.84	3.92	0.08	02634	K	COAL	C-2
*	3.92	3.94	0.02	02634	K	CLAYSTONE	WEATH. ORNG
*	3.94	3.96	0.02	02634	K	COAL	C-2
*	3.96	3.99	0.03	02634	K	COAL	C-1
*	3.99	4.08	0.09	02634	K	CLAYSTONE	CARB. WEATH. BLK MINOR COAL BANDS
*	4.08	4.23	0.15	02634	K	COAL	C-1

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE, LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84298

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.23	4.24	0.01	02634	K	CLAYSTONE	WEATH
*	4.24	4.25	0.01	02634	K	COAL	C-1
*	4.25	4.26	0.01	02634	K	CLAYSTONE	WEATH. DRNG
*	4.26	4.31	0.05	02634	K	COAL	C-2
*	4.31	4.33	0.02	02634	K	COAL	C-3
*	4.33	4.37	0.04	02634	K	COAL	C-1
*	4.37	4.38	0.01	02634	K	CLAYSTONE	WEATH
*	4.38	4.42	0.04	02634	K	COAL	C-1 • IRON STAINS; MINOR QUARTZ VEINS ALONG C LEATS
*	4.42	4.49	0.07	02634	K	CLAYSTONE	WEATH. GY

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 5

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84298

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.49	4.51	0.02	02634	K	COAL	C-3 BRIGHT BANDS; IRON STAINED
*	4.51	4.52	0.01	02634	K	CLAYSTONE	CARB.WEATH.GY
*	4.52	4.54	0.02	02634	K	COAL	C-3
*	4.54	4.57	0.03	02634	K	CLAYSTONE	WEATH.GY
*	4.57	4.62	0.05	02634	K	COAL	C-2
*	4.62	4.63	0.01	02634	K	CLAYSTONE	WEATH.ORNG
*	4.63	5.17	0.54	02634	K	COAL	C-2 MINOR IRON STAINING; BANDS OF C-1
*	5.17	5.24	0.07	02634	K	COAL	C-1 IRON STAINING; QUARTZ ON CLEAT SURFACES
*	5.24	5.31	0.07	02634	K	COAL	C-2 WEATHERED; SEEPAGE
*	5.31	5.40	0.09	02634	K	CLAYSTONE	M.GY MINOR COAL

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84298

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	5.40	5.41	0.01	02634	K	CLAYSTONE	WEATH.GY
*	5.41	5.49	0.08	02634	K	COAL	C-2
*	5.49	5.58	0.09	02634	K	CLAYSTONE	GY MINOR FOLD AXIS
*	5.58	5.66	0.08	02634	K	SILTSTONE	ORNG
*	5.66	6.13	0.47	02634	K	COAL	C-2 WEATHERED; IRON STAINED; SEEPAGE
*	6.13	6.15	0.02	02634	K	CLAYSTONE	WEATH.BN WEATHERED; IRON STAINED; SEEPAGE
*	6.15	6.18	0.03	02634	K	COAL	C-1
*	6.18	6.19	0.01	02634	K	COAL	C-3
*	6.19	6.36	0.17	02634	K	COAL	C-3
*	6.36	6.44	0.08	02634	K	COAL	C-1 IRON STAINED; MINOR QUARTZ VEINS

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 7

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84298

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	6.44	6.48	0.04	02634	K	COAL	C-1 IRON STAINED; GREEN TARNISH
*	6.48	6.52	0.04	02634	K	CLAYSTONE	CARB. WEATH. BLK
*	6.52	6.67	0.15	02634	K	COAL	C-1 MINOR LOCALIZED CHEVRON FOLDING
*	6.67	6.76	0.09	02634	K	COAL	C-2
*	6.76	6.78	0.02	02634	K	CLAYSTONE	CARB. WEATH. BLK
*	6.78	6.86	0.08	02634	K	COAL	C-3 SCHISTOSE
*	6.86	6.95	0.09	02634	K	COAL	C-2 GREEN TARNISH
*	6.95	7.05	0.10	02634	K	MUDSTONE	DK. GY
*	7.05	7.13	0.08	02634	K	CLAYSTONE	WEATH. GY
*	7.13	7.28	0.15	02634	K	COAL	C-2 MINOR ORANGE CLAY BANDS

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84298

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	7.28	7.31	0.03	02634	K	CLAYSTONE	WEATH
*	7.31	7.37	0.06	02634	K	COAL	C-3
*	7.37	7.38	0.01	02634	K	CLAYSTONE	WEATH.GY GRAY-BROWN COLOUR: QUARTZ VEINING
*	7.38	7.41	0.03	02634	K	COAL	C-2
*	7.41	7.42	0.01	02634	K	SANDSTONE	WEATH.BLK UNCONSOLIDATED
*	7.42	7.48	0.06	02634	K	COAL	C-1
*	7.48	7.49	0.01	02634	K	SANDSTONE	WEATH.BN UNCONSOLIDATED
*	7.49	7.52	0.03	02634	K	COAL	C-2
*	7.52	7.53	0.01	02634	K	SANDSTONE	WEATH.BN UNCONSOLIDATED
*	7.53	7.54	0.01	02634	K	COAL	C-1

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 9

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84298

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	7.54	7.71	0.17	02634	K	COAL	C-2
*	7.71	7.75	0.04	02634	K	CLAYSTONE	CARB.BLK IRON STAINED
*	7.75	7.77	0.02	02634	K	COAL	C-2 OXIDIZED
*	7.77	7.85	0.08	02634	K	CLAYSTONE	M.GY
*	7.85	7.94	0.09	02634	K	MUDSTONE	CARB.BLK
*	7.94	8.04	0.10	02634	K	COAL	C-2 IRON STAINED; OXIDIZED
*	8.04	8.06	0.02	02634	K	CLAYSTONE	ORNG
*	8.06	8.32	0.26	02634	K	COAL	C-2
*	8.32	8.33	0.01	02634	K	CLAYSTONE	ORNG
*	8.33	8.46	0.13	02634	K	COAL	C-2

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 10

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84298

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	8.46	8.64	0.18	02634	K	COAL	C-2
*	8.64	8.65	0.01	02634	K	CLAYSTONE	CARB.BLK
*	8.65	8.75	0.10	02634	K	COAL	C-2 IRON STAINED; QUARTZ VEINS ON CLEAT SUR FACES
*	8.75	8.79	0.04	02634	K	COAL	C-4
*	8.79	8.81	0.02	02634	K	CLAYSTONE	CARB.BLK
*	8.81	8.82	0.01	02634	K	COAL	C-2 HEAVILY IRON STAINED
*	8.82	8.92	0.10			CLAYSTONE	CARB.WEATH.BLK MINDR COAL LAMINAE
*	8.92	9.40	0.48			MUDSTONE	M.GY THINLY BEDDED

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRCB4298 SEAM : K INTERVAL(M) : 2.86 - 8.82 ELEVATION(M) : 1690.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL. MJ/KG	
		↑														
	2.86			0.20												
				0.12												
				0.11												
				0.29												
				0.36												
				0.39												
				0.25												
				0.15												
				0.11												
				0.22												
				0.68												
				0.10												
				0.09												
				0.26												
				0.47	100.0	2634	2634	4.73 / 1.23		9.18	32.44	22.08	36.30	0.29	14.47	
				0.33				5.96								
				0.24												
				0.17												
				0.10												
				0.08												
				0.15												
				0.11												
				0.11												
				0.18												
				0.08												
				0.09												
				0.10												
				0.26												
				0.31												
				0.14												
	8.82															
		↓														

PLOT 1 13.40.40 FRI 21 DEC, 1984 JOB-TSTCE60 GULF CANADR DISSPLR 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH% CARBON%	FIXED MATTER%	VOLATILE	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84298											
	HD1	K	2634	9.18	32.44	36.30	22.08	0.29	14.47		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84299

DATE - 01/08/85

- HISTORY -

START DATE - 08/07/84
END DATE - 08/07/84

CONTRACTOR - ELIAS EXCAV.
GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
SURVEYOR -

REMARKS - VALID DATA POINT; SAMPLE NO.2635; APPARENT COAL TH
ICKNESS 11.8M (HORIZONTAL); COAL/COAL+ROCK 3.43/4.
00

- LOCATION -

PROVINCE - BC
ELEVATION - 1685.00

ZONE - 9
NORTHING - 6343878.00
EASTING - 506972.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571417
LONGITUDE - 1285304

- ORIENTATION -

LENGTH - 23.00
SIZE WIDTH - 0.8
SIZE HEIGHT - 1.6

INCLINATION - 4.0
AZIMUTH - 46.0

ROOF STRIKE - 317
ROOF DIP - 46
ROOF DIR - W

FLOOR STRIKE - 230
FLOOR DIP - 64
FLOOR DIR - W

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84299

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.70	0.70			SANDSTONE	FG.GY BLUE-GRAY
*	0.70	0.90	0.20			CLAYSTONE	CARB.WEATH.GY BROWN-GRAY COLOUR
*	0.90	0.91	0.01			COAL	C-2
*	0.91	0.96	0.05			MUDSTONE	CARB FISSILE; IRON STAINED; SOME COAL
*	0.96	1.05	0.09	02635	M	COAL	C-1 SHEARED; IRON STAINED; LISTRIC BEDDING FACING SOUTH
*	1.05	1.07	0.02	02635	M	COAL	C-1
*	1.07	1.14	0.07	02635	M	COAL	C-1 SHEARED; IRON STAINED; HORIZONTAL ATTITUDE
*	1.14	1.19	0.05	02635	M	COAL	C-4 SHEARED; IRON STAINED; STEEPLY DIPPING
*	1.19	1.23	0.04	02635	M	MUDSTONE	MINOR COALY BANDS; STEEPLY DIPPING

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84299

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.23	1.25	0.02	02635	M	COAL	C-4
*	1.25	1.29	0.04	02635	M	COAL	C-2 HEAVY QUARTZ VEINING
*	1.29	1.30	0.01	02635	M	MUDSTONE	CARB.DK.BN
*	1.30	1.31	0.01	02635	M	CLAYSTONE	WEATH.BLK
*	1.31	1.33	0.02	02635	M	SILTSTONE	LT.BN
*	1.33	1.36	0.03	02635	M	COAL	C-5 IRON STAINED
*	1.36	1.37	0.01	02635	M	COAL	C-1 SOFT WEATHERED; QUARTZ VEINS
*	1.37	1.38	0.01	02635	M	SANDSTONE	ORNG.LAM ORANGE-BLACK COLOUR
*	1.38	1.42	0.04	02635	M	COAL	C-1 IRON STAINED
*	1.42	1.44	0.02	02635	M	COAL	C-3

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84299

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.44	1.45	0.01	02635	M	COAL	C-3 IRON STAINED
*	1.45	1.47	0.02	02635	M	COAL	C-2 WEATHERED
*	1.47	1.48	0.01	02635	M	COAL	C-1
*	1.48	1.50	0.02	02635	M	COAL	C-2
*	1.50	1.51	0.01	02635	M	MUDSTONE	DK. ORNG. LAM
*	1.51	1.53	0.02	02635	M	MUDSTONE	BN
*	1.53	1.63	0.10	02635	M	COAL	C-3 SHEARED; BANDS OF C-2
*	1.63	1.64	0.01	02635	M	COAL	C-2 QUARTZ VEINING
*	1.64	1.66	0.02	02635	M	COAL	C-1 QUARTZ VEINING
*	1.66	1.67	0.01	02635	M	SANDSTONE	LT. BN UNCONSOLIDATED

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84299

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.67	1.68	0.01	02635	M	COAL	C-2
*	1.68	1.70	0.02	02635	M	COAL	C-2 TARNISHED; MINOR QUARTZ VEINING
*	1.70	1.76	0.06	02635	M	COAL	C-3 BANDS OF C-1
*	1.76	1.80	0.04	02635	M	CLAYSTONE	CARB. WEATH. BLK
*	1.80	1.85	0.05	02635	M	COAL	C-2 WEATHERED; SEEPAGE
*	1.85	1.91	0.06	02635	M	COAL	C-2 WEATHERED; SEEPAGE
*	1.91	1.96	0.05	02635	M	COAL	C-3 BANDS OF C-1
*	1.96	2.01	0.05	02635	M	COAL	C-1 WEATHERED; MINOR IRON STAINING; SOME QU ARTZ VEINING
*	2.01	2.05	0.04	02635	M	COAL	C-2

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 5

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84299

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.05	2.09	0.04	02635	M	COAL	C-1
*	2.09	2.14	0.05	02635	M	COAL	C-2
*	2.14	2.15	0.01	02635	M	CLAYSTONE	WEATH.BN
*	2.15	2.33	0.18	02635	M	COAL	C-2
*	2.33	2.35	0.02	02635	M	CLAYSTONE	WEATH.GY
*	2.35	2.39	0.04	02635	M	COAL	C-2 HEAVILY TARNISHED; IRON STAINED
*	2.39	2.71	0.32	02635	M	COAL	C-1 SOFT; WEATHERED
*	2.71	2.75	0.04	02635	M	SILTSTONE	GY WEATHERING ORANGE

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84299

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.75	2.78	0.03	02635	M	COAL	C-2
*	2.78	2.98	0.20	02635	M	COAL	C-1
*	2.98	3.01	0.03	02635	M	SANDSTONE	CG. ORNG WEATHERED ORANGE-BROWN COLOUR
*	3.01	3.03	0.02	02635	M	COAL	C-1
*	3.03	3.06	0.03	02635	M	COAL	C-2
*	3.06	3.18	0.12	02635	M	COAL	C-2 BANDS OF C-1
*	3.18	3.26	0.08	02635	M	COAL	C-1
*	3.26	3.31	0.05	02635	M	COAL	C-3
*	3.31	3.39	0.08	02635	M	COAL	C-2
*	3.39	3.40	0.01	02635	M	COAL	C-1

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84299

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	3.40	3.41	0.01	02635	M	COAL	C-3
*	3.41	3.49	0.08	02635	M	COAL	C-2 WEATHERED; TARNISHED
*	3.49	3.51	0.02	02635	M	COAL	C-1
*	3.51	3.54	0.03	02635	M	COAL	C-2
*	3.54	3.55	0.01	02635	M	COAL	C-1
*	3.55	3.58	0.03	02635	M	COAL	C-3
*	3.58	3.60	0.02	02635	M	SANDSTONE	BN
*	3.60	3.70	0.10	02635	M	COAL	C-2 WEATHERED
*	3.70	3.77	0.07	02635	M	COAL	C-1 WEATHERED
*	3.77	3.87	0.10	02635	M	CLAYSTONE	WEATH.BLK

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84299

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	3.87	4.07	0.20	02635	M	COAL	C-2 SPOIL
*	4.07	4.20	0.13	02635	M	COAL	C-3 SPOIL; MINOR SANDY BANDS
*	4.20	4.26	0.06	02635	M	CLAYSTONE	CARB. WEATH. BN
*	4.26	4.27	0.01	02635	M	QUARTZ	WH VEINING
*	4.27	4.29	0.02	02635	M	CLAYSTONE	BLK
*	4.29	4.36	0.07	02635	M	COAL	C-3 WEATHERED
*	4.36	4.42	0.06	02635	M	CLAYSTONE	WEATH. GY
*	4.42	4.46	0.04	02635	M	COAL	C-2 WEATHERED; TARNISHED
*	4.46	4.47	0.01	02635	M	CLAYSTONE	WEATH. GY
*	4.47	4.50	0.03	02635	M	COAL	C-4

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84299

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.50	4.53	0.03	02635	M	COAL	C-2 WEATHERED
*	4.53	4.55	0.02	02635	M	CLAYSTONE	CARB. WEATH. DRNG
*	4.55	4.59	0.04	02635	M	COAL	C-5
*	4.59	4.60	0.01	02635	M	COAL	C-1
*	4.60	4.61	0.01	02635	M	CLAYSTONE	WEATH. GY
*	4.61	4.69	0.08	02635	M	COAL	C-2 WEATHERED
*	4.69	4.71	0.02	02635	M	CLAYSTONE	WEATH. GY
*	4.71	4.77	0.06	02635	M	COAL	C-4
*	4.77	4.78	0.01	02635	M	CLAYSTONE	WEATH. GY
*	4.78	4.96	0.18	02635	M	COAL	C-2 SPOIL

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 10

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84299

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	4.96	5.00	0.04	02635	M	COAL	C-3 NOT LOGGED FURTHER DUE TO SLUMPING; SEE PAGE; INCONSISTENT BEDDING

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRCB4299 SEAM : m INTERVAL(M) : 0.96 - 5.00 ELEVATION(M) : 1685.0
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALV AL MJ/KG			
		↑																
	0.98	↓		0.23														
				0.08														
				0.12														
				0.13														
				0.09														
				0.34														
				0.18														
				0.36														
				0.23														
				0.57	100.0	2635	2635	3.43 / 0.81	4.04									
				0.17														
				0.10														
				0.33														
				0.07														
				0.06														
				0.04														
				0.03														
	5.00	↓		0.22														

PLOT 1 13.40.50 FRI 21 DEC, 1984 JOB-TS10660 GULF CANADA DISSPLA S.D

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84300

DATE - 01/08/85

- HISTORY -

START DATE - 08/07/84
 END DATE - 07/07/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - BEDS PRESUMED OVERTURNED; DEFORMATION SUGGESTED BY
 BY BEDDING VARIATIONS THEREFORE HORIZONTAL THICKN
 ESS (11.6M) TAKEN; SEVERAL LARGE SILTSTONE AND CLA
 YSTONE PARTINGS; SAMPLE NO.2636; NO DETAILED LOG;

- LOCATION -

PROVINCE - BC
 ELEVATION - 1678.50

ZONE - 9
 NORTHING - 6343869.00
 EASTING - 507021.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571423
 LONGITUDE - 1285301

- ORIENTATION -

LENGTH - 14.70
 SIZE WIDTH - 0.8
 SIZE HEIGHT - 1.5

INCLINATION - 0.0
 AZIMUTH - 48.0

ROOF STRIKE - 310
 ROOF DIP - 54
 ROOF DIR - S

FLOOR STRIKE - 307
 FLOOR DIP - 30
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84300

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	02636	N	COAL	NO DETAILED LOG; UNIT INCERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84301

DATE - 01/08/85

- HISTORY -

START DATE - 08/07/84
 END DATE - 08/07/84

CONTRACTOR - ELIAS EXCAV.
 GEOLOGIST - D. KUNKLE

OPERATOR - GCR1
 SURVEYOR -

REMARKS - PRIMARILY C-2 AND C-3 COAL WITH INTERBEDDED SILTST
 ONE AND MUDSTONE PARTINGS (20-100 MM); APPARENT SE
 AM THICKNESS 4.0 M (HORIZONTAL); NO DETAILED LOG;
 BEDS OVERTURNED; LOGGED FROM THE N.E.; SAMPLE NO.
 2637;

- LOCATION -

PROVINCE - BC
 ELEVATION - 1697.50

ZONE - 9
 NORTHING - 6344057.00
 EASTING - 506986.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571429
 LONGITUDE - 1285303

- ORIENTATION -

LENGTH - 7.00
 SIZE WIDTH - 0.8
 SIZE HEIGHT - 1.4

INCLINATION - 0.0
 AZIMUTH - 47.0

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 338
 FLOOR DIP - 53
 FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4301

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	02637	0	COAL	NO DETAILED LOG; UNIT INSERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84302

DATE - 01/08/85

- HISTORY -

START DATE - 08/11/84
 END DATE - 08/11/84

CONTRACTOR - GCRI
 GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - NO ROOF OR FLOOR DETERMINED; ENTIRELY COAL SPOIL 0
 F ABUNDANT C-1 CHIPS WITH SOME QUARTZ FRAGMENTS IN
 SILTSTONE AND MUDSTONE FRAGMENTS; NOT SAMPLED; HA
 ND TRENCH; NO DETAILED LOG

- LOCATION -

PROVINCE - BC
 ELEVATION - 1827.00

ZONE - 9
 NORTHING - 6343657.00
 EASTING - 504708.00

LICENCE/LEASE NUMBER - 7152

LATITUDE - 571416
 LONGITUDE - 1285519

- ORIENTATION -

LENGTH - 3.63

INCLINATION - 0.0
 AZIMUTH - 26.0

SIZE WIDTH - 1.1
 SIZE HEIGHT - 0.7

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84303 .

DATE - 01/08/85

- HISTORY -

START DATE - 08/12/84
 END DATE - 08/12/84

CONTRACTOR - GCRI
 GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - HAND TRENCH; NO COAL ; ONLY SPOIL OF MUD WITH MINO
 R COAL CHIPS AND 20cm SANDSTONE COBBLES SUGGESTING
 THAT SPOIL HAS MOVED DOWN FROM KNOLL TO N.E.; NO
 DETAILED LOG; NOT SAMPLED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1754.00

ZONE - 9
 NORTHING - 6343035.00
 EASTING - 504267.00

LICENCE/LEASE NUMBER - 1754

LATITUDE - 571356
 LONGITUDE - 1285546

- ORIENTATION -

LENGTH - 2.26

INCLINATION - 5.0
 AZIMUTH - 38.0

SIZE WIDTH - 1.0
 SIZE HEIGHT - 0.8

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84304

DATE - 01/08/85

- HISTORY -

START DATE - 08/13/84
 END DATE - 08/13/84

CONTRACTOR - GCRI
 GEOLOGIST - D. KUNKLE

OPERATOR - GCRI
 SURVEYOR -

REMARKS - SEAM UPRIGHT; VALID DATA POINT; LOGGED FROM STRATI
 GRAPHIC ROOF (SOUTH); COAL/COAL+ROCK 1.17/1.29; NO
 T SAMPLED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1752.50

ZONE - 9
 NORTHING - 6343450.00
 EASTING - 504460.00

LICENCE/LEASE NUMBER - 7153

LATITUDE - 571410
 LONGITUDE - 1285534

- ORIENTATION -

LENGTH - 3.40
 SIZE WIDTH - 0.8
 SIZE HEIGHT - 1.2

INCLINATION - 6.0
 AZIMUTH - 179.0

ROOF STRIKE - 250
 ROOF DIP - 34
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84304

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.30	0.30			MUDSTONE	M.BN ROOF
*	0.30	0.47	0.17			COAL	C-2 MUDDY; SOME IRON STAINING; FINE COAL CH IPS; ROOTS PENETRATE COAL
*	0.47	0.70	0.23			COAL	C-2 BRITTLE; WEATHERED; MINOR IRON STAINING ; CONTAINS SOME PEBBLES
*	0.70	0.77	0.07			CLAYSTONE	LT.BN SOME MUDSTONE; MASSIVE
*	0.77	0.99	0.22			COAL	C-2 LESS MUDSTONE WITH DEPTH
*	0.99	1.21	0.22			COAL	C-2 MINOR MUDSTONE; WEATHERED; BROKEN; DULL LUSTRE ON WEATHERED SURFACES
*	1.21	1.24	0.03			CLAYSTONE	WEATH.BN SOFT; PLIABLE; DISCONTINUOUS LENSE
*	1.24	1.53	0.29			COAL	C-2 WEATHERED; BLOCKY; MASSIVE; MINOR IRON STAINING

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84304

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.53	1.55	0.02			CLAYSTONE	LT.BN
*	1.55	1.59	0.04			COAL	C-2
*	1.59	1.72	0.13			CLAYSTONE	DK.GY COAL STRINGERS; WEATHERED; IRON STAINED
*	1.72	1.85	0.13			CLAYSTONE	LT.GY SOME IRON STAINING; SOFT
*	1.85	2.00	0.15			MUDSTONE	DK.GY
*	2.00	2.18	0.18			COAL	C-2 SPOIL; APPARENT C-2; MINOR COAL CHIPS; GRASS ROOTS THROUGHOUT FLOOR

* DENOTES MEASURED BCA
NEWPAGE




GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84304 SEAM : INTERVAL(M) : 0.30 - 1.59 ELEVATION(M) : 1752.5
 GEOLOGIST : D. KUNKLE DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
1 2 3 4 5 6	0.30	↑ 															
						-	-	1.17/0.12									
	1.59	↓ 															

PLOT 1 13.40.52 FRI 21 DEC. 1984 JOB-TSTDC80 GULF CANADA DISSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84305

DATE - 01/08/85

- HISTORY -

START DATE - 08/14/84
 END DATE - 08/14/84

CONTRACTOR - GCRI
 GEOLOGIST - B. LAWSON

OPERATOR - GCRI
 SURVEYOR -

REMARKS - BEDDING PRESUMED UPRIGHT; FLOOR AND ROOF NOT FOUND
 ; NOT SAMPLED; TRENCH IS SPOIL WITH SCATTERED C-2
 FRAGMENTS; NO APPARENT BEDDING; ATTITUDE FROM OUTC
 ROP; FLOOR-CLAY; TRUE THICKNESS-1.3 m; no detailed
 log

- LOCATION -

PROVINCE - BC
 ELEVATION - 1728.50

ZONE - 9
 NORTHING - 6342203.00
 EASTING - 503965.00

LICENCE/LEASE NUMBER - 7149

LATITUDE - 571329
 LONGITUDE - 1285604

- ORIENTATION -

LENGTH - 4.90

INCLINATION - 9.0
 AZIMUTH - 5.0

SIZE WIDTH - 0.8
 SIZE HEIGHT - 1.2

ROOF STRIKE - 212
 ROOF DIP - 24
 ROOF DIR - N

FLOOR STRIKE - 0
 FLOOR DIP - 40
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84306

DATE - 01/08/85

- HISTORY -

START DATE - 08/14/84
END DATE - 08/14/84

CONTRACTOR - GCRI
GEOLOGIST - W. QUINN

OPERATOR - GCRI
SURVEYOR -

REMARKS - NOT A VALID DATA POINT; PRESUMED UPRIGHT; FLOOR/RO
OF UNOBTAINABLE; SPOIL ONLY VISIBLE; APPROXIMATE T
RUE THICKNESS IS 0.7 m; FINE COAL CHIPS FROM NEARB
Y OUTCROP THROUGH SPOIL; UNDERLYING ROCKS ARE FINE
grained SANDSTONE; not sampled; no detailed log

- LOCATION -

PROVINCE - BC
ELEVATION - 1692.50

ZONE - 9
NORTHING - 6342614.00
EASTING - 504278.00

LICENCE/LEASE NUMBER - 7149

LATITUDE - 571343
LONGITUDE - 1285545

- ORIENTATION -

LENGTH - 2.90

INCLINATION - 17.0
AZIMUTH - 147.0

SIZE WIDTH - 0.9
SIZE HEIGHT - 1.1

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 295
FLOOR DIP - 17
FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

=====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84307

DATE - 01/08/85

- HISTORY -

START DATE - 08/14/84
 END DATE - 08/14/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN
 OPERATOR - GCRI
 SURVEYOR -

REMARKS - VALID DATA POINT; BEDDING PRESUMED UPRIGHT; SAMPLE
 NO. 2639; LOGGED FROM N.E. (PRESUMED ROOF); ALL T
 THICKNESSES TRUE; ROOF ATTITUDE FROM NEARBY OUTCROP
 ; COAL/COAL+ROCK 1.34/1.80

- LOCATION -

PROVINCE - BC
 ELEVATION - 1735.00
 LICENCE/LEASE NUMBER - 7153
 ZONE - 9
 NORTHING - 6342845.00
 EASTING - 504540.00
 LATITUDE - 571350
 LONGITUDE - 1285529

- ORIENTATION -

LENGTH - 8.30
 SIZE WIDTH - 1.1
 SIZE HEIGHT - 1.3
 ROOF STRIKE - 302
 ROOF DIP - 84
 ROOF DIR - S
 INCLINATION - 14.0
 AZIMUTH - 46.0
 FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84307

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.20	0.20			SANDSTONE	M.GY ROOF; INTERBEDDED LIGHT BROWN SILTSTONE
*	0.20	0.23	0.03			CLAYSTONE	WEATH MUDDY; WEATHERED; IRON STAINED
*	0.23	0.33	0.10	02639		COAL	C-2 VERY WEATHERED; BRITTLE; SOME MUD AT SURFACE OF WEATHERING ZONE
*	0.33	0.53	0.20	02639		COAL	C-2 BLOCKY; MASSIVE; WEATHERED; SOME MUD CLOSE TO SURFACE
*	0.53	0.60	0.07	02639		CLAYSTONE	WEATH.BN SOFT; IRON STAINED
*	0.60	0.68	0.08	02639		COAL	C-2 SOME C-3; WEATHERED THROUGHOUT; IRON STAINED; MINOR MUD LAMINAE
*	0.68	0.73	0.05	02639		CLAYSTONE	WEATH.GY SOFT; MINOR IRON STAINING
*	0.73	0.78	0.05	02639		COAL	C-3 VERY WEATHERED
*	0.78	0.83	0.05	02639		CLAYSTONE	WEATH.BN REDDISH-ORANGE TINGE

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84307

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.83	0.93	0.10	02639		COAL	C-2 MUDDY; C-2 FRAGMENTS
*	0.93	0.94	0.01	02639		CLAYSTONE	WEATH.BN REDDISH-ORANGE TINGE
*	0.94	0.95	0.01	02639		MUDSTONE	WEATH.BLK
*	0.95	1.07	0.12	02639		COAL	C-2 VERY WEATHERED; DULL LUSTRE ON WEATHERED SURFACES
*	1.07	1.13	0.06	02639		CLAYSTONE	WEATH.BN HARD
*	1.13	1.29	0.16	02639		MUDSTONE	WEATH.BLK FINE COAL CHIPS; BEDDING APPEARS TO BE SHALLOWING
*	1.29	1.48	0.19	02639		COAL	C-2 VERY WEATHERED; BREAKS EASILY
*	1.48	1.53	0.05	02639		CLAYSTONE	WEATH.GY
*	1.53	1.85	0.32	02639		COAL	MUDDY; GRADE UNDETERMINED; VERY WEATHERED; CRUMBLES TO POWDER

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84307

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.85	1.94	0.09	02639		COAL	WEATHERED; ORANGE IRON STAINING
*	1.94	2.03	0.09	02639		COAL	C-2 WEATHERED
*	2.03	2.13	0.10			CLAYSTONE	LT.GY IRON STAINING; WEATHERED; BROKEN
*	2.13	2.16	0.03			MUDSTONE	GY IRON STAINED
*	2.16	2.38	0.22			MUDSTONE	CARB.BLK COAL STRINGERS; SHINEY LUSTRE; POWDERS EASILY
*	2.38	2.47	0.09			MUDSTONE	BN HARD; LEAF IMPRESSIONS
*	2.47	2.99	0.52			MUDSTONE	CARB.WEATH.BLK MUDSTONE STRINGERS; IRON STAINED
*	2.99	3.03	0.04			MUDSTONE	BN HARD
*	3.03	3.32	0.29			MUDSTONE	WEATH IRON STAINED; LARGE CLAYSTONE BLOCKS; F LOOR NOT FOUND

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84307 SEAM : INTERVAL(M) : 0.23 - 2.03 ELEVATION(M) : 1735.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. V AL MJ/KG		
	0.23	↑		0.30													
		0.07		0.08													
		0.08		0.08													
		0.09		0.08													
		0.10		0.10													
		0.11		0.12													
		0.12		0.12													
		0.13		0.12													
		0.14		0.16	100.0	2639	2639	1.34/0.46	100								
		0.15		0.19													
		0.16		0.50													
	2.03	↓															

PLOT 1 13.40.57 FRI 21 DEC, 1984 JOB-TST000 GULF CANADA DISPLAY 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84308

DATE - 01/08/85

- HISTORY -

START DATE - 08/16/84
 END DATE - 08/16/84

CONTRACTOR - GCRI
 GEOLOGIST - B. LAWSON

OPERATOR - GCRI
 SURVEYOR -

REMARKS - VALID DATA POINT; BEDDING ASSUMED UPRIGHT; NEARLY
 HORIZONTAL; ROOF ATTITUDE FROM NEARBY OUTCROP; COA
 L/COAL+ROCK 3.06/3.18; NOT SAMPLED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1597.00

ZONE - 9
 NORTHING - 6342368.00
 EASTING - 503653.00

LICENCE/LEASE NUMBER - 7149

LATITUDE - 571335
 LONGITUDE - 1285622

- ORIENTATION -

LENGTH - 8.50

INCLINATION - 21.0
 AZIMUTH - 114.0

SIZE WIDTH - 1.0
 SIZE HEIGHT - 1.8

ROOF STRIKE - 220
 ROOF DIP - 22
 ROOF DIR - S

FLOOR STRIKE - 218
 FLOOR DIP - 11
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84308

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.50	0.50			OVERBURDEN	COMPOSED OF SILTSTONE RUBBLE
*	0.50	0.95	0.45			COAL	MUDDY WITH FINE COAL FRAGMENTS (C-2); SPOIL
*	0.95	1.07	0.12			COAL	C-3 VERY WEATHERED; MUDDY; SOME IRON STAINING
*	1.07	1.43	0.36			COAL	BLK COAL FRAGMENTS (C-2); SOME IRON STAINING; SPOIL
*	1.43	1.59	0.16			COAL	C-3 WEATHERED; VERY BROKEN; CONTAINS COAL SPOIL; SOME IRON STAINING
*	1.59	1.61	0.02			MUDSTONE	WEATH. ORNG HEAVY IRON STAINING; RUST COLOUR
*	1.61	2.65	1.04			COAL	MAINLY MUD WITH COAL FRAGMENTS (C-2); SPOIL
*	2.65	2.67	0.02			COAL	C-3 SOME IRON STAINING; WEATHERED; CRUMBLY
*	2.67	2.85	0.18			COAL	C-2 VERY WEATHERED; SOME IRON STAINING; BROKEN

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84308

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.85	2.96	0.11			COAL	CONTAINS COAL FRAGMENTS (C-2); IRON STAINING; SPOIL
*	2.96	2.98	0.02			CLAYSTONE	M.GY
*	2.98	3.03	0.05			COAL	CONTAINS COAL FRAGMENTS (C-2); IRON STAINING; SPOIL
*	3.03	3.05	0.02			CLAYSTONE	WEATH.GY
*	3.05	3.51	0.46			COAL	CONTAINS COAL FRAGMENTS (C-2); SCATTERED STAINING; SPOIL
*	3.51	3.57	0.06			CLAYSTONE	WEATH.GY
*	3.57	3.68	0.11			COAL	CONTAINS COAL FRAGMENTS (C-2); MODERATE IRON STAINING; SPOIL
*	3.68	3.87	0.19			CLAYSTONE	LT.GY FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84308 SEAM : INTERVAL(M) : - ELEVATION(M) : 1597.0
 GEOLOGIST : B. LAWSON DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.									
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. V AL MJ/KG				
	0.60	↑																	
		↓				-	-	3.06/0.12											
	3.48							3.16											

PLOT 1 13.40.59 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84309

DATE - 01/08/85

- HISTORY -

START DATE - 08/16/84
 END DATE - 08/16/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN

OPERATOR - GCRI
 SURVEYOR -

REMARKS - NO ADJACENT OUTCROPS; SEAM IS STRUCTURALLY COMPLEX
 ; POSSIBLY FOLDED; LOGGED FROM N.E. (STRATIGRAPHIC
 ROOF) ROOF ROCK NOT FOUND; SEAM DIP SHALLOWS TO TH
 E TO S.W. FROM 82 TO 52 OVER A ROLL DOWN TO 40 DEG
 rees; coal/coal+rock 2.33/2.86; sample no. 2640

- LOCATION -

PROVINCE - BC
 ELEVATION - 1637.00

ZONE - 9
 NORTHING - 6342045.00
 EASTING - 504114.00

LICENCE/LEASE NUMBER - 7149

LATITUDE - 571324
 LONGITUDE - 1285555

- ORIENTATION -

LENGTH - 7.50
 SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.5

INCLINATION - 1.0
 AZIMUTH - 34.0

ROOF STRIKE - 300
 ROOF DIP - 82
 ROOF DIR - N

FLOOR STRIKE - 300
 FLOOR DIP - 14
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84309

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.20	0.20	02640		COAL	C-3 ROOF NOT FOUND; VERY WEATHERED; BLOCKY; MINOR IRON STAINING
*	0.20	0.21	0.01	02640		CLAYSTONE	BN HEAVY IRON STAINING
*	0.21	0.23	0.02	02640		COAL	VERY MUDDY
*	0.23	0.24	0.01	02640		CLAYSTONE	WEATH.BN IRON STAINED
*	0.24	0.55	0.31	02640		COAL	C-2 WEATHERED IN LARGE BLOCKS; MINOR IRON S TAINING; GOOD COAL
*	0.55	0.58	0.03	02640		MUDSTONE	WEATH.BLK
*	0.58	0.88	0.30	02640		COAL	C-2 SOME C-1 LAMINAE; IRON STAINING THROUGH OUT
*	0.88	0.91	0.03	02640		MUDSTONE	CARB.WEATH.GY FINE COAL FRAGMENTS
*	0.91	0.94	0.03	02640		MUDSTONE	CARB.WEATH SOME C-2 FRAGMENTS

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84309

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.94	1.00	0.06	02640		CLAYSTONE	DK.GY IRON STAINED
*	1.00	1.23	0.23	02640		COAL	C-2 SOME C-3; VERY WEATHERED; MINOR IRON STAINING
*	1.23	1.24	0.01	02640		MUDSTONE	WEATH.BN IRON STAINED
*	1.24	1.26	0.02	02640		MUDSTONE	CARB.WEATH COAL FRAGMENTS
*	1.26	1.27	0.01	02640		MUDSTONE	WEATH.BN
*	1.27	1.28	0.01	02640		MUDSTONE	WEATH.BN
*	1.28	1.35	0.07	02640		MUDSTONE	CARB.WEATH.BLK SOME COAL FRAGMENTS
*	1.35	1.69	0.34	02640		COAL	C-2 BRIGHT; WEATHERED; SOME MUDSTONE INCLUSIONS
*	1.69	1.76	0.07	02640		MUDSTONE	CARB.DK.GY MINOR COAL STRINGERS

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84309

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.76	1.85	0.09	02640		MUDSTONE	BN LEAF IMPRESSIONS; HEAVY IRON STAINING; STRUCTURAL CHANGE IN BEDDING (BEDDING S HALLOW)
*	1.85	1.88	0.03	02640		MUDSTONE	CARB.WEATH.BLK FINE COAL FRAGMENTS
*	1.88	2.23	0.35	02640		COAL	C-2 VERY WEATHERED; IRON STAINED STRINGERS
*	2.23	2.26	0.03	02640		CLAYSTONE	WEATH.BN OXIDIZED
*	2.26	2.45	0.19	02640		COAL	C-2 SOME C-1; BRITTLE; VERY WEATHERED; POWD ERS EASILY
*	2.45	2.47	0.02	02640		CLAYSTONE	CARB.WEATH.BN INTERMIXED WITH COAL
*	2.47	2.60	0.13	02640		COAL	C-1 SOME C-2; VERY WEATHERED; BRITTLE
*	2.60	2.62	0.02	02640		COAL	VERY WEATHERED; IRON STAINED
*	2.62	2.86	0.24	02640		COAL	C-2 ALSO MUDSTONE; VERY WEATHERED; IRON STA INED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84309

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	2.86	2.88	0.02			CLAYSTONE	WEATH.BN SOFT; SOME CLAYSTONE
*	2.88	2.96	0.08			COAL	MOSTLY MUDSTONE WITH FINE COAL FRAGMENT S; SPOIL
*	2.96	2.98	0.02			MUDSTONE	DK.GY HEAVY IRON STAINING; MINOR COAL INCLUSI ONS
*	2.98	3.07	0.09			COAL	STRINGERS; SPOIL
*	3.07	3.11	0.04			CLAYSTONE	WEATH IRON STAINING
*	3.11	3.23	0.12			COAL	FINE COAL FRAGMENTS IN MUDSTONE; SPOIL
*	3.23	3.51	0.28			CLAYSTONE	M.GY IRON STAINING; CONTAINS SOME MUDSTONE P EBBLES; FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84309 SEAM : INTERVAL(M) : 0.00 - 2.86 ELEVATION(M) : 1637.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL	COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS		MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL VAL MJ/KG
	0.00	↑		0.20												
				0.31												
				0.30												
				0.23												
				0.34	100.0	2940	2840	2.33/0.53								
				0.35												
				0.19												
				0.39												
	2.86	↓														

PLOT 1 13-41-05 FRI 21 DEC, 1984 JOB-TSTCE80 GULF CANADR DTSSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84310

DATE - 01/08/85

- HISTORY -

START DATE - 08/17/84
END DATE - 08/17/84

CONTRACTOR - GCRI
GEOLOGIST - B. LAWSON

OPERATOR - GCRI
SURVEYOR -

REMARKS - PRESUMED UPRIGHT; LOGGED FROM S. (PRESUMED STRATIGRAPHIC ROOF); ALL THICKNESSES ARE TRUE; NOT SAMPLED; BEDDING UNDETERMINED; ROOF ATTITUDE TAKEN FROM ADJACENT OUTCROPS; COAL/COAL+ROCK 0.92/1.13

- LOCATION -

PROVINCE - BC
ELEVATION - 1627.00

ZONE - 9
NORTHING - 6341759.00
EASTING - 505152.50

LICENCE/LEASE NUMBER - 7153

LATITUDE - 571315
LONGITUDE - 1285453

- ORIENTATION -

LENGTH - 2.60

INCLINATION - 21.0
AZIMUTH - 38.0

SIZE WIDTH - 0.9
SIZE HEIGHT - 1.4

ROOF STRIKE - 287
ROOF DIP - 61
ROOF DIR - S

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84310

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.50	0.50			OVERBURDEN	M.BN CONTAINS MEDIUM GRAY FOSSILIFEROUS MUDSTONE
*	0.50	0.60	0.10			COAL	SOME FINE COAL FRAGMENTS; SPOIL
*	0.60	0.62	0.02			CLAYSTONE	WEATH.GY
*	0.62	0.73	0.11			COAL	C-2 FRAGMENTS; IRON STAINED STRINGERS; SPOIL
*	0.73	0.75	0.02			MUDSTONE	CARB.DK.BN MINOR COAL STRINGERS
*	0.75	0.86	0.11			COAL	C-2 FRAGMENTS; SCATTERED IRON STAINING; SPOIL
*	0.86	0.88	0.02			CLAYSTONE	WEATH.GY
*	0.88	0.99	0.11			COAL	C-3 VERY WEATHERED; IRON STAINED; HIGH MUD CONTENT
*	0.99	1.01	0.02			MUDSTONE	M.BN

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84310

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.01	1.11	0.10			COAL	C-2 FRAGMENTS; IRON STAINING; SPOIL
*	1.11	1.14	0.03			CLAYSTONE	WEATH.GY
*	1.14	1.18	0.04			COAL	VERY FINE COAL FRAGMENTS; SPOIL
*	1.18	1.23	0.05			CLAYSTONE	LT.BN SOME IRON STAINING
*	1.23	1.40	0.17			COAL	C-3 FRAGMENTS; SOME IRON STAINING; SPOIL
*	1.40	1.42	0.02			CLAYSTONE	M.GY
*	1.42	1.47	0.05			COAL	FINE COAL FRAGMENTS; SPOIL
*	1.47	1.49	0.02			MUDSTONE	CARB SOME IRON STAINING; SOME C-5 COAL
*	1.49	1.58	0.09			COAL	C-4 VERY WEATHERED; SOME IRON STAINING
*	1.58	1.59	0.01			CLAYSTONE	WEATH.GY WEATHERED; HEAVILY IRON STAINED

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84310

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.59	1.63	0.04			COAL	C-4 WEATHERED; SOME IRON STAINING
*	1.63	1.65	0.02			CLAYSTONE	WEATH.GY
*	1.65	1.72	0.07			CLAYSTONE	BN FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84310 SEAM : INTERVAL(M) : 0.50 - 1.43 ELEVATION(M) : 1627.0
 GEOLOGIST : B. LAWSON DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.								
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG			
	0.50	↑																
		0.92/0.21 1.13				-	-											
	1.43	↓																

PLOT 1 13-41.08 FRI 21 DEC, 1984 JOB-JSTCEGO GULF CANADA DISSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84311

DATE - 01/08/85

- HISTORY -

START DATE - 08/17/84
 END DATE - 08/17/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN

OPERATOR - GCRI
 SURVEYOR -

REMARKS - PRESUMED UPRIGHT; LOGGED FROM S.W. (STRATIGRAPHIC TOP); ALL THICKNESSES TRUE; ROOF FOUND; NOT SAMPLED
 ; COAL/COAL+ROCK 1.11/1.64

- LOCATION -

PROVINCE - BC
 ELEVATION - 1672.50

ZONE - 9
 NORTHING - 6341959.00
 EASTING - 505315.00

LICENCE/LEASE NUMBER - 7153

LATITUDE - 571321
 LONGITUDE - 1285443

- ORIENTATION -

LENGTH - 4.60

INCLINATION - 12.0
 AZIMUTH - 4.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.0

ROOF STRIKE - 282
 ROOF DIP - 26
 ROOF DIR - S

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84311

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.22	0.22			SANDSTONE	FG.M.GY ROOF; COAL STRINGERS; IRON STAINING MIXED WITH OVERBURDEN
*	0.22	0.31	0.09			MUDSTONE	CARB.BLK ROOTS; COAL STRINGERS
*	0.31	0.36	0.05			COAL	C-3 FRAGMENTS; VERY WEATHERED; RUST IRON STAINING; SPOIL
*	0.36	0.38	0.02			CLAYSTONE	WEATH
*	0.38	0.48	0.10			COAL	C-3 C-3 FRAGMENTS; VERY WEATHERED; MINOR IRON STAINING; BLOCKY FRAGMENTS
*	0.48	0.54	0.06			MUDSTONE	DK.GY HARD; LARGE FRAGMENTS; MINOR FOSSILS (LEAF IMPRESSIONS)
*	0.54	0.58	0.04			CLAYSTONE	WEATH.GY SOFT; SOME CLAYSTONE
*	0.58	0.63	0.05			CLAYSTONE	WEATH.BN MINOR IRON STAINING; MINOR CLAYSTONE

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4311

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.63	0.77	0.14			COAL	C-2 SOME C-3; IRON STAINING; VERY WEATHERED ; BLOCKY FRAGMENTS
*	0.77	0.89	0.12			COAL	FINE COAL FRAGMENTS; IRON STAINED; WEATHERED; CLAYBAND (5.0 MM); SOME MUDSTONE FRAGMENTS; SPOIL
*	0.89	0.90	0.01			CLAYSTONE	WEATH.BN IRON STAINED
*	0.90	1.38	0.48			COAL	C-4 SOME MUDSTONE; CLAY BANDS THROUGHOUT; COAL STRINGERS IN MUDSTONE; IRON STAINED ; WEATHERED
*	1.38	1.41	0.03			COAL	FINE QUARTZ FRAGMENTS
*	1.41	1.50	0.09			COAL	C-3 NEARLY C-4; IRON STAINED; VERY WEATHERED; POWDERS EASILY
*	1.50	1.54	0.04			COAL	QUARTZ FRAGMENTS; SAND SIZED GRAINS; IRON STAINED
*	1.54	1.56	0.02			MUDSTONE	WEATH.BLK

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84311

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	1.56	1.72	0.16			COAL	C-2 IRON STAINED; VERY WEATHERED
*	1.72	1.73	0.01			COAL	IRON STAINED STRINGER
*	1.73	1.79	0.06			COAL	COAL AND MUDSTONE; WEATHERED; SPOIL
*	1.79	1.84	0.05			COAL	IRON STAINED; VERY FINE FRAGMENTS
*	1.84	1.92	0.08			COAL	VERY WEATHERED; STRINGERS OF HEAVY IRON STAINING
*	1.92	1.95	0.03			COAL	BN HEAVY IRON STAINING; FLOOR NOT FOUND

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84311 SEAM : ?????????????? INTERVAL(M) : 0.31 - 1.95 ELEVATION(M) : 1572.5

GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID			COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG			
	0.31	↑																
	1.95	↓				-	-	1.44/0.20 1.64										

PLOT 1 13.45.49 FRI 21 DEC, 1984 JOB-T5100690 GULF CANADOR DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84312

DATE - 01/08/85

- HISTORY -

START DATE - 08/19/84
 END DATE - 08/19/84

CONTRACTOR - GCRI
 GEOLOGIST - B. LAWSON

OPERATOR - GCRI
 SURVEYOR -

REMARKS - PRSUMED UPRIGHT; TRENCH FLOOR FROZEN; FLOOR MEDIUM
 GREY CLAYSTONE ROOF NOT FOUND; NO DETAILED LOG; 3
 .0 M (HORIZONTAL) COAL SPOIL; NOT SAMPLED

- LOCATION -

PROVINCE - BC
 ELEVATION - 2015.00

ZONE - 9
 NORTHING - 6340840.00
 EASTING - 507609.00

LICENCE/LEASE NUMBER - 7135

LATITUDE - 571245
 LONGITUDE - 1285227

- ORIENTATION -

LENGTH - 4.60

INCLINATION - 5.0
 AZIMUTH - 110.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 0.7

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84313

DATE - 01/08/85

- HISTORY -

START DATE - 08/19/84
 END DATE - 08/19/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN

OPERATOR - GCRI
 SURVEYOR -

REMARKS - ROOF AND FLOOR NOT REACHED; TRENCH FROZEN; PRIMARI
 LY CARONACEOUS MUDSTONE WITH SOME MINOR COAL FRAGM
 ENTS; NO DETAILED LOG; NOT SAMPLED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1910.00

ZONE - 9
 NORTHING - 6341137.00
 EASTING - 506969.00

LICENCE/LEASE NUMBER - 7146

LATITUDE - 571255
 LONGITUDE - 1285305

- ORIENTATION -

LENGTH - 1.40

INCLINATION - 4.0
 AZIMUTH - 59.0

SIZE WIDTH - 1.1
 SIZE HEIGHT - 0.6

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84314

DATE - 01/08/85

- HISTORY -

START DATE - 09/16/84

END DATE - 09/16/84

CONTRACTOR - AVM CONST.

GEOLOGIST - K. FOELLMER

OPERATOR - GCRI

SURVEYOR -

REMARKS - WATER FLOWING ALONG COAL/ROOF CONTACT; COAL WEATHE
RED; COAL/COAL+ROCK 0.72/1.0; SAMPLE NO. 4942

- LOCATION -

PROVINCE - BC

ELEVATION - 1567.50

LICENCE/LEASE NUMBER - 7169

ZONE - 9

NORTHING - 6345238.00

EASTING - 506770.00

LATITUDE - 571507

LONGITUDE - 1285316

- ORIENTATION -

LENGTH - 4.00

SIZE WIDTH - 1.0

SIZE HEIGHT - 2.3

ROOF STRIKE - 259

ROOF DIP - 32

ROOF DIR - S

INCLINATION - 23.0

AZIMUTH - 23.0

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84314

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
* 00	0.00	0.70	0.70			SANDSTONE	MG. DK. GY SEMI-LITHIFIED
* 00	0.70	1.22	0.52	04942	G LOWER	COAL	C-3 SEMI-LITHIFIED; OXIDIZED
* 00	1.22	1.42	0.20	04942	G LOWER	MUDSTONE	DK. YEL SEMI-LITHIFIED; OXIDIZED
* 00	1.42	1.47	0.05	04942	G LOWER	COAL	C-2
* 00	1.47	1.49	0.02	04942	G LOWER	MUDSTONE	DK. YEL SEMI-LITHIFIED; OXIDIZED
* 00	1.49	1.53	0.04	04942	G LOWER	MUDSTONE	GY SEMI-LITHIFIED
* 00	1.53	1.55	0.02	04942	G LOWER	MUDSTONE	DK. YEL SEMI-LITHIFIED; OXIDIZED
* 00	1.55	1.70	0.15	04942	G LOWER	COAL	C-3 BROKEN; UNDERLAIN BY SEMI-LITHIFIED BRO WN MUDSTONE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84314 SEAM : g lower INTERVAL(M) : 0.70 → 1.70 ELEVATION(M) : 1567.5
 GEOLOGIST : K. FOELLMER DATE : DEC 21/64 DRAWING NO. :

SEAM COMP.	DRILL DEPTH <small>(1 2 3 4 5 6)</small> METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.70	↑															
		↑															
		↑		0.52			↑	0.72/428									
		↑	0.20		100.0	4942	4942	↓									
		↑	0.04	0.04													
	1.70	↓		0.15													

PLOT 1 13.45.51 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA 01SSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84315

DATE - 01/08/85

- HISTORY -

START DATE - 08/19/84
 END DATE - 08/19/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN

OPERATOR - GCRI
 SURVEYOR -

REMARKS - LOGGED FROM STRATIGRAPHIC ROOF (NORTH); TRENCH FRO
 ZEN; SEAM OVERTURNED; COAL/COAL+ROCK 1.49/2.05, NO
 T SAMPLED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1907.00

ZONE - 9
 NORTHING - 6341142.00
 EASTING - 507006.00

LICENCE/LEASE NUMBER - 7146

LATITUDE - 571255
 LONGITUDE - 1285302

- ORIENTATION -

LENGTH - 3.70

INCLINATION - 0.0
 AZIMUTH - 36.0

SIZE WIDTH - 1.1
 SIZE HEIGHT - 1.2

ROOF STRIKE - 337
 ROOF DIP - 56
 ROOF DIR - N

FLOOR STRIKE - 280
 FLOOR DIP - 66
 FLOOR DIR - N

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84315

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
* 00	0.00	0.20	0.20			SILTSTONE	M.GY ROOF
* 00	0.20	1.13	0.93			COAL	HIGH COAL CONTENT (C-1 - C-2); MINDR IR ON STAININGTHROUGHOUT
* 00	1.13	1.23	0.10			CLAYSTONE	CARB.M.BN MINOR COAL STRINGERS
* 00	1.23	1.38	0.15			MUDSTONE	CARB.BLK VERY WEATHERED; SOME COAL
* 00	1.38	1.45	0.07			SILTSTONE	M.BN BEDDING ATTITUDE 275/160S
* 00	1.45	1.55	0.10			MUDSTONE	CARB.BLK MINOR COAL INCLUSIONS
* 00	1.55	1.67	0.12			SILTSTONE	M.BN BEDDING ATTITUDE 312/46N
* 00	1.67	2.23	0.56			COAL	C-4 BROKEN; VERY WEATHERED; FINE CHIPS
* 00	2.23	2.93	0.70			SILTSTONE	DK.GY FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84315 SEAM : INTERVAL(M) : 0.20 - 2.23 ELEVATION(M) : 1907.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. V AL MJ/KG	
	0.20	↑		0.93												
	1.13	↓	0.54					1.49/0.54	2.03							
	1.67	↓		0.56												
	2.23	↓														

PLOT 1 13.46.24 FRI 21 DEC, 1984 JOB-TSTCE60 GULF CANADA 01SSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84316.

DATE - 01/08/85

- HISTORY -

START DATE - 08/19/84
 END DATE - 08/19/84

CONTRACTOR - GCRI
 GEOLOGIST - B. LAWSON

OPERATOR - GCRI
 SURVEYOR -

REMARKS - FLOOR NOT REACHED; OVERTURNED; TRENCH FROZEN; COAL
 /COAL+ROCK 0.12/0.50; NOT SAMPLED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1907.00

ZONE - 9
 NORTHING - 6341164.00
 EASTING - 507012.00

LICENCE/LEASE NUMBER - 7146

LATITUDE - 571256
 LONGITUDE - 1285302

- ORIENTATION -

LENGTH - 1.60
 SIZE WIDTH - 0.8
 SIZE HEIGHT - 1.3

INCLINATION - 0.0
 AZIMUTH - 8.0

ROOF STRIKE - 350
 ROOF DIP - 90
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84316

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.29	0.29			CLAYSTONE	LT.GY ROOF
* 00	0.29	0.40	0.11			CLAYSTONE	LT.GY WITH CLAY AND MINOR COAL STRINGERS
* 00	0.40	0.41	0.01			COAL	C-2
* 00	0.41	0.47	0.06			CLAYSTONE	LT.GY MINOR COAL STRINGERS; SOME CLAY; VERY WEATHERED
* 00	0.47	0.49	0.02			COAL	C-2 BROKEN; WEATHERED
* 00	0.49	0.55	0.06			CLAYSTONE	WEATH.GY MINOR COAL STRINGERS
* 00	0.55	0.58	0.03			MUDSTONE	CARB MINOR IRON STAINING
* 00	0.58	0.66	0.08			CLAYSTONE	LT.GY MINOR IRON STAINING
* 00	0.66	0.81	0.15			CLAYSTONE	IRON STAINING; SOME COAL FRAGMENTS (C-2)
* 00	0.81	0.89	0.08			COAL	SPOIL; VERY FINE C-2 FRAGMENTS

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84316

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.89	0.90	0.01			COAL	C-3 BROKEN; MINOR IRON STAINING
* 00	0.90	0.98	0.08			MUDSTONE	MINOR IRON STAINING; SOME COAL FRAGMENT S

* DENOTES MEASURED BCA.
NEWPAGE


GULF CANADA RESOURCES INC.

COAL DIVISION MOUNT KLAPPAN PROJECT

SEAM DETAIL

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84316 SEAM : INTERVAL(M) : 0.70 - 0.00 ELEVATION(M) : 1907.0
 GEOLOGIST : B. LAWSON DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. V AL MJ/KG	
1 2 3 4 5 6		↑  ↓														

PLOT J 13.46.26 FRI 21 DEC, 1984 JOB-TSTDEGO GULF CANADOR DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84317.

DATE - 01/08/85

- HISTORY -

START DATE - 08/19/84
 END DATE - 08/19/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN

OPERATOR - GCRI
 SURVEYOR -

REMARKS - SEAM OVERTURNED; LOGGED FROM THE STRATIGRAPHIC ROO
 F (NORTH); COAL/COAL+ROCK 4.92/5.48; SAMPLE NO. 26
 41

- LOCATION -

PROVINCE - BC
 ELEVATION - 1905.00

ZONE - 9
 NORTHING - 6341178.00
 EASTING - 507010.00

LICENCE/LEASE NUMBER - 7146

LATITUDE - 571256
 LONGITUDE - 1285302

- ORIENTATION -

LENGTH - 6.20
 SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.2

INCLINATION - 0.0
 AZIMUTH - 0.0

ROOF STRIKE - 275
 ROOF DIP - 90
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84317

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.63	0.63	02641		COAL	C-2 SOME C-3; MINOR IRON STAINING; VERY WEATHERED
* 00	0.63	0.67	0.04	02641		COAL	SPOIL
* 00	0.67	1.00	0.33	02641		COAL	C-1 SOME C-2; SOME MUDSTONE
* 00	1.00	1.08	0.08	02641		COAL	SPOIL; FINE C-2 FRAGMENTS
* 00	1.08	1.31	0.23	02641		COAL	C-2 BLOCKY; SOME IRON STAINING
* 00	1.31	1.39	0.08	02641		COAL	SPOIL; COAL FRAGMENTS
* 00	1.39	1.68	0.29	02641		COAL	C-2 GRASS ROOTS; SOME MUDSTONE
* 00	1.68	1.75	0.07	02641		COAL	SPOIL; MINOR C-2 FRAGMENTS
* 00	1.75	2.02	0.27	02641		COAL	C-2 BLOCKY; WEATHERED; MINOR C-2 FRAGMENTS
* 00	2.02	2.12	0.10	02641		COAL	FINE C-2 FRAGMENTS; SPOIL
* 00	2.12	2.24	0.12	02641		COAL	C-2

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84317

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	2.24	2.30	0.06	02641		COAL	MUDDY; SOME IRON STAINING
* 00	2.30	2.49	0.19	02641		COAL	C-2 SOME C-3
* 00	2.49	2.50	0.01	02641		MUDSTONE	
* 00	2.50	2.62	0.12	02641		COAL	C-2 SOME MUDSTONE LAMINAE
* 00	2.62	2.86	0.24	02641		COAL	C-2
* 00	2.86	3.09	0.23	02641		COAL	C-2
* 00	3.09	3.43	0.34	02641		COAL	C-2 VERY WEATHERED; SOME IRON STAINING; SOME C-1 LAMINAE
* 00	3.43	3.57	0.14	02641		COAL	MINDR C-2 FRAGMENTS
* 00	3.57	3.72	0.15	02641		COAL	C-1 SOME C-2; SUB-CONCHOIDAL FRACTURE; BLUE-GREEN LUSTRE
* 00	3.72	3.75	0.03	02641		MUDSTONE	BN SOME COAL FRAGMENTS

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84317

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	3.75	3.81	0.06	02641		COAL	C-1 VERY WEATHERED
* 00	3.81	3.92	0.11	02641		COAL	SPOIL; C-2 FRAGMENTS
* 00	3.92	3.98	0.06	02641		COAL	SPOIL; COAL FRAGMENTS; PETRIFIED WOOD
* 00	3.98	4.26	0.28	02641		MUDSTONE	MINOR COAL STRINGERS (C-4)
* 00	4.26	4.66	0.40	02641		COAL	C-2 SOME C-1/C-3; VERY WEATHERED
* 00	4.66	4.90	0.24	02641		COAL	SPOIL
* 00	4.90	5.03	0.13	02641		COAL	SPOIL; C-2 TO C-3 FRAGMENTS
* 00	5.03	5.13	0.10	02641		CLAYSTONE	DK.GY SOFT; IRON STAINING
* 00	5.13	5.27	0.14	02641		MUDSTONE	DK.BN COAL STRINGERS; SOFT; IRON STAINING
* 00	5.27	5.48	0.21	02641		COAL	C-2 IRON STAINED; WEATHERED
* 00	5.48	5.55	0.07			MUDSTONE	CARB.BLK MINOR COAL STRINGERS

* DENDTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84317

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	5.55	5.75	0.20			CLAYSTONE	M.BN SOFT; FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

COAL DIVISION MOUNT KLAPPAN PROJECT

SEAM DETAIL

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84317 SEAM : INTERVAL(M) : 0.00 - 5.48 ELEVATION(M) : 1905.0

GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. V AL MJ/KG	
	0.00	↑														
				2.49												
					100.0	2641	2641	4.92 / 0.58								
				1.22				5.48								
				0.23												
				0.28												
				0.77												
				0.21												
	5.48	↓														

PLOT 1 13.46.29 FRI 21 DEC, 1984 JOB-TSTCEGD GULF CANADA DISPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84318

DATE - 01/08/85

- HISTORY -

START DATE - 08/20/84
 END DATE - 08/20/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN

OPERATOR - GCRI
 SURVEYOR -

REMARKS - ROOF AND FLOOR NOT OBTAINED; ASSUMED UPRIGHT; BEDD
 ING ATTITUDE OF SURROUNDING ROCK 286/83N AND 286/7
 8N; TRENCH FROZEN; COAL/COAL+ROCK 0.76/0.81; LOGGE
 D FROM NE; NOT SAMPLED

- LOCATION -

PROVINCE - BC
 ELEVATION - 1882.00

ZONE - 9
 NORTHING - 6341227.00
 EASTING - 506766.00

LICENCE/LEASE NUMBER - 7146

LATITUDE - 571258
 LONGITUDE - 1285317

- ORIENTATION -

LENGTH - 4.27

INCLINATION - 10.0
 AZIMUTH - 14.0

SIZE WIDTH - 0.7
 SIZE HEIGHT - 1.2

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84318

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.35	0.35			CLAYSTONE	DK.GY FINE COAL FRAGMENTS; MEDIUM HARD
* 00	0.35	0.84	0.49			MUDSTONE	CARB.BLK COAL STRINGERS MINDR IMPRESSION VERY WEATHERED SOFT BRITTLE
* 00	0.84	1.12	0.28			CLAYSTONE	DK.BN HARD, COAL STRINGERS
* 00	1.12	1.24	0.12			MUDSTONE	CARB VERY FINE COAL BANDS; VERY WEATHERED; IRON STAINED
* 00	1.24	1.37	0.13			CLAYSTONE	DK.BN VERY BROKEN AND IRON STAINED
* 00	1.37	1.45	0.08			MUDSTONE	COAL STRINGERS CONCENTRATIONS; ORANGE-BROWN IRONS TAINING
* 00	1.45	1.63	0.18			MUDSTONE	DK.GY COAL INCLUSIONS; THIN C1 BANDS; WEATHERED; SOME C-5 COAL
* 00	1.63	1.91	0.28			COAL	C-3 BROKEN; VERY WEATHERED; MINOR IRON STAINING

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - GOAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84318

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	1.91	1.96	0.05			CLAYSTONE	COAL STRINGERS; IRON STAINED IN DISCONTINUOUS LENSES
* 00	1.96	2.44	0.48			COAL	C-2 VERY WEATHERED; IRON STAINED; HIGH MUD CONTENT; DISCONTINUOUS LENSES OF MUDSTONE AND CLAYSTONE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84318 SEAM : INTERVAL(M) : 1.63 - 2.44 ELEVATION(M) : 1882.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
		↑															
	1.63	0.20		0.20				0.76/0.05									
		0.48		0.48				0.01									
	2.44	↓															

PLOT 1 13.46.32 FRI 21 DEC, 1984 JOB-TSTCE80 GULF CANADA DISSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84319.

DATE - 01/08/85

- HISTORY -

START DATE - 08/20/84
 END DATE - 08/20/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN

OPERATOR - GCRI
 SURVEYOR -

REMARKS - NO BEDROCK IN AREA; LOGGED FROM THE EAST; APPARENT
 BEDDING IN TRENCH 340/45S; CLAYSTONE THROUGHOUT OR
 ANGE-BROWN; NOT SAMPLED; ROOF AND FLOOR UNOBTAINAB
 E; COAL/COAL+ROCK 0.27/0.27

- LOCATION -

PROVINCE - BC
 ELEVATION - 1825.00

ZONE - 9
 NORTHING - 6341322.00
 EASTING - 506622.00

LICENCE/LEASE NUMBER - 7146

LATITUDE - 571301
 LONGITUDE - 1285325

- ORIENTATION -

LENGTH - 3.55
 SIZE WIDTH - 0.8
 SIZE HEIGHT - 1.0

INCLINATION - 26.0
 AZIMUTH - 84.0

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84319

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.30	0.30			CLAYSTONE	DK.GY HARD; MINOR COAL INCLUSIONS; MINOR OXIDATION
* 00	0.30	0.39	0.09			CLAYSTONE	M.GY SOFT
* 00	0.39	0.69	0.30			MUDSTONE	COAL AND MUDSTONE; LENSES OF IRON STAINING; MUDSTONE CLAST INCLUSIONS
* 00	0.69	0.88	0.19			MUDSTONE	CARB SOME COAL; VERY FINE LEAF IMPRESSIONS; APPEARS SLUMPED
* 00	0.88	1.04	0.16			COAL	C-2 SPOIL; ORANGE-BROWN IRON STAINING; VERY BROKEN
* 00	1.04	1.15	0.11			COAL	C-2 LARGE COAL FRAGMENTS; VERY WEATHERED IRON STAINED; VERY BROKEN
* 00	1.15	1.33	0.18			MUDSTONE	CONTAINS SOME COAL; MINOR VERY FINE C2 FRAGMENTS
* 00	1.33	1.46	0.13			CLAYSTONE	DK.GY HARD; LEAF IMPRESSIONS; MINOR IRON STAINING

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84319

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	1.46	1.48	0.02			CLAYSTONE	WEATH.BN IRON STAINED; CONTAINS MINOR C2 COAL FR AGMENTS
* 00	1.48	1.55	0.07			MUDSTONE	BLK MINOR COAL CONTENT; C2 FRAGMENTS; VERY FINE
* 00	1.55	1.58	0.03			CLAYSTONE	WEATH CLAY AND CLAYSTONE; BROWN-ORANGE IRON S TAINING
* 00	1.58	1.63	0.05			MUDSTONE	BLK LEAF IMPRESSION; SOFT; GRASSROOT PENETR ATION; CONTAINS SOME C2 COAL
* 00	1.63	1.71	0.08			CLAYSTONE	WEATH.GY SOFT; VERY FINE C2 COAL FRAGMENTS
* 00	1.71	2.11	0.40			OVERBURDEN	COMPOSED OF MUD, CLAY AND ORANGE-BROWN CLAYSTONE WITH LEAF IMPRESSIONS

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRCB4319 SEAM : INTERVAL(M) : 0.00 - 1.15 ELEVATION(M) : 1825.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.									
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALY AL MJ/KG				
	0.00	↑																	
	1.15	↓		0.27				0.27 / 0.00											
								0.27											

PLOT 1 13.46.34 FRI 21 DEC, 1984 JOB-TST0260 GULF CANADIA DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84320

DATE - 01/08/85

- HISTORY -

START DATE - 08/20/84
 END DATE - 08/20/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN

OPERATOR - GCRI
 SURVEYOR -

REMARKS - APPARENT BEDDING IN TRENCH 280/38S; TRENCH NOT PER
 PENDICULAR TO STRIKE; NOT SAMPLED; LOGGED FROM THE
 NE; FLOOR AND ROOF NOT OBTAINED; POOR TRENCH; COA
 L/COAL+ROCK 1.13/1.79

- LOCATION -

PROVINCE - BC
 ELEVATION - 1815.00

ZONE - 9
 NORTHING - 6341342.00
 EASTING - 506584.00

LICENCE/LEASE NUMBER - 7146

LATITUDE - 571301
 LONGITUDE - 1285328

- ORIENTATION -

LENGTH - 3.44

INCLINATION - 37.0
 AZIMUTH - 71.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.6

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84320

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.15	0.15			MUDSTONE	DK.GY COAL STRINGERS; VERY SOFT; MINOR IRON STAINING; C-2 BANDS; IRON STAINED; VERY WEATHERED
* 00	0.15	0.33	0.18			MUDSTONE	ABUNDANT COAL STRINGERS; SOFT; WEATHERED AND IRON STAINED
* 00	0.33	0.48	0.15			CLAYSTONE	WEATH.BN MIXTURE OF CLAY, COAL AND MUDSTONE; WEATHERED
* 00	0.48	0.70	0.22			COAL	C-2.BLK C2-C3; VERY WEATHERED; IRON STAINED
* 00	0.70	0.93	0.23			MUDSTONE	CARB.BLK COAL STRINGERS; SOME C2 BANDS IN MUDSTONE; MINOR LEAF IMPRESSIONS
* 00	0.93	1.21	0.28			COAL	C-3.BLK VERY WEATHERED AND IRON STAINED; C1 BANDS
* 00	1.21	1.41	0.20			COAL	BLK MUD AND COAL; VERY WEATHERED; C1-C2 FRAGMENTS

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84320

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	1.41	1.61	0.20			MUDSTONE	BLK MUD AND COAL; VERY WEATHERED AND IRON STAINED
* 00	1.61	1.64	0.03			COAL	C-3.BLK C1 BANDS; VERY WEATHERED
* 00	1.64	1.82	0.18			MUDSTONE	BLK VERY FINE COAL FRAGMENTS; MINOR IRON STAINING
* 00	1.82	1.87	0.05			MUDSTONE	DK.GY
* 00	1.87	2.27	0.40			COAL	SPOIL; HIGH MUD CONTENT
* 00	2.27	2.49	0.22			OVERBURDEN	COMPOSED OF BROWN CLAYSTONE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84320 SEAM : INTERVAL(M) : 0.46 - 2.27 ELEVATION(M) : 1815.0
 GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG		
	0.46	↑															
		↓				-	-	1.13/0.66									
	2.27	↓						1.79									

PLOT 1 13.46.37 FRI 21 DEC, 1984 .JOB-TSICE80 GULF CANADA DISPLAY 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84321

DATE - 01/08/85

- HISTORY -

START DATE - 08/20/84
 END DATE - 08/20/84

CONTRACTOR - GCRI
 GEOLOGIST - W. QUINN.

OPERATOR - GCRI
 SURVEYOR -

REMARKS - FLOOR AND ROOF NOT UNOBTAINED; NO BEDROCK IN AREA;
 LOGGED FROM SURFACE TO TRENCH FLOOR; POOR TRENCH;
 LARGE MUDSTONE CLAST INCLUSION IN OVERBURDEN; NOT
 A TRUE THICKNESS; COAL/COAL+ROCK 0.14/0.54; NOT S
 ampled

- LOCATION -

PROVINCE - BC
 ELEVATION - 1848.00

ZONE - 9
 NORTHING - 6340724.00
 EASTING - 506735.00

LICENCE/LEASE NUMBER - 7146

LATITUDE - 571241
 LONGITUDE - 1285319

- ORIENTATION -

LENGTH - 3.12

INCLINATION - 30.0
 AZIMUTH - 45.0

SIZE WIDTH - 0.7
 SIZE HEIGHT - 1.4

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84321

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.34	0.34			OVERBURDEN	DK.GY CONSISTS OF CLAY AND MUD; LARGE FRAGMENTS OF DARK GREY CLAYSTONE WITH MINOR FRAGMENTS OF COAL C2; VERY BROKEN
* 00	0.34	0.38	0.04			COAL	BLK SPOIL; VERY FINE COAL (C-2) FRAGMENTS
* 00	0.38	0.52	0.14			MUDSTONE	DK.GY VERY SOFT; MAJOR LEAF IMPRESSIONS; FOSSILIFEROUS VERY BROKEN
* 00	0.52	0.56	0.04			MUDSTONE	TRACE AMOUNTS OF COAL; VERY FINE
* 00	0.56	0.78	0.22			MUDSTONE	DK.GY FOSSILIFEROUS; VERY SOFT AND BRITTLE
* 00	0.78	0.88	0.10			COAL	SPOIL; HIGH MUD CONTENT; COAL UNIDENTIFIABLE
* 00	0.88	0.93	0.05			CLAYSTONE	WEATH.BLK

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRCB4321 SEAM : INTERVAL(M) : 0.34 - 0.08 ELEVATION(M) : 1848.0

GEOLOGIST : W. QUINN DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. V AL MJ/KG	
1 2 3 4 5 6		↑ ↓														

PLOT 1 13.46.38 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISSPL 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84322

DATE - 01/08/85

- HISTORY -

START DATE - 09/12/84
 END DATE - 09/12/84

CONTRACTOR - AVM CONST.
 GEOLOGIST - B. GLOVER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - COAL APPEARS FLAT LYING; ATTITUDE IN COAL 305/12N;
 PRIMARILY COAL SPOIL; WEATHERED; SAMPLE NO. 4923

- LOCATION -

PROVINCE - BC
 ELEVATION - 1575.00

ZONE - 9
 NORTHING - 6344670.00
 EASTING - 507482.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571449
 LONGITUDE - 1285234

- ORIENTATION -

LENGTH - 6.70
 SIZE WIDTH - 1.2
 SIZE HEIGHT - 2.2

INCLINATION - 3.0
 AZIMUTH - 71.0

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84322

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.35	0.35			OVERBURDEN	LT. BN UNCONSOLIDATED
* 00	0.35	1.95	1.60	04923	N	COAL	C-3 SPOIL; WEATHERED; SOME IRON STAINING
* 00	1.95	2.25	0.30			SANDSTONE	MG. LT. BN SOFT FRIABLE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.



SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84322 SEAM : n INTERVAL(M) : 0.35 - 1.95 ELEVATION(M) : 1575.0

GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALY AL MJ/KG		
	0.35	↑ 															
	1.95	↓ 		1.60	100.0	4923	4923	1.60/0.00 1.60									

PLOT 1 13.46.41 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DIS5PLF 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84323

DATE - 01/08/85

- HISTORY -

START DATE - 09/12/84
END DATE - 09/12/84

CONTRACTOR - AVM CONST.
GEOLOGIST - B. GLOVER

OPERATOR - GCRI
SURVEYOR -

REMARKS - APPARENT SEAM THICKNESS 0.6M; NOT SAMPLED; APPEARS
EXTENSIVELY WEATHERED

- LOCATION -

PROVINCE - BC
ELEVATION - 1575.00

ZONE - 9
NORTHING - 6344646.00
EASTING - 507482.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571448
LONGITUDE - 1285233

- ORIENTATION -

LENGTH - 8.40

INCLINATION - 12.0
AZIMUTH - 38.0

SIZE WIDTH - 1.2
SIZE HEIGHT - 1.4

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4323

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.20	0.20			OVERBURDEN	UNCONOLIDATED
* 00	0.20	0.80	0.60		N	COAL	C-3 SPDIL; WEATHERED
* 00	0.80	1.40	0.60			SANDSTONE	M.BN VERY WEATHERED; FRIABLE

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84324

DATE - 01/08/85

- HISTORY -

START DATE - 09/12/84
 END DATE - 09/12/84

CONTRACTOR - AVM CONST.
 GEOLOGIST - B. GLOVER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - PRIMARILY CARBONACEOUS MUDSTONE; SAMPLE NO. 4924

- LOCATION -

PROVINCE - BC
 ELEVATION - 1580.00

ZONE - 9
 NORTHING - 6344586.00
 EASTING - 507454.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571446
 LONGITUDE - 1285235

- ORIENTATION -

LENGTH - 4.80

INCLINATION - 3.0
 AZIMUTH - 54.0

SIZE WIDTH - 1.2
 SIZE HEIGHT - 1.2

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84324

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	04924	N	COAL	NO DETAILED LOG; UNIT INSERTED FOR SAMPLE ID.

* DENTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84325

DATE - 01/08/85

- HISTORY -

START DATE - 09/12/84
END DATE - 09/12/84

CONTRACTOR - AVM CONST.
GEOLOGIST - B. GLOVER

OPERATOR - GCRI
SURVEYOR -

REMARKS - ROOF ERODED; COAL SPOIL; SOME IRON STAINING, WEATH
ERED; SAMPLE NO. 4925

- LOCATION -

PROVINCE - BC
ELEVATION - 1579.00

ZONE - 9
NORTHING - 6344601.00
EASTING - 507435.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571447
LONGITUDE - 1285243

- ORIENTATION -

LENGTH - 3.00

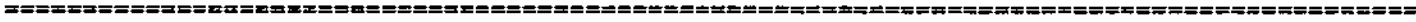
INCLINATION - 4.0
AZIMUTH - 59.0

SIZE WIDTH - 1.2
SIZE HEIGHT - 2.1

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84325

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.15	0.15			OVERBURDEN	UNCONSOLIDATED; SANDY MATRIX
* 00	0.15	0.77	0.62	04925	N	COAL	C-4 SDME C-5; SPOIL; IRON STAINED NEAR SURFACE
* 00	0.77	1.97	1.20			SANDSTONE	MG.LT.GY WEATHERED; FRIABLE

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84325 SEAM : n INTERVAL(M) : 0.15 - 0.77 ELEVATION(M) : 1579.0
 GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG	
	0.15	↑ ↑														
	0.77	↓ ↓		0.82	100.0	4925	4925	0.82 / 0.00								
		↓ ↓						0.82								

PLOT 1 13.46.44 FRI 21 DEC, 1984 JOB-TST0680 GULF CANADA DISSPLA 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84326

DATE - 01/08/85

- HISTORY -

START DATE - 09/12/84
 END DATE - 09/12/84

CONTRACTOR - AVM CONST.
 GEOLOGIST - B. GLOVER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - ROOF ERODED; PRIMARILY CARBONACEOUS MUDSTONE; SAMP
 LE NO. 4926

- LOCATION -

PROVINCE - BC
 ELEVATION - 1587.50

ZONE - 9
 NORTHING - 6344442.00
 EASTING - 507451.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571442
 LONGITUDE - 1285236

- ORIENTATION -

LENGTH - 7.00

INCLINATION - 4.0
 AZIMUTH - 79.0

SIZE WIDTH - 1.2
 SIZE HEIGHT - 1.4

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84326

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.20	0.20			OVERBURDEN	UNCONSOLIDATED
* 00	0.20	0.86	0.66	04926	0	COAL	C-5 INTERBEDDED CARBONACEOUS MUDSTONE
* 00	0.86	1.46	0.60			SILTSTONE	LT.GY WEATHERED

* DENTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84327

DATE - 01/08/85

- HISTORY -

START DATE - 09/12/84
 END DATE - 09/12/84

CONTRACTOR - AVM CONST.
 GEOLOGIST - B. GLOVER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - PREVIOUS TRENCH NO.21; CLEANED AND SAMPLED; SAMPLE
 NO. 4927; COAL APPROXIMATELY 1.0M THICK

- LOCATION -

PROVINCE - BC
 ELEVATION - 1587.50

ZONE - 9
 NORTHING - 6344434.00
 EASTING - 507476.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571441
 LONGITUDE - 1285234

- ORIENTATION -

LENGTH - 9.20'

INCLINATION - 2.0
 AZIMUTH - 77.0

SIZE WIDTH - 1.2
 SIZE HEIGHT - 1.1

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84327

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	04927	0	COAL	NO DETAILED LOG; UNIT INSERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84328

DATE - 01/08/85

- HISTORY -

START DATE - 09/13/84
END DATE - 09/13/84

CONTRACTOR - AVM CONST.
GEOLOGIST - B. GLOVER

OPERATOR - GCRI
SURVEYOR -

REMARKS - PRIMARILY WEATHERED MUDSTONE; SAMPLE NO. 4928

- LOCATION -

PROVINCE - BC
ELEVATION - 1582.50

ZONE - 9
NORTHING - 6344417.00
EASTING - 507532.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571441
LONGITUDE - 1285231

- ORIENTATION -

LENGTH - 4.20

INCLINATION - 2.0
AZIMUTH - 66.0

SIZE WIDTH - 1.2
SIZE HEIGHT - 1.7

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84328

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.15	0.15			OVERBURDEN	UNCONSOLIDATED; SAND MATRIX
* 00	0.15	1.55	1.40	04928	0	COAL	C-5 SOME C-4; IRON STAINED; INTERBEDDED MUD STONE PARTINGS
* 00	1.55	1.75	0.20			SILTSTONE	LT.GY WEATHERED; FRIABLE

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84329 .

DATE - 01/08/85

- HISTORY -

START DATE - 09/13/84
END DATE - 09/13/84

CONTRACTOR - AVM CONST.
GEOLOGIST - B. GLOVER

OPERATOR - GCRI
SURVEYOR -

REMARKS - SAMPLE NO. 4929; ATTITUDE IN COAL 200/16W

- LOCATION -

PROVINCE - BC
ELEVATION - 1603.00

ZONE - 9
NORTHING - 6344406.00
EASTING - 507384.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571440
LONGITUDE - 1285239

- ORIENTATION -

LENGTH - 7.20

INCLINATION - 4.0
AZIMUTH - 34.0

SIZE WIDTH - 1.2
SIZE HEIGHT - 1.8

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84329

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.20	0.20			OVERBURDEN	UNCONSOLIDATED; SANDY
* 00	0.20	1.40	1.20	04929		COAL	C-2 SOME C-1; SLIGHTLY WEATHERED; IRON STAINED
* 00	1.40	1.80	0.40			SANDSTONE	MG. ORNG WEATHERED; FRIABLE

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84330

DATE - 01/08/85

- HISTORY -

START DATE - 09/13/84

END DATE - 09/13/84

CONTRACTOR - AVM CONST.

OPERATOR - GCRI

GEOLOGIST - B. GLOVER

SURVEYOR -

REMARKS - TO DEEP TO LOG; SAMPLED BY BACKHOE; SAMPLE NO. 493
0

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1600.00

NORTHING - 6344602.00

EASTING - 507490.00

LICENCE/LEASE NUMBER - 7151

LATITUDE - 571447

LONGITUDE - 1285233

- ORIENTATION -

LENGTH - 3.20

INCLINATION - 2.0

AZIMUTH - 64.0

SIZE WIDTH - 1.2

SIZE HEIGHT - 3.2

ROOF STRIKE - 0

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84330

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.12	0.12			OVERBURDEN	LT.BN UNCONSOLIDATED; WEATHERED
* 00	0.12	2.20	2.08			MUDSTONE	M.GY WEATHERED, SOME IRON STAINING; FRIABLE
* 00	2.20	3.20	1.00	04930	N	COAL	SPOIL; APPARENT C3-C4 QUALITY; WEATHERED

* DENOTES MEASURED BCA
NEWPAGE

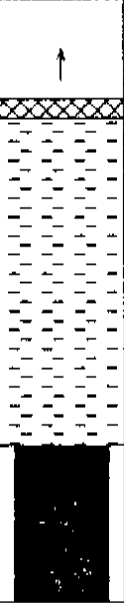
GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84330 SEAM : n INTERVAL(M) : 2.20 - 3.20 ELEVATION(M) : 1600.0
 GEOLOGIST : B. GLOVER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.							
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL-VAL MJ/KG		
		↑  ↓															
	2.20			1.00		04930		1.00/0.00 1.00									
	3.20																

PLOT 1 13.49.57 FRI 21 DEC, 1984 JOB-EST060 GULF CANADA DISSPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84331

DATE - 01/08/85

- HISTORY -

START DATE - 09/13/84
END DATE - 09/13/84

CONTRACTOR - AVM CONST.
GEOLOGIST - B. GLOVER

OPERATOR - GCRI
SURVEYOR -

REMARKS - COAL SPOIL; TRENCH INFILLED WITH WATER; BACKFILLED
DUE TO DANGER; SAMPLE NO. 4931;

- LOCATION -

PROVINCE - BC
ELEVATION - 1592.50

ZONE - 9
NORTHING - 6345010.00
EASTING - 507170.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571500
LONGITUDE - 1285252

- ORIENTATION -

LENGTH - 3.00
SIZE WIDTH - 1.2
SIZE HEIGHT - 0.0

INCLINATION - 4.0
AZIMUTH - 165.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84331

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	04931	Y	COAL	NO DETAILED LOG; UNIT INSERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84332

DATE - 01/08/85

- HISTORY -

START DATE - 09/14/84
 END DATE - 09/14/84

CONTRACTOR - AVM CONST.
 GEOLOGIST - K. FOELLMER

OPERATOR - GCR1
 SURVEYOR -

REMARKS - ROOF ERODED; SAMPLE NO. 04932; SEAM 1; COAL/COAL+R
 OCK 1.12/1.21

- LOCATION -

PROVINCE - BC
 ELEVATION - 1570.00

ZONE - 9
 NORTHING - 6345100.00
 EASTING - 507285.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571503
 LONGITUDE - 1285245

- ORIENTATION -

LENGTH - 3.50

INCLINATION - 39.0
 AZIMUTH - 135.0

SIZE WIDTH - 1.0
 SIZE HEIGHT - 2.8

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 200
 FLOOR DIP - 32
 FLOOR DIR - E

*** NOTE *** 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84332

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	1.30	1.30			OVERBURDEN	PBLY.CBL.PR.8N
* 00	1.30	1.33	0.03	04932	I	COAL	BLK SPOIL
* 00	1.33	1.71	0.38	04932	I	COAL	C-3.BLK SEMI-CONSOLIDATED
* 00	1.71	1.74	0.03	04923	I	SANDSTONE	CLYY.MG.LT.BN PARTING
* 00	1.74	1.79	0.05	04932	I	COAL	C-3.BLK SOFT
* 00	1.79	1.81	0.02	04932	I	SANDSTONE	CLYY.MG.LT.BN PARTING
* 00	1.81	1.96	0.15	04932	I	COAL	C-3.BLK SOFT
* 00	1.96	2.06	0.10	04932	I	SANDSTONE	CLYY.MG.LT.BN PARTING
* 00	2.06	2.16	0.10	04932	I	COAL	C-2.BLK SOFT

* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84332

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	2.16	2.18	0.02	04932	I	MUDSTONE	CLYY.MG.BN PARTING; IRON STAINED
* 00	2.18	2.33	0.15	04932	I	COAL	C-2.BLK
* 00	2.33	2.34	0.01	04932	I	MUDSTONE	CLYY.MG.BN PARTING; IRON STAINED
* 00	2.34	2.90	0.56	04932	I	COAL	C-3.BLK WELL CONSOLIDATED; HARD

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRCB4332 SEAM : i INTERVAL(M) : 1.30 - 2.90 ELEVATION(M) : 1570.0
 GEOLOGIST : K. FOELLMER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL VAL MJ/KG	
	1.30	↑														
	1.74	↓		0.41												
				0.15												
				0.10												
				0.10												
				0.15	100.0	4132		1.42/0.18								
				0.56				1.60								
	2.90	↓								9.16	11.86	19.06	80.12	0.37	22.86	

PLOT 1 13.50.00 FRI 21 DEC, 1984 JOB-TSICE60 GULF CANADA 0155PLA 9.0

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH% CARBON%	FIXED MATTER%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84332											
	HD1	I	4932	9.16	11.66	60.12	19.06	0.37	22.80		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84333

DATE - 01/08/85

- HISTORY -

START DATE - 09/14/84

END DATE - 09/14/84

CONTRACTOR - AVM CONST.
GEOLOGIST - K. FOELLMER

OPERATOR - GCRI
SURVEYOR -

REMARKS - ROOF ERODED; NOT LOGGED; SAMPLE TAKEN WITH BACKHOE
; ATTITUDE OF FINE GRAIN SANDSTONE UNIT 2.0M ABOVE
TRENCH 245/30E; SAMPLE NO. 4933;

- LOCATION -

PROVINCE - BC
ELEVATION - 1600.00

ZONE - 9
NORTHING - 6345000.00
EASTING - 507148.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571500
LONGITUDE - 1285254

- ORIENTATION -

LENGTH - 4.40

INCLINATION - 33.0
AZIMUTH - 155.0

SIZE WIDTH - 0.9
SIZE HEIGHT - 3.4

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84333

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	04933	I	COAL	NO DETAILED LOG; UNIT INSERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

14/JAN/85 GULF CANADA RESOURCES INC. - COAL DIVISION
 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM				
DATA SOURCE	SSID	SEAM	SAMPLE RESIDUAL ID	RESIDUAL MOISTURE%	ASH% FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRCB4333										
	HD1	I	4933	2.19	18.94	72.42	6.45	0.47		27.02

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84334

DATE - 01/08/85

- HISTORY -

START DATE - 09/15/84
 END DATE - 09/15/84

CONTRACTOR - AVM CONST.
 GEOLOGIST - K. FOELLMER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - MIXTURE OF MUDSTONE AND COAL; SAMPLE TAKEN WITH BA
 CKHOE; SAMPLE NO. 4934;
 NO DETAILED LOG

- LOCATION -

PROVINCE - BC
 ELEVATION - 1556.00

ZONE - 9
 NORTHING - 6345150.00
 EASTING - 507292.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571505
 LONGITUDE - 1285245

- ORIENTATION -

LENGTH - 2.50

INCLINATION - 3.0
 AZIMUTH - 185.0

SIZE WIDTH - 0.6
 SIZE HEIGHT - 2.5

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84334

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	04934	H	COAL	NO DETAILED LOG; UNIT INSERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84334											
	HD1	H	4934	1.34	45.41	47.34	5.91	7.26	17.13		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC84335

DATE - 01/08/85

- HISTORY -

START DATE - 09/15/84

END DATE - 09/15/84

CONTRACTOR - AVM CONST.
GEOLOGIST - K. FOELLMER

OPERATOR - GCRI
SURVEYOR -

REMARKS - ROOF ERODED; SAMPLE NO. 4935; COAL/COAL+ROCK 1.23/1.46

- LOCATION -

PROVINCE - BC
ELEVATION - 1555.00

ZONE - 9
NORTHING - 6345216.00
EASTING - 507212.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571507
LONGITUDE - 1285249

- ORIENTATION -

LENGTH - 3.00

INCLINATION - 20.0
AZIMUTH - 165.0

SIZE WIDTH - 0.8
SIZE HEIGHT - 2.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84335

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.30	0.30			OVERBURDEN	UNCONSOLIDATED
* 00	0.30	0.60	0.30			CLAYSTONE	PBLY.GY UNCONSOLIDATED
* 00	0.60	0.80	0.20	04935	G UPPER	COAL	C-4.BLK SOFT; AND MUDSTONE
* 00	0.80	1.00	0.20	04935	G UPPER	COAL	C-3.BLK
* 00	1.00	1.10	0.10	04935	G UPPER	COAL	C-4.BLK 1 CM CALCITE VEIN AT BASE.
* 00	1.10	1.14	0.04	04935	G UPPER	COAL	C-3.BLK FISSILE; SOFT
* 00	1.14	1.24	0.10	04935	G UPPER	COAL	C-2
* 00	1.24	1.28	0.04	04935	G UPPER	COAL	C-3.BLK
* 00	1.28	1.50	0.22	04935	G UPPER	MUDSTONE	CLYY.LT.BN
* 00	1.50	1.96	0.46	04935	G UPPER	COAL	C-3.BLK FISSILE; SOFT; SPORADIC CALCITE STRINGE RS WITH 1 CM CALCITE VEIN AT BASE.

* DENOTES MEASURED BCA

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84335

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH INTRVAL TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	1.96	2.05	0.09	04935	G UPPER	COAL	C-2.BLK
* 00	2.05	3.96	1.91			SILTSTONE	CLYY.LT.GY FLOOR

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84335 SEAM : gupper INTERVAL(M) : 0.60 - 2.05 ELEVATION(M) : 1555.0
 GEOLOGIST : K. FOELLMER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALY AL MJ/KG	
		↑														
	0.60	[Cross-hatched pattern]														
		[Solid black pattern]		0.68			↑									
		[Dashed pattern]	0.22		100.0	4935	4935	1.23 / 0.22								
		[Solid black pattern]		0.55			↓	1.48								
	2.05	[Dotted pattern]														
		↓														

PLOT 1 13.50.03 FRI 21 DEC, 1984 JOB-TST060 GULF CANADA DISPLR 9.0

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84336

DATE - 01/08/85

- HISTORY -

START DATE - 09/15/84

END DATE - 09/15/84

CONTRACTOR - AVM CONST.

OPERATOR - GCRI

GEOLOGIST - K. FOELLMER

SURVEYOR -

REMARKS - 20 CM OVERBURDEN; COAL WITH A MIXTURE OF CLAY AND
MUDSTONE; SAMPLE TAKEN WITH BACKHOE; NO DETAILED LOG;
SAMPLE NO. 4936; SEAM 2 up.

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1555.00

NORTHING - 6345198.00

EASTING - 507170.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571506

LONGITUDE - 1285252

- ORIENTATION -

LENGTH - 3.00

INCLINATION - 12.0

AZIMUTH - 174.0

SIZE WIDTH - 0.7

SIZE HEIGHT - 2.3

ROOF STRIKE - 0

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84336

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	04936	G UPPER	COAL	NO DETAILED LOG; UNIT INSERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84337

DATE - 01/08/85

- HISTORY -

START DATE - 09/16/84

END DATE - 09/16/84

CONTRACTOR - AVM CONST.
GEOLOGIST - K. FOELLMER

OPERATOR - GCRI
SURVEYOR -

REMARKS - ROOF ERODED; SAMPLE NO. 4937; COAL/COAL+ROCK 2.04/2.64

- LOCATION -

PROVINCE - BC
ELEVATION - 1555.00

ZONE - 9
NORTHING - 6345240.00
EASTING - 507256.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571507
LONGITUDE - 1285247

- ORIENTATION -

LENGTH - 3.10

INCLINATION - 25.0
AZIMUTH - 135.0

SIZE WIDTH - 0.6
SIZE HEIGHT - 2.6

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84337

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	1.30	1.30			OVERBURDEN	UNCONSOLIDATED
* 00	1.30	2.60	1.30	04937	G UPPER	COAL	SPOIL
* 00	2.60	2.69	0.09	04937	G UPPER	CLAYSTONE	LT.BN SOFT
* 00	2.69	2.73	0.04	04937	G UPPER	COAL	C-4.BLK FRIABLE
* 00	2.73	2.93	0.20	04937	G UPPER	CLAYSTONE	LT.BN SOFT; SEMI-INDURATED
* 00	2.93	3.05	0.12	04937	G UPPER	COAL	C-3.BLK CALCITE VEINS; OXIDED BROWN
* 00	3.05	3.18	0.13	04937	G UPPER	CLAYSTONE	LT.BN
* 00	3.18	3.28	0.10	04937	G UPPER	COAL	C-3.BLK SOFT
* 00	3.28	3.32	0.04	04937	G UPPER	COAL	C-2.BLK
* 00	3.32	3.37	0.05	04937	G UPPER	CLAYSTONE	LT.BN SEMI-INDURATED

* DENOTES MEASURED BCA

B4/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB4337

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	3.37	3.59	0.22	04937	G UPPER	COAL	C-3.BLK
* 00	3.59	3.62	0.03	04937	G UPPER	CLAYSTONE	LT.BN
* 00	3.62	3.94	0.32	04937	G UPPER	COAL	C-3.BLK CALCITE STRINGERS; OXIDIZED

* DENOTES MEASURED BCA
NEWPAGE

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC84338

DATE - 01/08/85

- HISTORY -

START DATE - 09/16/84
 END DATE - 09/16/84

CONTRACTOR - AVM CONST.
 GEOLOGIST - K. FOELLMER

OPERATOR - GCRI
 SURVEYOR -

REMARKS - ROOF ERODED; COAL/COAL+ROCK 1.16/1.43; ATTITUDE IN
 COAL 220/36N; SAMPLE NO. 4938;

- LOCATION -

PROVINCE - BC
 ELEVATION - 1542.50

ZONE - 9
 NORTHING - 6345294.00
 EASTING - 507268.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571509
 LONGITUDE - 1285246

- ORIENTATION -

LENGTH - 3.30

INCLINATION - 2.0
 AZIMUTH - 160.0

SIZE WIDTH - 0.9
 SIZE HEIGHT - 1.8

ROOF STRIKE - 0
 ROOF DIP - 0
 ROOF DIR -

FLOOR STRIKE - 0
 FLOOR DIP - 0
 FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84338

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.30	0.30			OVERBURDEN	LT.BN UNCONSOLIDATED
* 00	0.30	0.55	0.25	0	G UPPER	COAL	C-3.BLK SOFT; FISSILE
* 00	0.55	0.61	0.06	04938	G UPPER	MUDSTONE	BN SEMI-LITHIFIED
* 00	0.61	0.71	0.10	04938	G UPPER	COAL	C-3.BLK POWDERED; SOFT
* 00	0.71	0.72	0.01	04938	G UPPER	MUDSTONE	BN IRON STAINED
* 00	0.72	0.75	0.03	04938	G UPPER	COAL	C-2.BLK
* 00	0.75	0.81	0.06	04938	G UPPER	COAL	C-3.BLK
* 00	0.81	0.91	0.10	04938	G UPPER	MUDSTONE	BN SEMI-LITHIFIED
* 00	0.91	1.14	0.23	04938	G UPPER	COAL	C-3.BLK SOFT; FRIABLE
* 00	1.14	1.21	0.07	04938	G UPPER	COAL	C-2.BLK

* DENDTES MEASURED BCA

84/12/12

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84338

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	1.21	1.35	0.14	04938	G UPPER	COAL	C-3.BLK MUDSTONE LENSES(20-30 MM); IRON STAINED
* 00	1.35	1.40	0.05	04938	G UPPER	COAL	C-2.BLK MUDSTONE LENSES (20-30 MM) THROUGHOUT; IRON STAINED; OXIDIZED
* 00	1.40	1.57	0.17	04938	G UPPER	COAL	C-3.BLK OXIDIZED; IRON STAINED
* 00	1.57	1.67	0.10	04938	G UPPER	CLAYSTONE	LT.BN SEMI-LITHIFIED
* 00	1.67	1.73	0.06	04938	G UPPER	COAL	C-3.BLK IRON STAINED; OXIDIZED

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84338 SEAM : GUPPER INTERVAL(M) : 0.30 - 1.73 ELEVATION(M) : 1542.5
 GEOLOGIST : K. FOELLMER DATE : JAN 16/85 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.													
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CAL. VAL MJ/KG								
	0.30	↑ ↑		0.25																			
	0.55	<table border="1" style="margin: auto; border-collapse: collapse;"> <tr><td style="width: 20px;">0.22</td><td style="width: 20px;">0.10</td></tr> <tr><td style="width: 20px;">0.03</td><td style="width: 20px;">0.03</td></tr> <tr><td style="width: 20px;">0.10</td><td style="width: 20px;">0.03</td></tr> </table>	0.22	0.10	0.03	0.03	0.10	0.03															
0.22	0.10																						
0.03	0.03																						
0.10	0.03																						
		<table border="1" style="margin: auto; border-collapse: collapse;"> <tr><td style="width: 20px;">0.22</td><td style="width: 20px;">0.10</td></tr> <tr><td style="width: 20px;">0.03</td><td style="width: 20px;">0.03</td></tr> <tr><td style="width: 20px;">0.10</td><td style="width: 20px;">0.03</td></tr> </table>	0.22	0.10	0.03	0.03	0.10	0.03		0.66	100.0	4938	4938	1.18 / 0.27 1.43	11.80	48.80	18.12	21.48	0.18	8.72			
0.22	0.10																						
0.03	0.03																						
0.10	0.03																						
	1.73	↓		0.21																			

PLOT 1 08.13.11 WED 16 JAN, 1985 JOB-TSTCEGO GULF CANADA LMT 0155PLR 9.2

GULF CANADA RESOURCES INC. - COAL DIVISION
 14/JAN/85 HEAD ANALYSIS SUMMARY

PROJ - KPN		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
TRC84338											
	HD1	G UPPER	4938	11.60	48.80	21.48	18.12	0.19	8.72		

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84339

DATE - 01/08/85

- HISTORY -

START DATE - 09/16/84

END DATE - 09/16/84

CONTRACTOR - AVM CONST.

OPERATOR - GCRI

GEOLOGIST - K. FOELLMER

SURVEYOR -

REMARKS - COAL/COAL+ROCK 1.0/1.95; ATTITUDE OF CLAY OVERLYIN
G LOWER COAL 234/053S; SAMPLE NO. 4939;

- LOCATION -

PROVINCE - BC

ZONE - 9

ELEVATION - 1535.00

NORTHING - 6345340.00

EASTING - 507315.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571511

LONGITUDE - 1285244

- ORIENTATION -

LENGTH - 3.70

INCLINATION - 30.0

AZIMUTH - 131.0

SIZE WIDTH - 1.2

SIZE HEIGHT - 2.7

ROOF STRIKE - 0

FLOOR STRIKE - 0

ROOF DIP - 0

FLOOR DIP - 0

ROOF DIR -

FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84339

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.70	0.70			OVERBURDEN	BN UNCONSOLIDATED
* 00	0.70	1.20	0.50	04939 G	UPPER	COAL	BLK SPOIL; WEATHERED
* 00	1.20	2.15	0.95	04939 G	UPPER	CLAYSTONE	CLYY.GY SOFT
* 00	2.15	2.65	0.50	04939 G	UPPER	COAL	BLK

* DENOTES MEASURED BCA
NEWPAGE

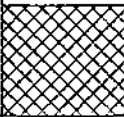
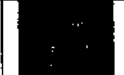
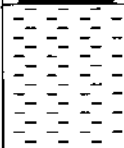
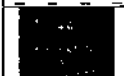

GULF CANADA RESOURCES INC.

SEAM DETAIL

COAL DIVISION
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC84339 SEAM : gupper INTERVAL(M) : 0.70 - 2.65 ELEVATION(M) : 1535.0
 GEOLOGIST : K. FOELLMER DATE : DEC 21/84 DRAWING NO. :

SEAM COMP.	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES		% REC.	SAMPLE ID		COAL/ROCK TOTAL		COAL QUALITY A.D.B.						
			ROCK	COAL		SIMP	COMP	COMPOS	MINING SECTION	RES MOIST	ASH	VM	FC	TS	CALYAL MJ/KG	
1 2 3 4 5 6																
	0.70	↑ 														
				0.50			↑									
			0.95		100.0	4939	↑ 4939	1.00 / 0.95								
							↓	1.95								
	2.65	↓ 		0.50												

PLOT 1 13.50.09 FRI 21 DEC, 1984 JOB-TSTCEGO GULF CANADA DISSPLA 9.0

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84340

DATE - 01/08/85

- HISTORY -

START DATE - 09/16/84

END DATE - 09/16/84

CONTRACTOR - AVM CONST.

OPERATOR - GCRI

GEOLOGIST - K. FOELLMER

SURVEYOR -

REMARKS - TOP ERODED; NO DETAILED LOG; APPROXIMATE C
OAL THICKNESS 1.0M; SAMPLED WITH BACKHOE; SAMPLE N
O. 4940

- LOCATION -

PROVINCE - BC
ELEVATION - 1525.00

ZONE - 9
NORTHING - 6345386.00
EASTING - 507366.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571512
LONGITUDE - 1285241

- ORIENTATION -

LENGTH - 3.40

INCLINATION - 10.0
AZIMUTH - 137.0

SIZE WIDTH - 0.9
SIZE HEIGHT - 2.8

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84340

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	04940	G UPPER	COAL	NO DETAILED LOG; UNIT INSERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84341

DATE - 01/08/85

- HISTORY -

START DATE - 09/16/84
END DATE - 09/16/84

CONTRACTOR - AVM CONST.
GEOLOGIST - K. FOELLMER

OPERATOR - GCRI
SURVEYOR -

REMARKS - NO DETAILED LOG; SAMPLE NO. 04941; ; APPROX
IMATE THICKNESS 1.0 M; SAMPLED WITH BACKHOE

- LOCATION -

PROVINCE - BC
ELEVATION - 1518.50

ZONE - 9
NORTHING - 6345414.00
EASTING - 507398.00

LICENCE/LEASE NUMBER - 7169

LATITUDE - 571513
LONGITUDE - 1285239

- ORIENTATION -

LENGTH - 3.10

INCLINATION - 3.0
AZIMUTH - 130.0

SIZE WIDTH - 0.7
SIZE HEIGHT - 2.8

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84341

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
* 00	0.00	0.01	0.01	04941	G UPPER	COAL	NO DETAILED LOG; UNIT INSERTED FOR SAMPLE ID.

* DENOTES MEASURED BCA
NEWPAGE

===== GULF CANADA RESOURCES INC. =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC84342

DATE - 01/08/85

- HISTORY -

START DATE - 08/14/84

END DATE - 08/14/84

CONTRACTOR - GCRI

GEOLOGIST - G. DIX

OPERATOR - GCRI

SURVEYOR -

REMARKS - THE COAL THINS 0.9 METRES 7.0 METRES ALONG STRIKE;
COAL/COAL+ROCK 0.20/1.16; SAMPLE NO. 6380

- LOCATION -

PROVINCE - BC
ELEVATION - 1523.00

ZONE - 9
NORTHING - 6338400.00
EASTING - 507300.00

LICENCE/LEASE NUMBER - 7529

LATITUDE - 571126
LONGITUDE - 1285245

- ORIENTATION -

LENGTH - 3.00

INCLINATION - 45.0

AZIMUTH - 345.0

SIZE WIDTH - 0.3

SIZE HEIGHT - 0.3

ROOF STRIKE - 290

ROOF DIP - 15

ROOF DIR - S

FLOOR STRIKE - 290

FLOOR DIP - 15

FLOOR DIR - S

*** NOTE *** O INDICATES NO VALUE

=====

84/12/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

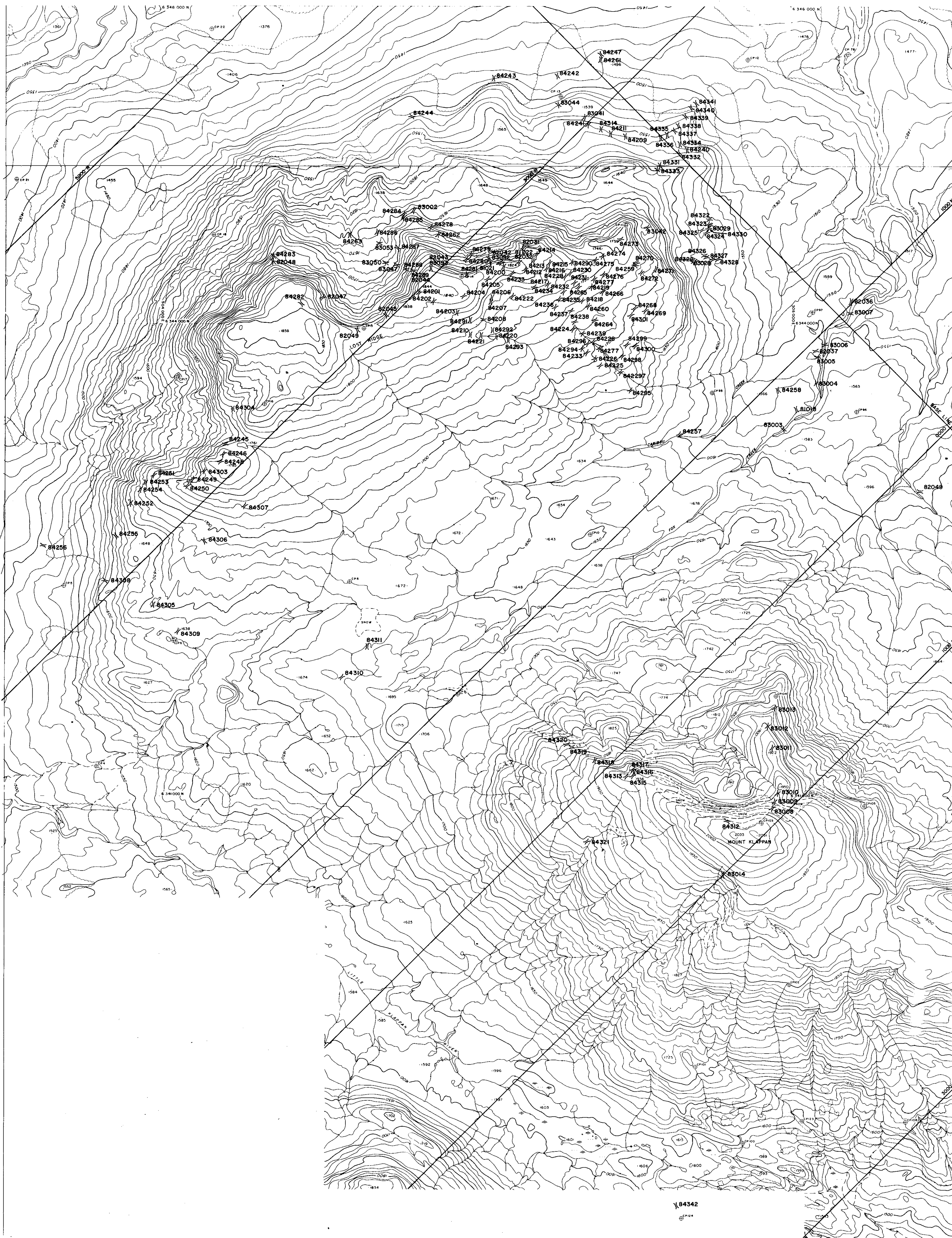
PROJECT: KPN BLOCK: LR DATA SOURCE: TRC84342

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
*	0.00	0.62	0.62			MUDSTONE	BLK CARBONACEOUS LAMINAE
*	0.62	1.22	0.60	06380		MUDSTONE	CARB.BLK 20.0 MM COAL (C-3) PARTING; OXIDIZED
*	1.22	1.58	0.36	06380		MUDSTONE	LT.BN BLOCKY FRACTURE; IRREGULAR BEDDING
*	1.58	1.78	0.20	06380		COAL	C-4.BLK CARBONACEOUS MUDSTONE LAMINAE; CHAOTIC BEDDING
*	1.78	2.18	0.40			MUDSTONE	LT.BN

LOST-FOX AREA

TRENCH LOCATION MAPS

1:10 000



LEGEND

BUILDING	[Symbol]
ROAD, HARD SURFACE	[Symbol]
LOOSE SURFACE	[Symbol]
CART TRACK	[Symbol]
TRAIL	[Symbol]
RAILROAD BED	[Symbol]
RIVER	[Symbol]
STREAM, DEFINITE	[Symbol]
APPROXIMATE	[Symbol]
SPLIT	[Symbol]
LAKE	[Symbol]
WATER LEVEL	[Symbol]
SWAMP	[Symbol]
BEAVER DAM	[Symbol]
TREE LINE	[Symbol]
CUT LINE	[Symbol]
CONTOURS, INDEX	[Symbol]
INTERMEDIATE	[Symbol]
DEPRESSION	[Symbol]
APPROXIMATE	[Symbol]
SPOT ELEVATION	[Symbol]
FIELD CONTROL POINT	[Symbol]
COAL LICENCE	[Symbol]

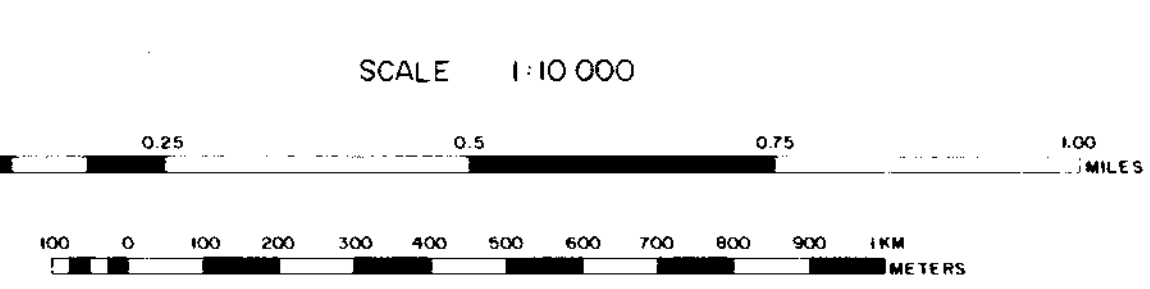
NOTES

CONTOUR INTERVAL: 10 METERS

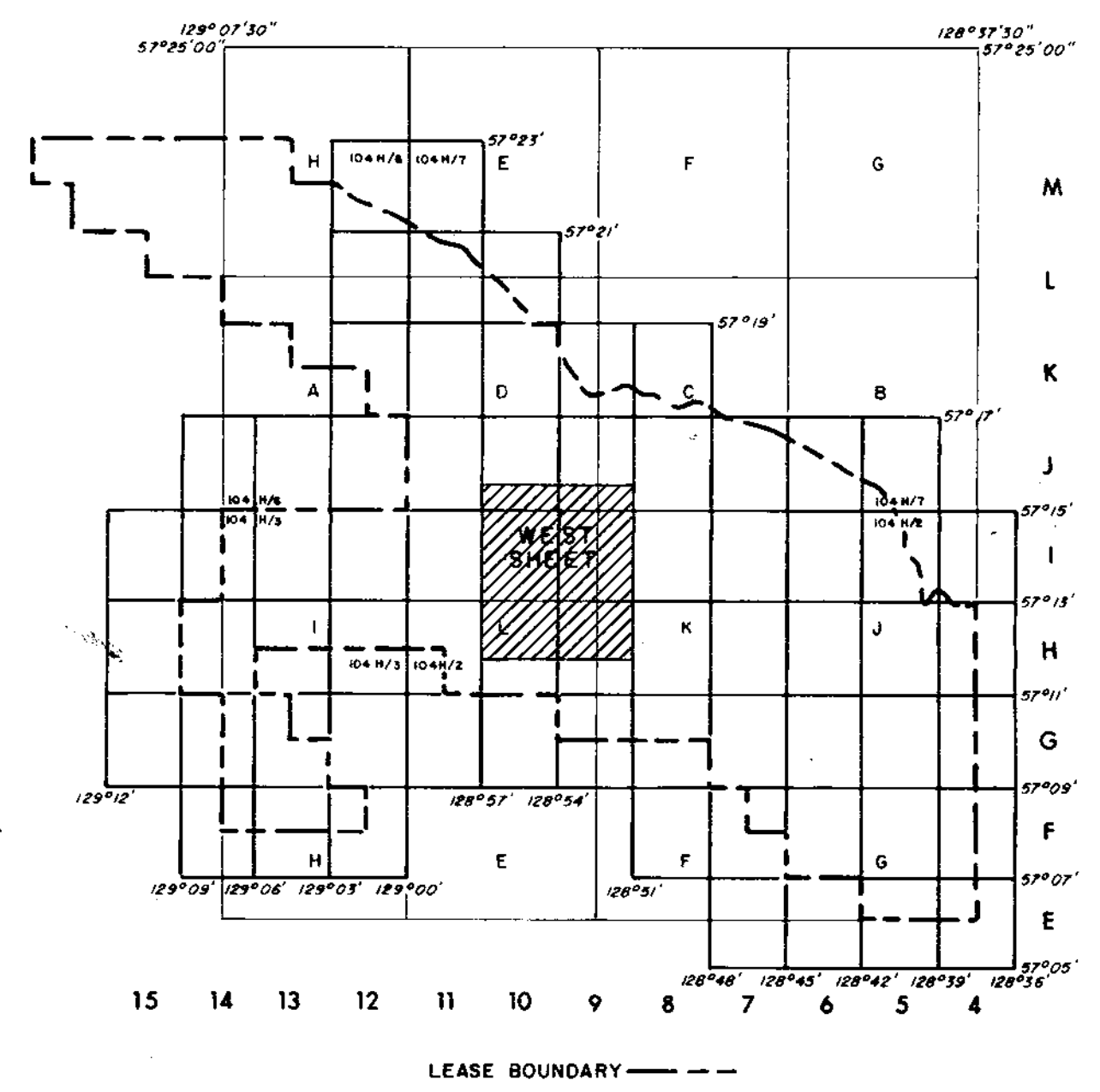
SURVEY CONTROL TAKEN FROM EXISTING PHOTO IDENTIFIABLE GOVERNMENT SURVEY MONUMENTS AND N.T.S. MAPS. MAPPING IS BASED ON UNIVERSAL TRANSVERSE MERCATOR GRID AND GEODETIC DATUM.

RAILROAD BED LOCATION BASED ON DATA SUPPLIED BY B.C. RAIL

COMPILED BY WESTERN PHOTOGRAMMETRY, A DIVISION OF UNDERWOOD MCELLELL LTD., FROM FEDERAL GOVERNMENT AERIAL PHOTOGRAPHY FLOWN IN AUGUST/67 AT A SCALE OF 1:60,000 (APPROXIMATE).



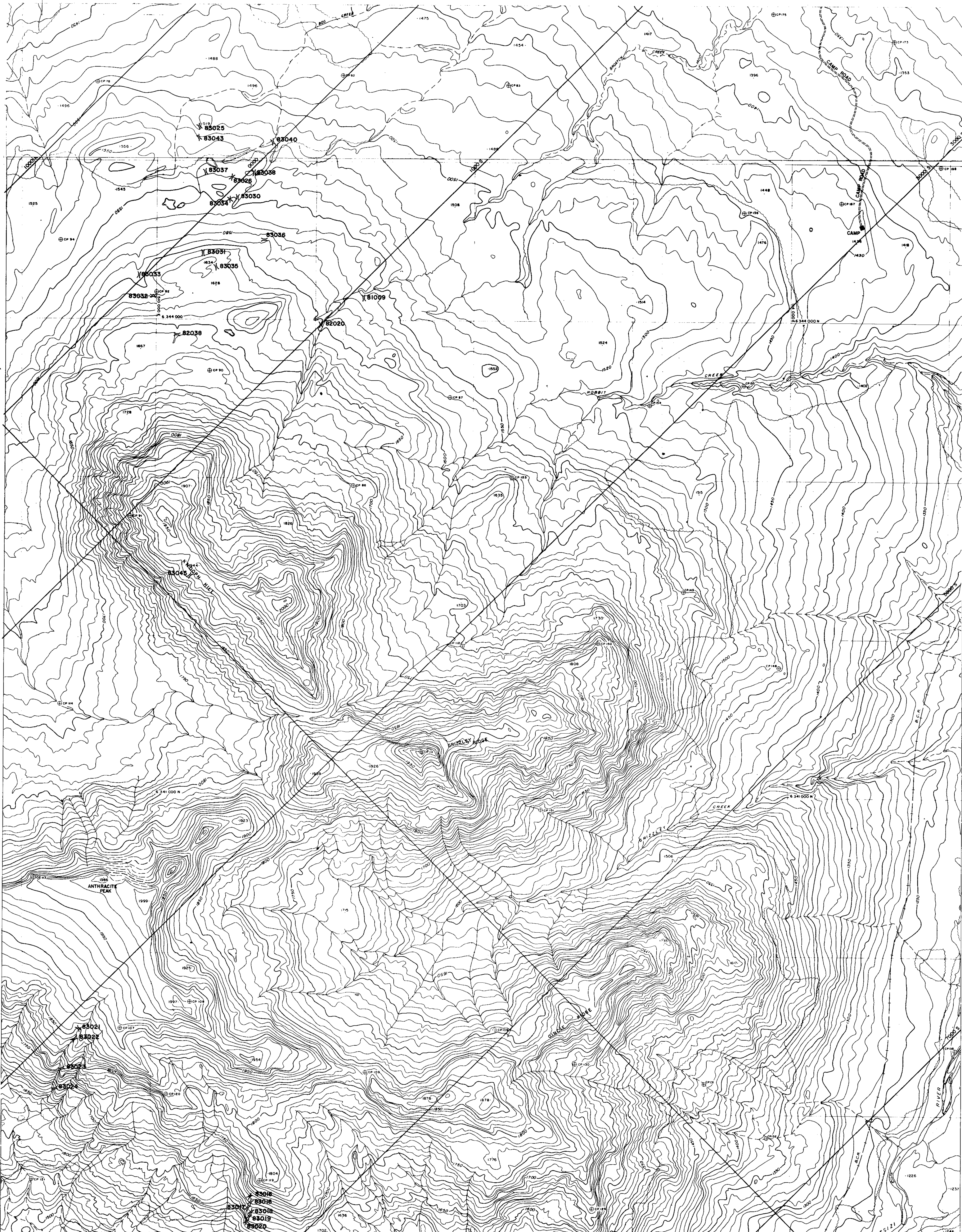
MT. KLAPPAN AREA
INDEX MAP



709

66-Mount Klappan 85(2)A

GULF CANADA RESOURCES INC.		
CALGARY	ALBERTA	
MOUNT KLAPPAN COAL PROPERTY 1984 LOST-FOX AREA TRENCH LOCATION MAP WEST SHEET		
PREPARED BY: V.L.D.	DATE: JAN. 1985	DRAWING No. KPN84LF-C03



LEGEND

BUILDING	—	—
ROAD, HARD SURFACE	—	—
LOOSE SURFACE	—	—
CART TRACK	—	—
TRAIL	—	—
RAILROAD BED	—	—
RIVER	—	—
STREAM, DEFINITE	—	—
APPROXIMATE	—	—
SPLIT	—	—
LAKE	—	—
WATER LEVEL	—	—
SWAMP	—	—
BEAVER DAM	—	—
TREE LINE	—	—
CUT LINE	—	—
CONTOURS, INDEX	—	—
INTERMEDIATE	—	—
DEPRESSION	—	—
APPROXIMATE	—	—
SPOT ELEVATION	—	—
FIELD CONTROL POINT	—	—
COAL LICENCE	—	—

NOTES

CONTOUR INTERVAL 10 METERS

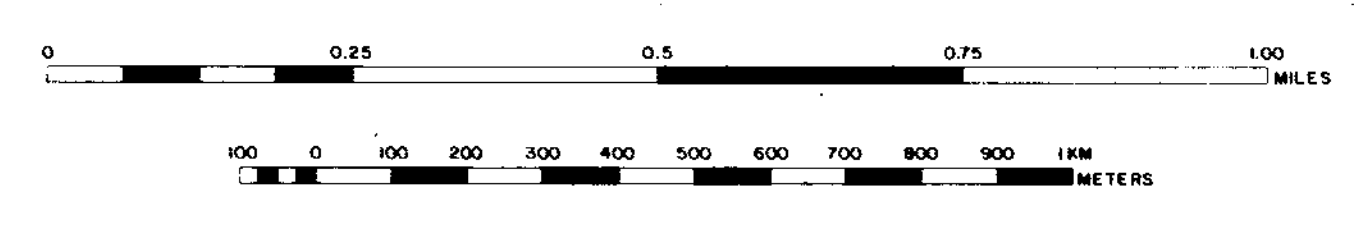
SURVEY CONTROL TAKEN FROM EXISTING PHOTO IDENTIFIABLE GOVERNMENT SURVEY MONUMENTS AND N.T.S. MAPS. MAPPING IS BASED ON UNIVERSAL TRANSVERSE MERCATOR GRID AND GEODETIC DATUM.

RAILROAD BED LOCATION BASED ON DATA SUPPLIED BY B.C. RAIL.

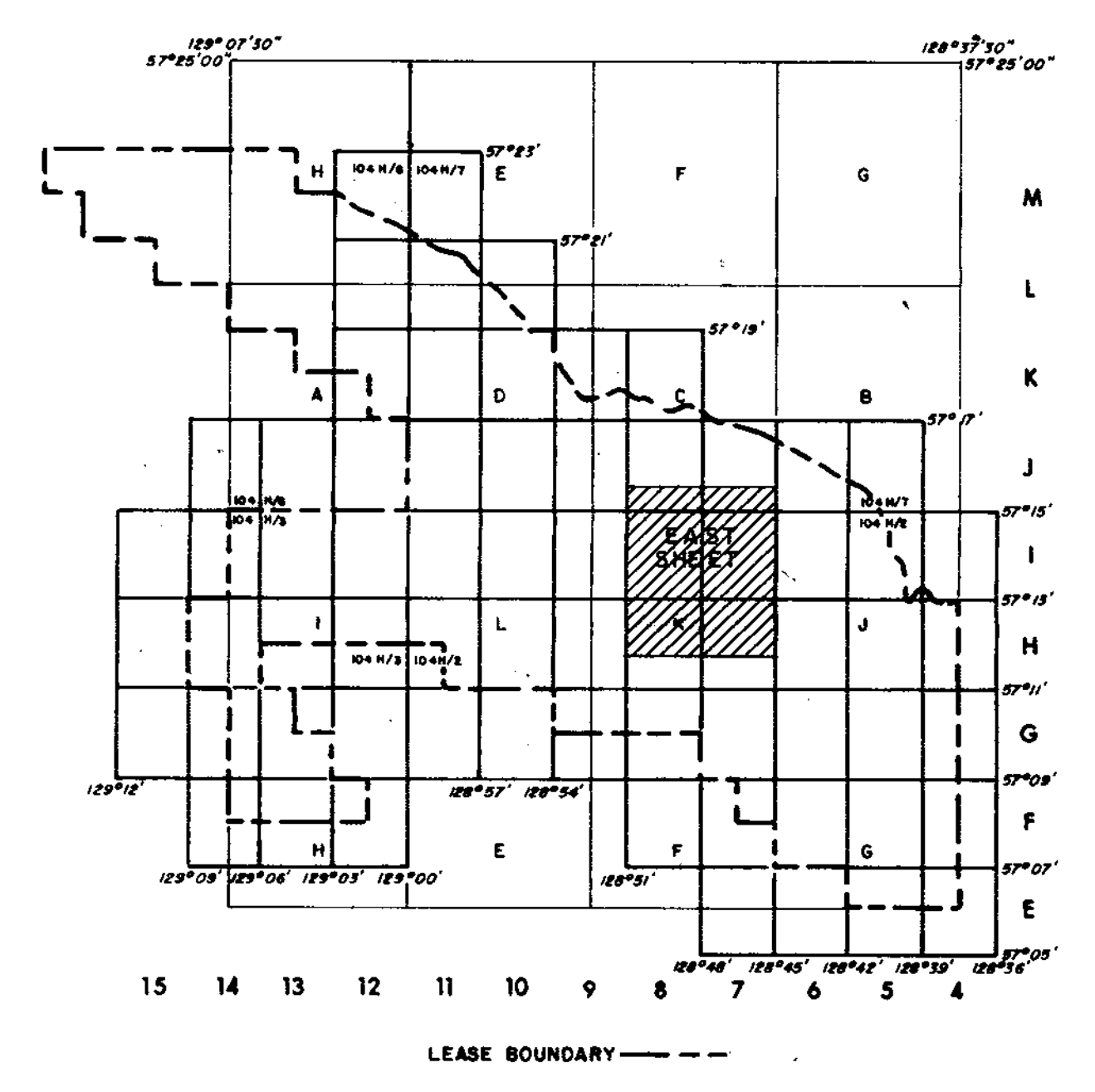
COMPILED BY WESTERN PHOTOGRAMMETRY, A DIVISION OF UNDERWOOD MCELLEAN LTD., FROM FEDERAL GOVERNMENT AERIAL PHOTOGRAPHY FLOWN IN AUGUST/67 AT A SCALE OF 1:60,000 (APPROXIMATE).



SCALE 1:10,000



MT. KLAPPAN AREA INDEX MAP



GA-Mount Klappan BSC(2)A **709**

GULF CANADA RESOURCES INC.
Coal Division

CALGARY ALBERTA

MOUNT KLAPPAN COAL PROPERTY
1984
LOST-FOX AREA
TRENCH LOCATION MAP
EAST SHEET

PREPARED BY: V.L.D. DRAWING No.
APPROVED BY: V.L.D. DATE: JAN, 1985 KPN84 LF-C04