

MOUNT KLAPPAN ANTHRACITE PROJECT

LOST - FOX AREA

GEOLOGICAL REPORT

1987

APPENDIX I

COAL TRENCH DATA  
MEASURED SECTIONS



GULF CANADA

RESOURCES LIMITED  
CORPORATION

740

**APPENDIX I**  
**LOST-FOX AREA**  
**COAL TRENCH DATA**

DATA SOURCE

SUMMARY

GULF CANADA CORPORATION - COAL DIVISION  
 26/APR/88 PROJECT DATA SOURCE SUMMARY PAGE 1

| DATA SOURCE   | LOCATION   |           | ELEVATION | LENGTH | ANGLE | AZIMUTH | LOG TYPE |
|---------------|------------|-----------|-----------|--------|-------|---------|----------|
|               | NORTHING   | EASTING   |           |        |       |         |          |
| KPNLRTRC87001 | 6343012.91 | 503789.81 | 1617.2    | 7.4    | 40.0  | 35.0    |          |
| KPNLRTRC87002 | 6343016.19 | 503977.66 | 1701.2    | 10.9   | 0.0   | 28.0    |          |
| KPNLRTRC87003 | 6342960.34 | 503955.23 | 1695.7    | 12.9   | 0.0   | 16.0    |          |
| KPNLRTRC87004 | 6342915.00 | 503878.00 | 1678.0    | 12.6   | 0.0   | 29.0    |          |
| KPNLRTRC87005 | 6342885.00 | 503942.00 | 1689.0    | 12.6   | 0.0   | 38.0    |          |
| KPNLRTRC87006 | 6342797.00 | 503874.00 | 1662.0    | 10.0   | 0.0   | 39.0    |          |
| KPNLRTRC87007 | 6342964.00 | 504029.00 | 1711.0    | 15.0   | 0.0   | 18.0    |          |
| KPNLRTRC87008 | 6343023.49 | 504032.60 | 1707.8    | 12.5   | 0.0   | 18.0    |          |
| KPNLRTRC87009 | 6343084.00 | 504374.00 | 1778.0    | 15.0   | 0.0   | 46.0    |          |
| KPNLRTRC87010 | 6343148.99 | 504440.63 | 1775.9    | 10.2   | 0.0   | 6.0     |          |
| KPNLRTRC87011 | 6343056.79 | 504442.23 | 1776.9    | 6.6    | 0.0   | 47.0    |          |
| KPNLRTRC87012 | 6343066.29 | 504394.01 | 1779.2    | 8.4    | 0.0   | 46.0    |          |
| KPNLRTRC87013 | 6343044.50 | 504418.04 | 1777.2    | 9.3    | 0.0   | 69.0    |          |
| KPNLRTRC87014 | 6343140.00 | 504464.00 | 1777.0    | 13.6   | 0.0   | 14.0    |          |
| KPNLRTRC87015 | 6342936.51 | 504323.09 | 1749.6    | 9.2    | 0.0   | 55.0    |          |
| KPNLRTRC87016 | 6342948.74 | 504267.73 | 1748.8    | 11.9   | 0.0   | 39.0    |          |

GULF CANADA CORPORATION - COAL DIVISION  
 26/APR/88 PROJECT DATA SOURCE SUMMARY PAGE 2

| DATA SOURCE   | LOCATION   |           | ELEVATION | LENGTH | ANGLE | AZIMUTH | LOG TYPE |
|---------------|------------|-----------|-----------|--------|-------|---------|----------|
|               | NORTHING   | EASTING   |           |        |       |         |          |
| KPNLRTRC87017 | 6342934.97 | 504231.47 | 1740.6    | 9.5    | 0.0   | 35.0    |          |
| KPNLRTRC87018 | 6342913.46 | 504429.26 | 1745.1    | 10.5   | 0.0   | 22.0    |          |
| KPNLRTRC87019 | 6342852.19 | 504404.12 | 1732.4    | 10.0   | 10.5  | 200.0   |          |
| KPNLRTRC87020 | 6342817.69 | 504412.41 | 1723.2    | 6.5    | 0.0   | 20.0    |          |
| KPNLRTRC87021 | 6342798.52 | 504382.68 | 1717.0    | 6.3    | 17.0  | 227.0   |          |
| KPNLRTRC87022 | 6342711.00 | 504227.00 | 1684.0    | 4.9    | 19.0  | 4.0     |          |
| KPNLRTRC87023 | 6343655.17 | 504717.45 | 1822.6    | 16.0   | 0.0   | 215.0   |          |
| KPNLRTRC87024 | 6343575.08 | 504746.44 | 1825.5    | 9.1    | 15.0  | 237.0   |          |
| KPNLRTRC87025 | 6343906.09 | 504537.06 | 1847.7    | 8.0    | 0.0   | 49.0    |          |
| KPNLRTRC87026 | 6343936.04 | 504458.73 | 1848.0    | 7.7    | 0.0   | 57.0    |          |
| KPNLRTRC87027 | 6343970.94 | 504772.66 | 1851.4    | 12.7   | 0.0   | 50.0    |          |
| KPNLRTRC87028 | 6343936.50 | 504934.55 | 1856.4    | 8.2    | 0.0   | 110.0   |          |
| KPNLRTRC87029 | 6343843.62 | 504985.47 | 1848.8    | 14.1   | 0.0   | 105.0   |          |
| KPNLRTRC87030 | 6343826.26 | 504690.97 | 1838.4    | 19.1   | 0.0   | 80.0    |          |
| KPNLRTRC87031 | 6343049.66 | 503923.37 | 1682.2    | 8.2    | 0.0   | 28.0    |          |
| KPNLRTRC87032 | 6342152.00 | 503880.82 | 1642.0    | 5.0    | 0.0   | 173.0   |          |

GULF CANADA CORPORATION - COAL DIVISION  
 26/APR/88 PROJECT DATA SOURCE SUMMARY PAGE 3

| DATA SOURCE   | LOCATION   |           | ELEVATION | LENGTH | ANGLE | AZIMUTH | LOG TYPE |
|---------------|------------|-----------|-----------|--------|-------|---------|----------|
|               | NORTHING   | EASTING   |           |        |       |         |          |
| KPNLRTRC87033 | 6342529.00 | 503795.00 | 1633.0    | 3.5    | 0.0   | 159.0   |          |
| KPNLRTRC87100 | 6343974.00 | 505536.00 | 1812.0    | 16.0   | 15.0  | 11.0    |          |
| KPNLRTRC87101 | 6343784.00 | 505656.00 | 1773.0    | 12.0   | 10.0  | 165.0   |          |
| KPNLRTRC87102 | 6343975.00 | 505683.00 | 1805.0    | 11.0   | 17.0  | 163.0   |          |
| KPNLRTRC87103 | 6343844.00 | 506058.00 | 1750.0    | 15.9   | 10.0  | 164.0   |          |
| KPNLRTRC87104 | 6343839.00 | 506130.00 | 1743.0    | 14.0   | 6.0   | 178.0   |          |
| KPNLRTRC87105 | 6343790.00 | 506180.00 | 1730.0    | 20.3   | 5.0   | 90.0    |          |
| KPNLRTRC87106 | 6343838.00 | 506198.00 | 1735.0    | 8.4    | 4.0   | 183.0   |          |
| KPNLRTRC87107 | 6343687.00 | 505783.00 | 1751.0    | 19.5   | 3.0   | 153.0   |          |
| KPNLRTRC87108 | 6343975.00 | 505790.00 | 1796.0    | 28.0   | 10.0  | 182.0   |          |
| KPNLRTRC87109 | 6343963.00 | 505253.00 | 1816.0    | 7.4    | 0.0   | 345.0   |          |
| KPNLRTRC87110 | 6343840.00 | 505212.00 | 1811.0    |        |       |         |          |
| KPNLRTRC87111 | 6343746.00 | 505329.00 | 1790.0    | 16.5   | 0.0   | 215.0   |          |
| KPNLRTRC87112 | 6343652.00 | 505569.00 | 1762.0    | 11.2   | 5.0   | 126.0   |          |
| KPNLRTRC87113 | 6343707.00 | 505833.00 | 1751.0    | 22.0   | 3.0   | 130.0   |          |
| KPNLRTRC87114 | 6343655.00 | 505704.00 | 1756.0    | 10.0   | 0.0   | 140.0   |          |

GULF CANADA CORPORATION - COAL DIVISION  
 26/APR/88 PROJECT DATA SOURCE SUMMARY PAGE 4

| DATA<br>SOURCE | LOCATION   |           | ELEVATION | LENGTH | ANGLE | AZIMUTH | LOG TYPE |
|----------------|------------|-----------|-----------|--------|-------|---------|----------|
|                | NORTHING   | EASTING   |           |        |       |         |          |
| KPNLRTRC87115  | 6343535.00 | 505923.00 | 1720.0    | 25.0   | 0.0   | 140.0   |          |
| KPNLRTRC87116  | 6343692.00 | 505942.00 | 1739.0    | 10.3   | 0.0   | 90.0    |          |
| KPNLRTRC87117  | 6343755.00 | 505960.00 | 1744.0    | 32.0   | 0.0   | 30.0    |          |
| KPNLRTRC87118  | 6343563.00 | 506192.00 | 1710.0    | 12.0   | 0.0   | 35.0    |          |
| KPNLRTRC87119  | 6343420.00 | 506214.00 | 1698.0    | 4.0    | 0.0   | 330.0   |          |
| KPNLRTRC87120  | 6343364.00 | 505881.00 | 1702.0    | 8.0    | 0.0   | 148.0   |          |
| KPNLRTRC87121  | 6343194.00 | 506171.00 | 1672.0    | 22.0   | 5.0   | 140.0   |          |
| KPNLRTRC87122  | 6343182.00 | 506195.00 | 1670.0    | 19.0   | 0.0   | 170.0   |          |
| KPNLRTRC87123  | 6343845.00 | 505977.00 | 1756.5    | 15.0   | 0.0   | 0.0     |          |
| KPNLRTRC87124  | 6343806.00 | 505782.00 | 1766.4    | 17.0   | 0.0   | 180.0   |          |

KPNLRTRC87001



===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87001

DATE - 01/12/88

- HISTORY -

START DATE - 07/24/87

END DATE - 07/25/87

CONTRACTOR -

GEOLOGIST - WILLIS

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - OVTND H SEAM. C\C+R=1.75/2.05, BOTTOM OF SEAM NOT REACHED, VERY WEATHERED, SAMP #10301, 10302.

- LOCATION -

PROVINCE - BC

ELEVATION - 1617.19

ZONE - 9

NORTHING - 6343012.91

EASTING - 503789.81

LICENCE/LEASE NUMBER -

LATITUDE - 571356

LONGITUDE - 1285614

- ORIENTATION -

LENGTH - 7.40

INCLINATION - 40.0

AZIMUTH - 35.0

SIZE WIDTH - 1.1

SIZE HEIGHT - 4.1

ROOF STRIKE - 113

ROOF DIP - 75

ROOF DIR - S

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

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# GULF CANADA CORPORATION

## COAL DIVISION MOUNT KLAPPAN PROJECT

SEAM DETAIL

TRUE THICKNESS

DATA SOURCE: KPN LR TRC87001 SEAM : H INTERVAL(M) : 0.00 - 2.05 ELEVATION(M) : 1617.2  
 GEOLOGIST : WILLIS SCALE: 1:40 DATE : JAN 14/88 DRAWING NO. :

| SEAM<br>COMP. | DRILL<br>DEPTH<br>METRES | COAL<br>SEAM<br>LOG | INTERVAL<br>METRES |      | %<br>REC. | SAMPLE ID |       | COAL/ROCK<br>TOTAL  |                   | COAL QUALITY A.D.B. |     |    |    |    |                   |  |
|---------------|--------------------------|---------------------|--------------------|------|-----------|-----------|-------|---------------------|-------------------|---------------------|-----|----|----|----|-------------------|--|
|               |                          |                     | ROCK               | COAL |           | SIMP      | COMP  | COMPOS              | MINING<br>SECTION | RES<br>MOIST        | ASH | VM | FC | TS | CAL. VAL<br>MJ/KG |  |
| 1 2 3 4 5 6   | 0.00                     | ↑                   | 0.02               | 0.12 |           |           |       |                     |                   |                     |     |    |    |    |                   |  |
|               |                          |                     |                    | 0.59 |           |           | ↑     |                     |                   |                     |     |    |    |    |                   |  |
|               |                          |                     |                    | 0.50 | 100.0     | 99999     | 99999 | 1.78 / 0.30<br>2.05 |                   |                     |     |    |    |    |                   |  |
|               |                          | ↓                   | 0.20               |      |           |           | ↓     |                     |                   |                     |     |    |    |    |                   |  |
|               | 2.05                     |                     |                    | 0.44 |           |           |       |                     |                   |                     |     |    |    |    |                   |  |

KPNLRTRC87002

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87002

DATE - 01/12/88

- HISTORY -

START DATE - 08/06/87

END DATE - 08/11/87

CONTRACTOR -

GEOLOGIST - BARKER

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - FROZEN COAL, LOGGED 5 DAYS AFTER DUG TO ALLOW FOR THAWING, OVTN I SEAM C/C+R=4.03/4.05. SAME SEAM AS TRC84251 AND TRC87031.

- LOCATION -

PROVINCE - BC

ELEVATION - 1701.21

ZONE - 9

NORTHING - 6343016.19

EASTING - 503977.66

LICENCE/LEASE NUMBER -

LATITUDE - 571356

LONGITUDE - 1285603

- ORIENTATION -

LENGTH - 10.90

INCLINATION - 0.0

AZIMUTH - 28.0

SIZE WIDTH - 1.1

SIZE HEIGHT - 2.4

ROOF STRIKE - 138

ROOF DIP - 42

ROOF DIR - E

FLOOR STRIKE - 128

FLOOR DIP - 88

FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

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**KPNLRTRC87003**

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87003

DATE - 01/12/88

- HISTORY -

START DATE - 08/06/87

END DATE - 08/11/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - TRC ALLOWED TO THAW, ROOF MISSING, BDG CONTORTED R  
OOF STRIKE ESTIMATED, H SEAM, C/C+R=1.35/1.63 M.

- LOCATION -

PROVINCE - BC

ELEVATION - 1695.72

ZONE - 9

NORTHING - 6342960.34

EASTING - 503955.23

LICENCE/LEASE NUMBER -

LATITUDE - 571354

LONGITUDE - 1285604

- ORIENTATION -

LENGTH - 12.90

INCLINATION - 0.0

AZIMUTH - 16.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 1.5

ROOF STRIKE - 115

ROOF DIP - 67

ROOF DIR - N

FLOOR STRIKE - 115

FLOOR DIP - 54

FLOOR DIR - S

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

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PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87003

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA ID | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------|----------|---------|-----------|---|
|     | 0.00       | 0.40     | 0.40           | *90    |          |         | MUDSTONE  | UNCONSOLIDATED MUD. DARK GREY/BROWN. FE<br>R STAINED BANDS. OVERBURDEN?             |
|     | 0.40       | 0.45     | 0.05           | *90    |          | H       | COAL      | C-4<br>WEATHERED, UNCONSOLIDATED.   |
|     | 0.45       | 0.64     | 0.19           | *90    |          | H       | COAL      | C-3<br>C-3 WITH C-2 BANDS. UNCONSOLIDATED. SOM<br>E FAIRLY LARGE CHUNKS. WEATHERED. |
|     | 0.64       | 0.72     | 0.08           | *90    | 05969    | H       | CLAYSTONE | LT.GY<br>CLAY. LIGHT WHITE-ISH GREY. SOFT AND ST<br>ICKY. SAMPLED.                  |
|     | 0.72       | 0.77     | 0.05           | *90    |          | H       | COAL      | C-3<br>UNCONSOLIDATED. WEATHERED.   |
|     | 0.77       | 0.83     | 0.06           | *90    |          | H       | MUDSTONE  | DK.GY<br>DARK GREY CLAY WITH BITS OF C-2 COAL. M<br>EATHERED, UNCONSOLIDATED.       |
|     | 0.83       | 1.23     | 0.40           | *90    |          | H       | COAL      | C-1<br>C-1 TO C-2 BANDED.   |
|     | 1.23       | 1.66     | 0.43           | *90    |          | H       | COAL      | C-1<br>BANDED, GOOD CLEATING, WEATHERED.  |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87003

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA ID | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------|----------|---------|-----------|---|
|     | 1.66       | 1.87     | 0.21           | *90    |          | H       | COAL      | C-1<br>C-1 TO C-2. SOME FER STAINED BANDS. WEA<br>THERED, UNCONSOLIDATED. |
|     | 1.87       | 1.88     | 0.01           | *90    |          | H       | MUDSTONE  | GY<br>WEATHERED, POORLY CONSOLIDATED, GREENIS<br>H.GREY.                  |
|     | 1.88       | 1.99     | 0.11           | *90    |          | H       | MUDSTONE  | DK.GY<br>SOFT, POORLY CONSOLIDATED.                                       |
|     | 1.99       | 2.01     | 0.02           | *90    |          | H       | MUDSTONE  | CARB.DK.GY<br>CONTAINS A 4MM WIDE QTZ VEIN.                               |
|     | 2.01       | 2.03     | 0.02           | *90    |          | H       | COAL      | C-2. ORNG<br>WEATHERED.   |
|     | 2.03       | 2.10     | 0.07           | *90    |          |         | MUDSTONE  | DK.GY<br>POORLY CONSOLIDATED.   |
|     | 2.10       | 2.18     | 0.08           | *90    |          |         | MUDSTONE  | LT-M.GY<br>WEATHERED. UNCONSOLIDATED.                                     |
|     | 2.18       | 2.28     | 0.10           | *90    |          |         | MUDSTONE  | M-DK.GY<br>UNCONSOLIDATED MUDST WITH SOME C-3 COAL<br>PIECES. WEATHERED.  |

\* DENOTES MEASURED BCA

KPNLRTRC87004

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC87004

DATE - 03/07/88

- HISTORY -

START DATE - 08/07/87  
END DATE - 08/07/87

CONTRACTOR -  
GEOLOGIST - LEE

OPERATOR - G.C.R.  
SURVEYOR -

REMARKS - G SEAM. WEATHERED. UNCONSOLIDATED COAL. BEDDING IS  
CONTORTED SO TRUE THICKNESS UNOBTAINABLE. NO FORM  
AL LOG. SAME SEAM AS TRC84254, TRC87005, AND TRC87  
006.

- LOCATION -

PROVINCE - BC  
ELEVATION - 1678.00

ZONE - 9  
NORTHING - 6342915.00  
EASTING - 503878.00

LICENCE/LEASE NUMBER -

LATITUDE - 571352  
LONGITUDE - 1285609

- ORIENTATION -

LENGTH - 12.60  
SIZE WIDTH - 1.0  
SIZE HEIGHT - 2.5

INCLINATION - 0.0  
AZIMUTH - 29.0

ROOF STRIKE - 0  
ROOF DIP - 0  
ROOF DIR -

FLOOR STRIKE - 89  
FLOOR DIP - 85  
FLOOR DIR - S

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE



KPNLRTRC87005

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87005

DATE - 03/07/88

- HISTORY -

START DATE - 08/07/87

END DATE - 08/07/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - G SEAM. WEATHERED. APPROX 2.6 M OF COAL. NO FORMAL  
LOG. SAME SEAM AS TRC87004 AND TRC87006.

- LOCATION -

PROVINCE - BC

ELEVATION - 1689.00

ZONE - 9

NORTHING - 6342885.00

EASTING - 503942.00

LICENCE/LEASE NUMBER -

LATITUDE - 571351

LONGITUDE - 1285605

- ORIENTATION -

LENGTH - 12.60

INCLINATION - 0.0

AZIMUTH - 38.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 2.8

ROOF STRIKE - 127

ROOF DIP - 75

ROOF DIR - N

FLOOR STRIKE - 135

FLOOR DIP - 48

FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

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KPNLRTRC87006

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87006

DATE - 03/07/88

- HISTORY -

START DATE - 08/07/87  
END DATE - 08/07/87

CONTRACTOR -  
GEOLOGIST - LEE

OPERATOR - G.C.R.  
SURVEYOR -

REMARKS - G SEAM. COMPLEX STRUCTURE, NOT TRUE THICKNESS. NO  
ROOF. NO FORMAL LOG. SAME SEAM AS TRC84252, TRC870  
04, AND TRC87005.

- LOCATION -

PROVINCE - BC  
ELEVATION - 1662.00

ZONE - 9  
NORTHING - 6342797.00  
EASTING - 503874.00

LICENCE/LEASE NUMBER -

LATITUDE - 571349  
LONGITUDE - 1285609

- ORIENTATION -

LENGTH - 10.00  
SIZE WIDTH - 1.1  
SIZE HEIGHT - 2.5

INCLINATION - 0.0  
AZIMUTH - 39.0

ROOF STRIKE - 0  
ROOF DIP - 0  
ROOF DIR -

FLOOR STRIKE - 115  
FLOOR DIP - 10  
FLOOR DIR - S

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

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KPNLRTRC87007



===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC87007

DATE - 12/04/87

- HISTORY -

START DATE - 07/08/87

END DATE - 07/08/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - J SEAM OVERTURNED, COASTERS IN ROOF, DEFORMED BDG,  
PREDOMINANTLY C-4 COAL, UNCONSOLIDATED, NO FORMAL  
LOG.

- LOCATION -

PROVINCE - BC

ELEVATION - 1711.00

ZONE - 9

NORTHING - 6342964.00

EASTING - 504029.00

LICENCE/LEASE NUMBER -

LATITUDE - 571354

LONGITUDE - 1285600

- ORIENTATION -

LENGTH - 15.00

INCLINATION - 0.0

AZIMUTH - 18.0

SIZE WIDTH - 0.9

SIZE HEIGHT - 2.2

ROOF STRIKE - 130

ROOF DIP - 34

ROOF DIR - S

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

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KPNLRTRC87008

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87008

DATE - 03/04/88

- HISTORY -

START DATE - 08/07/87

END DATE - 08/07/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - J SEAM OVERTURNED WEATHERED C/C+R=:2.54/3.77.

- LOCATION -

PROVINCE - BC

ELEVATION - 1707.77

ZONE - 9

NORTHING - 6343023.49

EASTING - 504032.60

LICENCE/LEASE NUMBER -

LATITUDE - 571356

LONGITUDE - 1285600

- ORIENTATION -

LENGTH - 12.50

INCLINATION - 0.0

AZIMUTH - 18.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 2.6

ROOF STRIKE - 115

ROOF DIP - 59

ROOF DIR - N

FLOOR STRIKE - 73

FLOOR DIP - 34

FLOOR DIR - S

\*\*\* NOTE \*\*\* O INDICATES NO VALUE

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# GULF CANADA CORPORATION

SEAM DETAIL

COAL DIVISION  
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC87008 SEAM : J INTERVAL(M) : 6.02 - 9.79 ELEVATION(M) : 1707.8  
 GEOLOGIST : LEE SCALE: 1:40 DATE : JAN 14/88 DRAWING NO. :

| SEAM COMP.<br>1 2 3 4 5 6 | DRILL DEPTH<br>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 |  |  |  |
|                           | 6.02                  | ↑             |                 |      |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | BBBBBBB       |                 | 0.46 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | BBBBBBB       |                 | 0.35 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | ----          |                 | 0.16 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | ----          |                 | 0.29 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | ----          |                 | 0.08 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | ----          |                 | 0.41 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | BBBBBBB       |                 | 0.64 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | ----          |                 | 0.17 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | BBBBBBB       |                 | 0.51 | 100.0  | 99999     | 99999 | 2.54 / 1.23 | 3.77            |           |                     |    |    |    |                |  |  |  |
|                           |                       | BBBBBBB       |                 | 0.10 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | BBBBBBB       |                 | 0.09 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | ----          |                 | 0.31 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | ----          |                 | 0.20 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | BBBBBBB       |                 | 0.08 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | ----          |                 | 0.07 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | BBBBBBB       |                 | 0.38 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           | 9.79                  | ↓             |                 |      |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |
|                           |                       | BBBBBBB       |                 | 0.10 |        |           |       |             |                 |           |                     |    |    |    |                |  |  |  |

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87008

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|-----------|--|
|     | 0.00       | 5.87     | 5.87           | *90          |         | SILTSTONE | BN, LAM RHYTHMITES, COASTER ZONE.                    |
|     | 5.87       | 6.02     | 0.15           | *90          |         | BENTONITE | BN UNCONSOLIDATED CLAY, BENTONITIC.                  |
|     | 6.02       | 6.48     | 0.46           | *90          | J       | COAL      | C-3 UNCONSOLIDATED.                                  |
|     | 6.48       | 6.55     | 0.07           | *90          | J       | BENTONITE | LT, GY UNCONSOLIDATED CLAY, BENTONITIC; FE STAINING. |
|     | 6.55       | 6.90     | 0.35           | *90          | J       | COAL      | C-3 UNCONSOLIDATED.                                  |
|     | 6.90       | 7.06     | 0.16           | *90          | J       | MUDSTONE  | BN UNCONSOLIDATED.                                   |
|     | 7.06       | 7.35     | 0.29           | *90          | J       | COAL      | C-6 UNCONSOLIDATED.                                  |
|     | 7.35       | 7.41     | 0.06           | *90          | J       | MUDSTONE  | BN POORLY CONSOLIDATED.                              |
|     | 7.41       | 7.47     | 0.06           | *90          | J       | COAL      | C-6  |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87008

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION                             |
|-----|------------|----------|----------------|--------------|---------|-----------|---|
|     | 7.47       | 7.48     | 0.01           | *90          | J       | MUDSTONE  | BN POORLY CONSOLIDATED.                 |
|     | 7.48       | 7.56     | 0.08           | *90          | J       | COAL      | C-6 UNCONSOLIDATED.                     |
|     | 7.56       | 7.62     | 0.06           | *90          | J       | BENTONITE | LT, GY UNCONSOLIDATED CLAY, BENTONITIC. |
|     | 7.62       | 7.70     | 0.08           | *90          | J       | MUDSTONE  | ORNG WELL CONSOLIDATED.                 |
|     | 7.70       | 7.79     | 0.09           | *90          | J       | MUDSTONE  | DK, GY WELL CONSOLIDATED.               |
|     | 7.79       | 8.30     | 0.51           | *90          | J       | COAL      | C-6 UNCONSOLIDATED.                     |
|     | 8.30       | 8.40     | 0.10           | *90          | J       | BENTONITE | LT, GY UNCONSOLIDATED CLAY, BENTONITIC. |
|     | 8.40       | 8.46     | 0.06           | *90          | J       | COAL      | C-6 UNCONSOLIDATED.                     |
|     | 8.46       | 8.55     | 0.09           | *90          | J       | BENTONITE | LT, GY UNCONSOLIDATED CLAY, BENTONITIC. |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87008

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA ID | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------|----------|---------|-----------|---|
|     | 8.55       | 8.67     | 0.12           | *90    |          | J       | MUDSTONE  | M.GY<br>POORLY CONSOLIDATED; QUARTZ VEINS UP TO 0.5 CM THICK. |
|     | 8.67       | 8.74     | 0.07           | *90    |          | J       | MUDSTONE  | LT. DRNG<br>FAIRLY CONSOLIDATED.                              |
|     | 8.74       | 8.86     | 0.12           | *90    |          | J       | MUDSTONE  | M.GY<br>POORLY CONSOLIDATED.                                  |
|     | 8.86       | 9.06     | 0.20           | *90    |          | J       | COAL      | C-5<br>UNCONSOLIDATED.  |
|     | 9.06       | 9.14     | 0.08           | *90    |          | J       | BENTONITE | LT.GY<br>UNCONSOLIDATED CLAY, BENTONITIC; STICKY              |
|     | 9.14       | 9.23     | 0.09           | *90    |          | J       | COAL      | C-5<br>UNCONSOLIDATED.  |
|     | 9.23       | 9.25     | 0.02           | *90    |          | J       | MUDSTONE  | DRNG<br>POORLY CONSOLIDATED; VERY FE STAINED.                 |
|     | 9.25       | 9.47     | 0.22           | *90    |          | J       | COAL      | C-4<br>UNCONSOLIDATED.  |
|     | 9.47       | 9.63     | 0.16           | *90    |          | J       | COAL      | C-3<br>UNCONSOLIDATED; OCCASIONAL FE BANDS.                   |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87008

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA ID | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------|----------|---------|-----------|---|
|     | 9.63       | 9.73     | 0.10           | *90    |          | J       | BENTONITE | LT.BN<br>UNCONSOLIDATED CLAY, BENTONITIC; LARGE QUARTZ VEINS; FE STAINED BANDS. |
|     | 9.73       | 9.79     | 0.06           | *90    |          | J       | COAL      | C-5<br>POORLY CONSOLIDATED.   |
|     | 9.79       | 9.86     | 0.07           | *90    |          | J       | MUDSTONE  | GY<br>POORLY CONSOLIDATED.  |
|     | 9.86       | 12.16    | 2.30           | *90    |          | J       | SILTSTONE | M.BN.THNB<br>OCCASIONAL MUDST LAMINAE; ABUNDANT FE STAINING.                    |

\* DENOTES MEASURED BCA

NEWPAGE

KPNLRTRC87009

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPMLRTRC87009

DATE - 01/12/88

- HISTORY -

START DATE - 08/10/87  
END DATE - 08/10/87

CONTRACTOR -  
GEOLOGIST - LEE

OPERATOR - G.C.R.  
SURVEYOR -

REMARKS - N SEAM? ALONG STRIKE FROM TRC84248. FROZEN AND WEATHERED. 0.53 M OF COAL.

- LOCATION -

PROVINCE - BC  
ELEVATION - 1778.00

ZONE - 9  
NORTHING - 6343084.00  
EASTING - 504374.00

LICENCE/LEASE NUMBER -

LATITUDE - 571358  
LONGITUDE - 1285539

- ORIENTATION -

LENGTH - 15.00  
SIZE WIDTH - 0.9  
SIZE HEIGHT - 1.6

INCLINATION - 0.0  
AZIMUTH - 46.0

ROOF STRIKE - 130  
ROOF DIP - 73  
ROOF DIR - N

FLOOR STRIKE - 0  
FLOOR DIP - 0  
FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====





PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87009

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA ID | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------|----------|---------|-----------|--|
|     | 0.00       | 1.00     | 1.00           | *90    |          |         | SILTSTONE | BN<br>ROOF POORLY CONSOLIDATED. THIN IRON STAINED BANDS WITH MUCH ICE FILLING CRACKS WEATHERED.  |
|     | 1.00       | 1.19     | 0.19           | *90    |          |         | SILTSTONE | SSY.M.BN<br>ROOF OCC. COALY STRINGERS. FROZEN.   |
|     | 1.19       | 1.72     | 0.53           | *90    | N        |         | COAL      | C-3<br>SOME C-1 PIECES. FROZEN. UNCONSOLIDATED   |
|     | 1.72       | 2.41     | 0.69           | *90    |          |         | MUDSTONE  | CARB<br>CONTAINS MANY C-2 AND C-3 BANDS. FROZEN UNCONSOLIDATED.  |
|     | 2.41       | 3.18     | 0.77           | *90    |          |         | MUDSTONE  | CARB.BLK<br>FROZEN. UNCONSOLIDATED, DIFFICULT TO TELL MAJOR LITHOLOGY/COAL GRADES. MANY BRIGHT 1 CM WIDE BANDS. NUMEROUS ORANGE 3 MM WIDE LIMONITE (?) FILLED VEINS. |
|     | 3.18       | 3.98     | 0.80           | *90    |          |         | SILTSTONE | H-DK.GY<br>ICE BRECCIA!! HIGHLY FRACTURED WITH MUCH ICE IN CRACKS. MOSTLY VERY WEATHERED. H-LT ORANGE/BROWN IN COLOUR.   |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87010

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87010

DATE - 03/04/88

- HISTORY -

START DATE - 08/10/87  
END DATE - 08/10/87

CONTRACTOR -  
GEOLOGIST - BARKER

OPERATOR - G.C.R.  
SURVEYOR - TRONNES

REMARKS - O SEAM? WTHRD. C/C+R=1.76/2.07, OVTN. SAME SEAM AS  
TRC84246.

- LOCATION -

PROVINCE - BC  
ELEVATION - 1775.91

ZONE - 9  
NORTHING - 6343148.99  
EASTING - 504440.63

LICENCE/LEASE NUMBER -

LATITUDE - 571400  
LONGITUDE - 1285535

- ORIENTATION -

LENGTH - 10.20  
SIZE WIDTH - 0.9  
SIZE HEIGHT - 2.2

INCLINATION - 0.0  
AZIMUTH - 6.0

ROOF STRIKE - 104  
ROOF DIP - 63  
ROOF DIR - S

FLOOR STRIKE - 121  
FLOOR DIP - 72  
FLOOR DIR - S

\*\*\* NOTE \*\*\* O INDICATES NO VALUE

=====



88/03/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87010

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----|----------|---------|-----------|--|
|     | 0.00       | 0.70     | 0.70           | *90 |          |         | MUDSTONE  | M. BN<br>ROOF V. WEATHERED, V. FRACTURED.                          |
|     | 0.70       | 1.24     | 0.54           | *90 |          | 0       | COAL      | C-3<br>POORLY CONSOLIDATED, WEATHERED, CRUMBLY                     |
|     | 1.24       | 1.32     | 0.08           | *90 |          | 0       | CLAYSTONE | LT. GY<br>CLAY, FRACTURE FILL, POORLY CONSOLIDATE<br>D. WEATHERED. |
|     | 1.32       | 1.50     | 0.18           | *90 |          | 0       | COAL      | C-3<br>POORLY CONSOLIDATED, WEATHERED, WITH MU<br>DDY STRINGERS.   |
|     | 1.50       | 1.55     | 0.05           | *90 |          | 0       | MUDSTONE  | DK. GY<br>WEATHERED, PLANT FRAGMENTS.                              |
|     | 1.55       | 1.73     | 0.18           | *90 | 05973    | 0       | BENTONITE | WH<br>WEATHERED LT BROWN.  |
|     | 1.73       | 2.63     | 0.90           | *90 |          | 0       | COAL      | C-2<br>C-2 TO C-3, WEATHERED, POORLY CONSOLIDA<br>TED.             |
|     | 2.63       | 2.77     | 0.14           | *90 |          | 0       | COAL      | C-4<br>C-4 TO C-5, WEATHERED, POORLY CONSOLIDA<br>TED.             |

\* DENOTES MEASURED BCA

88/03/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87010

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 2.77       | 3.34     | 0.57           | *90 |          |         | SILTSTONE | ORNG<br>FLOOR, V. WEATHERED ORANGE AND MD. BROW<br>N, PLANT HASH, NILSSONIA CANADENSIS. |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87011

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87011

DATE - 01/12/88

- HISTORY -

START DATE - 08/10/87

END DATE - 08/10/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - SAME SEAM AS TRC87010/TRC84246 BECAUSE OF A SIZE-  
ABLE BENT? CLAY BAND NEAR FLOOR. C/C+R=0.97/1.52.  
O SEAM?

- LOCATION -

PROVINCE - BC

ELEVATION - 1776.88

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343056.79

EASTING - 504442.23

LATITUDE - 571357

LONGITUDE - 1285535

- ORIENTATION -

LENGTH - 6.60

INCLINATION - 0.0

AZIMUTH - 47.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 1.9

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

FLOOR STRIKE - 120

FLOOR DIP - 70

FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====





PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87011

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY  | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|------------|---|
|     | 0.00       | 0.68     | 0.68           | *90 |          |         | OVERBURDEN | DK.GY<br>ROOF. UNCONSOLIDATED MUD. OVERBURDEN? EXTREMELY WEATHERED. FROZEN. NO BEDDING MEASUREMENT AVAILABLE. |
|     | 0.68       | 0.91     | 0.23           | *90 |          | 0       | COAL       | C-4<br>C-4 TO C-5 WITH SOME MUD BANDS AND SOME C-3 CHUNKS. FROZEN AND CRUMBLED INTO PIECES.                   |
|     | 0.91       | 1.03     | 0.12           | *90 |          | 0       | COAL       | C-4<br>C-4 TO C-5 UNCONSOLIDATED. MUCH FERRUGINOUS STAINING.  |
|     | 1.03       | 1.16     | 0.13           | *90 |          | 0       | MUDSTONE   | CARB.DK.GY<br>FAIR CONSOLIDATION. VERY MINOR COALY LAMINAE. POLISHED PIECES...SHEARED?                        |
|     | 1.16       | 1.51     | 0.35           | *90 | 05974    | 0       | BENTONITE  | WH<br>CLAY BAND. STICKY. SOFT BENTONITIC? WHITEISH GREY, WEATHERING TO LIGHT YELLOW. CLAY SAMPLE #05974.      |
|     | 1.51       | 1.58     | 0.07           | *90 |          | 0       | MUDSTONE   | CARB.DK.GY  |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87011

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 1.58       | 2.12     | 0.54           | *90 |          | 0       | COAL      | C-2<br>C-2 AND C-3 COAL. UNCONSOLIDATED PIECES - CRUMBLED UP.   |
|     | 2.12       | 2.15     | 0.03           | *90 |          | 0       | COAL      | C-1<br>WELL CLEATED SURFACES; MINOR FER STAINING.   |
|     | 2.15       | 2.20     | 0.05           | *90 |          | 0       | COAL      | C-4<br>UNCONSOLIDATED; HIGHLY WEATHERED.  |
|     | 2.20       | 4.10     | 1.90           | *90 |          |         | SILTSTONE | SSY<br>FLOOR: SSSY SLTST WITH MUDST BANDS. PLANET FRAGS. WEATHERS MED GY/BN. OCCASIONAL FER STAINED MODULES. HIGHLY FRACTURED AND Y. WEATHERED. |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87012

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87012

DATE - 01/12/88

- HISTORY -

START DATE - 08/10/87  
END DATE - 08/10/87

CONTRACTOR -  
GEOLOGIST - BARKER

OPERATOR - G.C.R.  
SURVEYOR - TRONNES

REMARKS - N SEAM? FROZEN AND WEATHERED, C/C+R=1.69/1.84. ALONG STRIKE FROM TRC84248 AND TRC87009.

- LOCATION -

PROVINCE - BC  
ELEVATION - 1779.21

ZONE - 9  
NORTHING - 6343066.29  
EASTING - 504394.01

LICENCE/LEASE NUMBER -

LATITUDE - 571357  
LONGITUDE - 1285538

- ORIENTATION -

LENGTH - 8.40  
SIZE WIDTH - 0.8  
SIZE HEIGHT - 1.3

INCLINATION - 0.0  
AZIMUTH - 46.0

ROOF STRIKE - 143  
ROOF DIP - 49  
ROOF DIR - E

FLOOR STRIKE - 125  
FLOOR DIP - 47  
FLOOR DIR - N

\*\*\* NOTE \*\*\* O INDICATES NO VALUE





PROJECT: KPN BLOCK: LR DATA SOURCE: YRC87012

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 0.00       | 1.00     | 1.00           | *90 |          |         | MUDSTONE  | SLTY. LT-M. BN<br>ROOF, V. WEATHERED, FE STAINED, FINELY<br>LAMINATED, MUSHED UP CHUNKS OVERBURDEN? |
|     | 1.00       | 1.70     | 0.70           | *90 |          |         | MUDSTONE  | CARB. DK. GY<br>POORLY CONSOLIDATED, HOMOGENOUS, LIKE P<br>LASTICENE.                               |
|     | 1.70       | 2.31     | 0.61           | *90 |          | N       | COAL      | C-3<br>WEATHERED, POORLY CONSOLIDATED, FROZEN,<br>ICE CHUNKS, SOME BRIGHT COAL BANDS.               |
|     | 2.31       | 2.46     | 0.15           | *90 |          | N       | MUDSTONE  | M. BN<br>POORLY CONSOLIDATED, WEATHERED, FE STAI<br>NED.  |
|     | 2.46       | 3.01     | 0.55           | *90 |          | N       | COAL      | C-4<br>FROZEN, POORLY CONSOLIDATED, MUDST BAND<br>S.  |
|     | 3.01       | 3.24     | 0.23           | *90 |          | N       | COAL      | C-1<br>C-1 TO C-2 FROZEN, GOOD CLEATING.  |
|     | 3.24       | 3.54     | 0.30           | *90 |          | N       | COAL      | C-2<br>SOME C-3 BANDS, NUMEROUS FE STAINED VEI<br>NS (1-3 CM THICK), FROZEN, WEATHERED.             |
|     | 3.54       | 4.01     | 0.47           | *90 |          |         | MUDSTONE  | CARB<br>POORLY CONSOLIDATED, V. WEATHERED.  |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: YRC87012

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 4.01       | 4.29     | 0.28           | *90 |          |         | SANDSTONE | FG. M. GY<br>SAND, WEATHERED, POORLY CONSOLIDATED, S<br>ILTY. |
|     | 4.29       | 4.40     | 0.11           | *90 |          |         | SILTSTONE | M. BN<br>FLOOR, ABUNDANT PLANT FRAGMENTS.                     |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87013

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87013

DATE - 01/12/88

- HISTORY -

START DATE - 08/10/87

END DATE - 08/10/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - N SEAM? FROZEN. C/C+R=1.75/1.75. SAME SEAM AS TRC8  
4248.

- LOCATION -

PROVINCE - BC

ELEVATION - 1777.20

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343044.50

EASTING - 504418.04

LATITUDE - 571357

LONGITUDE - 1285537

- ORIENTATION -

LENGTH - 9.30

SIZE WIDTH - 0.8

SIZE HEIGHT - 1.7

INCLINATION - 0.0

AZIMUTH - 69.0

ROOF STRIKE - 125

ROOF DIP - 79

ROOF DIR - N

FLOOR STRIKE - 117

FLOOR DIP - 71

FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====





PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87013

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 0.00       | 1.70     | 1.70           | *90 |          |         | SILTSTONE | THNB<br>ROOF, WITH MUDST LAMINAE, WEATHERS YELL<br>OW - BROWN, FROZEN, NUMEROUS PIECES OF<br>ICE.   |
|     | 1.70       | 1.90     | 0.20           | *90 |          |         | MUDSTONE  | M.BN<br>UNCONSOLIDATED, FROZEN.   |
|     | 1.90       | 2.30     | 0.40           | *90 |          |         | MUDSTONE  | CARB<br>SOME C-3 PIECES, FROZEN.  |
|     | 2.30       | 2.60     | 0.30           | *90 |          | N       | COAL      | C-2<br>C-1 AND C-2 PIECES, OCC. MUDST BLEBS, F<br>ROZEN.  |
|     | 2.60       | 3.90     | 1.30           | *90 |          | N       | COAL      | C-3<br>FROZEN.  |
|     | 3.90       | 4.05     | 0.15           | *90 |          | N       | COAL      | C-1<br>C-1 AND C-2 BANDS, FROZEN, GOOD CLEAT.   |
|     | 4.05       | 5.15     | 1.10           | *90 |          |         | MUDSTONE  | DK.GY<br>FLOOR, FE STAINED BANDS (1 CM THICK) NE<br>AR TOP, HIGHLY FRACTURED, MINOR PLANT H<br>ASH. |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87014

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87014

DATE - 01/12/88

- HISTORY -

START DATE - 08/11/87  
END DATE - 08/11/87

CONTRACTOR -  
GEOLOGIST - BARKER

OPERATOR - G.C.R.  
SURVEYOR -

REMARKS - TRC LOCATED AT AZM 104 FROM ROOF OF TRC87010, SAME  
SEAM, CLAY BAND SAMPLED #05975, FROZEN SPOIL. NO  
FORMAL LOG. 0 SEAM?

- LOCATION -

PROVINCE - BC  
ELEVATION - 1777.00

ZONE - 9  
NORTHING - 6343140.00  
EASTING - 504464.00

LICENCE/LEASE NUMBER -

LATITUDE - 571400  
LONGITUDE - 1285534

- ORIENTATION -

LENGTH - 13.60  
SIZE WIDTH - 0.8  
SIZE HEIGHT - 2.0

INCLINATION - 0.0  
AZIMUTH - 14.0

ROOF STRIKE - 0  
ROOF DIP - 0  
ROOF DIR -

FLOOR STRIKE - 0  
FLOOR DIP - 0  
FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

KPNLRTRC87015

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87015

DATE - 01/12/88

- HISTORY -

START DATE - 08/11/87  
END DATE - 08/11/87

CONTRACTOR -  
GEOLOGIST - LEE

OPERATOR - G.C.R.  
SURVEYOR - TRONNES

REMARKS - K SEAM. SAME SEAM AS TRC87016. BEDDING SUBVERTICAL  
C/C+R=2.30/4.06

- LOCATION -

PROVINCE - BC  
ELEVATION - 1749.61

ZONE - 9  
NORTHING - 6342936.51  
EASTING - 504323.09

LICENCE/LEASE NUMBER -

LATITUDE - 571353  
LONGITUDE - 1285542

- ORIENTATION -

LENGTH - 9.18  
SIZE WIDTH - 1.1  
SIZE HEIGHT - 3.3

INCLINATION - 0.0  
AZIMUTH - 55.0

ROOF STRIKE - 0  
ROOF DIP - 0  
ROOF DIR -

FLOOR STRIKE - 131  
FLOOR DIP - 65  
FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87015

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----|----------|---------|-----------|--|
|     | 0.00       | 1.00     | 1.00           | *90 |          |         | MUDSTONE  | DK.BN<br>ROOF. NO BEDDING ATTITUDE AVAILABLE. MUD - STICKY, UNCONSOLIDATED, PARTLY FROZEN. |
|     | 1.00       | 1.16     | 0.16           | *90 |          |         | MUDSTONE  | CARB<br>UNCONSOLIDATED.  |
|     | 1.16       | 1.27     | 0.11           | *90 |          | K       | COAL      | C-1<br>CONCHOIDAL FRACTURE, WELL CLEATED, "CRU NCHY".                                      |
|     | 1.27       | 1.48     | 0.21           | *90 |          | K       | MUDSTONE  | CARB<br>VERY SOFT. UNCONSOLIDATED, WEATHERED.  |
|     | 1.48       | 1.53     | 0.05           | *90 |          | K       | COAL      | C-4  |
|     | 1.53       | 1.57     | 0.04           | *90 |          | K       | MUDSTONE  | M.BN<br>HIGHLY WEATHERED, POORLY CONSOLIDATED, CONTAINS FINE ORANGE BANDS.                 |
|     | 1.57       | 1.81     | 0.24           | *90 |          | K       | MUDSTONE  | UNCONSOLIDATED. MANY C-3 COAL BITS.  |
|     | 1.81       | 2.11     | 0.30           | *90 |          | K       | MUDSTONE  | DK.BN<br>HIGHLY WEATHERED. SOME SANDY ORANGE BANDS. NODULAR WEATHERED.                     |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87015

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA       | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----------|----------|---------|-----------|--|
|     | 2.11       | 2.20     | 0.09           | *90       |          | K       | MUDSTONE  | CARB<br>VERY WEATHERED, SOFT, POORLY CONSOLIDATED.   |
|     | 2.20       | 2.41     | 0.21           | *90       |          | K       | COAL      | C-3<br>BANDED.   |
|     | 2.41       | 2.44     | 0.03           | *90       |          | K       | MUDSTONE  | DK.GY<br>UNCONSOLIDATED.   |
|     | 2.44       | 2.53     | 0.09           | *90       |          | K       | COAL      | C-1<br>BANDS; WELL CLEATED.  |
|     | 2.53       | 2.55     | 0.02           | *90       |          | K       | MUDSTONE  | DK.BN<br>POORLY CONSOLIDATED; FER STAINED.   |
|     | 2.55       | 2.98     | 0.43           | *90       |          | K       | COAL      | C-3<br>BANDED WITH OCC. MUDST LAYERS.  |
|     | 2.98       | 3.05     | 0.07           | *90       |          | K       | MUDSTONE  |  |
|     | 3.05       | 3.32     | 0.27           | *90       |          | K       | COAL      | C-4  |
|     | 3.32       | 3.42     | 0.10           | *90.05976 |          | K       | CLAYSTONE | LT-M.GY<br>SOFT CLAY AT TOP OF INTERVAL GRADING DOWN INTO ORANGE WEATHERED CLAYSTONE. SOFT CLAY WAS SAMPLED. |

\* DENOTES MEASURED BCA



KPNLRTRC87016

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87016

DATE - 03/04/88

- HISTORY -

START DATE - 08/12/87

END DATE - 08/12/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - K SEAM. C/C+R=2.82/3.71. WEATHERED.

- LOCATION -

PROVINCE - BC

ELEVATION - 1748.77

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6342948.74

EASTING - 504267.73

LATITUDE - 571353

LONGITUDE - 1285546

- ORIENTATION -

LENGTH - 11.90

SIZE WIDTH - 1.4

SIZE HEIGHT - 2.9

INCLINATION - 0.0

AZIMUTH - 39.0

ROOF STRIKE - 139

ROOF DIP - 78

ROOF DIR - N

FLOOR STRIKE - 136

FLOOR DIP - 84

FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87016

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 0.00       | 1.60     | 1.60           | *90 |          |         | SILTSTONE | GY<br>ROOF, MUDST LAMINAE, PLANT FRAGMENTS, UNCONSOLIDATED, WEATHERS GY BN-YEL.                     |
|     | 1.60       | 1.71     | 0.11           | *90 |          |         | MUDSTONE  | POORLY CONSOLIDATED, COAL STRINGERS (C-3), ABUNDANT FE STAIN.                                       |
|     | 1.71       | 1.83     | 0.12           | *90 |          | K       | COAL      | C-3<br>UNCONSOLIDATED, WEATHERED.   |
|     | 1.83       | 1.96     | 0.13           | *90 |          | K       | COAL      | C-2<br>SOME C-1, CONCHOIDAL FRACTURES.  |
|     | 1.96       | 2.09     | 0.13           | *90 |          | K       | COAL      | C-2<br>POORLY CONSOLIDATED, SOME CLEFTED SURFACES.  |
|     | 2.09       | 2.11     | 0.02           | *90 |          | K       | MUDSTONE  | ORNG<br>UNCONSOLIDATED, WEATHERED, COALY FLECKS WITHIN.   |
|     | 2.11       | 2.20     | 0.09           | *90 |          | K       | COAL      | C-4<br>UNCONSOLIDATED.  |
|     | 2.20       | 2.30     | 0.10           | *90 |          | K       | MUDSTONE  | SLTY, M, BN<br>SEMI-CONSOLIDATED, WEATHERED, FINE FE STAINED LAMINATIONS, 1 CM COAL BAND IN CENTER. |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87016

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----|----------|---------|-----------|--|
|     | 2.30       | 2.45     | 0.15           | *90 |          | K       | COAL      | C-2<br>MINOR C-1, BANDED.                              |
|     | 2.45       | 2.53     | 0.08           | *90 |          | K       | COAL      | C-1<br>CONCHOIDAL FRACTURES.                           |
|     | 2.53       | 2.57     | 0.04           | *90 |          | K       | MUDSTONE  | BN<br>POORLY CONSOLIDATED, WEATHERED YEL-BN, FE STAIN. |
|     | 2.57       | 2.84     | 0.27           | *90 |          | K       | COAL      | C-2<br>BANDED.   |
|     | 2.84       | 2.93     | 0.09           | *90 |          | K       | MUDSTONE  | CARB<br>THINLY BEDDED, FLAKEY.                         |
|     | 2.93       | 2.97     | 0.04           | *90 |          | K       | COAL      | C-2  |
|     | 2.97       | 3.03     | 0.06           | *90 |          | K       | COAL      | C-3<br>MINOR FE STAIN.                                 |
|     | 3.03       | 3.10     | 0.07           | *90 |          | K       | COAL      | C-3  |
|     | 3.10       | 3.17     | 0.07           | *90 |          | K       | MUDSTONE  | DK, GY<br>UNCONSOLIDATED, COAL SPECKS.                 |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87016

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------------|---------|-----------|---|
|     | 3.17       | 3.22     | 0.05           | *90          | K       | MUDSTONE  | M. BN UNCONSOLIDATED.                               |
|     | 3.22       | 3.32     | 0.10           | *90          | K       | COAL      | C-5   |
|     | 3.32       | 3.47     | 0.15           | *90          | K       | COAL      | C-3<br>SOME C-2, FAIR CONSOLIDATION.                |
|     | 3.47       | 3.53     | 0.06           | *90          | K       | MUDSTONE  | CLYY. BF UNCONSOLIDATED, MINOR CONSOLIDATED PIECES. |
|     | 3.53       | 3.55     | 0.02           | *90          | K       | MUDSTONE  | CARB  |
|     | 3.55       | 3.57     | 0.02           | *90          | K       | COAL      | C-2   |
|     | 3.57       | 3.60     | 0.03           | *90          | K       | COAL      | C-5   |
|     | 3.60       | 3.62     | 0.02           | *90          | K       | COAL      | C-3   |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87016

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|-----------|--|
|     | 3.62       | 3.66     | 0.04           | *90          | K       | CLAYSTONE | CLAY, UNCONSOLIDATED, STICKY.  |
|     | 3.66       | 3.68     | 0.02           | *90          | K       | MUDSTONE  | CARB UNCONSOLIDATED, MINOR COAL FLECKS.  |
|     | 3.68       | 3.83     | 0.15           | *90          | K       | COAL      | C-3  |
|     | 3.83       | 3.96     | 0.13           | *90          | K       | MUDSTONE  | CARB MM COAL STRINGERS.  |
|     | 3.96       | 4.02     | 0.06           | *90          | K       | MUDSTONE  | DK. GY COAL BANDS (2-3 MM C-3) WITHIN MUDST. B ANDS 6 MM, WITH FE STAINED LAMINATIONS, FAIR CONSOLIDATION. |
|     | 4.02       | 4.10     | 0.08           | *90          | K       | COAL      | C-3 WITH C-2.  |
|     | 4.10       | 4.17     | 0.07           | *90          | K       | MUDSTONE  | CARB FLAKEY.   |
|     | 4.17       | 4.21     | 0.04           | *90          | K       | COAL      | C-2  |
|     | 4.21       | 4.37     | 0.16           | *90          | K       | COAL      | C-4 UNCONSOLIDATED, WEATHERED.   |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87016

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION                                  |
|-----|------------|----------|----------------|-----|----------|---------|-----------|--|
|     | 4.37       | 4.40     | 0.03           | *90 |          | K       | COAL      | C-3  |
|     | 4.40       | 4.42     | 0.02           | *90 |          | K       | MUDSTONE  | WELL CONSOLIDATED, WEATHERS DK BN AND O RRG. |
|     | 4.42       | 4.59     | 0.17           | *90 |          | K       | COAL      | C-3 UNCONSOLIDATED.                          |
|     | 4.59       | 4.77     | 0.18           | *90 |          | K       | COAL      | C-3 FROZEN, UNCONSOLIDATED.                  |
|     | 4.77       | 4.81     | 0.04           | *90 |          | K       | COAL      | C-4 FROZEN, UNCONSOLIDATED.                  |
|     | 4.81       | 4.91     | 0.10           | *90 |          | K       | MUDSTONE  | DK BN FROZEN, MINOR FE STAIN.                |
|     | 4.91       | 5.42     | 0.51           | *90 |          | K       | COAL      | C-5 FROZEN, UNCONSOLIDATED.                  |
|     | 5.42       | 5.45     | 0.03           | *90 |          |         | MUDSTONE  | FLOOR, UNCONSOLIDATED.                       |
|     | 5.45       | 7.45     | 2.00           | *90 |          |         | MUDSTONE  | SLTY. M-DK. BN. THNB                         |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87017

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87017

DATE - 01/12/88

- HISTORY -

START DATE - 08/12/87

END DATE - 08/12/87

CONTRACTOR -

GEOLOGIST - BUSSCHE

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - J SEAM, WEATHERED, SAME SEAM AS TRC84250, C/C+R=2.  
27/3.62.

- LOCATION -

PROVINCE - BC

ELEVATION - 1740.58

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6342934.97

EASTING - 504231.47

LATITUDE - 571353

LONGITUDE - 1285548

- ORIENTATION -

LENGTH - 9.50

SIZE WIDTH - 1.3

SIZE HEIGHT - 2.5

INCLINATION - 0.0

AZIMUTH - 35.0

ROOF STRIKE - 132

ROOF DIP - 75

ROOF DIR - S

FLOOR STRIKE - 135

FLOOR DIP - 63

FLOOR DIR - S

\*\*\* NOTE \*\*\* O INDICATES NO VALUE

=====





PROJECT: KPN BLOCK: LR DATA SOURCE: YRC87017

| BDX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION                             |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 5.40       | 5.51     | 0.11           | *90 |          | J       | COAL      | C-3                                     |
|     | 5.51       | 5.54     | 0.03           | *90 |          | J       | MUDSTONE  | CLYY, LT. GY<br>LT- BN GY.              |
|     | 5.54       | 5.81     | 0.27           | *90 |          | J       | COAL      | C-3                                     |
|     | 5.81       | 5.85     | 0.04           | *90 |          |         | MUDSTONE  | CLYY, LT. GY<br>POORLY CONSOLIDATED.    |
|     | 5.85       | 7.85     | 2.00           | *90 |          |         | SILTSTONE | M. GY<br>WEATHERS GY-BN, POORLY BEDDED. |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87018

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87018

DATE - 03/07/88

- HISTORY -

START DATE - 08/12/87  
END DATE - 08/12/87

CONTRACTOR -  
GEOLOGIST - BUSSCHE

OPERATOR - G.C.R.  
SURVEYOR - TRONNES

REMARKS - L SEAM. SAME SEAM AS TRC84303. WEATHERED. NO FLOOR  
C/C+R = 4.78/5.42

- LOCATION -

PROVINCE - BC  
ELEVATION - 1745.05

ZONE - 9  
NORTHING - 6342913.46  
EASTING - 504429.26

LICENCE/LEASE NUMBER -

LATITUDE - 571352  
LONGITUDE - 1285536

- ORIENTATION -

LENGTH - 10.50  
SIZE WIDTH - 1.7  
SIZE HEIGHT - 2.4

INCLINATION - 0.0  
AZIMUTH - 22.0

ROOF STRIKE - 110  
ROOF DIP - 54  
ROOF DIR - N

FLOOR STRIKE - 0  
FLOOR DIP - 0  
FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87018

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION                               |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 4.11       | 4.56     | 0.45           | *90 | L        |         | COAL      | C-2                                       |
|     | 4.56       | 4.62     | 0.06           | *90 | L        |         | MUDSTONE  | SLTY<br>CARB PLANT FRAGS. WEATHERS OR-BN. |
|     | 4.62       | 4.85     | 0.23           | *90 | L        |         | COAL      | C-5<br>MINOR MUDDY BANDS THROUGHOUT.      |
|     | 4.85       | 4.89     | 0.04           | *90 | L        |         | MUDSTONE  | SLTY<br>WEATHERS OR-BN.                   |
|     | 4.89       | 5.22     | 0.33           | *90 | L        |         | COAL      | C-4<br>WEATHERED.                         |
|     | 5.22       | 5.32     | 0.10           | *90 | L        |         | MUDSTONE  | SLTY<br>WEATHERS OR-BN.                   |
|     | 5.32       | 5.92     | 0.60           | *90 | L        |         | COAL      | C-5<br>VERY WEATHERED.                    |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87019

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87019

DATE - 01/12/88

- HISTORY -

START DATE - 08/12/87

END DATE - 08/12/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - K SEAM. VERY WEATHERED. SAME SEAM AS TRC87015. C/C  
+R = 3.05/3.18

- LOCATION -

PROVINCE - BC

ELEVATION - 1732.43

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6342852.19

EASTING - 504404.12

LATITUDE - 571350

LONGITUDE - 1285537

- ORIENTATION -

LENGTH - 10.00

INCLINATION - 10.5

AZIMUTH - 200.0

SIZE WIDTH - 1.3

SIZE HEIGHT - 2.7

ROOF STRIKE - 122

ROOF DIP - 84

ROOF DIR - S

FLOOR STRIKE - 120

FLOOR DIP - 72

FLOOR DIR - S

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====





88/03/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87019

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----|----------|---------|-----------|--|
|     | 0.00       | 3.00     | 3.00           | *90 |          |         | SILTSTONE | SSY, M, BN<br>ROOF WEATHERED, ABUNDANT CARB PLANT HAS<br>H, FE STAIN, LAMINATED, SANDIER TOWARDS<br>TOP. |
|     | 3.00       | 3.30     | 0.30           | *90 |          | K       | COAL      | C-6<br>UNCONSOLIDATED, FE BANDS.   |
|     | 3.30       | 3.52     | 0.22           | *90 |          | K       | COAL      | C-5<br>UNCONSOLIDATED.   |
|     | 3.52       | 3.63     | 0.11           | *90 |          | K       | COAL      | C-3<br>UNCONSOLIDATED.   |
|     | 3.63       | 3.67     | 0.04           | *90 |          | K       | MUDSTONE  | POORLY CONSOLIDATED, WEATHERS ORNG-BN.   |
|     | 3.67       | 4.09     | 0.42           | *90 |          | K       | COAL      | C-5<br>UNCONSOLIDATED.   |
|     | 4.09       | 4.18     | 0.09           | *90 |          | K       | MUDSTONE  | CARB   |
|     | 4.18       | 6.18     | 2.00           | *90 |          | K       | COAL      | C-6<br>SPOIL APPEARANCE, VERY WEATHERED, MINO<br>R. GY. MUQST. BANDS.                                    |
|     | 6.18       | 6.31     | 0.13           | *90 |          |         | CLAYSTONE | CLAY, LT GY-BN.  |

\* DENOTES MEASURED BCA

88/03/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87019

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 6.31       | 7.61     | 1.30           | *90 |          |         | SILTSTONE | M, BN<br>FLOOR, LAMINATED, FE BANDS, COALIFIED P<br>LANT FRAGMENTS. |

\* DENOTES MEASURED BCA

NEWPAGE

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC87020

DATE - 03/04/88

- HISTORY -

START DATE - 08/12/87

END DATE - 08/12/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - WEATHERED, SAME AS TRC84250 AND TRC87017, J SEAM,  
C/C+R=1.38/3.19.

- LOCATION -

PROVINCE - BC

ELEVATION - 1723.16

ZONE - 9

NORTHING - 6342817.69

EASTING - 504412.41

LICENCE/LEASE NUMBER -

LATITUDE - 571349

LONGITUDE - 1285537

- ORIENTATION -

LENGTH - 6.50

INCLINATION - 0.0

AZIMUTH - 20.0

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

=====



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87020

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION                                      |
|-----|------------|----------|----------------|--------------|---------|-----------|--|
|     | 3.46       | 3.68     | 0.22           | *90          | J       | MUDSTONE  | DK. BN WEATHERED, FE STAINED THROUGHOUT.         |
|     | 3.68       | 3.87     | 0.19           | *90          | J       | COAL      | C-6 VERY WEATHERED.                              |
|     | 3.87       | 3.89     | 0.02           | *90          | J       | MUDSTONE  | ORNG HIGHLY FE STAINED.                          |
|     | 3.89       | 3.93     | 0.04           | *90          | J       | COAL      | C-1 HIGHLY WEATHERED.                            |
|     | 3.93       | 3.97     | 0.04           | *90          | J       | CLAYSTONE | LT. GY. CLAY, LT BN-GY.                          |
|     | 3.97       | 4.07     | 0.10           | *90          | J       | COAL      | C-3 WEATHERED.                                   |
|     | 4.07       | 4.36     | 0.29           | *90          | J       | COAL      | C-4 VERY WEATHERED, C-4 TO C-5.                  |
|     | 4.36       | 5.86     | 1.50           | *90          |         | SILTSTONE | M. BN FLOOR, PLANT FRAGMENTS, FE STAINED BAND S. |

\* DENOTES MEASURED BCA  
NEMPAGE

KPNLRTRC87021

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87021

DATE - 03/04/88

- HISTORY -

START DATE - 08/13/87

END DATE - 08/13/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - 1 SEAM? WEATHERED. C/C+R = 2.06/2.23

- LOCATION -

PROVINCE - BC

ELEVATION - 1717.03

ZONE - 9

NORTHING - 6342798.52

EASTING - 504382.68

LICENCE/LEASE NUMBER -

LATITUDE - 571349

LONGITUDE - 1285539

- ORIENTATION -

LENGTH - 6.30

INCLINATION - 17.0

AZIMUTH - 227.0

SIZE WIDTH - 1.1

SIZE HEIGHT - 1.5

ROOF STRIKE - 133

ROOF DIP - 52

ROOF DIR - N

FLOOR STRIKE - 147

FLOOR DIP - 80

FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



KPNLRTRC87022



KPNLRTRC87023

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

TA SOURCE - KPNLRTRC87023

DATE - 01/12/88

- HISTORY -

START DATE - 08/13/87  
END DATE - 08/13/87

CONTRACTOR -  
GEOLOGIST - LEE

OPERATOR - G.C.R.  
SURVEYOR - TRONNES

REMARKS - SEAM C? WEATHERED. C/C+R = 3.19/5.47

- LOCATION -

PROVINCE - BC  
ELEVATION - 1822.56

ZONE - 9  
NORTHING - 6343655.17  
EASTING - 504717.45

LICENCE/LEASE NUMBER -

LATITUDE - 571416  
LONGITUDE - 1285519

- ORIENTATION -

LENGTH - 16.00  
SIZE WIDTH - 1.0  
SIZE HEIGHT - 2.9

INCLINATION - 0.0  
AZIMUTH - 215.0

ROOF STRIKE - 115  
ROOF DIP - 39  
ROOF DIR - S

FLOOR STRIKE - 121  
FLOOR DIP - 53  
FLOOR DIR - S

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87023

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----|----------|---------|-----------|--|
|     | 0.00       | 2.00     | 2.00           | *90 |          |         | MUDSTONE  | SLTY. M. BN<br>ROOF. THIN SLTST BANDS, DK LAMINATIONS,<br>WEATHERED THROUGHOUT, ORNG-BN. |
|     | 2.00       | 2.37     | 0.37           | *90 |          | C?      | COAL      | C-5<br>WEATHERED, UNCONSOLIDATED.  |
|     | 2.37       | 2.53     | 0.16           | *90 |          | C?      | MUDSTONE  | DK. BN<br>WEATHERED, UNCONSOLIDATED.   |
|     | 2.53       | 3.04     | 0.51           | *90 |          | C?      | MUDSTONE  | DK. GY<br>CONSOLIDATED, WEATHERED.   |
|     | 3.04       | 3.35     | 0.31           | *90 |          | C?      | COAL      | C-5<br>UNCONSOLIDATED.   |
|     | 3.35       | 3.75     | 0.40           | *90 |          | C?      | MUDSTONE  | DK. GY<br>WEATHERED, UNCONSOLIDATED.   |
|     | 3.75       | 4.08     | 0.33           | *90 |          | C?      | COAL      | C-6<br>UNCONSOLIDATED.   |
|     | 4.08       | 4.39     | 0.31           | *90 |          | C?      | COAL      | C-4<br>UNCONSOLIDATED.   |
|     | 4.39       | 4.53     | 0.14           | *90 |          | C?      | MUDSTONE  | UNCONSOLIDATED.  |
|     | 4.53       | 4.76     | 0.23           | *90 |          | C?      | COAL      | C-6  |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87023

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 4.76       | 5.05     | 0.29           | *90 |          | C?      | MUDSTONE  | DK. BN<br>WEATHERED, UNCONSOLIDATED.                        |
|     | 5.05       | 5.26     | 0.21           | *90 |          | C?      | COAL      | C-3   |
|     | 5.26       | 5.49     | 0.23           | *90 |          | C?      | MUDSTONE  | UNCONSOLIDATED.   |
|     | 5.49       | 5.68     | 0.19           | *90 |          | C?      | MUDSTONE  | CARB  |
|     | 5.68       | 5.75     | 0.07           | *90 |          | C?      | COAL      | C-6   |
|     | 5.75       | 5.95     | 0.20           | *90 |          | C?      | MUDSTONE  | DK. BN<br>WEATHERED, UNCONSOLIDATED, FE. STAINED B<br>ANDS. |
|     | 5.95       | 6.15     | 0.20           | *90 |          | C?      | COAL      | C-3   |
|     | 6.15       | 6.45     | 0.30           | *90 |          | C?      | COAL      | C-5   |
|     | 6.45       | 6.61     | 0.16           | *90 |          | C?      | MUDSTONE  | DK. GY<br>UNCONSOLIDATED, FE. STAINED.                      |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87023

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|-----------|--|
|     | 6.61       | 7.01     | 0.40           | *90          | C?      | COAL      | C-3  |
|     | 7.01       | 7.23     | 0.22           | *90          | C?      | COAL      | C-2  |
|     | 7.23       | 7.30     | 0.07           | *90          | C?      | COAL      | C-6  |
|     | 7.30       | 7.47     | 0.17           | *90          | C?      | COAL      | C-5  |
|     | 7.47       | 7.70     | 0.23           | *90          |         | MUDSTONE  | CARB<br>WELL CONSOLIDATED.   |
|     | 7.70       | 8.10     | 0.40           | *90          |         | MUDSTONE  | CARB<br>COAL SPECKS.   |
|     | 8.10       | 9.15     | 1.05           | *90          |         | MUDSTONE  | DK. GY<br>FLOOR, WEATHERED, UNCONSOLIDATED, FE ST<br>AINED THROUGHOUT. |
|     | 9.15       | 11.15    | 2.00           | *90          |         | MUDSTONE  | DK. BN<br>WEATHERED, FE STAINED, HIGHLY FRACTURED                      |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87024

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87024

DATE - 03/07/88

- HISTORY -

START DATE - 08/14/87

END DATE - 08/14/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - D SEAM. WEATHERED. C/C+R = 0.37/0.49

- LOCATION -

PROVINCE - BC

ELEVATION - 1825.52

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343575.08

EASTING - 504746.44

LATITUDE - 571414

LONGITUDE - 1285517

- ORIENTATION -

LENGTH - 9.10

INCLINATION - 15.0

AZIMUTH - 237.0

SIZE WIDTH - 1.4

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

=====



KPNLRTRC87025



===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87025

DATE - 03/07/88

- HISTORY -

START DATE - 08/14/87

END DATE - 08/14/87

CONTRACTOR -

GEOLOGIST - PARRY

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - B SEAM. WEATHERED. C/C+R = 0.57/0.89

- LOCATION -

PROVINCE - BC

ELEVATION - 1847.65

ZONE - 9

NORTHING - 6343906.09

EASTING - 504537.06

LICENCE/LEASE NUMBER -

LATITUDE - 571424

LONGITUDE - 1285529

- ORIENTATION -

LENGTH - 8.00

INCLINATION - 0.0

AZIMUTH - 49.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 2.0

ROOF STRIKE - 141

ROOF DIP - 75

ROOF DIR - S

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



KPNLRTRC87026

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87026

DATE - 03/07/88

- HISTORY -

START DATE - 08/14/87

END DATE - 08/14/87

CONTRACTOR -  
GEOLOGIST - PARRY

OPERATOR - G.C.R.  
SURVEYOR - TRONNES

REMARKS - WEATHERED, A SEAM, C/C+R=1.81/2.36.

- LOCATION -

PROVINCE - BC  
ELEVATION - 1847.95

ZONE - 9  
NORTHING - 6343936.04  
EASTING - 504458.73

LICENCE/LEASE NUMBER -

LATITUDE - 571425  
LONGITUDE - 1285534

- ORIENTATION -

LENGTH - 7.70

INCLINATION - 0.0  
AZIMUTH - 57.0

SIZE WIDTH - 1.3  
SIZE HEIGHT - 1.7

ROOF STRIKE - 175  
ROOF DIP - 85  
ROOF DIR - E

FLOOR STRIKE - 150  
FLOOR DIP - 85  
FLOOR DIR - E

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87026

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA ID | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------|----------|---------|-----------|--|
|     | 0.00       | 2.00     | 2.00           | *90    |          |         | MUDSTONE  | SLTY DK GY WEATHERED, CONSOLIDATED, MORE SLTY UPSECTION, ROOF. BN.                       |
|     | 2.00       | 2.23     | 0.23           | *90    |          | A       | COAL      | C-3.BLK INTERBEDDED WITH CARB MUDST, HIGHLY OXIDIZED, YELLOW SULFUR COATING, FE STAINED. |
|     | 2.23       | 2.43     | 0.20           | *90    |          | A       | MUDSTONE  | CARB.BLK UNCONSOLIDATED.   |
|     | 2.43       | 2.63     | 0.20           | *90    |          | A       | COAL      | C-3 UNCONSOLIDATED.  |
|     | 2.63       | 3.18     | 0.55           | *90    |          | A       | COAL      | C-4.BLK INTERBEDDED WITH CARB MUDST, POORLY CONSOLIDATED.                                |
|     | 3.18       | 3.56     | 0.38           | *90    |          | A       | COAL      | C-3.BLK MODERATELY CONSOLIDATED.   |
|     | 3.56       | 3.76     | 0.20           | *90    |          | A       | COAL      | C-3.BLK POORLY CONSOLIDATED.   |
|     | 3.76       | 4.11     | 0.35           | *90    |          | A       | MUDSTONE  | CARB.BLK DARK GREY (WEATH), POORLY CONSOLIDATED, COAL SPECKS.                            |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87026

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA ID | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------|----------|---------|-----------|--|
|     | 4.11       | 4.18     | 0.07           | *90    |          | A       | COAL      | C-1.BLK MODERATELY CONSOLIDATED.   |
|     | 4.18       | 4.24     | 0.06           | *90    |          | A       | COAL      | C-3.BLK MODERATELY CONSOLIDATED.   |
|     | 4.24       | 4.31     | 0.07           | *90    |          | A       | COAL      | C-1.BLK MODERATELY CONSOLIDATED.   |
|     | 4.31       | 4.36     | 0.05           | *90    |          | A       | COAL      | C-3.BLK MODERATELY CONSOLIDATED.   |
|     | 4.36       | 5.16     | 0.80           | *90    |          |         | MUDSTONE  | CARB.BLK DK GY - DK BN (WEATH), MODERATELY CONSOLIDATED, IRREGULAR BLEBS OF M BN (WEATH) MUDST. (FLOOR). |
|     | 5.16       | 6.16     | 1.00           | *90    |          |         | SANDSTONE | CLYY.FG.PR.M.GY V. LITHIC, FELDSPATHIC, MOTTLED ORANGE - BROWN (WEATH), (FLOOR).                         |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87027

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC87027

DATE - 03/07/88

- HISTORY -

START DATE - 08/15/87

END DATE - 08/15/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - C SEAM. WEATHERED. C/C+R = 1.76/1.76

- LOCATION -

PROVINCE - BC

ELEVATION - 1851.44

ZONE - 9

NORTHING - 6343970.94

EASTING - 504772.66

LICENCE/LEASE NUMBER -

LATITUDE - 571427

LONGITUDE - 1285515

- ORIENTATION -

LENGTH - 12.70

INCLINATION - 0.0

AZIMUTH - 50.0

SIZE WIDTH - 1.1

SIZE HEIGHT - 1.8

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

FLOOR STRIKE - 120

FLOOR DIP - 63

FLOOR DIR - S

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====





PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB7027

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----------|---------|-----------|--|
|     | 0.00       | 1.00     | 1.00           | *90       |         | MUDSTONE  | DK.GY<br>DK. BN WEATHERED COLOUR, ROOF.                          |
|     | 1.00       | 2.80     | 1.80           | *90       |         | SANDSTONE | FG.LT-M.GY<br>M.GY WEATHERED, MODERATELY CONSOLIDATED, ROOF.     |
|     | 2.80       | 4.56     | 1.76           | *90       | C       | COAL      | C-3.BLK<br>FROZEN, SOME C-2 BANDS, SOME CARB MUDST BANDS.        |
|     | 4.56       | 4.84     | 0.28           | *90       |         | MUDSTONE  | SLTY.DK.BN<br>WEATHERED, QTZ VEINING, FE STAINED, FROZEN, FLOOR. |
|     | 4.84       | 5.84     | 1.00           | *90       |         | MUDSTONE  | M.BN<br>WEATHERED, POORLY CONSOLIDATED, FRIABLE                  |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87028

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87028

DATE - 03/07/88

- HISTORY -

START DATE - 08/15/87

END DATE - 08/15/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - SEAM E. DID NOT FIND INTACT ROOF ROCK, SEAM MAY BE THICKER. WEATHERED. C/C+R = 1.08/3.48.

- LOCATION -

PROVINCE - BC

ELEVATION - 1856.36

ZONE - 9

NORTHING - 6343936.50

EASTING - 504934.55

LICENCE/LEASE NUMBER -

LATITUDE - 571425

LONGITUDE - 1285506

- ORIENTATION -

LENGTH - 8.20

INCLINATION - 0.0

AZIMUTH - 110.0

SIZE WIDTH - 1.5

SIZE HEIGHT - 2.6

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR - -

FLOOR STRIKE - 30

FLOOR DIP - 15

FLOOR DIR - E

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



PROJECT: KPN BLOCK: LR DATA SOURCE: YRC87028

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------------|---------|-----------|---|
|     | 0.00       | 0.50     | 0.50           | *90          |         | SANDSTONE | MG. PR. M. BN<br>SOME CHERT PBL'S (<1 CM), CGL OVERLIES S<br>S, FE STAINING ON GRAINS ROOF? |
|     | 0.50       | 1.04     | 0.54           | *90          | E       | COAL      | C-3. BLK<br>WEATHERED, UNCONSOLIDATED. C-4.   |
|     | 1.04       | 2.94     | 1.90           | *90          |         | MUDSTONE  | WEATHERED, MODERATELY CONSOLIDATED, ORN<br>G FE STAINED BANDS, M. YEL-BN BANDS, FL<br>OOR.  |

-854- NOW IN CONTACT WITH SYSTEM 2000 -  
 COPYRIGHT (C) 1985 SAS INSTITUTE INC., CARY, N.C. 27511, U.S.A. -  
 \*\*\*\*\* GEX - 03.01 - COCC COAL/21 ALLOCATED  
 -855- NO LONGER IN CONTACT WITH SYSTEM 2000 -

KPNLRTRC87029

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC87029

DATE - 03/07/88

- HISTORY -

START DATE - 08/15/87

END DATE - 08/15/87

CONTRACTOR -

GEOLOGIST - LEE

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - SEAM E. WEATHERED. C/C+R = 0.43/0.46

- LOCATION -

PROVINCE - BC

ELEVATION - 1848.76

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343843.62

EASTING - 504985.47

LATITUDE - 571422

LONGITUDE - 1285503

- ORIENTATION -

LENGTH - 14.10

SIZE WIDTH - 1.0

SIZE HEIGHT - 1.5

ROOF STRIKE - 112

ROOF DIP - 51

ROOF DIR - N

INCLINATION - 0.0

AZIMUTH - 105.0

FLOOR STRIKE - 109

FLOOR DIP - 7

FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE







KPNLRTRC87030



===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC87030

DATE - 03/07/88

- HISTORY -

START DATE - 08/15/87  
END DATE - 08/15/87

CONTRACTOR -  
GEOLOGIST - LEE

OPERATOR - G.C.R.  
SURVEYOR - TRONNES

REMARKS - SEAM C. WEATHERED. C/C+R = 0.70/1.67

- LOCATION -

PROVINCE - BC  
ELEVATION - 1838.41

ZONE - 9  
NORTHING - 6343826.26  
EASTING - 504690.97

LICENCE/LEASE NUMBER -

LATITUDE - 571422  
LONGITUDE - 1285520

- ORIENTATION -

LENGTH - 19.10  
SIZE WIDTH - 1.3  
SIZE HEIGHT - 2.5

INCLINATION - 0.0  
AZIMUTH - 80.0

ROOF STRIKE - 48  
ROOF DIP - 24  
ROOF DIR - S

FLOOR STRIKE - 0  
FLOOR DIP - 0  
FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



KPNLRTRC87031

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87031

DATE - 03/04/88

- HISTORY -

START DATE - 08/27/87  
 END DATE - 08/28/87

CONTRACTOR -  
 GEOLOGIST - LEE

OPERATOR - G.C.R.  
 SURVEYOR - TRONNES

REMARKS - OVTND I SEAM. SAME AS TRC87002 & TRC84251. WTHRD,  
 FROZEN. ALLOWED SEAM TO THAW BEFORE LOGGING. C/C+R  
 = 5.66/5.66

- LOCATION -

PROVINCE - BC  
 ELEVATION - 1682.21

ZONE - 9  
 NORTHING - 6343049.66  
 EASTING - 503923.37

LICENCE/LEASE NUMBER -

LATITUDE - 571357  
 LONGITUDE - 1285606

- ORIENTATION -

LENGTH - 8.16  
 SIZE WIDTH - 0.8  
 SIZE HEIGHT - 1.2

INCLINATION - 0.0  
 AZIMUTH - 28.0

ROOF STRIKE - 123  
 ROOF DIP - 85  
 ROOF DIR - N

FLOOR STRIKE - 121  
 FLOOR DIP - 78  
 FLOOR DIR - S

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====





KPNLRTRC87032

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC87032

DATE - 01/12/88

- HISTORY -

START DATE - 08/28/87

END DATE - 08/28/87

CONTRACTOR -

GEOLOGIST - BARKER

OPERATOR - G.C.R.

SURVEYOR - TRONNES

REMARKS - UPRIGHT SEAM I. SAME SEAM AS TRC84305. ROOF ERODED  
AWAY. TILL COVERED C/C+R=2.73/2.81.

- LOCATION -

PROVINCE - BC

ELEVATION - 1642.03

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6342152.00

EASTING - 503880.82

LATITUDE - 571328

LONGITUDE - 1285609

- ORIENTATION -

LENGTH - 5.00

SIZE WIDTH - 0.8

SIZE HEIGHT - 1.2

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

INCLINATION - 0.0

AZIMUTH - 173.0

FLOOR STRIKE - 67

FLOOR DIP - 79

FLOOR DIR - S

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

# GULF CANADA CORPORATION

SEAM DETAIL

COAL DIVISION  
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC87032    SEAM : 1    INTERVAL(M) : 0.50 - 3.31    ELEVATION(M) : 1642.0  
 GEOLOGIST : BARKER    SCALE: 1:40    DATE : JAN 14/88    DRAWING NO. :

| SEAM COMP.<br>1 2 3 4 5 6 | DRILL DEPTH<br>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                  | ↑<br><br>↑    |                 |      |        |           |       |                 |                |                     |     |    |    |    |                |   |   |
|                           |                       | ↑             |                 | 1.50 |        |           | ↑     |                 |                |                     |     |    |    |    |                |   |   |
|                           |                       |               |                 |      | 100.0  | 99999     | 99999 | 2.73 / 0.08     |                | —                   | —   | —  | —  | —  | —              | — | — |
|                           |                       |               |                 | 0.88 |        |           | ↓     |                 |                |                     |     |    |    |    |                |   |   |
|                           | 3.31                  | ↓<br><br>↓    |                 | 0.55 |        |           |       |                 |                |                     |     |    |    |    |                |   |   |

KPNLRTRC87033

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87033

DATE - 01/12/88

- HISTORY -

START DATE - 08/22/87

END DATE - 08/22/87

CONTRACTOR -

GEOLOGIST - KENDE

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - NO ROOF, FLOOR, LOG. V. SHEARED, ABUNDANT C-1. SEVERAL C-1/C-2 BANDS, BENT PARTING SAMPLE #10258. NO FORMAL LOG. PH SEAM??

- LOCATION -

PROVINCE - BC

ELEVATION - 1633.00

ZONE - 9

NORTHING - 6342529.00

EASTING - 503795.00

LICENCE/LEASE NUMBER -

LATITUDE - 571340

LONGITUDE - 1285614

- ORIENTATION -

LENGTH - 3.50

INCLINATION - 0.0

AZIMUTH - 159.0

SIZE WIDTH - 1.3

SIZE HEIGHT - 1.9

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

KPNLRTRC87100

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87100

DATE - 01/13/88

- HISTORY -

START DATE - 07/30/87

END DATE - 07/30/87

CONTRACTOR -

GEOLOGIST - LEDDA

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - NO SURFACE BEDDING; NO LOG. "G" SEAM?

- LOCATION -

PROVINCE - BC

ELEVATION - 1812.00

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343974.00

EASTING - 505536.00

LATITUDE - 571427

LONGITUDE - 1285430

- ORIENTATION -

LENGTH - 16.00

INCLINATION - 15.0

AZIMUTH - 11.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 3.5

ROOF STRIKE - 8

ROOF DIP - 35

ROOF DIR - W

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====





PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87100

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------------|---------|-----------|---|
|     | 0.00       | 3.50     | 3.50           | *90          |         | SANDSTONE | FG. MEL. M. GY. THNB<br>FORMS ROOF ROCK, OCCASIONAL SILTSTONE B<br>EDS M/IN. 3-4 METERS VISIBLE ABOVE COAL        |
|     | 3.50       | 5.80     | 2.30           | *90          | G?      | COAL      | BLK<br>UNABLE TO LOG DUE TO SEVERE SLOUGHING I<br>NTO TRENCH. HIGHLY H2O SATURATED BLACK,<br>SOFT, OXIDIZED COAL. |
|     | 5.80       | 6.10     | 0.30           | *90          |         | SANDSTONE | CARB. FG. MOD. M. GY. LAM<br>VISIBLE FLOOR = 0.3 M. UNABLE TO TAKE B<br>EARING. DIRTY SANDSTONE.                  |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87101

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87101

DATE - 01/13/88

- HISTORY -

START DATE - 07/30/87

END DATE - 07/30/87

CONTRACTOR -

GEOLOGIST - LEDDA

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - NO SURFACE BEDDING; NO LOG. "F" SEAM?

- LOCATION -

PROVINCE - BC

ELEVATION - 1773.00

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343784.00

EASTING - 505656.00

LATITUDE - 571420

LONGITUDE - 1285423

- ORIENTATION -

LENGTH - 12.00

SIZE WIDTH - 1.0

SIZE HEIGHT - 3.0

ROOF STRIKE - 80

ROOF DIP - 14

ROOF DIR - N

INCLINATION - 10.0

AZIMUTH - 165.0

FLOOR STRIKE - 75

FLOOR DIP - 18

FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



KPNLRTRC87102

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87102

DATE - 01/13/88

- HISTORY -

START DATE - 07/31/87

END DATE - 08/03/87

CONTRACTOR -

GEOLOGIST - LEDDA

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - NO SURFACE BEDDING. "G" SEAM?

- LOCATION -

PROVINCE - BC

ELEVATION - 1805.00

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343975.00

EASTING - 505683.00

LATITUDE - 571427

LONGITUDE - 1285421

- ORIENTATION -

LENGTH - 11.00

INCLINATION - 17.0

AZIMUTH - 163.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 4.4

ROOF STRIKE - 100

ROOF DIP - 15

ROOF DIR - N

FLOOR STRIKE - 60

FLOOR DIP - 19

FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

# GULF CANADA CORPORATION

SEAM DETAIL

COAL DIVISION  
MOUNT KLAPPAN PROJECT

TRUE THICKNESS

DATA SOURCE: KPN LR TRC87102    SEAM :G    INTERVAL(M) : 1.00 - 4.64    ELEVATION(M) : 1805.0  
 GEOLOGIST : LEDDA    SCALE: 1:40    DATE : JAN 18/88    DRAWING NO. :

| SEAM COMP.<br>1 2 3 4 5 6 | DRILL DEPTH<br>METRES | COAL SEAM LOG | INTERVAL<br>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                  | ↑             |                    |      |        |           |       |                 |                |                     |     |    |    |    |                |  |  |
|                           |                       | ↓             |                    | 1.64 |        |           |       |                 |                |                     |     |    |    |    |                |  |  |
|                           |                       |               | 0.07               |      |        |           |       |                 |                |                     |     |    |    |    |                |  |  |
|                           |                       |               | 0.20               |      | 100.0  | 99999     | 99999 | 3.40 / 0.24     |                |                     |     |    |    |    |                |  |  |
|                           |                       |               | 0.11               |      |        |           |       | 3.64            |                |                     |     |    |    |    |                |  |  |
|                           |                       |               | 0.54               |      |        |           |       |                 |                |                     |     |    |    |    |                |  |  |
|                           |                       |               | 0.82               |      |        |           |       |                 |                |                     |     |    |    |    |                |  |  |
|                           | 4.64                  | ↓             |                    | 1.02 |        |           |       |                 |                |                     |     |    |    |    |                |  |  |

KPNLRTRC87103







PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87103

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----|----------|---------|-----------|--|
|     | 0.00       | 0.15     | 0.15           | *90 |          |         | SANDSTONE | FG. ORNG GRADES RAPIDLY INTO UNDERLYING.   |
|     | 0.15       | 0.30     | 0.15           | *90 |          |         | SILTSTONE | GRADES RAPIDLY INTO UNDERLYING.  |
|     | 0.30       | 0.50     | 0.20           | *90 |          |         | MUDSTONE  | CARB DIRECTLY OVERLIES COAL. NUMEROUS PLANT FRAGMENTS.   |
|     | 0.50       | 9.20     | 8.70           | *90 |          | G?      | COAL      | NOT LOGGED IN DETAIL DUE TO TRENCH SLUMPING. PREDOMINATELY C-4 - C-5 WITH SMALL VITRINITE BANDS (0.5 CM). NUMEROUS CARB. MUD & ROCK PARTINGS. ESP. IN LOWER 2 M OF SEAM. STRUCTURALLY THICKENED. |
|     | 9.20       | 9.70     | 0.50           | *90 |          |         | SILTSTONE | DK. BN NOT WELL CONSOLIDATED, POORLY BEDDED.   |

\* DENOTES MEASURED BCA  
NEMPAGE

KPNLRTRC87104



KPNLRTRC87105

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87105

DATE - 01/13/88

- HISTORY -

START DATE - 08/04/87

END DATE - 08/04/87

CONTRACTOR -

GEOLOGIST - MURRAY

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - NO ROOF OR FLOOR. "G" SEAM?

- LOCATION -

PROVINCE - BC

ELEVATION - 1730.00

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343790.00

EASTING - 506180.00

LATITUDE - 571421

LONGITUDE - 1285351

- ORIENTATION -

LENGTH - 20.30

SIZE WIDTH - 1.0

SIZE HEIGHT - 5.5

INCLINATION - 5.0

AZIMUTH - 90.0

ROOF STRIKE - 120

ROOF DIP - 15

ROOF DIR - N

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====





KPNLRTRC87106

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPnlRTRC87106

DATE - 03/07/88

- HISTORY -

START DATE - 08/04/87

END DATE - 08/04/87

CONTRACTOR -

GEOLOGIST - MURRAY

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - NO SURFACE BEDDING PRESENT. "PH" SEAM?

- LOCATION -

PROVINCE - BC

ELEVATION - 1735.00

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343838.00

EASTING - 506198.00

LATITUDE - 571422

LONGITUDE - 1285350

- ORIENTATION -

LENGTH - 8.40

SIZE WIDTH - 1.0

SIZE HEIGHT - 3.5

ROOF STRIKE - 148

ROOF DIP - 30

ROOF DIR - N

INCLINATION - 4.0

AZIMUTH - 183.0

FLOOR STRIKE - 148

FLOOR DIP - 20

FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE





KPNLRTRC87107

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87107

DATE - 01/13/88

- HISTORY -

START DATE - 09/09/87  
END DATE - 09/09/87

CONTRACTOR -  
GEOLOGIST - LEDDA

OPERATOR - G.C.R.  
SURVEYOR -

REMARKS - COAL ON ANTICLINE HINGE....2 ROOFS, WEST LIMB = 08  
2/42 DEG. N, EAST LIMB = 068/21 E. "E" SEAM?

- LOCATION -

PROVINCE - BC  
ELEVATION - 1751.00

ZONE - 9  
NORTHING - 6343687.00  
EASTING - 505783.00

LICENCE/LEASE NUMBER -

LATITUDE - 571417  
LONGITUDE - 1285415

- ORIENTATION -

LENGTH - 19.50  
SIZE WIDTH - 1.3  
SIZE HEIGHT - 2.5

INCLINATION - 3.0  
AZIMUTH - 153.0

ROOF STRIKE - 82  
ROOF DIP - 42  
ROOF DIR - N

FLOOR STRIKE - 0  
FLOOR DIP - 0  
FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87107

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|-----------|--|
|     | 2.81       | 2.82     | 0.01           | *90          | E?      | COAL      | C-2. BLK<br>WELL DEVELOPED CONCHOIDAL FRACTURE.  |
|     | 2.82       | 2.89     | 0.07           | *90          | E?      | MUDSTONE  | CARB. BLK<br>RARE THIN COAL LAMS. WELL CONSOLIDATED.   |
|     | 2.89       | 3.01     | 0.12           | *90          | E?      | COAL      | C-1. BLK<br>MINOR C-2/C-3 BANDS. ABRUPT LOWER CONTACT.   |
|     | 3.01       | 3.37     | 0.36           | *90          | E?      | MUDSTONE  | CARB. DK. GY<br>OCCASIONAL THIN COAL LAMS THROUGHOUT UP TO .5 CH THK. FE. STAINING OCCURS NEAR THE BASE OF UNIT. |
|     | 3.37       | 3.43     | 0.06           | *90          | E?      | MUDSTONE  | BLK<br>SAME A/A BUT COMMON C-2 LAMS UP TO .5 C M.  |
|     | 3.43       | 3.46     | 0.03           | *90          | E?      | COAL      | C-1. BLK   |
|     | 3.46       | 3.51     | 0.05           | *90          | E?      | COAL      | C-2. BLK<br>BASE IS MARKED BY THIN (1 CH) C-1 BAND.<br>SHARP LOWER CONTACT.                                      |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87107

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------------|---------|-----------|---|
|     | 3.51       | 3.52     | 0.01           | *90          | E?      | MUDSTONE  | CARB. BLK   |
|     | 3.52       | 3.67     | 0.15           | *90          | E?      | COAL      | C-3. BLK<br>RARE MUDST LAMS & OCCASIONAL C-2 COAL BANDS UP TO .5 CH.  |
|     | 3.67       | 3.74     | 0.07           | *90          | E?      | COAL      | C-2   |
|     | 3.74       | 3.89     | 0.15           | *90          | E?      | MUDSTONE  | CARB. BLK<br>COAL LAMS BECOME INCREASINGLY MORE COMMON TOWARDS BASE.  |
|     | 3.89       | 3.97     | 0.08           | *90          | E?      | COAL      | C-3. BLK<br>COMMON C-2 BANDS & MUDST LAMINAE THROUGHOUT.              |
|     | 3.97       | 4.08     | 0.11           | *90          | E?      | COAL      | C-3. BLK<br>INTERLAMINATED COAL/MUDST (.65/35). LAMS ARE UP TO .5 CH. |
|     | 4.08       | 4.22     | 0.14           | *90          | E?      | COAL      | C-2. BLK<br>COMMON C-3/C-4 BANDS & RARE MUDST LAMS.                   |
|     | 4.22       | 4.25     | 0.03           | *90          | E?      | MUDSTONE  | M. BN<br>POORLY CONSOLIDATED.   |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB7107

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------------|---------|-----------|---|
|     | 4.25       | 4.40     | 0.15           | *90          | E?      | COAL      | C-3.BLK<br>SOME INTERBEDDED THIN MUDST LAMS AS WELL AS C-5/C-6 BANDS. |
|     | 4.40       | 4.52     | 0.12           | *90          | E?      | COAL      | C-2.BLK<br>COMMON C-1. RARE FE STAIN.                                 |
|     | 4.52       | 4.58     | 0.06           | *90          | E?      | COAL      | C-4.BLK<br>COMMON C-1/C-2 BANDS WITH VERY RARE THIN MUDST LAMS.       |
|     | 4.58       | 4.59     | 0.01           | *90          | E?      | COAL      | C-1.BLK   |
|     | 4.59       | 4.80     | 0.21           | *90          | E?      | COAL      | C-2.BLK<br>COMMON C-1.  |
|     | 4.80       | 4.82     | 0.02           | *90          | E?      | MUDSTONE  | BN<br>FE STAINED. SOME THIN BLACK COALY LAMINATIONS.                  |
|     | 4.82       | 4.97     | 0.15           | *90          | E?      | COAL      | C-4.BLK<br>COMMON MUDST LAMS WITH SOME FE STAINING                    |
|     | 4.97       | 5.07     | 0.10           | *90          | E?      | MUDSTONE  | BLK<br>COMMON THIN COAL LAMS.   |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB7107

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|-----------|--|
|     | 5.07       | 5.17     | 0.10           | *90          | E?      | MUDSTONE  | DK.GY<br>VERY RARE THIN COAL LAMS.   |
|     | 5.17       | 5.37     | 0.20           | *90          | E?      | COAL      | C-1.BLK<br>COMMON C-2 BANDS SPLIT BY THIN MUDST LAMS. SOME FE STAINING. NOTE: FLOOR NOT REACHED. |

\* DENOTES MEASURED BCA  
NEWPAGE



KPNLRTRC87108

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87108

DATE - 03/07/88

- HISTORY -

START DATE - 08/07/87  
END DATE - 08/07/87

CONTRACTOR -  
GEOLOGIST - MURRAY

OPERATOR - G.C.R.  
SURVEYOR -

REMARKS - TOP OF SEAM SEEN AT BOTTOM OF TRENCH UNDERLYING 3.  
5 M. TILL ROOF NOT SEEN, NO FORMAL LOG. "G" SEAM?

- LOCATION -

PROVINCE - BC  
ELEVATION - 1796.00

ZONE - 9  
NORTHING - 6343975.00  
EASTING - 505790.00

LICENCE/LEASE NUMBER -

LATITUDE - 571427  
LONGITUDE - 1285415

- ORIENTATION -

LENGTH - 28.00

INCLINATION - 10.0  
AZIMUTH - 182.0

SIZE WIDTH - 1.0  
SIZE HEIGHT - 3.8

ROOF STRIKE - 0  
ROOF DIP - 0  
ROOF DIR -

FLOOR STRIKE - 0  
FLOOR DIP - 0  
FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE



KPNLRTRC87109

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87109

DATE - 01/13/88

- HISTORY -

START DATE - 08/16/87

END DATE - 08/20/87

CONTRACTOR -

GEOLOGIST - BUSSCHE

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - NO ROOF OBSERVED. "F" SEAM?

- LOCATION -

PROVINCE - BC

ELEVATION - 1816.00

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343963.00

EASTING - 505253.00

LATITUDE - 571426

LONGITUDE - 1285447

- ORIENTATION -

LENGTH - 7.40

INCLINATION - 0.0

AZIMUTH - 345.0

SIZE WIDTH - 1.8

SIZE HEIGHT - 1.8

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

FLOOR STRIKE - 40

FLOOR DIP - 12

FLOOR DIR - S

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



KPNLRTRC87110

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87110

DATE - 01/13/88

- HISTORY -

START DATE - 08/16/87  
END DATE - 08/16/87

CONTRACTOR -  
GEOLOGIST - BUSSCHE

OPERATOR - G.C.R.  
SURVEYOR -

REMARKS - "F" SEAM? NO FORMAL LOG.

- LOCATION -

PROVINCE - BC  
ELEVATION - 1811.00

ZONE - 9  
NORTHING - 6343840.00  
EASTING - 505212.00

LICENCE/LEASE NUMBER -

LATITUDE - 571422  
LONGITUDE - 1285449

- ORIENTATION -

LENGTH - 0.00  
SIZE WIDTH - 0.0  
SIZE HEIGHT - 0.0

INCLINATION - 0.0  
AZIMUTH - 0.0

ROOF STRIKE - 0  
ROOF DIP - 0  
ROOF DIR -

FLOOR STRIKE - 0  
FLOOR DIP - 0  
FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

KPNLRTRC87111



===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87111

DATE - 01/13/88

- HISTORY -

START DATE - 08/16/87  
END DATE - 08/16/87

CONTRACTOR -  
GEOLOGIST - BUSSCHE

OPERATOR - G.C.R.  
SURVEYOR -

REMARKS - APPROX STRIKE AND DIP 070/18, TRACED TO TRC87110/T  
RC87109. NO FORMAL LOG. "F" SEAM?

- LOCATION -

PROVINCE - BC  
ELEVATION - 1790.00

ZONE - 9  
NORTHING - 6343746.00  
EASTING - 505329.00

LICENCE/LEASE NUMBER -

LATITUDE - 571419  
LONGITUDE - 1285442

- ORIENTATION -

LENGTH - 16.50  
SIZE WIDTH - 1.3  
SIZE HEIGHT - 3.2

INCLINATION - 0.0  
AZIMUTH - 215.0

ROOF STRIKE - 0  
ROOF DIP - 0  
ROOF DIR -

FLOOR STRIKE - 0  
FLOOR DIP - 0  
FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

KPNLRTRC87112

KPNLRTRC87113

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87113

DATE - 01/13/88

- HISTORY -

START DATE - 08/17/87

END DATE - 08/17/87

CONTRACTOR -

GEOLOGIST - MURRAY

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - ROOF BEDDING IS APPROX. "E" SEAM?

- LOCATION -

PROVINCE - BC

ELEVATION - 1751.00

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343707.00

EASTING - 505833.00

LATITUDE - 571418

LONGITUDE - 1285412

- ORIENTATION -

LENGTH - 22.00

SIZE WIDTH - 1.1

SIZE HEIGHT - 4.0

INCLINATION - 3.0

AZIMUTH - 130.0

ROOF STRIKE - 50

ROOF DIP - 12

ROOF DIR - N

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



KPNLRTRC87114

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87114

DATE - 01/13/88

- HISTORY -

START DATE - 08/18/87

END DATE - 08/18/87

CONTRACTOR -

GEOLOGIST - MURRAY

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - ROOF APPEARS TO HAVE BEEN ERODED AWAY. "E" SEAM?

- LOCATION -

PROVINCE - BC

ELEVATION - 1756.00

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343655.00

EASTING - 505704.00

LATITUDE - 571416

LONGITUDE - 1285420

- ORIENTATION -

LENGTH - 10.00

SIZE WIDTH - 1.3

SIZE HEIGHT - 2.7

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

INCLINATION - 0.0

AZIMUTH - 140.0

FLOOR STRIKE - 90

FLOOR DIP - 10

FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====





PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87114

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 0.00       | 0.63     | 0.63           | *90 |          | E?      | COAL      | C-4<br>HIGHLY WEATHERED WITH MANY CARB MUDST B<br>ANDS. ALSO BANDS OF C1 AND C2 THROUGHOU<br>T. |
|     | 0.63       | 1.16     | 0.53           | *90 |          | E?      | COAL      | C-3<br>UNCONSOLIDATED CARB MUDST THROUGHOUT. C<br>2 BANDS ARE COMMON WITHIN.                    |
|     | 1.16       | 1.48     | 0.32           | *90 |          |         | MUDSTONE  | CARB. DK. GY<br>MANY THIN C1 AND C2 BANDS THROUGHOUT.   |
|     | 1.48       | 1.88     | 0.40           | *90 |          |         | MUDSTONE  | DK. GY. THNB<br>FLOOR, VERY HARD.   |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87115

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87115

DATE - 01/13/88

- HISTORY -

START DATE - 09/09/87

END DATE - 09/09/87

CONTRACTOR -

GEOLOGIST - LEDDA

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - "PH" SEAM? TWO THIN COAL SEAMS.

- LOCATION -

PROVINCE - BC

ELEVATION - 1720.00

ZONE - 9

NORTHING - 6343535.00

EASTING - 505923.00

LICENCE/LEASE NUMBER -

LATITUDE - 571412

LONGITUDE - 1285407

- ORIENTATION -

LENGTH - 25.00

INCLINATION - 0.0

AZIMUTH - 140.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 1.6

ROOF STRIKE - 28

ROOF DIP - 30

ROOF DIR - E

FLOOR STRIKE - 32

FLOOR DIP - 24

FLOOR DIR - E

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

# GULF CANADA CORPORATION

**SEAM DETAIL**

**COAL DIVISION  
MOUNT KLAPPAN PROJECT**

**TRUE THICKNESS**

DATA SOURCE: KPN LR TRC87115    SEAM : PH    INTERVAL(M) : 2.90 - 4.41    ELEVATION(M) : 1720.0  
 GEOLOGIST : LEDDA    SCALE: 1:40    DATE : JAN 15/88    DRAWING NO. :

| SEAM COMP.<br>1 2 3 4 5 6 | DRILL DEPTH<br>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 |   |   |   |   |
|                           | 2.90                  | ↑             |                 | 0.18 |        |           |       |                 |                |                     |     |    |    |    |                |   |   |   |   |
|                           |                       |               | 0.82            |      | 100.0  | 99999     | 99999 | 0.42 / 1.08     |                | —                   | —   | —  | —  | —  | —              | — | — | — | — |
|                           |                       |               | 0.18            |      |        |           |       | 1.61            |                |                     |     |    |    |    |                |   |   |   |   |
|                           | 4.41                  | ↓             |                 | 0.22 |        |           |       |                 |                |                     |     |    |    |    |                |   |   |   |   |
|                           |                       |               |                 |      |        |           |       |                 |                |                     |     |    |    |    |                |   |   |   |   |

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87115

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA ID | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------|----------|---------|-----------|--|
|     | 0.00       | 2.50     | 2.50           | *90    |          |         | MUDSTONE  | M. GY. MB.<br>SOME SILTY ZONES.  |
|     | 2.50       | 2.90     | 0.40           | *90    |          |         | MUDSTONE  | CARB. DK. GY.<br>OVERALL SLIGHT FINING UPWARD TREND, BECOMING LESS SILTY UPWARDS (ALSO LESS CARB. ROOF). |
|     | 2.90       | 2.91     | 0.01           | *90    |          | PH?     | COAL      | C-3. BLK. LAM<br>THIN DISCONTINUOUS MUDST LAMS W/IN. VERY SHARP UPPER & LOWER CONTACTS.                  |
|     | 2.91       | 2.94     | 0.03           | *90    |          | PH?     | MUDSTONE  | BLK<br>THIN COAL LAMS THROUGHOUT.  |
|     | 2.94       | 2.98     | 0.04           | *90    |          | PH?     | COAL      | C-4. BLK<br>RARE C-2 & C-3 BANDS W/IN.   |
|     | 2.98       | 3.02     | 0.04           | *90    |          | PH?     | COAL      | C-3. BLK<br>OCCASIONAL THIN C-4/C-5 BANDS.   |
|     | 3.02       | 3.05     | 0.03           | *90    |          | PH?     | COAL      | C-4. BLK<br>ONE THIN (.5 CM) SOFT & UNCONSOLIDATED MUDSTONE LAM W/IN COAL.                               |
|     | 3.05       | 3.09     | 0.04           | *90    |          | PH?     | COAL      | C-3. BLK<br>ABRUPT LOWER CONTACT.  |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87115

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA ID | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------|----------|---------|-----------|--|
|     | 3.09       | 3.71     | 0.62           | *90    |          | PH?     | MUDSTONE  | SLTY. DK. BN. THNB<br>BEDDING IS GENERALLY <5 CM. WEATHERS MED BROWN. WELL CONSOLIDATED.                                   |
|     | 3.71       | 3.89     | 0.18           | *90    |          | PH?     | MUDSTONE  | CARB. BLK<br>BECOMES LAMINATED & MORE CONSOLIDATED UPWARDS THE BASE OF UNIT.   |
|     | 3.89       | 3.93     | 0.04           | *90    |          | PH?     | COAL      | C-4. BLK<br>SHARP UPPER & LOWER CONTACTS.  |
|     | 3.93       | 4.19     | 0.26           | *90    |          | PH?     | MUDSTONE  | CARB. BLK<br>SOFT & WEATHERED SLIGHTLY.  |
|     | 4.19       | 4.28     | 0.09           | *90    |          | PH?     | COAL      | C-3. BLK<br>RARE VERY THIN MUDST LAM & OCCASIONAL FE STAINING.   |
|     | 4.28       | 4.34     | 0.06           | *90    |          | PH?     | COAL      | C-3. BLK<br>WELL CLEATED, SLIGHTLY WEATHERED COAL.   |
|     | 4.34       | 4.41     | 0.07           | *90    |          | PH?     | COAL      | C-2. BLK<br>WELL CLEATED WITH COMMON FE STAIN. COMMON THIN C-3 & C-4 BANDS THROUGHOUT.                                     |
|     | 4.41       | 4.85     | 0.44           | *90    |          |         | MUDSTONE  | CARB. BLK. HAS<br>SILTY AT TOP GRADING DOWN TO MUDST RAPIDLY. SHARP LOWER CONTACT. FLOOR. "WILSS ONIA TERUYCAULIS" COMMON. |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87115

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----------|---------|-----------|---|
|     | 4.85       | 5.49     | 0.64           | *90       |         | SILTSTONE | CARB. M. GY. INTERBEDDED SS/SLTST (20/80) WITH OCCASIONAL THIN COAL LENSES. WEATHERS DK BROWN. SHEAR ZONES COMMON. GRADATIONAL UPPER CONTACT. |
|     | 5.49       | 6.10     | 0.61           | *90       |         | SILTSTONE | CARB. DK. GY. THNB. OCCASIONAL COAL LAMS & VERY RARE SS LAM. S. MAX BDG THICKNESS = 5 CM. WEATHERS D. RANGE. BROWN.                           |
|     | 6.10       | 6.12     | 0.02           | *90       |         | MUDSTONE  | CARB. THIN BUT COMMON DISCONTINUOUS COAL LAMS THROUGHOUT.   |
|     | 6.12       | 6.67     | 0.55           | *90       |         | SILTSTONE | CARB. LAM. INTERBEDDED VFG SS/SLTST. DOMINATED BY SLTST WITH COMMON VFG SS LAMINAE.   |
|     | 6.67       | 7.17     | 0.50           | *90       |         | SANDSTONE | VFG. M. GY. MAS. SLIGHTLY CARB DIRTY SS WEATHERING ORANGE. BROWN.   |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87116

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87116

DATE - 01/13/88

- HISTORY -

START DATE - 08/18/87

END DATE - 08/18/87

CONTRACTOR -

GEOLOGIST - MURRAY

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - SEAM APPEARS TO BE SLIGHTLY OVERTURNED. "F" SEAM?

- LOCATION -

PROVINCE - BC

ELEVATION - 1739.00

ZONE - 9

NORTHING - 6343692.00

EASTING - 505942.00

LICENCE/LEASE NUMBER -

LATITUDE - 571417

LONGITUDE - 1285406

- ORIENTATION -

LENGTH - 10.30

INCLINATION - 0.0

AZIMUTH - 90.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 3.4

ROOF STRIKE - 0

ROOF DIP - 73

ROOF DIR - W

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====





PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87116

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----|----------|---------|-----------|--|
|     | 0.00       | 0.50     | 0.50           | *90 |          |         | MUDSTONE  | BLK<br>ROOF? SEAM MAYBE OVERTURNED.  |
|     | 0.50       | 2.80     | 2.30           | *90 |          | F?      | COAL      | C-2<br>C2 COAL WITH C3 INTERBEDS.  |
|     | 2.80       | 3.70     | 0.90           | *90 |          | F?      | COAL      | C-2<br>PREDOMINATELY C2 COAL WITH C1 INTERBEDS   |
|     | 3.70       | 4.70     | 1.00           | *90 |          | F?      | COAL      | C-1<br>PREDOMINATELY C1 WITH C2 BANDS THROUGHOUT.<br>VT. GOOD CLEAT AND CONCHOIDAL FRACTURES |
|     | 4.70       | 4.80     | 0.10           | *90 |          | F?      | MUDSTONE  | BLK  |
|     | 4.80       | 4.90     | 0.10           | *90 |          | F?      | COAL      | C-2  |
|     | 4.90       | 5.15     | 0.25           | *90 |          | F?      | MUDSTONE  | CARB. BLK<br>C2 COAL STRINGERS.  |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87116

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 5.15       | 5.35     | 0.20           | *90 |          | F?      | COAL      | C-1   |
|     | 5.35       | 5.45     | 0.10           | *90 |          | F?      | MUDSTONE  | CARB. BLK<br>COALY STRINGERS THROUGHOUT.                        |
|     | 5.45       | 5.65     | 0.20           | *90 |          | F?      | COAL      | C-1<br>CONCHOIDAL FRACTURES.                                    |
|     | 5.65       | 5.80     | 0.15           | *90 |          | F?      | COAL      | C-3<br>VERY WEATHERED.  |
|     | 5.80       | 6.30     | 0.50           | *90 |          |         | MUDSTONE  | BLK<br>SOME THIN COALY STRINGERS ALONG BEDDING<br>PLANE, FLOOR. |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87117

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87117

DATE - 01/13/88

- HISTORY -

START DATE - 08/18/87

END DATE - 08/19/87

CONTRACTOR -

GEOLOGIST - BUSSCHE

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - V. CONTORTED; POSSIBLY H; LOG, V. GENERAL DUE TO C  
ONTORTIONS AND WEATHERING. "F" SEAM?

- LOCATION -

PROVINCE - BC

ELEVATION - 1744.00

ZONE - 9

NORTHING - 6343755.00

EASTING - 505960.00

LICENCE/LEASE NUMBER -

LATITUDE - 571419

LONGITUDE - 1285405

- ORIENTATION -

LENGTH - 32.00

INCLINATION - 0.0

AZIMUTH - 30.0

SIZE WIDTH - 1.1

SIZE HEIGHT - 3.0

ROOF STRIKE - 100

ROOF DIP - 35

ROOF DIR - N

FLOOR STRIKE - 70

FLOOR DIP - 21

FLOOR DIR - S

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87117

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA ID | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------|----------|---------|-----------|--|
|     | 3.66       | 4.76     | 1.10           | *90    | F?       |         | COAL      | C-5<br>MOSTLY STRINGERS WHERE UNIT APPEARS AS<br>A MUDST WITH 5 TO 20% COAL; V. HARD; 1<br>TO 2 CM BANDS OF C-2. |
|     | 4.76       | 5.21     | 0.45           | *90    | F?       |         | MUDSTONE  | DK.GY<br>MOVED ALONG TRENCH LATERALLY SO PACKAGE<br>PLACEMENT UNCERTAIN.   |
|     | 5.21       | 6.01     | 0.80           | *90    | F?       |         | COAL      | C-4<br>SHEARED AND POWDERED; MINOR QUARTZ BAND<br>S.   |
|     | 6.01       | 6.91     | 0.90           | *90    |          |         | MUDSTONE  | CARB.DK.GY<br>MINOR VITRAIN STRINGERS ESPECIALLY NEAR<br>TOP.  |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87118

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87118

DATE - 12/04/87

- HISTORY -

START DATE - 19/08/87

END DATE - 19/08/87

CONTRACTOR -

GEOLOGIST - BUSSCHE

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - I SEAM; ABUNDANT PLANT FOSSILS IN FLOOR.

- LOCATION -

PROVINCE - BC

ELEVATION - 1710.00

ZONE - 9

NORTHING - 6343563.00

EASTING - 506192.00

LICENCE/LEASE NUMBER -

LATITUDE - 571413

LONGITUDE - 1285351

- ORIENTATION -

LENGTH - 12.00

INCLINATION - 0.0

AZIMUTH - 35.0

SIZE WIDTH - 1.1

SIZE HEIGHT - 2.7

ROOF STRIKE - 120

ROOF DIP - 70

ROOF DIR - N

FLOOR STRIKE - 130

FLOOR DIP - 70

FLOOR DIR - S

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



# GULF CANADA CORPORATION

COAL DIVISION  
MOUNT KLAPPAN PROJECT

SEAM DETAIL

TRUE THICKNESS

DATA SOURCE: KPN LR TRC87118 SEAM : 1 INTERVAL(M) : 2.90 - 6.44 ELEVATION(M) : 1710.0  
 GEOLOGIST : BUSSCHE SCALE: 1:40 DATE : MAR 11/88 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 |  |  |
|            | 2.90               | ↑             |                 | 0.44 |        |           |       |                 |                |                     |     |    |    |    |               |  |  |
|            |                    |               |                 | 0.18 |        |           |       |                 |                |                     |     |    |    |    |               |  |  |
|            |                    |               |                 | 1.30 |        |           |       |                 |                |                     |     |    |    |    |               |  |  |
|            |                    |               |                 |      | 100.0  | 99999     | 99999 | 3.30 / 0.24     |                |                     |     |    |    |    |               |  |  |
|            |                    |               |                 |      |        |           |       | 3.34            |                |                     |     |    |    |    |               |  |  |
|            |                    |               |                 | 1.50 |        |           |       |                 |                |                     |     |    |    |    |               |  |  |
|            | 6.44               | ↓             |                 |      |        |           |       |                 |                |                     |     |    |    |    |               |  |  |

88/03/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87118

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----|----------|---------|-----------|--|
|     | 0.00       | 2.60     | 2.60           | *90 |          |         | SILTSTONE | SSY.M.GY<br>NODULAR WEATHERING, MINOR FE STAINING.                           |
|     | 2.60       | 2.90     | 0.30           | *90 |          |         | MUDSTONE  |  |
|     | 2.90       | 3.34     | 0.44           | *90 |          | I       | COAL      | C-3<br>V. WEATHERED, POWDERED, FE STAINING.                                  |
|     | 3.34       | 3.49     | 0.15           | *90 |          | I       | MUDSTONE  | CARB.DK.GY<br>SLIGHTLY SHEARED, SOME LISTRIC SURFACES,<br>VITRAIN STRINGERS. |
|     | 3.49       | 4.09     | 0.60           | *90 |          | I       | COAL      | C-2<br>SLIGHTLY BANDED, MINOR FE STAINING, THIN<br>MUDDY BANDS <1 CM THICK.  |
|     | 4.09       | 4.44     | 0.35           | *90 |          | I       | COAL      | C-2<br>V. HARD, SOME CONCHOIDAL FRACTURES, QUALITY<br>BORDERS ON C-1.        |
|     | 4.44       | 4.79     | 0.35           | *90 |          | I       | COAL      | C-2<br>PARTIALLY SHEARED AND POWDERED.                                       |
|     | 4.79       | 4.85     | 0.06           | *90 |          | I       | MUDSTONE  | SLTY.M.GY  |
|     | 4.85       | 4.91     | 0.06           | *90 |          | I       | COAL      | C-2  |

\* DENOTES MEASURED BCA

88/03/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87118

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----|----------|---------|-----------|--|
|     | 4.91       | 4.94     | 0.03           | *90 |          | I       | MUDSTONE  | CLYY<br>POORLY CONSOLIDATED.   |
|     | 4.94       | 6.44     | 1.50           | *90 |          | I       | COAL      | C-1<br>V. HARD, HUGE CONCHOIDAL FRACTURES.   |
|     | 6.44       | 8.44     | 2.00           | *90 |          |         | MUDSTONE  | SLTY.DK.GY<br>ABUNDANT PLANT FOSSILS, SOME COALIFIED<br>FRAGMENTS, BECOMES SILTIER AND LESS CARBONACEOUS<br>FURTHER FROM SEAM. |
|     | 8.44       | 8.50     | 0.06           | *90 |          |         | MUDSTONE  | CLYY.LT.GY<br>BENTONITIC.  |
|     | 8.50       | 10.00    | 1.50           | *90 |          |         | SANDSTONE | FG.LT.GY<br>APPEARS TO BE TUFFITE ABOVE BENTONITE.<br>V. HARD, FRIABLE WHEN WTHRD.   |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87119

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87119

DATE - 01/13/88

- HISTORY -

START DATE - 08/24/87

END DATE - 08/24/87

CONTRACTOR -

GEOLOGIST - MURRAY

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - TOP OF SEAM NOT REACHED UNTIL 2.5 M, ROOF NOT SEEN  
BEDDING IS OF COAL CLEAT, NEAR ROOF. NO FORMAL LOG.  
G. "I" SEAM.

- LOCATION -

PROVINCE - BC

ELEVATION - 1698.00

ZONE - 9

NORTHING - 6343420.00

EASTING - 506214.00

LICENCE/LEASE NUMBER -

LATITUDE - 571409

LONGITUDE - 1285349

- ORIENTATION -

LENGTH - 4.00

INCLINATION - 0.0

AZIMUTH - 330.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 3.0

ROOF STRIKE - 0

ROOF DIP - 28

ROOF DIR - E

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

KPNLRTRC87120

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87120

DATE - 01/13/88

- HISTORY -

START DATE - 08/24/87

END DATE - 08/25/87

CONTRACTOR -

GEOLOGIST - MURRAY

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - NO ROOF OBSERVED, SEAM RUNS INTO TILL. "I" SEAM?

- LOCATION -

PROVINCE - BC

ELEVATION - 1702.00

ZONE - 9

NORTHING - 6343364.00

EASTING - 505881.00

LICENCE/LEASE NUMBER -

LATITUDE - 571407

LONGITUDE - 1285409

- ORIENTATION -

LENGTH - 8.00

INCLINATION - 0.0

AZIMUTH - 148.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 2.4

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

FLOOR STRIKE - 147

FLOOR DIP - 16

FLOOR DIR - S

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87120

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA ID | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------|----------|---------|-----------|---|
|     | 0.00       | 0.30     | 0.30           | *90    |          | I?      | COAL      | C-3.BLK<br>C2 BANDS UP TO 2 CM, MINOR FE STAIN.                         |
|     | 0.30       | 0.46     | 0.16           | *90    |          | I?      | COAL      | C-2.BLK<br>MINOR FE STAIN.  |
|     | 0.46       | 0.69     | 0.23           | *90    |          | I?      | COAL      | C-3.BLK<br>MINOR CM SCALE MUDST BANDS AND FE STAINING THROUGHOUT.       |
|     | 0.69       | 0.79     | 0.10           | *90    |          | I?      | MUDSTONE  | LT.GY<br>POORLY CONSOLIDATED.   |
|     | 0.79       | 0.89     | 0.10           | *90    |          | I?      | COAL      | C-2.BLK<br>MINOR MUDST AND C3 INTERBEDS, FE STAINING.                   |
|     | 0.89       | 0.98     | 0.09           | *90    |          | I?      | COAL      | C-4.BLK<br>MINOR MUDST.   |
|     | 0.98       | 1.12     | 0.14           | *90    |          | I?      | COAL      | C-3.BLK<br>WITH C2 INTERBEDS, QZ STRINGERS THROUGHOUT. MUDST INTERBEDS. |
|     | 1.12       | 1.62     | 0.50           | *90    |          |         | MUDSTONE  | DK.GY.LAM<br>FLOOR.   |

\* DENOTES MEASURED BCA  
NEWPAGE



KPNLRTRC87121

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87121

DATE - 01/13/88

- HISTORY -

START DATE - 08/25/87

END DATE - 08/25/87

CONTRACTOR -

GEOLOGIST - MURRAY

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - NO LOG DUE TO ADVERSE TRENCH CONDITIONS, "I"SEAM.  
NO FORMAL LOG.

- LOCATION -

PROVINCE - BC

ELEVATION - 1672.00

ZONE - 9

NORTHING - 6343194.00

EASTING - 506171.00

LICENCE/LEASE NUMBER -

LATITUDE - 571401

LONGITUDE - 1285352

- ORIENTATION -

LENGTH - 22.00

INCLINATION - 5.0

AZIMUTH - 140.0

SIZE WIDTH - 1.0

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

=====

KPNLRTRC87122

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87122

DATE - 12/04/87

- HISTORY -

START DATE - 26/08/87

END DATE - 26/08/87

CONTRACTOR -

GEOLOGIST - MURRAY

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - SEAM 1, SOME MEASURES ARE APPROX. DUE TO ADVERSE C  
ONDITIONS.

- LOCATION -

PROVINCE - BC

ELEVATION - 1670.00

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343182.00

EASTING - 506195.00

LATITUDE - 571401

LONGITUDE - 1285351

- ORIENTATION -

LENGTH - 19.00

INCLINATION - 0.0

AZIMUTH - 170.0

SIZE WIDTH - 1.2

SIZE HEIGHT - 3.9

ROOF STRIKE - 80

ROOF DIP - 24

ROOF DIR - S

FLOOR STRIKE - 76

FLOOR DIP - 21

FLOOR DIR - S

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

# GULF CANADA CORPORATION

## COAL DIVISION MOUNT KLAPPAN PROJECT

SEAM DETAIL

TRUE THICKNESS

DATA SOURCE: KPN LR TRC87122 SEAM : 1 INTERVAL(M) : 0.25 - 4.79 ELEVATION(M) : 1670.0  
 GEOLOGIST : MURRAY SCALE: 1:40 DATE : JAN 14/88 DRAWING NO. :

| SEAM COMP.<br>1 2 3 4 5 6 | DRILL DEPTH<br>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 |  |  |
|                           | 0.25                  | ↑             |                 |      |        |           |       |                 |                |                     |     |    |    |    |                |  |  |
|                           |                       |               |                 | 1.96 |        |           |       |                 |                |                     |     |    |    |    |                |  |  |
|                           |                       |               | 0.18            |      |        |           |       |                 |                |                     |     |    |    |    |                |  |  |
|                           |                       |               | 0.21            |      | 100.0  | 99999     | 99999 | 3.67 / 0.67     |                |                     |     |    |    |    |                |  |  |
|                           |                       |               | 0.11            |      |        |           |       | 4.54            |                |                     |     |    |    |    |                |  |  |
|                           |                       |               |                 | 0.99 |        |           |       |                 |                |                     |     |    |    |    |                |  |  |
|                           |                       |               | 0.34            |      |        |           |       |                 |                |                     |     |    |    |    |                |  |  |
|                           |                       |               |                 | 0.39 |        |           |       |                 |                |                     |     |    |    |    |                |  |  |
|                           |                       |               | 0.31            |      |        |           |       |                 |                |                     |     |    |    |    |                |  |  |
|                           | 4.79                  | ↓             |                 | 0.33 |        |           |       |                 |                |                     |     |    |    |    |                |  |  |

88/03/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB7122

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----------|---------|-----------|---|
|     | 0.00       | 0.25     | 0.25           | *90       |         | MUDSTONE  | DK.GY WEATHERS ORNG-BRN, FLOOR. NUMEROUS PLAN T FRAGS.          |
|     | 0.25       | 1.85     | 1.60           | *90       | I       | COAL      | C-1.BLK MINOR C2 NEAR TOP.                                      |
|     | 1.85       | 2.05     | 0.20           | *90       | I       | COAL      | C-2.BLK INTERBEDDED WITH C1.                                    |
|     | 2.05       | 2.21     | 0.16           | *90       | I       | COAL      | C-3.BLK HIGHLY WEATHERED WITH MUDST, THROUGHOUT                 |
|     | 2.21       | 2.36     | 0.15           | *90       | I       | MUDSTONE  | DK.GY HIGHLY WEATHERED ORNG-YEL.                                |
|     | 2.36       | 2.57     | 0.21           | *90       | I       | MUDSTONE  | CARB.DK.GY  |
|     | 2.57       | 2.68     | 0.11           | *90       | I       | MUDSTONE  | LT.BN CARBONACEOUS NEAR TOP.                                    |
|     | 2.68       | 2.95     | 0.27           | *90       | I       | COAL      | C-3.BLK WITH MINOR C2 AND MUDST THROUGHOUT.                     |
|     | 2.95       | 3.57     | 0.62           | *90       | I       | COAL      | C-3.BLK PREDOMINATELY HIGHLY WEATHERED C3 WITH MINOR C2 AND C1. |

\* DENOTES MEASURED BCA

88/03/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB7122

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----------|---------|-----------|--|
|     | 3.57       | 3.67     | 0.10           | *90       | I       | COAL      | C-2.BLK C1 THROUGHOUT.                                   |
|     | 3.67       | 4.01     | 0.34           | *90       | I       | MUDSTONE  | CARB.BLK FE STAINING AND VITRINITE STRINGERS THROUGHOUT. |
|     | 4.01       | 4.40     | 0.39           | *90       | I       | COAL      | C-2.BLK HIGHLY WEATHERED WITH SOME C1.                   |
|     | 4.40       | 4.46     | 0.06           | *90       | I       | MUDSTONE  | LT.BN UNCONSOLIDATED.                                    |
|     | 4.46       | 4.79     | 0.33           | *90       | I       | COAL      | C-3 WITH C2 BANDS HIGHLY WEATHERED.                      |
|     | 4.79       | 5.29     | 0.50           | *90       |         | MUDSTONE  | DK.GY INTERBEDDED WITH MUDDY SLTST, NEAR TOP ROOF.       |

\* DENOTES MEASURED BCA  
NEWPAGE

FORM 4001

KPNLRTRC87123

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87123

DATE - 03/07/88

- HISTORY -

START DATE - 08/27/87

END DATE - 08/27/87

CONTRACTOR -

GEOLOGIST - MURRAY

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - "G" SEAM? COAL WAS VERY WATER SATURATED, MAKING LOGGING DIFFICULT.

- LOCATION -

PROVINCE - BC

ELEVATION - 1756.50

ZONE - 9

NORTHING - 6343845.00

EASTING - 505977.00

LICENCE/LEASE NUMBER -

LATITUDE - 571422

LONGITUDE - 1285404

- ORIENTATION -

LENGTH - 15.00

INCLINATION - 0.0

AZIMUTH - 0.0

SIZE WIDTH - 1.0

SIZE HEIGHT - 3.8

ROOF STRIKE - 105

ROOF DIP - 45

ROOF DIR - N

FLOOR STRIKE - 110

FLOOR DIP - 33

FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====





PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB7123

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA ID | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------|----------|---------|-----------|---|
|     | 0.00       | 2.00     | 2.00           | *90    |          |         | SANDSTONE | CARB. MG. MOD. M. GY. MAS<br>ROOF ROCK: WEATHERS MED BROWN W SOME FE<br>STAIN. APPROX .30 M ABOVE COAL THE SAND<br>BECOMES SL. CLAYEY. SS IS 2.0 M THICK<br>+ |
|     | 2.00       | 2.22     | 0.22           | *90    |          | G?      | COAL      | C-2. BLK<br>OCCASIONAL THIN MUDSTONE BANDS AND SOME<br>FE STAINING.   |
|     | 2.22       | 2.30     | 0.08           | *90    |          | G?      | MUDSTONE  | CARB. BLK   |
|     | 2.30       | 2.92     | 0.62           | *90    |          | G?      | COAL      | C-2. BLK<br>SOME MINOR C-1 PRESENT. GOOD CLEAT. MIN<br>OR MUDST LAMS.   |
|     | 2.92       | 3.05     | 0.13           | *90    |          | G?      | MUDSTONE  | CARB. BLK   |
|     | 3.05       | 3.95     | 0.90           | *90    |          | G?      | COAL      | C-3. BLK<br>MINOR C-2 & COMMON THIN MUDSTONE INTERB<br>EDS.   |
|     | 3.95       | 4.08     | 0.13           | *90    |          | G?      | MUDSTONE  | DK. GY<br>WEATHERS BROWN, SOME FE STAINING.   |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRCB7123

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA ID | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------|----------|---------|-----------|--|
|     | 4.08       | 4.18     | 0.10           | *90    |          | G?      | COAL      | C-2. BLK<br>COMMON C-3 W/IN.   |
|     | 4.18       | 4.52     | 0.34           | *90    |          | G?      | MUDSTONE  | CARB. BLK  |
|     | 4.52       | 4.84     | 0.32           | *90    |          | G?      | COAL      | C-2. BLK<br>INTERBEDDED C-3, SOME MINERAL STAIN.   |
|     | 4.84       | 5.12     | 0.28           | *90    |          | G?      | MUDSTONE  | BN<br>FE STAINED.  |
|     | 5.12       | 5.26     | 0.14           | *90    |          | G?      | COAL      | C-2. BLK<br>SOME C-3, MINOR FE STAIN.  |
|     | 5.26       | 5.81     | 0.55           | *90    |          | G?      | MUDSTONE  | CARB<br>CLAYEY AS WELL AS CARB. MINOR COALY LAM<br>S.  |
|     | 5.81       | 5.93     | 0.12           | *90    |          | G?      | COAL      | C-3. BLK<br>SOME MINOR C-1 BANDING W/IN.   |
|     | 5.93       | 6.82     | 0.89           | *90    |          |         | MUDSTONE  | CARB. BLK<br>THINLY LAMINATED WITH COAL LAMINAE IN S<br>OME ZONES. SOME FE STAINING. FORMS FLOO<br>R ROCK. |
|     | 6.82       | 7.32     | 0.50           | *90    |          |         | MUDSTONE  | BLK<br>SI CARB POORLY CONSOL. MUDST.   |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87123

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|-----------|--|
|     | 7.32       | 7.62     | 0.30           | *90          |         | CLAYSTONE | LT. GY<br>SOFT, PLYABLE, GREASY CLAY. BROWN IN CO<br>NTACT WITH MUDST, BECOMING LT GREY QUIC<br>KLY. |

\* DENOTES MEASURED BCA  
NEWPAGE

KPNLRTRC87124

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLRTRC87124

DATE - 01/13/88

- HISTORY -

START DATE - 09/09/87

END DATE - 09/09/87

CONTRACTOR -

GEOLOGIST - LEDDA

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - ALMOST VERT. COAL SEAM, WTHRD TO THE BASE OF TRC U  
NABLE TO LOG DUE TO CAVING OF TRC WALLS "F" SEAM?

- LOCATION -

PROVINCE - BC

ELEVATION - 1766.40

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6343806.00

EASTING - 505782.00

LATITUDE - 571421

LONGITUDE - 1285415

- ORIENTATION -

LENGTH - 17.00

INCLINATION - 0.0

AZIMUTH - 180.0

SIZE WIDTH - 1.3

SIZE HEIGHT - 2.8

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

FLOOR STRIKE - 100

FLOOR DIP - 64

FLOOR DIR - N

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====



PROJECT: KPN BLOCK: LR DATA SOURCE: TRC87124

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------------|---------|-----------|---|
|     | 0.00       | 0.30     | 0.30           | *90          |         | SANDSTONE | SLTY LT. GY SLIGHTLY CARB WEATHERED SILTY SS. PROBABLY ROOF-ROCK, BUT NOT CERTAIN.  |
|     | 0.30       | 5.80     | 5.50           | *90          | F?      | COAL      | C-3 BLK HIGHLY WEATHERED TO BASE OF TRENCH. SEAM IS ALMOST VERTICAL, WITH SURROUNDING ROCK WAVY & CONTORTED AT COAL CONTACT. ABUNDANT C-2/C-3 WITH NO APPARENT THICK ROCK PARTINGS. |
|     | 5.80       | 6.80     | 1.00           | *90          |         | SILTSTONE | CARB. BLK VERY CARB. BLACK HIGHLY WEATHERED SILTST. WITH COMMON ORANGE/BROWN ZONES. PROBABLY FLOOR-ROCK.  |
|     | 6.80       | 10.30    | 3.50           | *90          |         | SILTSTONE | SSY. BN INTERBEDDED SILTST/SS & OCCASIONAL THIN COAL BANDS. DOM BY SILTST. COMPLETE UNIT IS HIGHLY WEATHERED & CONTORTED. COMMON "NILSSONIA NIGRACOLLENSIS".                        |

-854- NOW IN CONTACT WITH SYSTEM 2000 -  
 COPYRIGHT (C) 1985 SAS INSTITUTE INC., CARY, N.C. 27511, U.S.A. -  
 -855- NO LONGER IN CONTACT WITH SYSTEM 2000 -

APPENDIX I  
LOST-FOX AREA  
MEASURED SECTIONS



DATA SOURCE

SUMMARY.

GULF CANADA CORPORATION - COAL DIVISION  
 15/MAR/88      PROJECT DATA SOURCE SUMMARY      PAGE 1

| DATA SOURCE   | LOCATION   |           | ELEVATION | LENGTH | ANGLE | AZIMUTH | LOG TYPE |
|---------------|------------|-----------|-----------|--------|-------|---------|----------|
|               | NORTHING   | EASTING   |           |        |       |         |          |
| KPNLR0TC87002 | 6342985.00 | 504227.00 | 1749.0    | 37.2   |       |         |          |
| KPNLR0TC87003 | 6343986.00 | 504492.00 | 1851.0    | 82.9   |       |         |          |
| KPNLR0TC87006 | 6344058.00 | 505449.00 | 1821.0    | 19.0   |       |         |          |
| KPNLR0TC87007 | 6343226.00 | 504398.00 | 1749.0    | 39.2   |       |         |          |
| KPNLR0TC87008 | 6343146.00 | 504272.00 | 1736.0    | 49.4   |       |         |          |
| KPNLR0TC87009 | 6343009.00 | 504192.00 | 1733.0    | 17.2   |       |         |          |
| KPNLR0TC87011 | 6343967.00 | 507266.00 | 1640.0    | 87.3   |       |         |          |
| KPNLR0TC87012 | 6344072.00 | 507370.00 | 1624.0    | 75.6   |       |         |          |
| KPNLR0TC87020 | 6344244.00 | 504902.00 | 1828.0    | 139.0  |       |         |          |
| KPNLR0TC87023 | 6343970.00 | 505246.00 | 1812.0    | 20.9   |       |         |          |
| KPNLR0TC87024 | 6344236.00 | 504509.00 | 1722.0    | 73.4   |       |         |          |
| KPNLR0TC87025 | 6344295.00 | 504556.00 | 1714.0    | 53.3   |       |         |          |
| KPNLR0TC87026 | 6343995.00 | 504251.00 | 1724.0    | 87.6   |       |         |          |
| KPNLR0TC87027 | 6344012.00 | 504441.00 | 1822.0    | 132.5  |       |         |          |
| KPNLR0TC87028 | 6344317.00 | 504616.00 | 1738.0    | 70.9   |       |         |          |

KPNLROTC87002

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87002

DATE - 12/04/87

- HISTORY -

START DATE - 06/07/87

END DATE - 06/07/87

CONTRACTOR -

GEOLOGIST - LEE/BARKER

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - SOUTHERN MOHAWK, BEDS OVERTURNED. OTC87009 WAS ALSO MEASURED ACROSS, PART OF THIS OUTCROP.

- LOCATION -

PROVINCE - BC

ELEVATION - 1749.00

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6342985.00

EASTING - 504227.00

LATITUDE - 571355  
LONGITUDE - 1285548

- ORIENTATION -

LENGTH - 37.21

INCLINATION - 0.0

AZIMUTH - 0.0

SIZE WIDTH - 0.0

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

=====

87/12/07

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87002

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY  | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|------------|---|
|     | 0.00       | 3.71     | 3.71           | *90 |          |         | COAL       | TRC84249 K SEAM.  |
|     | 3.71       | 6.71     | 3.00           | *90 |          |         | OVERBURDEN | COVERED INTERVAL; TREE STUMPS FOUND HER E. 75 CM DIAMETER.  |
|     | 6.71       | 8.71     | 2.00           | *90 |          |         | SILTSTONE  | CLYY.THNB<br>MS - GY/BRN, ORNG BANDS, ABUNDANT WELL PRESERVED PLANTS (JUNGLE PRINT FABRIC).<br>N. TENUICAILIS, N SCHAUMBERGENSIS, P N ORDENSKOLDII MOOD, PTILOPHYLLUM SP. |
|     | 8.71       | 9.21     | 0.50           | *90 |          |         | SILTSTONE  | LENS?, WEATHERS YEL- BF, MINOR PLANTS.  |
|     | 9.21       | 11.21    | 2.00           | *90 |          |         | SILTSTONE  | CLYY.THNB<br>MS - DK GY/ORNG, NO PLANTS SEEN, BEDS C HANGE FROM UPRIGHT TO OVERTURNED.  |
|     | 11.21      | 12.21    | 1.00           | *90 |          |         | SANDSTONE  | MG.MB<br>MS - BRN/ORNG & GREY.  |
|     | 12.21      | 17.21    | 5.00           | *90 |          |         | SILTSTONE  | THNB<br>INTERBEDDED SS (FG), MUDST LAMINAE. MS - ORNG & DK GREY, HIGHLY FRACT.  |
|     | 17.21      | 19.21    | 2.00           | *90 |          |         | SANDSTONE  | MG.MAS<br>MS - BRN/GY, BLOCKY FRACT.  |

\* DENOTES MEASURED BCA

87/12/07

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87002

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----|----------|---------|-----------|--|
|     | 19.21      | 30.21    | 11.00          | *90 |          |         | SILTSTONE | THNB<br>W/MUDST INTERBED, MS - ORNG & DK GY, HIGHLY FRACT., GRADES TO MDST ("MOHAWK ZON E"), FIRMLY LAM., RHYTHMIC - BREAKS INTO N EEDLE PIECES. |
|     | 30.21      | 32.21    | 2.00           | *90 |          |         | COAL      | CARB SOIL, FROM TRC84250 (J SEAM).   |
|     | 32.21      | 35.21    | 3.00           | *90 |          |         | SILTSTONE | MS - ORNG.   |
|     | 35.21      | 37.21    | 2.00           | *90 |          |         | MUDSTONE  | SLTY.M.GY.THNB<br>MS - BRN/DK GY, HIGHLY FRACT ABUND, WELL PRESERVED PLANTS, P. NORDENSKOLDII G.H UNA, P LANIEULATUS.                            |

\* DENOTES MEASURED BCA  
NEWPAGE

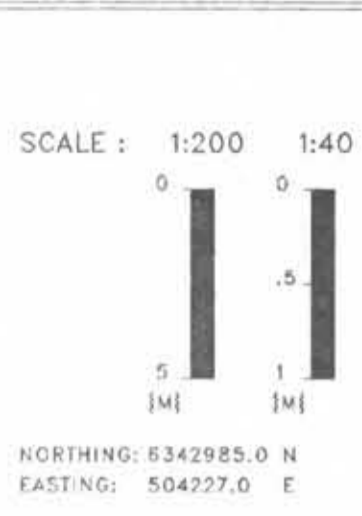
740

GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR OTC87002

GEOLOGIST : LEE/BARKER

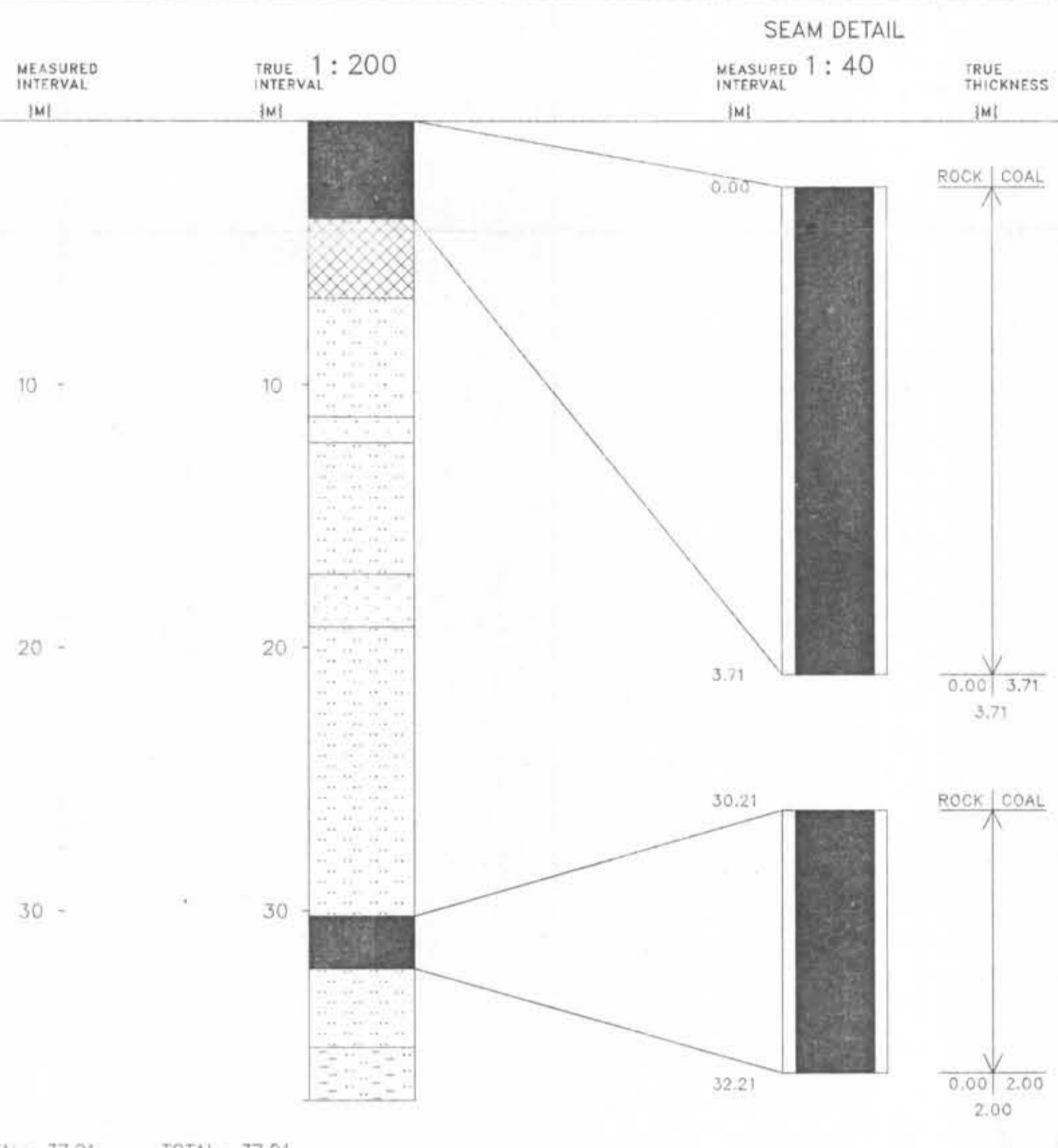
DATE : MAR 14/88

DRAWING NO. :



LITHOLOGIC SYMBOLS

|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |



REMARKS :  
 COAL AT TOP IS = TRC84249 K SEAM.  
 COAL AT 30.21 IS = TRC84250 J SEAM.

KPNLROTC87003

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87003

DATE - 12/04/87

- HISTORY -

START DATE - 17/07/87  
END DATE - 17/07/87

CONTRACTOR -  
GEOLOGIST - BARKER

OPERATOR - G.C.R.  
SURVEYOR -

REMARKS - "NORTHERN MOHAWK" OUTCROP ACROSS TRC87026 (BELEM-  
NITE TRENCH).

- LOCATION -

PROVINCE - BC  
ELEVATION - 1851.00

ZONE - 9  
NORTHING - 6343986.00  
EASTING - 504492.00

LICENCE/LEASE NUMBER -

LATITUDE - 571427  
LONGITUDE - 1285532

- ORIENTATION -

LENGTH - 82.90  
SIZE WIDTH - 0.0  
SIZE HEIGHT - 0.0

INCLINATION - 0.0  
AZIMUTH - 0.0

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: OTC87003

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 0.00       | 1.50     | 1.50           | *90 |          |         | SILTSTONE | ORANGE WEATHERING, CALCAREOUS.  |
|     | 1.50       | 16.50    | 15.00          | *90 |          |         | SANDSTONE | FG-DK.GY.VTHNB<br>VFG-FG SS; PLAMAR BEDDING. LAYERS GRADE FROM FG SS UP TO MUD. WEATHERS DK GY/BRN WITH ORANGE MUD LAMINAE. FRESH IS DK GY. APPROXIMATE INTERVAL THICKNESS. |
|     | 16.50      | 21.50    | 5.00           | *90 |          |         | SANDSTONE | MG.M-DK.GY.VTHNB<br>FG-MG; WEATHERS ORANGE. APPROXIMATE INTERVAL THICKNESS.   |
|     | 21.50      | 26.50    | 5.00           | *90 |          |         | SANDSTONE | MG.MOD.M.GY.VTHNB<br>FG-MG SS. DK GY MUD LAYERS. WEATHERS BU FF/GREY.   |
|     | 26.50      | 36.50    | 10.00          | *90 |          |         | SANDSTONE | SLTY.VFG.M.GY.LAM<br>FISSILE. WEATHERS BRN/GY. FRESH M GY. CARB/COALIFIED PLANT HASH. HELMINTHOPSIS. MOSTLY PLATEY SCREE (NOT NEEDLES). LIMITED OUTCROP.                    |
|     | 36.50      | 41.50    | 5.00           | *90 |          |         | MUDSTONE  | VFG.LT.BLK<br>V. FISSILE, EXTREMELY FINE GRAINED AND HOMOGENOUS. NEEDLE/BLADE LIKE SCREE. LOOKS LIKE A "MOHAWK HAIRCUT" IN SCREE.   |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87003

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----|----------|---------|-----------|--|
|     | 41.50      | 46.30    | 4.80           | *90 |          |         | MUDSTONE  | SLTY<br>ALL SCREE. NO OUTCROP. MUCH QTZ VEINING. ALSO CONTAINS BELEMNITES, BIVALVES (OYSTER MOLDS), PETRIFIED WOOD AND PLANT HASH. ALSO UNKNOWN FOSSIL OR UNUSUAL PATTERN OF CALCITE VEINING.  |
|     | 46.30      | 48.30    | 2.00           | *90 |          |         | COAL      | TRENCH TRC87026 C/C+R=1.81/2.36 M.   |
|     | 48.30      | 49.90    | 1.60           | *90 |          |         | MUDSTONE  | ERODED, V. FINE SCREE.   |
|     | 49.90      | 53.20    | 3.30           | *90 |          |         | SANDSTONE | MG.PR.M.GY.MAS<br>SHARP UPPER CONTACT. WEATHERS BUFF/GY. FER STAINING. FRESH IS M GY; OCC 3MM WIDE COALIFIED FRAGS. V FRACTURED.   |
|     | 53.20      | 62.60    | 9.40           | *90 |          |         | SANDSTONE | SLTY.VFG.THNB<br>COVERED INTERVAL SUGGEST: THNB VFG SLTY SS. RECESSIVE UNIT, MOSTLY SCREE. POSSIBLY FINING UP FROM CG SS AT BASE TO SILTY MUD. PETRIFIED TREE STUMPS, WOOD PIECES, PLANT HASH. |
|     | 62.60      | 81.40    | 18.80          | *90 |          |         | SANDSTONE | FG<br>F-MG SS. FRIABLE NEAR BASE. BECOMES BLOCKY AND MG SS UPWARDS. OCC. BANDS OF MUDST RIPUP CLASTS 1-3 CM DIA. OCC. RECESSIVE SLTST LAYERS 1 M THICK. OCC 2-3 MM DK GY MUD DRAPES.           |

\* DENOTES MEASURED BCA

PROJECT: KPM BLOCK: LR DATA SOURCE: OTC87009

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----------|---------|-----------|--|
|     | 81.40      | 82.90    | 1.50           | *90       |         | SANDSTONE | FG. M-DK. GY. LAM. EXCELLENT TROUGH CROSS BEDDING. (TOPS UP TO THE EAST). WEATHERS ORANGE. MODERATELY TO VERY FRACTURED. |

\* DENOTES MEASURED BCA  
NEWPAGE

740

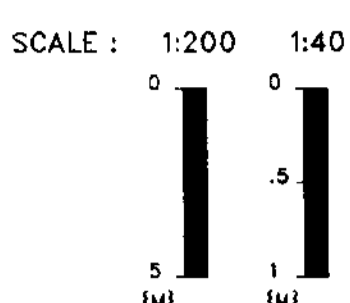
GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR OTC87003

GEOLOGIST : BARKER

DATE : MAR 14/88

DRAWING NO. :

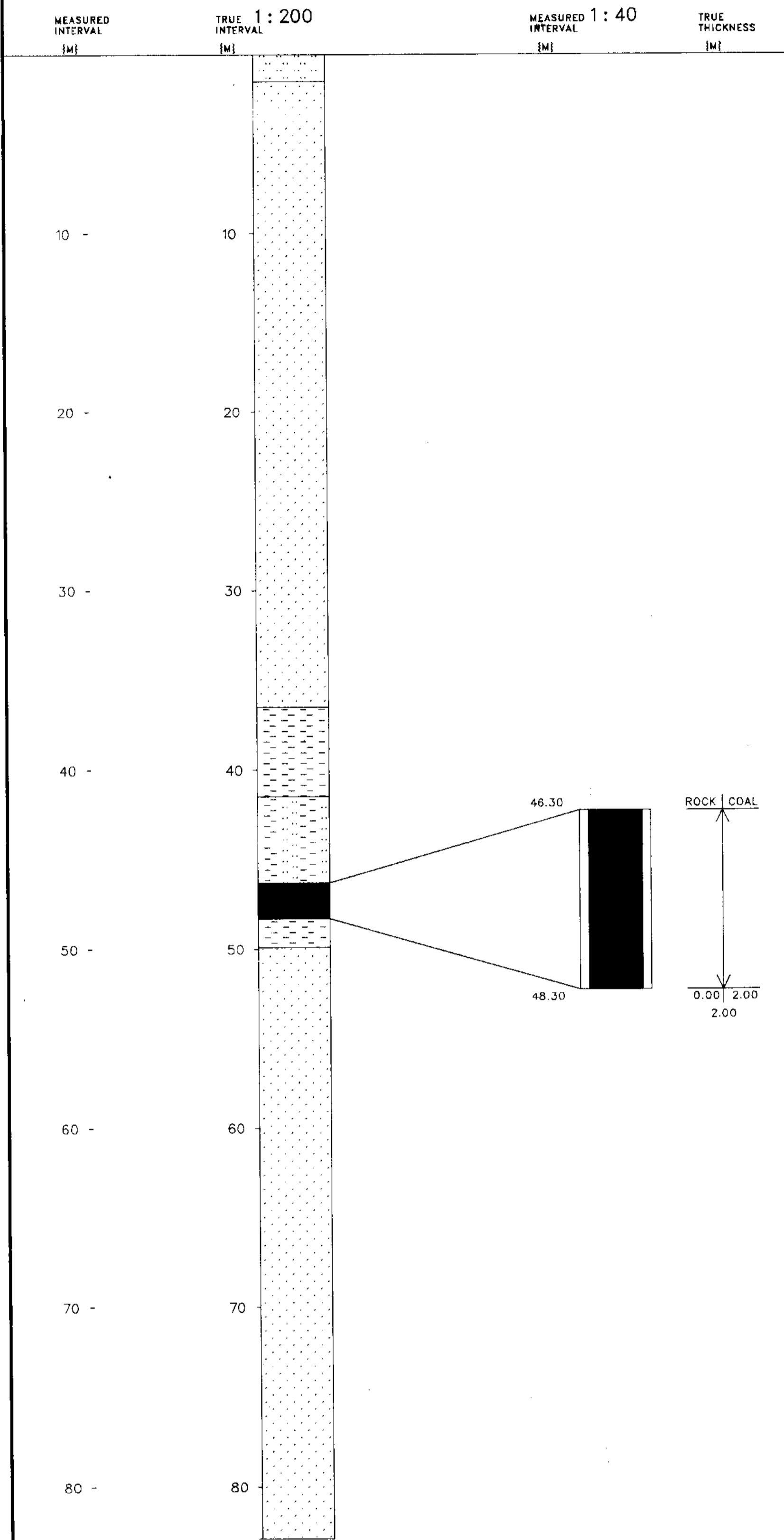
LITHOLOGIC SYMBOLS



NORTHING: 8343988.0 N  
 EASTING: 504492.0 E

|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

SEAM DETAIL



TOTAL: 82.90      TOTAL: 82.90

REMARKS :  
 COAL AT 46.3 IS = TRC87026.

KPNLROTC87006

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87006

DATE - 12/04/87

- HISTORY -

START DATE - 30/07/87  
END DATE - 30/07/87

CONTRACTOR -  
GEOLOGIST - WILLIS

OPERATOR - G.C.R.  
SURVEYOR -

REMARKS - UPRIGHT COMPOSITE SEC FROM 3 BLOCK 2 FAULTED SCREE  
COVERED AT BASE. E SIDE OF CIRQUE S OF BRECCIA PT

- LOCATION -

PROVINCE - BC  
ELEVATION - 1821.00

ZONE - 9  
NORTHING - 6344058.00  
EASTING - 505449.00

LICENCE/LEASE NUMBER -

LATITUDE - 571429  
LONGITUDE - 1285435

- ORIENTATION -

LENGTH - 19.02  
SIZE WIDTH - 0.0  
SIZE HEIGHT - 0.0

INCLINATION - 0.0  
AZIMUTH - 0.0

ROOF STRIKE - 0  
ROOF DIP - 0  
ROOF DIR -

FLOOR STRIKE - 0  
FLOOR DIP - 0  
FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

87/12/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87006

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|----------|---------|-----------|---|
|     | 0.00       | 1.10     | 1.10           | *90      |         | SANDSTONE | MG.WEL.M.GY.THKB.RIPMK<br>FG SS INTERBEDS 1-2 CM, FE SPECKS 5%, PROMINENT.  |
|     | 1.10       | 1.35     | 0.25           | *90      |         | SILTSTONE | SSY. ORNG. THKB<br>V. WTHR: FE RICH CLYST AT BASE (4 CM),<br>CARB. BLEBS. HE (FER?) STAINED.                                    |
|     | 1.35       | 1.90     | 0.55           | *90      |         | SANDSTONE | MG.WEL.M.GY.MAS<br>RIPUPS; ORNG. SLTY/MUDST. NOT VERY ABUNDANT.   |
|     | 1.90       | 2.05     | 0.15           | *90      |         | SANDSTONE | FG.M.GY.SSD<br>SLTST DRAPES INDICATE UPRIGHT, GRADATIONAL CONTACT TO UNIT BELOW.  |
|     | 2.05       | 3.00     | 0.95           | *90      |         | SANDSTONE | MG.WEL.M.GY.THKB.RIPMK<br>SLTST/FG SS INTERBED 40 CM FROM TOP OF UNIT.  |
|     | 3.00       | 3.15     | 0.15           | *90      |         | SANDSTONE | SLTY.FG.M.GY.THNB.RIPMK<br>SLTST INTERBEDS.   |
|     | 3.15       | 5.85     | 2.70           | *90      |         | SANDSTONE | MG.WEL.M.GY.MAS<br>2 RIPUP BANDS 50 AND 80 CM FROM TOP OF UNIT;<br>RIPUPS 0.5-4 CM DIA. SILTY NEAR BASE, UNIT COARSENS UPWARDS. |

\* DENOTES MEASURED BCA

87/12/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87006

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|----------|---------|-----------|--|
|     | 5.85       | 5.95     | 0.10           | *90      |         | SILTSTONE | SSY.DK.GY.THNB<br>FG SS LENSES, HE (FER) STAIN, MOST LAMINAE.  |
|     | 5.95       | 7.65     | 1.70           | *90      |         | SANDSTONE | MG.M.GY.MAS<br>SPARSE MUDDY SLTST INTERBEDS, COARSENING UP, SLICKENSIDE EVIDENCE.  |
|     | 7.65       | 7.92     | 0.27           | *90      |         | SANDSTONE | FG.M.GY.THNB<br>COARSENING UP SEQUENCE, CARB MUDST. SLTST, FG SS, BED LAM AT BASE OF UNIT.   |
|     | 7.92       | 8.62     | 0.70           | *90      |         | SANDSTONE | FG.MOD.DK.GY.MB.RIPMK<br>SILTIER AND THIN BEDDED TOWARDS BASE, BOTTOM 10 CM SS/SLTST INTERBEDS.  |
|     | 8.62       | 8.74     | 0.12           | *90      |         | SILTSTONE | DK.GY.THNB<br>HE (FER) STAINING.   |
|     | 8.74       | 8.94     | 0.20           | *90      |         | MUDSTONE  | LT.BLK.LAM<br>V. WTHRD; UNIDENTIFIED PLANT FRAG.   |
|     | 8.94       | 12.64    | 3.70           | *90      |         | SANDSTONE | MG.MOD.M.GY.MAS.RIPMK<br>TOP .50 M HEAVILY BRECCIATED, V. ABUNDANT QUARTZ STRINGERS WITH SIDERITE, THIN TO MASH, BIFURCATING RIPMK INDICATE UPRIGHT, SLTST LENSES. |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: OYCB7006

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------------|---------|-----------|---|
|     | 12.64      | 12.79    | 0.15           | *90          |         | SILTSTONE | DK. GY. LAM<br>CALCAREOUS WEATHERING; MUDST LENSES; MUDST/SLTST INTERLAM.   |
|     | 12.79      | 12.97    | 0.18           | *90          |         | SANDSTONE | SLTY. FG. DK. GY. THKB<br>THKB OCCURS NEAR BASE OF UNIT; SLTST LENSES AT TOP OF UNIT.                                       |
|     | 12.97      | 14.17    | 1.20           | *90          |         | SANDSTONE | MG. MOD. H. GY. THKB. RIPMK<br>BASE DISAPPEARS INTO SKREE; SOME SLTST INTERBEDS AND LENSES; CUSPATE MUDST LENSES, CUSPS UP. |
|     | 14.17      | 16.52    | 2.35           | *90          |         | SANDSTONE | FG. WEL. H. GY. MAS<br>TOP 10 CM VERY SLTY, GRADES OUT DOWNWARD; HIGHLY POLISHED WITH SLICKENSIDES; B. LR MUDST LENSES.     |
|     | 16.52      | 17.62    | 1.10           | *90          |         | SILTSTONE | SSY. DK. GY. THKB<br>LAM SLTST/SS INTERBEDS; NODULAR WTHR; BASE DISAPPEARS IN SKREE.  |
|     | 17.62      | 19.02    | 1.40           | *90          |         | SANDSTONE | FG. LT. GY. MAS. RIPMK<br>BIFURCATED RIPMK.   |

\* DENOTES MEASURED BCA  
NEWPAGE

740

GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR OTC87006

GEOLOGIST : WILLIS

DATE : MAR 14/88

DRAWING NO. :

LITHOLOGIC SYMBOLS

SCALE : 1:200 1:40



NORTHING: 6344058.0 N  
 EASTING: 505449.0 E

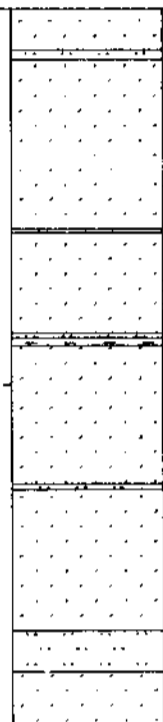
|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

MEASURED  
 INTERVAL  
 {M}

TRUE 1:200  
 INTERVAL  
 {M}

10 -

10 -



TOTAL: 19.02

TOTAL: 19.02



KPNLROTC87007

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87007

DATE - 12/04/87

- HISTORY -

START DATE - 04/08/87

END DATE - 04/08/87

CONTRACTOR -

GEOLOGIST - WILLIS

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - BEDS OVERTURNED. N FACING CLIFF OVERLOOKING W POND  
(S SIDE).

- LOCATION -

PROVINCE - BC

ELEVATION - 1749.00

ZONE - 9

NORTHING - 6343226.00

EASTING - 504398.00

LICENCE/LEASE NUMBER -

LATITUDE - 571402

LONGITUDE - 1285538

- ORIENTATION -

LENGTH - 39.20

INCLINATION - 0.0

AZIMUTH - 0.0

SIZE WIDTH - 0.0

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

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87007

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY  | DESCRIPTION  |
|-----|------------|----------|----------------|-----|----------|---------|------------|--|
|     | 0.00       | 1.90     | 1.90           | *90 |          |         | SANDSTONE  | SLTY. PR. M. GY. MAS. RIPMK<br>10% FE-OX, MS - LT GY/BUFF MOTTLED.   |
|     | 1.90       | 5.60     | 3.70           | *90 |          |         | MUDSTONE   | SLTY. THNB. BIOTR<br>INTERBEDDED WITH SLTST. SLTY MUDST - FS<br>- DK GY, MS - SAME, HIGHLY CLEAVED.  |
|     | 5.60       | 12.60    | 7.00           | *90 |          |         | OVERBURDEN | COVERED INTERVAL.  |
|     | 12.60      | 14.00    | 1.40           | *90 |          |         | SILTSTONE  | CLYY. DK. GY. LAM<br>MS - BUFF/GY MOTTLED, ABUNDANT ORNG WEATH<br>TH SLTST NODULES (1-10 CM). HIGHLY CLEA<br>VED. - POOR PARTING ALONG CLYG.   |
|     | 14.00      | 19.30    | 5.30           | *90 |          |         | SANDSTONE  | FG. LT. GY. MB. RIPMK<br>MS - GY/BUFF MOTTLED BANDS SILTY SS - 1<br>-3 CM THICK. SOME QTZ VEINING PERPENDIC<br>ULAR TO BDG 0.5-2 CM THK BECOMES SILTIE<br>R. TOWARDS TOP WITH BANDS OF THINLY BDD<br>CLYY SLTST. |
|     | 19.30      | 21.05    | 1.75           | *90 |          |         | OVERBURDEN | COVERED INTERVAL.  |
|     | 21.05      | 22.35    | 1.30           | *90 |          |         | SANDSTONE  | SLTY. YFG. MOD. LT. GY. THKB<br>MS - GY/BRN. THK. BDD. W. 4 CM BANDS. SSS. S<br>LTST, RIPUP BEDS - 1-2 CM THK, CLASTS -<br>2MM-3 CM LONG.  |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87007

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 22.35      | 23.65    | 1.30           | *90 |          |         | SANDSTONE | FG. M. GY. THNB. BIOTR<br>MS - LT GY. THNB TO LAM, CONTAINS SMALL<br>ORNG WEATH SLTST LENSES (1-3 CM). MING<br>R. MUDST LAMS., ABUNDANT WORM BURROWS (1<br>CM x 6 CM). BIVALVE CASTS HELMINTHOPST<br>S, BIVALVE ESCAPE STRUCTURES, WORM BURR<br>OWS (DWB70702). |
|     | 23.65      | 29.25    | 5.60           | *90 |          |         | SANDSTONE | FG. LT. GY. RIPMK<br>MS - MOTTLED GY/BRN. PLANT FRAGS.  |
|     | 29.25      | 29.55    | 0.30           | *90 |          |         | SILTSTONE | M. GY. THNB. RIPMK<br>MS - BUFF. SANDIER TOWARDS TOP (COARSEN<br>ING UP).   |
|     | 29.55      | 30.95    | 1.40           | *90 |          |         | SANDSTONE | FG. MEL. THNB. RIPMK  |
|     | 30.95      | 31.65    | 0.70           | *90 |          |         | SANDSTONE | SLTY. FG. M. GY. THNB. RIPMK<br>MS - DK GY, WRM BURROWS.  |
|     | 31.65      | 32.10    | 0.45           | *90 |          |         | SILTSTONE | CLYY. DK. GY. LAM. RIPMK<br>MS - ORNG. SSD. LOAD CASTS INDICATES OV<br>ERTURNED CALC. WEATH.  |
|     | 32.10      | 32.50    | 0.40           | *90 |          |         | SANDSTONE | FG. MEL. LT. GY. THKB<br>MS - BRN.  |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87007

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 32.50      | 33.80    | 1.30           | *90 |          |         | SILTSTONE | SSY.M.GY.LAM<br>MS - TAN/GY.  |
|     | 33.80      | 34.50    | 0.70           | *90 |          |         | SILTSTONE | SSY.DK.GY.THNB<br>MS - BRN WITH ORNG LENSES, STAFFINELLA<br>(SAMPLED DM870701).             |
|     | 34.50      | 35.00    | 0.50           | *90 |          |         | SILTSTONE | DK.GY.THNB<br>MS - ORNG, PLANT HASH, CALCAREOUS MEATH<br>ERING.                             |
|     | 35.00      | 36.35    | 1.35           | *90 |          |         | SANDSTONE | FG.LT.GY.MB<br>MS - BRN/ORNG. MOD. CLEAYED WITH SOME SL<br>ICKENSIDES, ABUNDANT PLANT HASH. |
|     | 36.35      | 39.20    | 2.85           | *90 |          |         | SANDSTONE | SLTY.FG.M.GY.LAM.BIOTR<br>MS - BRN. HELMINTHOPSIS SLTST RIPUPS (1<br>-2 MM).                |

\* DENOTES MEASURED BCA  
NEWPAGE

740

GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR OTC87007

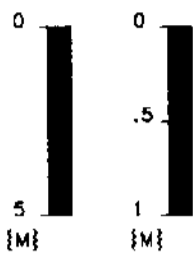
GEOLOGIST : WILLIS

DATE : MAR 14/88

DRAWING NO. :

LITHOLOGIC SYMBOLS

SCALE : 1:200 1:40



NORTHING: 8343226.0 N  
 EASTING: 504398.0 E

|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

MEASURED  
INTERVAL  
{M}

TRUE 1:200  
INTERVAL  
{M}

10 -

10

20 -

20

30 -

30

TOTAL: 39.20

TOTAL: 39.20

KPNLROTC87008

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87008

DATE - 12/04/87

- HISTORY -

START DATE - 05/08/87

END DATE - 05/08/87

CONTRACTOR -

GEOLOGIST - WILLIS

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - BEDS OVERTURNED. COMPOSITE SECTION PIECED TOGETHER  
ALONG CLIFF SIDE, DAYTONA SS CLIFF.

- LOCATION -

PROVINCE - BC

ELEVATION - 1736.00

ZONE - 9

NORTHING - 6343146.00

EASTING - 504272.00

LICENCE/LEASE NUMBER -

LATITUDE - 571400

LONGITUDE - 1285545

- ORIENTATION -

LENGTH - 49.43

INCLINATION - 0.0

AZIMUTH - 0.0

SIZE WIDTH - 0.0

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

=====

87/12/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87008

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 0.00       | 4.84     | 4.84           | *90 |          |         | SILTSTONE | DK.GY.THNB<br>INTERBEDDED WITH MUDST. WS TAN.                 |
|     | 4.84       | 5.53     | 0.69           | *90 |          |         | SILTSTONE | DK.GY.THNB<br>SO - 118 DEGREES, 38 DEGREES SE, WS - B<br>UFF. |
|     | 5.53       | 6.93     | 1.40           | *90 |          |         | MUDSTONE  | PR.LT.BLK.LAM<br>CLEAVED, WS - TAN.                           |
|     | 6.93       | 7.23     | 0.30           | *90 |          |         | SILTSTONE | M.GY.THNB<br>UPPER CONTACT SHARP, WS - ORNG.                  |
|     | 7.23       | 12.23    | 5.00           | *90 |          |         | MUDSTONE  | LT.BLK.LAM<br>GRADATIONAL LOWER CONTACT, WS - GREY.           |
|     | 12.23      | 13.33    | 1.10           | *90 |          |         | SANDSTONE | MG.WEL.LT.GY.MB<br>GRADATIONAL LOWER CONTACT, WS- DK GY.      |
|     | 13.33      | 14.13    | 0.80           | *90 |          |         | SILTSTONE | M.GY.MB<br>WS - BUFF, SLTST LENSES.                           |
|     | 14.13      | 33.03    | 18.90          | *90 |          |         | SANDSTONE | MG.MOD.LT.GY.MB.XBDG<br>RIPUP CLASTS, WS - TAN, TOPS DOWN.    |
|     | 33.03      | 35.23    | 2.20           | *90 |          |         | SANDSTONE | MG.MOD.LT.GY.THNB<br>PLANT HASH/SLTST INTERBEDS, WS - GREY.   |

\* DENOTES MEASURED BCA

87/12/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87008

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 35.23      | 35.73    | 0.50           | *90 |          |         | SANDSTONE | FG.WEL.M.GY.THNB<br>ABUNDANT BIVALVES, WS - TAN.                  |
|     | 35.73      | 48.43    | 12.70          | *90 |          |         | MUDSTONE  | THNB<br>INTERBEDDED WITH SSSY SLTST, BIVALVES.                    |
|     | 48.43      | 49.43    | 1.00           | *90 |          |         | SILTSTONE | SSY.DK.GY.MB<br>BIVALVES, 094 DEGREES, 37 DEGREES S, WS<br>- TAN. |

\* DENOTES MEASURED BCA  
NEWPAGE.



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GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR OTC87008

GEOLOGIST : WILLIS

DATE : MAR 14/88

DRAWING NO. :

LITHOLOGIC SYMBOLS

SCALE : 1:200 1:40



NORTHING: 8343146.0 N  
 EASTING: 504272.0 E

|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

MEASURED  
INTERVAL  
{M}

TRUE 1:200  
INTERVAL  
{M}

10 -

10

20 -

20

30 -

30

40 -

40

TOTAL: 49.43

TOTAL: 49.43

KPNLR0TC87009

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87009

DATE - 12/04/87

- HISTORY -

START DATE - 06/08/87

END DATE - 06/08/87

CONTRACTOR -

GEOLOGIST - WILLIS

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - SOUTHERN MOHAWK OUTCROP. SAME SECTION AS OTC87002

- LOCATION -

PROVINCE - BC

ELEVATION - 1733.00

ZONE - 9

NORTHING - 6343009.00

EASTING - 504192.00

LICENCE/LEASE NUMBER -

LATITUDE - 571355

LONGITUDE - 1285550

- ORIENTATION -

LENGTH - 17.21

INCLINATION - 0.0

AZIMUTH - 0.0

SIZE WIDTH - 0.0

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

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87009

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 0.00       | 3.55     | 3.55           | *90 |          |         | SILTSTONE | DK.GY.THNB<br>SANDY LAYERS IN PLACES, WS - GY/ORNG, YE<br>NUCAULIS, NORDENSKOLDII, SLTST NODULES<br>(10 CM) NEAR BASE. MUDDY. |
|     | 3.55       | 4.00     | 0.45           | *90 |          |         | SANDSTONE | FG.LT.GY.MB<br>SLTST INTERLAMINATIONS NEAR STRAT BASE.<br>WS - BUFF.  |
|     | 4.00       | 4.60     | 0.60           | *90 |          |         | SILTSTONE | LT.BLK.THNB<br>INTERBEDDED WITH MUDSTONE, WS - DK GY,<br>FS - DK GY, FOR SLTST, WS - ORNG.                                    |
|     | 4.60       | 5.20     | 0.60           | *90 |          |         | SANDSTONE | FG.WEL.LT.GY.MAS<br>WS - MOTTLED BUFF GY, S1 - 20 DEGREES,<br>45 DEGREES SE, S0 - 141, 45 DEGREES SW,<br>RESISTANT.           |
|     | 5.20       | 6.10     | 0.90           | *90 |          |         | SANDSTONE | SLTY.FG.LT.GY.THNB.RIPMK<br>WS - BUFF, FINING UP. MB.   |
|     | 6.10       | 9.70     | 3.60           | *90 |          |         | SILTSTONE | M.GY.THNB<br>INTERBEDDED WITH MUDST AND SANDY LAYERS<br>, WS - ORNG, PLANT FRAGMENTS. LAM.                                    |
|     | 9.70       | 10.16    | 0.46           | *90 |          |         | SANDSTONE | FG.LT.GY.MB<br>BLOCKY. THNB.  |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87009

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 10.16      | 10.36    | 0.20           | *90 |          |         | SILTSTONE | DK.GY.LAM<br>WS - BUFF, RECESSIVE. MUDDY.   |
|     | 10.36      | 10.56    | 0.20           | *90 |          |         | SANDSTONE | FG.LT.GY.THNB<br>SPARSE SLTST INTERBEDS - 1 CM THICK, WS<br>- M GY.   |
|     | 10.56      | 14.11    | 3.55           | *90 |          |         | SANDSTONE | FG.LT.GY.THNB.RIPMK<br>WS - MOTTLED BUFF GY, S0 - 134 DEGREES,<br>78 DEGREES SW.                              |
|     | 14.11      | 15.11    | 1.00           | *90 |          |         | SANDSTONE | FG.LT.GY.THKB<br>WS - MOTTLED BUFF GY. BEDS THIN TOWARDS<br>BASE.   |
|     | 15.11      | 15.41    | 0.30           | *90 |          |         | SANDSTONE | SLTY.YFG.M.GY.THNB<br>SLTY TOWARDS STRAT BASE, WS - M GREY.   |
|     | 15.41      | 17.21    | 1.80           | *90 |          |         | SILTSTONE | SSY.YFG.M.GY.THNB<br>SLTST INTERBEDS, WS - BUFF/GY, GETTING<br>MUDDY TOWARDS STRAT BASE, END AT COASTE<br>RS! |

\* DENOTES MEASURED BCA  
NEWPAGE

740

GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR 0TC87009

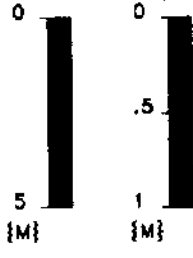
GEOLOGIST : WILLIS

DATE : MAR 14/88

DRAWING NO. :

LITHOLOGIC SYMBOLS

SCALE : 1:200 1:40



NORTHING: 6343009.0 N  
 EASTING: 504192.0 E

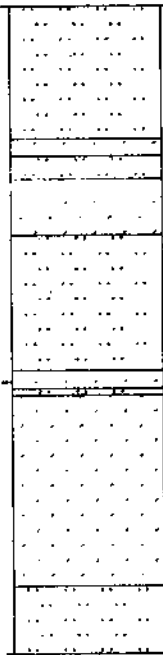
|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

MEASURED  
 INTERVAL  
 {M}

TRUE 1:200  
 INTERVAL  
 {M}

10 -

10 -



TOTAL: 17.21

TOTAL: 17.21

KPNLROTC87011

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87011

DATE - 12/04/87

- HISTORY -

START DATE - 15/08/87  
END DATE - 15/08/87

CONTRACTOR -  
GEOLOGIST - MURRAY

OPERATOR - G.C.R.  
SURVEYOR -

REMARKS - SECTION FROM SEAM M TO K/L ALONG HAUL ROAD.

- LOCATION -

PROVINCE - BC  
ELEVATION - 1640.00

ZONE - 9  
NORTHING - 6343967.00  
EASTING - 507266.00

LICENCE/LEASE NUMBER -

LATITUDE - 571426  
LONGITUDE - 1285247

- ORIENTATION -

LENGTH - 87.25

INCLINATION - 0.0  
AZIMUTH - 0.0

SIZE WIDTH - 0.0  
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

=====

87/12/04

## GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: OYC87011

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----------|---------|-----------|--|
|     | 0.00       | 24.00    | 24.00          | *90       |         | SANDSTONE | SLTY. MG. MOD. M. GY. THNB<br>INTERBEDDED FG-MG SS AND ORNG-BN WEATHE<br>RED M GY, FRESH SLTST. NUMEROUS PLANT F<br>OSSILS THROUGHOUT.                             |
|     | 24.00      | 24.10    | 0.10           | *90       |         | SILTSTONE | M. GY<br>LT. BN. WEATHERED ROOF.   |
|     | 24.10      | 31.00    | 6.90           | *90       |         | COAL      | C-4. BLK<br>SEAM 'M'. PREDOMINATELY C-4 WITH NUMERO<br>US MUDST AND SLTST PARTINGS UP TO 8CM T<br>HICK. NOT LOGGED INDETAIL DUE TO EXTREM<br>E BEDDING CONTORTION. |
|     | 31.00      | 31.10    | 0.10           | *90       |         | MUDSTONE  | BLK. THNB<br>M. BN. WEATHERED.   |
|     | 31.10      | 31.40    | 0.30           | *90       |         | SILTSTONE | M. GY<br>M. GY. - BN. WEATHERED.   |
|     | 31.40      | 44.10    | 12.70          | *90       |         | SANDSTONE | SLTY. FG. GY. THNB<br>INTERBEDDED LT. GY. TAN WEATHERED SS AND<br>MG SLTST. ORANGE WEATHERED FE NODULES<br>WITHIN.   |
|     | 44.10      | 47.90    | 3.80           | *90       |         | SILTSTONE | DK. GY. THNB<br>INTERBEDDED SLTST AND MUDST. SLTST WEAT<br>HERS. M. GY TO BN. FE STAINED NODULES THR<br>OUGHOUT SLTST BANDS.                                       |

\* DENOTES MEASURED BCA

87/12/04

## GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: OYC87011

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA | SEAM ID | LITHOLOGY    | DESCRIPTION   |
|-----|------------|----------|----------------|-----------|---------|--------------|---|
|     | 47.90      | 48.65    | 0.75           | *90       |         | MUDSTONE     | LT. BN. VTHNB<br>M. BN. WEATHERED, NUMEROUS PLANT FOSSILS<br>THROUGHOUT: BAIERA GRACILIS, SPHENOPTER<br>OUS, NILSSONIA TENUCAULIS. ROOF.                                      |
|     | 48.65      | 50.45    | 1.80           | *90       |         | COAL         | C-3. BLK<br>PREDOMINATELY C-2 IN UPPER HALF OF SEAM<br>THN BANDS OF MUDST. LOWER HALF IS PRED<br>OMINATELY C3 HIGHLY SHEARED AND CONTORT<br>ED WITH LISTRIC SURFACES. SEAM L. |
|     | 50.45      | 50.55    | 0.10           | *90       |         | SILTSTONE    | M. GY<br>LT. BN. WEATHERED FLOOR.   |
|     | 50.55      | 55.45    | 4.90           | *90       |         | SANDSTONE    | MG. LT. GY. MB<br>LT. BN. FISSILE, WEATHERS READILY.  |
|     | 55.45      | 58.15    | 2.70           | *90       |         | CONGLOMERATE | PBL. M. GY. MB<br>MATRIX SUPPORTED, POORLY CONSOLIDATED.<br>30 CM PBLY SS BEDS WITHIN.  |
|     | 58.15      | 60.05    | 1.90           | *90       |         | SANDSTONE    | PBLY. MG. PR. GY. THNB<br>COALY QTZ STRINGERS WITHIN SOME FE STAI<br>NING.  |
|     | 60.05      | 64.55    | 4.50           | *90       |         | CONGLOMERATE | PBL. PR. M. GY<br>CHERT CLASTS, CLAST SUPPORTED GRADING I<br>N AND OUT OF PBLY SS.  |

\* DENOTES MEASURED BCA



PROJECT: KPN BLOCK: LR DATA SOURCE: OYC87011

| BOX | DEPTH FROM | DEPTH INTRVAL TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY    | DESCRIPTION  |
|-----|------------|------------------|----------------|--------------|---------|--------------|--|
|     | 64.55      | 69.55            | 5.00           | *90          |         | SANDSTONE    | MG. MOD. M. GY. MB<br>CGL BANDS RANGING FROM 20 - 40 CM, SS I<br>S PEBBLY IN PLACES. GRADES TO CGL BELOW                           |
|     | 69.55      | 71.75            | 2.20           | *90          |         | CONGLOMERATE | PBL. PR. M. GY. MB<br>MG. SS MATRIX SUPPORTED. WOODY FRAGMENTS<br>WITHIN.  |
|     | 71.75      | 72.55            | 0.80           | *90          |         | SANDSTONE    | MG. PR. LT. GY. THNB<br>MINOR PEBBLES, COALY, QYZ STRINGERS WIT<br>HIN.  |
|     | 72.55      | 74.05            | 1.50           | *90          |         | CONGLOMERATE | PBL. PR. M. GY. THKB<br>CLAST SUPPORTED; COALY QYZ BANDS. CLAST<br>S. RANGE FROM SUB-ANGULAR TO SUB-ROUNDED                        |
|     | 74.05      | 84.25            | 10.20          | *90          |         | SANDSTONE    | MG. PR. M. GY. THNB<br>WEATHERS GY-BN, VERY FRIABLE WITH RESIS<br>TANT FG SLTY SS BANDS. ROOF.                                     |
|     | 84.25      | 87.25            | 3.00           | *90          |         | COAL         | C-3. BLK<br>NO FLOOR OBSERVED. ACTUAL THICKNESS LOO<br>KS GREATER THAN 3 M. ABUNDANT MUDST PAR<br>TINGS AND COALY BLEBS NEAR BASE. |

\* DENOTES MEASURED BCA  
NEWPAGE

740

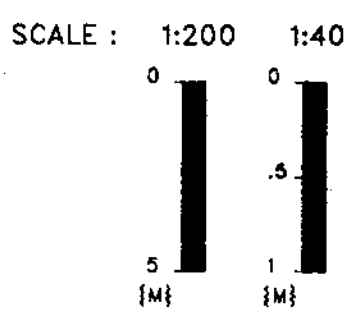
GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR OTC87011

GEOLOGIST : MURRAY

DATE : MAR 14/88

DRAWING NO. :

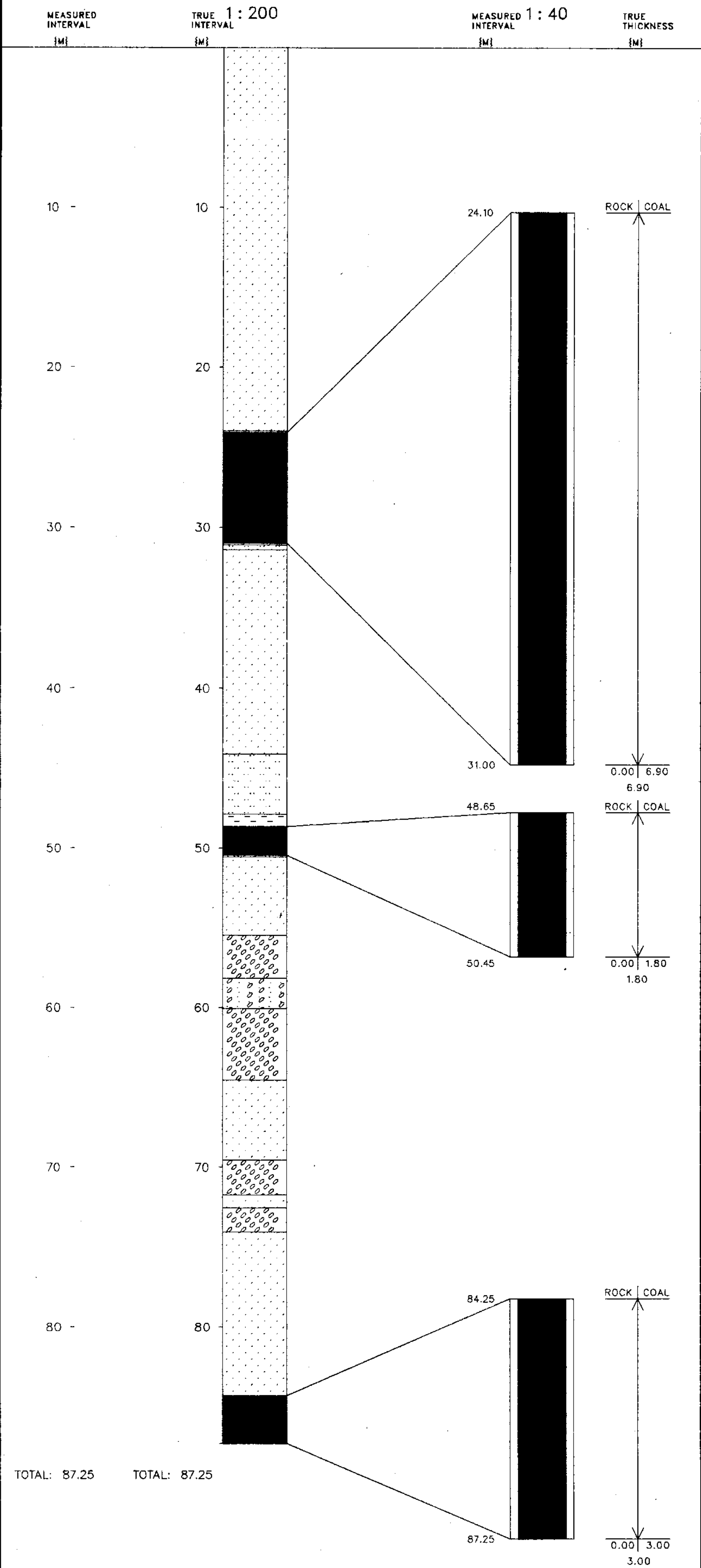
LITHOLOGIC SYMBOLS



NORTHING: 6343967.0 N  
 EASTING: 507266.0 E

|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

SEAM DETAIL



KPNLROTC87012

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87012

DATE - 12/04/87

- HISTORY -

START DATE - 19/07/87

END DATE - 20/07/87

CONTRACTOR -

GEOLOGIST - SRIVASTAVA

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - SECTION ALONG HAUL ROAD.

- LOCATION -

PROVINCE - BC

ELEVATION - 1624.00

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6344072.00

EASTING - 507370.00

LATITUDE - 571430

LONGITUDE - 1285240

- ORIENTATION -

LENGTH - 75.56

INCLINATION - 0.0

AZIMUTH - 0.0

SIZE WIDTH - 0.0

SIZE HEIGHT - 0.0

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DJR -

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

87/12/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87012

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|-----------|--|
|     | 0.00       | 15.50    | 15.50          | *90          |         | SANDSTONE | MG. MOD. M. GY. MB INTERBEDS OF FG SAND. MODERATELY CONSOLIDATED.                    |
|     | 15.50      | 22.50    | 7.00           | *90          |         | SILTSTONE | DK. GY. LAM PURP-BN WEATHERED. MINOR SS PARTINGS AND 0.5 M UNCONSOLIDATED MUD BANDS. |
|     | 22.50      | 22.80    | 0.30           | *90          |         | MUDSTONE  | CARB. DK. BLK SHARP CONTACT WITH SILT BELOW.   |
|     | 22.80      | 23.00    | 0.20           | *90          | M/N     | COAL      | C-6. DK HIGHLY WEATHERED. RUST. COLOURED BANDS. "M/N" SEAM?                          |
|     | 23.00      | 23.65    | 0.65           | *90          |         | MUDSTONE  | LT. BN. THNB SOME CARB MUD INTERBEDS. LT BN WEATHERING.                              |
|     | 23.65      | 24.56    | 0.91           | *90          |         | SILTSTONE | M. GY. MB LT BN-ORNG WEATHERED.  |
|     | 24.56      | 24.66    | 0.10           | *90          |         | MUDSTONE  | CARB. BLK SHARP CONTACT WITH SILT ABOVE.   |
|     | 24.66      | 25.85    | 1.19           | *90          | N       | COAL      | C-6 WEATHERED, NUMEROUS MUD PARTINGS GRADES INTO MUD BELOW.                          |

\* DENOTES MEASURED BCA

87/12/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87012

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY  | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|------------|--|
|     | 25.85      | 25.95    | 0.10           | *90          |         | CLAYSTONE  | BN GRADES INTO SILT. SEAM "N".   |
|     | 25.95      | 28.85    | 2.90           | *90          |         | SILTSTONE  | M. GY WEATHERS LIGHT BROWN.  |
|     | 28.85      | 29.02    | 0.17           | *90          |         | BENTONITE  | CREST ZONE.  |
|     | 29.02      | 40.42    | 11.40          | *90          |         | SILTSTONE  | CLYY. DK. GY. MAS MINOR LAMINAE PRESENT. M/IN. SOME ORANGE OXIDATION.    |
|     | 40.42      | 42.02    | 1.60           | *90          |         | SANDSTONE  | SLTY. FG. MEL THIN DARK BLACK SLTST LAM THROUGHOUT. SHARP LOWER CONTACT. |
|     | 42.02      | 44.47    | 2.45           | *90          |         | OVERBURDEN | COVERED SECTION.   |
|     | 44.47      | 46.87    | 2.40           | *90          | 0       | COAL       | C-6. BLK GRADATIONAL UPPER CONTACT & LOWER CONTACT. SEAM "0"?            |
|     | 46.87      | 47.17    | 0.30           | *90          |         | SANDSTONE  | CLYY. FG. THNB GRADES INTO SLTSTN.                                       |
|     | 47.17      | 54.07    | 6.90           | *90          |         | SILTSTONE  | CLYY. DK. GY. THNB WELL CONSOLIDATED. WEATHERS ORANGE/GREY               |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87012

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 54.07      | 54.47    | 0.40           | *90 |          | O/P     | COAL      | C-6. BLK SHARP LOWER CONTACT & GRADATIONAL UPPER CONTACT. DOM C-6 WITH SOME C-4 NEAR THE TOP. MINOR VITRINITE - SLIGHTLY CLEATED. "O/P" SEAM? |
|     | 54.47      | 54.77    | 0.30           | *90 |          |         | SANDSTONE | FG, DK, GY ARGILLACEOUS. GRADATIONAL LOWER CONTACT  |
|     | 54.77      | 74.57    | 19.80          | *90 |          |         | SILTSTONE | GY. LAM SS LAMINATIONS COMMON ESP W/IN THE UPPER 4.0 M.   |
|     | 74.57      | 75.14    | 0.57           | *90 |          |         | SILTSTONE | LT. GY  |
|     | 75.14      | 75.46    | 0.32           | *90 |          |         | MUDSTONE  | M. BN   |
|     | 75.46      | 75.56    | 0.10           | *90 |          | P       | COAL      | BLK "P" SEAM?   |

\* DENOTES MEASURED BCA  
NEWPAGE

740

GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR OTCB7012

GEOLOGIST : SRIVASTAVA

DATE : MAR 14/88

DRAWING NO. :

LITHOLOGIC SYMBOLS

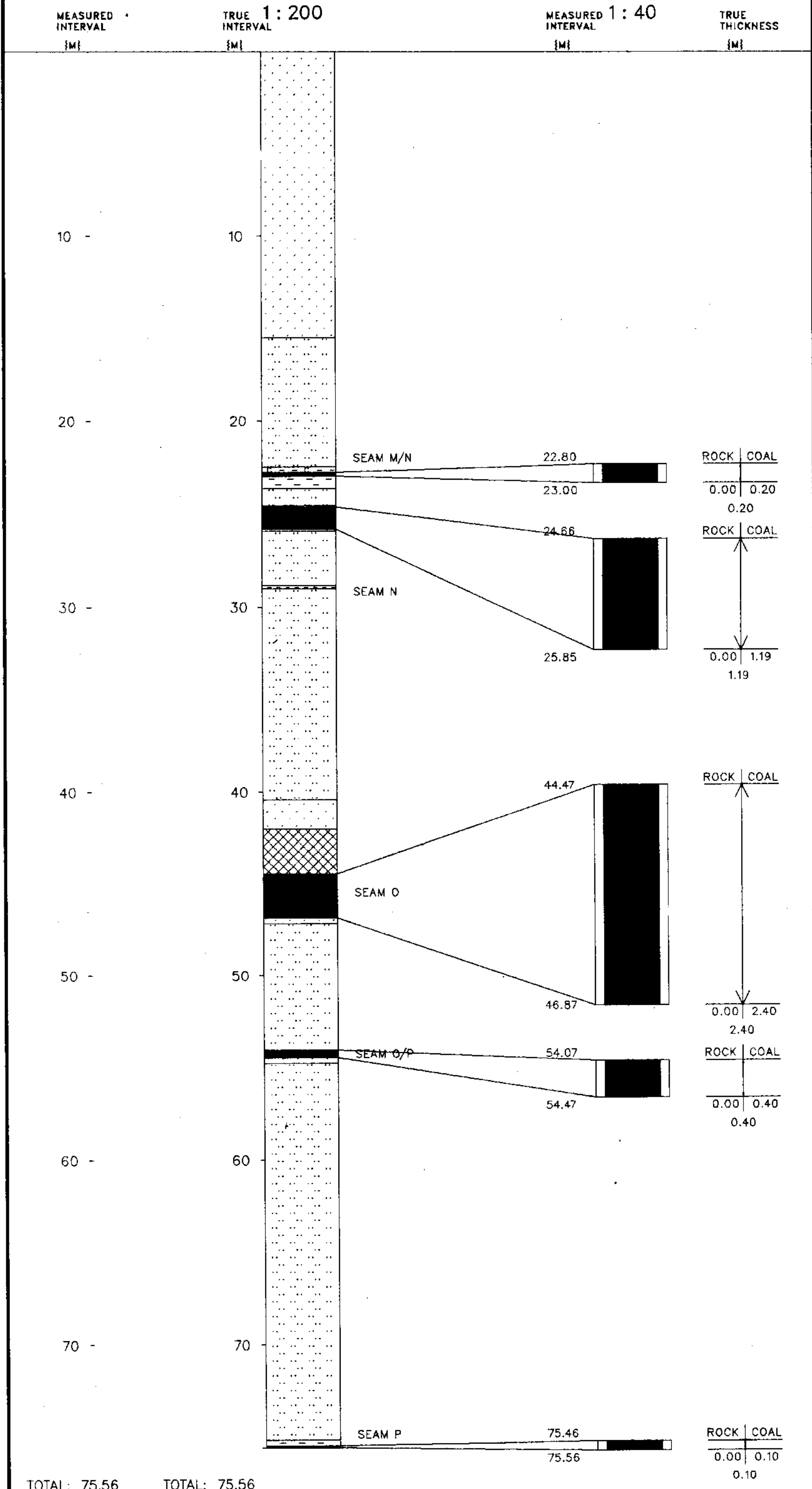
SCALE : 1:200 1:40



NORTHING: 6344072.0 N  
 EASTING: 507370.0 E

|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

SEAM DETAIL



KPNLR0TC87020



===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87020

DATE - 12/04/87

- HISTORY -

START DATE - 18/08/87

END DATE - 18/08/87

CONTRACTOR -

GEOLOGIST - WILLIS

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - EAGLES NEST CLIFFS, BDG UPRIGHT.

- LOCATION -

PROVINCE - BC

ELEVATION - 1828.00

ZONE - 9

NORTHING - 6344244.00

EASTING - 504902.00

LICENCE/LEASE NUMBER -

LATITUDE - 571435

LONGITUDE - 1285508

- ORIENTATION -

LENGTH - 139.00

INCLINATION - 0.0

AZIMUTH - 0.0

SIZE WIDTH - 0.0

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

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87020

| BDX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 0.00       | 0.40     | 0.40           | *90 |          |         | MUDSTONE  | M.GY.THNB<br>WS - LT GY, V WEATHERED, BROKEN UP.  |
|     | 0.40       | 0.70     | 0.30           | *90 |          |         | COAL      | C-6.BLK.LAM<br>V. WEATHERED, SKREE COVERED ON TOP.  |
|     | 0.70       | 0.90     | 0.20           | *90 |          |         | MUDSTONE  | LT.BLK.THNB<br>WS - DK GY, HEMATITE, SULFUR STAINING<br>WOOD, PLANT FRAGMENTS, NILLSONIA TENUIC<br>AULIS. Sp. - 061/15 SE.  |
|     | 0.90       | 4.90     | 4.00           | *90 |          |         | SILTSTONE | M.GY.THNB<br>WS - BUFF, ABUNDANT PLANTS, NILLSONIA T<br>ENUIC AULIS, CZEKANOWSKIA RIGIDA, PITYOP<br>HYLLUM NORDENSKIOLDII, OTHER PLANT: WOO<br>D FRAGMENTS.   |
|     | 4.90       | 6.90     | 2.00           | *90 |          |         | MUDSTONE  | LT.BLK.THNB.RIPMK<br>WS - DK GY, HEMATITE STAINING, ABUNDANT<br>PLANT, PITYOPHYLLUM NORDENSKIOLDII BAI<br>RA FURCATA, MANY OTHER PLANT FRAG. MUD<br>CRACKS AND BIVALVES AT TOP OF UNIT (ST<br>EPHIBELLA?). 1 M x 3 M SLTST NODULES AT<br>TOP OF UNIT. |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87020

| BDX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|-----|----------|---------|-----------|--|
|     | 6.90       | 11.90    | 5.00           | *90 |          |         | SANDSTONE | SLTY.MG.PR.LT.GY.MAS<br>WS - LT GY, POLYMIC TIC, HIGHLY CLEAVED,<br>27 CM WAVELENGTH BIFURCATING RIPPLES (2<br>CM A) AT TOP OF UNIT, SLTST INFILLING<br>ON STOSS SIDE, SLTST RIP-UPS NEAR BAS<br>E ARE 2CM THICK, PLANT FRAGMENTS, GRADA<br>TIONAL BASE. |
|     | 11.90      | 24.90    | 13.00          | *90 |          |         | SANDSTONE | FG.M.GY.MB.RIPMK<br>WS - BUFF, CONTAINS SLTST, INTERBEDS UP<br>TO 30 CM THK, 3 M THK BAND OF SLTST NO<br>DULES IN MIDDLE OF UNIT. NODULES ARE .6<br>M DIA, BIFURCATING RIPPLE MARKS, BIVAL<br>VE ESCAPE STRUCTURE.                                       |
|     | 24.90      | 29.40    | 4.50           | *90 |          |         | SANDSTONE | SLTY.FG.M.GY<br>WS - BUFF, SLTST INTERBEDS 20 CM THK, F<br>INING UP SEQUENCE, SS BEDS GET THINNER,<br>SLTST BEDS GET THICKER, SHARP CONTACT<br>W ABOVE UNIT.   |
|     | 29.40      | 29.70    | 0.30           | *90 |          |         | SILTSTONE | DK.GY.MB<br>1 BED, SEMI PROMINANT, WS - BUFF.  |
|     | 29.70      | 39.00    | 9.30           | *90 |          |         | SILTSTONE | DK.GY.LAM<br>WS - DK GY, SOME HEMATITE STAINING, V.<br>RECESSIVE, MODULAR WEATHERING BECOMES S<br>ANDIER NEAR TOP, FG SS.  |

\* DENOTES MEASURED BCA

87/12/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87020

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY  | DESCRIPTION   |
|-----|------------|----------|----------------|--------------|---------|------------|---|
|     | 39.00      | 46.00    | 7.00           | *90          |         | OVERBURDEN | COVERED INTERVAL, COAL SPOIL IN SKREE.  |
|     | 46.00      | 47.50    | 1.50           | *90          |         | SILTSTONE  | DK.GY.THNB<br>WS - GY/BRN, V. RECESSIVE, DISSAPPEARS IN SKREE.  |
|     | 47.50      | 52.00    | 4.50           | *90          |         | SANDSTONE  | FG.M.GY.THNB<br>WS - BUFF, HEMATITE STAINING, V. WEATHE RED.  |
|     | 52.00      | 56.50    | 4.50           | *90          |         | SILTSTONE  | SSY.M-DK.GY.THNB<br>WS - LT BN, HEMATITE STAINING, NODULAR WEATH. RECESSIVE, NILLSONIA TENUICAILIS, NILLSONIA CANADENSIS, CZEKANOWSKIA RIGIDA, PITYOPHYLLUM NORDENSKIOLDII. |
|     | 56.50      | 65.50    | 9.00           | *90          |         | SANDSTONE  | MG.M.GY.MAS.RIPMK<br>WS - LT BUFF, PROMINANT 1.5 M FROM TOP - BIFURCATING RIPPLES, TOPS UP.   |
|     | 65.50      | 69.50    | 4.00           | *90          |         | SANDSTONE  | FG.M.GY.THNB<br>WS - BUFF BRN, SLTST INTERBEDS .2 M THK, SS INTERBEDS .4 M THK, SLTST - DK GY, MINOR SLTST INTERLAMINATIONS IN SS, SHARP BASAL CONTACT.                     |

\* DENOTES MEASURED BCA

87/12/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87020

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY  | DESCRIPTION   |
|-----|------------|----------|----------------|--------------|---------|------------|---|
|     | 69.50      | 71.50    | 2.00           | *90          |         | SANDSTONE  | FG.M.GY.THNB.RIPMK<br>WS - BUFF BRN, PROMINENT MINOR SLTST INTERLAMINATIONS, SYMMETRICAL RIPPLE MARKS.  |
|     | 71.50      | 83.00    | 11.50          | *90          |         | SILTSTONE  | SSY.DK.GY.THNB.BIOTR<br>WS - M GY, NODULAR WEATHERING, THIN SS INTERBEDS AND INTERLAMINAE, GENERAL COARSENING UP. SS BEDS UP TO 1 M THICK AT TOP, SLTST - 10 CM THICK RIPPLE MARKS AT TOP, BIVALVE ESCAPE STRUCTURE 10 CM WIDE - TOPS UP. |
|     | 83.00      | 89.00    | 6.00           | *90          |         | SANDSTONE  | SLTY.FG.M.GY.THNB.XBDG<br>WS - GY/BRN. 2 DISCONTINUOUS 20 CM BUFF SLTST, FINING UP SEQUENCE, SS GETS SILTY NEAR TOP WITH NODULAR WEATHERING, PLANT MASH.  |
|     | 89.00      | 93.00    | 4.00           | *90          |         | SILTSTONE  | DK.GY.LAM<br>WS - M-DK GY, FG SS INTERLAMINAE, UNIT COARSENS UP, GRADATIONAL CONTACT TO ABOVE UNIT, NODULAR WEATHERING.   |
|     | 93.00      | 112.00   | 19.00          | *90          |         | OVERBURDEN | COVERED INTERVAL - SCREE.   |

\* DENOTES MEASURED BCA

FORM 40001

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87020

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY  | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|------------|--|
|     | 112.00     | 114.80   | 2.80           | *90          |         | SILTSTONE  | DK.GY.THNB<br>MS - RED - HEMATITE STAINED, NODULAR WEATHERING. V. FINELY CLEAVED DISSAPPEARS INTO SCREE.   |
|     | 114.80     | 121.80   | 7.00           | *90          |         | SANDSTONE  | FG.M.GY.THKB<br>MS - GY.BRN. SLTST RIPUPS 1 M FROM BASE (SAMPLE), SLICKENSIDES GET SILTIER NEAR TOP. GRADATIONAL CONTACT W ABOVE SLTS I. MINOR PLANT HASH. |
|     | 121.80     | 122.00   | 0.20           | *90          |         | SILTSTONE  | M-DK.GY.THNB<br>MS - BUFF-DRNG. CALC WEATHERING.   |
|     | 122.00     | 124.00   | 2.00           | *90          |         | SANDSTONE  | FG.M-DK.GY.MAS<br>MS - BUFF-BRN. PROMINENT 10 CM THK. SLT ST INTERBED, FE STAINING.  |
|     | 124.00     | 139.00   | 15.00          | *90          |         | OVERBURDEN | BDG - 060 180 S. SCREE AND ROCK FALL AT BASE W SOME SPOIL EVIDENT AT BOTTOM. M ORE ROCK FALL.  |

\* DENOTES MEASURED BCA  
NEWPAGE

740

GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR OTCB7020

GEOLOGIST : WILLIS

DATE : MAR 14/88

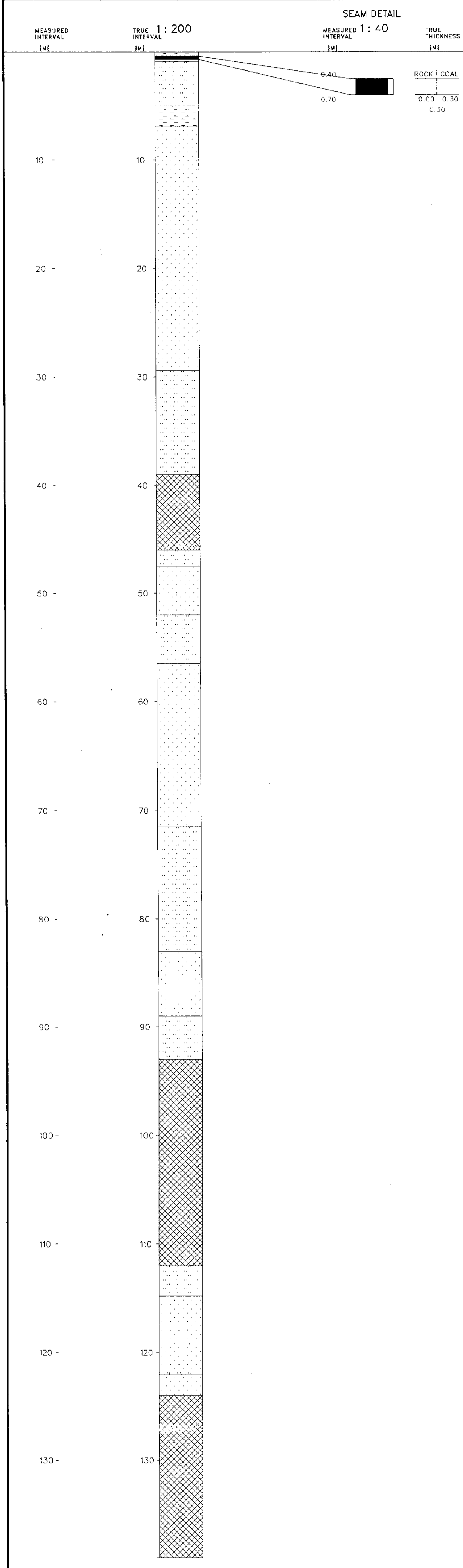
DRAWING NO. :

LITHOLOGIC SYMBOLS

|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

SCALE : 1:200 1:40

NORTHING: 6344244.0 N  
 EASTING: 504902.0 E



KPNLROTC87023

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87023

DATE - 12/04/87

- HISTORY -

START DATE - 16/08/87  
END DATE - 16/08/87

CONTRACTOR -  
GEOLOGIST - WILLIS

OPERATOR - G.C.R.  
SURVEYOR -

REMARKS - IN LOST RIDGE CIRQUE BELOW TRC82049.

- LOCATION -

PROVINCE - BC  
ELEVATION - 1812.00

ZONE - 9  
NORTHING - 6343970.00  
EASTING - 505246.00

LICENCE/LEASE NUMBER -

LATITUDE - 571426  
LONGITUDE - 1285447

- ORIENTATION -

LENGTH - 20.90  
SIZE WIDTH - 0.0  
SIZE HEIGHT - 0.0

INCLINATION - 0.0  
AZIMUTH - 0.0

ROOF STRIKE - 0  
ROOF DIP - 0  
ROOF DIR -

FLOOR STRIKE - 0  
FLOOR DIP - 0  
FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

87/12/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87023

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | BCA | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|-----|----------|---------|-----------|---|
|     | 0.00       | 1.00     | 1.00           | *90 |          |         | COAL      | TRC82049.   |
|     | 1.00       | 12.50    | 11.50          | *90 |          |         | SILTSTONE | GY RYTHMIC INTERBEDDING OF MUDST. SLTST. SS WITH TYPICAL THICKNESS'S OF ABOUT 5 CM OR MORE. |
|     | 12.50      | 20.90    | 8.40           | *90 |          |         | SANDSTONE | FG.H.GY.MAS BASE IN SKREE; SSY SLTST LENSES. RIPUP.   |

\* DENOTES MEASURED BCA  
NEWPAGE



740

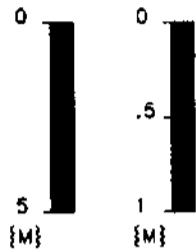
GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR OTC87023

GEOLOGIST : WILLIS

DATE : MAR 14/88

DRAWING NO. :

SCALE : 1:200 1:40



NORTHING: 6343970.0 N  
 EASTING: 505246.0 E

LITHOLOGIC SYMBOLS

|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

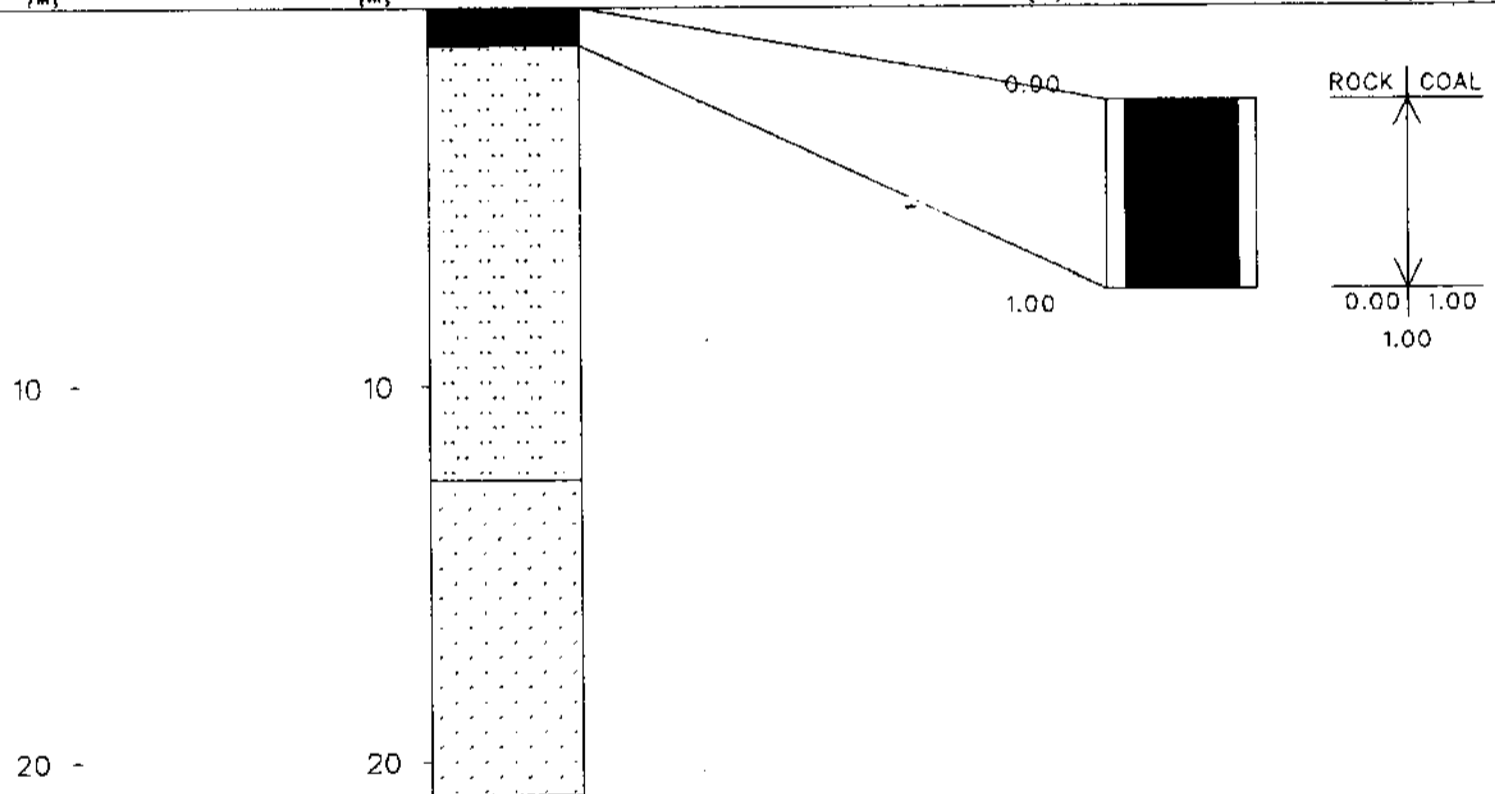
SEAM DETAIL

MEASURED INTERVAL  
{M}

TRUE INTERVAL 1:200  
{M}

MEASURED INTERVAL 1:40  
{M}

TRUE THICKNESS  
{M}



TOTAL: 20.90

TOTAL: 20.90

KPNLR0TC87024

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87024

DATE - 12/04/87

- HISTORY -

START DATE - 18/08/87

END DATE - 18/08/87

CONTRACTOR -

GEOLOGIST - WILLIS

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - WEST OF OTC87025 ON NW FACE OF LOST RIDGE.

- LOCATION -

PROVINCE - BC

ELEVATION - 1722.00

ZONE - 9

NORTHING - 6344236.00

EASTING - 504509.00

LICENCE/LEASE NUMBER -

LATITUDE - 571435

LONGITUDE - 1285531

- ORIENTATION -

LENGTH - 73.35

INCLINATION - 0.0

AZIMUTH - 0.0

SIZE WIDTH - 0.0

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

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: DTC87024

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|----------|---------|-----------|--|
|     | 0.00       | 9.00     | 9.00           | *90      |         | SANDSTONE | MG. M. GY. MAS GRADES UP TO A 'CHERT' PEBBLE SS; FE SPEC KS.   |
|     | 9.00       | 33.00    | 24.00          | *90      |         | SANDSTONE | FG. M. GY. THKB SLICKENSIDES; RARE HOOD FRAGMENTS; GRADATIONAL UPPER CONTACT; FREQUENT SLTST LENSES. |
|     | 33.00      | 34.60    | 1.60           | *90      |         | SILTSTONE | DK. GY. LAM INTERBEDDED WITH FG SS.  |
|     | 34.60      | 34.80    | 0.20           | *90      |         | SILTSTONE | M. GY. THNB SSSY BEDS.   |
|     | 34.80      | 35.35    | 0.55           | *90      |         | SANDSTONE | SLTY. FG. M. GY. LAM SLTST INTERLAMINAE.   |
|     | 35.35      | 36.30    | 0.95           | *90      |         | SILTSTONE | SSY. DK. GY. LAM C. RIGIDA; MUDST DRAPING.   |
|     | 36.30      | 37.70    | 1.40           | *90      |         | SANDSTONE | SLTY. FG. M. GY. THNB PLANT FRAGMENTS; SPARSE MUDST AND SLTST INTERLAMINAE.                          |
|     | 37.70      | 38.00    | 0.30           | *90      |         | SILTSTONE | M. GY. THNB GRADATIONAL UPPER AND LOWER CONTACTS.  |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: DTC87024

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|----------|---------|-----------|---|
|     | 38.00      | 40.30    | 2.30           | *90      |         | SANDSTONE | FG. M. GY. LAM. XBDG RARE BIOTURBATED BDG AND WORM BURROWS.                         |
|     | 40.30      | 40.75    | 0.45           | *90      |         | SILTSTONE | SSY. M. GY. LAM MUDST INTERLAMINAE; NODULAR WEATHERING.                             |
|     | 40.75      | 52.05    | 11.30          | *90      |         | MUDSTONE  | SLTY. BLK MOSTLY SKREE COVERED.   |
|     | 52.05      | 52.35    | 0.30           | *90      |         | SANDSTONE | CLYY. FG. M. GY. THNB SOME SKREE COVER.   |
|     | 52.35      | 73.35    | 21.00          | *90      |         | MUDSTONE  | SLTY. BLK RARE FE STAINED PLANT FRAGMENTS; SOME SLTST LENSES; MOSTLY SKREE COVERED. |

\* DENOTES MEASURED BCA  
NEMPAGE

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GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR OTC87024

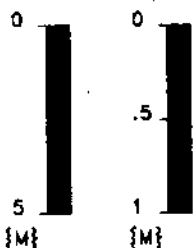
GEOLOGIST : WILLIS

DATE : MAR 14/88

DRAWING NO. :

LITHOLOGIC SYMBOLS

SCALE : 1:200 1:40



NORTHING: 6344236.0 N  
 EASTING: 504509.0 E

|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

MEASURED  
INTERVAL  
{M}

TRUE 1:200  
INTERVAL  
{M}

10 -

10

20 -

20

30 -

30

40 -

40

50 -

50

60 -

60

70 -

70

TOTAL: 73.35 \* TOTAL: 73.35

KPNLR0TC87025

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87025

DATE - 12/04/87

- HISTORY -

START DATE - 18/08/87

END DATE - 18/08/87

CONTRACTOR -

GEOLOGIST - WILLIS

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - NW CLIFF FACE OF LOST RIDGE, SW AND STRAT. BELOW O  
TC87028, BDG UPRIGHT.

- LOCATION -

PROVINCE - BC

ELEVATION - 1714.00

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6344295.00

EASTING - 504556.00

LATITUDE - 571437  
LONGITUDE - 1285528

- ORIENTATION -

LENGTH - 53.30

INCLINATION - 0.0

AZIMUTH - 0.0

SIZE WIDTH - 0.0

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

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87025

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|-----------|--|
|     | 0.00       | 2.60     | 2.60           | *90          |         | SANDSTONE | PBLY. MG. VPR. M. GY. MAS<br>WS - LT GY. CHERT CLASTS, ROUNDED TO SU<br>BROUNDED VERY SPARSE. QTZ BRECCIATION A<br>ND SLICKENSIDES AT TOP. OUTCROP DISAPPE<br>ARS INTO SCREE AT TOP. BDG 060/06 E, GR<br>ADATIONAL CONTACT W LOWER UNIT. |
|     | 2.60       | 17.00    | 14.40          | *90          |         | SANDSTONE | MG. H. GY. MAS<br>WS - LT GY. COARSENS UP, GRADATIONAL TO<br>P. AND BASE.  |
|     | 17.00      | 27.00    | 10.00          | *90          |         | SANDSTONE | FG. DK. GY. MAS<br>WS - BRN/GY. COARSENS UP. GRADATIONAL T<br>OP AND BASE.   |
|     | 27.00      | 37.20    | 10.20          | *90          |         | SANDSTONE | SLTY. FG. DK. GY. THNB<br>WS - BRN/GY. SLTST INTERBEDS DECREASE U<br>P SECTION, GRADATIONAL TOP.   |
|     | 37.20      | 44.10    | 6.90           | *90          |         | SANDSTONE | SLTY. FG. M. GY. LAH<br>WS - M GY. SLTST INTERLAMINAE FINING UP<br>. SLTST. INTERBEDS. PREDOMINANT AT TOP.   |
|     | 44.10      | 46.00    | 1.90           | *90          |         | SANDSTONE | FG. H. GY. THNB<br>WS - BRN/GY. THKBDD AT BASE FINES UP TO<br>SSY SLTST AT TOP, SHARP CONTACT AT BAS<br>E.   |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87025

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|-----------|--|
|     | 46.00      | 47.00    | 1.00           | *90          |         | SILTSTONE | LT. BLK. THNB<br>WS - DK GY. NODULAR WEATHERING, GRADATI<br>ONAL BASE, EROSIONAL TOP.                                    |
|     | 47.00      | 49.20    | 2.20           | *90          |         | SANDSTONE | FG. H. GY. MAS<br>WS - BRN/GY. MASSIVE AT BASE, THINS AND<br>FINES UP 1 CM SLTST. INTERBEDS. AT TOP.<br>GRADATIONAL TOP. |
|     | 49.20      | 49.60    | 0.40           | *90          |         | SILTSTONE | DK. GY. THKB<br>WS - BUFF. CALCAREOUS WEATHERING.  |
|     | 49.60      | 53.30    | 3.70           | *90          |         | SILTSTONE | LT. BLK. THNB<br>WS - DK GY. NODULAR WEATHERING, BASE DI<br>SAPPEARS INTO SCREE.   |

\* DENOTES MEASURED BCA  
NEWPAGE



740

GULF CANADA CORPORATION  
COAL DIVISION  
KLAPPAN PROJECT  
STRATIGRAPHIC LOG  
KPN LR OTC87025

GEOLOGIST : WILLIS

DATE : MAR 14/88

DRAWING NO. :

LITHOLOGIC SYMBOLS

SCALE : 1:200 1:40

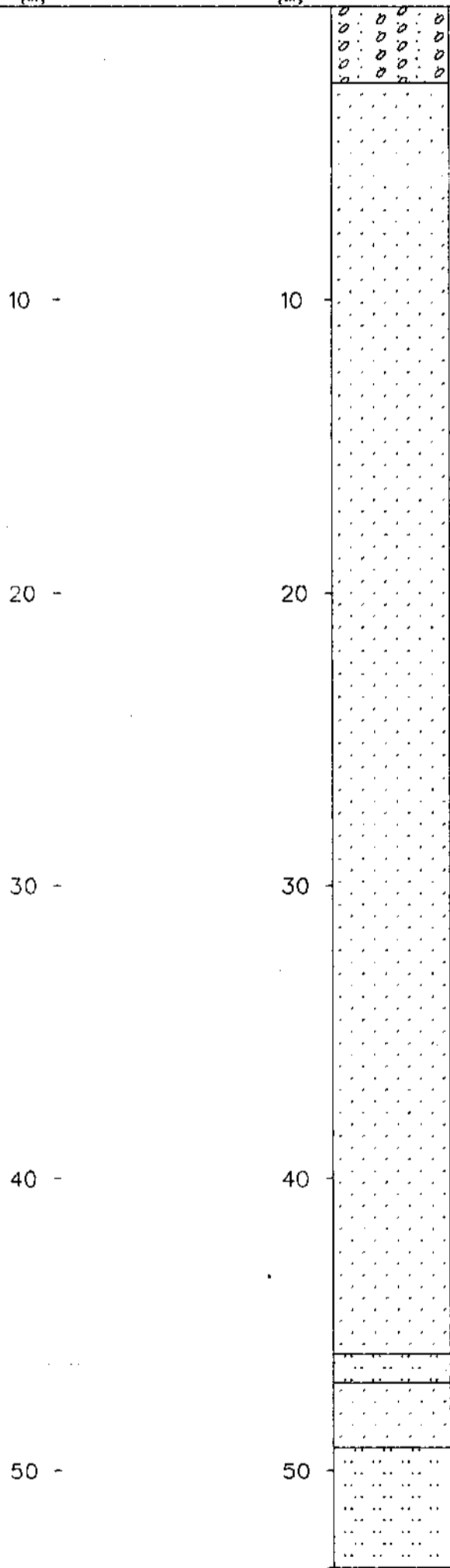


NORTHING: 6344295.0 N  
EASTING: 504556.0 E

|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

MEASURED  
INTERVAL  
{M}

TRUE 1:200  
INTERVAL  
{M}



TOTAL: 53.30

TOTAL: 53.30

KPNLROTC87026

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87026

DATE - 12/04/87

- HISTORY -

START DATE - 19/08/87  
END DATE - 19/08/87

CONTRACTOR -  
GEOLOGIST - WILLIS

OPERATOR - G.C.R.  
SURVEYOR -

REMARKS - BASE OF CONTORTED BEDS OF W END CLIFFS BDG UPRIGHT  
. STRATIGRAPHICALLY BELOW OTC87027.

- LOCATION -

PROVINCE - BC  
ELEVATION - 1724.00

ZONE - 9  
NORTHING - 6343995.00  
EASTING - 504251.00

LICENCE/LEASE NUMBER -

LATITUDE - 571427  
LONGITUDE - 1285546

- ORIENTATION -

LENGTH - 87.60

INCLINATION - 0.0  
AZIMUTH - 0.0

SIZE WIDTH - 0.0  
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

=====

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87026

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY  | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|------------|--|
|     | 0.00       | 1.00     | 1.00           | *90          |         | SILTSTONE  | LT.BLK.VTHNB<br>MS - DK GY, HEMATITE STAINING, NODULAR WEATHERING, TOP DISAPPEARS INTO ROCK FALL.  |
|     | 1.00       | 21.00    | 20.00          | *90          |         | SANDSTONE  | VFG.WEL.M.GY.THNB.XBDG<br>MS - GY/BRN, MOTTLED COARSENS UP UP TO FG SS, XBDG, LOAD CASTS INDICATE TOPS UP, BIOTURBATED BDG, PLANT FRAGMENTS. |
|     | 21.00      | 26.10    | 5.10           | *90          |         | SILTSTONE  | DK.GY.THNB.RIPMK<br>MS - M GY, RIPPLE MARKS INDICATED TOPS UP, BIOTURBATED BEDS, SS INTERBEDS UP TO 20 CM THICK, GRADATIONAL LOWER CONTACT.  |
|     | 26.10      | 29.10    | 3.00           | *90          |         | MUDSTONE   | LT.BLK.LAM<br>MS - GY/BRN, HIGHLY CLEAVED FISSILE, HOMOGENEOUS.  |
|     | 29.10      | 51.10    | 22.00          | *90          |         | OVERBURDEN | COVERED INTERVAL - SCREE COVER.  |
|     | 51.10      | 55.60    | 4.50           | *90          |         | SANDSTONE  | MG.WEL.LY.GY.MAS<br>MS - BUFF BRN, WOOD FRAGMENTS, QTZ VEINING THROUGHOUT.   |
|     | 55.60      | 61.10    | 5.50           | *90          |         | SILTSTONE  | DK.GY.THNB<br>MS - GY/BRN MOTTLED, THIN SS INTERBEDS.  |

\* DENOTES MEASURED BCA

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87026

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|-----------|--|
|     | 61.10      | 77.60    | 16.50          | *90          |         | SANDSTONE | FG.WEL.LY.GY.MAS<br>MS - GY/BRN, MOTTLED LENTICULAR, SLTST BEDS (~30 CM THK) THROUGHOUT, SLTST RIP UP BAND (3 M FROM BOTTOM) CLASTS 1-5 CM DIA., BDG THINS TOWARDS TOP, MUDST LAMS AND GRADED BDG (COARSENING UP CYCLES) NEAR TOP 2-3 CM THK, LOAD CASTS INDICATE TOPS |
|     | 77.60      | 87.60    | 10.00          | *90          |         | MUDSTONE  | LT.BLK.THNB<br>MS - BRN, HIGHLY CLEAVED, MINOR SLTST AND SS INTERLAM LENTICULAR SLTST AT BASE OF UNIT (30 CM THK, MS - BUFF) BASE DISAPPEARS INTO SCREE, SPOIL IN SCREE.   |

\* DENOTES MEASURED BCA  
NEWPAGE

740

GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR OTC87026

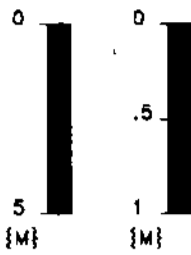
GEOLOGIST : WILLIS

DATE : MAR 14/88

DRAWING NO. :

LITHOLOGIC SYMBOLS

SCALE : 1:200 1:40

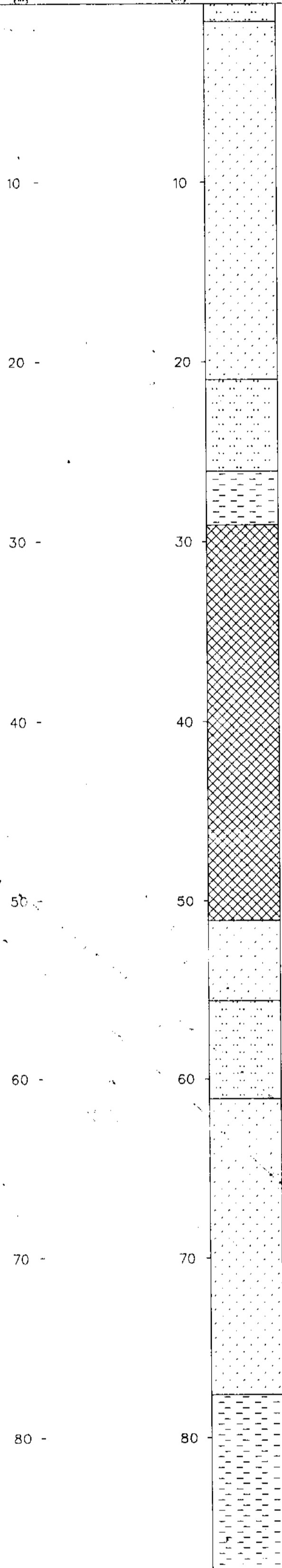


NORTHING: 6343995.0 N  
 EASTING: 504251.0 E

|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

MEASURED  
 INTERVAL  
 {M}

TRUE 1:200  
 INTERVAL  
 {M}



TOTAL: 87.60

TOTAL: 87.60

KPNLR0TC87027

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87027

DATE - 12/04/87

- HISTORY -

START DATE - 19/08/87

END DATE - 19/08/87

CONTRACTOR -

GEOLOGIST - WILLIS

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - W END CLIFFS; STRAT. ABOVE OTC87026. POSITION MAY-  
BE INACCURATE DUE TO STRUCTURAL COMPLEXITY.

- LOCATION -

PROVINCE - BC

ELEVATION - 1822.00

ZONE - 9

NORTHING - 6344012.00

EASTING - 504441.00

LICENCE/LEASE NUMBER -

LATITUDE - 571428

LONGITUDE - 1285535

- ORIENTATION -

LENGTH - 132.50

INCLINATION - 0.0

AZIMUTH - 0.0

SIZE WIDTH - 0.0

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

=====

87/12/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87027

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY  | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|------------|--|
|     | 0.00       | 18.00    | 18.00          | *90          |         | MUDSTONE   | LT.BLK.LAM<br>MS - DK GY, HIGHLY CLEAVED, RECESSIVE,<br>PARTIAL SCREE COVER.   |
|     | 18.00      | 18.50    | 0.50           | *90          |         | SILTSTONE  | DK.GY.THNB<br>MS - BUFF, CALC WEATHERING.  |
|     | 18.50      | 23.00    | 4.50           | *90          |         | MUDSTONE   | LT.BLK.LAM<br>MS - DK GY, SLTST INTERLAMS AT TOP, HOM<br>OGENOUS AT BASE BECOMES "N.MOHANK" AT B<br>ASE, BASE GOES INTO SCREE. |
|     | 23.00      | 35.00    | 12.00          | *90          |         | OVERBURDEN | COVERED INTERVAL, SCREE COVER, SP. IN S<br>CREE.   |
|     | 35.00      | 43.60    | 8.60           | *90          |         | SANDSTONE  | FG.LT.PURP.MAS<br>MS - MAUVE/BRN.  |
|     | 43.60      | 44.00    | 0.40           | *90          |         | SILTSTONE  | SSY.DK.GY<br>MS - BUFF, CALC. WEATHERING.  |
|     | 44.00      | 56.00    | 12.00          | *90          |         | SANDSTONE  | FG.LT.PURP.MAS<br>MS - MAUVE/BRN, BUFF SLTST RIPUP BAND 2<br>CM FROM BASE, RIPUPS 1-5 CM THICK, BAN<br>D 5 CM THICK, RIPUP.    |

\* DENOTES MEASURED BCA

87/12/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87027

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY  | DESCRIPTION   |
|-----|------------|----------|----------------|--------------|---------|------------|---|
|     | 56.00      | 70.50    | 14.50          | *90          |         | SANDSTONE  | FG.LT.PURP.THKB.RIPMK<br>MS - MAUVE/BRN, THNBDD, SLTY AT BASE, C<br>OARSENS TO MASSIVE FG SS AT TOP. NON-BI<br>FURCATING RIPPLE MARKS. INDICATES TOPS<br>UP, TREE TRUNK - 40 CM DIA, BUFF SLTST<br>LENSES UP TO 1 M THICK TOP DISAPPEARS I<br>N. ROCK FALL. |
|     | 70.50      | 82.50    | 12.00          | *90          |         | MUDSTONE   | LT.BLK.THNB<br>MS - GY/BRN, MINOR SLTST INTERBEDS, MOD<br>ULAR WEATHERING RECESSIVE, COARSENS UP,<br>GRADATIONAL AT TOP.  |
|     | 82.50      | 90.50    | 8.00           | *90          |         | SILTSTONE  | DK.GY.THNB<br>MS - BRN, CLYY AT BASE, SSY AT TOP.   |
|     | 90.50      | 96.50    | 6.00           | *90          |         | MUDSTONE   | LT.BLK.THNB<br>MS - DK GY, HOMOGENOUS SULFUR STAINING.  |
|     | 96.50      | 111.50   | 15.00          | *90          |         | OVERBURDEN | COVERED INTERVAL - SCREE.   |
|     | 111.50     | 114.50   | 3.00           | *90          |         | SILTSTONE  | LT.BLK<br>MS - ORNG/BRN, HOMOGENOUS RECESSIVE.  |

\* DENOTES MEASURED BCA



PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87027

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------------|---------|-----------|---|
|     | 114.50     | 132.50   | 18.00          | *90          |         | SANDSTONE | FG. MEL. LT. PURP. MAS<br>MS - BUFF/BRN. MINOR SLTST BEDS (2 CM T<br>HK). SLTST DRAPES INDICATE TOPS UP, QTZ<br>VEINING. MINOR SLTST RIPUPS ABOVE 7 M<br>FROM BASE - 5 CM x 1 CM. WOOD FRAGMENTS<br>, SCREE AT BASE. RIPUP. |

\* DENOTES MEASURED BCA  
NEWPAGE

740

GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR OTC87027

GEOLOGIST : WILLIS

DATE : MAR 14/88

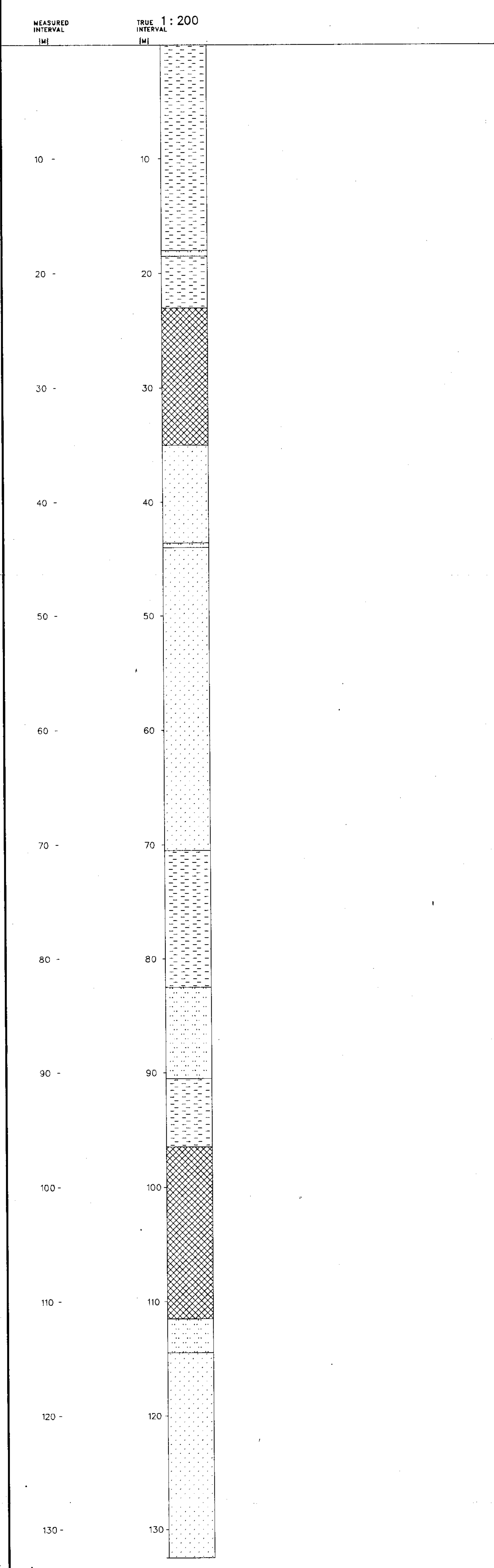
DRAWING NO. :

LITHOLOGIC SYMBOLS

|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

SCALE : 1:200 1:40

NORTHING: 8344012.0 N  
 EASTING: 504441.0 E



TOTAL: 132.50      TOTAL: 132.50

KPNLROTC87028

===== GULF CANADA CORPORATION =====

- DATA SOURCE SUMMARY -

DATA SOURCE - KPNLROTC87028

DATE - 12/04/87

- HISTORY -

START DATE - 18/08/87

END DATE - 18/08/87

CONTRACTOR -

GEOLOGIST - WILLIS

OPERATOR - G.C.R.

SURVEYOR -

REMARKS - NW CLIFF FACE OF LOST RIDGE, STRATIGRAPHICALLY JUST BELOW EAGLES NEST.

- LOCATION -

PROVINCE - BC

ELEVATION - 1738.00

LICENCE/LEASE NUMBER -

ZONE - 9

NORTHING - 6344317.00

EASTING - 504616.00

LATITUDE - 571438

LONGITUDE - 1285525

- ORIENTATION -

LENGTH - 70.90

SIZE WIDTH - 0.0

SIZE HEIGHT - 0.0

ROOF STRIKE - 0

ROOF DIP - 0

ROOF DIR -

INCLINATION - 0.0

AZIMUTH - 0.0

FLOOR STRIKE - 0

FLOOR DIP - 0

FLOOR DIR -

\*\*\* NOTE \*\*\* 0 INDICATES NO VALUE

=====

87/12/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87028

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION   |
|-----|------------|----------|----------------|--------------|---------|-----------|---|
|     | 0.00       | 9.00     | 9.00           | *90          |         | SANDSTONE | SLTY.FG.DK.GY.THNB<br>MS - M GY/ BRN, HEMATITE STAINING, SLTST INTERBEDS, MORE MASSIVE, COARSER TOWARDS TOP OF UNIT, QTZ VEINING SLICKENSIDES, PLANT FRAGMENTS. DW860703. |
|     | 9.00       | 12.00    | 3.00           | *90          |         | SILTSTONE | SSY.DK.GY.THNB<br>MS - BUFF ORNG, NODULAR WEATH., COARSENS UP, RECESSIVE TOP SCREE COVERED.   |
|     | 12.00      | 22.50    | 10.50          | *90          |         | MUDSTONE  | DK.GY<br>MS - M GY/BRN, HEMATITE STAINING, NODULAR WEATHERING, RECESSIVE COARSER AT TOP, PARTIAL SCREE COVER.   |
|     | 22.50      | 24.50    | 2.00           | *90          |         | COAL      | COAL SPOIL - SAME BASE AS OF EAGLES NEST.   |
|     | 24.50      | 36.50    | 12.00          | *90          |         | SILTSTONE | DK.GY.LAM<br>MS - BUFF ORNG, FG SS INTERLAMINATED AT BASE, NODULAR WEATHERING, V. RECESSIVE PARTIAL SCREE COVER, NILSSONIA TENUICULIS, BDG 020/40 N. DW860601.            |
|     | 36.50      | 56.00    | 19.50          | *90          |         | SANDSTONE | FG.M.GY.MAS<br>MS - BUFF BRN. SLICKENSIDES, QTZ VEINING, SLTY AT BASE.  |

\* DENOTES MEASURED BCA

87/12/04

GULF CANADA CORPORATION - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: KPN BLOCK: LR DATA SOURCE: OTC87028

| BOX | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. BCA ID | SEAM ID | LITHOLOGY | DESCRIPTION  |
|-----|------------|----------|----------------|--------------|---------|-----------|--|
|     | 56.00      | 62.00    | 6.00           | *90          |         | SANDSTONE | SLTY.FG.DK.GY.MB<br>MS - GY/BRN, INTERBEDDED SLTST/SS COARSENS UP, SLTST INTERBEDS GETS THINNER, COARSENING UP SEQUENCE.       |
|     | 62.00      | 62.20    | 0.20           | *90          |         | SANDSTONE | SLTY.FG.M.GY.THNB.XBDG<br>MS - BUFF, VARIABLE THICKNESS 5-30 CM, TROUGH XBDG, RIPPLE MARKS, EROSIONAL BASE, TOPS UP.           |
|     | 62.20      | 64.80    | 2.60           | *90          |         | SANDSTONE | SLTY.VFG.DK.GY.THNB.XBDG<br>MS - M GY, SLTST INTERBEDS, LAMINATED AT TOP, TROUGH XBDG, EROSIONAL TOP.                          |
|     | 64.80      | 65.20    | 0.40           | *90          |         | SILTSTONE | DK.GY.THNB.RIPMK<br>MS - BUFF, TROUGH XBDG, SS INTERLAMINAE AT BASE, BELEMNITE, SHARP CONTACT W LOWER UNIT.                    |
|     | 65.20      | 70.90    | 5.70           | *90          |         | SANDSTONE | SLTY.VFG.DK.GY.MB<br>MS - TAN, SLTST INTERBEDS ~10 CM THK, HIGHLY CLEAVED COARSENS UP TO FG SS, EROSIONAL TOP, BDG - 135/40 N. |

\* DENOTES MEASURED BCA  
NEWPAGE

740

GULF CANADA CORPORATION  
 COAL DIVISION  
 KLAPPAN PROJECT  
 STRATIGRAPHIC LOG  
 KPN LR OTC87028

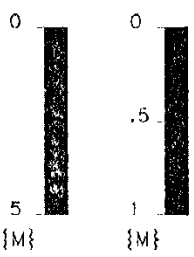
GEOLOGIST : WILLIS

DATE : MAR 14/88

DRAWING NO. :

LITHOLOGIC SYMBOLS

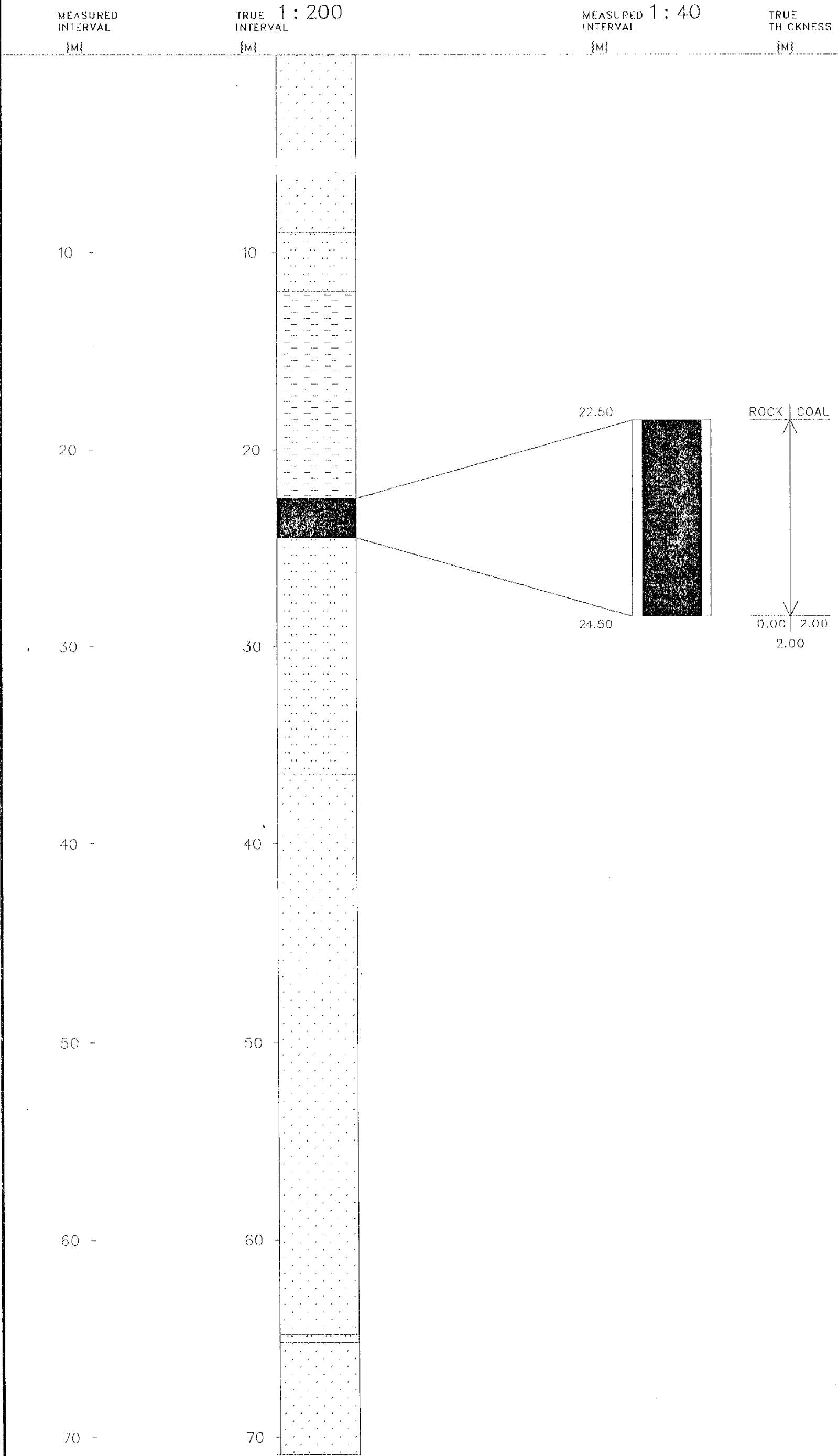
SCALE : 1:200 1:40



NORTHING: 6344317.0 N  
 EASTING: 504616.0 E

|  |                     |  |              |
|--|---------------------|--|--------------|
|  | SANDSTONE           |  | BENTONITE    |
|  | SILTSTONE           |  | BRECCIA      |
|  | COAL                |  | CARBONACEOUS |
|  | OVERBURDEN          |  | QUARTZ       |
|  | MUDSTONE, CLAYSTONE |  | PYRITE       |
|  | TUFF                |  | FERRUGINOUS  |
|  | LIMESTONE           |  | CONGLOMERATE |
|  | COVERED             |  | FOSSIL BED   |

SEAM DETAIL



TOTAL: 70.90      TOTAL: 70.90

Coal Quality  
Data.  
Confidential  
# 1

~~CONFIDENTIAL~~

740

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87001 SEAM - H

SAMPLE ID - 1

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 65.26 ASH % - 38.53 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ/KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 2.09                  | 2.77  | 2.09      | 2.77  | 97.91       | 40.80 | 0.0        | 0.0  |   |           |
| 1.45     | 12.23                 | 8.40  | 14.32     | 7.58  | 85.68       | 45.43 | 0.0        | 0.0  |   |           |
| 1.50     | 11.09                 | 12.36 | 25.41     | 9.67  | 74.59       | 50.34 | 0.0        | 0.0  |   |           |
| 1.55     | 5.32                  | 18.60 | 30.73     | 11.21 | 69.27       | 52.78 | 0.0        | 0.0  |   |           |
| 1.60     | 3.71                  | 22.79 | 34.44     | 12.46 | 65.56       | 54.48 | 0.0        | 0.0  |   |           |
| 1.70     | 10.52                 | 29.21 | 44.96     | 16.38 | 55.04       | 59.31 | 0.0        | 0.0  |   |           |
| 1.80     | 8.55                  | 33.79 | 53.51     | 19.16 | 46.49       | 64.00 | 0.0        | 0.0  |   |           |
| 2.00     | 12.33                 | 48.43 | 65.84     | 24.64 | 34.16       | 69.62 | 0.0        | 0.0  |   |           |
| 2.60     | 34.16                 | 69.62 | 100.00    | 40.01 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 26.22 ASH % - 29.36 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ/KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 15.80                | 2.70  | 15.80     | 2.70  | 84.20       | 33.40 | 0.0        | 0.0  |   |           |
| 1.45     | 14.51                | 8.00  | 30.31     | 5.24  | 69.69       | 38.69 | 0.0        | 0.0  |   |           |
| 1.50     | 12.54                | 10.77 | 42.85     | 6.86  | 57.15       | 44.82 | 0.0        | 0.0  |   |           |
| 1.55     | 8.27                 | 17.13 | 51.12     | 8.52  | 48.88       | 49.50 | 0.0        | 0.0  |   |           |
| 1.60     | 5.19                 | 20.25 | 56.31     | 9.60  | 43.69       | 52.97 | 0.0        | 0.0  |   |           |
| 1.70     | 9.13                 | 25.68 | 65.44     | 11.84 | 34.56       | 60.18 | 0.0        | 0.0  |   |           |
| 1.80     | 5.61                 | 33.00 | 71.05     | 13.51 | 28.95       | 65.45 | 0.0        | 0.0  |   |           |
| 2.00     | 7.24                 | 43.84 | 78.29     | 16.32 | 21.71       | 72.66 | 0.0        | 0.0  |   |           |
| 2.60     | 21.71                | 72.66 | 100.00    | 28.55 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |



2

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87001 SEAM - H

SAMPLE ID - 1

WASHABILITY ID - WA1

----- ANALYSIS TYPE - FLOAT -----

| FRACTION SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - 5.62 ASH % - 22.89 |       |         |      |
|-------------------|-----------|-------|-------------|-------|--|-------|---------|------|
|                   | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                             |       | C.V.    | CUM. |
| S.G.TME           | WT%       | ASH%  | WT%         | ASH%  | WT%                                    | ASH%  | (MJ/KG) | C.V. |
| 1.40              | 31.48     | 2.92  | 31.48       | 2.92  | 68.52                                  | 30.13 | 0.0     | 0.0  |
| 1.45              | 8.75      | 5.28  | 40.23       | 3.43  | 59.77                                  | 33.77 | 0.0     | 0.0  |
| 1.50              | 7.38      | 8.40  | 47.61       | 4.20  | 52.39                                  | 37.35 | 0.0     | 0.0  |
| 1.55              | 10.70     | 11.81 | 58.31       | 5.60  | 41.69                                  | 43.90 | 0.0     | 0.0  |
| 1.60              | 3.78      | 14.11 | 62.09       | 6.12  | 37.91                                  | 46.87 | 0.0     | 0.0  |
| 1.70              | 11.48     | 18.61 | 73.57       | 8.07  | 26.43                                  | 59.15 | 0.0     | 0.0  |
| 1.80              | 4.15      | 26.72 | 77.72       | 9.06  | 22.28                                  | 65.19 | 0.0     | 0.0  |
| 2.00              | 5.89      | 39.69 | 83.61       | 11.22 | 16.39                                  | 74.35 | 0.0     | 0.0  |
| 2.60              | 16.39     | 74.35 | 100.00      | 21.57 | 0.0                                    | 0.0   | 0.0     | 0.0  |

----- ANALYSIS TYPE - FROTH -----

| FRACTION SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - 2.90 ASH % - 27.30 |      |         |       |
|-------------------|-----------|-------|-------------|-------|--|------|---------|-------|
|                   | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                             |      | C.V.    | CUM.  |
| S.G.TME           | WT%       | ASH%  | WT%         | ASH%  | WT%                                    | ASH% | (MJ/KG) | C.V.  |
| 240.00            | 100.00    | 27.30 | 100.00      | 27.30 | 0.0                                    | 0.0  | 23.28   | 23.28 |

COAL ANALYSIS

STEAMER: COW...  
ANALYSIS...  
MAY 1988

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87001 SEAM - H

SAMPLE ID - 3

WASHABILITY ID - WA1

| FRACTION | ANALYSIS TYPE - FLOAT |           | SIZE(MM) |      | 35.00 X     |       | 6.00 |            | RELATIVE WEIGHT % - 60.49 |      | ASH % - 40.97 |           |
|----------|-----------------------|-----------|----------|------|-------------|-------|------|------------|---------------------------|------|---------------|-----------|
|          | S.G.TME               | ELEMENTAL | WT%      | ASH% | CUM. FLOATS | WT%   | ASH% | CUM. SINKS | WT%                       | ASH% | C.V. (MJ/KG)  | CUM. C.V. |
| 1.40     |                       | 0.49      | 7.44     |      | 0.49        | 7.44  |      | 99.51      | 42.81                     |      | 0.0           | 0.0       |
| 1.45     |                       | 1.07      | 9.73     |      | 1.56        | 9.01  |      | 98.44      | 43.17                     |      | 0.0           | 0.0       |
| 1.50     |                       | 6.64      | 12.60    |      | 8.20        | 11.92 |      | 91.80      | 45.38                     |      | 0.0           | 0.0       |
| 1.55     |                       | 12.64     | 16.86    |      | 20.84       | 14.92 |      | 79.16      | 49.93                     |      | 0.0           | 0.0       |
| 1.60     |                       | 6.18      | 20.40    |      | 27.02       | 16.17 |      | 72.98      | 52.43                     |      | 0.0           | 0.0       |
| 1.70     |                       | 11.23     | 28.81    |      | 38.25       | 19.88 |      | 61.75      | 56.73                     |      | 0.0           | 0.0       |
| 1.80     |                       | 11.40     | 36.05    |      | 49.65       | 23.59 |      | 50.35      | 61.41                     |      | 0.0           | 0.0       |
| 2.00     |                       | 19.04     | 48.24    |      | 68.69       | 30.43 |      | 31.31      | 69.42                     |      | 0.0           | 0.0       |
| 2.60     |                       | 31.31     | 69.42    |      | 100.00      | 42.63 |      | 0.0        | 0.0                       |      | 0.0           | 0.0       |

| FRACTION | ANALYSIS TYPE - FLOAT |           | SIZE(MM) |      | 6.00 X      |       | 0.50 |            | RELATIVE WEIGHT % - 26.54 |      | ASH % - 26.52 |           |
|----------|-----------------------|-----------|----------|------|-------------|-------|------|------------|---------------------------|------|---------------|-----------|
|          | S.G.TME               | ELEMENTAL | WT%      | ASH% | CUM. FLOATS | WT%   | ASH% | CUM. SINKS | WT%                       | ASH% | C.V. (MJ/KG)  | CUM. C.V. |
| 1.40     |                       | 9.27      | 3.31     |      | 9.27        | 3.31  |      | 90.73      | 28.22                     |      | 0.0           | 0.0       |
| 1.45     |                       | 9.40      | 6.87     |      | 18.67       | 5.10  |      | 81.33      | 30.69                     |      | 0.0           | 0.0       |
| 1.50     |                       | 7.25      | 10.11    |      | 25.92       | 6.50  |      | 74.08      | 32.71                     |      | 0.0           | 0.0       |
| 1.55     |                       | 7.64      | 12.60    |      | 33.56       | 7.89  |      | 66.44      | 35.02                     |      | 0.0           | 0.0       |
| 1.60     |                       | 7.96      | 14.53    |      | 41.52       | 9.16  |      | 58.48      | 37.81                     |      | 0.0           | 0.0       |
| 1.70     |                       | 16.95     | 18.98    |      | 58.47       | 12.01 |      | 41.53      | 45.49                     |      | 0.0           | 0.0       |
| 1.80     |                       | 9.31      | 28.38    |      | 67.78       | 14.26 |      | 32.22      | 50.43                     |      | 0.0           | 0.0       |
| 2.00     |                       | 18.15     | 39.49    |      | 85.93       | 19.59 |      | 14.07      | 64.55                     |      | 0.0           | 0.0       |
| 2.60     |                       | 14.07     | 64.55    |      | 100.00      | 25.91 |      | 0.0        | 0.0                       |      | 0.0           | 0.0       |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDHB7001 SEAM - H

SAMPLE ID - 3

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) | 0.50 X |       | 0.15     |           | RELATIVE WEIGHT % - 8.39 ASH % - 16.52 |                 | C.V. (MJ/KG) | CUM. C.V. |
|-------------------|--------|-------|----------|-----------|--|-----------------|--------------|-----------|
|                   | WT%    | ASH%  | CUM. WT% | CUM. ASH% | CUM. SINKS WT%                         | CUM. SINKS ASH% |              |           |
| S.G.TME           |        |       |          |           |  |                 |              |           |
| 1.40              | 17.40  | 2.27  | 17.40    | 2.27      | 82.60                                  | 18.37           | 0.0          | 0.0       |
| 1.45              | 11.53  | 4.21  | 28.93    | 3.04      | 71.07                                  | 20.66           | 0.0          | 0.0       |
| 1.50              | 16.69  | 6.91  | 45.62    | 4.46      | 54.38                                  | 24.88           | 0.0          | 0.0       |
| 1.55              | 7.84   | 9.83  | 53.46    | 5.25      | 46.54                                  | 27.42           | 0.0          | 0.0       |
| 1.60              | 9.89   | 11.09 | 63.35    | 6.16      | 36.65                                  | 31.83           | 0.0          | 0.0       |
| 1.70              | 14.28  | 14.97 | 77.63    | 7.78      | 22.37                                  | 42.59           | 0.0          | 0.0       |
| 1.80              | 6.57   | 24.20 | 84.20    | 9.06      | 15.80                                  | 50.23           | 0.0          | 0.0       |
| 2.00              | 8.51   | 36.48 | 92.71    | 11.58     | 7.29                                   | 66.29           | 0.0          | 0.0       |
| 2.60              | 7.29   | 66.29 | 100.00   | 15.57     | 0.0                                    | 0.0             | 0.0          | 0.0       |

ANALYSIS TYPE - FROTH

| FRACTION SIZE(MM) | 0.15 X |       | 0.00     |           | RELATIVE WEIGHT % - 4.58 ASH % - 17.68 |                 | C.V. (MJ/KG) | CUM. C.V. |
|-------------------|--------|-------|----------|-----------|--|-----------------|--------------|-----------|
|                   | WT%    | ASH%  | CUM. WT% | CUM. ASH% | CUM. SINKS WT%                         | CUM. SINKS ASH% |              |           |
| S.G.TME           |        |       |          |           |  |                 |              |           |
| 240.00            | 100.00 | 17.68 | 100.00   | 17.68     | 0.0                                    | 0.0             | 26.93        | 26.93     |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87001  
 Coal zone: H  
 Field sample no.: 07105 - 07107 Composite sample no.: 200

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.56  
 Contribution (%): 19.29  
 Total yield (%): 19.29

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.87                 |                  |
| Ash (%) :                       | 11.39                | 11.49            |
| Volatile matter (%) :           | 8.52                 | 8.59             |
| Fixed carbon (%) :              | 79.22                | 79.92            |
| Total sulphur (%) :             | 0.54                 | 0.54             |
| Combustible sulphur (%) :       | 0.49                 |                  |
| Gross calorific value (cal/g) : | 7,333.00             | 7,397.00         |
| Volatile matter (dmmf%) :       | 8.60                 |                  |
| Hardgrove index:                | 52.00                |                  |
| Phosphorous in coal (%) :       | 0.179                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,238.00             | 1,085.00            |
| Softening temperature(°C) :     | 1,274.00             | 1,259.00            |
| Hemispherical temperature(°C) : | 1,290.00             | 1,269.00            |
| Final temperature(°C) :         | 1,406.00             | 1,395.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 57.42 | TiO2 (%) : | 1.69 |
| Al2O3 (%) : | 21.17 | Na2O (%) : | 1.96 |
| Fe2O3 (%) : | 2.29  | K2O (%) :  | 0.66 |
| CaO (%) :   | 6.10  | SO3 (%) :  | 1.19 |
| MgO (%) :   | 1.70  | P2O5 (%) : | 3.59 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87001  
 Coal zone: H  
 Field sample no.: 07105 - 07107 Composite sample no.: 400

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 10.70  
 Total yield (%): 10.70

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.83                 |                  |
| Ash (%):                       | 6.78                 | 6.84             |
| Volatile matter (%):           | 7.79                 | 7.86             |
| Fixed carbon (%):              | 84.60                | 85.30            |
| Total sulphur (%):             | 0.66                 | 0.67             |
| Combustible sulphur (%):       | 0.64                 |                  |
| Gross calorific value (cal/g): | 7,756.00             | 7,821.00         |
| Volatile matter (dmmf%):       | 7.70                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.112                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,264.00             | 1,219.00            |
| Softening temperature (°C):     | 1,290.00             | 1,266.00            |
| Hemispherical temperature (°C): | 1,338.00             | 1,295.00            |
| Final temperature (°C):         | 1,438.00             | 1,433.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 51.40 | TiO2 (%): | 3.17 |
| Al2O3 (%): | 24.19 | Na2O (%): | 2.18 |
| Fe2O3 (%): | 2.90  | K2O (%):  | 0.78 |
| CaO (%):   | 5.12  | SO3 (%):  | 0.88 |
| MgO (%):   | 1.50  | P2O5 (%): | 3.80 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPnlRDDH87002 SEAM - I

SAMPLE ID - 4

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) |       | 35.00 X 6.00 |        | RELATIVE WEIGHT % - 44.48 ASH % - 39.10 |       |           |     |             |      |        |     |        |      |           |       |            |  |
|-------------------|-------|--------------|--------|---|-------|-----------|-----|-------------|------|--------|-----|--------|------|-----------|-------|------------|--|
| ELEMENTAL         |       | CUM. FLOATS  |        | CUM. SINKS                              |       | CUM. C.V. |     | CUM. C.V.   |      | CUM. S |     | CUM. S |      | CUM. VOL. |       | CUM. MOIST |  |
| SG-TME            | WT%   | ASH%         | WT%    | ASH%                                    | WT%   | ASH%      | FSI | FSI (MJ/KG) | C.V. | S      | S   | VOL.   | VOL. | MOIST     | MOIST |            |  |
| 1.40              | 3.16  | 6.26         | 3.16   | 6.26                                    | 96.84 | 39.29     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.70  | 0.70       |  |
| 1.45              | 11.80 | 8.88         | 14.96  | 8.33                                    | 85.04 | 43.51     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.62  | 0.64       |  |
| 1.50              | 13.04 | 13.55        | 28.00  | 10.76                                   | 72.00 | 48.94     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.68  | 0.66       |  |
| 1.55              | 9.91  | 19.68        | 37.91  | 13.09                                   | 62.09 | 53.61     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.78  | 0.69       |  |
| 1.60              | 8.05  | 24.59        | 45.96  | 15.11                                   | 54.04 | 57.93     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.69  | 0.69       |  |
| 1.70              | 11.04 | 30.25        | 57.00  | 18.04                                   | 43.00 | 65.04     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.70  | 0.69       |  |
| 1.80              | 8.13  | 37.53        | 65.13  | 20.47                                   | 34.87 | 71.45     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.66  | 0.69       |  |
| 2.00              | 6.80  | 47.75        | 71.93  | 23.05                                   | 28.07 | 77.19     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.72  | 0.69       |  |
| 2.60              | 28.07 | 77.19        | 100.00 | 38.25                                   | 0.0   | 0.0       | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.75  | 0.71       |  |

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) |       | 6.00 X 0.50 |        | RELATIVE WEIGHT % - 41.39 ASH % - 24.00 |       |           |     |             |      |        |     |        |      |           |       |            |  |
|-------------------|-------|-------------|--------|---|-------|-----------|-----|-------------|------|--------|-----|--------|------|-----------|-------|------------|--|
| ELEMENTAL         |       | CUM. FLOATS |        | CUM. SINKS                              |       | CUM. C.V. |     | CUM. C.V.   |      | CUM. S |     | CUM. S |      | CUM. VOL. |       | CUM. MOIST |  |
| SG-TME            | WT%   | ASH%        | WT%    | ASH%                                    | WT%   | ASH%      | FSI | FSI (MJ/KG) | C.V. | S      | S   | VOL.   | VOL. | MOIST     | MOIST |            |  |
| 1.40              | 17.67 | 3.99        | 17.67  | 3.99                                    | 82.33 | 27.82     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.65  | 0.65       |  |
| 1.45              | 14.88 | 7.25        | 32.55  | 5.48                                    | 67.45 | 32.35     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.63  | 0.64       |  |
| 1.50              | 16.40 | 11.91       | 48.95  | 7.63                                    | 51.05 | 38.92     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.69  | 0.66       |  |
| 1.55              | 10.63 | 16.43       | 59.58  | 9.20                                    | 40.42 | 44.84     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.80  | 0.68       |  |
| 1.60              | 6.40  | 19.70       | 65.98  | 10.22                                   | 34.02 | 49.57     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 0.85  | 0.70       |  |
| 1.70              | 10.35 | 23.92       | 76.33  | 12.08                                   | 23.67 | 60.78     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 1.71  | 0.84       |  |
| 1.80              | 4.65  | 33.23       | 80.98  | 13.29                                   | 19.02 | 67.52     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 1.03  | 0.85       |  |
| 2.00              | 5.10  | 45.45       | 86.08  | 15.20                                   | 13.92 | 75.60     | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 1.83  | 0.91       |  |
| 2.60              | 13.92 | 75.60       | 100.00 | 23.61                                   | 0.0   | 0.0       | 0.0 | 0.0         | 0.0  | 0.0    | 0.0 | 0.0    | 0.0  | 0.0       | 1.68  | 1.01       |  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPnlRDDH87002 SEAM - I

SAMPLE ID - 4

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) | 0.50 X    |       | 0.15   |       | SINKS |       | RELATIVE WEIGHT % - |             |      |     | 9.16 ASH % - |      | 19.82 |       |       |      |
|-------------------|-----------|-------|--------|-------|-------|-------|---------------------|-------------|------|-----|--------------|------|-------|-------|-------|------|
|                   | ELEMENTAL | CUM.  | FLOATS | CUM.  | WT%   | ASH%  | CUM.                | C.V.        | CUM. | S   | CUM.         | S    | VOL.  | VOL.  | CUM.  | CUM. |
| SG-TME            | WT%       | ASH%  | WT%    | ASH%  | WT%   | ASH%  | FSI                 | FSI (MJ KG) | C.V. | S   | S            | VOL. | VOL.  | MOIST | MOIST |      |
| 1.40              | 26.76     | 2.34  | 26.76  | 2.34  | 73.24 | 25.86 | 0.0                 | 0.0         | 0.0  | 0.0 | 0.0          | 0.0  | 0.0   | 0.0   | 0.95  | 0.95 |
| 1.45              | 7.75      | 4.30  | 34.51  | 2.78  | 65.49 | 28.41 | 0.0                 | 0.0         | 0.0  | 0.0 | 0.0          | 0.0  | 0.0   | 0.0   | 0.93  | 0.95 |
| 1.50              | 13.73     | 7.40  | 48.24  | 4.10  | 51.76 | 33.99 | 0.0                 | 0.0         | 0.0  | 0.0 | 0.0          | 0.0  | 0.0   | 0.0   | 1.17  | 1.01 |
| 1.55              | 7.62      | 10.43 | 55.86  | 4.96  | 44.14 | 38.06 | 0.0                 | 0.0         | 0.0  | 0.0 | 0.0          | 0.0  | 0.0   | 0.0   | 1.48  | 1.07 |
| 1.60              | 6.26      | 13.09 | 62.12  | 5.78  | 37.88 | 42.18 | 0.0                 | 0.0         | 0.0  | 0.0 | 0.0          | 0.0  | 0.0   | 0.0   | 1.61  | 1.13 |
| 1.70              | 12.87     | 16.94 | 74.99  | 7.69  | 25.01 | 55.17 | 0.0                 | 0.0         | 0.0  | 0.0 | 0.0          | 0.0  | 0.0   | 0.0   | 1.46  | 1.18 |
| 1.80              | 6.68      | 25.15 | 81.67  | 9.12  | 18.33 | 66.11 | 0.0                 | 0.0         | 0.0  | 0.0 | 0.0          | 0.0  | 0.0   | 0.0   | 1.85  | 1.24 |
| 2.00              | 4.48      | 39.22 | 86.15  | 10.69 | 13.85 | 74.81 | 0.0                 | 0.0         | 0.0  | 0.0 | 0.0          | 0.0  | 0.0   | 0.0   | 1.82  | 1.27 |
| 2.60              | 13.85     | 74.81 | 100.00 | 19.57 | 0.0   | 0.0   | 0.0                 | 0.0         | 0.0  | 0.0 | 0.0          | 0.0  | 0.0   | 0.0   | 1.31  | 1.27 |

ANALYSIS TYPE - FROTH

| FRACTION SIZE(MM) | 0.15 X    |       | 0.00   |       | SINKS |      | RELATIVE WEIGHT % - |             |       |       | 4.97 ASH % - |      | 21.37 |       |       |      |
|-------------------|-----------|-------|--------|-------|-------|------|---------------------|-------------|-------|-------|--------------|------|-------|-------|-------|------|
|                   | ELEMENTAL | CUM.  | FLOATS | CUM.  | WT%   | ASH% | CUM.                | C.V.        | CUM.  | S     | CUM.         | S    | VOL.  | VOL.  | CUM.  | CUM. |
| SG-TME            | WT%       | ASH%  | WT%    | ASH%  | WT%   | ASH% | FSI                 | FSI (MJ KG) | C.V.  | S     | S            | VOL. | VOL.  | MOIST | MOIST |      |
| 240.00            | *****     | 21.37 | 100.00 | 21.37 | 0.0   | 0.0  | 0.0                 | 0.0         | 25.09 | 25.09 | 0.38         | 0.38 | 6.83  | 6.83  | 0.90  | 0.90 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPNLRDDH87002 SEAM - I

SAMPLE ID - 5

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) |           | 35.00 X 6.00 |            | RELATIVE WEIGHT % - 66.74 |           | ASH % - 12.01 |             |      |      |       |            |      |       |       |      |      |
|-------------------|-----------|--------------|------------|---------------------------|-----------|---------------|-------------|------|------|-------|------------|------|-------|-------|------|------|
| SG-TME            | ELEMENTAL | CUM. FLOATS  | CUM. SINKS | CUM. FSI                  | C.V. CUM. | CUM. S        | CUM. S      | VOL. | VOL. | MOIST | CUM. MOIST |      |       |       |      |      |
| WT%               | ASH%      | WT%          | ASH%       | WT%                       | ASH%      | FSI           | FSI (MJ KG) | C.V. | S    | S     | VOL.       | VOL. | MOIST | MOIST |      |      |
| 1.40              | 37.36     | 5.69         | 37.36      | 5.69                      | 62.64     | 17.63         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.55 | 0.55 |
| 1.45              | 39.55     | 8.20         | 76.91      | 6.98                      | 23.09     | 33.79         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.60 | 0.58 |
| 1.50              | 4.87      | 12.27        | 81.78      | 7.30                      | 18.22     | 39.54         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.74 | 0.59 |
| 1.55              | 2.81      | 17.85        | 84.59      | 7.65                      | 15.41     | 43.49         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.91 | 0.60 |
| 1.60              | 1.24      | 21.90        | 85.83      | 7.85                      | 14.17     | 45.38         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.68 | 0.60 |
| 1.70              | 3.25      | 22.11        | 89.08      | 8.37                      | 10.92     | 52.31         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.64 | 0.60 |
| 1.80              | 1.14      | 31.59        | 90.22      | 8.67                      | 9.78      | 54.72         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.76 | 0.60 |
| 2.00              | 0.84      | 44.54        | 91.06      | 9.00                      | 8.94      | 55.68         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.67 | 0.60 |
| 2.60              | 8.94      | 55.68        | 100.00     | 13.17                     | 0.0       | 0.0           | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.55 | 0.60 |

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) |           | 6.00 X 0.50 |            | RELATIVE WEIGHT % - 27.42 |           | ASH % - 10.86 |             |      |      |       |            |      |       |       |      |      |
|-------------------|-----------|-------------|------------|---------------------------|-----------|---------------|-------------|------|------|-------|------------|------|-------|-------|------|------|
| SG-TME            | ELEMENTAL | CUM. FLOATS | CUM. SINKS | CUM. FSI                  | C.V. CUM. | CUM. S        | CUM. S      | VOL. | VOL. | MOIST | CUM. MOIST |      |       |       |      |      |
| WT%               | ASH%      | WT%         | ASH%       | WT%                       | ASH%      | FSI           | FSI (MJ KG) | C.V. | S    | S     | VOL.       | VOL. | MOIST | MOIST |      |      |
| 1.40              | 47.09     | 4.14        | 47.09      | 4.14                      | 52.91     | 15.69         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.52 | 0.52 |
| 1.45              | 22.06     | 7.77        | 69.15      | 5.30                      | 30.85     | 21.35         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.58 | 0.54 |
| 1.50              | 10.30     | 11.64       | 79.45      | 6.12                      | 20.55     | 26.21         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.61 | 0.55 |
| 1.55              | 2.12      | 13.93       | 81.57      | 6.32                      | 18.43     | 27.63         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.82 | 0.56 |
| 1.60              | 5.61      | 14.82       | 87.18      | 6.87                      | 12.82     | 33.23         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 0.98 | 0.58 |
| 1.70              | 6.07      | 18.66       | 93.25      | 7.64                      | 6.75      | 46.33         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 1.15 | 0.62 |
| 1.80              | 1.98      | 28.66       | 95.23      | 8.07                      | 4.77      | 53.67         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 1.19 | 0.63 |
| 2.00              | 1.71      | 38.02       | 96.94      | 8.60                      | 3.06      | 62.41         | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 1.88 | 0.65 |
| 2.60              | 3.06      | 62.41       | 100.00     | 10.25                     | 0.0       | 0.0           | 0.0         | 0.0  | 0.0  | 0.0   | 0.0        | 0.0  | 0.0   | 0.0   | 1.41 | 0.68 |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPnlRDDH87002 SEAM - I

SAMPLE ID - 5

WASHABILITY ID - WA1

----- ANALYSIS TYPE - FLOAT -----

| FRACTION SIZE(MM) | 0.50 X 0.15 |             | RELATIVE WEIGHT % - |       |       |       | 4.04 ASH % - 12.63 |             |      |      |       |       |      |       |       |
|-------------------|-------------|-------------|---------------------|-------|-------|-------|--------------------|-------------|------|------|-------|-------|------|-------|-------|
|                   | ELEMENTAL   | CUM. FLOATS | CUM.                | SINKS | CUM.  | C.V.  | CUM.               | CUM.        | CUM. | CUM. | MOIST | MOIST |      |       |       |
| SG-TME            | WT%         | ASH%        | WT%                 | ASH%  | WT%   | ASH%  | FSI                | FSI (MJ KG) | C.V. | S    | S     | VOL.  | VOL. | MOIST | MOIST |
| 1.40              | 25.39       | 2.35        | 25.39               | 2.35  | 74.61 | 16.13 | 0.0                | 0.0         | 0.0  | 0.0  | 0.0   | 0.0   | 0.0  | 0.88  | 0.88  |
| 1.45              | 10.73       | 5.06        | 36.12               | 3.16  | 63.88 | 17.99 | 0.0                | 0.0         | 0.0  | 0.0  | 0.0   | 0.0   | 0.0  | 0.90  | 0.89  |
| 1.50              | 22.71       | 6.90        | 58.83               | 4.60  | 41.17 | 24.10 | 0.0                | 0.0         | 0.0  | 0.0  | 0.0   | 0.0   | 0.0  | 1.03  | 0.94  |
| 1.55              | 7.97        | 10.40       | 66.80               | 5.29  | 33.20 | 27.39 | 0.0                | 0.0         | 0.0  | 0.0  | 0.0   | 0.0   | 0.0  | 1.16  | 0.97  |
| 1.60              | 10.17       | 12.99       | 76.97               | 6.31  | 23.03 | 33.75 | 0.0                | 0.0         | 0.0  | 0.0  | 0.0   | 0.0   | 0.0  | 1.52  | 1.04  |
| 1.70              | 9.23        | 15.45       | 86.20               | 7.29  | 13.80 | 46.00 | 0.0                | 0.0         | 0.0  | 0.0  | 0.0   | 0.0   | 0.0  | 1.58  | 1.10  |
| 1.80              | 4.65        | 23.61       | 90.85               | 8.12  | 9.15  | 57.37 | 0.0                | 0.0         | 0.0  | 0.0  | 0.0   | 0.0   | 0.0  | 1.30  | 1.11  |
| 2.00              | 3.00        | 35.73       | 93.85               | 9.01  | 6.15  | 67.93 | 0.0                | 0.0         | 0.0  | 0.0  | 0.0   | 0.0   | 0.0  | 1.58  | 1.12  |
| 2.60              | 6.15        | 67.93       | 100.00              | 12.63 | 0.0   | 0.0   | 0.0                | 0.0         | 0.0  | 0.0  | 0.0   | 0.0   | 0.0  | 1.12  | 1.12  |

----- ANALYSIS TYPE - FROTH -----

| FRACTION SIZE(MM) | 0.15 X 0.00 |             | RELATIVE WEIGHT % - |       |      |      | 1.80 ASH % - 16.59 |             |       |       |       |       |      |       |       |      |
|-------------------|-------------|-------------|---------------------|-------|------|------|--------------------|-------------|-------|-------|-------|-------|------|-------|-------|------|
|                   | ELEMENTAL   | CUM. FLOATS | CUM.                | SINKS | CUM. | C.V. | CUM.               | CUM.        | CUM.  | CUM.  | MOIST | MOIST |      |       |       |      |
| SG-TME            | WT%         | ASH%        | WT%                 | ASH%  | WT%  | ASH% | FSI                | FSI (MJ KG) | C.V.  | S     | S     | VOL.  | VOL. | MOIST | MOIST |      |
| 240.00            | *****       | 16.59       | 100.00              | 16.59 | 0.0  | 0.0  | 0.0                | 0.0         | 28.89 | 28.89 | 0.43  | 0.43  | 7.44 | 7.44  | 0.64  | 0.64 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87002  
 Coal zone: 1  
 Field sample no.: 06816 Composite sample no.: 201

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.40  
 Contribution (%): 2.90  
 Total yield (%): 2.90

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.74                 |                  |
| Ash (%):                       | 5.72                 | 5.76             |
| Volatile matter (%):           | 5.96                 | 6.00             |
| Fixed carbon (%):              | 87.58                | 88.24            |
| Total sulphur (%):             | 0.46                 | 0.46             |
| Combustible sulphur (%):       | 0.44                 |                  |
| Gross calorific value (cal/g): | 7,906.00             | 7,965.00         |
| Volatile matter (dmmf %):      | 5.80                 |                  |
| Hardgrove index:               | 39.00                |                  |
| Phosphorous in coal (%):       | 0.060                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,095.00             | 1,090.00            |
| Softening temperature(°C):     | 1,272.00             | 1,232.00            |
| Hemispherical temperature(°C): | 1,317.00             | 1,280.00            |
| Final temperature(°C):         | 1,424.00             | 1,420.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 57.78 | TiO2 (%): | 1.77 |
| Al2O3 (%): | 23.06 | Na2O (%): | 1.89 |
| Fe2O3 (%): | 1.97  | K2O (%):  | 0.81 |
| CaO (%):   | 4.09  | SO3 (%):  | 0.80 |
| MgO (%):   | 1.82  | P2O5 (%): | 2.40 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87002  
 Coal zone: 1  
 Field sample no.: 06816 Composite sample no.: 201

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 10.50  
 Total yield (%): 10.50

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.79                 |                  |
| Ash (%):                       | 12.23                | 12.33            |
| Volatile matter (%):           | 8.31                 | 8.38             |
| Fixed carbon (%):              | 78.67                | 79.29            |
| Total sulphur (%):             | 0.43                 | 0.43             |
| Combustible sulphur (%):       | 0.41                 |                  |
| Gross calorific value (cal/g): | 7,258.00             | 7,316.00         |
| Volatile matter (dmmf %):      | 8.40                 |                  |
| Hardgrove index:               | 49.00                |                  |
| Phosphorous in coal (%):       | 0.082                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,219.00             | 1,151.00            |
| Softening temperature (°C):     | 1,395.00             | 1,340.00            |
| Hemispherical temperature (°C): | 1,409.00             | 1,372.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 63.22 | TiO2 (%): | 0.98 |
| Al2O3 (%): | 20.79 | Na2O (%): | 1.89 |
| Fe2O3 (%): | 1.78  | K2O (%):  | 0.82 |
| CaO (%):   | 2.77  | SO3 (%):  | 0.35 |
| MgO (%):   | 1.67  | P2O5 (%): | 1.54 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87002  
 Coal zone: 1  
 Field sample no.: 06817 Composite sample no.: 202

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.42  
 Contribution (%): 40.32  
 Total yield (%): 40.32

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.59                 |                  |
| Ash (%):                       | 5.55                 | 5.58             |
| Volatile matter (%):           | 5.91                 | 5.94             |
| Fixed carbon (%):              | 87.95                | 88.48            |
| Total sulphur (%):             | 0.48                 | 0.48             |
| Combustible sulphur (%):       | 0.47                 |                  |
| Gross calorific value (cal/g): | 7,992.00             | 8,039.00         |
| Volatile matter (dmmf %):      | 5.70                 |                  |
| Hardgrove index:               | 40.00                |                  |
| Phosphorous in coal (%):       | 0.182                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,222.00             | 1,103.00            |
| Softening temperature (°C):     | 1,266.00             | 1,261.00            |
| Hemispherical temperature (°C): | 1,280.00             | 1,272.00            |
| Final temperature (°C):         | 1,395.00             | 1,392.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 38.94 | TiO2 (%): | 2.31 |
| Al2O3 (%): | 31.53 | Na2O (%): | 2.26 |
| Fe2O3 (%): | 2.71  | K2O (%):  | 0.99 |
| CaO (%):   | 7.15  | SO3 (%):  | 0.31 |
| MgO (%):   | 1.31  | P2O5 (%): | 7.50 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87002  
 Coal zone: 1  
 Field sample no.: 06817 Composite sample no.: 202

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.72  
 Contribution (%): 35.03  
 Total yield (%): 35.03

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.66                 |                  |
| Ash (%):                       | 13.44                | 13.53            |
| Volatile matter (%):           | 9.05                 | 9.11             |
| Fixed carbon (%):              | 76.85                | 77.36            |
| Total sulphur (%):             | 0.40                 | 0.40             |
| Combustible sulphur (%):       | 0.31                 |                  |
| Gross calorific value (cal/g): | 7,089.00             | 7,136.00         |
| Volatile matter (dmmf %):      | 9.30                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.225                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,211.00             | 1,169.00            |
| Softening temperature (°C):     | 1,277.00             | 1,216.00            |
| Hemispherical temperature (°C): | 1,280.00             | 1,235.00            |
| Final temperature (°C):         | 1,306.00             | 1,302.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 44.10 | TiO2 (%): | 1.80 |
| Al2O3 (%): | 23.06 | Na2O (%): | 2.13 |
| Fe2O3 (%): | 8.40  | K2O (%):  | 0.87 |
| CaO (%):   | 5.99  | SO3 (%):  | 1.72 |
| MgO (%):   | 3.43  | P2O5 (%): | 3.84 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87002  
 Coal zone: 1  
 Field sample no.: 06816 - 06817 Composite sample no.: 401

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 21.10  
 Total yield (%): 21.10

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.95                 |                  |
| Ash (%):                       | 7.18                 | 7.25             |
| Volatile matter (%):           | 8.64                 | 8.72             |
| Fixed carbon (%):              | 83.23                | 84.03            |
| Total sulphur (%):             | 0.34                 | 0.34             |
| Combustible sulphur (%):       | 0.32                 |                  |
| Gross calorific value (cal/g): | 7,713.00             | 7,787.00         |
| Volatile matter (dmmf %):      | 8.80                 |                  |
| Hardgrove index:               | 52.00                |                  |
| Phosphorous in coal (%):       | 0.070                |                  |

----- ASH FUSION ANALYSIS (AFT) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,216.00             | 1,211.00            |
| Softening temperature (°C):     | 1,343.00             | 1,327.00            |
| Hemispherical temperature (°C): | 1,364.00             | 1,361.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 59.08 | TiO2 (%): | 2.51 |
| Al2O3 (%): | 23.82 | Na2O (%): | 2.08 |
| Fe2O3 (%): | 2.11  | K2O (%):  | 0.86 |
| CaO (%):   | 3.67  | SO3 (%):  | 0.71 |
| MgO (%):   | 1.61  | P2O5 (%): | 2.24 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPnlRDDH87002 SEAM - I OVT

SAMPLE ID - 6

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) |           | 35.00 X 6.00 |        | RELATIVE WEIGHT % - 45.77 |       |       |             |      |     |      |     | ASH % - 20.01 |       |       |      |      |
|-------------------|-----------|--------------|--------|---------------------------|-------|-------|-------------|------|-----|------|-----|---------------|-------|-------|------|------|
| SG-TME            | ELEMENTAL | CUM.         | FLOATS | CUM.                      | SINKS | CUM.  | C.V.        | CUM. | S   | CUM. | S   | VOL.          | CUM.  | CUM.  | CUM. |      |
| WT%               | ASH%      | WT%          | ASH%   | WT%                       | ASH%  | FSI   | FSI (MJ KG) | C.V. |     |      |     |               | MOIST | MOIST |      |      |
| 1.40              | 27.27     | 4.62         | 27.27  | 4.62                      | 72.73 | 27.54 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 0.42 | 0.42 |
| 1.45              | 25.50     | 8.06         | 52.77  | 6.28                      | 47.23 | 38.06 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 0.49 | 0.45 |
| 1.50              | 8.40      | 13.14        | 61.17  | 7.22                      | 38.83 | 43.45 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 0.64 | 0.48 |
| 1.55              | 5.16      | 17.33        | 66.33  | 8.01                      | 33.67 | 47.46 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 0.75 | 0.50 |
| 1.60              | 5.23      | 20.97        | 71.56  | 8.96                      | 28.44 | 52.33 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 0.80 | 0.52 |
| 1.70              | 8.67      | 26.71        | 80.23  | 10.88                     | 19.77 | 63.56 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 0.91 | 0.56 |
| 1.80              | 3.64      | 39.54        | 83.87  | 12.12                     | 16.13 | 68.98 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 0.76 | 0.57 |
| 2.00              | 3.40      | 44.05        | 87.27  | 13.36                     | 12.73 | 75.64 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 0.52 | 0.57 |
| 2.60              | 12.73     | 75.64        | 100.00 | 21.29                     | 0.0   | 0.0   | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 0.48 | 0.56 |

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) |           | 6.00 X 0.50 |        | RELATIVE WEIGHT % - 36.76 |       |       |             |      |     |      |     | ASH % - 13.26 |       |       |      |      |
|-------------------|-----------|-------------|--------|---------------------------|-------|-------|-------------|------|-----|------|-----|---------------|-------|-------|------|------|
| SG-TME            | ELEMENTAL | CUM.        | FLOATS | CUM.                      | SINKS | CUM.  | C.V.        | CUM. | S   | CUM. | S   | VOL.          | CUM.  | CUM.  | CUM. |      |
| WT%               | ASH%      | WT%         | ASH%   | WT%                       | ASH%  | FSI   | FSI (MJ KG) | C.V. |     |      |     |               | MOIST | MOIST |      |      |
| 1.40              | 35.36     | 3.36        | 35.36  | 3.36                      | 64.64 | 17.17 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 0.35 | 0.35 |
| 1.45              | 19.49     | 6.85        | 54.85  | 4.60                      | 45.15 | 21.62 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 0.54 | 0.42 |
| 1.50              | 10.91     | 10.09       | 65.76  | 5.51                      | 34.24 | 25.29 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 0.43 | 0.42 |
| 1.55              | 6.41      | 11.91       | 72.17  | 6.08                      | 27.83 | 28.38 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 0.72 | 0.45 |
| 1.60              | 8.05      | 12.63       | 80.22  | 6.74                      | 19.78 | 34.78 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 1.32 | 0.53 |
| 1.70              | 8.97      | 17.74       | 89.19  | 7.84                      | 10.81 | 48.93 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 1.51 | 0.63 |
| 1.80              | 2.90      | 27.97       | 92.09  | 8.48                      | 7.91  | 56.61 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 1.29 | 0.65 |
| 2.00              | 2.37      | 38.76       | 94.46  | 9.24                      | 5.54  | 64.25 | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 1.80 | 0.68 |
| 2.60              | 5.54      | 64.25       | 100.00 | 12.28                     | 0.0   | 0.0   | 0.0         | 0.0  | 0.0 | 0.0  | 0.0 | 0.0           | 0.0   | 0.0   | 1.35 | 0.72 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPnlRDDH87002 SEAM - I OVT

SAMPLE ID - 6

WASHABILITY ID - WA1

----- ANALYSIS TYPE - FLOAT -----

| FRACTION SIZE(MM) |           | 0.50 X      |        | 0.15  |       | RELATIVE WEIGHT % - 11.30 ASH % - 10.40 |             |      |     |     |      |      |       |       |      |
|-------------------|-----------|-------------|--------|-------|-------|---|-------------|------|-----|-----|------|------|-------|-------|------|
| SG-TME            | ELEMENTAL | CUM. FLOATS |        | CUM.  | SINKS | CUM. C.V.                               |             | CUM. | S   |     | CUM. | CUM. |       | CUM.  |      |
| WT%               | ASH%      | WT%         | ASH%   | WT%   | ASH%  | FSI                                     | FSI (MJ KG) | C.V. | S   | S   | VOL. | VOL. | MOIST | MOIST |      |
| 1.40              | 25.79     | 2.58        | 25.79  | 2.58  | 74.21 | 13.95                                   | 0.0         | 0.0  | 0.0 | 0.0 | 0.0  | 0.0  | 0.0   | 1.42  | 1.42 |
| 1.45              | 16.30     | 4.11        | 42.09  | 3.17  | 57.91 | 16.72                                   | 0.0         | 0.0  | 0.0 | 0.0 | 0.0  | 0.0  | 0.0   | 1.02  | 1.27 |
| 1.50              | 15.79     | 6.92        | 57.88  | 4.19  | 42.12 | 20.39                                   | 0.0         | 0.0  | 0.0 | 0.0 | 0.0  | 0.0  | 0.0   | 1.15  | 1.23 |
| 1.55              | 8.20      | 9.14        | 66.08  | 4.81  | 33.92 | 23.11                                   | 0.0         | 0.0  | 0.0 | 0.0 | 0.0  | 0.0  | 0.0   | 1.60  | 1.28 |
| 1.60              | 10.08     | 10.16       | 76.16  | 5.52  | 23.84 | 28.58                                   | 0.0         | 0.0  | 0.0 | 0.0 | 0.0  | 0.0  | 0.0   | 1.93  | 1.37 |
| 1.70              | 13.40     | 13.62       | 89.56  | 6.73  | 10.44 | 47.79                                   | 0.0         | 0.0  | 0.0 | 0.0 | 0.0  | 0.0  | 0.0   | 1.53  | 1.39 |
| 1.80              | 3.53      | 26.65       | 93.09  | 7.48  | 6.91  | 58.59                                   | 0.0         | 0.0  | 0.0 | 0.0 | 0.0  | 0.0  | 0.0   | 1.67  | 1.40 |
| 2.00              | 2.16      | 37.81       | 95.25  | 8.17  | 4.75  | 68.04                                   | 0.0         | 0.0  | 0.0 | 0.0 | 0.0  | 0.0  | 0.0   | 1.40  | 1.40 |
| 2.60              | 4.75      | 68.04       | 100.00 | 11.02 | 0.0   | 0.0                                     | 0.0         | 0.0  | 0.0 | 0.0 | 0.0  | 0.0  | 0.0   | 0.86  | 1.37 |

----- ANALYSIS TYPE - FROTH -----

| FRACTION SIZE(MM) |           | 0.15 X      |        | 0.00  |       | RELATIVE WEIGHT % - 6.17 ASH % - 10.25 |             |      |       |       |      |      |       |       |      |      |
|-------------------|-----------|-------------|--------|-------|-------|--|-------------|------|-------|-------|------|------|-------|-------|------|------|
| SG-TME            | ELEMENTAL | CUM. FLOATS |        | CUM.  | SINKS | CUM. C.V.                              |             | CUM. | S     |       | CUM. | CUM. |       | CUM.  |      |      |
| WT%               | ASH%      | WT%         | ASH%   | WT%   | ASH%  | FSI                                    | FSI (MJ KG) | C.V. | S     | S     | VOL. | VOL. | MOIST | MOIST |      |      |
| 240.00            | *****     | 10.25       | 100.00 | 10.25 | 0.0   | 0.0                                    | 0.0         | 0.0  | 31.65 | 31.65 | 0.48 | 0.48 | 6.08  | 6.08  | 0.58 | 0.58 |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPNLRDDH87002 SEAM - I OVT

SAMPLE ID - 7

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) |           | 35.00 X 6.00 |        | RELATIVE WEIGHT % - 52.47 |       | ASH % - 39.87 |      | CUM. FLOATS |      | CUM. SINKS |             | CUM. C.V. |     | CUM. S |      | CUM. VOL. |       | CUM. MOIST |  |
|-------------------|-----------|--------------|--------|---------------------------|-------|---------------|------|-------------|------|------------|-------------|-----------|-----|--------|------|-----------|-------|------------|--|
| SG-TME            | ELEMENTAL | WT%          | ASH%   | WT%                       | ASH%  | WT%           | ASH% | WT%         | ASH% | FSI        | FSI (MJ/KG) | C.V.      | S   | S      | VOL. | VOL.      | MOIST | MOIST      |  |
| 1.40              | 2.74      | 3.47         | 2.74   | 3.47                      | 97.26 | 40.06         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 0.56  | 0.56       |  |
| 1.45              | 11.87     | 8.22         | 14.61  | 7.33                      | 85.39 | 44.48         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 0.58  | 0.58       |  |
| 1.50              | 20.76     | 13.24        | 35.37  | 10.80                     | 64.63 | 54.52         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 0.63  | 0.61       |  |
| 1.55              | 8.69      | 18.48        | 44.06  | 12.31                     | 55.94 | 60.12         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 0.65  | 0.62       |  |
| 1.60              | 5.53      | 22.47        | 49.59  | 13.45                     | 50.41 | 64.25         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 0.88  | 0.65       |  |
| 1.70              | 9.44      | 28.49        | 59.03  | 15.85                     | 40.97 | 72.49         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 0.96  | 0.70       |  |
| 1.80              | 4.00      | 36.40        | 63.03  | 17.16                     | 36.97 | 76.39         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 0.94  | 0.71       |  |
| 2.00              | 3.39      | 48.90        | 66.42  | 18.78                     | 33.58 | 79.17         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 1.03  | 0.73       |  |
| 2.60              | 33.58     | 79.17        | 100.00 | 39.06                     | 0.0   | 0.0           | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 1.09  | 0.85       |  |

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) |           | 6.00 X 0.50 |        | RELATIVE WEIGHT % - 34.43 |       | ASH % - 24.25 |      | CUM. FLOATS |      | CUM. SINKS |             | CUM. C.V. |     | CUM. S |      | CUM. VOL. |       | CUM. MOIST |  |
|-------------------|-----------|-------------|--------|---------------------------|-------|---------------|------|-------------|------|------------|-------------|-----------|-----|--------|------|-----------|-------|------------|--|
| SG-TME            | ELEMENTAL | WT%         | ASH%   | WT%                       | ASH%  | WT%           | ASH% | WT%         | ASH% | FSI        | FSI (MJ/KG) | C.V.      | S   | S      | VOL. | VOL.      | MOIST | MOIST      |  |
| 1.40              | 14.79     | 3.26        | 14.79  | 3.26                      | 85.21 | 26.96         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 0.54  | 0.54       |  |
| 1.45              | 20.85     | 7.63        | 35.64  | 5.82                      | 64.36 | 33.22         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 0.43  | 0.48       |  |
| 1.50              | 15.13     | 12.42       | 50.77  | 7.78                      | 49.23 | 39.62         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 0.50  | 0.48       |  |
| 1.55              | 11.11     | 16.71       | 61.88  | 9.39                      | 38.12 | 46.29         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 0.57  | 0.50       |  |
| 1.60              | 7.82      | 20.39       | 69.70  | 10.62                     | 30.30 | 52.98         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 0.77  | 0.53       |  |
| 1.70              | 8.58      | 25.31       | 78.28  | 12.23                     | 21.72 | 63.91         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 1.13  | 0.59       |  |
| 1.80              | 3.86      | 34.24       | 82.14  | 13.27                     | 17.86 | 70.32         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 1.06  | 0.62       |  |
| 2.00              | 3.56      | 45.04       | 85.70  | 14.59                     | 14.30 | 76.61         | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 1.86  | 0.67       |  |
| 2.60              | 14.30     | 76.61       | 100.00 | 23.46                     | 0.0   | 0.0           | 0.0  | 0.0         | 0.0  | 0.0        | 0.0         | 0.0       | 0.0 | 0.0    | 0.0  | 0.0       | 1.60  | 0.80       |  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPNLRDDH87002 SEAM - I OVT

SAMPLE ID - 7

WASHABILITY ID - WA1

| ANALYSIS TYPE - FLOAT |           |        |        |       |        |                     |       |     |             |      |      |      |      |         |      |       |      |       |       |
|-----------------------|-----------|--------|--------|-------|--------|---------------------|-------|-----|-------------|------|------|------|------|---------|------|-------|------|-------|-------|
| FRACTION SIZE(MM)     |           | 0.50 X |        | 0.15  |        | RELATIVE WEIGHT % - |       |     |             |      |      | 8.56 |      | ASH % - |      | 18.81 |      |       |       |
| SG-TME                | ELEMENTAL | WT%    | ASH%   | CUM.  | FLOATS | CUM.                | SINKS | FSI | FSI (MJ/KG) | C.V. | CUM. | S    | CUM. | S       | VOL. | VOL.  | CUM. | MOIST | MOIST |
| 1.40                  | 21.56     | 3.42   | 21.56  | 3.42  | 78.44  | 21.79               | 0.0   | 0.0 | 0.0         | 0.0  | 0.0  | 0.0  | 0.0  | 0.0     | 0.0  | 0.0   | 0.0  | 0.88  | 0.88  |
| 1.45                  | 21.08     | 4.97   | 42.64  | 4.19  | 57.36  | 27.97               | 0.0   | 0.0 | 0.0         | 0.0  | 0.0  | 0.0  | 0.0  | 0.0     | 0.0  | 0.0   | 0.0  | 0.94  | 0.91  |
| 1.50                  | 12.70     | 8.12   | 55.34  | 5.09  | 44.66  | 33.62               | 0.0   | 0.0 | 0.0         | 0.0  | 0.0  | 0.0  | 0.0  | 0.0     | 0.0  | 0.0   | 0.0  | 0.98  | 0.93  |
| 1.55                  | 8.95      | 11.87  | 64.29  | 6.03  | 35.71  | 39.07               | 0.0   | 0.0 | 0.0         | 0.0  | 0.0  | 0.0  | 0.0  | 0.0     | 0.0  | 0.0   | 0.0  | 1.40  | 0.99  |
| 1.60                  | 6.16      | 14.48  | 70.45  | 6.77  | 29.55  | 44.20               | 0.0   | 0.0 | 0.0         | 0.0  | 0.0  | 0.0  | 0.0  | 0.0     | 0.0  | 0.0   | 0.0  | 1.74  | 1.06  |
| 1.70                  | 9.50      | 18.58  | 79.95  | 8.17  | 20.05  | 56.34               | 0.0   | 0.0 | 0.0         | 0.0  | 0.0  | 0.0  | 0.0  | 0.0     | 0.0  | 0.0   | 0.0  | 1.27  | 1.08  |
| 1.80                  | 5.67      | 26.16  | 85.62  | 9.37  | 14.38  | 68.24               | 0.0   | 0.0 | 0.0         | 0.0  | 0.0  | 0.0  | 0.0  | 0.0     | 0.0  | 0.0   | 0.0  | 1.02  | 1.08  |
| 2.00                  | 3.50      | 40.31  | 89.12  | 10.58 | 10.88  | 77.22               | 0.0   | 0.0 | 0.0         | 0.0  | 0.0  | 0.0  | 0.0  | 0.0     | 0.0  | 0.0   | 0.0  | 1.10  | 1.08  |
| 2.60                  | 10.88     | 77.22  | 100.00 | 17.83 | 0.0    | 0.0                 | 0.0   | 0.0 | 0.0         | 0.0  | 0.0  | 0.0  | 0.0  | 0.0     | 0.0  | 0.0   | 0.0  | 1.05  | 1.08  |

| ANALYSIS TYPE - FROTH |           |        |        |       |        |                     |       |     |             |       |       |      |      |         |      |       |      |       |       |
|-----------------------|-----------|--------|--------|-------|--------|---------------------|-------|-----|-------------|-------|-------|------|------|---------|------|-------|------|-------|-------|
| FRACTION SIZE(MM)     |           | 0.15 X |        | 0.00  |        | RELATIVE WEIGHT % - |       |     |             |       |       | 4.54 |      | ASH % - |      | 18.60 |      |       |       |
| SG-TME                | ELEMENTAL | WT%    | ASH%   | CUM.  | FLOATS | CUM.                | SINKS | FSI | FSI (MJ/KG) | C.V.  | CUM.  | S    | CUM. | S       | VOL. | VOL.  | CUM. | MOIST | MOIST |
| 240.00                | *****     | 18.60  | 100.00 | 18.60 | 0.0    | 0.0                 | 0.0   | 0.0 | 0.0         | 28.34 | 28.34 | 0.43 | 0.43 | 7.56    | 7.56 | 0.59  | 0.59 |       |       |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPNLRDDH87002 SEAM - I REP

SAMPLE ID - 8

WASHABILITY ID - WA1

----- ANALYSIS TYPE - FLOAT -----

| FRACTION SIZE(MM) |       | 35.00 X 6.00 |        | RELATIVE WEIGHT % - 60.52 ASH % - 33.96 |       |       |     |             |      |      |     |      |      |       |       |
|-------------------|-------|--------------|--------|---|-------|-------|-----|-------------|------|------|-----|------|------|-------|-------|
| ELEMENTAL         |       | CUM. FLOATS  |        | CUM.                                    |       | SINKS |     | CUM. C.V.   |      | CUM. |     | CUM. |      | CUM.  |       |
| SG-TME            | WT%   | ASH%         | WT%    | ASH%                                    | WT%   | ASH%  | FSI | FSI (MJ KG) | C.V. | S    | S   | VOL. | VOL. | MOIST | MOIST |
| 1.40              | 2.04  | 6.75         | 2.04   | 6.75                                    | 97.96 | 32.73 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 0.81  | 0.81  |
| 1.45              | 6.42  | 6.73         | 8.46   | 6.73                                    | 91.54 | 34.55 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 0.50  | 0.57  |
| 1.50              | 12.61 | 12.57        | 21.07  | 10.23                                   | 78.93 | 38.06 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 0.68  | 0.64  |
| 1.55              | 17.74 | 17.58        | 38.81  | 13.59                                   | 61.19 | 44.00 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 0.94  | 0.78  |
| 1.60              | 14.73 | 22.64        | 53.54  | 16.08                                   | 46.46 | 50.77 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.05  | 0.85  |
| 1.70              | 11.85 | 26.66        | 65.39  | 18.00                                   | 34.61 | 59.02 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.18  | 0.91  |
| 1.80              | 8.76  | 35.62        | 74.15  | 20.08                                   | 25.85 | 66.95 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.21  | 0.95  |
| 2.00              | 5.49  | 43.27        | 79.64  | 21.68                                   | 20.36 | 73.34 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.30  | 0.97  |
| 2.60              | 20.36 | 73.34        | 100.00 | 32.20                                   | 0.0   | 0.0   | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.23  | 1.02  |

----- ANALYSIS TYPE - FLOAT -----

| FRACTION SIZE(MM) |       | 6.00 X 0.50 |        | RELATIVE WEIGHT % - 27.45 ASH % - 20.75 |       |       |     |             |      |      |     |      |      |       |       |
|-------------------|-------|-------------|--------|---|-------|-------|-----|-------------|------|------|-----|------|------|-------|-------|
| ELEMENTAL         |       | CUM. FLOATS |        | CUM.                                    |       | SINKS |     | CUM. C.V.   |      | CUM. |     | CUM. |      | CUM.  |       |
| SG-TME            | WT%   | ASH%        | WT%    | ASH%                                    | WT%   | ASH%  | FSI | FSI (MJ KG) | C.V. | S    | S   | VOL. | VOL. | MOIST | MOIST |
| 1.40              | 18.22 | 2.08        | 18.22  | 2.08                                    | 81.78 | 23.79 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 0.65  | 0.65  |
| 1.45              | 15.47 | 5.83        | 33.69  | 3.80                                    | 66.31 | 27.98 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 0.64  | 0.65  |
| 1.50              | 11.68 | 10.13       | 45.37  | 5.43                                    | 54.63 | 31.80 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 0.88  | 0.71  |
| 1.55              | 10.52 | 13.52       | 55.89  | 6.95                                    | 44.11 | 36.16 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.14  | 0.79  |
| 1.60              | 8.46  | 16.11       | 64.35  | 8.16                                    | 35.65 | 40.92 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.39  | 0.87  |
| 1.70              | 13.69 | 19.81       | 78.04  | 10.20                                   | 21.96 | 54.08 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.31  | 0.94  |
| 1.80              | 5.73  | 28.14       | 83.77  | 11.43                                   | 16.23 | 63.24 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.14  | 0.96  |
| 2.00              | 5.03  | 41.16       | 88.80  | 13.11                                   | 11.20 | 73.15 | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.42  | 0.98  |
| 2.60              | 11.20 | 73.15       | 100.00 | 19.84                                   | 0.0   | 0.0   | 0.0 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.12  | 1.00  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPNLRDDH87002 SEAM - I REP

SAMPLE ID - 8

WASHABILITY ID - WA1

----- ANALYSIS TYPE - FLOAT -----

| FRACTION SIZE(MM) |       | 0.50 X 0.15 |        | RELATIVE WEIGHT % - 7.68 |       |           |     | ASH % - 17.06 |      |      |     |      |      |       |       |
|-------------------|-------|-------------|--------|--------------------------|-------|-----------|-----|---------------|------|------|-----|------|------|-------|-------|
| ELEMENTAL         |       | CUM. FLOATS |        | CUM. SINKS               |       | CUM. C.V. |     | CUM.          |      | CUM. |     | CUM. |      |       |       |
| SG-TME            | WT%   | ASH%        | WT%    | ASH%                     | WT%   | ASH%      | FSI | FSI (MJ/KG)   | C.V. | S    | S   | VOL. | VOL. | MOIST | MOIST |
| 1.40              | 21.41 | 1.99        | 21.41  | 1.99                     | 78.59 | 20.01     | 0.0 | 0.0           | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 0.64  | 0.64  |
| 1.45              | 16.15 | 3.12        | 37.56  | 2.48                     | 62.44 | 24.38     | 0.0 | 0.0           | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 0.58  | 0.61  |
| 1.50              | 11.92 | 5.48        | 49.48  | 3.20                     | 50.52 | 28.84     | 0.0 | 0.0           | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 0.68  | 0.63  |
| 1.55              | 7.52  | 8.19        | 57.00  | 3.86                     | 43.00 | 32.45     | 0.0 | 0.0           | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 0.94  | 0.67  |
| 1.60              | 4.35  | 10.81       | 61.35  | 4.35                     | 38.65 | 34.89     | 0.0 | 0.0           | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.22  | 0.71  |
| 1.70              | 13.51 | 13.87       | 74.86  | 6.07                     | 25.14 | 46.19     | 0.0 | 0.0           | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.17  | 0.79  |
| 1.80              | 8.99  | 21.97       | 83.85  | 7.77                     | 16.15 | 59.67     | 0.0 | 0.0           | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.79  | 0.90  |
| 2.00              | 4.72  | 37.40       | 88.57  | 9.35                     | 11.43 | 68.86     | 0.0 | 0.0           | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.49  | 0.93  |
| 2.60              | 11.43 | 68.86       | 100.00 | 16.15                    | 0.0   | 0.0       | 0.0 | 0.0           | 0.0  | 0.0  | 0.0 | 0.0  | 0.0  | 1.24  | 0.97  |

----- ANALYSIS TYPE - FROTH -----

| FRACTION SIZE(MM) |       | 0.15 X 0.00 |        | RELATIVE WEIGHT % - 4.35 |     |           |     | ASH % - 19.84 |       |       |      |      |       |       |       |
|-------------------|-------|-------------|--------|--------------------------|-----|-----------|-----|---------------|-------|-------|------|------|-------|-------|-------|
| ELEMENTAL         |       | CUM. FLOATS |        | CUM. SINKS               |     | CUM. C.V. |     | CUM.          |       | CUM.  |      | CUM. |       |       |       |
| SG-TME            | WT%   | ASH%        | WT%    | ASH%                     | WT% | ASH%      | FSI | FSI (MJ/KG)   | C.V.  | S     | S    | VOL. | VOL.  | MOIST | MOIST |
| 240.00            | ***** | 19.84       | 100.00 | 19.84                    | 0.0 | 0.0       | 0.0 | 0.0           | 27.52 | 27.52 | 0.39 | 0.39 | 12.56 | 12.56 | 1.28  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPnlRDDH87002 SEAM - I REP

SAMPLE ID - 9

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) |           | 35.00 X 6.00 |        | RELATIVE WEIGHT % - 37.85 |       |           |             |      |     |      |      | ASH % - 15.13 |       |      |  |
|-------------------|-----------|--------------|--------|---------------------------|-------|-----------|-------------|------|-----|------|------|---------------|-------|------|--|
| SG-TME            | ELEMENTAL | CUM. FLOATS  |        | CUM.                      | SINKS | CUM. C.V. |             | CUM. | S   | CUM. | CUM. | CUM.          | CUM.  |      |  |
| WT%               | ASH%      | WT%          | ASH%   | WT%                       | ASH%  | FSI       | FSI (MJ/KG) | C.V. | S   | S    | VOL. | VOL.          | MOIST |      |  |
| 1.40              | 23.39     | 4.62         | 23.39  | 4.62                      | 76.61 | 19.37     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0           | 0.62  | 0.62 |  |
| 1.45              | 33.73     | 7.32         | 57.12  | 6.21                      | 42.88 | 28.84     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0           | 0.42  | 0.50 |  |
| 1.50              | 11.89     | 12.95        | 69.01  | 7.37                      | 30.99 | 34.94     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0           | 0.50  | 0.50 |  |
| 1.55              | 5.10      | 18.12        | 74.11  | 8.11                      | 25.89 | 38.26     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0           | 0.50  | 0.50 |  |
| 1.60              | 7.27      | 22.59        | 81.38  | 9.41                      | 18.62 | 44.37     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0           | 0.37  | 0.49 |  |
| 1.70              | 9.01      | 29.39        | 90.39  | 11.40                     | 9.61  | 58.42     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0           | 0.56  | 0.50 |  |
| 1.80              | 3.24      | 37.24        | 93.63  | 12.29                     | 6.37  | 69.19     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0           | 0.60  | 0.50 |  |
| 2.00              | 2.09      | 52.98        | 95.72  | 13.18                     | 4.28  | 77.11     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0           | 0.50  | 0.50 |  |
| 2.60              | 4.28      | 77.11        | 100.00 | 15.92                     | 0.0   | 0.0       | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0           | 0.84  | 0.51 |  |

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) |           | 6.00 X 0.50 |        | RELATIVE WEIGHT % - 39.81 |       |           |             |      |     |      |      | ASH % - 9.46 |       |      |  |
|-------------------|-----------|-------------|--------|---------------------------|-------|-----------|-------------|------|-----|------|------|--------------|-------|------|--|
| SG-TME            | ELEMENTAL | CUM. FLOATS |        | CUM.                      | SINKS | CUM. C.V. |             | CUM. | S   | CUM. | CUM. | CUM.         | CUM.  |      |  |
| WT%               | ASH%      | WT%         | ASH%   | WT%                       | ASH%  | FSI       | FSI (MJ/KG) | C.V. | S   | S    | VOL. | VOL.         | MOIST |      |  |
| 1.40              | 39.77     | 2.52        | 39.77  | 2.52                      | 60.23 | 13.54     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0          | 0.46  | 0.46 |  |
| 1.45              | 25.18     | 6.30        | 64.95  | 3.99                      | 35.05 | 18.75     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0          | 0.57  | 0.50 |  |
| 1.50              | 12.52     | 10.13       | 77.47  | 4.98                      | 22.53 | 23.54     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0          | 0.60  | 0.52 |  |
| 1.55              | 8.06      | 12.40       | 85.53  | 5.68                      | 14.47 | 29.74     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0          | 0.55  | 0.52 |  |
| 1.60              | 5.39      | 14.89       | 90.92  | 6.22                      | 9.08  | 38.55     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0          | 0.68  | 0.53 |  |
| 1.70              | 4.33      | 19.40       | 95.25  | 6.82                      | 4.75  | 56.01     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0          | 0.55  | 0.53 |  |
| 1.80              | 0.59      | 30.20       | 95.84  | 6.97                      | 4.16  | 59.67     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0          | 0.66  | 0.53 |  |
| 2.00              | 0.97      | 39.06       | 96.81  | 7.29                      | 3.19  | 65.94     | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0          | 1.14  | 0.54 |  |
| 2.60              | 3.19      | 65.94       | 100.00 | 9.16                      | 0.0   | 0.0       | 0.0         | 0.0  | 0.0 | 0.0  | 0.0  | 0.0          | 1.32  | 0.56 |  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPNLRDDH87002 SEAM - I REP

SAMPLE ID - 9

WASHABILITY ID - WA1

----- ANALYSIS TYPE - FLOAT -----

| FRACTION SIZE(MM) |           | 0.50 X |        | 0.15 |       | RELATIVE WEIGHT % - |             |      |      |     |      | 13.50 ASH % - |      | 8.04 |       |       |
|-------------------|-----------|--------|--------|------|-------|---------------------|-------------|------|------|-----|------|---------------|------|------|-------|-------|
| SG-TME            | ELEMENTAL | CUM.   | FLOATS | CUM. | SINKS | CUM.                | C.V.        | CUM. | C.V. | S   | CUM. | CUM.          | VOL. | VOL. | MOIST | MOIST |
| WT%               | ASH%      | WT%    | ASH%   | WT%  | ASH%  | FSI                 | FSI (MJ KG) | C.V. | S    | S   | S    | S             | VOL. | VOL. | MOIST | MOIST |
| 1.40              | 42.53     | 2.26   | 42.53  | 2.26 | 57.47 | 10.94               | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0           | 0.0  | 0.0  | 1.10  | 1.10  |
| 1.45              | 18.55     | 4.07   | 61.08  | 2.81 | 38.92 | 14.22               | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0           | 0.0  | 0.0  | 1.17  | 1.12  |
| 1.50              | 10.93     | 6.49   | 72.01  | 3.37 | 27.99 | 17.23               | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0           | 0.0  | 0.0  | 1.24  | 1.14  |
| 1.55              | 6.55      | 8.62   | 78.56  | 3.81 | 21.44 | 19.87               | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0           | 0.0  | 0.0  | 0.89  | 1.12  |
| 1.60              | 2.26      | 9.55   | 80.82  | 3.97 | 19.18 | 21.08               | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0           | 0.0  | 0.0  | 1.30  | 1.12  |
| 1.70              | 12.59     | 11.25  | 93.41  | 4.95 | 6.59  | 39.86               | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0           | 0.0  | 0.0  | 1.60  | 1.19  |
| 1.80              | 2.88      | 21.51  | 96.29  | 5.44 | 3.71  | 54.11               | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0           | 0.0  | 0.0  | 1.29  | 1.19  |
| 2.00              | 1.25      | 33.70  | 97.54  | 5.81 | 2.46  | 64.48               | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0           | 0.0  | 0.0  | 1.56  | 1.20  |
| 2.60              | 2.46      | 64.48  | 100.00 | 7.25 | 0.0   | 0.0                 | 0.0         | 0.0  | 0.0  | 0.0 | 0.0  | 0.0           | 0.0  | 0.0  | 1.12  | 1.19  |

----- ANALYSIS TYPE - FROTH -----

| FRACTION SIZE(MM) |           | 0.15 X |        | 0.00 |       | RELATIVE WEIGHT % - |             |      |       |       |      | 8.84 ASH % - |      | 9.40 |       |       |
|-------------------|-----------|--------|--------|------|-------|---------------------|-------------|------|-------|-------|------|--------------|------|------|-------|-------|
| SG-TME            | ELEMENTAL | CUM.   | FLOATS | CUM. | SINKS | CUM.                | C.V.        | CUM. | C.V.  | S     | CUM. | CUM.         | VOL. | VOL. | MOIST | MOIST |
| WT%               | ASH%      | WT%    | ASH%   | WT%  | ASH%  | FSI                 | FSI (MJ KG) | C.V. | S     | S     | S    | S            | VOL. | VOL. | MOIST | MOIST |
| 240.00            | *****     | 9.40   | 100.00 | 9.40 | 0.0   | 0.0                 | 0.0         | 0.0  | 31.86 | 31.86 | 0.48 | 0.48         | 6.33 | 6.33 | 0.87  | 0.87  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPNLRDDH87002 SEAM - H

SAMPLE ID - 10

WASHABILITY ID - WA1

----- ANALYSIS TYPE - FLOAT -----

| FRACTION SIZE(MM) |           | 35.00 X 6.00 |            | RELATIVE WEIGHT % - 77.22 |             | ASH % - 52.39 |     | CUM. C.V. |      | CUM. S |       | CUM. VOL. |       | CUM. MOIST |      |
|-------------------|-----------|--------------|------------|---------------------------|-------------|---------------|-----|-----------|------|--------|-------|-----------|-------|------------|------|
| SG-TME            | ELEMENTAL | CUM. FLOATS  | CUM. SINKS | FSI                       | FSI (MJ KG) | C.V.          | S   | S         | VOL. | VOL.   | MOIST | MOIST     | MOIST | MOIST      |      |
| WT%               | ASH%      | WT%          | ASH%       | WT%                       | ASH%        |               |     |           |      |        |       |           |       |            |      |
| 1.40              | 0.10      | 4.93         | 0.10       | 4.93                      | 99.90       | 52.12         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.67       | 0.67 |
| 1.45              | 2.26      | 9.32         | 2.36       | 9.13                      | 97.64       | 53.11         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.86       | 0.85 |
| 1.50              | 4.26      | 11.36        | 6.62       | 10.57                     | 93.38       | 55.01         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.89       | 0.88 |
| 1.55              | 1.94      | 17.46        | 8.56       | 12.13                     | 91.44       | 55.81         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.69       | 0.83 |
| 1.60              | 2.68      | 21.95        | 11.24      | 14.47                     | 88.76       | 56.83         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.71       | 0.80 |
| 1.70              | 4.95      | 32.65        | 16.19      | 20.03                     | 83.81       | 58.26         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.94       | 0.85 |
| 1.80              | 9.60      | 40.18        | 25.79      | 27.53                     | 74.21       | 60.60         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.95       | 0.88 |
| 2.00              | 30.90     | 45.36        | 56.69      | 37.25                     | 43.31       | 71.47         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.85       | 0.87 |
| 2.60              | 43.31     | 71.47        | 100.00     | 52.07                     | 0.0         | 0.0           | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.84       | 0.85 |

----- ANALYSIS TYPE - FLOAT -----

| FRACTION SIZE(MM) |           | 6.00 X 0.50 |            | RELATIVE WEIGHT % - 17.68 |             | ASH % - 36.23 |     | CUM. C.V. |      | CUM. S |       | CUM. VOL. |       | CUM. MOIST |      |
|-------------------|-----------|-------------|------------|---------------------------|-------------|---------------|-----|-----------|------|--------|-------|-----------|-------|------------|------|
| SG-TME            | ELEMENTAL | CUM. FLOATS | CUM. SINKS | FSI                       | FSI (MJ KG) | C.V.          | S   | S         | VOL. | VOL.   | MOIST | MOIST     | MOIST | MOIST      |      |
| WT%               | ASH%      | WT%         | ASH%       | WT%                       | ASH%        |               |     |           |      |        |       |           |       |            |      |
| 1.40              | 10.37     | 2.73        | 10.37      | 2.73                      | 89.63       | 39.96         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.53       | 0.53 |
| 1.45              | 9.59      | 6.98        | 19.96      | 4.77                      | 80.04       | 43.92         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.66       | 0.59 |
| 1.50              | 9.78      | 11.20       | 29.74      | 6.89                      | 70.26       | 48.47         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.72       | 0.63 |
| 1.55              | 9.32      | 16.51       | 39.06      | 9.18                      | 60.94       | 53.36         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.70       | 0.65 |
| 1.60              | 7.41      | 20.61       | 46.47      | 11.00                     | 53.53       | 57.89         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.73       | 0.66 |
| 1.70              | 11.14     | 27.12       | 57.61      | 14.12                     | 42.39       | 65.98         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.88       | 0.70 |
| 1.80              | 6.81      | 47.62       | 64.42      | 17.66                     | 35.58       | 69.49         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 0.80       | 0.71 |
| 2.00              | 8.90      | 46.18       | 73.32      | 21.12                     | 26.68       | 77.27         | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 1.53       | 0.81 |
| 2.60              | 26.68     | 77.27       | 100.00     | 36.10                     | 0.0         | 0.0           | 0.0 | 0.0       | 0.0  | 0.0    | 0.0   | 0.0       | 0.0   | 1.23       | 0.92 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPnlRDDH87002 SEAM - H

SAMPLE ID - 10

WASHABILITY ID - WA1

----- ANALYSIS TYPE - FLOAT -----

| FRACTION SIZE(MM) |           | 0.50 X      |        | 0.15       |       | RELATIVE WEIGHT % - |             |           |     |     |      | 3.44      |           | ASH % - 32.55 |            |      |  |
|-------------------|-----------|-------------|--------|------------|-------|---------------------|-------------|-----------|-----|-----|------|-----------|-----------|---------------|------------|------|--|
| SG-TME            | ELEMENTAL | CUM. FLOATS |        | CUM. SINKS |       | CUM. C.V.           |             | CUM. C.V. |     | S   | S    | CUM. VOL. | CUM. VOL. | CUM. MOIST    | CUM. MOIST |      |  |
| WT%               | ASH%      | WT%         | ASH%   | WT%        | ASH%  | FSI                 | FSI (MJ/KG) | C.V.      | S   | S   | VOL. | VOL.      | MOIST     | MOIST         |            |      |  |
| 1.40              | 20.80     | 1.98        | 20.80  | 1.98       | 79.20 | 39.18               | 0.0         | 0.0       | 0.0 | 0.0 | 0.0  | 0.0       | 0.0       | 0.0           | 0.79       | 0.79 |  |
| 1.45              | 8.35      | 7.78        | 29.15  | 3.64       | 70.85 | 42.88               | 0.0         | 0.0       | 0.0 | 0.0 | 0.0  | 0.0       | 0.0       | 0.0           | 0.97       | 0.84 |  |
| 1.50              | 13.73     | 7.82        | 42.88  | 4.98       | 57.12 | 51.30               | 0.0         | 0.0       | 0.0 | 0.0 | 0.0  | 0.0       | 0.0       | 0.0           | 0.93       | 0.87 |  |
| 1.55              | 4.42      | 14.94       | 47.30  | 5.91       | 52.70 | 54.35               | 0.0         | 0.0       | 0.0 | 0.0 | 0.0  | 0.0       | 0.0       | 0.0           | 1.06       | 0.89 |  |
| 1.60              | 6.27      | 15.64       | 53.57  | 7.05       | 46.43 | 59.58               | 0.0         | 0.0       | 0.0 | 0.0 | 0.0  | 0.0       | 0.0       | 0.0           | 1.14       | 0.92 |  |
| 1.70              | 7.95      | 21.82       | 61.52  | 8.96       | 38.48 | 67.38               | 0.0         | 0.0       | 0.0 | 0.0 | 0.0  | 0.0       | 0.0       | 0.0           | 1.17       | 0.95 |  |
| 1.80              | 5.06      | 30.34       | 66.58  | 10.58      | 33.42 | 72.99               | 0.0         | 0.0       | 0.0 | 0.0 | 0.0  | 0.0       | 0.0       | 0.0           | 1.38       | 0.98 |  |
| 2.00              | 5.70      | 41.68       | 72.28  | 13.04      | 27.72 | 79.43               | 0.0         | 0.0       | 0.0 | 0.0 | 0.0  | 0.0       | 0.0       | 0.0           | 1.33       | 1.01 |  |
| 2.60              | 27.72     | 79.43       | 100.00 | 31.44      | 0.0   | 0.0                 | 0.0         | 0.0       | 0.0 | 0.0 | 0.0  | 0.0       | 0.0       | 0.0           | 1.15       | 1.05 |  |

----- ANALYSIS TYPE - FROTH -----

| FRACTION SIZE(MM) |           | 0.15 X      |        | 0.00       |      | RELATIVE WEIGHT % - |             |           |       |       |      | 1.66      |           | ASH % - 38.71 |            |      |  |
|-------------------|-----------|-------------|--------|------------|------|---------------------|-------------|-----------|-------|-------|------|-----------|-----------|---------------|------------|------|--|
| SG-TME            | ELEMENTAL | CUM. FLOATS |        | CUM. SINKS |      | CUM. C.V.           |             | CUM. C.V. |       | S     | S    | CUM. VOL. | CUM. VOL. | CUM. MOIST    | CUM. MOIST |      |  |
| WT%               | ASH%      | WT%         | ASH%   | WT%        | ASH% | FSI                 | FSI (MJ/KG) | C.V.      | S     | S     | VOL. | VOL.      | MOIST     | MOIST         |            |      |  |
| 240.00            | *****     | 38.71       | 100.00 | 38.71      | 0.0  | 0.0                 | 0.0         | 0.0       | 19.91 | 19.91 | 0.38 | 0.38      | 7.82      | 7.82          | 1.32       | 1.32 |  |



GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPnlRDDH87002 SEAM - H

SAMPLE ID - 12

WASHABILITY ID - WA1

----- ANALYSIS TYPE - FLOAT -----

| FRACTION SIZE(MM) |       | 35.00 X 6.00 |        |            |       | RELATIVE WEIGHT % - 63.61 |     |             |      |     |     | ASH % - 36.01 |      |            |       |
|-------------------|-------|--------------|--------|------------|-------|---------------------------|-----|-------------|------|-----|-----|---------------|------|------------|-------|
| ELEMENTAL         |       | CUM. FLOATS  |        | CUM. SINKS |       | CUM. C.V.                 |     | CUM. C.V.   |      | S   |     | CUM. VOL.     |      | CUM. MOIST |       |
| SG-TME            | WT%   | ASH%         | WT%    | ASH%       | WT%   | ASH%                      | FSI | FSI (MJ KG) | C.V. | S   | S   | VOL.          | VOL. | MOIST      | MOIST |
| 1.40              | 2.53  | 5.76         | 2.53   | 5.76       | 97.47 | 37.47                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.55       | 0.55  |
| 1.45              | 14.25 | 7.47         | 16.78  | 7.21       | 83.22 | 42.61                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.58       | 0.58  |
| 1.50              | 16.24 | 12.37        | 33.02  | 9.75       | 66.98 | 49.94                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.56       | 0.57  |
| 1.55              | 7.75  | 16.97        | 40.77  | 11.12      | 59.23 | 54.25                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.56       | 0.57  |
| 1.60              | 4.28  | 22.64        | 45.05  | 12.22      | 54.95 | 56.72                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.70       | 0.58  |
| 1.70              | 5.23  | 27.30        | 50.28  | 13.78      | 49.72 | 59.81                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.83       | 0.61  |
| 1.80              | 6.96  | 36.51        | 57.24  | 16.55      | 42.76 | 63.60                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.70       | 0.62  |
| 2.00              | 17.86 | 49.00        | 75.10  | 24.27      | 24.90 | 74.08                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.69       | 0.63  |
| 2.60              | 24.90 | 74.08        | 100.00 | 36.67      | 0.0   | 0.0                       | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.99       | 0.72  |

----- ANALYSIS TYPE - FLOAT -----

| FRACTION SIZE(MM) |       | 6.00 X 0.50 |        |            |       | RELATIVE WEIGHT % - 27.13 |     |             |      |     |     | ASH % - 28.78 |      |            |       |
|-------------------|-------|-------------|--------|------------|-------|---------------------------|-----|-------------|------|-----|-----|---------------|------|------------|-------|
| ELEMENTAL         |       | CUM. FLOATS |        | CUM. SINKS |       | CUM. C.V.                 |     | CUM. C.V.   |      | S   |     | CUM. VOL.     |      | CUM. MOIST |       |
| SG-TME            | WT%   | ASH%        | WT%    | ASH%       | WT%   | ASH%                      | FSI | FSI (MJ KG) | C.V. | S   | S   | VOL.          | VOL. | MOIST      | MOIST |
| 1.40              | 11.82 | 2.72        | 11.82  | 2.72       | 88.18 | 29.91                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.65       | 0.65  |
| 1.45              | 22.22 | 6.56        | 34.04  | 5.23       | 65.96 | 37.78                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.75       | 0.72  |
| 1.50              | 13.83 | 10.72       | 47.87  | 6.81       | 52.13 | 44.96                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.67       | 0.70  |
| 1.55              | 7.39  | 14.61       | 55.26  | 7.86       | 44.74 | 49.97                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.83       | 0.72  |
| 1.60              | 4.41  | 18.19       | 59.67  | 8.62       | 40.33 | 53.45                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.77       | 0.72  |
| 1.70              | 7.57  | 22.83       | 67.24  | 10.22      | 32.76 | 60.52                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 1.13       | 0.77  |
| 1.80              | 4.79  | 31.64       | 72.03  | 11.64      | 27.97 | 65.47                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 0.88       | 0.78  |
| 2.00              | 8.69  | 43.02       | 80.72  | 15.02      | 19.28 | 75.59                     | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 1.32       | 0.83  |
| 2.60              | 19.28 | 75.59       | 100.00 | 26.70      | 0.0   | 0.0                       | 0.0 | 0.0         | 0.0  | 0.0 | 0.0 | 0.0           | 0.0  | 1.41       | 0.95  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 2

PAGE -

DATA SOURCE - KPNLRDDH87002 SEAM - H

SAMPLE ID - 12

WASHABILITY ID - WA1

| ----- ANALYSIS TYPE - FLOAT ----- |       |        |          |             |          |                     |     |             |      |           |     |        |              |           |       |            |
|-----------------------------------|-------|--------|----------|-------------|----------|---------------------|-----|-------------|------|-----------|-----|--------|--------------|-----------|-------|------------|
| FRACTION SIZE(MM)                 |       | 0.50 X |          | 0.15        |          | RELATIVE WEIGHT % - |     |             |      |           |     |        | 6.20 ASH % - |           | 23.48 |            |
| SG-TME                            | WT%   | ASH%   | CUM. WT% | FLOATS ASH% | CUM. WT% | SINKS ASH%          | FSI | FSI (MJ/KG) | C.V. | CUM. C.V. | S   | CUM. S | VOL.         | CUM. VOL. | MOIST | CUM. MOIST |
| 1.40                              | 9.66  | 2.71   | 9.66     | 2.71        | 90.34    | 24.51               | 0.0 | 0.0         | 0.0  | 0.0       | 0.0 | 0.0    | 0.0          | 0.0       | 0.69  | 0.69       |
| 1.45                              | 11.63 | 4.72   | 21.29    | 3.81        | 78.71    | 27.44               | 0.0 | 0.0         | 0.0  | 0.0       | 0.0 | 0.0    | 0.0          | 0.0       | 0.78  | 0.74       |
| 1.50                              | 17.84 | 7.02   | 39.13    | 5.27        | 60.87    | 33.42               | 0.0 | 0.0         | 0.0  | 0.0       | 0.0 | 0.0    | 0.0          | 0.0       | 0.89  | 0.81       |
| 1.55                              | 6.93  | 10.51  | 46.06    | 6.06        | 53.94    | 36.37               | 0.0 | 0.0         | 0.0  | 0.0       | 0.0 | 0.0    | 0.0          | 0.0       | 1.21  | 0.87       |
| 1.60                              | 11.01 | 12.58  | 57.07    | 7.32        | 42.93    | 42.47               | 0.0 | 0.0         | 0.0  | 0.0       | 0.0 | 0.0    | 0.0          | 0.0       | 1.60  | 1.01       |
| 1.70                              | 12.39 | 17.46  | 69.46    | 9.13        | 30.54    | 52.61               | 0.0 | 0.0         | 0.0  | 0.0       | 0.0 | 0.0    | 0.0          | 0.0       | 1.75  | 1.14       |
| 1.80                              | 7.24  | 26.44  | 76.70    | 10.76       | 23.30    | 60.75               | 0.0 | 0.0         | 0.0  | 0.0       | 0.0 | 0.0    | 0.0          | 0.0       | 1.51  | 1.18       |
| 2.00                              | 7.37  | 38.13  | 84.07    | 13.16       | 15.93    | 71.21               | 0.0 | 0.0         | 0.0  | 0.0       | 0.0 | 0.0    | 0.0          | 0.0       | 1.70  | 1.22       |
| 2.60                              | 15.93 | 71.21  | 100.00   | 22.41       | 0.0      | 0.0                 | 0.0 | 0.0         | 0.0  | 0.0       | 0.0 | 0.0    | 0.0          | 0.0       | 1.04  | 1.19       |

| ----- ANALYSIS TYPE - FROTH ----- |       |        |          |             |          |                     |     |             |       |           |      |        |              |           |       |            |
|-----------------------------------|-------|--------|----------|-------------|----------|---------------------|-----|-------------|-------|-----------|------|--------|--------------|-----------|-------|------------|
| FRACTION SIZE(MM)                 |       | 0.15 X |          | 0.00        |          | RELATIVE WEIGHT % - |     |             |       |           |      |        | 3.06 ASH % - |           | 26.63 |            |
| SG-TME                            | WT%   | ASH%   | CUM. WT% | FLOATS ASH% | CUM. WT% | SINKS ASH%          | FSI | FSI (MJ/KG) | C.V.  | CUM. C.V. | S    | CUM. S | VOL.         | CUM. VOL. | MOIST | CUM. MOIST |
| 240.00                            | ***** | 26.63  | 100.00   | 26.63       | 0.0      | 0.0                 | 0.0 | 0.0         | 23.63 | 23.63     | 0.47 | 0.47   | 7.52         | 7.52      | 1.29  | 1.29       |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87002  
 Coal zone: H  
 Field sample no.: 06807 Composite sample no.: 203

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.55  
 Contribution (%): 6.19  
 Total yield (%): 6.19

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.69                 |                  |
| Ash (%) :                       | 10.89                | 10.97            |
| Volatile matter (%) :           | 5.77                 | 5.81             |
| Fixed carbon (%) :              | 82.65                | 83.22            |
| Total sulphur (%) :             | 0.55                 | 0.55             |
| Combustible sulphur (%) :       | 0.54                 |                  |
| Gross calorific value (cal/g) : | 7,407.00             | 7,458.00         |
| Volatile matter (dmmf%) :       | 5.40                 |                  |
| Phosphorous in coal (%) :       | 0.123                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,266.00             | 1,085.00            |
| Softening temperature (°C) :     | 1,343.00             | 1,340.00            |
| Hemispherical temperature (°C) : | 1,398.00             | 1,395.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 55.46 | TiO2 (%) : | 1.58 |
| Al2O3 (%) : | 26.84 | Na2O (%) : | 2.35 |
| Fe2O3 (%) : | 1.36  | K2O (%) :  | 0.84 |
| CaO (%) :   | 3.11  | SO3 (%) :  | 0.19 |
| MgO (%) :   | 1.21  | P2O5 (%) : | 2.58 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87002  
 Coal zone: H  
 Field sample no.: 06809 Composite sample no.: 204

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.59  
 Contribution (%): 27.45  
 Total yield (%): 27.45

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.84                 |                  |
| Ash (%):                       | 10.98                | 11.07            |
| Volatile matter (%):           | 5.63                 | 5.68             |
| Fixed carbon (%):              | 82.55                | 83.25            |
| Total sulphur (%):             | 0.52                 | 0.52             |
| Combustible sulphur (%):       | 0.49                 |                  |
| Gross calorific value (cal/g): | 7,419.00             | 7,482.00         |
| Volatile matter (dmmf%):       | 5.30                 |                  |
| Hardgrove index:               | 41.00                |                  |
| Phosphorous in coal (%):       | 0.275                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,148.00             | 1,140.00            |
| Softening temperature (°C):     | 1,266.00             | 1,259.00            |
| Hemispherical temperature (°C): | 1,277.00             | 1,269.00            |
| Final temperature (°C):         | 1,317.00             | 1,308.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 49.30 | TiO2 (%): | 1.98 |
| Al2O3 (%): | 23.30 | Na2O (%): | 2.13 |
| Fe2O3 (%): | 2.32  | K2O (%):  | 0.67 |
| CaO (%):   | 7.56  | SO3 (%):  | 0.67 |
| MgO (%):   | 1.43  | P2O5 (%): | 5.73 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87002  
 Coal zone: H  
 Field sample no.: 06807 - 06809 Composite sample no.: 402

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.49  
 Contribution (%): 8.70  
 Total yield (%): 8.70

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.66                 |                  |
| Ash (%):                       | 6.44                 | 6.48             |
| Volatile matter (%):           | 7.30                 | 7.35             |
| Fixed carbon (%):              | 85.60                | 86.17            |
| Total sulphur (%):             | 0.57                 | 0.57             |
| Combustible sulphur (%):       | 0.56                 |                  |
| Gross calorific value (cal/g): | 7,820.00             | 7,872.00         |
| Volatile matter (dmmf %):      | 7.20                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.124                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,222.00             | 1,148.00            |
| Softening temperature (°C):     | 1,274.00             | 1,222.00            |
| Hemispherical temperature (°C): | 1,285.00             | 1,238.00            |
| Final temperature (°C):         | 1,403.00             | 1,345.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 50.32 | TiO2 (%): | 3.42 |
| Al2O3 (%): | 24.57 | Na2O (%): | 2.51 |
| Fe2O3 (%): | 2.84  | K2O (%):  | 0.88 |
| CaO (%):   | 6.18  | SO3 (%):  | 0.56 |
| MgO (%):   | 1.71  | P2O5 (%): | 4.42 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87003 SEAM - I

SAMPLE ID - 13

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 63.66 ASH % - 37.78 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 5.36                  | 3.49  | 5.36      | 3.49  | 94.64       | 40.59 | 0.0        | 0.0  |   |           |
| 1.45     | 14.82                 | 8.42  | 20.18     | 7.11  | 79.82       | 46.56 | 0.0        | 0.0  |   |           |
| 1.50     | 12.40                 | 13.73 | 32.58     | 9.63  | 67.42       | 52.60 | 0.0        | 0.0  |   |           |
| 1.55     | 8.12                  | 18.60 | 40.70     | 11.42 | 59.30       | 57.26 | 0.0        | 0.0  |   |           |
| 1.60     | 4.07                  | 21.16 | 44.77     | 12.31 | 55.23       | 59.92 | 0.0        | 0.0  |   |           |
| 1.70     | 10.42                 | 28.43 | 55.19     | 15.35 | 44.81       | 67.24 | 0.0        | 0.0  |   |           |
| 1.80     | 5.38                  | 33.18 | 60.57     | 16.93 | 39.43       | 71.89 | 0.0        | 0.0  |   |           |
| 2.00     | 8.17                  | 43.42 | 68.74     | 20.08 | 31.26       | 79.33 | 0.0        | 0.0  |   |           |
| 2.60     | 31.26                 | 79.33 | 100.00    | 38.60 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 28.66 ASH % - 17.17 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 37.94                | 2.48  | 37.94     | 2.48  | 62.06       | 25.61 | 0.0        | 0.0  |   |           |
| 1.45     | 19.69                | 8.10  | 57.63     | 4.40  | 42.37       | 33.74 | 0.0        | 0.0  |   |           |
| 1.50     | 14.08                | 12.90 | 71.71     | 6.07  | 28.29       | 44.12 | 0.0        | 0.0  |   |           |
| 1.55     | 6.54                 | 18.26 | 78.25     | 7.09  | 21.75       | 51.89 | 0.0        | 0.0  |   |           |
| 1.60     | 2.96                 | 22.88 | 81.21     | 7.66  | 18.79       | 56.46 | 0.0        | 0.0  |   |           |
| 1.70     | 3.49                 | 27.34 | 84.70     | 8.47  | 15.30       | 63.10 | 0.0        | 0.0  |   |           |
| 1.80     | 1.58                 | 33.98 | 86.28     | 8.94  | 13.72       | 66.46 | 0.0        | 0.0  |   |           |
| 2.00     | 2.28                 | 41.65 | 88.56     | 9.78  | 11.44       | 71.40 | 0.0        | 0.0  |   |           |
| 2.60     | 11.44                | 71.40 | 100.00    | 16.83 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87003 SEAM - I

SAMPLE ID - 13

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 4.99 ASH % - 21.25 |      |
|---------------------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|                     |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V. CUM.          |      |
|                     |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40                |          | 36.72     | 2.18  | 36.72       | 2.18  | 63.28               | 30.68 | 0.0                | 0.0  |
| 1.45                |          | 15.39     | 5.13  | 52.11       | 3.05  | 47.89               | 38.89 | 0.0                | 0.0  |
| 1.50                |          | 11.08     | 8.70  | 63.19       | 4.04  | 36.81               | 47.98 | 0.0                | 0.0  |
| 1.55                |          | 4.95      | 13.19 | 68.14       | 4.71  | 31.86               | 53.38 | 0.0                | 0.0  |
| 1.60                |          | 3.44      | 16.52 | 71.58       | 5.27  | 28.42               | 57.85 | 0.0                | 0.0  |
| 1.70                |          | 4.43      | 22.20 | 76.01       | 6.26  | 23.99               | 64.43 | 0.0                | 0.0  |
| 1.80                |          | 2.80      | 29.17 | 78.81       | 7.07  | 21.19               | 69.09 | 0.0                | 0.0  |
| 2.00                |          | 2.86      | 41.39 | 81.67       | 8.28  | 18.33               | 73.41 | 0.0                | 0.0  |
| 2.60                |          | 18.33     | 73.41 | 100.00      | 20.22 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.69 ASH % - 29.97 |       |
|---------------------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|                     |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V. CUM.          |       |
|                     |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00              |          | 100.00    | 29.97 | 100.00      | 29.97 | 0.0                 | 0.0  | 22.74              | 22.74 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87003 SEAM - I

SAMPLE ID - 14

WASHABILITY ID - WA1

| ANALYSIS TYPE - FLOAT |           |         |             |       |            |   |         |      |
|-----------------------|-----------|---------|-------------|-------|------------|---|---------|------|
| FRACTION              | SIZE(MM)  | 35.00 X |             | 6.00  |            | RELATIVE WEIGHT % - 74.00 ASH % - 13.49 |         |      |
| S.G.TME               | ELEMENTAL |         | CUM. FLOATS |       | CUM. SINKS |   | C.V.    | CUM. |
|                       | WT%       | ASH%    | WT%         | ASH%  | WT%        | ASH%                                    | (MJ KG) | C.V. |
| 1.40                  | 29.46     | 4.42    | 29.46       | 4.42  | 70.54      | 18.03                                   | 0.0     | 0.0  |
| 1.45                  | 41.57     | 7.01    | 71.03       | 5.94  | 28.97      | 33.85                                   | 0.0     | 0.0  |
| 1.50                  | 13.83     | 13.15   | 84.86       | 7.11  | 15.14      | 52.76                                   | 0.0     | 0.0  |
| 1.55                  | 1.41      | 19.48   | 86.27       | 7.31  | 13.73      | 56.18                                   | 0.0     | 0.0  |
| 1.60                  | 2.44      | 21.00   | 88.71       | 7.69  | 11.29      | 63.79                                   | 0.0     | 0.0  |
| 1.70                  | 2.37      | 26.91   | 91.08       | 8.19  | 8.92       | 73.58                                   | 0.0     | 0.0  |
| 1.80                  | 0.92      | 38.87   | 92.00       | 8.50  | 8.00       | 77.58                                   | 0.0     | 0.0  |
| 2.00                  | 0.49      | 38.13   | 92.49       | 8.65  | 7.51       | 80.15                                   | 0.0     | 0.0  |
| 2.60                  | 7.51      | 80.15   | 100.00      | 14.02 | 0.0        | 0.0                                     | 0.0     | 0.0  |

| ANALYSIS TYPE - FLOAT |           |        |             |      |            |  |         |      |
|-----------------------|-----------|--------|-------------|------|------------|--|---------|------|
| FRACTION              | SIZE(MM)  | 6.00 X |             | 0.50 |            | RELATIVE WEIGHT % - 22.12 ASH % - 9.58 |         |      |
| S.G.TME               | ELEMENTAL |        | CUM. FLOATS |      | CUM. SINKS |  | C.V.    | CUM. |
|                       | WT%       | ASH%   | WT%         | ASH% | WT%        | ASH%                                   | (MJ KG) | C.V. |
| 1.40                  | 60.98     | 3.24   | 60.98       | 3.24 | 39.02      | 20.50                                  | 0.0     | 0.0  |
| 1.45                  | 19.48     | 8.06   | 80.46       | 4.41 | 19.54      | 32.90                                  | 0.0     | 0.0  |
| 1.50                  | 7.48      | 12.84  | 87.94       | 5.12 | 12.06      | 45.34                                  | 0.0     | 0.0  |
| 1.55                  | 2.65      | 17.72  | 90.59       | 5.49 | 9.41       | 53.11                                  | 0.0     | 0.0  |
| 1.60                  | 1.22      | 19.45  | 91.81       | 5.68 | 8.19       | 58.13                                  | 0.0     | 0.0  |
| 1.70                  | 1.41      | 26.75  | 93.22       | 6.00 | 6.78       | 64.65                                  | 0.0     | 0.0  |
| 1.80                  | 0.48      | 38.16  | 93.70       | 6.16 | 6.30       | 66.67                                  | 0.0     | 0.0  |
| 2.00                  | 1.25      | 45.63  | 94.95       | 6.68 | 5.05       | 71.88                                  | 0.0     | 0.0  |
| 2.60                  | 5.05      | 71.88  | 100.00      | 9.97 | 0.0        | 0.0                                    | 0.0     | 0.0  |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87003 SEAM - I

SAMPLE ID - 14

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 2.66 ASH % - 18.21 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 42.75     | 4.21  | 42.75       | 4.21  | 57.25               | 29.71 | 0.0                | 0.0  |
| 1.45     |          | 15.59     | 7.04  | 58.34       | 4.97  | 41.66               | 38.19 | 0.0                | 0.0  |
| 1.50     |          | 11.01     | 13.95 | 69.35       | 6.39  | 30.65               | 46.90 | 0.0                | 0.0  |
| 1.55     |          | 5.34      | 14.03 | 74.69       | 6.94  | 25.31               | 53.84 | 0.0                | 0.0  |
| 1.60     |          | 2.73      | 14.93 | 77.42       | 7.22  | 22.58               | 58.54 | 0.0                | 0.0  |
| 1.70     |          | 4.03      | 19.76 | 81.45       | 7.84  | 18.55               | 66.97 | 0.0                | 0.0  |
| 1.80     |          | 2.62      | 30.78 | 84.07       | 8.56  | 15.93               | 72.92 | 0.0                | 0.0  |
| 2.00     |          | 1.96      | 42.76 | 86.03       | 9.33  | 13.97               | 77.15 | 0.0                | 0.0  |
| 2.60     |          | 13.97     | 77.15 | 100.00      | 18.81 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 1.22 ASH % - 28.42 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 28.42 | 100.00      | 28.42 | 0.0                 | 0.0  | 23.98              | 23.98 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87003  
 Coal zone: 1  
 Field sample no.: 07110 - 07111 Composite sample no.: 205

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.44  
 Contribution (%): 10.62  
 Total yield (%): 10.62

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.85                 |                  |
| Ash (%) :                       | 5.38                 | 5.43             |
| Volatile matter (%) :           | 5.36                 | 5.41             |
| Fixed carbon (%) :              | 88.41                | 89.16            |
| Total sulphur (%) :             | 0.47                 | 0.47             |
| Combustible sulphur (%) :       | 0.46                 |                  |
| Gross calorific value (cal/g) : | 7,959.00             | 8,027.00         |
| Volatile matter (dmmf%) :       | 5.10                 |                  |
| Hardgrove index:                | 47.00                |                  |
| Phosphorous in coal (%) :       | 0.027                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,108.00             | 1,069.00            |
| Softening temperature (°C) :     | 1,382.00             | 1,359.00            |
| Hemispherical temperature (°C) : | 1,472.00             | 1,435.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 59.90 | TiO2 (%) : | 1.84 |
| Al2O3 (%) : | 24.19 | Na2O (%) : | 1.99 |
| Fe2O3 (%) : | 1.37  | K2O (%) :  | 0.87 |
| CaO (%) :   | 1.95  | SO3 (%) :  | 0.44 |
| MgO (%) :   | 1.39  | P2O5 (%) : | 1.17 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87003  
 Coal zone: I  
 Field sample no.: 07110 - 07111 Composite sample no.: 205

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.47  
 Contribution (%): 6.71  
 Total yield (%): 6.71

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.61                 |                  |
| Ash (%) :                       | 10.86                | 10.93            |
| Volatile matter (%) :           | 7.49                 | 7.54             |
| Fixed carbon (%) :              | 81.04                | 81.53            |
| Total sulphur (%) :             | 0.44                 | 0.44             |
| Combustible sulphur (%) :       | 0.42                 |                  |
| Gross calorific value (cal/g) : | 7,330.00             | 7,375.00         |
| Volatile matter (dmmf%) :       | 7.40                 |                  |
| Hardgrove index:                | 47.00                |                  |
| Phosphorous in coal (%) :       | 0.029                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,185.00             | 1,114.00            |
| Softening temperature (°C) :     | 1,472.00             | 1,422.00            |
| Hemispherical temperature (°C) : | 1,472.00             | 1,472.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 65.10 | TiO2 (%) : | 1.30 |
| Al2O3 (%) : | 21.17 | Na2O (%) : | 1.89 |
| Fe2O3 (%) : | 1.55  | K2O (%) :  | 0.79 |
| CaO (%) :   | 1.40  | SO3 (%) :  | 0.45 |
| MgO (%) :   | 1.74  | P2O5 (%) : | 0.62 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87003  
 Coal zone: 1  
 Field sample no.: 07112 Composite sample no.: 206

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.46  
 Contribution (%): 59.48  
 Total yield (%): 59.48

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.79                 |                  |
| Ash (%) :                       | 5.89                 | 5.94             |
| Volatile matter (%) :           | 5.61                 | 5.65             |
| Fixed carbon (%) :              | 87.71                | 88.41            |
| Total sulphur (%) :             | 0.47                 | 0.47             |
| Combustible sulphur (%) :       | 0.46                 |                  |
| Gross calorific value (cal/g) : | 7,940.00             | 8,003.00         |
| Volatile matter (dmmf%) :       | 5.40                 |                  |
| Hardgrove index:                | 39.00                |                  |
| Phosphorous in coal (%) :       | 0.176                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,248.00             | 1,227.00            |
| Softening temperature (°C) :     | 1,269.00             | 1,259.00            |
| Hemispherical temperature (°C) : | 1,282.00             | 1,272.00            |
| Final temperature (°C) :         | 1,401.00             | 1,400.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 41.78 | TiO2 (%) : | 2.05 |
| Al2O3 (%) : | 29.66 | Na2O (%) : | 2.18 |
| Fe2O3 (%) : | 2.53  | K2O (%) :  | 1.02 |
| CaO (%) :   | 7.19  | SO3 (%) :  | 0.63 |
| MgO (%) :   | 1.41  | P2O5 (%) : | 6.85 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87003  
 Coal zone: 1  
 Field sample no.: 07110 - 07112 Composite sample no.: 403

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.64  
 Contribution (%): 23.70  
 Total yield (%): 23.70

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.92                 |                  |
| Ash (%) :                       | 7.46                 | 7.53             |
| Volatile matter (%) :           | 7.46                 | 7.53             |
| Fixed carbon (%) :              | 84.16                | 84.94            |
| Total sulphur (%) :             | 0.47                 | 0.47             |
| Combustible sulphur (%) :       | 0.44                 |                  |
| Gross calorific value (cal/g) : | 7,758.00             | 7,830.00         |
| Volatile matter (dmmf%) :       | 7.40                 |                  |
| Hardgrove index:                | 45.00                |                  |
| Phosphorous in coal (%) :       | 0.017                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,232.00             | 1,101.00            |
| Softening temperature (°C) :     | 1,414.00             | 1,348.00            |
| Hemispherical temperature (°C) : | 1,438.00             | 1,380.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 67.50 | TiO2 (%) : | 1.69 |
| Al2O3 (%) : | 20.79 | Na2O (%) : | 1.87 |
| Fe2O3 (%) : | 1.72  | K2O (%) :  | 0.80 |
| CaO (%) :   | 2.27  | SO3 (%) :  | 1.05 |
| MgO (%) :   | 1.78  | P2O5 (%) : | 0.52 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87003 SEAM - H

SAMPLE ID - 16

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 60.59 ASH % - 36.38 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 4.01                  | 5.57  | 4.01      | 5.57  | 95.99       | 38.54 | 0.0        | 0.0  |   |           |
| 1.45     | 15.25                 | 10.15 | 19.26     | 9.20  | 80.74       | 43.91 | 0.0        | 0.0  |   |           |
| 1.50     | 18.17                 | 14.48 | 37.43     | 11.76 | 62.57       | 52.45 | 0.0        | 0.0  |   |           |
| 1.55     | 7.34                  | 19.83 | 44.77     | 13.08 | 55.23       | 56.79 | 0.0        | 0.0  |   |           |
| 1.60     | 3.75                  | 24.52 | 48.52     | 13.97 | 51.48       | 59.14 | 0.0        | 0.0  |   |           |
| 1.70     | 4.78                  | 27.66 | 53.30     | 15.20 | 46.70       | 62.36 | 0.0        | 0.0  |   |           |
| 1.80     | 4.49                  | 36.18 | 57.79     | 16.83 | 42.21       | 65.14 | 0.0        | 0.0  |   |           |
| 2.00     | 7.54                  | 50.03 | 65.33     | 20.66 | 34.67       | 68.43 | 0.0        | 0.0  |   |           |
| 2.60     | 34.67                 | 68.43 | 100.00    | 37.22 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 27.96 ASH % - 18.52 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 28.50                | 2.08  | 28.50     | 2.08  | 71.50       | 24.41 | 0.0        | 0.0  |   |           |
| 1.45     | 24.02                | 8.39  | 52.52     | 4.97  | 47.48       | 32.52 | 0.0        | 0.0  |   |           |
| 1.50     | 12.78                | 12.51 | 65.30     | 6.44  | 34.70       | 39.88 | 0.0        | 0.0  |   |           |
| 1.55     | 7.81                 | 15.88 | 73.11     | 7.45  | 26.89       | 46.86 | 0.0        | 0.0  |   |           |
| 1.60     | 1.48                 | 18.85 | 74.59     | 7.68  | 25.41       | 48.49 | 0.0        | 0.0  |   |           |
| 1.70     | 6.73                 | 20.81 | 81.32     | 8.76  | 18.68       | 58.46 | 0.0        | 0.0  |   |           |
| 1.80     | 3.14                 | 28.80 | 84.46     | 9.51  | 15.54       | 64.45 | 0.0        | 0.0  |   |           |
| 2.00     | 3.13                 | 43.49 | 87.59     | 10.72 | 12.41       | 69.74 | 0.0        | 0.0  |   |           |
| 2.60     | 12.41                | 69.74 | 100.00    | 18.05 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87003 SEAM - H

SAMPLE ID - 16

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 7.25 ASH % - 13.85 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 33.54     | 3.24  | 33.54       | 3.24  | 66.46               | 17.85 | 0.0                | 0.0  |
| 1.45     |          | 12.73     | 5.16  | 46.27       | 3.77  | 53.73               | 20.86 | 0.0                | 0.0  |
| 1.50     |          | 16.68     | 7.11  | 62.95       | 4.65  | 37.05               | 27.05 | 0.0                | 0.0  |
| 1.55     |          | 2.97      | 10.16 | 65.92       | 4.90  | 34.08               | 28.52 | 0.0                | 0.0  |
| 1.60     |          | 6.25      | 10.53 | 72.17       | 5.39  | 27.83               | 32.56 | 0.0                | 0.0  |
| 1.70     |          | 12.19     | 13.15 | 84.36       | 6.51  | 15.64               | 47.69 | 0.0                | 0.0  |
| 1.80     |          | 4.79      | 21.29 | 89.15       | 7.30  | 10.85               | 59.35 | 0.0                | 0.0  |
| 2.00     |          | 3.27      | 35.43 | 92.42       | 8.30  | 7.58                | 69.67 | 0.0                | 0.0  |
| 2.60     |          | 7.58      | 69.67 | 100.00      | 12.95 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 4.20 ASH % - 17.58 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 17.58 | 100.00      | 17.58 | 0.0                 | 0.0  | 27.17              | 27.17 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87004 SEAM - H/I

SAMPLE ID - 18

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 66.82 ASH % - 51.18 |              |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| 1.40     | 1.14                  | 3.65  | 1.14      | 3.65  | 98.86       | 51.32 | 0.0        | 0.0  |   |              |
| 1.45     | 2.23                  | 9.22  | 3.37      | 7.34  | 96.63       | 52.29 | 0.0        | 0.0  |   |              |
| 1.50     | 3.43                  | 14.19 | 6.80      | 10.79 | 93.20       | 53.69 | 0.0        | 0.0  |   |              |
| 1.55     | 2.92                  | 19.84 | 9.72      | 13.51 | 90.28       | 54.79 | 0.0        | 0.0  |   |              |
| 1.60     | 4.27                  | 24.85 | 13.99     | 16.97 | 86.01       | 56.28 | 0.0        | 0.0  |   |              |
| 1.70     | 11.38                 | 30.76 | 25.37     | 23.16 | 74.63       | 60.17 | 0.0        | 0.0  |   |              |
| 1.80     | 6.90                  | 37.18 | 32.27     | 26.16 | 67.73       | 62.51 | 0.0        | 0.0  |   |              |
| 2.00     | 25.48                 | 45.21 | 57.75     | 34.56 | 42.25       | 72.94 | 0.0        | 0.0  |   |              |
| 2.60     | 42.25                 | 72.94 | 100.00    | 50.78 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 24.94 ASH % - 37.58 |              |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| 1.40     | 9.08                 | 2.29  | 9.08      | 2.29  | 90.92       | 40.65 | 0.0        | 0.0  |   |              |
| 1.45     | 10.41                | 7.90  | 19.49     | 5.29  | 80.51       | 44.88 | 0.0        | 0.0  |   |              |
| 1.50     | 9.64                 | 12.67 | 29.13     | 7.73  | 70.87       | 49.27 | 0.0        | 0.0  |   |              |
| 1.55     | 6.95                 | 11.23 | 36.08     | 8.40  | 63.92       | 53.40 | 0.0        | 0.0  |   |              |
| 1.60     | 3.89                 | 20.88 | 39.97     | 9.62  | 60.03       | 55.51 | 0.0        | 0.0  |   |              |
| 1.70     | 8.57                 | 25.33 | 48.54     | 12.39 | 51.46       | 60.54 | 0.0        | 0.0  |   |              |
| 1.80     | 6.91                 | 33.07 | 55.45     | 14.97 | 44.55       | 64.80 | 0.0        | 0.0  |   |              |
| 2.00     | 10.64                | 43.43 | 66.09     | 19.55 | 33.91       | 71.50 | 0.0        | 0.0  |   |              |
| 2.60     | 33.91                | 71.50 | 100.00    | 37.17 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |



GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87004 SEAM - H/I

SAMPLE ID - 18

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 5.32 ASH % - 35.64 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 9.81     | 3.47      |      | 9.81        | 3.47  | 90.19               | 38.20 | 0.0                | 0.0  |
| 1.45     | 6.40     | 4.19      |      | 16.21       | 3.75  | 83.79               | 40.79 | 0.0                | 0.0  |
| 1.50     | 13.71    | 6.51      |      | 29.92       | 5.02  | 70.08               | 47.50 | 0.0                | 0.0  |
| 1.55     | 5.00     | 14.11     |      | 34.92       | 6.32  | 65.08               | 50.07 | 0.0                | 0.0  |
| 1.60     | 2.38     | 16.34     |      | 37.30       | 6.96  | 62.70               | 51.35 | 0.0                | 0.0  |
| 1.70     | 9.45     | 17.62     |      | 46.75       | 9.11  | 53.25               | 57.33 | 0.0                | 0.0  |
| 1.80     | 7.86     | 23.47     |      | 54.61       | 11.18 | 45.39               | 63.19 | 0.0                | 0.0  |
| 2.00     | 11.33    | 35.25     |      | 65.94       | 15.32 | 34.06               | 72.49 | 0.0                | 0.0  |
| 2.60     | 34.06    | 72.49     |      | 100.00      | 34.79 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 2.92 ASH % - 36.58 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 36.58     |      | 100.00      | 36.58 | 0.0                 | 0.0  | 19.47              | 19.47 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87004  
 Coal zone: H/1  
 Field sample no.: 07119 Composite sample no.: 207

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 5.66  
 Total yield (%): 5.66

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.86                 |                  |
| Ash (%) :                       | 11.09                | 11.19            |
| Volatile matter (%) :           | 6.59                 | 6.65             |
| Fixed carbon (%) :              | 81.46                | 82.16            |
| Total sulphur (%) :             | 0.51                 | 0.51             |
| Combustible sulphur (%) :       | 0.47                 |                  |
| Gross calorific value (cal/g) : | 7,416.00             | 7,481.00         |
| Volatile matter (dmmf%) :       | 6.40                 |                  |
| Hardgrove index:                | 41.00                |                  |
| Phosphorous in coal (%) :       | 0.146                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,148.00             | 1,143.00            |
| Softening temperature (°C) :     | 1,261.00             | 1,227.00            |
| Hemispherical temperature (°C) : | 1,285.00             | 1,248.00            |
| Final temperature (°C) :         | 1,380.00             | 1,375.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 52.60 | TiO2 (%) : | 1.77 |
| Al2O3 (%) : | 23.82 | Na2O (%) : | 1.65 |
| Fe2O3 (%) : | 2.80  | K2O (%) :  | 1.90 |
| CaO (%) :   | 5.32  | SO3 (%) :  | 0.88 |
| MgO (%) :   | 2.21  | P2O5 (%) : | 3.01 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87004  
 Coal zone: H/1  
 Field sample no.: 07119 Composite sample no.: 404

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.49  
 Contribution (%): 7.09  
 Total yield (%): 7.09

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.87                 |                  |
| Ash (%) :                       | 7.49                 | 7.56             |
| Volatile matter (%) :           | 6.73                 | 6.79             |
| Fixed carbon (%) :              | 84.91                | 85.65            |
| Total sulphur (%) :             | 0.57                 | 0.58             |
| Combustible sulphur (%) :       | 0.55                 |                  |
| Gross calorific value (cal/g) : | 7,739.00             | 7,807.00         |
| Volatile matter (dmmf%) :       | 6.60                 |                  |
| Phosphorous in coal (%) :       | 0.093                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,261.00             | 1,145.00            |
| Softening temperature (°C) :     | 1,288.00             | 1,224.00            |
| Hemispherical temperature (°C) : | 1,317.00             | 1,245.00            |
| Final temperature (°C) :         | 1,382.00             | 1,379.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 52.28 | TiO2 (%) : | 2.03 |
| Al2O3 (%) : | 23.44 | Na2O (%) : | 1.59 |
| Fe2O3 (%) : | 3.08  | K2O (%) :  | 1.76 |
| CaO (%) :   | 4.97  | SO3 (%) :  | 0.83 |
| MgO (%) :   | 2.20  | P2O5 (%) : | 2.83 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87004 SEAM - H

SAMPLE ID - 20

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 60.16 ASH % - 39.47 |     | C.V. | CUM. C.V. |
|----------|-----------------------|-------|-------------|-------|------------|-------|---|-----|------|-----------|
|          | ELEMENTAL WT%         | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 |     |      |           |
| S.G.TME  |                       |       |             |       |            |       |   |     |      |           |
| 1.40     | 1.16                  | 4.11  | 1.16        | 4.11  | 98.84      | 40.47 | 0.0                                     | 0.0 |      |           |
| 1.45     | 4.15                  | 8.85  | 5.31        | 7.81  | 94.69      | 41.86 | 0.0                                     | 0.0 |      |           |
| 1.50     | 6.88                  | 12.51 | 12.19       | 10.46 | 87.81      | 44.16 | 0.0                                     | 0.0 |      |           |
| 1.55     | 5.21                  | 17.96 | 17.40       | 12.71 | 82.60      | 45.81 | 0.0                                     | 0.0 |      |           |
| 1.60     | 7.86                  | 23.78 | 25.26       | 16.15 | 74.74      | 48.12 | 0.0                                     | 0.0 |      |           |
| 1.70     | 18.46                 | 30.55 | 43.72       | 22.23 | 56.28      | 53.89 | 0.0                                     | 0.0 |      |           |
| 1.80     | 14.89                 | 38.02 | 58.61       | 26.24 | 41.39      | 59.60 | 0.0                                     | 0.0 |      |           |
| 2.00     | 20.86                 | 47.46 | 79.47       | 31.81 | 20.53      | 71.93 | 0.0                                     | 0.0 |      |           |
| 2.60     | 20.53                 | 71.93 | 100.00      | 40.05 | 0.0        | 0.0   | 0.0                                     | 0.0 |      |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 29.73 ASH % - 24.99 |     | C.V. | CUM. C.V. |
|----------|----------------------|-------|-------------|-------|------------|-------|---|-----|------|-----------|
|          | ELEMENTAL WT%        | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 |     |      |           |
| S.G.TME  |                      |       |             |       |            |       |   |     |      |           |
| 1.40     | 16.02                | 2.50  | 16.02       | 2.50  | 83.98      | 29.82 | 0.0                                     | 0.0 |      |           |
| 1.45     | 10.44                | 6.83  | 26.46       | 4.21  | 73.54      | 33.08 | 0.0                                     | 0.0 |      |           |
| 1.50     | 11.23                | 11.14 | 37.69       | 6.27  | 62.31      | 37.03 | 0.0                                     | 0.0 |      |           |
| 1.55     | 9.07                 | 15.54 | 46.76       | 8.07  | 53.24      | 40.70 | 0.0                                     | 0.0 |      |           |
| 1.60     | 5.99                 | 19.39 | 52.75       | 9.36  | 47.25      | 43.40 | 0.0                                     | 0.0 |      |           |
| 1.70     | 12.76                | 24.26 | 65.51       | 12.26 | 34.49      | 50.48 | 0.0                                     | 0.0 |      |           |
| 1.80     | 8.96                 | 31.67 | 74.47       | 14.59 | 25.53      | 57.08 | 0.0                                     | 0.0 |      |           |
| 2.00     | 12.03                | 41.06 | 86.50       | 18.28 | 13.50      | 71.35 | 0.0                                     | 0.0 |      |           |
| 2.60     | 13.50                | 71.35 | 100.00      | 25.44 | 0.0        | 0.0   | 0.0                                     | 0.0 |      |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87004 SEAM - H

SAMPLE ID - 20

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % |       | 6.51 ASH % - 24.01 |      |
|----------|----------|-----------|------|-------------|-------|-------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS        |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%               | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 16.89    | 2.52      |      | 16.89       | 2.52  | 83.11             | 27.65 | 0.0                | 0.0  |
| 1.45     | 6.67     | 4.68      |      | 23.56       | 3.13  | 76.44             | 29.65 | 0.0                | 0.0  |
| 1.50     | 16.35    | 6.14      |      | 39.91       | 4.36  | 60.09             | 36.05 | 0.0                | 0.0  |
| 1.55     | 8.77     | 9.11      |      | 48.68       | 5.22  | 51.32             | 40.65 | 0.0                | 0.0  |
| 1.60     | 5.73     | 12.32     |      | 54.41       | 5.97  | 45.59             | 44.21 | 0.0                | 0.0  |
| 1.70     | 10.24    | 17.05     |      | 64.65       | 7.72  | 35.35             | 52.08 | 0.0                | 0.0  |
| 1.80     | 8.24     | 23.72     |      | 72.89       | 9.53  | 27.11             | 60.70 | 0.0                | 0.0  |
| 2.00     | 10.06    | 36.87     |      | 82.95       | 12.85 | 17.05             | 74.76 | 0.0                | 0.0  |
| 2.60     | 17.05    | 74.76     |      | 100.00      | 23.40 | 0.0               | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % |      | 3.60 ASH % - 28.84 |       |
|----------|----------|-----------|------|-------------|-------|-------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS        |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%               | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 28.84     |      | 100.00      | 28.84 | 0.0               | 0.0  | 22.38              | 22.38 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87004  
 Coal zone: H  
 Field sample no.: 07126 Composite sample no.: 208

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 9.10  
 Total yield (%): 9.10

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.78                 |                  |
| Ash (%):                       | 10.41                | 10.49            |
| Volatile matter (%):           | 7.23                 | 7.29             |
| Fixed carbon (%):              | 81.58                | 82.22            |
| Total sulphur (%):             | 0.69                 | 0.70             |
| Combustible sulphur (%):       | 0.66                 |                  |
| Gross calorific value (cal/g): | 7,500.00             | 7,559.00         |
| Volatile matter (dmmf %):      | 7.00                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.213                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,264.00             | 1,169.00            |
| Softening temperature (°C):     | 1,282.00             | 1,238.00            |
| Hemispherical temperature (°C): | 1,290.00             | 1,245.00            |
| Final temperature (°C):         | 1,366.00             | 1,314.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 47.84 | TiO2 (%): | 1.94 |
| Al2O3 (%): | 23.06 | Na2O (%): | 1.77 |
| Fe2O3 (%): | 4.39  | K2O (%):  | 1.49 |
| CaO (%):   | 7.03  | SO3 (%):  | 0.71 |
| MgO (%):   | 2.21  | P2O5 (%): | 4.69 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87004  
 Coal zone: H  
 Field sample no.: 07126 Composite sample no.: 405

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 12.69  
 Total yield (%): 12.69

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.70                 |                  |
| Ash (%):                       | 7.18                 | 7.23             |
| Volatile matter (%):           | 7.10                 | 7.15             |
| Fixed carbon (%):              | 85.02                | 85.62            |
| Total sulphur (%):             | 0.72                 | 0.73             |
| Combustible sulphur (%):       | 0.70                 |                  |
| Gross calorific value (cal/g): | 7,734.00             | 7,788.00         |
| Volatile matter (dmmf %):      | 6.90                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.071                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,282.00             | 1,178.00            |
| Softening temperature (°C):     | 1,322.00             | 1,222.00            |
| Hemispherical temperature (°C): | 1,340.00             | 1,243.00            |
| Final temperature (°C):         | 1,398.00             | 1,397.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 49.92 | TiO2 (%): | 2.47 |
| Al2O3 (%): | 24.44 | Na2O (%): | 1.58 |
| Fe2O3 (%): | 5.98  | K2O (%):  | 1.49 |
| CaO (%):   | 3.86  | SO3 (%):  | 0.70 |
| MgO (%):   | 2.43  | P2O5 (%): | 2.26 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87004 SEAM - PH

SAMPLE ID - 21

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |      | 6.00        |       | RELATIVE WEIGHT % - 48.21 |       | ASH % - 34.31 |      |
|----------|----------|-----------|------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     | 2.58     | 3.54      |      | 2.58        | 3.54  | 97.42                     | 35.99 | 0.0           | 0.0  |
| 1.45     | 19.99    | 7.31      |      | 22.57       | 6.88  | 77.43                     | 43.40 | 0.0           | 0.0  |
| 1.50     | 10.07    | 8.04      |      | 32.64       | 7.24  | 67.36                     | 48.68 | 0.0           | 0.0  |
| 1.55     | 5.52     | 17.18     |      | 38.16       | 8.68  | 61.84                     | 51.50 | 0.0           | 0.0  |
| 1.60     | 8.51     | 23.21     |      | 46.67       | 11.33 | 53.33                     | 56.01 | 0.0           | 0.0  |
| 1.70     | 8.42     | 30.30     |      | 55.09       | 14.23 | 44.91                     | 60.83 | 0.0           | 0.0  |
| 1.80     | 10.07    | 41.09     |      | 65.16       | 18.38 | 34.84                     | 66.53 | 0.0           | 0.0  |
| 2.00     | 12.56    | 49.76     |      | 77.72       | 23.45 | 22.28                     | 75.99 | 0.0           | 0.0  |
| 2.60     | 22.28    | 75.99     |      | 100.00      | 35.16 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |      | 0.50        |       | RELATIVE WEIGHT % - 38.78 |       | ASH % - 14.99 |      |
|----------|----------|-----------|------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     | 29.45    | 2.60      |      | 29.45       | 2.60  | 70.55                     | 19.87 | 0.0           | 0.0  |
| 1.45     | 15.36    | 6.48      |      | 44.81       | 3.93  | 55.19                     | 23.59 | 0.0           | 0.0  |
| 1.50     | 24.46    | 10.50     |      | 69.27       | 6.25  | 30.73                     | 34.02 | 0.0           | 0.0  |
| 1.55     | 7.79     | 14.55     |      | 77.06       | 7.09  | 22.94                     | 40.63 | 0.0           | 0.0  |
| 1.60     | 3.77     | 17.54     |      | 80.83       | 7.58  | 19.17                     | 45.17 | 0.0           | 0.0  |
| 1.70     | 5.78     | 21.90     |      | 86.61       | 8.53  | 13.39                     | 55.21 | 0.0           | 0.0  |
| 1.80     | 2.49     | 33.78     |      | 89.10       | 9.24  | 10.90                     | 60.10 | 0.0           | 0.0  |
| 2.00     | 2.82     | 42.04     |      | 91.92       | 10.24 | 8.08                      | 66.41 | 0.0           | 0.0  |
| 2.60     | 8.08     | 66.41     |      | 100.00      | 14.78 | 0.0                       | 0.0   | 0.0           | 0.0  |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87004 SEAM - PH

SAMPLE ID - 21

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 8.83 ASH % - 16.75 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 11.88    | 2.34      |      | 11.88       | 2.34  | 88.12               | 17.69 | 0.0                | 0.0  |
| 1.45     | 8.60     | 2.81      |      | 20.48       | 2.54  | 79.52               | 19.30 | 0.0                | 0.0  |
| 1.50     | 22.61    | 5.20      |      | 43.09       | 3.93  | 56.91               | 24.90 | 0.0                | 0.0  |
| 1.55     | 9.27     | 6.84      |      | 52.36       | 4.45  | 47.64               | 28.41 | 0.0                | 0.0  |
| 1.60     | 7.70     | 8.18      |      | 60.06       | 4.93  | 39.94               | 32.31 | 0.0                | 0.0  |
| 1.70     | 17.80    | 12.94     |      | 77.86       | 6.76  | 22.14               | 47.89 | 0.0                | 0.0  |
| 1.80     | 6.17     | 21.53     |      | 84.03       | 7.84  | 15.97               | 58.07 | 0.0                | 0.0  |
| 2.00     | 4.98     | 33.64     |      | 89.01       | 9.29  | 10.99               | 69.14 | 0.0                | 0.0  |
| 2.60     | 10.99    | 69.14     |      | 100.00      | 15.86 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 4.18 ASH % - 19.15 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 19.15     |      | 100.00      | 19.15 | 0.0                 | 0.0  | 26.35              | 26.35 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87004  
 Coal zone: Ph  
 Field sample no.: 07129 Composite sample no.: 209

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.62  
 Contribution (%): 24.53  
 Total yield (%): 24.53

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.64                 |                  |
| Ash (%):                       | 12.11                | 12.19            |
| Volatile matter (%):           | 6.82                 | 6.86             |
| Fixed carbon (%):              | 80.43                | 80.95            |
| Total sulphur (%):             | 0.57                 | 0.57             |
| Combustible sulphur (%):       | 0.52                 |                  |
| Gross calorific value (cal/g): | 7,278.00             | 7,324.00         |
| Volatile matter (dmmf %):      | 6.60                 | -                |
| Hardgrove index:               | 47.00                |                  |
| Phosphorous in coal (%):       | 0.187                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,261.00             | 1,209.00            |
| Softening temperature (°C):     | 1,272.00             | 1,232.00            |
| Hemispherical temperature (°C): | 1,295.00             | 1,251.00            |
| Final temperature (°C):         | 1,353.00             | 1,351.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|                                     |       |                                    |      |
|-------------------------------------|-------|------------------------------------|------|
| SiO <sub>2</sub> (%):               | 52.62 | TiO <sub>2</sub> (%):              | 1.58 |
| Al <sub>2</sub> O <sub>3</sub> (%): | 22.68 | Na <sub>2</sub> O (%):             | 1.75 |
| Fe <sub>2</sub> O <sub>3</sub> (%): | 4.38  | K <sub>2</sub> O (%):              | 1.02 |
| CaO (%):                            | 5.35  | SO <sub>3</sub> (%):               | 0.93 |
| MgO (%):                            | 2.37  | P <sub>2</sub> O <sub>5</sub> (%): | 3.53 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87004  
 Coal zone: Ph  
 Field sample no.: 07129 Composite sample no.: 406

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.59  
 Contribution (%): 31.07  
 Total yield (%): 31.07

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.73                 |                  |
| Ash (%):                       | 6.96                 | 7.01             |
| Volatile matter (%):           | 6.77                 | 6.82             |
| Fixed carbon (%):              | 85.54                | 86.17            |
| Total sulphur (%):             | 0.52                 | 0.52             |
| Combustible sulphur (%):       | 0.50                 |                  |
| Gross calorific value (cal/g): | 7,696.00             | 7,753.00         |
| Volatile matter (dmmf %):      | 6.60                 |                  |
| Hardgrove index:               | 48.00                |                  |
| Phosphorous in coal (%):       | 0.058                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,171.00             | 1,169.00            |
| Softening temperature (°C):     | 1,385.00             | 1,364.00            |
| Hemispherical temperature (°C): | 1,472.00             | 1,419.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 49.52 | TiO2 (%): | 2.47 |
| Al2O3 (%): | 30.62 | Na2O (%): | 1.99 |
| Fe2O3 (%): | 3.37  | K2O (%):  | 1.38 |
| CaO (%):   | 3.04  | SO3 (%):  | 0.56 |
| MgO (%):   | 2.15  | P2O5 (%): | 1.91 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87005 SEAM - K

SAMPLE ID - 23

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X          |        | 6.00               |       | RELATIVE WEIGHT % - 72.20 |      | ASH % - 33.45   |              |
|----------|----------|------------------|--------|--------------------|-------|---------------------------|------|-----------------|--------------|
|          |          | ELEMENTAL<br>WT% | ASH%   | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%         | ASH% | C.V.<br>(MJ KG) | CUM.<br>C.V. |
| S.G.TME  |          |                  |        |                    |       |                           |      |                 |              |
| 1.40     | 2.79     | 2.97             | 2.79   | 2.97               | 97.21 | 33.52                     | 0.0  | 0.0             |              |
| 1.45     | 10.15    | 7.07             | 12.94  | 6.19               | 87.06 | 36.60                     | 0.0  | 0.0             |              |
| 1.50     | 16.71    | 11.95            | 29.65  | 9.43               | 70.35 | 42.45                     | 0.0  | 0.0             |              |
| 1.55     | 13.69    | 18.52            | 43.34  | 12.30              | 56.66 | 48.24                     | 0.0  | 0.0             |              |
| 1.60     | 8.16     | 22.09            | 51.50  | 13.85              | 48.50 | 52.64                     | 0.0  | 0.0             |              |
| 1.70     | 11.84    | 29.34            | 63.34  | 16.75              | 36.66 | 60.16                     | 0.0  | 0.0             |              |
| 1.80     | 6.70     | 39.83            | 70.04  | 18.96              | 29.96 | 64.71                     | 0.0  | 0.0             |              |
| 2.00     | 10.11    | 47.68            | 80.15  | 22.58              | 19.85 | 73.38                     | 0.0  | 0.0             |              |
| 2.60     | 19.85    | 73.38            | 100.00 | 32.66              | 0.0   | 0.0                       | 0.0  | 0.0             |              |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X           |        | 0.50               |       | RELATIVE WEIGHT % - 17.49 |      | ASH % - 21.12   |              |
|----------|----------|------------------|--------|--------------------|-------|---------------------------|------|-----------------|--------------|
|          |          | ELEMENTAL<br>WT% | ASH%   | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%         | ASH% | C.V.<br>(MJ KG) | CUM.<br>C.V. |
| S.G.TME  |          |                  |        |                    |       |                           |      |                 |              |
| 1.40     | 20.13    | 1.86             | 20.13  | 1.86               | 79.87 | 24.72                     | 0.0  | 0.0             |              |
| 1.45     | 17.62    | 6.77             | 37.75  | 4.15               | 62.25 | 29.79                     | 0.0  | 0.0             |              |
| 1.50     | 19.26    | 11.83            | 57.01  | 6.75               | 42.99 | 37.84                     | 0.0  | 0.0             |              |
| 1.55     | 11.71    | 17.00            | 68.72  | 8.49               | 31.28 | 45.65                     | 0.0  | 0.0             |              |
| 1.60     | 5.66     | 21.22            | 74.38  | 9.46               | 25.62 | 51.04                     | 0.0  | 0.0             |              |
| 1.70     | 6.65     | 27.13            | 81.03  | 10.91              | 18.97 | 59.42                     | 0.0  | 0.0             |              |
| 1.80     | 3.26     | 35.79            | 84.29  | 11.87              | 15.71 | 64.33                     | 0.0  | 0.0             |              |
| 2.00     | 4.21     | 46.08            | 88.50  | 13.50              | 11.50 | 71.01                     | 0.0  | 0.0             |              |
| 2.60     | 11.50    | 71.01            | 100.00 | 20.11              | 0.0   | 0.0                       | 0.0  | 0.0             |              |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87005 SEAM - K

SAMPLE ID - 23

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 6.51 ASH % - 16.40 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 33.36    | 2.19      |      | 33.36       | 2.19  | 66.64               | 22.46 | 0.0                | 0.0  |
| 1.45     | 11.97    | 3.92      |      | 45.33       | 2.65  | 54.67               | 26.52 | 0.0                | 0.0  |
| 1.50     | 15.43    | 6.76      |      | 60.76       | 3.69  | 39.24               | 34.30 | 0.0                | 0.0  |
| 1.55     | 10.08    | 12.10     |      | 70.84       | 4.89  | 29.16               | 41.97 | 0.0                | 0.0  |
| 1.60     | 4.08     | 14.71     |      | 74.92       | 5.42  | 25.08               | 46.40 | 0.0                | 0.0  |
| 1.70     | 8.65     | 20.30     |      | 83.57       | 6.96  | 16.43               | 60.15 | 0.0                | 0.0  |
| 1.80     | 2.81     | 29.14     |      | 86.38       | 7.68  | 13.62               | 66.54 | 0.0                | 0.0  |
| 2.00     | 3.97     | 44.92     |      | 90.35       | 9.32  | 9.65                | 75.44 | 0.0                | 0.0  |
| 2.60     | 9.65     | 75.44     |      | 100.00      | 15.70 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 3.80 ASH % - 21.25 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 21.25     |      | 100.00      | 21.25 | 0.0                 | 0.0  | 25.43              | 25.43 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87005 SEAM - K

SAMPLE ID - 25

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 35.00 X |       | 6.00<br>CUM. FLOATS |       | RELATIVE WEIGHT % - 52.76 ASH % - 48.72 |       | C.V. CUM. |      |
|---------------------|------------------|-------|---------------------|-------|---|-------|-----------|------|
|                     | WT%              | ASH%  | WT%                 | ASH%  | WT%                                     | ASH%  | (MJ KG)   | C.V. |
| 1.40                | 5.60             | 4.14  | 5.60                | 4.14  | 94.40                                   | 52.28 | 0.0       | 0.0  |
| 1.45                | 1.91             | 6.34  | 7.51                | 4.70  | 92.49                                   | 53.23 | 0.0       | 0.0  |
| 1.50                | 3.13             | 12.71 | 10.64               | 7.06  | 89.36                                   | 54.65 | 0.0       | 0.0  |
| 1.55                | 3.78             | 18.14 | 14.42               | 9.96  | 85.58                                   | 56.26 | 0.0       | 0.0  |
| 1.60                | 5.88             | 23.78 | 20.30               | 13.96 | 79.70                                   | 58.66 | 0.0       | 0.0  |
| 1.70                | 10.31            | 30.35 | 30.61               | 19.48 | 69.39                                   | 62.86 | 0.0       | 0.0  |
| 1.80                | 9.17             | 40.27 | 39.78               | 24.27 | 60.22                                   | 66.30 | 0.0       | 0.0  |
| 2.00                | 16.20            | 52.73 | 55.98               | 32.51 | 44.02                                   | 71.30 | 0.0       | 0.0  |
| 2.60                | 44.02            | 71.30 | 100.00              | 49.59 | 0.0                                     | 0.0   | 0.0       | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 6.00 X |       | 0.50<br>CUM. FLOATS |       | RELATIVE WEIGHT % - 29.26 ASH % - 32.62 |       | C.V. CUM. |      |
|---------------------|-----------------|-------|---------------------|-------|---|-------|-----------|------|
|                     | WT%             | ASH%  | WT%                 | ASH%  | WT%                                     | ASH%  | (MJ KG)   | C.V. |
| 1.40                | 14.31           | 2.00  | 14.31               | 2.00  | 85.69                                   | 36.79 | 0.0       | 0.0  |
| 1.45                | 6.10            | 5.83  | 20.41               | 3.14  | 79.59                                   | 39.17 | 0.0       | 0.0  |
| 1.50                | 7.40            | 12.32 | 27.81               | 5.59  | 72.19                                   | 41.92 | 0.0       | 0.0  |
| 1.55                | 7.55            | 17.14 | 35.36               | 8.05  | 64.64                                   | 44.81 | 0.0       | 0.0  |
| 1.60                | 6.61            | 21.18 | 41.97               | 10.12 | 58.03                                   | 47.51 | 0.0       | 0.0  |
| 1.70                | 14.94           | 27.01 | 56.91               | 14.55 | 43.09                                   | 54.61 | 0.0       | 0.0  |
| 1.80                | 10.09           | 34.37 | 67.00               | 17.54 | 33.00                                   | 60.80 | 0.0       | 0.0  |
| 2.00                | 13.31           | 44.84 | 80.31               | 22.06 | 19.69                                   | 71.59 | 0.0       | 0.0  |
| 2.60                | 19.69           | 71.59 | 100.00              | 31.82 | 0.0                                     | 0.0   | 0.0       | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87005 SEAM - K

SAMPLE ID - 25

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X  |       | 0.15               |       | RELATIVE WEIGHT % - 11.26 ASH % - 22.14 |       | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|---------------------|------------------|-------|--------------------|-------|---|-------|-----------------|--------------|
|                     | ELEMENTAL<br>WT% | ASH%  | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%                       | ASH%  |                 |              |
| 1.40                | 27.71            | 2.24  | 27.71              | 2.24  | 72.29                                   | 29.27 | 0.0             | 0.0          |
| 1.45                | 13.12            | 4.09  | 40.83              | 2.83  | 59.17                                   | 34.85 | 0.0             | 0.0          |
| 1.50                | 10.68            | 11.10 | 51.51              | 4.55  | 48.49                                   | 40.08 | 0.0             | 0.0          |
| 1.55                | 6.30             | 12.10 | 57.81              | 5.37  | 42.19                                   | 44.26 | 0.0             | 0.0          |
| 1.60                | 3.36             | 14.28 | 61.17              | 5.86  | 38.83                                   | 46.85 | 0.0             | 0.0          |
| 1.70                | 8.82             | 20.26 | 69.99              | 7.68  | 30.01                                   | 54.67 | 0.0             | 0.0          |
| 1.80                | 6.17             | 28.46 | 76.16              | 9.36  | 23.84                                   | 61.45 | 0.0             | 0.0          |
| 2.00                | 8.87             | 40.07 | 85.03              | 12.56 | 14.97                                   | 74.12 | 0.0             | 0.0          |
| 2.60                | 14.97            | 74.12 | 100.00             | 21.78 | 0.0                                     | 0.0   | 0.0             | 0.0          |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X  |       | 0.00               |       | RELATIVE WEIGHT % - 6.72 ASH % - 25.46 |      | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|---------------------|------------------|-------|--------------------|-------|--|------|-----------------|--------------|
|                     | ELEMENTAL<br>WT% | ASH%  | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%                      | ASH% |                 |              |
| 240.00              | 100.00           | 25.46 | 100.00             | 25.46 | 0.0                                    | 0.0  | 24.51           | 24.51        |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87005  
 Coal zone: K  
 Field sample no.: 07135 Composite sample no.: 210

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.55  
 Contribution (%): 28.22  
 Total yield (%): 28.22

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.75                 |                  |
| Ash (%):                       | 11.03                | 11.11            |
| Volatile matter (%):           | 6.49                 | 6.54             |
| Fixed carbon (%):              | 81.73                | 82.35            |
| Total sulphur (%):             | 0.55                 | 0.55             |
| Combustible sulphur (%):       | 0.53                 |                  |
| Gross calorific value (cal/g): | 7,512.00             | 7,569.00         |
| Volatile matter (dmmf %):      | 6.20                 |                  |
| Hardgrove index:               | 42.00                |                  |
| Phosphorous in coal (%):       | 0.170                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,277.00             | 1,248.00            |
| Softening temperature(°C):     | 1,311.00             | 1,259.00            |
| Hemispherical temperature(°C): | 1,319.00             | 1,274.00            |
| Final temperature(°C):         | 1,377.00             | 1,367.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 60.00 | TiO2 (%): | 1.30 |
| Al2O3 (%): | 20.41 | Na2O (%): | 2.18 |
| Fe2O3 (%): | 2.76  | K2O (%):  | 0.68 |
| CaO (%):   | 4.48  | SO3 (%):  | 0.54 |
| MgO (%):   | 2.41  | P2O5 (%): | 3.53 |



===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87005  
 Coal zone: K  
 Field sample no.: 07137 Composite sample no.: 211

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.58  
 Contribution (%): 9.05  
 Total yield (%): 9.05

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.77                 |                  |
| Ash (%) :                       | 11.47                | 11.56            |
| Volatile matter (%) :           | 6.72                 | 6.77             |
| Fixed carbon (%) :              | 81.04                | 81.67            |
| Total sulphur (%) :             | 0.61                 | 0.61             |
| Combustible sulphur (%) :       | 0.56                 |                  |
| Gross calorific value (cal/g) : | 7,459.00             | 7,517.00         |
| Volatile matter (dmmf%) :       | 6.50                 |                  |
| Hardgrove index:                | 51.00                |                  |
| Phosphorous in coal (%) :       | 0.009                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,280.00             | 1,269.00            |
| Softening temperature (°C) :     | 1,348.00             | 1,314.00            |
| Hemispherical temperature (°C) : | 1,367.00             | 1,332.00            |
| Final temperature (°C) :         | 1,440.00             | 1,433.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 64.56 | TiO2 (%) : | 2.06 |
| Al2O3 (%) : | 18.15 | Na2O (%) : | 1.40 |
| Fe2O3 (%) : | 2.81  | K2O (%) :  | 1.34 |
| CaO (%) :   | 2.38  | SO3 (%) :  | 1.16 |
| MgO (%) :   | 1.46  | P2O5 (%) : | 0.17 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87005  
 Coal zone: K  
 Field sample no.: 07135 - 07137 Composite sample no.: 407

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 10.54  
 Total yield (%): 10.54

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.96                 |                  |
| Ash (%):                       | 7.10                 | 7.17             |
| Volatile matter (%):           | 7.87                 | 7.95             |
| Fixed carbon (%):              | 84.07                | 84.88            |
| Total sulphur (%):             | 0.58                 | 0.59             |
| Combustible sulphur (%):       | 0.56                 |                  |
| Gross calorific value (cal/g): | 7,775.00             | 7,850.00         |
| Volatile matter (dmmf %):      | 7.80                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.026                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,238.00             | 1,106.00            |
| Softening temperature (°C):     | 1,443.00             | 1,351.00            |
| Hemispherical temperature (°C): | 1,472.00             | 1,385.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 62.46 | TiO2 (%): | 3.61 |
| Al2O3 (%): | 23.44 | Na2O (%): | 1.75 |
| Fe2O3 (%): | 2.14  | K2O (%):  | 0.98 |
| CaO (%):   | 1.65  | SO3 (%):  | 0.78 |
| MgO (%):   | 1.43  | P2O5 (%): | 0.84 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87005 SEAM - I

SAMPLE ID - 26

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 58.25 ASH % - 46.18 |              |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |              |
| 1.40     | 3.24                  | 3.36  | 3.24      | 3.36  | 96.76       | 46.67 | 0.0        | 0.0  |   |              |
| 1.45     | 16.61                 | 7.52  | 19.85     | 6.84  | 80.15       | 54.78 | 0.0        | 0.0  |   |              |
| 1.50     | 11.07                 | 11.68 | 30.92     | 8.57  | 69.08       | 61.69 | 0.0        | 0.0  |   |              |
| 1.55     | 4.95                  | 16.93 | 35.87     | 9.73  | 64.13       | 65.15 | 0.0        | 0.0  |   |              |
| 1.60     | 2.67                  | 20.54 | 38.54     | 10.48 | 61.46       | 67.08 | 0.0        | 0.0  |   |              |
| 1.70     | 4.64                  | 26.83 | 43.18     | 12.23 | 56.82       | 70.37 | 0.0        | 0.0  |   |              |
| 1.80     | 3.04                  | 35.52 | 46.22     | 13.76 | 53.78       | 72.34 | 0.0        | 0.0  |   |              |
| 2.00     | 9.53                  | 46.53 | 55.75     | 19.37 | 44.25       | 77.90 | 0.0        | 0.0  |   |              |
| 2.60     | 44.25                 | 77.90 | 100.00    | 45.27 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 20.82 ASH % - 21.60 |              |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |              |
| 1.40     | 18.77                | 2.46  | 18.77     | 2.46  | 81.23       | 25.05 | 0.0        | 0.0  |   |              |
| 1.45     | 21.69                | 5.97  | 40.46     | 4.34  | 59.54       | 32.00 | 0.0        | 0.0  |   |              |
| 1.50     | 14.00                | 10.24 | 54.46     | 5.86  | 45.54       | 38.68 | 0.0        | 0.0  |   |              |
| 1.55     | 10.56                | 14.08 | 65.02     | 7.19  | 34.98       | 46.11 | 0.0        | 0.0  |   |              |
| 1.60     | 3.51                 | 17.07 | 68.53     | 7.70  | 31.47       | 49.35 | 0.0        | 0.0  |   |              |
| 1.70     | 9.46                 | 20.36 | 77.99     | 9.23  | 22.01       | 61.81 | 0.0        | 0.0  |   |              |
| 1.80     | 4.10                 | 28.49 | 82.09     | 10.20 | 17.91       | 69.44 | 0.0        | 0.0  |   |              |
| 2.00     | 2.85                 | 39.52 | 84.94     | 11.18 | 15.06       | 75.10 | 0.0        | 0.0  |   |              |
| 2.60     | 15.06                | 75.10 | 100.00    | 20.81 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87005 SEAM - I

SAMPLE ID - 26

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % |       | 12.96 ASH % - 16.82 |      |
|----------|----------|-----------|-------|-------------|-------|-------------------|-------|---------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS        |       | C.V.                | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%               | ASH%  | (MJ KG)             | C.V. |
| 1.40     |          | 22.14     | 3.63  | 22.14       | 3.63  | 77.86             | 19.75 | 0.0                 | 0.0  |
| 1.45     |          | 13.54     | 4.16  | 35.68       | 3.83  | 64.32             | 23.03 | 0.0                 | 0.0  |
| 1.50     |          | 13.49     | 6.83  | 49.17       | 4.65  | 50.83             | 27.33 | 0.0                 | 0.0  |
| 1.55     |          | 8.86      | 10.12 | 58.03       | 5.49  | 41.97             | 30.96 | 0.0                 | 0.0  |
| 1.60     |          | 6.88      | 12.09 | 64.91       | 6.19  | 35.09             | 34.66 | 0.0                 | 0.0  |
| 1.70     |          | 13.80     | 15.04 | 78.71       | 7.74  | 21.29             | 47.38 | 0.0                 | 0.0  |
| 1.80     |          | 7.58      | 22.14 | 86.29       | 9.01  | 13.71             | 61.34 | 0.0                 | 0.0  |
| 2.00     |          | 3.79      | 36.01 | 90.08       | 10.14 | 9.92              | 71.02 | 0.0                 | 0.0  |
| 2.60     |          | 9.92      | 71.02 | 100.00      | 16.18 | 0.0               | 0.0   | 0.0                 | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % |      | 7.97 ASH % - 17.35 |       |
|----------|----------|-----------|-------|-------------|-------|-------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS        |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%               | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 17.35 | 100.00      | 17.35 | 0.0               | 0.0  | 26.88              | 26.88 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87005 SEAM - I

SAMPLE ID - 27

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 48.79 ASH % - 13.26 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 21.90                 | 3.50  | 21.90     | 3.50  | 78.10       | 15.91 | 0.0        | 0.0  |   |           |
| 1.45     | 50.36                 | 5.94  | 72.26     | 5.20  | 27.74       | 34.00 | 0.0        | 0.0  |   |           |
| 1.50     | 7.73                  | 12.19 | 79.99     | 5.88  | 20.01       | 42.43 | 0.0        | 0.0  |   |           |
| 1.55     | 3.73                  | 15.53 | 83.72     | 6.31  | 16.28       | 48.59 | 0.0        | 0.0  |   |           |
| 1.60     | 1.44                  | 23.24 | 85.16     | 6.59  | 14.84       | 51.05 | 0.0        | 0.0  |   |           |
| 1.70     | 1.58                  | 24.77 | 86.74     | 6.92  | 13.26       | 54.18 | 0.0        | 0.0  |   |           |
| 1.80     | 1.78                  | 35.70 | 88.52     | 7.50  | 11.48       | 57.05 | 0.0        | 0.0  |   |           |
| 2.00     | 2.32                  | 41.73 | 90.84     | 8.38  | 9.16        | 60.93 | 0.0        | 0.0  |   |           |
| 2.60     | 9.16                  | 60.93 | 100.00    | 13.19 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 32.67 ASH % - 14.86 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 29.91                | 2.80  | 29.91     | 2.80  | 70.09       | 19.18 | 0.0        | 0.0  |   |           |
| 1.45     | 25.40                | 5.93  | 55.31     | 4.24  | 44.69       | 26.71 | 0.0        | 0.0  |   |           |
| 1.50     | 12.93                | 10.22 | 68.24     | 5.37  | 31.76       | 33.42 | 0.0        | 0.0  |   |           |
| 1.55     | 7.11                 | 14.36 | 75.35     | 6.22  | 24.65       | 38.92 | 0.0        | 0.0  |   |           |
| 1.60     | 3.80                 | 17.56 | 79.15     | 6.76  | 20.85       | 42.81 | 0.0        | 0.0  |   |           |
| 1.70     | 6.35                 | 23.13 | 85.50     | 7.98  | 14.50       | 51.43 | 0.0        | 0.0  |   |           |
| 1.80     | 2.64                 | 33.92 | 88.14     | 8.76  | 11.86       | 55.33 | 0.0        | 0.0  |   |           |
| 2.00     | 3.29                 | 41.26 | 91.43     | 9.93  | 8.57        | 60.73 | 0.0        | 0.0  |   |           |
| 2.60     | 8.57                 | 60.73 | 100.00    | 14.28 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87005 SEAM - I

SAMPLE ID - 27

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - 11.03 ASH % - 12.40 |       |         |      |
|----------|----------|-----------|------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     | 22.50    | 3.56      |      | 22.50       | 3.56  | 77.50                                   | 14.71 | 0.0     | 0.0  |
| 1.45     | 19.14    | 4.07      |      | 41.64       | 3.79  | 58.36                                   | 18.19 | 0.0     | 0.0  |
| 1.50     | 16.69    | 7.22      |      | 58.33       | 4.77  | 41.67                                   | 22.59 | 0.0     | 0.0  |
| 1.55     | 11.77    | 10.53     |      | 70.10       | 5.74  | 29.90                                   | 27.34 | 0.0     | 0.0  |
| 1.60     | 4.60     | 12.44     |      | 74.70       | 6.15  | 25.30                                   | 30.04 | 0.0     | 0.0  |
| 1.70     | 10.61    | 15.66     |      | 85.31       | 7.34  | 14.69                                   | 40.43 | 0.0     | 0.0  |
| 1.80     | 5.53     | 23.52     |      | 90.84       | 8.32  | 9.16                                    | 50.64 | 0.0     | 0.0  |
| 2.00     | 2.70     | 37.23     |      | 93.54       | 9.16  | 6.46                                    | 56.25 | 0.0     | 0.0  |
| 2.60     | 6.46     | 56.25     |      | 100.00      | 12.20 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - 7.51 ASH % - 13.86 |      |         |       |
|----------|----------|-----------|------|-------------|-------|--|------|---------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                             |      | C.V.    | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                                    | ASH% | (MJ KG) | C.V.  |
| 240.00   | 100.00   | 13.86     |      | 100.00      | 13.86 | 0.0                                    | 0.0  | 28.20   | 28.20 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87005  
 Coal zone: 1  
 Field sample no.: 07140 Composite sample no.: 212

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.44  
 Contribution (%): 8.35  
 Total yield (%): 8.35

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.80                 |                  |
| Ash (%):                       | 5.83                 | 5.88             |
| Volatile matter (%):           | 6.32                 | 6.37             |
| Fixed carbon (%):              | 87.05                | 87.75            |
| Total sulphur (%):             | 0.48                 | 0.48             |
| Combustible sulphur (%):       | 0.47                 |                  |
| Gross calorific value (cal/g): | 7,875.00             | 7,939.00         |
| Volatile matter (dmmf %):      | 6.20                 |                  |
| Hardgrove index:               | 43.00                |                  |
| Phosphorous in coal (%):       | 0.019                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,241.00             | 1,148.00            |
| Softening temperature (°C):     | 1,372.00             | 1,330.00            |
| Hemispherical temperature (°C): | 1,402.00             | 1,380.00            |
| Final temperature (°C):         | 1,472.00             | 1,440.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 67.04 | TiO2 (%): | 1.54 |
| Al2O3 (%): | 20.79 | Na2O (%): | 2.16 |
| Fe2O3 (%): | 1.94  | K2O (%):  | 0.62 |
| CaO (%):   | 1.88  | SO3 (%):  | 0.39 |
| MgO (%):   | 1.86  | P2O5 (%): | 0.75 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87005  
 Coal zone: 1  
 Field sample no.: 07140 Composite sample no.: 212

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 10.73  
 Total yield (%): 10.73

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.14                 |                  |
| Ash (%):                       | 11.39                | 11.52            |
| Volatile matter (%):           | 8.80                 | 8.90             |
| Fixed carbon (%):              | 78.67                | 79.58            |
| Total sulphur (%):             | 0.45                 | 0.46             |
| Combustible sulphur (%):       | 0.39                 |                  |
| Gross calorific value (cal/g): | 7,249.00             | 7,332.00         |
| Volatile matter (dmmf %):      | 9.00                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.016                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,232.00             | 1,101.00            |
| Softening temperature (°C):     | 1,338.00             | 1,269.00            |
| Hemispherical temperature (°C): | 1,388.00             | 1,301.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 64.90 | TiO2 (%): | 0.90 |
| Al2O3 (%): | 19.90 | Na2O (%): | 1.88 |
| Fe2O3 (%): | 1.97  | K2O (%):  | 0.71 |
| CaO (%):   | 1.74  | SO3 (%):  | 1.32 |
| MgO (%):   | 1.86  | P2O5 (%): | 0.32 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87005  
 Coal zone: 1  
 Field sample no.: 07141 Composite sample no.: 213

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.55  
 Contribution(%): 39.97  
 Total yield(%): 39.97

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.79                 |                  |
| Ash (%) :                       | 6.09                 | 6.14             |
| Volatile matter (%) :           | 5.96                 | 6.01             |
| Fixed carbon (%) :              | 87.16                | 87.85            |
| Total sulphur (%) :             | 0.52                 | 0.52             |
| Combustible sulphur (%) :       | 0.50                 |                  |
| Gross calorific value (cal/g) : | 7,880.00             | 7,943.00         |
| Volatile matter (dmmf%) :       | 5.80                 |                  |
| Hardgrove index:                | 50.00                |                  |
| Phosphorous in coal (%) :       | 0.017                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,238.00             | 1,222.00            |
| Softening temperature(°C) :     | 1,253.00             | 1,238.00            |
| Hemispherical temperature(°C) : | 1,269.00             | 1,259.00            |
| Final temperature(°C) :         | 1,351.00             | 1,330.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 49.72 | TiO2 (%) : | 1.15 |
| Al2O3 (%) : | 25.11 | Na2O (%) : | 2.34 |
| Fe2O3 (%) : | 4.76  | K2O (%) :  | 0.99 |
| CaO (%) :   | 7.97  | SO3 (%) :  | 0.63 |
| MgO (%) :   | 2.16  | P2O5 (%) : | 0.65 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87005  
 Coal zone: 1  
 Field sample no.: 07140 - 07141 Composite sample no.: 408

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.62  
 Contribution (%): 19.19  
 Total yield (%): 19.19

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.87                 |                  |
| Ash (%):                       | 6.93                 | 6.99             |
| Volatile matter (%):           | 8.24                 | 8.31             |
| Fixed carbon (%):              | 83.96                | 84.70            |
| Total sulphur (%):             | 0.48                 | 0.48             |
| Combustible sulphur (%):       | 0.44                 |                  |
| Gross calorific value (cal/g): | 7,701.00             | 7,768.00         |
| Volatile matter (dmmf %):      | 8.30                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.079                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,232.00             | 1,101.00            |
| Softening temperature (°C):     | 1,395.00             | 1,351.00            |
| Hemispherical temperature (°C): | 1,453.00             | 1,385.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 57.18 | TiO2 (%): | 1.80 |
| Al2O3 (%): | 22.68 | Na2O (%): | 1.85 |
| Fe2O3 (%): | 2.05  | K2O (%):  | 0.85 |
| CaO (%):   | 3.52  | SO3 (%):  | 1.50 |
| MgO (%):   | 1.76  | P2O5 (%): | 2.62 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87005 SEAM - H

SAMPLE ID - 28

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 70.21 |       | ASH % - 75.83 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.45     |          | 0.30      | 5.91  | 0.30        | 5.91  | 99.70                     | 75.06 | 0.0           | 0.0  |
| 1.50     |          | 0.54      | 6.34  | 0.84        | 6.19  | 99.16                     | 75.44 | 0.0           | 0.0  |
| 1.55     |          | 0.38      | 14.95 | 1.22        | 8.92  | 98.78                     | 75.67 | 0.0           | 0.0  |
| 1.60     |          | 0.27      | 18.98 | 1.49        | 10.74 | 98.51                     | 75.82 | 0.0           | 0.0  |
| 1.70     |          | 2.13      | 26.35 | 3.62        | 19.92 | 96.38                     | 76.92 | 0.0           | 0.0  |
| 1.80     |          | 4.04      | 35.12 | 7.66        | 27.94 | 92.34                     | 78.75 | 0.0           | 0.0  |
| 2.00     |          | 10.48     | 44.82 | 18.14       | 37.69 | 81.86                     | 83.09 | 0.0           | 0.0  |
| 2.60     |          | 81.86     | 83.09 | 100.00      | 74.85 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 23.32 |       | ASH % - 55.86 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 0.45      | 3.02  | 0.45        | 3.02  | 99.55                     | 55.56 | 0.0           | 0.0  |
| 1.45     |          | 1.16      | 3.90  | 1.61        | 3.65  | 98.39                     | 56.17 | 0.0           | 0.0  |
| 1.50     |          | 0.63      | 10.07 | 2.24        | 5.46  | 97.76                     | 56.47 | 0.0           | 0.0  |
| 1.55     |          | 1.03      | 15.57 | 3.27        | 8.64  | 96.73                     | 56.90 | 0.0           | 0.0  |
| 1.60     |          | 1.39      | 18.48 | 4.66        | 11.58 | 95.34                     | 57.46 | 0.0           | 0.0  |
| 1.70     |          | 7.57      | 21.95 | 12.23       | 18.00 | 87.77                     | 60.53 | 0.0           | 0.0  |
| 1.80     |          | 13.46     | 27.74 | 25.69       | 23.10 | 74.31                     | 66.46 | 0.0           | 0.0  |
| 2.00     |          | 23.32     | 40.52 | 49.01       | 31.39 | 50.99                     | 78.33 | 0.0           | 0.0  |
| 2.60     |          | 50.99     | 78.33 | 100.00      | 55.32 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPDLRDDH87005 SEAM - H

SAMPLE ID - 28

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 4.34 ASH % - 50.56 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.45     |          | 5.53      | 4.37  | 5.53        | 4.37  | 94.47               | 52.44 | 0.0                | 0.0  |
| 1.50     |          | 3.53      | 6.06  | 9.06        | 5.03  | 90.94               | 54.24 | 0.0                | 0.0  |
| 1.55     |          | 1.92      | 9.18  | 10.98       | 5.75  | 89.02               | 55.21 | 0.0                | 0.0  |
| 1.60     |          | 2.56      | 10.71 | 13.54       | 6.69  | 86.46               | 56.53 | 0.0                | 0.0  |
| 1.70     |          | 8.09      | 14.65 | 21.63       | 9.67  | 78.37               | 60.86 | 0.0                | 0.0  |
| 1.80     |          | 11.54     | 20.68 | 33.17       | 13.50 | 66.83               | 67.79 | 0.0                | 0.0  |
| 2.00     |          | 19.15     | 35.11 | 52.32       | 21.41 | 47.68               | 80.92 | 0.0                | 0.0  |
| 2.60     |          | 47.68     | 80.92 | 100.00      | 49.78 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.13 ASH % - 44.44 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 44.44 | 100.00      | 44.44 | 0.0                 | 0.0  | 16.00              | 16.00 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87005  
 Coal zone: H  
 Field sample no.: 07144 Composite sample no.: 214

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.61  
 Contribution (%): 1.17  
 Total yield (%): 1.17

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.73                 |                  |
| Ash (%):                       | 11.46                | 11.54            |
| Volatile matter (%):           | 6.77                 | 6.82             |
| Fixed carbon (%):              | 81.04                | 81.64            |
| Total sulphur (%):             | 0.49                 | 0.49             |
| Combustible sulphur (%):       | 0.47                 |                  |
| Gross calorific value (cal/g): | 7,471.00             | 7,526.00         |
| Volatile matter (dmmf%):       | 6.60                 |                  |
| Hardgrove index:               | 47.00                |                  |
| Phosphorous in coal (%):       | 0.078                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,212.00             | 1,146.00            |
| Softening temperature(°C):     | 1,267.00             | 1,190.00            |
| Hemispherical temperature(°C): | 1,281.00             | 1,223.00            |
| Final temperature(°C):         | 1,421.00             | 1,319.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 56.48 | TiO2 (%): | 2.10 |
| Al2O3 (%): | 24.72 | Na2O (%): | 2.12 |
| Fe2O3 (%): | 3.52  | K2O (%):  | 1.42 |
| CaO (%):   | 3.01  | SO3 (%):  | 0.46 |
| MgO (%):   | 0.94  | P2O5 (%): | 1.56 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87005  
 Coal zone: H  
 Field sample no.: 07144 Composite sample no.: 409

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 0.56  
 Total yield (%): 0.56

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.98                 |                  |
| Ash (%):                       | 6.62                 | 6.69             |
| Volatile matter (%):           | 6.13                 | 6.19             |
| Fixed carbon (%):              | 86.27                | 87.12            |
| Total sulphur (%):             | 0.50                 | 0.50             |
| Combustible sulphur (%):       | 0.48                 |                  |
| Gross calorific value (cal/g): | 7,794.00             | 7,871.00         |
| Volatile matter (dmmf %):      | 5.90                 |                  |
| Hardgrove index:               | 49.00                |                  |
| Phosphorous in coal (%):       | 0.053                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,211.00             | 1,135.00            |
| Softening temperature (°C):     | 1,272.00             | 1,193.00            |
| Hemispherical temperature (°C): | 1,290.00             | 1,219.00            |
| Final temperature (°C):         | 1,432.00             | 1,327.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 58.14 | TiO2 (%): | 2.50 |
| Al2O3 (%): | 22.12 | Na2O (%): | 2.25 |
| Fe2O3 (%): | 3.84  | K2O (%):  | 0.96 |
| CaO (%):   | 3.12  | SO3 (%):  | 0.76 |
| MgO (%):   | 0.89  | P2O5 (%): | 1.82 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87006 SEAM - H/I

SAMPLE ID - 30

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 69.28 ASH % - 43.95 |       |         |      |
|----------|----------|-----------|-------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     |          | 1.30      | 2.46  | 1.30        | 2.46  | 98.70                                   | 43.55 | 0.0     | 0.0  |
| 1.45     |          | 2.30      | 7.44  | 3.60        | 5.64  | 96.40                                   | 44.42 | 0.0     | 0.0  |
| 1.50     |          | 7.37      | 14.38 | 10.97       | 11.51 | 89.03                                   | 46.90 | 0.0     | 0.0  |
| 1.55     |          | 9.87      | 18.79 | 20.84       | 14.96 | 79.16                                   | 50.41 | 0.0     | 0.0  |
| 1.60     |          | 4.19      | 22.91 | 25.03       | 16.29 | 74.97                                   | 51.94 | 0.0     | 0.0  |
| 1.70     |          | 9.19      | 30.37 | 34.22       | 20.07 | 65.78                                   | 54.96 | 0.0     | 0.0  |
| 1.80     |          | 12.26     | 37.78 | 46.48       | 24.74 | 53.52                                   | 58.89 | 0.0     | 0.0  |
| 2.00     |          | 14.11     | 45.75 | 60.59       | 29.63 | 39.41                                   | 63.60 | 0.0     | 0.0  |
| 2.60     |          | 39.41     | 63.60 | 100.00      | 43.02 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 24.53 ASH % - 30.07 |       |         |      |
|----------|----------|-----------|-------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     |          | 8.80      | 2.64  | 8.80        | 2.64  | 91.20                                   | 32.16 | 0.0     | 0.0  |
| 1.45     |          | 7.46      | 6.03  | 16.26       | 4.20  | 83.74                                   | 34.49 | 0.0     | 0.0  |
| 1.50     |          | 11.60     | 10.92 | 27.86       | 7.00  | 72.14                                   | 38.28 | 0.0     | 0.0  |
| 1.55     |          | 9.61      | 16.06 | 37.47       | 9.32  | 62.53                                   | 41.69 | 0.0     | 0.0  |
| 1.60     |          | 7.82      | 20.10 | 45.29       | 11.18 | 54.71                                   | 44.78 | 0.0     | 0.0  |
| 1.70     |          | 14.18     | 26.27 | 59.47       | 14.78 | 40.53                                   | 51.26 | 0.0     | 0.0  |
| 1.80     |          | 12.55     | 32.75 | 72.02       | 17.91 | 27.98                                   | 59.56 | 0.0     | 0.0  |
| 2.00     |          | 9.38      | 43.45 | 81.40       | 20.85 | 18.60                                   | 67.68 | 0.0     | 0.0  |
| 2.60     |          | 18.60     | 67.68 | 100.00      | 29.56 | 0.0                                     | 0.0   | 0.0     | 0.0  |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87006 SEAM - H/I

SAMPLE ID - 30

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 4.03 ASH % - 30.04 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 7.69      | 5.42  | 7.69        | 5.42  | 92.31               | 31.74 | 0.0                | 0.0  |
| 1.45     |          | 9.83      | 5.82  | 17.52       | 5.64  | 82.48               | 34.83 | 0.0                | 0.0  |
| 1.50     |          | 13.14     | 8.40  | 30.66       | 6.83  | 69.34               | 39.83 | 0.0                | 0.0  |
| 1.55     |          | 7.37      | 13.75 | 38.03       | 8.17  | 61.97               | 42.94 | 0.0                | 0.0  |
| 1.60     |          | 8.44      | 16.87 | 46.47       | 9.75  | 53.53               | 47.05 | 0.0                | 0.0  |
| 1.70     |          | 13.35     | 22.77 | 59.82       | 12.65 | 40.18               | 55.11 | 0.0                | 0.0  |
| 1.80     |          | 7.26      | 29.12 | 67.08       | 14.44 | 32.92               | 60.85 | 0.0                | 0.0  |
| 2.00     |          | 9.83      | 38.59 | 76.91       | 17.52 | 23.09               | 70.32 | 0.0                | 0.0  |
| 2.60     |          | 23.09     | 70.32 | 100.00      | 29.71 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.16 ASH % - 37.03 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 37.03 | 100.00      | 37.03 | 0.0                 | 0.0  | 18.93              | 18.93 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87006  
 Coal zone: H/1  
 Field sample no.: 07150 Composite sample no.: 215

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 14.24  
 Total yield (%): 14.24

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.78                 |                  |
| Ash (%):                       | 10.75                | 10.83            |
| Volatile matter (%):           | 5.96                 | 6.01             |
| Fixed carbon (%):              | 82.51                | 83.16            |
| Total sulphur (%):             | 0.77                 | 0.78             |
| Combustible sulphur (%):       | 0.75                 |                  |
| Gross calorific value (cal/g): | 7,519.00             | 7,578.00         |
| Volatile matter (dmmf %):      | 5.50                 |                  |
| Hardgrove index:               | 40.00                |                  |
| Phosphorous in coal (%):       | 0.050                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,124.00             | 1,103.00            |
| Softening temperature (°C):     | 1,432.00             | 1,261.00            |
| Hemispherical temperature (°C): | 1,472.00             | 1,327.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 55.92 | TiO2 (%): | 1.49 |
| Al2O3 (%): | 24.57 | Na2O (%): | 2.35 |
| Fe2O3 (%): | 4.24  | K2O (%):  | 1.90 |
| CaO (%):   | 2.04  | SO3 (%):  | 0.37 |
| MgO (%):   | 1.95  | P2O5 (%): | 1.07 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87006  
 Coal zone: H/1  
 Field sample no.: 07150 Composite sample no.: 410

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 9.16  
 Total yield (%): 9.16

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.81                 |                  |
| Ash (%):                       | 7.08                 | 7.14             |
| Volatile matter (%):           | 5.98                 | 6.03             |
| Fixed carbon (%):              | 86.13                | 86.83            |
| Total sulphur (%):             | 1.24                 | 1.25             |
| Combustible sulphur (%):       | 1.23                 |                  |
| Gross calorific value (cal/g): | 7,775.00             | 7,838.00         |
| Volatile matter (dmmf %):      | 5.50                 |                  |
| Hardgrove index:               | 48.00                |                  |
| Phosphorous in coal (%):       | 0.057                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,156.00             | 1,135.00            |
| Softening temperature (°C):     | 1,327.00             | 1,156.00            |
| Hemispherical temperature (°C): | 1,364.00             | 1,169.00            |
| Final temperature (°C):         | 1,432.00             | 1,353.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 50.56 | TiO2 (%): | 2.40 |
| Al2O3 (%): | 22.17 | Na2O (%): | 1.85 |
| Fe2O3 (%): | 10.18 | K2O (%):  | 1.24 |
| CaO (%):   | 2.80  | SO3 (%):  | 0.36 |
| MgO (%):   | 1.69  | P2O5 (%): | 1.83 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87006 SEAM - H

SAMPLE ID - 31

WASHABILITY ID - WA1

| ANALYSIS TYPE - FLOAT |           |         |             |   |            |       |         |      |  |
|-----------------------|-----------|---------|-------------|---|------------|-------|---------|------|--|
| FRACTION              | SIZE(MM)  | 35.00 X | 6.00        | RELATIVE WEIGHT % - 47.08 ASH % - 21.60 |            |       |         |      |  |
| S.G.TME               | ELEMENTAL |         | CUM. FLOATS |   | CUM. SINKS |       | C.V.    | CUM. |  |
|                       | WT%       | ASH%    | WT%         | ASH%                                    | WT%        | ASH%  | (MJ KG) | C.V. |  |
| 1.40                  | 5.02      | 2.73    | 5.02        | 2.73                                    | 94.98      | 21.36 | 0.0     | 0.0  |  |
| 1.45                  | 21.24     | 6.91    | 26.26       | 6.11                                    | 73.74      | 25.52 | 0.0     | 0.0  |  |
| 1.50                  | 33.02     | 11.03   | 59.28       | 8.85                                    | 40.72      | 37.27 | 0.0     | 0.0  |  |
| 1.55                  | 13.08     | 15.60   | 72.36       | 10.07                                   | 27.64      | 47.52 | 0.0     | 0.0  |  |
| 1.60                  | 2.92      | 20.29   | 75.28       | 10.47                                   | 24.72      | 50.74 | 0.0     | 0.0  |  |
| 1.70                  | 4.67      | 28.98   | 79.95       | 11.55                                   | 20.05      | 55.81 | 0.0     | 0.0  |  |
| 1.80                  | 2.94      | 33.88   | 82.89       | 12.34                                   | 17.11      | 59.57 | 0.0     | 0.0  |  |
| 2.00                  | 3.01      | 44.08   | 85.90       | 13.45                                   | 14.10      | 62.88 | 0.0     | 0.0  |  |
| 2.60                  | 14.10     | 62.88   | 100.00      | 20.42                                   | 0.0        | 0.0   | 0.0     | 0.0  |  |

| ANALYSIS TYPE - FLOAT |           |        |             |   |            |       |         |      |  |
|-----------------------|-----------|--------|-------------|---|------------|-------|---------|------|--|
| FRACTION              | SIZE(MM)  | 6.00 X | 0.50        | RELATIVE WEIGHT % - 36.47 ASH % - 14.47 |            |       |         |      |  |
| S.G.TME               | ELEMENTAL |        | CUM. FLOATS |   | CUM. SINKS |       | C.V.    | CUM. |  |
|                       | WT%       | ASH%   | WT%         | ASH%                                    | WT%        | ASH%  | (MJ KG) | C.V. |  |
| 1.40                  | 10.20     | 2.05   | 10.20       | 2.05                                    | 89.80      | 15.44 | 0.0     | 0.0  |  |
| 1.45                  | 30.06     | 5.49   | 40.26       | 4.62                                    | 59.74      | 20.45 | 0.0     | 0.0  |  |
| 1.50                  | 25.37     | 10.33  | 65.63       | 6.83                                    | 34.37      | 27.92 | 0.0     | 0.0  |  |
| 1.55                  | 11.53     | 15.16  | 77.16       | 8.07                                    | 22.84      | 34.36 | 0.0     | 0.0  |  |
| 1.60                  | 4.37      | 18.33  | 81.53       | 8.62                                    | 18.47      | 38.15 | 0.0     | 0.0  |  |
| 1.70                  | 2.43      | 23.53  | 83.96       | 9.05                                    | 16.04      | 40.36 | 0.0     | 0.0  |  |
| 1.80                  | 6.64      | 30.86  | 90.60       | 10.65                                   | 9.40       | 47.07 | 0.0     | 0.0  |  |
| 2.00                  | 5.68      | 39.84  | 96.28       | 12.37                                   | 3.72       | 58.12 | 0.0     | 0.0  |  |
| 2.60                  | 3.72      | 58.12  | 100.00      | 14.07                                   | 0.0        | 0.0   | 0.0     | 0.0  |  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87006 SEAM - H

SAMPLE ID - 31

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - 10.21 ASH % - 15.07 |       |         |      |
|----------|----------|-----------|-------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     |          | 9.33      | 2.89  | 9.33        | 2.89  | 90.67                                   | 15.26 | 0.0     | 0.0  |
| 1.45     |          | 26.31     | 4.24  | 35.64       | 3.89  | 64.36                                   | 19.76 | 0.0     | 0.0  |
| 1.50     |          | 20.13     | 7.67  | 55.77       | 5.25  | 44.23                                   | 25.27 | 0.0     | 0.0  |
| 1.55     |          | 8.40      | 12.79 | 64.17       | 6.24  | 35.83                                   | 28.19 | 0.0     | 0.0  |
| 1.60     |          | 8.62      | 13.49 | 72.79       | 7.10  | 27.21                                   | 32.85 | 0.0     | 0.0  |
| 1.70     |          | 11.76     | 17.51 | 84.55       | 8.55  | 15.45                                   | 44.52 | 0.0     | 0.0  |
| 1.80     |          | 5.01      | 25.47 | 89.56       | 9.49  | 10.44                                   | 53.66 | 0.0     | 0.0  |
| 2.00     |          | 3.97      | 35.63 | 93.53       | 10.60 | 6.47                                    | 64.73 | 0.0     | 0.0  |
| 2.60     |          | 6.47      | 64.73 | 100.00      | 14.10 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - 6.24 ASH % - 22.70 |      |         |       |
|----------|----------|-----------|-------|-------------|-------|--|------|---------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                             |      | C.V.    | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                    | ASH% | (MJ KG) | C.V.  |
| 240.00   |          | 100.00    | 22.70 | 100.00      | 22.70 | 0.0                                    | 0.0  | 25.47   | 25.47 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87006  
 Coal zone: H  
 Field sample no.: 06821 Composite sample no.: 216

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.76  
 Contribution (%): 8.89  
 Total yield (%): 8.89

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.66                 |                  |
| Ash (%):                       | 12.04                | 12.12            |
| Volatile matter (%):           | 6.28                 | 6.32             |
| Fixed carbon (%):              | 81.02                | 81.56            |
| Total sulphur (%):             | 0.52                 | 0.52             |
| Combustible sulphur (%):       | 0.49                 |                  |
| Gross calorific value (cal/g): | 7,299.00             | 7,347.00         |
| Volatile matter (dmmf %):      | 6.00                 |                  |
| Hardgrove index:               | 47.00                |                  |
| Phosphorous in coal (%):       | 0.287                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,256.00             | 1,209.00            |
| Softening temperature (°C):     | 1,290.00             | 1,282.00            |
| Hemispherical temperature (°C): | 1,295.00             | 1,292.00            |
| Final temperature (°C):         | 1,409.00             | 1,401.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 46.97 | TiO2 (%): | 2.18 |
| Al2O3 (%): | 24.19 | Na2O (%): | 2.37 |
| Fe2O3 (%): | 2.66  | K2O (%):  | 1.51 |
| CaO (%):   | 7.58  | SO3 (%):  | 0.60 |
| MgO (%):   | 1.65  | P2O5 (%): | 5.46 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87006  
 Coal zone: H  
 Field sample no.: 06821 Composite sample no.: 411

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 25.59  
 Total yield (%): 25.59

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.73                 |                  |
| Ash (%):                       | 7.51                 | 7.57             |
| Volatile matter (%):           | 5.95                 | 5.99             |
| Fixed carbon (%):              | 85.81                | 86.44            |
| Total sulphur (%):             | 0.54                 | 0.54             |
| Combustible sulphur (%):       | 0.53                 |                  |
| Gross calorific value (cal/g): | 7,722.00             | 7,779.00         |
| Volatile matter (dmmf %):      | 5.70                 |                  |
| Hardgrove index:               | 55.00                |                  |
| Phosphorous in coal (%):       | 0.127                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,214.00             | 1,161.00            |
| Softening temperature (°C):     | 1,295.00             | 1,285.00            |
| Hemispherical temperature (°C): | 1,324.00             | 1,317.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 47.32 | TiO2 (%): | 1.84 |
| Al2O3 (%): | 28.43 | Na2O (%): | 2.34 |
| Fe2O3 (%): | 4.16  | K2O (%):  | 1.60 |
| CaO (%):   | 5.18  | SO3 (%):  | 0.48 |
| MgO (%):   | 0.97  | P2O5 (%): | 3.88 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87007 SEAM - I

SAMPLE ID - 33

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 35.00 X |       | 6.00        |       | RELATIVE WEIGHT % - 50.38 |       | ASH % - 59.22 |      |
|---------------------|------------------|-------|-------------|-------|---------------------------|-------|---------------|------|
|                     | ELEMENTAL        |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
|                     | WT%              | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.45                | 0.84             | 4.87  | 0.84        | 4.87  | 99.16                     | 59.93 | 0.0           | 0.0  |
| 1.50                | 2.36             | 12.66 | 3.20        | 10.62 | 96.80                     | 61.08 | 0.0           | 0.0  |
| 1.55                | 1.89             | 14.65 | 5.09        | 12.11 | 94.91                     | 62.00 | 0.0           | 0.0  |
| 1.60                | 8.07             | 19.89 | 13.16       | 16.88 | 86.84                     | 65.92 | 0.0           | 0.0  |
| 1.70                | 13.65            | 26.88 | 26.81       | 21.97 | 73.19                     | 73.20 | 0.0           | 0.0  |
| 1.80                | 8.87             | 36.93 | 35.68       | 25.69 | 64.32                     | 78.20 | 0.0           | 0.0  |
| 2.00                | 10.67            | 50.05 | 46.35       | 31.30 | 53.65                     | 83.80 | 0.0           | 0.0  |
| 2.60                | 53.65            | 83.80 | 100.00      | 59.47 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 6.00 X |       | 0.50        |       | RELATIVE WEIGHT % - 30.13 |       | ASH % - 42.54 |      |
|---------------------|-----------------|-------|-------------|-------|---------------------------|-------|---------------|------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40                | 0.02            | 14.00 | 0.02        | 14.00 | 99.98                     | 41.56 | 0.0           | 0.0  |
| 1.45                | 10.98           | 2.19  | 11.00       | 2.21  | 89.00                     | 46.41 | 0.0           | 0.0  |
| 1.50                | 12.76           | 6.34  | 23.76       | 4.43  | 76.24                     | 53.12 | 0.0           | 0.0  |
| 1.55                | 6.85            | 12.41 | 30.61       | 6.21  | 69.39                     | 57.14 | 0.0           | 0.0  |
| 1.60                | 4.77            | 17.60 | 35.38       | 7.75  | 64.62                     | 60.06 | 0.0           | 0.0  |
| 1.70                | 9.30            | 24.62 | 44.68       | 11.26 | 55.32                     | 66.01 | 0.0           | 0.0  |
| 1.80                | 8.61            | 33.52 | 53.29       | 14.86 | 46.71                     | 72.00 | 0.0           | 0.0  |
| 2.00                | 12.28           | 45.24 | 65.57       | 20.55 | 34.43                     | 81.55 | 0.0           | 0.0  |
| 2.60                | 34.43           | 81.55 | 100.00      | 41.55 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87007 SEAM - I

SAMPLE ID - 33

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 12.10   | ASH % - | 29.46 |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|---------|---------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.    | CUM.    |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG) | C.V.    |       |
| 1.40     |          | 0.23      | 18.75 | 0.23        | 18.75 | 99.77               | 30.32 | 0.0     | 0.0     |       |
| 1.45     |          | 13.59     | 2.41  | 13.82       | 2.68  | 86.18               | 34.72 | 0.0     | 0.0     |       |
| 1.50     |          | 13.61     | 4.51  | 27.43       | 3.59  | 72.57               | 40.39 | 0.0     | 0.0     |       |
| 1.55     |          | 12.63     | 9.33  | 40.06       | 5.40  | 59.94               | 46.93 | 0.0     | 0.0     |       |
| 1.60     |          | 7.61      | 13.35 | 47.67       | 6.67  | 52.33               | 51.81 | 0.0     | 0.0     |       |
| 1.70     |          | 7.39      | 19.77 | 55.06       | 8.43  | 44.94               | 57.08 | 0.0     | 0.0     |       |
| 1.80     |          | 9.15      | 26.13 | 64.21       | 10.95 | 35.79               | 65.00 | 0.0     | 0.0     |       |
| 2.00     |          | 9.29      | 39.86 | 73.50       | 14.60 | 26.50               | 73.81 | 0.0     | 0.0     |       |
| 2.60     |          | 26.50     | 73.81 | 100.00      | 30.29 | 0.0                 | 0.0   | 0.0     | 0.0     |       |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 7.39    | ASH % - | 29.93 |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|---------|---------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.    | CUM.    |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG) | C.V.    |       |
| 240.00   |          | 100.00    | 29.93 | 100.00      | 29.93 | 0.0                 | 0.0  | 22.26   | 22.26   |       |



===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87007  
 Coal zone: 1  
 Field sample no.: 06841 Composite sample no.: 217

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.46  
 Contribution (%): 0.81  
 Total yield (%): 0.81

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.82                 |                  |
| Ash (%):                       | 5.78                 | 5.83             |
| Volatile matter (%):           | 5.16                 | 5.20             |
| Fixed carbon (%):              | 88.24                | 88.97            |
| Total sulphur (%):             | 0.62                 | 0.63             |
| Combustible sulphur (%):       | 0.62                 |                  |
| Gross calorific value (cal/g): | 7,968.00             | 8,034.00         |
| Volatile matter (dmmf %):      | 4.90                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.071                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,206.00             | 1,194.00            |
| Softening temperature (°C):     | 1,287.00             | 1,258.00            |
| Hemispherical temperature (°C): | 1,310.00             | 1,276.00            |
| Final temperature (°C):         | 1,419.00             | 1,410.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 49.56 | TiO2 (%): | 1.86 |
| Al2O3 (%): | 25.23 | Na2O (%): | 2.28 |
| Fe2O3 (%): | 4.27  | K2O (%):  | 1.20 |
| CaO (%):   | 3.99  | SO3 (%):  | 0.14 |
| MgO (%):   | 4.07  | P2O5 (%): | 2.83 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87007  
 Coal zone: 1  
 Field sample no.: 06841 Composite sample no.: 412

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.59  
 Contribution (%): 10.51  
 Total yield (%): 10.51

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.80                 |                  |
| Ash (%):                       | 7.52                 | 7.58             |
| Volatile matter (%):           | 5.34                 | 5.38             |
| Fixed carbon (%):              | 86.34                | 87.04            |
| Total sulphur (%):             | 0.56                 | 0.56             |
| Combustible sulphur (%):       | 0.56                 |                  |
| Gross calorific value (cal/g): | 7,763.00             | 7,826.00         |
| Volatile matter (dmmf %):      | 5.00                 |                  |
| Hardgrove index:               | 42.00                |                  |
| Phosphorous in coal (%):       | 0.109                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,201.00             | 1,148.00            |
| Softening temperature (°C):     | 1,324.00             | 1,261.00            |
| Hemispherical temperature (°C): | 1,353.00             | 1,274.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 51.60 | TiO2 (%): | 2.81 |
| Al2O3 (%): | 24.19 | Na2O (%): | 2.70 |
| Fe2O3 (%): | 2.91  | K2O (%):  | 1.51 |
| CaO (%):   | 4.65  | SO3 (%):  | 0.11 |
| MgO (%):   | 1.96  | P2O5 (%): | 3.32 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87007 SEAM - H/H LOW

SAMPLE ID - 34

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 43.48 |       | ASH % - 63.60 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 0.68      | 15.39 | 0.68        | 15.39 | 99.32                     | 64.59 | 0.0           | 0.0  |
| 1.45     |          | 0.38      | 6.08  | 1.06        | 12.05 | 98.94                     | 64.81 | 0.0           | 0.0  |
| 1.50     |          | 2.73      | 10.48 | 3.79        | 10.92 | 96.21                     | 66.35 | 0.0           | 0.0  |
| 1.55     |          | 6.71      | 18.45 | 10.50       | 15.73 | 89.50                     | 69.95 | 0.0           | 0.0  |
| 1.60     |          | 6.59      | 22.17 | 17.09       | 18.21 | 82.91                     | 73.74 | 0.0           | 0.0  |
| 1.70     |          | 9.83      | 28.35 | 26.92       | 21.92 | 73.08                     | 79.85 | 0.0           | 0.0  |
| 1.80     |          | 2.89      | 37.73 | 29.81       | 23.45 | 70.19                     | 81.58 | 0.0           | 0.0  |
| 2.00     |          | 8.23      | 49.69 | 38.04       | 29.13 | 61.96                     | 85.82 | 0.0           | 0.0  |
| 2.60     |          | 61.96     | 85.82 | 100.00      | 64.25 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 30.22 |       | ASH % - 42.92 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 0.05      | 11.23 | 0.05        | 11.23 | 99.95                     | 42.02 | 0.0           | 0.0  |
| 1.45     |          | 4.62      | 2.30  | 4.67        | 2.40  | 95.33                     | 43.95 | 0.0           | 0.0  |
| 1.50     |          | 11.13     | 6.77  | 15.80       | 5.48  | 84.20                     | 48.86 | 0.0           | 0.0  |
| 1.55     |          | 6.52      | 12.93 | 22.32       | 7.65  | 77.68                     | 51.87 | 0.0           | 0.0  |
| 1.60     |          | 8.12      | 17.61 | 30.44       | 10.31 | 69.56                     | 55.87 | 0.0           | 0.0  |
| 1.70     |          | 15.65     | 22.95 | 46.09       | 14.60 | 53.91                     | 65.43 | 0.0           | 0.0  |
| 1.80     |          | 8.36      | 30.57 | 54.45       | 17.05 | 45.55                     | 71.83 | 0.0           | 0.0  |
| 2.00     |          | 8.77      | 40.76 | 63.22       | 20.34 | 36.78                     | 79.24 | 0.0           | 0.0  |
| 2.60     |          | 36.78     | 79.24 | 100.00      | 42.00 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87007 SEAM - H/H LOW

SAMPLE ID - 34

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - 14.49 |       | ASH % - 25.08 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 2.03      | 3.16  | 2.03        | 3.16  | 97.97                     | 24.66 | 0.0           | 0.0  |
| 1.45     |          | 8.50      | 2.91  | 10.53       | 2.96  | 89.47                     | 26.72 | 0.0           | 0.0  |
| 1.50     |          | 23.21     | 4.53  | 33.74       | 4.04  | 66.26                     | 34.50 | 0.0           | 0.0  |
| 1.55     |          | 13.40     | 9.26  | 47.14       | 5.52  | 52.86                     | 40.89 | 0.0           | 0.0  |
| 1.60     |          | 6.51      | 12.77 | 53.65       | 6.40  | 46.35                     | 44.84 | 0.0           | 0.0  |
| 1.70     |          | 11.37     | 17.16 | 65.02       | 8.28  | 34.98                     | 53.84 | 0.0           | 0.0  |
| 1.80     |          | 9.25      | 24.60 | 74.27       | 10.32 | 25.73                     | 64.35 | 0.0           | 0.0  |
| 2.00     |          | 6.01      | 36.48 | 80.28       | 12.27 | 19.72                     | 72.85 | 0.0           | 0.0  |
| 2.60     |          | 19.72     | 72.85 | 100.00      | 24.22 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - 11.81 |      | ASH % - 22.53 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------------|------|---------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |      | C.V.          |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH% | (MJ KG)       | C.V.  |
| 240.00   |          | 100.00    | 22.53 | 100.00      | 22.53 | 0.0                       | 0.0  | 24.36         | 24.36 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87007 SEAM - H/H LOW

SAMPLE ID - 36

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 35.00 X          |        | 6.00               |       | RELATIVE WEIGHT % - 47.45 |      | ASH % - 48.67   |              |
|---------------------|----------|------------------|--------|--------------------|-------|---------------------------|------|-----------------|--------------|
|                     |          | ELEMENTAL<br>WT% | ASH%   | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%         | ASH% | C.V.<br>(MJ KG) | CUM.<br>C.V. |
| 1.40                | 0.69     | 9.11             | 0.69   | 9.11               | 99.31 | 49.76                     | 0.0  | 0.0             |              |
| 1.45                | 0.45     | 6.97             | 1.14   | 8.27               | 98.86 | 49.96                     | 0.0  | 0.0             |              |
| 1.50                | 1.46     | 9.79             | 2.60   | 9.12               | 97.40 | 50.56                     | 0.0  | 0.0             |              |
| 1.55                | 2.96     | 16.51            | 5.56   | 13.05              | 94.44 | 51.63                     | 0.0  | 0.0             |              |
| 1.60                | 6.00     | 21.88            | 11.56  | 17.64              | 88.44 | 53.64                     | 0.0  | 0.0             |              |
| 1.70                | 17.57    | 28.88            | 29.13  | 24.42              | 70.87 | 59.78                     | 0.0  | 0.0             |              |
| 1.80                | 19.64    | 37.99            | 48.77  | 29.88              | 51.23 | 68.14                     | 0.0  | 0.0             |              |
| 2.00                | 18.14    | 49.04            | 66.91  | 35.08              | 33.09 | 78.61                     | 0.0  | 0.0             |              |
| 2.60                | 33.09    | 78.61            | 100.00 | 49.48              | 0.0   | 0.0                       | 0.0  | 0.0             |              |

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 6.00 X           |        | 0.50               |       | RELATIVE WEIGHT % - 31.14 |      | ASH % - 36.60   |              |
|---------------------|----------|------------------|--------|--------------------|-------|---------------------------|------|-----------------|--------------|
|                     |          | ELEMENTAL<br>WT% | ASH%   | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%         | ASH% | C.V.<br>(MJ KG) | CUM.<br>C.V. |
| 1.40                | 1.39     | 3.25             | 1.39   | 3.25               | 98.61 | 36.16                     | 0.0  | 0.0             |              |
| 1.45                | 4.12     | 4.00             | 5.51   | 3.81               | 94.49 | 37.56                     | 0.0  | 0.0             |              |
| 1.50                | 5.56     | 9.02             | 11.07  | 6.43               | 88.93 | 39.35                     | 0.0  | 0.0             |              |
| 1.55                | 6.67     | 13.61            | 17.74  | 9.13               | 82.26 | 41.43                     | 0.0  | 0.0             |              |
| 1.60                | 6.89     | 17.37            | 24.63  | 11.43              | 75.37 | 43.63                     | 0.0  | 0.0             |              |
| 1.70                | 17.30    | 23.93            | 41.93  | 16.59              | 58.07 | 49.51                     | 0.0  | 0.0             |              |
| 1.80                | 16.38    | 31.55            | 58.31  | 20.79              | 41.69 | 56.56                     | 0.0  | 0.0             |              |
| 2.00                | 19.03    | 41.83            | 77.34  | 25.97              | 22.66 | 68.93                     | 0.0  | 0.0             |              |
| 2.60                | 22.66    | 68.93            | 100.00 | 35.70              | 0.0   | 0.0                       | 0.0  | 0.0             |              |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87007 SEAM - H/H LOW

SAMPLE ID - 36

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) | 0.50 X |       | 0.15   |       | RELATIVE WEIGHT % - 11.65 ASH % - 24.42 |       | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|-------------------|--------|-------|--------|-------|---|-------|-----------------|--------------|
|                   | WT%    | ASH%  | WT%    | ASH%  | WT%                                     | ASH%  |                 |              |
| S.G.TME           |        |       |        |       |   |       |                 |              |
| 1.40              | 1.26   | 4.23  | 1.26   | 4.23  | 98.74                                   | 23.80 | 0.0             | 0.0          |
| 1.45              | 20.47  | 3.48  | 21.73  | 3.52  | 78.27                                   | 29.12 | 0.0             | 0.0          |
| 1.50              | 14.12  | 6.49  | 35.85  | 4.69  | 64.15                                   | 34.10 | 0.0             | 0.0          |
| 1.55              | 11.35  | 10.36 | 47.20  | 6.05  | 52.80                                   | 39.20 | 0.0             | 0.0          |
| 1.60              | 5.95   | 14.39 | 53.15  | 6.99  | 46.85                                   | 42.36 | 0.0             | 0.0          |
| 1.70              | 11.82  | 18.65 | 64.97  | 9.11  | 35.03                                   | 50.35 | 0.0             | 0.0          |
| 1.80              | 8.05   | 25.33 | 73.02  | 10.90 | 26.98                                   | 57.82 | 0.0             | 0.0          |
| 2.00              | 10.23  | 37.52 | 83.25  | 14.17 | 16.75                                   | 70.22 | 0.0             | 0.0          |
| 2.60              | 16.75  | 70.22 | 100.00 | 23.56 | 0.0                                     | 0.0   | 0.0             | 0.0          |

ANALYSIS TYPE - FROTH

| FRACTION SIZE(MM) | 0.15 X |       | 0.00   |       | RELATIVE WEIGHT % - 9.76 ASH % - 27.36 |      | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|-------------------|--------|-------|--------|-------|--|------|-----------------|--------------|
|                   | WT%    | ASH%  | WT%    | ASH%  | WT%                                    | ASH% |                 |              |
| S.G.TME           |        |       |        |       |  |      |                 |              |
| 240.00            | 100.00 | 27.36 | 100.00 | 27.36 | 0.0                                    | 0.0  | 23.27           | 23.27        |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87007  
 Coal zone: H  
 Field sample no.: 06844 Composite sample no.: 218

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 2.59  
 Total yield (%): 2.59

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.90                 |                  |
| Ash (%):                       | 10.61                | 10.71            |
| Volatile matter (%):           | 7.18                 | 7.25             |
| Fixed carbon (%):              | 81.31                | 82.04            |
| Total sulphur (%):             | 0.53                 | 0.53             |
| Combustible sulphur (%):       | 0.51                 |                  |
| Gross calorific value (cal/g): | 7,416.00             | 7,484.00         |
| Volatile matter (dmmf %):      | 7.10                 |                  |
| Hardgrove index:               | 49.00                |                  |
| Phosphorous in coal (%):       | 0.094                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,232.00             | 1,122.00            |
| Softening temperature (°C):     | 1,293.00             | 1,258.00            |
| Hemispherical temperature (°C): | 1,301.00             | 1,277.00            |
| Final temperature (°C):         | 1,401.00             | 1,390.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 56.85 | TiO2 (%): | 1.73 |
| Al2O3 (%): | 22.50 | Na2O (%): | 1.85 |
| Fe2O3 (%): | 2.71  | K2O (%):  | 0.97 |
| CaO (%):   | 5.17  | SO3 (%):  | 0.49 |
| MgO (%):   | 1.13  | P2O5 (%): | 2.04 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87007  
 Coal zone: H  
 Field sample no.: 06844 Composite sample no.: 413

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.55  
 Contribution (%): 6.20  
 Total yield (%): 6.20

|                              | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|------------------------------|----------------------|------------------|
| Proximate analysis           |                      |                  |
| Residual moisture (%):       | 0.81                 |                  |
| Ash (%):                     | 6.91                 | 6.97             |
| Volatile matter (%):         | 6.23                 | 6.28             |
| Fixed carbon (%):            | 86.05                | 86.75            |
| Total sulphur (%):           | 0.87                 | 0.88             |
| Combustible sulphur (%):     | 0.87                 |                  |
| Net calorific value (cal/g): | 7,729.00             | 0.00             |
| Volatile matter (dmmf %):    | 5.90                 |                  |
| Hardgrove index:             | 51.00                |                  |
| Phosphorous in coal (%):     | 0.092                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,235.00             | 1,143.00            |
| Softening temperature (°C):     | 1,293.00             | 1,208.00            |
| Hemispherical temperature (°C): | 1,303.00             | 1,232.00            |
| Final temperature (°C):         | 1,393.00             | 1,390.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 51.52 | TiO2 (%): | 4.43 |
| Al2O3 (%): | 21.10 | Na2O (%): | 1.90 |
| Fe2O3 (%): | 6.41  | K2O (%):  | 0.96 |
| CaO (%):   | 5.09  | SO3 (%):  | 0.11 |
| MgO (%):   | 1.22  | P2O5 (%): | 3.05 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87007  
 Coal zone: H (low)  
 Field sample no.: 06846 Composite sample no.: 219

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 1.59  
 Total yield (%): 1.59

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.86                 |                  |
| Ash (%):                       | 11.48                | 11.58            |
| Volatile matter (%):           | 7.13                 | 7.19             |
| Fixed carbon (%):              | 80.53                | 81.23            |
| Total sulphur (%):             | 0.90                 | 0.91             |
| Combustible sulphur (%):       | 0.89                 |                  |
| Gross calorific value (cal/g): | 7,352.00             | 7,416.00         |
| Volatile matter (dmmf %):      | 6.80                 |                  |
| Hardgrove index:               | 49.00                |                  |
| Phosphorous in coal (%):       | 0.061                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,266.00             | 1,220.00            |
| Softening temperature (°C):     | 1,327.00             | 1,251.00            |
| Hemispherical temperature (°C): | 1,353.00             | 1,261.00            |
| Final temperature (°C):         | 1,414.00             | 1,382.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 62.42 | TiO2 (%): | 1.30 |
| Al2O3 (%): | 18.20 | Na2O (%): | 1.31 |
| Fe2O3 (%): | 5.60  | K2O (%):  | 0.75 |
| CaO (%):   | 3.36  | SO3 (%):  | 0.32 |
| MgO (%):   | 1.23  | P2O5 (%): | 1.22 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87007  
 Coal zone: H (low)  
 Field sample no.: 06846 Composite sample no.: 414

----- PRODUCT COAL ANALYSIS (SP3) -----  
 Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 4.36  
 Total yield (%): 4.36

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.81                 |                  |
| Ash (%):                       | 7.36                 | 7.42             |
| Volatile matter (%):           | 5.71                 | 5.76             |
| Fixed carbon (%):              | 86.12                | 86.82            |
| Total sulphur (%):             | 0.63                 | 0.64             |
| Combustible sulphur (%):       | 0.63                 |                  |
| Gross calorific value (cal/g): | 7,696.00             | 7,759.00         |
| Volatile matter (dmmf %):      | 5.40                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.025                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,261.00             | 1,219.00            |
| Softening temperature (°C):     | 1,411.00             | 1,353.00            |
| Hemispherical temperature (°C): | 1,419.00             | 1,382.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 68.68 | TiO2 (%): | 2.13 |
| Al2O3 (%): | 16.26 | Na2O (%): | 1.31 |
| Fe2O3 (%): | 2.25  | K2O (%):  | 0.72 |
| CaO (%):   | 1.65  | SO3 (%):  | 0.13 |
| MgO (%):   | 2.84  | P2O5 (%): | 0.78 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87007 SEAM - PH

SAMPLE ID - 37

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 63.36 ASH % - 45.90 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.45     | 0.01                  | 2.46  | 0.01      | 2.46  | 99.99       | 47.39 | 0.0        | 0.0  |   |           |
| 1.50     | 0.59                  | 10.75 | 0.60      | 10.61 | 99.40       | 47.61 | 0.0        | 0.0  |   |           |
| 1.55     | 0.80                  | 13.16 | 1.40      | 12.07 | 98.60       | 47.89 | 0.0        | 0.0  |   |           |
| 1.60     | 8.81                  | 20.36 | 10.21     | 19.22 | 89.79       | 50.59 | 0.0        | 0.0  |   |           |
| 1.70     | 22.96                 | 26.09 | 33.17     | 23.98 | 66.83       | 59.01 | 0.0        | 0.0  |   |           |
| 1.80     | 15.54                 | 36.02 | 48.71     | 27.82 | 51.29       | 65.97 | 0.0        | 0.0  |   |           |
| 2.00     | 15.97                 | 44.63 | 64.68     | 31.97 | 35.32       | 75.62 | 0.0        | 0.0  |   |           |
| 2.60     | 35.32                 | 75.62 | 100.00    | 47.39 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 25.90 ASH % - 54.75 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.45     | 1.26                 | 3.37  | 1.26      | 3.37  | 98.74       | 54.37 | 0.0        | 0.0  |   |           |
| 1.50     | 0.98                 | 6.56  | 2.24      | 4.77  | 97.76       | 54.85 | 0.0        | 0.0  |   |           |
| 1.55     | 1.13                 | 11.97 | 3.37      | 7.18  | 96.63       | 55.35 | 0.0        | 0.0  |   |           |
| 1.60     | 3.00                 | 16.26 | 6.37      | 11.46 | 93.63       | 56.60 | 0.0        | 0.0  |   |           |
| 1.70     | 10.04                | 21.97 | 16.41     | 17.89 | 83.59       | 60.76 | 0.0        | 0.0  |   |           |
| 1.80     | 11.78                | 29.73 | 28.19     | 22.84 | 71.81       | 65.85 | 0.0        | 0.0  |   |           |
| 2.00     | 18.93                | 42.01 | 47.12     | 30.54 | 52.88       | 74.39 | 0.0        | 0.0  |   |           |
| 2.60     | 52.88                | 74.39 | 100.00    | 53.73 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87007 SEAM - PH

SAMPLE ID - 37

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 6.17 ASH % - 43.46 |      |
|-------------------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|                   | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME           | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.45              | 7.15      | 3.39  | 7.15        | 3.39  | 92.85               | 47.33 | 0.0                | 0.0  |
| 1.50              | 8.92      | 8.27  | 16.07       | 6.10  | 83.93               | 51.48 | 0.0                | 0.0  |
| 1.55              | 5.37      | 8.67  | 21.44       | 6.74  | 78.56               | 54.41 | 0.0                | 0.0  |
| 1.60              | 2.18      | 13.41 | 23.62       | 7.36  | 76.38               | 55.58 | 0.0                | 0.0  |
| 1.70              | 7.91      | 18.14 | 31.53       | 10.06 | 68.47               | 59.91 | 0.0                | 0.0  |
| 1.80              | 9.00      | 25.00 | 40.53       | 13.38 | 59.47               | 65.19 | 0.0                | 0.0  |
| 2.00              | 14.86     | 38.20 | 55.39       | 20.04 | 44.61               | 74.18 | 0.0                | 0.0  |
| 2.60              | 44.61     | 74.18 | 100.00      | 44.19 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 4.57 ASH % - 38.14 |       |
|-------------------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|                   | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME           | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00            | 100.00    | 38.14 | 100.00      | 38.14 | 0.0                 | 0.0  | 19.22              | 19.22 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87007  
 Coal zone: Ph  
 Field sample no.: 06849 Composite sample no.: 220

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.55  
 Contribution (%): 0.53  
 Total yield (%): 0.53

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.86                 |                  |
| Ash (%):                       | 10.35                | 10.44            |
| Volatile matter (%):           | 6.31                 | 6.36             |
| Fixed carbon (%):              | 82.48                | 83.20            |
| Total sulphur (%):             | 0.77                 | 0.78             |
| Combustible sulphur (%):       | 0.76                 |                  |
| Gross calorific value (cal/g): | 7,440.00             | 7,505.00         |
| Volatile matter (dmmf %):      | 6.00                 |                  |
| Hardgrove index:               | 53.00                |                  |
| Phosphorous in coal (%):       | 0.101                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,237.00             | 1,147.00            |
| Softening temperature (°C):     | 1,302.00             | 1,218.00            |
| Hemispherical temperature (°C): | 1,312.00             | 1,246.00            |
| Final temperature (°C):         | 1,403.00             | 1,390.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 51.15 | TiO2 (%): | 0.02 |
| Al2O3 (%): | 25.23 | Na2O (%): | 1.23 |
| Fe2O3 (%): | 5.59  | K2O (%):  | 1.52 |
| CaO (%):   | 4.05  | SO3 (%):  | 0.32 |
| MgO (%):   | 4.31  | P2O5 (%): | 2.23 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87007  
 Coal zone: Ph  
 Field sample no.: 06849 Composite sample no.: 415

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.55  
 Contribution (%): 0.96  
 Total yield (%): 0.96

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.77                 |                  |
| Ash (%):                       | 6.46                 | 6.51             |
| Volatile matter (%):           | 5.67                 | 5.71             |
| Fixed carbon (%):              | 87.10                | 87.78            |
| Total sulphur (%):             | 0.76                 | 0.77             |
| Combustible sulphur (%):       | 0.74                 |                  |
| Gross calorific value (cal/g): | 7,756.00             | 7,816.00         |
| Volatile matter (dmmf %):      | 5.30                 |                  |
| Hardgrove index:               | 57.00                |                  |
| Phosphorous in coal (%):       | 0.035                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,248.00             | 1,138.00            |
| Softening temperature (°C):     | 1,312.00             | 1,207.00            |
| Hemispherical temperature (°C): | 1,317.00             | 1,251.00            |
| Final temperature (°C):         | 1,396.00             | 1,386.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 51.17 | TiO2 (%): | 4.45 |
| Al2O3 (%): | 22.34 | Na2O (%): | 1.37 |
| Fe2O3 (%): | 4.24  | K2O (%):  | 1.36 |
| CaO (%):   | 3.21  | SO3 (%):  | 0.63 |
| MgO (%):   | 5.88  | P2O5 (%): | 1.24 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87007 SEAM - G

SAMPLE ID - 38

WASHABILITY ID - WA1

| ANALYSIS TYPE - FLOAT |           |         |             |   |            |       |         |      |  |
|-----------------------|-----------|---------|-------------|---|------------|-------|---------|------|--|
| FRACTION              | SIZE(MM)  | 35.00 X | 6.00        | RELATIVE WEIGHT % - 56.08 ASH % - 45.02 |            |       |         |      |  |
| S.G. TME              | ELEMENTAL |         | CUM. FLOATS |   | CUM. SINKS |       | C.V.    | CUM. |  |
|                       | WT%       | ASH%    | WT%         | ASH%                                    | WT%        | ASH%  | (MJ KG) | C.V. |  |
| 1.45                  | 1.47      | 2.91    | 1.47        | 2.91                                    | 98.53      | 44.23 | 0.0     | 0.0  |  |
| 1.50                  | 6.20      | 8.02    | 7.67        | 7.04                                    | 92.33      | 46.66 | 0.0     | 0.0  |  |
| 1.55                  | 9.98      | 13.93   | 17.65       | 10.94                                   | 82.35      | 50.63 | 0.0     | 0.0  |  |
| 1.60                  | 6.61      | 19.34   | 24.26       | 13.23                                   | 75.74      | 53.36 | 0.0     | 0.0  |  |
| 1.70                  | 9.99      | 27.16   | 34.25       | 17.29                                   | 65.75      | 57.34 | 0.0     | 0.0  |  |
| 1.80                  | 13.27     | 35.83   | 47.52       | 22.47                                   | 52.48      | 62.78 | 0.0     | 0.0  |  |
| 2.00                  | 15.31     | 43.61   | 62.83       | 27.62                                   | 37.17      | 70.67 | 0.0     | 0.0  |  |
| 2.60                  | 37.17     | 70.67   | 100.00      | 43.62                                   | 0.0        | 0.0   | 0.0     | 0.0  |  |

| ANALYSIS TYPE - FLOAT |           |        |             |   |            |       |         |      |  |
|-----------------------|-----------|--------|-------------|---|------------|-------|---------|------|--|
| FRACTION              | SIZE(MM)  | 6.00 X | 0.50        | RELATIVE WEIGHT % - 32.48 ASH % - 30.37 |            |       |         |      |  |
| S.G. TME              | ELEMENTAL |        | CUM. FLOATS |   | CUM. SINKS |       | C.V.    | CUM. |  |
|                       | WT%       | ASH%   | WT%         | ASH%                                    | WT%        | ASH%  | (MJ KG) | C.V. |  |
| 1.45                  | 11.31     | 2.12   | 11.31       | 2.12                                    | 88.69      | 32.45 | 0.0     | 0.0  |  |
| 1.50                  | 13.00     | 6.13   | 24.31       | 4.26                                    | 75.69      | 36.97 | 0.0     | 0.0  |  |
| 1.55                  | 14.97     | 11.33  | 39.28       | 6.96                                    | 60.72      | 43.29 | 0.0     | 0.0  |  |
| 1.60                  | 8.44      | 16.22  | 47.72       | 8.60                                    | 52.28      | 47.66 | 0.0     | 0.0  |  |
| 1.70                  | 10.80     | 22.87  | 58.52       | 11.23                                   | 41.48      | 54.12 | 0.0     | 0.0  |  |
| 1.80                  | 9.35      | 31.09  | 67.87       | 13.97                                   | 32.13      | 60.82 | 0.0     | 0.0  |  |
| 2.00                  | 12.84     | 41.76  | 80.71       | 18.39                                   | 19.29      | 73.50 | 0.0     | 0.0  |  |
| 2.60                  | 19.29     | 73.50  | 100.00      | 29.02                                   | 0.0        | 0.0   | 0.0     | 0.0  |  |

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDHB7007 SEAM - G

SAMPLE ID - 38

WASHABILITY ID - WA1

----- ANALYSIS TYPE - FLOAT -----

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 7.05 ASH % - 29.90 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.45     | 10.43    | 1.81      |      | 10.43       | 1.81  | 89.57               | 32.88 | 0.0                | 0.0  |
| 1.50     | 15.70    | 4.04      |      | 26.13       | 3.15  | 73.87               | 39.01 | 0.0                | 0.0  |
| 1.55     | 11.61    | 9.10      |      | 37.74       | 4.98  | 62.26               | 44.59 | 0.0                | 0.0  |
| 1.60     | 8.97     | 14.40     |      | 46.71       | 6.79  | 53.29               | 49.67 | 0.0                | 0.0  |
| 1.70     | 10.11    | 19.94     |      | 56.82       | 9.13  | 43.18               | 56.63 | 0.0                | 0.0  |
| 1.80     | 8.16     | 26.04     |      | 64.98       | 11.25 | 35.02               | 63.76 | 0.0                | 0.0  |
| 2.00     | 11.40    | 38.46     |      | 76.38       | 15.31 | 23.62               | 75.97 | 0.0                | 0.0  |
| 2.60     | 23.62    | 75.97     |      | 100.00      | 29.64 | 0.0                 | 0.0   | 0.0                | 0.0  |

----- ANALYSIS TYPE - FROTH -----

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 4.39 ASH % - 33.20 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 33.20     |      | 100.00      | 33.20 | 0.0                 | 0.0  | 20.92              | 20.92 |



===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87007  
 Coal zone: G  
 Field sample no.: 06852 - 06853 Composite sample no.: 221

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.57  
 Contribution (%): 11.71  
 Total yield (%): 11.71

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.00                 |                  |
| Ash (%):                       | 11.00                | 11.11            |
| Volatile matter (%):           | 5.04                 | 5.09             |
| Fixed carbon (%):              | 82.96                | 83.80            |
| Total sulphur (%):             | 0.47                 | 0.47             |
| Combustible sulphur (%):       | 0.46                 |                  |
| Gross calorific value (cal/g): | 7,364.00             | 7,438.00         |
| Volatile matter (dmmf%):       | 4.60                 |                  |
| Hardgrove index:               | 48.00                |                  |
| Phosphorous in coal (%):       | 0.132                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,238.00             | 1,222.00            |
| Softening temperature (°C):     | 1,274.00             | 1,251.00            |
| Hemispherical temperature (°C): | 1,293.00             | 1,266.00            |
| Final temperature (°C):         | 1,369.00             | 1,362.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 62.80 | TiO2 (%): | 1.26 |
| Al2O3 (%): | 18.01 | Na2O (%): | 1.93 |
| Fe2O3 (%): | 1.71  | K2O (%):  | 0.57 |
| CaO (%):   | 4.31  | SO3 (%):  | 0.27 |
| MgO (%):   | 1.56  | P2O5 (%): | 2.75 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87007  
 Coal zone: G  
 Field sample no.: 06852 - 06853 Composite sample no.: 416

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.57  
 Contribution (%): 13.37  
 Total yield (%): 13.37

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.96                 |                  |
| Ash (%):                       | 7.00                 | 7.07             |
| Volatile matter (%):           | 4.67                 | 4.72             |
| Fixed carbon (%):              | 87.37                | 88.21            |
| Total sulphur (%):             | 0.49                 | 0.49             |
| Combustible sulphur (%):       | 0.48                 |                  |
| Gross calorific value (cal/g): | 7,705.00             | 7,780.00         |
| Volatile matter (dmmf %):      | 4.30                 |                  |
| Hardgrove index:               | 47.00                |                  |
| Phosphorous in coal (%):       | 0.055                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,216.00             | 1,201.00            |
| Softening temperature (°C):     | 1,293.00             | 1,261.00            |
| Hemispherical temperature (°C): | 1,317.00             | 1,306.00            |
| Final temperature (°C):         | 1,451.00             | 1,441.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 61.90 | TiO2 (%): | 2.37 |
| Al2O3 (%): | 19.66 | Na2O (%): | 2.05 |
| Fe2O3 (%): | 1.89  | K2O (%):  | 0.71 |
| CaO (%):   | 3.25  | SO3 (%):  | 0.36 |
| MgO (%):   | 2.44  | P2O5 (%): | 1.79 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87008 SEAM - I

SAMPLE ID - 41

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 45.96 ASH % - 53.56 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 1.12                  | 4.59  | 1.12      | 4.59  | 98.88       | 53.27 | 0.0        | 0.0  |   |           |
| 1.45     | 3.19                  | 8.72  | 4.31      | 7.65  | 95.69       | 54.75 | 0.0        | 0.0  |   |           |
| 1.50     | 8.28                  | 14.28 | 12.59     | 12.01 | 87.41       | 58.59 | 0.0        | 0.0  |   |           |
| 1.55     | 8.77                  | 19.86 | 21.36     | 15.23 | 78.64       | 62.90 | 0.0        | 0.0  |   |           |
| 1.60     | 7.73                  | 24.26 | 29.09     | 17.63 | 70.91       | 67.12 | 0.0        | 0.0  |   |           |
| 1.70     | 12.07                 | 30.90 | 41.16     | 21.52 | 58.84       | 74.55 | 0.0        | 0.0  |   |           |
| 1.80     | 5.37                  | 39.29 | 46.53     | 23.57 | 53.47       | 78.09 | 0.0        | 0.0  |   |           |
| 2.00     | 5.78                  | 48.61 | 52.31     | 26.34 | 47.69       | 81.66 | 0.0        | 0.0  |   |           |
| 2.60     | 47.69                 | 81.66 | 100.00    | 52.72 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 37.22 ASH % - 21.39 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 15.79                | 3.09  | 15.79     | 3.09  | 84.21       | 23.43 | 0.0        | 0.0  |   |           |
| 1.45     | 18.43                | 6.85  | 34.22     | 5.12  | 65.78       | 28.07 | 0.0        | 0.0  |   |           |
| 1.50     | 29.66                | 11.77 | 63.88     | 8.20  | 36.12       | 41.46 | 0.0        | 0.0  |   |           |
| 1.55     | 8.33                 | 16.73 | 72.21     | 9.19  | 27.79       | 48.88 | 0.0        | 0.0  |   |           |
| 1.60     | 5.11                 | 20.72 | 77.32     | 9.95  | 22.68       | 55.22 | 0.0        | 0.0  |   |           |
| 1.70     | 6.27                 | 26.43 | 83.59     | 11.19 | 16.41       | 66.22 | 0.0        | 0.0  |   |           |
| 1.80     | 2.63                 | 34.89 | 86.22     | 11.91 | 13.78       | 72.20 | 0.0        | 0.0  |   |           |
| 2.00     | 2.65                 | 43.60 | 88.87     | 12.85 | 11.13       | 79.01 | 0.0        | 0.0  |   |           |
| 2.60     | 11.13                | 79.01 | 100.00    | 20.22 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87008 SEAM - I

SAMPLE ID - 41

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X |       | 0.15        |       | RELATIVE WEIGHT % - 10.79 |       | ASH % - 16.47 |      |
|---------------------|-----------------|-------|-------------|-------|---------------------------|-------|---------------|------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40                | 15.26           | 2.42  | 15.26       | 2.42  | 84.74                     | 18.97 | 0.0           | 0.0  |
| 1.45                | 25.07           | 4.10  | 40.33       | 3.46  | 59.67                     | 25.22 | 0.0           | 0.0  |
| 1.50                | 20.83           | 6.99  | 61.16       | 4.67  | 38.84                     | 35.00 | 0.0           | 0.0  |
| 1.55                | 8.60            | 10.55 | 69.76       | 5.39  | 30.24                     | 41.95 | 0.0           | 0.0  |
| 1.60                | 5.76            | 14.10 | 75.52       | 6.05  | 24.48                     | 48.50 | 0.0           | 0.0  |
| 1.70                | 7.10            | 18.87 | 82.62       | 7.16  | 17.38                     | 60.60 | 0.0           | 0.0  |
| 1.80                | 3.27            | 27.41 | 85.89       | 7.93  | 14.11                     | 68.30 | 0.0           | 0.0  |
| 2.00                | 2.80            | 39.44 | 88.69       | 8.92  | 11.31                     | 75.44 | 0.0           | 0.0  |
| 2.60                | 11.31           | 75.44 | 100.00      | 16.45 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X |       | 0.00        |       | RELATIVE WEIGHT % - 6.03 |      | ASH % - 18.93 |       |
|---------------------|-----------------|-------|-------------|-------|--------------------------|------|---------------|-------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS               |      | C.V.          | CUM.  |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                      | ASH% | (MJ KG)       | C.V.  |
| 240.00              | 100.00          | 18.93 | 100.00      | 18.93 | 0.0                      | 0.0  | 26.64         | 26.64 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87008 SEAM - I

SAMPLE ID - 42

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X |       | 6.00        |       | RELATIVE WEIGHT % - 48.10 |       | ASH % - 33.59 |      |
|----------|------------------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          | ELEMENTAL        |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  | WT%              | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     | 2.84             | 5.21  | 2.84        | 5.21  | 97.16                     | 34.77 | 0.0           | 0.0  |
| 1.45     | 6.06             | 6.99  | 8.90        | 6.42  | 91.10                     | 36.61 | 0.0           | 0.0  |
| 1.50     | 15.94            | 11.25 | 24.84       | 9.52  | 75.16                     | 41.99 | 0.0           | 0.0  |
| 1.55     | 8.39             | 17.56 | 33.23       | 11.55 | 66.77                     | 45.06 | 0.0           | 0.0  |
| 1.60     | 6.08             | 20.18 | 39.31       | 12.88 | 60.69                     | 47.55 | 0.0           | 0.0  |
| 1.70     | 14.07            | 29.29 | 53.38       | 17.21 | 46.62                     | 53.07 | 0.0           | 0.0  |
| 1.80     | 10.44            | 33.81 | 63.82       | 19.92 | 36.18                     | 58.62 | 0.0           | 0.0  |
| 2.00     | 13.13            | 45.43 | 76.95       | 24.28 | 23.05                     | 66.14 | 0.0           | 0.0  |
| 2.60     | 23.05            | 66.14 | 100.00      | 33.93 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X |       | 0.50        |       | RELATIVE WEIGHT % - 33.16 |       | ASH % - 17.26 |      |
|----------|-----------------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  | WT%             | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     | 21.79           | 4.11  | 21.79       | 4.11  | 78.21                     | 20.51 | 0.0           | 0.0  |
| 1.45     | 13.31           | 6.06  | 35.10       | 4.85  | 64.90                     | 23.47 | 0.0           | 0.0  |
| 1.50     | 23.47           | 10.17 | 58.57       | 6.98  | 41.43                     | 31.01 | 0.0           | 0.0  |
| 1.55     | 10.50           | 15.00 | 69.07       | 8.20  | 30.93                     | 36.45 | 0.0           | 0.0  |
| 1.60     | 7.03            | 17.43 | 76.10       | 9.05  | 23.90                     | 42.04 | 0.0           | 0.0  |
| 1.70     | 8.63            | 22.32 | 84.73       | 10.40 | 15.27                     | 53.18 | 0.0           | 0.0  |
| 1.80     | 3.09            | 30.51 | 87.82       | 11.11 | 12.18                     | 58.94 | 0.0           | 0.0  |
| 2.00     | 3.44            | 40.79 | 91.26       | 12.23 | 8.74                      | 66.08 | 0.0           | 0.0  |
| 2.60     | 8.74            | 66.08 | 100.00      | 16.94 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87008 SEAM - I

SAMPLE ID - 42

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X |        | 0.15  |       | RELATIVE WEIGHT % - 11.79 ASH % - 11.65 |      | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|----------|----------|--------|--------|-------|-------|---|------|-----------------|--------------|
|          |          | WT%    | ASH%   | WT%   | ASH%  | WT%                                     | ASH% |                 |              |
| S.G.TME  |          |        |        |       |       |   |      |                 |              |
| 1.40     | 24.26    | 3.18   | 24.26  | 3.18  | 75.74 | 14.15                                   | 0.0  | 0.0             |              |
| 1.45     | 9.57     | 3.60   | 33.83  | 3.30  | 66.17 | 15.68                                   | 0.0  | 0.0             |              |
| 1.50     | 21.05    | 6.14   | 54.88  | 4.39  | 45.12 | 20.13                                   | 0.0  | 0.0             |              |
| 1.55     | 12.23    | 8.76   | 67.11  | 5.19  | 32.89 | 24.35                                   | 0.0  | 0.0             |              |
| 1.60     | 9.70     | 10.98  | 76.81  | 5.92  | 23.19 | 29.95                                   | 0.0  | 0.0             |              |
| 1.70     | 12.81    | 15.14  | 89.62  | 7.24  | 10.38 | 48.23                                   | 0.0  | 0.0             |              |
| 1.80     | 3.53     | 25.45  | 93.15  | 7.93  | 6.85  | 59.96                                   | 0.0  | 0.0             |              |
| 2.00     | 2.28     | 43.17  | 95.43  | 8.77  | 4.57  | 68.34                                   | 0.0  | 0.0             |              |
| 2.60     | 4.57     | 68.34  | 100.00 | 11.49 | 0.0   | 0.0                                     | 0.0  | 0.0             |              |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X |        | 0.00  |      | RELATIVE WEIGHT % - 6.95 ASH % - 12.29 |       | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|----------|----------|--------|--------|-------|------|--|-------|-----------------|--------------|
|          |          | WT%    | ASH%   | WT%   | ASH% | WT%                                    | ASH%  |                 |              |
| S.G.TME  |          |        |        |       |      |  |       |                 |              |
| 240.00   | 100.00   | 12.29  | 100.00 | 12.29 | 0.0  | 0.0                                    | 29.59 | 29.59           |              |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87008  
 Coal zone: 1  
 Field sample no.: 06829 Composite sample no.: 222

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.43  
 Contribution (%): 1.34  
 Total yield (%): 1.34

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.74                 |                  |
| Ash (%) :                       | 5.48                 | 5.52             |
| Volatile matter (%) :           | 5.92                 | 5.96             |
| Fixed carbon (%) :              | 87.86                | 88.52            |
| Total sulphur (%) :             | 0.48                 | 0.48             |
| Combustible sulphur (%) :       | 0.47                 |                  |
| Gross calorific value (cal/g) : | 7,973.00             | 8,033.00         |
| Volatile matter (dmmf%) :       | 5.70                 |                  |
| Hardgrove index:                | 51.00                |                  |
| Phosphorous in coal (%) :       | 0.049                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,246.00             | 1,212.00            |
| Softening temperature (°C) :     | 1,309.00             | 1,261.00            |
| Hemispherical temperature (°C) : | 1,345.00             | 1,278.00            |
| Final temperature (°C) :         | 1,407.00             | 1,379.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 60.11 | TiO2 (%) : | 1.77 |
| Al2O3 (%) : | 21.96 | Na2O (%) : | 2.17 |
| Fe2O3 (%) : | 1.96  | K2O (%) :  | 0.95 |
| CaO (%) :   | 2.95  | SO3 (%) :  | 0.33 |
| MgO (%) :   | 1.60  | P2O5 (%) : | 2.03 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87008  
 Coal zone: 1  
 Field sample no.: 06829 Composite sample no.: 222

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 12.00  
 Cutpoint: sp.g. 1.47  
 Contribution (%): 2.70  
 Total yield (%): 2.70

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.64                 |                  |
| Ash (%):                       | 10.98                | 11.05            |
| Volatile matter (%):           | 6.90                 | 6.94             |
| Fixed carbon (%):              | 81.48                | 82.01            |
| Total sulphur (%):             | 0.43                 | 0.43             |
| Combustible sulphur (%):       | 0.41                 |                  |
| Gross calorific value (cal/g): | 7,385.00             | 7,432.00         |
| Volatile matter (dmmf %):      | 6.80                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.061                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,219.00             | 1,153.00            |
| Softening temperature (°C):     | 1,332.00             | 1,330.00            |
| Hemispherical temperature (°C): | 1,380.00             | 1,369.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 67.12 | TiO2 (%): | 1.45 |
| Al2O3 (%): | 18.52 | Na2O (%): | 1.75 |
| Fe2O3 (%): | 1.06  | K2O (%):  | 0.80 |
| CaO (%):   | 2.52  | SO3 (%):  | 0.44 |
| MgO (%):   | 1.31  | P2O5 (%): | 1.28 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87008  
 Coal zone: 1  
 Field sample no.: 06830 Composite sample no.: 223

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.45  
 Contribution (%): 4.28  
 Total yield (%): 4.28

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.72                 |                  |
| Ash (%) :                       | 5.67                 | 5.71             |
| Volatile matter (%) :           | 6.00                 | 6.04             |
| Fixed carbon (%) :              | 87.61                | 88.25            |
| Total sulphur (%) :             | 0.46                 | 0.46             |
| Combustible sulphur (%) :       | 0.44                 |                  |
| Gross calorific value (cal/g) : | 7,928.00             | 7,986.00         |
| Volatile matter (dmmf%) :       | 5.80                 |                  |
| Hardgrove index:                | 61.00                |                  |
| Phosphorous in coal (%) :       | 0.098                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,216.00             | 1,190.00            |
| Softening temperature (°C) :     | 1,295.00             | 1,261.00            |
| Hemispherical temperature (°C) : | 1,327.00             | 1,285.00            |
| Final temperature (°C) :         | 1,432.00             | 1,430.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 48.24 | TiO2 (%) : | 2.99 |
| Al2O3 (%) : | 24.45 | Na2O (%) : | 2.59 |
| Fe2O3 (%) : | 4.16  | K2O (%) :  | 0.90 |
| CaO (%) :   | 5.00  | SO3 (%) :  | 1.09 |
| MgO (%) :   | 1.69  | P2O5 (%) : | 3.94 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87008  
 Coal zone: 1  
 Field sample no.: 06830 Composite sample no.: 223

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 9.11  
 Total yield (%): 9.11

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.66                 |                  |
| Ash (%):                       | 11.14                | 11.21            |
| Volatile matter (%):           | 7.15                 | 7.20             |
| Fixed carbon (%):              | 81.05                | 81.59            |
| Total sulphur (%):             | 0.34                 | 0.34             |
| Combustible sulphur (%):       | 0.33                 |                  |
| Gross calorific value (cal/g): | 7,407.00             | 7,455.00         |
| Volatile matter (dmmf %):      | 7.10                 |                  |
| Hardgrove index:               | 49.00                |                  |
| Phosphorous in coal (%):       | 0.133                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,216.00             | 1,201.00            |
| Softening temperature (°C):     | 1,317.00             | 1,312.00            |
| Hemispherical temperature (°C): | 1,364.00             | 1,362.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 59.90 | TiO2 (%): | 1.50 |
| Al2O3 (%): | 22.68 | Na2O (%): | 1.97 |
| Fe2O3 (%): | 2.34  | K2O (%):  | 0.87 |
| CaO (%):   | 3.53  | SO3 (%):  | 0.23 |
| MgO (%):   | 1.50  | P2O5 (%): | 2.74 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87008  
 Coal zone: 1  
 Field sample no.: 06829 - 06830 Composite sample no.: 417

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.50  
 Contribution (%): 21.37  
 Total yield (%): 21.37

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.67                 |                  |
| Ash (%):                       | 7.35                 | 7.40             |
| Volatile matter (%):           | 7.32                 | 7.37             |
| Fixed carbon (%):              | 84.66                | 85.23            |
| Total sulphur (%):             | 0.48                 | 0.48             |
| Combustible sulphur (%):       | 0.46                 |                  |
| Gross calorific value (cal/g): | 7,770.00             | 7,822.00         |
| Volatile matter (dmmf %):      | 7.20                 |                  |
| Hardgrove index:               | 53.00                |                  |
| Phosphorous in coal (%):       | 0.073                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,159.00             | 1,130.00            |
| Softening temperature (°C):     | 1,280.00             | 1,253.00            |
| Hemispherical temperature (°C): | 1,345.00             | 1,342.00            |
| Final temperature (°C):         | 1,453.00             | 1,448.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 60.34 | TiO2 (%): | 2.15 |
| Al2O3 (%): | 21.93 | Na2O (%): | 1.89 |
| Fe2O3 (%): | 1.84  | K2O (%):  | 0.84 |
| CaO (%):   | 3.22  | SO3 (%):  | 0.85 |
| MgO (%):   | 1.48  | P2O5 (%): | 2.26 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87009 SEAM - H

SAMPLE ID - 49

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 62.50 |      | ASH % - 55.42 |      |
|----------|-----------------------|-------|-------------|-------|------------|-------|---------------------------|------|---------------|------|
|          | ELEMENTAL             |       | WT%         | ASH%  | WT%        | ASH%  | WT%                       | ASH% | C.V.          | CUM. |
| S.G.TME  | WT%                   | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                   | C.V. |               |      |
| 1.40     | 0.91                  | 2.80  | 0.91        | 2.80  | 99.09      | 56.25 | 0.0                       | 0.0  |               |      |
| 1.45     | 1.31                  | 9.38  | 2.22        | 6.68  | 97.78      | 56.88 | 0.0                       | 0.0  |               |      |
| 1.50     | 3.48                  | 14.51 | 5.70        | 11.46 | 94.30      | 58.44 | 0.0                       | 0.0  |               |      |
| 1.55     | 5.29                  | 17.14 | 10.99       | 14.19 | 89.01      | 60.90 | 0.0                       | 0.0  |               |      |
| 1.60     | 2.22                  | 22.61 | 13.21       | 15.61 | 86.79      | 61.88 | 0.0                       | 0.0  |               |      |
| 1.70     | 6.33                  | 29.40 | 19.54       | 20.08 | 80.46      | 64.43 | 0.0                       | 0.0  |               |      |
| 1.80     | 7.85                  | 38.68 | 27.39       | 25.41 | 72.61      | 67.21 | 0.0                       | 0.0  |               |      |
| 2.00     | 12.86                 | 47.49 | 40.25       | 32.46 | 59.75      | 71.46 | 0.0                       | 0.0  |               |      |
| 2.60     | 59.75                 | 71.46 | 100.00      | 55.76 | 0.0        | 0.0   | 0.0                       | 0.0  |               |      |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 26.50 |      | ASH % - 37.63 |      |
|----------|----------------------|-------|-------------|-------|------------|-------|---------------------------|------|---------------|------|
|          | ELEMENTAL            |       | WT%         | ASH%  | WT%        | ASH%  | WT%                       | ASH% | C.V.          | CUM. |
| S.G.TME  | WT%                  | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                   | C.V. |               |      |
| 1.40     | 12.42                | 4.02  | 12.42       | 4.02  | 87.58      | 43.94 | 0.0                       | 0.0  |               |      |
| 1.45     | 8.30                 | 6.25  | 20.72       | 4.91  | 79.28      | 47.89 | 0.0                       | 0.0  |               |      |
| 1.50     | 8.43                 | 10.35 | 29.15       | 6.49  | 70.85      | 52.36 | 0.0                       | 0.0  |               |      |
| 1.55     | 5.71                 | 13.83 | 34.86       | 7.69  | 65.14      | 55.73 | 0.0                       | 0.0  |               |      |
| 1.60     | 1.33                 | 18.91 | 36.19       | 8.10  | 63.81      | 56.50 | 0.0                       | 0.0  |               |      |
| 1.70     | 9.81                 | 19.09 | 46.00       | 10.44 | 54.00      | 63.30 | 0.0                       | 0.0  |               |      |
| 1.80     | 6.54                 | 29.56 | 52.54       | 12.82 | 47.46      | 67.94 | 0.0                       | 0.0  |               |      |
| 2.00     | 9.78                 | 41.65 | 62.32       | 17.35 | 37.68      | 74.77 | 0.0                       | 0.0  |               |      |
| 2.60     | 37.68                | 74.77 | 100.00      | 38.98 | 0.0        | 0.0   | 0.0                       | 0.0  |               |      |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87009 SEAM - H

SAMPLE ID - 49

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 6.92 ASH % - 26.02 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 4.54     | 2.24      |      | 4.54        | 2.24  | 95.46               | 26.34 | 0.0                | 0.0  |
| 1.45     | 21.63    | 3.07      |      | 26.17       | 2.93  | 73.83               | 33.16 | 0.0                | 0.0  |
| 1.50     | 15.68    | 5.87      |      | 41.85       | 4.03  | 58.15               | 40.52 | 0.0                | 0.0  |
| 1.55     | 6.51     | 9.67      |      | 48.36       | 4.79  | 51.64               | 44.41 | 0.0                | 0.0  |
| 1.60     | 6.25     | 10.13     |      | 54.61       | 5.40  | 45.39               | 49.13 | 0.0                | 0.0  |
| 1.70     | 9.83     | 14.19     |      | 64.44       | 6.74  | 35.56               | 58.79 | 0.0                | 0.0  |
| 1.80     | 4.99     | 21.76     |      | 69.43       | 7.82  | 30.57               | 64.83 | 0.0                | 0.0  |
| 2.00     | 6.56     | 35.64     |      | 75.99       | 10.22 | 24.01               | 72.81 | 0.0                | 0.0  |
| 2.60     | 24.01    | 72.81     |      | 100.00      | 25.25 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 4.07 ASH % - 25.74 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 25.74     |      | 100.00      | 25.74 | 0.0                 | 0.0  | 23.53              | 23.53 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87009  
 Coal zone: H  
 Field sample no.: 06862 Composite sample no.: 224

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 4.92  
 Total yield (%): 4.92

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.97                 |                  |
| Ash (%):                       | 11.32                | 11.43            |
| Volatile matter (%):           | 6.71                 | 6.78             |
| Fixed carbon (%):              | 81.00                | 81.79            |
| Total sulphur (%):             | 0.62                 | 0.63             |
| Combustible sulphur (%):       | 0.57                 |                  |
| Gross calorific value (cal/g): | 7,483.00             | 7,556.00         |
| Volatile matter (dmmf %):      | 6.50                 |                  |
| Hardgrove index:               | 49.00                |                  |
| Phosphorous in coal (%):       | 0.151                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,238.00             | 1,224.00            |
| Softening temperature (°C):     | 1,272.00             | 1,232.00            |
| Hemispherical temperature (°C): | 1,288.00             | 1,245.00            |
| Final temperature (°C):         | 1,351.00             | 1,347.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 54.52 | TiO2 (%): | 1.97 |
| Al2O3 (%): | 21.55 | Na2O (%): | 2.37 |
| Fe2O3 (%): | 3.35  | K2O (%):  | 0.81 |
| CaO (%):   | 5.63  | SO3 (%):  | 1.02 |
| MgO (%):   | 0.95  | P2O5 (%): | 3.05 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87009  
 Coal zone: H  
 Field sample no.: 06862 Composite sample no.: 418

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 8.59  
 Total yield (%): 8.59

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.94                 |                  |
| Ash (%):                       | 6.74                 | 6.80             |
| Volatile matter (%):           | 6.66                 | 6.72             |
| Fixed carbon (%):              | 85.66                | 86.48            |
| Total sulphur (%):             | 0.63                 | 0.64             |
| Combustible sulphur (%):       | 0.61                 |                  |
| Gross calorific value (cal/g): | 7,832.00             | 7,906.00         |
| Volatile matter (dmmf %):      | 6.50                 |                  |
| Hardgrove index:               | 53.00                |                  |
| Phosphorous in coal (%):       | 0.072                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,222.00             | 1,122.00            |
| Softening temperature (°C):     | 1,295.00             | 1,195.00            |
| Hemispherical temperature (°C): | 1,302.00             | 1,232.00            |
| Final temperature (°C):         | 1,369.00             | 1,367.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 51.23 | TiO2 (%): | 4.05 |
| Al2O3 (%): | 22.64 | Na2O (%): | 2.37 |
| Fe2O3 (%): | 5.20  | K2O (%):  | 0.86 |
| CaO (%):   | 4.94  | SO3 (%):  | 0.62 |
| MgO (%):   | 1.63  | P2O5 (%): | 2.43 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87009 SEAM - PH

SAMPLE ID - 51

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 75.29 ASH % - 53.43 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 0.30                  | 5.53  | 0.30      | 5.53  | 99.70       | 52.93 | 0.0        | 0.0  |   |           |
| 1.45     | 0.72                  | 6.78  | 1.02      | 6.41  | 98.98       | 53.27 | 0.0        | 0.0  |   |           |
| 1.50     | 0.81                  | 11.47 | 1.83      | 8.65  | 98.17       | 53.61 | 0.0        | 0.0  |   |           |
| 1.55     | 1.87                  | 17.52 | 3.70      | 13.13 | 96.30       | 54.31 | 0.0        | 0.0  |   |           |
| 1.60     | 3.45                  | 23.42 | 7.15      | 18.10 | 92.85       | 55.46 | 0.0        | 0.0  |   |           |
| 1.70     | 10.22                 | 30.17 | 17.37     | 25.20 | 82.63       | 58.59 | 0.0        | 0.0  |   |           |
| 1.80     | 6.41                  | 39.39 | 23.78     | 29.03 | 76.22       | 60.20 | 0.0        | 0.0  |   |           |
| 2.00     | 33.55                 | 49.54 | 57.33     | 41.03 | 42.67       | 68.59 | 0.0        | 0.0  |   |           |
| 2.60     | 42.67                 | 68.59 | 100.00    | 52.79 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 19.87 ASH % - 43.55 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 6.12                 | 6.23  | 6.12      | 6.23  | 93.88       | 45.67 | 0.0        | 0.0  |   |           |
| 1.45     | 10.45                | 9.85  | 16.57     | 8.51  | 83.43       | 50.15 | 0.0        | 0.0  |   |           |
| 1.50     | 8.51                 | 11.33 | 25.08     | 9.47  | 74.92       | 54.56 | 0.0        | 0.0  |   |           |
| 1.55     | 6.13                 | 16.69 | 31.21     | 10.89 | 68.79       | 57.94 | 0.0        | 0.0  |   |           |
| 1.60     | 4.50                 | 20.72 | 35.71     | 12.13 | 64.29       | 60.55 | 0.0        | 0.0  |   |           |
| 1.70     | 7.51                 | 26.86 | 43.22     | 14.69 | 56.78       | 65.00 | 0.0        | 0.0  |   |           |
| 1.80     | 6.00                 | 33.70 | 49.22     | 17.00 | 50.78       | 68.70 | 0.0        | 0.0  |   |           |
| 2.00     | 12.25                | 45.61 | 61.47     | 22.70 | 38.53       | 76.04 | 0.0        | 0.0  |   |           |
| 2.60     | 38.53                | 76.04 | 100.00    | 43.25 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87009 SEAM - PH

SAMPLE ID - 51

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 3.23 ASH % - 52.86 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 2.32      | 4.97  | 2.32        | 4.97  | 97.68               | 54.92 | 0.0                | 0.0  |
| 1.45     |          | 5.71      | 5.61  | 8.03        | 5.43  | 91.97               | 57.99 | 0.0                | 0.0  |
| 1.50     |          | 6.61      | 8.97  | 14.64       | 7.03  | 85.36               | 61.78 | 0.0                | 0.0  |
| 1.55     |          | 5.54      | 16.64 | 20.18       | 9.67  | 79.82               | 64.91 | 0.0                | 0.0  |
| 1.60     |          | 4.29      | 22.71 | 24.47       | 11.95 | 75.53               | 67.31 | 0.0                | 0.0  |
| 1.70     |          | 5.36      | 23.80 | 29.83       | 14.08 | 70.17               | 70.64 | 0.0                | 0.0  |
| 1.80     |          | 4.11      | 31.07 | 33.94       | 16.14 | 66.06               | 73.10 | 0.0                | 0.0  |
| 2.00     |          | 9.11      | 40.51 | 43.05       | 21.30 | 56.95               | 78.31 | 0.0                | 0.0  |
| 2.60     |          | 56.95     | 78.31 | 100.00      | 53.77 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 1.61 ASH % - 58.39 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 58.39 | 100.00      | 58.39 | 0.0                 | 0.0  | 10.77              | 10.77 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87009  
 Coal zone: Ph  
 Field sample no.: 06866 Composite sample no.: 225

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 2.27  
 Total yield (%): 2.27

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.60                 |                  |
| Ash (%):                       | 10.22                | 10.28            |
| Volatile matter (%):           | 6.28                 | 6.32             |
| Fixed carbon (%):              | 82.90                | 83.40            |
| Total sulphur (%):             | 0.53                 | 0.53             |
| Combustible sulphur (%):       | 0.51                 |                  |
| Gross calorific value (cal/g): | 7,634.00             | 7,679.00         |
| Volatile matter (dmmf %):      | 6.00                 |                  |
| Hardgrove index:               | 52.00                |                  |
| Phosphorous in coal (%):       | 0.176                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,222.00             | 1,153.00            |
| Softening temperature (°C):     | 1,253.00             | 1,182.00            |
| Hemispherical temperature (°C): | 1,266.00             | 1,195.00            |
| Final temperature (°C):         | 1,314.00             | 1,306.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 60.72 | TiO2 (%): | 1.94 |
| Al2O3 (%): | 14.37 | Na2O (%): | 1.37 |
| Fe2O3 (%): | 3.79  | K2O (%):  | 0.77 |
| CaO (%):   | 5.99  | SO3 (%):  | 0.58 |
| MgO (%):   | 6.36  | P2O5 (%): | 3.95 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87009  
 Coal zone: Ph  
 Field sample no.: 06866 Composite sample no.: 419

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.43  
 Contribution (%): 2.64  
 Total yield (%): 2.64

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.71                 |                  |
| Ash (%):                       | 6.49                 | 6.54             |
| Volatile matter (%):           | 5.75                 | 5.79             |
| Fixed carbon (%):              | 87.05                | 87.67            |
| Total sulphur (%):             | 0.54                 | 0.54             |
| Combustible sulphur (%):       | 0.52                 |                  |
| Gross calorific value (cal/g): | 7,987.00             | 8,045.00         |
| Volatile matter (dmmf %):      | 5.50                 |                  |
| Hardgrove index:               | 50.00                |                  |
| Phosphorous in coal (%):       | 0.094                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,230.00             | 1,212.00            |
| Softening temperature (°C):     | 1,272.00             | 1,238.00            |
| Hemispherical temperature (°C): | 1,291.00             | 1,251.00            |
| Final temperature (°C):         | 1,346.00             | 1,340.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 54.86 | TiO2 (%): | 6.09 |
| Al2O3 (%): | 16.63 | Na2O (%): | 1.56 |
| Fe2O3 (%): | 4.67  | K2O (%):  | 0.79 |
| CaO (%):   | 5.60  | SO3 (%):  | 0.80 |
| MgO (%):   | 4.11  | P2O5 (%): | 3.33 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87010 SEAM - H

SAMPLE ID - 52

WASHABILITY ID - WA1

| ANALYSIS TYPE - FLOAT |           |       |              |       |   |       |         |      |  |
|-----------------------|-----------|-------|--------------|-------|---|-------|---------|------|--|
| FRACTION              | SIZE(MM)  |       | 35.00 X 6.00 |       | RELATIVE WEIGHT % - 70.85 ASH % - 46.06 |       |         |      |  |
| S.G.TME               | ELEMENTAL |       | CUM. FLOATS  |       | CUM. SINKS                              |       | C.V.    | CUM. |  |
|                       | WT%       | ASH%  | WT%          | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |  |
| 1.40                  | 1.83      | 4.19  | 1.83         | 4.19  | 98.17                                   | 46.87 | 0.0     | 0.0  |  |
| 1.45                  | 3.73      | 7.61  | 5.56         | 6.48  | 94.44                                   | 48.42 | 0.0     | 0.0  |  |
| 1.50                  | 6.77      | 13.95 | 12.33        | 10.58 | 87.67                                   | 51.08 | 0.0     | 0.0  |  |
| 1.55                  | 5.40      | 19.85 | 17.73        | 13.41 | 82.27                                   | 53.13 | 0.0     | 0.0  |  |
| 1.60                  | 5.95      | 24.48 | 23.68        | 16.19 | 76.32                                   | 55.37 | 0.0     | 0.0  |  |
| 1.70                  | 15.36     | 29.28 | 39.04        | 21.34 | 60.96                                   | 61.94 | 0.0     | 0.0  |  |
| 1.80                  | 13.96     | 36.27 | 53.00        | 25.27 | 47.00                                   | 69.56 | 0.0     | 0.0  |  |
| 2.00                  | 9.21      | 46.07 | 62.21        | 28.35 | 37.79                                   | 75.29 | 0.0     | 0.0  |  |
| 2.60                  | 37.79     | 75.29 | 100.00       | 46.09 | 0.0                                     | 0.0   | 0.0     | 0.0  |  |

| ANALYSIS TYPE - FLOAT |           |       |             |       |   |       |         |      |  |
|-----------------------|-----------|-------|-------------|-------|---|-------|---------|------|--|
| FRACTION              | SIZE(MM)  |       | 6.00 X 0.50 |       | RELATIVE WEIGHT % - 22.09 ASH % - 46.91 |       |         |      |  |
| S.G.TME               | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |  |
|                       | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |  |
| 1.40                  | 6.42      | 2.91  | 6.42        | 2.91  | 93.58                                   | 49.47 | 0.0     | 0.0  |  |
| 1.45                  | 7.04      | 5.96  | 13.46       | 4.51  | 86.54                                   | 53.01 | 0.0     | 0.0  |  |
| 1.50                  | 6.62      | 11.98 | 20.08       | 6.97  | 79.92                                   | 56.41 | 0.0     | 0.0  |  |
| 1.55                  | 6.41      | 16.96 | 26.49       | 9.39  | 73.51                                   | 59.85 | 0.0     | 0.0  |  |
| 1.60                  | 5.40      | 21.25 | 31.89       | 11.40 | 68.11                                   | 62.91 | 0.0     | 0.0  |  |
| 1.70                  | 9.52      | 26.98 | 41.41       | 14.98 | 58.59                                   | 68.75 | 0.0     | 0.0  |  |
| 1.80                  | 6.95      | 33.04 | 48.36       | 17.57 | 51.64                                   | 73.56 | 0.0     | 0.0  |  |
| 2.00                  | 8.04      | 43.40 | 56.40       | 21.26 | 43.60                                   | 79.12 | 0.0     | 0.0  |  |
| 2.60                  | 43.60     | 79.12 | 100.00      | 46.48 | 0.0                                     | 0.0   | 0.0     | 0.0  |  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87010 SEAM - H

SAMPLE ID - 52

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 4.00 ASH % - 51.66 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 1.73      | 3.32  | 1.73        | 3.32  | 98.27               | 51.73 | 0.0                | 0.0  |
| 1.45     |          | 3.46      | 8.00  | 5.19        | 6.44  | 94.81               | 53.33 | 0.0                | 0.0  |
| 1.50     |          | 3.73      | 10.69 | 8.92        | 8.22  | 91.08               | 55.08 | 0.0                | 0.0  |
| 1.55     |          | 3.92      | 11.66 | 12.84       | 9.27  | 87.16               | 57.03 | 0.0                | 0.0  |
| 1.60     |          | 3.28      | 15.17 | 16.12       | 10.47 | 83.88               | 58.66 | 0.0                | 0.0  |
| 1.70     |          | 5.56      | 19.79 | 21.68       | 12.86 | 78.32               | 61.42 | 0.0                | 0.0  |
| 1.80     |          | 16.48     | 26.00 | 38.16       | 18.53 | 61.84               | 70.86 | 0.0                | 0.0  |
| 2.00     |          | 11.29     | 36.59 | 49.45       | 22.66 | 50.55               | 78.52 | 0.0                | 0.0  |
| 2.60     |          | 50.55     | 78.52 | 100.00      | 50.90 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 3.06 ASH % - 57.52 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 57.52 | 100.00      | 57.52 | 0.0                 | 0.0  | 10.63              | 10.63 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87010 SEAM - H

SAMPLE ID - 53

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 71.27 ASH % - 24.95 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 2.08                  | 2.37  | 2.08      | 2.37  | 97.92       | 25.04 | 0.0        | 0.0  |   |           |
| 1.45     | 24.57                 | 8.32  | 26.65     | 7.86  | 73.35       | 30.64 | 0.0        | 0.0  |   |           |
| 1.50     | 22.15                 | 12.47 | 48.80     | 9.95  | 51.20       | 38.51 | 0.0        | 0.0  |   |           |
| 1.55     | 18.47                 | 17.38 | 67.27     | 11.99 | 32.73       | 50.43 | 0.0        | 0.0  |   |           |
| 1.60     | 2.50                  | 22.46 | 69.77     | 12.37 | 30.23       | 52.74 | 0.0        | 0.0  |   |           |
| 1.70     | 1.81                  | 26.60 | 71.58     | 12.73 | 28.42       | 54.41 | 0.0        | 0.0  |   |           |
| 1.80     | 2.38                  | 32.77 | 73.96     | 13.37 | 26.04       | 56.38 | 0.0        | 0.0  |   |           |
| 2.00     | 9.79                  | 45.57 | 83.75     | 17.13 | 16.25       | 62.90 | 0.0        | 0.0  |   |           |
| 2.60     | 16.25                 | 62.90 | 100.00    | 24.57 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 23.47 ASH % - 20.83 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 11.63                | 2.36  | 11.63     | 2.36  | 88.37       | 22.87 | 0.0        | 0.0  |   |           |
| 1.45     | 32.70                | 6.72  | 44.33     | 5.58  | 55.67       | 32.36 | 0.0        | 0.0  |   |           |
| 1.50     | 18.72                | 11.77 | 63.05     | 7.42  | 36.95       | 42.79 | 0.0        | 0.0  |   |           |
| 1.55     | 8.38                 | 16.32 | 71.43     | 8.46  | 28.57       | 50.55 | 0.0        | 0.0  |   |           |
| 1.60     | 4.12                 | 20.33 | 75.55     | 9.11  | 24.45       | 55.65 | 0.0        | 0.0  |   |           |
| 1.70     | 4.21                 | 25.35 | 79.76     | 9.96  | 20.24       | 61.95 | 0.0        | 0.0  |   |           |
| 1.80     | 2.19                 | 33.10 | 81.95     | 10.58 | 18.05       | 65.45 | 0.0        | 0.0  |   |           |
| 2.00     | 2.82                 | 42.53 | 84.77     | 11.65 | 15.23       | 69.69 | 0.0        | 0.0  |   |           |
| 2.60     | 15.23                | 69.69 | 100.00    | 20.49 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87010 SEAM - H

SAMPLE ID - 53

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 3.22    | ASH % - 35.15 |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|---------|---------------|
|          |          | WT%       | ASH% | WT%         | ASH%  | CUM. SINKS          | C.V.  |         |               |
| S.G.TME  |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.    | CUM.          |
|          |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG) | C.V.          |
| 1.40     | 5.60     | 2.94      |      | 5.60        | 2.94  | 94.40               | 36.29 | 0.0     | 0.0           |
| 1.45     | 9.71     | 3.72      |      | 15.31       | 3.43  | 84.69               | 40.02 | 0.0     | 0.0           |
| 1.50     | 17.20    | 6.36      |      | 32.51       | 4.98  | 67.49               | 48.60 | 0.0     | 0.0           |
| 1.55     | 7.08     | 10.38     |      | 39.59       | 5.95  | 60.41               | 53.08 | 0.0     | 0.0           |
| 1.60     | 7.00     | 13.64     |      | 46.59       | 7.10  | 53.41               | 58.25 | 0.0     | 0.0           |
| 1.70     | 7.16     | 18.33     |      | 53.75       | 8.60  | 46.25               | 64.43 | 0.0     | 0.0           |
| 1.80     | 5.60     | 23.67     |      | 59.35       | 10.02 | 40.65               | 70.04 | 0.0     | 0.0           |
| 2.00     | 7.33     | 35.70     |      | 66.68       | 12.84 | 33.32               | 77.60 | 0.0     | 0.0           |
| 2.60     | 33.32    | 77.60     |      | 100.00      | 34.42 | 0.0                 | 0.0   | 0.0     | 0.0           |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 2.04    | ASH % - 43.43 |
|----------|----------|-----------|------|-------------|-------|---------------------|------|---------|---------------|
|          |          | WT%       | ASH% | WT%         | ASH%  | CUM. SINKS          | C.V. |         |               |
| S.G.TME  |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.    | CUM.          |
|          |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG) | C.V.          |
| 240.00   | 100.00   | 43.43     |      | 100.00      | 43.43 | 0.0                 | 0.0  | 16.76   | 16.76         |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87010  
 Coal zone: H  
 Field sample no.: 06869 - 06870 Composite sample no.: 226

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 29.63  
 Total yield (%): 29.63

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.73                 |                  |
| Ash (%):                       | 10.21                | 10.29            |
| Volatile matter (%):           | 6.54                 | 6.59             |
| Fixed carbon (%):              | 82.52                | 83.12            |
| Total sulphur (%):             | 0.39                 | 0.39             |
| Combustible sulphur (%):       | 0.37                 |                  |
| Gross calorific value (cal/g): | 7,459.00             | 7,514.00         |
| Volatile matter (dmmf %):      | 6.40                 |                  |
| Hardgrove index:               | 42.00                |                  |
| Phosphorous in coal (%):       | 0.091                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,224.00             | 1,201.00            |
| Softening temperature (°C):     | 1,343.00             | 1,340.00            |
| Hemispherical temperature (°C): | 1,380.00             | 1,376.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 57.34 | TiO2 (%): | 3.55 |
| Al2O3 (%): | 23.82 | Na2O (%): | 2.13 |
| Fe2O3 (%): | 1.79  | K2O (%):  | 0.84 |
| CaO (%):   | 3.30  | SO3 (%):  | 0.40 |
| MgO (%):   | 1.62  | P2O5 (%): | 2.05 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87010  
 Coal zone: H  
 Field sample no.: 06869 - 06870 Composite sample no.: 420

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 10.61  
 Total yield (%): 10.61

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.70                 |                  |
| Ash (%):                       | 7.52                 | 7.57             |
| Volatile matter (%):           | 6.66                 | 6.71             |
| Fixed carbon (%):              | 85.12                | 85.72            |
| Total sulphur (%):             | 0.45                 | 0.45             |
| Combustible sulphur (%):       | 0.43                 |                  |
| Gross calorific value (cal/g): | 7,713.00             | 7,767.00         |
| Volatile matter (dmmf%):       | 6.50                 |                  |
| Hardgrove index:               | 40.00                |                  |
| Phosphorous in coal (%):       | 0.049                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,230.00             | 1,190.00            |
| Softening temperature (°C):     | 1,398.00             | 1,348.00            |
| Hemispherical temperature (°C): | 1,409.00             | 1,369.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|                                     |       |                                    |      |
|-------------------------------------|-------|------------------------------------|------|
| SiO <sub>2</sub> (%):               | 62.76 | TiO <sub>2</sub> (%):              | 3.05 |
| Al <sub>2</sub> O <sub>3</sub> (%): | 21.93 | Na <sub>2</sub> O (%):             | 2.02 |
| Fe <sub>2</sub> O <sub>3</sub> (%): | 1.66  | K <sub>2</sub> O (%):              | 0.76 |
| CaO (%):                            | 3.16  | SO <sub>3</sub> (%):               | 0.62 |
| MgO (%):                            | 1.70  | P <sub>2</sub> O <sub>5</sub> (%): | 1.49 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87011 SEAM - H

SAMPLE ID - 54

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 71.75 ASH % - 55.19 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 1.88                  | 2.51  | 1.88      | 2.51  | 98.12       | 56.69 | 0.0        | 0.0  |   |           |
| 1.45     | 2.34                  | 7.72  | 4.22      | 5.40  | 95.78       | 57.88 | 0.0        | 0.0  |   |           |
| 1.50     | 3.07                  | 11.40 | 7.29      | 7.93  | 92.71       | 59.42 | 0.0        | 0.0  |   |           |
| 1.55     | 4.83                  | 15.76 | 12.12     | 11.05 | 87.88       | 61.82 | 0.0        | 0.0  |   |           |
| 1.60     | 7.70                  | 24.50 | 19.82     | 16.27 | 80.18       | 65.40 | 0.0        | 0.0  |   |           |
| 1.70     | 9.72                  | 29.72 | 29.54     | 20.70 | 70.46       | 70.33 | 0.0        | 0.0  |   |           |
| 1.80     | 10.33                 | 41.13 | 39.87     | 25.99 | 60.13       | 75.34 | 0.0        | 0.0  |   |           |
| 2.00     | 9.62                  | 52.94 | 49.49     | 31.23 | 50.51       | 79.61 | 0.0        | 0.0  |   |           |
| 2.60     | 50.51                 | 79.61 | 100.00    | 55.67 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 22.31 ASH % - 48.51 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 6.70                 | 3.50  | 6.70      | 3.50  | 93.30       | 51.19 | 0.0        | 0.0  |   |           |
| 1.45     | 10.30                | 6.02  | 17.00     | 5.03  | 83.00       | 56.80 | 0.0        | 0.0  |   |           |
| 1.50     | 7.70                 | 10.73 | 24.70     | 6.80  | 75.30       | 61.51 | 0.0        | 0.0  |   |           |
| 1.55     | 5.23                 | 17.82 | 29.93     | 8.73  | 70.07       | 64.77 | 0.0        | 0.0  |   |           |
| 1.60     | 4.77                 | 19.22 | 34.70     | 10.17 | 65.30       | 68.10 | 0.0        | 0.0  |   |           |
| 1.70     | 7.81                 | 24.77 | 42.51     | 12.85 | 57.49       | 73.99 | 0.0        | 0.0  |   |           |
| 1.80     | 5.04                 | 32.33 | 47.55     | 14.92 | 52.45       | 77.99 | 0.0        | 0.0  |   |           |
| 2.00     | 5.56                 | 42.82 | 53.11     | 17.84 | 46.89       | 82.16 | 0.0        | 0.0  |   |           |
| 2.60     | 46.89                | 82.16 | 100.00    | 48.00 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87011 SEAM - H

SAMPLE ID - 54

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 3.97 ASH % - 46.76 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 2.32      | 4.54  | 2.32        | 4.54  | 97.68               | 45.78 | 0.0                | 0.0  |
| 1.45     |          | 8.81      | 4.60  | 11.13       | 4.59  | 88.87               | 49.86 | 0.0                | 0.0  |
| 1.50     |          | 7.26      | 8.70  | 18.39       | 6.21  | 81.61               | 53.52 | 0.0                | 0.0  |
| 1.55     |          | 5.92      | 12.10 | 24.31       | 7.65  | 75.69               | 56.76 | 0.0                | 0.0  |
| 1.60     |          | 4.33      | 16.26 | 28.64       | 8.95  | 71.36               | 59.22 | 0.0                | 0.0  |
| 1.70     |          | 8.91      | 19.80 | 37.55       | 11.52 | 62.45               | 64.85 | 0.0                | 0.0  |
| 1.80     |          | 9.27      | 25.28 | 46.82       | 14.25 | 53.18               | 71.74 | 0.0                | 0.0  |
| 2.00     |          | 8.86      | 37.60 | 55.68       | 17.96 | 44.32               | 78.57 | 0.0                | 0.0  |
| 2.60     |          | 44.32     | 78.57 | 100.00      | 44.82 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 1.97 ASH % - 50.32 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 50.32 | 100.00      | 50.32 | 0.0                 | 0.0  | 12.24              | 12.24 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87011 SEAM - H

SAMPLE ID - 55

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 79.09 ASH % - 21.68 |      |
|----------|-----------------------|-------|-------------|-------|------------|-------|---|------|
|          | ELEMENTAL             |       | WT% ASH%    |       | WT% ASH%   |       | C.V. (MJ KG) C.V.                       |      |
| S.G.TME  | WT%                   | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 | C.V. |
| 1.40     | 0.50                  | 6.10  | 0.50        | 6.10  | 99.50      | 20.74 | 0.0                                     | 0.0  |
| 1.45     | 3.01                  | 4.36  | 3.51        | 4.61  | 96.49      | 21.25 | 0.0                                     | 0.0  |
| 1.50     | 25.61                 | 8.45  | 29.12       | 7.99  | 70.88      | 25.87 | 0.0                                     | 0.0  |
| 1.55     | 39.41                 | 10.27 | 68.53       | 9.30  | 31.47      | 45.41 | 0.0                                     | 0.0  |
| 1.60     | 3.96                  | 21.47 | 72.49       | 9.96  | 27.51      | 48.86 | 0.0                                     | 0.0  |
| 1.70     | 5.04                  | 28.24 | 77.53       | 11.15 | 22.47      | 53.48 | 0.0                                     | 0.0  |
| 1.80     | 6.85                  | 34.97 | 84.38       | 13.09 | 15.62      | 61.60 | 0.0                                     | 0.0  |
| 2.00     | 6.30                  | 45.48 | 90.68       | 15.34 | 9.32       | 72.49 | 0.0                                     | 0.0  |
| 2.60     | 9.32                  | 72.49 | 100.00      | 20.66 | 0.0        | 0.0   | 0.0                                     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 15.84 ASH % - 23.81 |      |
|----------|----------------------|-------|-------------|-------|------------|-------|---|------|
|          | ELEMENTAL            |       | WT% ASH%    |       | WT% ASH%   |       | C.V. (MJ KG) C.V.                       |      |
| S.G.TME  | WT%                  | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 | C.V. |
| 1.40     | 11.79                | 2.75  | 11.79       | 2.75  | 88.21      | 26.40 | 0.0                                     | 0.0  |
| 1.45     | 27.04                | 3.59  | 38.83       | 3.33  | 61.17      | 36.49 | 0.0                                     | 0.0  |
| 1.50     | 19.37                | 11.00 | 58.20       | 5.89  | 41.80      | 48.30 | 0.0                                     | 0.0  |
| 1.55     | 8.19                 | 15.70 | 66.39       | 7.10  | 33.61      | 56.25 | 0.0                                     | 0.0  |
| 1.60     | 3.90                 | 19.70 | 70.29       | 7.80  | 29.71      | 61.04 | 0.0                                     | 0.0  |
| 1.70     | 3.98                 | 25.04 | 74.27       | 8.72  | 25.73      | 66.61 | 0.0                                     | 0.0  |
| 1.80     | 3.03                 | 32.82 | 77.30       | 9.66  | 22.70      | 71.12 | 0.0                                     | 0.0  |
| 2.00     | 3.37                 | 43.32 | 80.67       | 11.07 | 19.33      | 75.97 | 0.0                                     | 0.0  |
| 2.60     | 19.33                | 75.97 | 100.00      | 23.62 | 0.0        | 0.0   | 0.0                                     | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87011 SEAM - H

SAMPLE ID - 55

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 2.95 ASH % - 39.79 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 9.92      | 4.28  | 9.92        | 4.28  | 90.08               | 26.16 | 0.0                | 0.0  |
| 1.45     |          | 13.87     | 5.79  | 23.79       | 5.16  | 76.21               | 29.87 | 0.0                | 0.0  |
| 1.50     |          | 9.24      | 8.05  | 33.03       | 5.97  | 66.97               | 32.88 | 0.0                | 0.0  |
| 1.55     |          | 6.20      | 11.53 | 39.23       | 6.85  | 60.77               | 35.06 | 0.0                | 0.0  |
| 1.60     |          | 3.61      | 15.75 | 42.84       | 7.60  | 57.16               | 36.28 | 0.0                | 0.0  |
| 1.70     |          | 5.52      | 20.66 | 48.36       | 9.09  | 51.64               | 37.95 | 0.0                | 0.0  |
| 1.80     |          | 5.07      | 27.00 | 53.43       | 10.79 | 46.57               | 39.14 | 0.0                | 0.0  |
| 2.00     |          | 6.88      | 39.00 | 60.31       | 14.01 | 39.69               | 39.17 | 0.0                | 0.0  |
| 2.60     |          | 39.69     | 39.17 | 100.00      | 23.99 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.12 ASH % - 51.10 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 51.10 | 100.00      | 51.10 | 0.0                 | 0.0  | 13.20              | 13.20 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87011  
 Coal zone: H  
 Field sample no.: 06873 - 06874 Composite sample no.: 227

----- PRODUCT COAL ANALYSIS (SP4) -----  
 Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.62  
 Contribution (%): 38.86  
 Total yield (%): 38.86

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.87                 |                  |
| Ash (%):                       | 11.55                | 11.65            |
| Volatile matter (%):           | 6.69                 | 6.75             |
| Fixed carbon (%):              | 80.89                | 81.60            |
| Total sulphur (%):             | 0.43                 | 0.43             |
| Combustible sulphur (%):       | 0.36                 |                  |
| Gross calorific value (cal/g): | 7,342.00             | 7,407.00         |
| Volatile matter (dmmf %):      | 6.50                 |                  |
| Hardgrove index:               | 43.00                |                  |
| Phosphorous in coal (%):       | 0.055                |                  |

----- ASH FUSION ANALYSIS (AF1) -----  
OXIDIZING ATM      REDUCING ATM

|                                 |          |          |
|---------------------------------|----------|----------|
| Initial temperature (°C):       | 1,201.00 | 1,182.00 |
| Softening temperature (°C):     | 1,345.00 | 1,319.00 |
| Hemispherical temperature (°C): | 1,369.00 | 1,367.00 |
| Final temperature (°C):         | 1,448.00 | 1,445.00 |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 61.60 | TiO2 (%): | 1.91 |
| Al2O3 (%): | 21.55 | Na2O (%): | 1.90 |
| Fe2O3 (%): | 2.08  | K2O (%):  | 0.67 |
| CaO (%):   | 3.08  | SO3 (%):  | 1.54 |
| MgO (%):   | 2.10  | P2O5 (%): | 1.09 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87011  
 Coal zone: H  
 Field sample no.: 06873 - 06874 Composite sample no.: 421

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 8.21  
 Total yield (%): 8.21

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.88                 |                  |
| Ash (%):                       | 7.55                 | 7.62             |
| Volatile matter (%):           | 6.55                 | 6.61             |
| Fixed carbon (%):              | 85.02                | 85.77            |
| Total sulphur (%):             | 0.41                 | 0.41             |
| Combustible sulphur (%):       | 0.39                 |                  |
| Gross calorific value (cal/g): | 7,703.00             | 7,772.00         |
| Volatile matter (dmmf %):      | 6.40                 |                  |
| Hardgrove index:               | 40.00                |                  |
| Phosphorous in coal (%):       | 0.052                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,227.00             | 1,211.00            |
| Softening temperature (°C):     | 1,343.00             | 1,340.00            |
| Hemispherical temperature (°C): | 1,367.00             | 1,362.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 63.30 | TiO2 (%): | 2.93 |
| Al2O3 (%): | 22.30 | Na2O (%): | 1.97 |
| Fe2O3 (%): | 1.59  | K2O (%):  | 0.74 |
| CaO (%):   | 2.88  | SO3 (%):  | 0.50 |
| MgO (%):   | 1.61  | P2O5 (%): | 1.59 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPMLRDDH87012 SEAM - I

SAMPLE ID - 57

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 50.90 ASH % - 44.51 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 4.42                  | 4.52  | 4.42      | 4.52  | 95.58       | 47.54 | 0.0        | 0.0  |   |           |
| 1.45     | 5.41                  | 4.87  | 9.83      | 4.71  | 90.17       | 50.10 | 0.0        | 0.0  |   |           |
| 1.50     | 23.55                 | 12.47 | 33.38     | 10.19 | 66.62       | 63.41 | 0.0        | 0.0  |   |           |
| 1.55     | 7.00                  | 18.04 | 40.38     | 11.55 | 59.62       | 68.74 | 0.0        | 0.0  |   |           |
| 1.60     | 1.96                  | 23.49 | 42.34     | 12.10 | 57.66       | 70.27 | 0.0        | 0.0  |   |           |
| 1.70     | 4.14                  | 32.90 | 46.48     | 13.95 | 53.52       | 73.16 | 0.0        | 0.0  |   |           |
| 1.80     | 6.43                  | 38.80 | 52.91     | 16.97 | 47.09       | 77.86 | 0.0        | 0.0  |   |           |
| 2.00     | 4.47                  | 55.90 | 57.38     | 20.00 | 42.62       | 80.16 | 0.0        | 0.0  |   |           |
| 2.60     | 42.62                 | 80.16 | 100.00    | 45.64 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 32.19 ASH % - 21.97 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 13.14                | 3.78  | 13.14     | 3.78  | 86.86       | 24.28 | 0.0        | 0.0  |   |           |
| 1.45     | 9.93                 | 4.92  | 23.07     | 4.27  | 76.93       | 26.78 | 0.0        | 0.0  |   |           |
| 1.50     | 33.09                | 9.03  | 56.16     | 7.07  | 43.84       | 40.18 | 0.0        | 0.0  |   |           |
| 1.55     | 9.96                 | 15.62 | 66.12     | 8.36  | 33.88       | 47.40 | 0.0        | 0.0  |   |           |
| 1.60     | 4.20                 | 20.06 | 70.32     | 9.06  | 29.68       | 51.27 | 0.0        | 0.0  |   |           |
| 1.70     | 7.20                 | 24.56 | 77.52     | 10.50 | 22.48       | 59.82 | 0.0        | 0.0  |   |           |
| 1.80     | 4.49                 | 32.08 | 82.01     | 11.68 | 17.99       | 66.75 | 0.0        | 0.0  |   |           |
| 2.00     | 3.81                 | 43.45 | 85.82     | 13.09 | 14.18       | 73.01 | 0.0        | 0.0  |   |           |
| 2.60     | 14.18                | 73.01 | 100.00    | 21.59 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87012 SEAM - I

SAMPLE ID - 57

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X |       | 0.15        |       | RELATIVE WEIGHT % |       | 9.33 ASH % - 20.74 |              |
|---------------------|-----------------|-------|-------------|-------|-------------------|-------|--------------------|--------------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS        |       | C.V.               |              |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%               | ASH%  | (MJ KG)            | CUM.<br>C.V. |
| 1.40                | 10.31           | 3.25  | 10.31       | 3.25  | 89.69             | 21.74 | 0.0                | 0.0          |
| 1.45                | 3.56            | 4.53  | 13.87       | 3.58  | 86.13             | 22.45 | 0.0                | 0.0          |
| 1.50                | 35.03           | 6.13  | 48.90       | 5.41  | 51.10             | 33.64 | 0.0                | 0.0          |
| 1.55                | 12.33           | 11.65 | 61.23       | 6.66  | 38.77             | 40.63 | 0.0                | 0.0          |
| 1.60                | 5.32            | 15.03 | 66.55       | 7.33  | 33.45             | 44.70 | 0.0                | 0.0          |
| 1.70                | 7.50            | 19.43 | 74.05       | 8.56  | 25.95             | 52.01 | 0.0                | 0.0          |
| 1.80                | 7.44            | 25.63 | 81.49       | 10.12 | 18.51             | 62.61 | 0.0                | 0.0          |
| 2.00                | 3.51            | 39.06 | 85.00       | 11.31 | 15.00             | 68.12 | 0.0                | 0.0          |
| 2.60                | 15.00           | 68.12 | 100.00      | 19.83 | 0.0               | 0.0   | 0.0                | 0.0          |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X |       | 0.00        |       | RELATIVE WEIGHT % |      | 7.58 ASH % - 21.67 |              |
|---------------------|-----------------|-------|-------------|-------|-------------------|------|--------------------|--------------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS        |      | C.V.               |              |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%               | ASH% | (MJ KG)            | CUM.<br>C.V. |
| 240.00              | 100.00          | 21.67 | 100.00      | 21.67 | 0.0               | 0.0  | 25.37              | 25.37        |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87012  
 Coal zone: 1  
 Field sample no.: 06880 Composite sample no.: 228

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.46  
 Contribution (%): 10.27  
 Total yield (%): 10.27

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.68                 |                  |
| Ash (%):                       | 5.67                 | 5.71             |
| Volatile matter (%):           | 5.75                 | 5.79             |
| Fixed carbon (%):              | 87.90                | 88.50            |
| Total sulphur (%):             | 0.48                 | 0.48             |
| Combustible sulphur (%):       | 0.46                 |                  |
| Gross calorific value (cal/g): | 7,999.00             | 8,054.00         |
| Volatile matter (dmmf %):      | 5.50                 |                  |
| Hardgrove index:               | 48.00                |                  |
| Phosphorous in coal (%):       | 0.020                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,148.00             | 1,132.00            |
| Softening temperature (°C):     | 1,338.00             | 1,264.00            |
| Hemispherical temperature (°C): | 1,395.00             | 1,332.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 62.08 | TiO2 (%): | 0.75 |
| Al2O3 (%): | 21.41 | Na2O (%): | 1.56 |
| Fe2O3 (%): | 3.05  | K2O (%):  | 0.73 |
| CaO (%):   | 1.96  | SO3 (%):  | 0.74 |
| MgO (%):   | 2.29  | P2O5 (%): | 0.79 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87012  
 Coal zone: 1  
 Field sample no.: 06880 Composite sample no.: 422

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 18.63  
 Total yield (%): 18.63

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.82                 |                  |
| Ash (%):                       | 6.81                 | 6.87             |
| Volatile matter (%):           | 6.42                 | 6.47             |
| Fixed carbon (%):              | 85.95                | 86.66            |
| Total sulphur (%):             | 0.45                 | 0.45             |
| Combustible sulphur (%):       | 0.44                 |                  |
| Gross calorific value (cal/g): | 7,801.00             | 7,866.00         |
| Volatile matter (dmmf %):      | 6.30                 |                  |
| Phosphorous in coal (%):       | 0.020                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,143.00             | 1,095.00            |
| Softening temperature (°C):     | 1,367.00             | 1,317.00            |
| Hemispherical temperature (°C): | 1,398.00             | 1,359.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 67.86 | TiO2 (%): | 1.32 |
| Al2O3 (%): | 21.17 | Na2O (%): | 1.89 |
| Fe2O3 (%): | 2.35  | K2O (%):  | 0.71 |
| CaO (%):   | 1.62  | SO3 (%):  | 0.55 |
| MgO (%):   | 2.04  | P2O5 (%): | 0.66 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87012 SEAM - H

SAMPLE ID - 58

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |      | 6.00        |       | RELATIVE WEIGHT % - 76.26 ASH % - 56.44 |       |         |      |
|----------|----------|-----------|------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     | 0.27     | 3.59      |      | 0.27        | 3.59  | 99.73                                   | 55.38 | 0.0     | 0.0  |
| 1.45     | 0.30     | 8.12      |      | 0.57        | 5.97  | 99.43                                   | 55.53 | 0.0     | 0.0  |
| 1.50     | 4.44     | 17.06     |      | 5.01        | 15.80 | 94.99                                   | 57.32 | 0.0     | 0.0  |
| 1.55     | 3.01     | 18.94     |      | 8.02        | 16.98 | 91.98                                   | 58.58 | 0.0     | 0.0  |
| 1.60     | 3.91     | 21.46     |      | 11.93       | 18.45 | 88.07                                   | 60.23 | 0.0     | 0.0  |
| 1.70     | 10.65    | 27.72     |      | 22.58       | 22.82 | 77.42                                   | 64.70 | 0.0     | 0.0  |
| 1.80     | 11.23    | 34.99     |      | 33.81       | 26.86 | 66.19                                   | 69.74 | 0.0     | 0.0  |
| 2.00     | 19.80    | 49.03     |      | 53.61       | 35.05 | 46.39                                   | 78.58 | 0.0     | 0.0  |
| 2.60     | 46.39    | 78.58     |      | 100.00      | 55.24 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |      | 0.50        |       | RELATIVE WEIGHT % - 18.54 ASH % - 39.47 |       |         |      |
|----------|----------|-----------|------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     | 8.67     | 5.42      |      | 8.67        | 5.42  | 91.33                                   | 41.51 | 0.0     | 0.0  |
| 1.45     | 3.09     | 6.38      |      | 11.76       | 5.67  | 88.24                                   | 42.74 | 0.0     | 0.0  |
| 1.50     | 20.41    | 7.61      |      | 32.17       | 6.90  | 67.83                                   | 53.31 | 0.0     | 0.0  |
| 1.55     | 4.04     | 16.37     |      | 36.21       | 7.96  | 63.79                                   | 55.65 | 0.0     | 0.0  |
| 1.60     | 4.19     | 20.75     |      | 40.40       | 9.28  | 59.60                                   | 58.10 | 0.0     | 0.0  |
| 1.70     | 7.25     | 24.52     |      | 47.65       | 11.60 | 52.35                                   | 62.75 | 0.0     | 0.0  |
| 1.80     | 7.70     | 31.90     |      | 55.35       | 14.43 | 44.65                                   | 68.07 | 0.0     | 0.0  |
| 2.00     | 9.39     | 43.48     |      | 64.74       | 18.64 | 35.26                                   | 74.62 | 0.0     | 0.0  |
| 2.60     | 35.26    | 74.62     |      | 100.00      | 38.38 | 0.0                                     | 0.0   | 0.0     | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87012 SEAM - H

SAMPLE ID - 58

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15   |             | RELATIVE WEIGHT % - |       | 3.27 ASH % - 40.04 |      |      |      |
|----------|----------|-----------|------|--------|-------------|---------------------|-------|--------------------|------|------|------|
|          |          | ELEMENTAL | WT%  | ASH%   | CUM. FLDATS | WT%                 | ASH%  | CUM. SINKS         | WT%  | ASH% | C.V. |
| S.G.TME  |          | WT%       | ASH% | WT%    | ASH%        | WT%                 | ASH%  | (MJ KG)            | C.V. |      |      |
| 1.40     | 2.70     | 4.13      |      | 2.70   | 4.13        | 97.30               | 41.19 | 0.0                | 0.0  |      |      |
| 1.45     | 4.89     | 7.98      |      | 7.59   | 6.61        | 92.41               | 42.95 | 0.0                | 0.0  |      |      |
| 1.50     | 9.60     | 9.59      |      | 17.19  | 8.27        | 82.81               | 46.82 | 0.0                | 0.0  |      |      |
| 1.55     | 13.39    | 15.36     |      | 30.58  | 11.38       | 69.42               | 52.88 | 0.0                | 0.0  |      |      |
| 1.60     | 9.37     | 22.35     |      | 39.95  | 13.95       | 60.05               | 57.65 | 0.0                | 0.0  |      |      |
| 1.70     | 4.48     | 27.47     |      | 44.43  | 15.31       | 55.57               | 60.08 | 0.0                | 0.0  |      |      |
| 1.80     | 9.89     | 32.47     |      | 54.32  | 18.44       | 45.68               | 66.06 | 0.0                | 0.0  |      |      |
| 2.00     | 12.47    | 39.26     |      | 66.79  | 22.33       | 33.21               | 76.12 | 0.0                | 0.0  |      |      |
| 2.60     | 33.21    | 76.12     |      | 100.00 | 40.19       | 0.0                 | 0.0   | 0.0                | 0.0  |      |      |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00   |             | RELATIVE WEIGHT % - |      | 1.93 ASH % - 44.87 |       |      |      |
|----------|----------|-----------|------|--------|-------------|---------------------|------|--------------------|-------|------|------|
|          |          | ELEMENTAL | WT%  | ASH%   | CUM. FLDATS | WT%                 | ASH% | CUM. SINKS         | WT%   | ASH% | C.V. |
| S.G.TME  |          | WT%       | ASH% | WT%    | ASH%        | WT%                 | ASH% | (MJ KG)            | C.V.  |      |      |
| 240.00   | 100.00   | 44.87     |      | 100.00 | 44.87       | 0.0                 | 0.0  | 16.09              | 16.09 |      |      |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87012 SEAM - H

SAMPLE ID - 59

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 69.85 ASH % - 23.93 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 6.03                  | 2.33  | 6.03      | 2.33  | 93.97       | 25.93 | 0.0        | 0.0  |   |           |
| 1.45     | 24.28                 | 7.82  | 30.31     | 6.73  | 69.69       | 32.24 | 0.0        | 0.0  |   |           |
| 1.50     | 26.23                 | 11.85 | 56.54     | 9.10  | 43.46       | 44.54 | 0.0        | 0.0  |   |           |
| 1.55     | 10.32                 | 18.11 | 66.86     | 10.49 | 33.14       | 52.77 | 0.0        | 0.0  |   |           |
| 1.60     | 3.75                  | 23.50 | 70.61     | 11.18 | 29.39       | 56.50 | 0.0        | 0.0  |   |           |
| 1.70     | 2.69                  | 30.68 | 73.30     | 11.90 | 26.70       | 59.11 | 0.0        | 0.0  |   |           |
| 1.80     | 3.07                  | 36.93 | 76.37     | 12.91 | 23.63       | 61.99 | 0.0        | 0.0  |   |           |
| 2.00     | 8.84                  | 48.78 | 85.21     | 16.63 | 14.79       | 69.88 | 0.0        | 0.0  |   |           |
| 2.60     | 14.79                 | 69.88 | 100.00    | 24.50 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 21.64 ASH % - 19.01 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 21.54                | 2.29  | 21.54     | 2.29  | 78.46       | 22.81 | 0.0        | 0.0  |   |           |
| 1.45     | 24.85                | 6.72  | 46.39     | 4.66  | 53.61       | 30.27 | 0.0        | 0.0  |   |           |
| 1.50     | 17.44                | 11.29 | 63.83     | 6.47  | 36.17       | 39.42 | 0.0        | 0.0  |   |           |
| 1.55     | 7.95                 | 16.25 | 71.78     | 7.56  | 28.22       | 45.94 | 0.0        | 0.0  |   |           |
| 1.60     | 4.22                 | 20.00 | 76.00     | 8.25  | 24.00       | 50.51 | 0.0        | 0.0  |   |           |
| 1.70     | 5.46                 | 25.42 | 81.46     | 9.40  | 18.54       | 57.89 | 0.0        | 0.0  |   |           |
| 1.80     | 2.97                 | 33.27 | 84.43     | 10.24 | 15.57       | 62.59 | 0.0        | 0.0  |   |           |
| 2.00     | 4.60                 | 43.25 | 89.03     | 11.94 | 10.97       | 70.70 | 0.0        | 0.0  |   |           |
| 2.60     | 10.97                | 70.70 | 100.00    | 18.39 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87012 SEAM - H

SAMPLE ID - 59

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X  |       | 0.15   |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 5.16 ASH % - 22.93 |              |
|---------------------|------------------|-------|--------|-------|-------------|-------|------------|------|--|--------------|
|                     | ELEMENTAL<br>WT% | ASH%  | WT%    | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                        | CUM.<br>C.V. |
| 1.40                | 28.99            | 3.19  | 28.99  | 3.19  | 71.01       | 29.97 | 0.0        | 0.0  |  |              |
| 1.45                | 12.31            | 5.76  | 41.30  | 3.96  | 58.70       | 35.04 | 0.0        | 0.0  |  |              |
| 1.50                | 10.28            | 9.59  | 51.58  | 5.08  | 48.42       | 40.45 | 0.0        | 0.0  |  |              |
| 1.55                | 8.37             | 11.98 | 59.95  | 6.04  | 40.05       | 46.40 | 0.0        | 0.0  |  |              |
| 1.60                | 3.94             | 17.61 | 63.89  | 6.76  | 36.11       | 49.54 | 0.0        | 0.0  |  |              |
| 1.70                | 7.06             | 19.73 | 70.95  | 8.05  | 29.05       | 56.78 | 0.0        | 0.0  |  |              |
| 1.80                | 5.80             | 27.85 | 76.75  | 9.54  | 23.25       | 64.00 | 0.0        | 0.0  |  |              |
| 2.00                | 7.44             | 41.74 | 84.19  | 12.39 | 15.81       | 74.48 | 0.0        | 0.0  |  |              |
| 2.60                | 15.81            | 74.48 | 100.00 | 22.21 | 0.0         | 0.0   | 0.0        | 0.0  |  |              |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X  |       | 0.00   |       | CUM. FLOATS |      | CUM. SINKS |       | RELATIVE WEIGHT % - 3.35 ASH % - 33.09 |              |
|---------------------|------------------|-------|--------|-------|-------------|------|------------|-------|--|--------------|
|                     | ELEMENTAL<br>WT% | ASH%  | WT%    | ASH%  | WT%         | ASH% | WT%        | ASH%  | C.V.<br>(MJ KG)                        | CUM.<br>C.V. |
| 240.00              | 100.00           | 33.09 | 100.00 | 33.09 | 0.0         | 0.0  | 20.86      | 20.86 |  |              |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87012  
 Coal zone: H  
 Field sample no.: 06883 - 06884 Composite sample no.: 229

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.59  
 Contribution(%): 27.57  
 Total yield(%): 27.57

|                               | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|-------------------------------|----------------------|------------------|
| Proximate analysis            |                      |                  |
| Residual moisture(%):         | 0.69                 |                  |
| Ash(%):                       | 10.43                | 10.50            |
| Volatile matter(%):           | 6.70                 | 6.75             |
| Fixed carbon(%):              | 82.18                | 82.75            |
| Total sulphur(%):             | 0.46                 | 0.46             |
| Combustible sulphur(%):       | 0.42                 |                  |
| Gross calorific value(cal/g): | 7,454.00             | 7,506.00         |
| Volatile matter(dmmf%):       | 6.50                 |                  |
| Hardgrove index:              | 41.00                |                  |
| Phosphorous in coal(%):       | 0.198                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,216.00             | 1,185.00            |
| Softening temperature(°C):     | 1,253.00             | 1,211.00            |
| Hemispherical temperature(°C): | 1,274.00             | 1,235.00            |
| Final temperature(°C):         | 1,306.00             | 1,303.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|           |       |          |      |
|-----------|-------|----------|------|
| SiO2(%):  | 50.36 | TiO2(%): | 2.15 |
| Al2O3(%): | 23.06 | Na2O(%): | 2.37 |
| Fe2O3(%): | 4.34  | K2O(%):  | 0.72 |
| CaO(%):   | 6.72  | SO3(%):  | 1.04 |
| MgO(%):   | 2.12  | P2O5(%): | 4.34 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87012  
 Coal zone: H  
 Field sample no.: 06883 - 06884 Composite sample no.: 423

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size(mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.54  
 Contribution(%): 10.64  
 Total yield(%): 10.64

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture(%) :         | 0.86                 |                  |
| Ash(%) :                       | 8.31                 | 8.38             |
| Volatile matter(%) :           | 6.77                 | 6.83             |
| Fixed carbon(%) :              | 84.06                | 84.79            |
| Total sulphur(%) :             | 0.46                 | 0.46             |
| Combustible sulphur(%) :       | 0.43                 |                  |
| Gross calorific value(cal/g) : | 7,658.00             | 7,724.00         |
| Volatile matter(dmmf%) :       | 6.60                 |                  |
| Hardgrove index :              | 40.00                |                  |
| Phosphorous in coal(%) :       | 0.101                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,216.00             | 1,185.00            |
| Softening temperature(°C) :     | 1,269.00             | 1,216.00            |
| Hemispherical temperature(°C) : | 1,277.00             | 1,235.00            |
| Final temperature(°C) :         | 1,343.00             | 1,341.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2(%) :  | 54.80 | TiO2(%) : | 3.75 |
| Al2O3(%) : | 23.06 | Na2O(%) : | 2.24 |
| Fe2O3(%) : | 3.53  | K2O(%) :  | 0.77 |
| CaO(%) :   | 4.98  | SO3(%) :  | 1.02 |
| MgO(%) :   | 2.09  | P2O5(%) : | 2.79 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87013 SEAM - J

SAMPLE ID - 60

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 50.66 |       | ASH % - 34.29 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 0.48      | 3.35  | 0.48        | 3.35  | 99.52                     | 35.26 | 0.0           | 0.0  |
| 1.45     |          | 6.52      | 7.69  | 7.00        | 7.39  | 93.00                     | 37.19 | 0.0           | 0.0  |
| 1.50     |          | 6.76      | 10.73 | 13.76       | 9.03  | 86.24                     | 39.27 | 0.0           | 0.0  |
| 1.55     |          | 9.26      | 15.67 | 23.02       | 11.70 | 76.98                     | 42.11 | 0.0           | 0.0  |
| 1.60     |          | 18.06     | 24.44 | 41.08       | 17.30 | 58.92                     | 47.52 | 0.0           | 0.0  |
| 1.70     |          | 21.00     | 27.18 | 62.08       | 20.64 | 37.92                     | 58.79 | 0.0           | 0.0  |
| 1.80     |          | 5.52      | 35.25 | 67.60       | 21.84 | 32.40                     | 62.80 | 0.0           | 0.0  |
| 2.00     |          | 7.69      | 41.17 | 75.29       | 23.81 | 24.71                     | 69.53 | 0.0           | 0.0  |
| 2.60     |          | 24.71     | 69.53 | 100.00      | 35.11 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 38.92 |       | ASH % - 20.16 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 4.03      | 2.07  | 4.03        | 2.07  | 95.97                     | 20.01 | 0.0           | 0.0  |
| 1.45     |          | 30.40     | 5.73  | 34.43       | 5.30  | 65.57                     | 26.63 | 0.0           | 0.0  |
| 1.50     |          | 25.38     | 9.70  | 59.81       | 7.17  | 40.19                     | 37.32 | 0.0           | 0.0  |
| 1.55     |          | 8.77      | 14.71 | 68.58       | 8.13  | 31.42                     | 43.63 | 0.0           | 0.0  |
| 1.60     |          | 3.87      | 19.42 | 72.45       | 8.74  | 27.55                     | 47.03 | 0.0           | 0.0  |
| 1.70     |          | 6.79      | 23.92 | 79.24       | 10.04 | 20.76                     | 54.59 | 0.0           | 0.0  |
| 1.80     |          | 3.99      | 31.48 | 83.23       | 11.06 | 16.77                     | 60.09 | 0.0           | 0.0  |
| 2.00     |          | 4.55      | 41.74 | 87.78       | 12.65 | 12.22                     | 66.92 | 0.0           | 0.0  |
| 2.60     |          | 12.22     | 66.92 | 100.00      | 19.29 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87013 SEAM - J

SAMPLE ID - 60

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 6.94 ASH % - 29.01 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 0.40     | 7.25      |      | 0.40        | 7.25  | 99.60               | 28.32 | 0.0                | 0.0  |
| 1.45     | 21.09    | 3.92      |      | 21.49       | 3.98  | 78.51               | 34.87 | 0.0                | 0.0  |
| 1.50     | 22.99    | 7.23      |      | 44.48       | 5.66  | 55.52               | 46.32 | 0.0                | 0.0  |
| 1.55     | 6.87     | 10.45     |      | 51.35       | 6.30  | 48.65               | 51.39 | 0.0                | 0.0  |
| 1.60     | 5.57     | 13.15     |      | 56.92       | 6.97  | 43.08               | 56.33 | 0.0                | 0.0  |
| 1.70     | 6.17     | 18.74     |      | 63.09       | 8.12  | 36.91               | 62.61 | 0.0                | 0.0  |
| 1.80     | 4.18     | 25.03     |      | 67.27       | 9.17  | 32.73               | 67.41 | 0.0                | 0.0  |
| 2.00     | 5.07     | 37.42     |      | 72.34       | 11.15 | 27.66               | 72.91 | 0.0                | 0.0  |
| 2.60     | 27.66    | 72.91     |      | 100.00      | 28.23 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 3.48 ASH % - 38.59 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 38.59     |      | 100.00      | 38.59 | 0.0                 | 0.0  | 18.07              | 18.07 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87013  
 Coal zone: J  
 Field sample no.: 06892 Composite sample no.: 230

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.55  
 Contribution (%): 14.73  
 Total yield (%): 14.73

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.83                 |                  |
| Ash (%):                       | 10.16                | 10.25            |
| Volatile matter (%):           | 6.60                 | 6.66             |
| Fixed carbon (%):              | 82.41                | 83.09            |
| Total sulphur (%):             | 0.62                 | 0.63             |
| Combustible sulphur (%):       | 0.57                 |                  |
| Gross calorific value (cal/g): | 7,194.00             | 7,254.00         |
| Volatile matter (dmmf%):       | 6.40                 |                  |
| Hardgrove index:               | 41.00                |                  |
| Phosphorous in coal (%):       | 0.138                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,206.00             | 1,156.00            |
| Softening temperature (°C):     | 1,222.00             | 1,209.00            |
| Hemispherical temperature (°C): | 1,264.00             | 1,261.00            |
| Final temperature (°C):         | 1,372.00             | 1,359.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 50.96 | TiO2 (%): | 2.00 |
| Al2O3 (%): | 24.57 | Na2O (%): | 1.40 |
| Fe2O3 (%): | 3.36  | K2O (%):  | 1.55 |
| CaO (%):   | 4.51  | SO3 (%):  | 1.13 |
| MgO (%):   | 3.40  | P2O5 (%): | 3.10 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87013  
 Coal zone: J  
 Field sample no.: 06892 Composite sample no.: 424

----- PRODUCT COAL ANALYSIS (SP3) -----  
 Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 24.29  
 Total yield (%): 24.29

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.74                 |                  |
| Ash (%):                       | 7.44                 | 7.50             |
| Volatile matter (%):           | 7.50                 | 7.56             |
| Fixed carbon (%):              | 84.32                | 84.94            |
| Total sulphur (%):             | 0.62                 | 0.62             |
| Combustible sulphur (%):       | 0.60                 |                  |
| Gross calorific value (cal/g): | 7,677.00             | 7,734.00         |
| Volatile matter (dmmf%):       | 7.40                 |                  |
| Hardgrove index:               | 44.00                |                  |
| Phosphorous in coal (%):       | 0.083                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,211.00             | 1,164.00            |
| Softening temperature (°C):     | 1,259.00             | 1,238.00            |
| Hemispherical temperature (°C): | 1,269.00             | 1,261.00            |
| Final temperature (°C):         | 1,374.00             | 1,359.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 49.14 | TiO2 (%): | 2.15 |
| Al2O3 (%): | 25.33 | Na2O (%): | 1.35 |
| Fe2O3 (%): | 3.65  | K2O (%):  | 1.62 |
| CaO (%):   | 4.84  | SO3 (%):  | 0.59 |
| MgO (%):   | 3.98  | P2O5 (%): | 2.55 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87013 SEAM - I

SAMPLE ID - 61

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 66.68 |       | ASH % - 46.23 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 0.10      | 5.07  | 0.10        | 5.07  | 99.90                     | 47.44 | 0.0           | 0.0  |
| 1.45     |          | 4.39      | 4.80  | 4.49        | 4.81  | 95.51                     | 49.40 | 0.0           | 0.0  |
| 1.50     |          | 4.63      | 9.26  | 9.12        | 7.07  | 90.88                     | 51.45 | 0.0           | 0.0  |
| 1.55     |          | 5.70      | 12.09 | 14.82       | 9.00  | 85.18                     | 54.08 | 0.0           | 0.0  |
| 1.60     |          | 7.07      | 15.08 | 21.89       | 10.96 | 78.11                     | 57.61 | 0.0           | 0.0  |
| 1.70     |          | 13.63     | 27.04 | 35.52       | 17.13 | 64.48                     | 64.07 | 0.0           | 0.0  |
| 1.80     |          | 8.03      | 36.48 | 43.55       | 20.70 | 56.45                     | 68.00 | 0.0           | 0.0  |
| 2.00     |          | 10.37     | 47.01 | 53.92       | 25.76 | 46.08                     | 72.72 | 0.0           | 0.0  |
| 2.60     |          | 46.08     | 72.72 | 100.00      | 47.40 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 26.63 |       | ASH % - 24.50 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 2.27      | 19.65 | 2.27        | 19.65 | 97.73                     | 24.48 | 0.0           | 0.0  |
| 1.45     |          | 31.31     | 4.44  | 33.58       | 5.47  | 66.42                     | 33.92 | 0.0           | 0.0  |
| 1.50     |          | 16.14     | 8.42  | 49.72       | 6.43  | 50.28                     | 42.11 | 0.0           | 0.0  |
| 1.55     |          | 7.35      | 12.94 | 57.07       | 7.27  | 42.93                     | 47.10 | 0.0           | 0.0  |
| 1.60     |          | 3.57      | 16.34 | 60.64       | 7.80  | 39.36                     | 49.89 | 0.0           | 0.0  |
| 1.70     |          | 8.38      | 22.00 | 69.02       | 9.52  | 30.98                     | 57.44 | 0.0           | 0.0  |
| 1.80     |          | 5.15      | 29.35 | 74.17       | 10.90 | 25.83                     | 63.04 | 0.0           | 0.0  |
| 2.00     |          | 7.99      | 40.33 | 82.16       | 13.76 | 17.84                     | 73.21 | 0.0           | 0.0  |
| 2.60     |          | 17.84     | 73.21 | 100.00      | 24.37 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87013 SEAM - I

SAMPLE ID - 61

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 4.27    | ASH % - | 24.37 |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|---------|---------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.    | CUM.    |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG) | C.V.    |       |
| 1.40     |          | 3.65      | 2.46  | 3.65        | 2.46  | 96.35               | 28.88 | 0.0     | 0.0     |       |
| 1.45     |          | 20.44     | 2.90  | 24.09       | 2.83  | 75.91               | 35.87 | 0.0     | 0.0     |       |
| 1.50     |          | 15.36     | 5.70  | 39.45       | 3.95  | 60.55               | 43.52 | 0.0     | 0.0     |       |
| 1.55     |          | 7.58      | 9.23  | 47.03       | 4.80  | 52.97               | 48.43 | 0.0     | 0.0     |       |
| 1.60     |          | 3.55      | 9.87  | 50.58       | 5.16  | 49.42               | 51.20 | 0.0     | 0.0     |       |
| 1.70     |          | 8.64      | 16.82 | 59.22       | 6.86  | 40.78               | 58.49 | 0.0     | 0.0     |       |
| 1.80     |          | 8.06      | 29.03 | 67.28       | 9.51  | 32.72               | 65.74 | 0.0     | 0.0     |       |
| 2.00     |          | 6.24      | 32.06 | 73.52       | 11.43 | 26.48               | 73.68 | 0.0     | 0.0     |       |
| 2.60     |          | 26.48     | 73.68 | 100.00      | 27.91 | 0.0                 | 0.0   | 0.0     | 0.0     |       |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.42    | ASH % - | 38.63 |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|---------|---------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.    | CUM.    |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG) | C.V.    |       |
| 240.00   |          | 100.00    | 38.63 | 100.00      | 38.63 | 0.0                 | 0.0  | 18.50   | 18.50   |       |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87013 SEAM - I

SAMPLE ID - 62

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 54.94 |       | ASH % - 12.20 |      |
|-------------------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|                   | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME           | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40              | 5.77      | 1.58  | 5.77        | 1.58  | 94.23                     | 13.35 | 0.0           | 0.0  |
| 1.45              | 39.51     | 4.79  | 45.28       | 4.38  | 54.72                     | 19.54 | 0.0           | 0.0  |
| 1.50              | 22.04     | 8.53  | 67.32       | 5.74  | 32.68                     | 26.96 | 0.0           | 0.0  |
| 1.55              | 9.86      | 14.85 | 77.18       | 6.90  | 22.82                     | 32.20 | 0.0           | 0.0  |
| 1.60              | 6.81      | 19.60 | 83.99       | 7.93  | 16.01                     | 37.55 | 0.0           | 0.0  |
| 1.70              | 9.53      | 24.74 | 93.52       | 9.65  | 6.48                      | 56.40 | 0.0           | 0.0  |
| 1.80              | 1.26      | 34.17 | 94.78       | 9.97  | 5.22                      | 61.76 | 0.0           | 0.0  |
| 2.00              | 1.06      | 40.31 | 95.84       | 10.31 | 4.16                      | 67.23 | 0.0           | 0.0  |
| 2.60              | 4.16      | 67.23 | 100.00      | 12.67 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 32.66 |       | ASH % - 11.75 |      |
|-------------------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|                   | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME           | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40              | 11.27     | 1.53  | 11.27       | 1.53  | 88.73                     | 12.60 | 0.0           | 0.0  |
| 1.45              | 40.36     | 4.27  | 51.63       | 3.67  | 48.37                     | 19.55 | 0.0           | 0.0  |
| 1.50              | 16.83     | 8.93  | 68.46       | 4.96  | 31.54                     | 25.21 | 0.0           | 0.0  |
| 1.55              | 9.64      | 13.70 | 78.10       | 6.04  | 21.90                     | 30.28 | 0.0           | 0.0  |
| 1.60              | 5.41      | 17.03 | 83.51       | 6.75  | 16.49                     | 34.62 | 0.0           | 0.0  |
| 1.70              | 7.32      | 21.21 | 90.83       | 7.92  | 9.17                      | 45.33 | 0.0           | 0.0  |
| 1.80              | 3.00      | 27.96 | 93.83       | 8.56  | 6.17                      | 53.78 | 0.0           | 0.0  |
| 2.00              | 2.16      | 37.39 | 95.99       | 9.21  | 4.01                      | 62.61 | 0.0           | 0.0  |
| 2.60              | 4.01      | 62.61 | 100.00      | 11.35 | 0.0                       | 0.0   | 0.0           | 0.0  |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87013 SEAM - I

SAMPLE ID - 62

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 0.50 X           |      | 0.15               |       | RELATIVE WEIGHT % - |       | 7.87 ASH % - 15.12 |              |
|---------------------|----------|------------------|------|--------------------|-------|---------------------|-------|--------------------|--------------|
|                     |          | ELEMENTAL<br>WT% | ASH% | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%   | ASH%  | C.V.<br>(MJ KG)    | CUM.<br>C.V. |
| 1.40                | 7.00     | 1.68             |      | 7.00               | 1.68  | 93.00               | 15.32 | 0.0                | 0.0          |
| 1.45                | 18.85    | 2.61             |      | 25.85              | 2.36  | 74.15               | 18.55 | 0.0                | 0.0          |
| 1.50                | 21.64    | 5.23             |      | 47.49              | 3.67  | 52.51               | 24.04 | 0.0                | 0.0          |
| 1.55                | 2.71     | 7.50             |      | 50.20              | 3.87  | 49.80               | 24.94 | 0.0                | 0.0          |
| 1.60                | 8.75     | 9.17             |      | 58.95              | 4.66  | 41.05               | 28.30 | 0.0                | 0.0          |
| 1.70                | 14.22    | 12.66            |      | 73.17              | 6.21  | 26.83               | 36.59 | 0.0                | 0.0          |
| 1.80                | 11.26    | 19.83            |      | 84.43              | 8.03  | 15.57               | 48.72 | 0.0                | 0.0          |
| 2.00                | 7.30     | 30.62            |      | 91.73              | 9.83  | 8.27                | 64.69 | 0.0                | 0.0          |
| 2.60                | 8.27     | 64.69            |      | 100.00             | 14.37 | 0.0                 | 0.0   | 0.0                | 0.0          |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) | 0.15 X           |      | 0.00               |       | RELATIVE WEIGHT % - |      | 4.53 ASH % - 21.53 |              |
|---------------------|----------|------------------|------|--------------------|-------|---------------------|------|--------------------|--------------|
|                     |          | ELEMENTAL<br>WT% | ASH% | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%   | ASH% | C.V.<br>(MJ KG)    | CUM.<br>C.V. |
| 240.00              | 100.00   | 21.53            |      | 100.00             | 21.53 | 0.0                 | 0.0  | 24.67              | 24.67        |

Coal Quality<sup>#2</sup>  
Data  
Confidential

~~CONFIDENTIAL~~

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===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87013  
 Coal zone: 1  
 Field sample no.: 06895 Composite sample no.: 231

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.48  
 Contribution (%): 5.04  
 Total yield (%): 5.04

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.83                 |                  |
| Ash (%):                       | 5.72                 | 5.77             |
| Volatile matter (%):           | 5.92                 | 5.97             |
| Fixed carbon (%):              | 87.53                | 88.26            |
| Total sulphur (%):             | 0.52                 | 0.52             |
| Combustible sulphur (%):       | 0.50                 |                  |
| Gross calorific value (cal/g): | 7,870.00             | 7,936.00         |
| Volatile matter (dmmf %):      | 5.70                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.024                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,206.00             | 1,114.00            |
| Softening temperature(°C):     | 1,253.00             | 1,211.00            |
| Hemispherical temperature(°C): | 1,266.00             | 1,222.00            |
| Final temperature(°C):         | 1,353.00             | 1,293.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 49.96 | TiO2 (%): | 0.84 |
| Al2O3 (%): | 21.87 | Na2O (%): | 1.54 |
| Fe2O3 (%): | 8.29  | K2O (%):  | 1.25 |
| CaO (%):   | 4.80  | SO3 (%):  | 0.95 |
| MgO (%):   | 5.43  | P2O5 (%): | 0.98 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87013  
 Coal zone: 1  
 Field sample no.: 06895 Composite sample no.: 231

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.56  
 Contribution (%): 7.33  
 Total yield (%): 7.33

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.75                 |                  |
| Ash (%):                       | 12.75                | 12.85            |
| Volatile matter (%):           | 8.13                 | 8.19             |
| Fixed carbon (%):              | 78.37                | 78.96            |
| Total sulphur (%):             | 0.47                 | 0.47             |
| Combustible sulphur (%):       | 0.42                 |                  |
| Gross calorific value (cal/g): | 7,115.00             | 7,169.00         |
| Volatile matter (dmmf%):       | 8.20                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.018                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,180.00             | 1,111.00            |
| Softening temperature (°C):     | 1,289.00             | 1,230.00            |
| Hemispherical temperature (°C): | 1,301.00             | 1,253.00            |
| Final temperature (°C):         | 1,369.00             | 1,353.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 64.28 | TiO2 (%): | 1.80 |
| Al2O3 (%): | 16.26 | Na2O (%): | 1.24 |
| Fe2O3 (%): | 5.09  | K2O (%):  | 0.95 |
| CaO (%):   | 2.38  | SO3 (%):  | 1.04 |
| MgO (%):   | 3.39  | P2O5 (%): | 0.33 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87013  
 Coal zone: 1  
 Field sample no.: 06896 Composite sample no.: 232

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 40.15  
 Total yield (%): 40.15

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.81                 |                  |
| Ash (%):                       | 5.95                 | 6.00             |
| Volatile matter (%):           | 5.66                 | 5.71             |
| Fixed carbon (%):              | 87.58                | 88.29            |
| Total sulphur (%):             | 0.52                 | 0.52             |
| Combustible sulphur (%):       | 0.52                 |                  |
| Gross calorific value (cal/g): | 7,861.00             | 7,925.00         |
| Volatile matter (dmmf %):      | 5.40                 |                  |
| Hardgrove index:               | 42.00                |                  |
| Phosphorous in coal (%):       | 0.212                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,222.00             | 1,169.00            |
| Softening temperature (°C):     | 1,238.00             | 1,222.00            |
| Hemispherical temperature (°C): | 1,274.00             | 1,272.00            |
| Final temperature (°C):         | 1,343.00             | 1,340.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 41.62 | TiO2 (%): | 0.99 |
| Al2O3 (%): | 27.09 | Na2O (%): | 1.50 |
| Fe2O3 (%): | 3.72  | K2O (%):  | 1.49 |
| CaO (%):   | 7.47  | SO3 (%):  | 0.17 |
| MgO (%):   | 3.20  | P2O5 (%): | 8.17 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87013  
 Coal zone: 1  
 Field sample no.: 06895 - 06896 Composite sample no.: 425

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.64  
 Contribution(%): 24.29  
 Total yield(%): 24.29

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture(%) :         | 0.84                 |                  |
| Ash(%) :                       | 7.20                 | 7.26             |
| Volatile matter(%) :           | 7.53                 | 7.59             |
| Fixed carbon(%) :              | 84.43                | 85.15            |
| Total sulphur(%) :             | 0.51                 | 0.51             |
| Combustible sulphur(%) :       | 0.46                 |                  |
| Gross calorific value(cal/g) : | 7,526.00             | 7,590.00         |
| Volatile matter(dmmf%) :       | 7.50                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal(%) :       | 0.087                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,159.00             | 1,111.00            |
| Softening temperature(°C) :     | 1,269.00             | 1,230.00            |
| Hemispherical temperature(°C) : | 1,290.00             | 1,256.00            |
| Final temperature(°C) :         | 1,361.00             | 1,357.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2(%) :  | 55.80 | TiO2(%) : | 1.80 |
| Al2O3(%) : | 23.06 | Na2O(%) : | 1.50 |
| Fe2O3(%) : | 3.52  | K2O(%) :  | 1.18 |
| CaO(%) :   | 4.00  | SO3(%) :  | 1.64 |
| MgO(%) :   | 3.17  | P2O5(%) : | 2.77 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87013 SEAM - H

SAMPLE ID - 63

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |      | 6.00        |       | RELATIVE WEIGHT % - 29.77 |       | ASH % - 30.61 |      |
|----------|----------|-----------|------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     | 3.22     | 4.09      |      | 3.22        | 4.09  | 96.78                     | 32.33 | 0.0           | 0.0  |
| 1.45     | 12.46    | 5.44      |      | 15.68       | 5.16  | 84.32                     | 36.30 | 0.0           | 0.0  |
| 1.50     | 14.79    | 8.60      |      | 30.47       | 6.83  | 69.53                     | 42.20 | 0.0           | 0.0  |
| 1.55     | 12.66    | 13.03     |      | 43.13       | 8.65  | 56.87                     | 48.69 | 0.0           | 0.0  |
| 1.60     | 13.43    | 18.08     |      | 56.56       | 10.89 | 43.44                     | 58.15 | 0.0           | 0.0  |
| 1.70     | 10.68    | 23.06     |      | 67.24       | 12.82 | 32.76                     | 69.59 | 0.0           | 0.0  |
| 1.80     | 2.28     | 27.48     |      | 69.52       | 13.30 | 30.48                     | 72.74 | 0.0           | 0.0  |
| 2.00     | 1.76     | 41.97     |      | 71.28       | 14.01 | 28.72                     | 74.63 | 0.0           | 0.0  |
| 2.60     | 28.72    | 74.63     |      | 100.00      | 31.42 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |      | 0.50        |       | RELATIVE WEIGHT % - 46.84 |       | ASH % - 11.79 |      |
|----------|----------|-----------|------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     | 5.58     | 1.82      |      | 5.58        | 1.82  | 94.42                     | 13.64 | 0.0           | 0.0  |
| 1.45     | 32.46    | 4.50      |      | 38.04       | 4.11  | 61.96                     | 18.43 | 0.0           | 0.0  |
| 1.50     | 21.05    | 7.79      |      | 59.09       | 5.42  | 40.91                     | 23.90 | 0.0           | 0.0  |
| 1.55     | 12.03    | 11.81     |      | 71.12       | 6.50  | 28.88                     | 28.94 | 0.0           | 0.0  |
| 1.60     | 6.95     | 14.79     |      | 78.07       | 7.24  | 21.93                     | 33.42 | 0.0           | 0.0  |
| 1.70     | 12.02    | 18.54     |      | 90.09       | 8.75  | 9.91                      | 51.47 | 0.0           | 0.0  |
| 1.80     | 3.16     | 28.16     |      | 93.25       | 9.40  | 6.75                      | 62.39 | 0.0           | 0.0  |
| 2.00     | 2.16     | 40.43     |      | 95.41       | 10.11 | 4.59                      | 72.72 | 0.0           | 0.0  |
| 2.60     | 4.59     | 72.72     |      | 100.00      | 12.98 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87013 SEAM - H

SAMPLE ID - 63

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % |       | 15.39 ASH % - 12.99 |      |
|----------|----------|-----------|-------|-------------|-------|-------------------|-------|---------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS        |       | C.V.                | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%               | ASH%  | (MJ KG)             | C.V. |
| 1.40     |          | 1.13      | 2.83  | 1.13        | 2.83  | 98.87             | 12.68 | 0.0                 | 0.0  |
| 1.45     |          | 22.67     | 2.93  | 23.80       | 2.93  | 76.20             | 15.58 | 0.0                 | 0.0  |
| 1.50     |          | 23.87     | 5.41  | 47.67       | 4.17  | 52.33             | 20.23 | 0.0                 | 0.0  |
| 1.55     |          | 9.36      | 8.26  | 57.03       | 4.84  | 42.97             | 22.83 | 0.0                 | 0.0  |
| 1.60     |          | 5.84      | 10.77 | 62.87       | 5.39  | 37.13             | 24.73 | 0.0                 | 0.0  |
| 1.70     |          | 20.02     | 13.02 | 82.89       | 7.23  | 17.11             | 38.43 | 0.0                 | 0.0  |
| 1.80     |          | 7.67      | 20.07 | 90.56       | 8.32  | 9.44              | 53.35 | 0.0                 | 0.0  |
| 2.00     |          | 3.84      | 32.46 | 94.40       | 9.30  | 5.60              | 67.67 | 0.0                 | 0.0  |
| 2.60     |          | 5.60      | 67.67 | 100.00      | 12.57 | 0.0               | 0.0   | 0.0                 | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % |      | 8.00 ASH % - 17.17 |       |
|----------|----------|-----------|-------|-------------|-------|-------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS        |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%               | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 17.17 | 100.00      | 17.17 | 0.0               | 0.0  | 26.75              | 26.75 |



===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 26, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87013  
 Coal zone: H  
 Field sample no.: 06899 Composite sample no.: 233

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.66  
 Contribution (%): 18.58  
 Total yield (%): 18.58

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.99                 |                  |
| Ash (%):                       | 11.01                | 11.12            |
| Volatile matter (%):           | 7.80                 | 7.88             |
| Fixed carbon (%):              | 80.20                | 81.00            |
| Total sulphur (%):             | 0.52                 | 0.53             |
| Combustible sulphur (%):       | 0.48                 |                  |
| Gross calorific value (cal/g): | 7,306.00             | 7,379.00         |
| Volatile matter (dmmf %):      | 7.80                 |                  |
| Hardgrove index:               | 67.00                |                  |
| Phosphorous in coal (%):       | 0.232                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,224.00             | 1,180.00            |
| Softening temperature (°C):     | 1,259.00             | 1,232.00            |
| Hemispherical temperature (°C): | 1,274.00             | 1,261.00            |
| Final temperature (°C):         | 1,327.00             | 1,325.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 48.48 | TiO2 (%): | 1.63 |
| Al2O3 (%): | 22.30 | Na2O (%): | 1.27 |
| Fe2O3 (%): | 3.80  | K2O (%):  | 1.72 |
| CaO (%):   | 7.25  | SO3 (%):  | 0.82 |
| MgO (%):   | 4.73  | P2O5 (%): | 4.82 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87013  
 Coal zone: H  
 Field sample no.: 06899 Composite sample no.: 426

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.62  
 Contribution (%): 37.35  
 Total yield (%): 37.35

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.99                 |                  |
| Ash (%):                       | 7.32                 | 7.39             |
| Volatile matter (%):           | 6.58                 | 6.65             |
| Fixed carbon (%):              | 85.11                | 85.96            |
| Total sulphur (%):             | 0.54                 | 0.55             |
| Combustible sulphur (%):       | 0.52                 |                  |
| Gross calorific value (cal/g): | 7,727.00             | 7,604.00         |
| Volatile matter (dmmf %):      | 6.40                 |                  |
| Hardgrove index:               | 61.00                |                  |
| Phosphorous in coal (%):       | 0.181                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,248.00             | 1,111.00            |
| Softening temperature (°C):     | 1,259.00             | 1,201.00            |
| Hemispherical temperature (°C): | 1,272.00             | 1,248.00            |
| Final temperature (°C):         | 1,290.00             | 1,264.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 45.70 | TiO2 (%): | 1.63 |
| Al2O3 (%): | 24.57 | Na2O (%): | 1.37 |
| Fe2O3 (%): | 2.70  | K2O (%):  | 1.67 |
| CaO (%):   | 8.06  | SO3 (%):  | 0.80 |
| MgO (%):   | 4.00  | P2O5 (%): | 5.65 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87013 SEAM - PH

SAMPLE ID - 64

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 59.46 ASH % - 41.89 |      |
|----------|-----------------------|-------|-------------|-------|------------|-------|---|------|
|          | ELEMENTAL             |       | WT% ASH%    |       | WT% ASH%   |       | C.V. CUM.                               |      |
| S.G.TME  | WT%                   | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 | C.V. |
| 1.45     | 1.28                  | 5.23  | 1.28        | 5.23  | 98.72      | 41.44 | 0.0                                     | 0.0  |
| 1.50     | 4.14                  | 10.63 | 5.42        | 9.35  | 94.58      | 42.79 | 0.0                                     | 0.0  |
| 1.55     | 4.36                  | 15.59 | 9.78        | 12.13 | 90.22      | 44.11 | 0.0                                     | 0.0  |
| 1.60     | 6.95                  | 21.48 | 16.73       | 16.02 | 83.27      | 45.99 | 0.0                                     | 0.0  |
| 1.70     | 24.55                 | 27.89 | 41.28       | 23.08 | 58.72      | 53.56 | 0.0                                     | 0.0  |
| 1.80     | 9.30                  | 34.32 | 50.58       | 25.15 | 49.42      | 57.19 | 0.0                                     | 0.0  |
| 2.00     | 20.16                 | 44.35 | 70.74       | 30.62 | 29.26      | 66.03 | 0.0                                     | 0.0  |
| 2.60     | 29.26                 | 66.03 | 100.00      | 40.98 | 0.0        | 0.0   | 0.0                                     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 29.49 ASH % - 25.06 |      |
|----------|----------------------|-------|-------------|-------|------------|-------|---|------|
|          | ELEMENTAL            |       | WT% ASH%    |       | WT% ASH%   |       | C.V. CUM.                               |      |
| S.G.TME  | WT%                  | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 | C.V. |
| 1.40     | 0.87                 | 2.67  | 0.87        | 2.67  | 99.13      | 24.30 | 0.0                                     | 0.0  |
| 1.45     | 14.70                | 5.10  | 15.57       | 4.96  | 84.43      | 27.64 | 0.0                                     | 0.0  |
| 1.50     | 18.69                | 9.10  | 34.26       | 7.22  | 65.74      | 32.91 | 0.0                                     | 0.0  |
| 1.55     | 11.90                | 13.98 | 46.16       | 8.96  | 53.84      | 37.09 | 0.0                                     | 0.0  |
| 1.60     | 10.37                | 17.95 | 56.53       | 10.61 | 43.47      | 41.66 | 0.0                                     | 0.0  |
| 1.70     | 16.40                | 23.38 | 72.93       | 13.48 | 27.07      | 52.73 | 0.0                                     | 0.0  |
| 1.80     | 7.80                 | 30.90 | 80.73       | 15.17 | 19.27      | 61.57 | 0.0                                     | 0.0  |
| 2.00     | 6.89                 | 39.86 | 87.62       | 17.11 | 12.38      | 73.65 | 0.0                                     | 0.0  |
| 2.60     | 12.38                | 73.65 | 100.00      | 24.11 | 0.0        | 0.0   | 0.0                                     | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87013 SEAM - PH

SAMPLE ID - 64

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 7.14 ASH % - 24.78 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.45     |          | 13.04     | 2.75  | 13.04       | 2.75  | 86.96               | 26.58 | 0.0                | 0.0  |
| 1.50     |          | 28.02     | 7.28  | 41.06       | 5.84  | 58.94               | 35.76 | 0.0                | 0.0  |
| 1.55     |          | 5.06      | 11.36 | 46.12       | 6.45  | 53.88               | 38.05 | 0.0                | 0.0  |
| 1.60     |          | 9.27      | 14.15 | 55.39       | 7.74  | 44.61               | 43.02 | 0.0                | 0.0  |
| 1.70     |          | 11.61     | 18.67 | 67.00       | 9.63  | 33.00               | 51.59 | 0.0                | 0.0  |
| 1.80     |          | 8.43      | 24.26 | 75.43       | 11.27 | 24.57               | 60.97 | 0.0                | 0.0  |
| 2.00     |          | 7.52      | 35.04 | 82.95       | 13.42 | 17.05               | 72.40 | 0.0                | 0.0  |
| 2.60     |          | 17.05     | 72.40 | 100.00      | 23.48 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 3.91 ASH % - 30.07 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 30.07 | 100.00      | 30.07 | 0.0                 | 0.0  | 21.92              | 21.92 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87013  
 Coal zone: Ph  
 Field sample no.: 07052 Composite sample no.: 234

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.55  
 Contribution (%): 4.84  
 Total yield (%): 4.84

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.79                 |                  |
| Ash (%):                       | 10.67                | 10.76            |
| Volatile matter (%):           | 5.06                 | 5.10             |
| Fixed carbon (%):              | 83.48                | 84.14            |
| Total sulphur (%):             | 0.49                 | 0.49             |
| Combustible sulphur (%):       | 0.46                 |                  |
| Gross calorific value (cal/g): | 7,306.00             | 7,365.00         |
| Volatile matter (dmmf%):       | 4.60                 |                  |
| Hardgrove index:               | 54.00                |                  |
| Phosphorous in coal (%):       | 0.011                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,209.00             | 1,137.00            |
| Softening temperature(°C):     | 1,301.00             | 1,264.00            |
| Hemispherical temperature(°C): | 1,322.00             | 1,290.00            |
| Final temperature(°C):         | 1,419.00             | 1,417.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 68.20 | TiO2 (%): | 1.95 |
| Al2O3 (%): | 17.01 | Na2O (%): | 1.78 |
| Fe2O3 (%): | 2.06  | K2O (%):  | 1.00 |
| CaO (%):   | 2.53  | SO3 (%):  | 0.69 |
| MgO (%):   | 2.55  | P2O5 (%): | 0.24 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87013  
 Coal zone: Ph  
 Field sample no.: 07052 Composite sample no.: 427

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 10.44  
 Total yield (%): 10.44

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.81                 |                  |
| Ash (%) :                       | 6.74                 | 6.80             |
| Volatile matter (%) :           | 5.56                 | 5.61             |
| Fixed carbon (%) :              | 86.89                | 87.59            |
| Total sulphur (%) :             | 0.51                 | 0.51             |
| Combustible sulphur (%) :       | 0.50                 |                  |
| Gross calorific value (cal/g) : | 7,789.00             | 7,853.00         |
| Volatile matter (dmmf%) :       | 5.30                 |                  |
| Hardgrove index:                | 56.00                |                  |
| Phosphorous in coal (%) :       | 0.011                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,211.00             | 1,132.00            |
| Softening temperature (°C) :     | 1,309.00             | 1,269.00            |
| Hemispherical temperature (°C) : | 1,348.00             | 1,293.00            |
| Final temperature (°C) :         | 1,427.00             | 1,422.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|                                      |       |                                     |      |
|--------------------------------------|-------|-------------------------------------|------|
| SiO <sub>2</sub> (%) :               | 59.46 | TiO <sub>2</sub> (%) :              | 3.29 |
| Al <sub>2</sub> O <sub>3</sub> (%) : | 21.17 | Na <sub>2</sub> O (%) :             | 1.92 |
| Fe <sub>2</sub> O <sub>3</sub> (%) : | 3.10  | K <sub>2</sub> O (%) :              | 1.22 |
| CaO (%) :                            | 2.57  | SO <sub>3</sub> (%) :               | 0.52 |
| MgO (%) :                            | 3.03  | P <sub>2</sub> O <sub>5</sub> (%) : | 0.37 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87014 SEAM - I

SAMPLE ID - 66

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 41.88 ASH % - 30.87 |              |
|---------------------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|                     | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| 1.40                | 6.18                  | 7.69  | 6.18      | 7.69  | 93.82       | 31.42 | 0.0        | 0.0  |   |              |
| 1.45                | 7.12                  | 8.40  | 13.30     | 8.07  | 86.70       | 33.31 | 0.0        | 0.0  |   |              |
| 1.50                | 13.88                 | 13.26 | 27.18     | 10.72 | 72.82       | 37.14 | 0.0        | 0.0  |   |              |
| 1.55                | 13.03                 | 18.33 | 40.21     | 13.19 | 59.79       | 41.24 | 0.0        | 0.0  |   |              |
| 1.60                | 11.72                 | 23.27 | 51.93     | 15.46 | 48.07       | 45.62 | 0.0        | 0.0  |   |              |
| 1.70                | 10.64                 | 28.20 | 62.57     | 17.63 | 37.43       | 50.57 | 0.0        | 0.0  |   |              |
| 1.80                | 5.67                  | 37.30 | 68.24     | 19.26 | 31.76       | 52.94 | 0.0        | 0.0  |   |              |
| 2.00                | 22.49                 | 42.60 | 90.73     | 25.05 | 9.27        | 78.01 | 0.0        | 0.0  |   |              |
| 2.60                | 9.27                  | 78.01 | 100.00    | 29.96 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 39.75 ASH % - 14.41 |              |
|---------------------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|                     | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| 1.40                | 31.82                | 2.92  | 31.82     | 2.92  | 68.18       | 18.82 | 0.0        | 0.0  |   |              |
| 1.45                | 20.38                | 6.25  | 52.20     | 4.22  | 47.80       | 24.18 | 0.0        | 0.0  |   |              |
| 1.50                | 13.09                | 10.28 | 65.29     | 5.44  | 34.71       | 29.43 | 0.0        | 0.0  |   |              |
| 1.55                | 10.03                | 13.60 | 75.32     | 6.52  | 24.68       | 35.86 | 0.0        | 0.0  |   |              |
| 1.60                | 5.52                 | 16.42 | 80.84     | 7.20  | 19.16       | 41.46 | 0.0        | 0.0  |   |              |
| 1.70                | 7.21                 | 20.49 | 88.05     | 8.29  | 11.95       | 54.11 | 0.0        | 0.0  |   |              |
| 1.80                | 2.78                 | 28.35 | 90.83     | 8.90  | 9.17        | 61.92 | 0.0        | 0.0  |   |              |
| 2.00                | 2.44                 | 39.58 | 93.27     | 9.70  | 6.73        | 70.02 | 0.0        | 0.0  |   |              |
| 2.60                | 6.73                 | 70.02 | 100.00    | 13.76 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPMLRDDH87014 SEAM - I

SAMPLE ID - 66

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X |       | 0.15        |       | RELATIVE WEIGHT % - 11.48 |       | ASH % - 13.00 |      |
|---------------------|-----------------|-------|-------------|-------|---------------------------|-------|---------------|------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40                | 26.20           | 2.09  | 26.20       | 2.09  | 73.80                     | 15.63 | 0.0           | 0.0  |
| 1.45                | 22.65           | 3.76  | 48.85       | 2.86  | 51.15                     | 20.88 | 0.0           | 0.0  |
| 1.50                | 12.18           | 6.08  | 61.03       | 3.51  | 38.97                     | 25.51 | 0.0           | 0.0  |
| 1.55                | 8.13            | 8.80  | 69.16       | 4.13  | 30.84                     | 29.91 | 0.0           | 0.0  |
| 1.60                | 8.95            | 10.72 | 78.11       | 4.88  | 21.89                     | 37.76 | 0.0           | 0.0  |
| 1.70                | 7.85            | 14.84 | 85.96       | 5.79  | 14.04                     | 50.57 | 0.0           | 0.0  |
| 1.80                | 4.00            | 22.75 | 89.96       | 6.55  | 10.04                     | 61.65 | 0.0           | 0.0  |
| 2.00                | 2.01            | 36.34 | 91.97       | 7.20  | 8.03                      | 67.99 | 0.0           | 0.0  |
| 2.60                | 8.03            | 67.99 | 100.00      | 12.08 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X |       | 0.00        |       | RELATIVE WEIGHT % - 6.89 |      | ASH % - 15.17 |       |
|---------------------|-----------------|-------|-------------|-------|--------------------------|------|---------------|-------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS               |      | C.V.          | CUM.  |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                      | ASH% | (MJ KG)       | C.V.  |
| 240.00              | 100.00          | 15.17 | 100.00      | 15.17 | 0.0                      | 0.0  | 27.94         | 27.94 |



===== GULF CANADA CORPORATION - COAL DIVISION =====

----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87014  
 Coal zone: 1  
 Field sample no.: 07057 Composite sample no.: 235

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 12.69  
 Total yield (%): 12.69

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.91                 |                  |
| Ash (%) :                       | 10.58                | 10.68            |
| Volatile matter (%) :           | 7.11                 | 7.18             |
| Fixed carbon (%) :              | 81.40                | 82.14            |
| Total sulphur (%) :             | 0.44                 | 0.44             |
| Combustible sulphur (%) :       | 0.42                 |                  |
| Gross calorific value (cal/g) : | 7,416.00             | 7,484.00         |
| Volatile matter (dmmf%) :       | 7.00                 |                  |
| Hardgrove index:                | 56.00                |                  |
| Phosphorous in coal (%) :       | 0.108                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,206.00             | 1,135.00            |
| Softening temperature (°C) :     | 1,261.00             | 1,222.00            |
| Hemispherical temperature (°C) : | 1,274.00             | 1,240.00            |
| Final temperature (°C) :         | 1,359.00             | 1,322.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 59.24 | TiO2 (%) : | 1.05 |
| Al2O3 (%) : | 19.28 | Na2O (%) : | 1.94 |
| Fe2O3 (%) : | 3.04  | K2O (%) :  | 0.97 |
| CaO (%) :   | 4.28  | SO3 (%) :  | 0.51 |
| MgO (%) :   | 2.70  | P2O5 (%) : | 2.33 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87014  
 Coal zone: 1  
 Field sample no.: 07057 Composite sample no.: 428

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.63  
 Contribution (%): 32.89  
 Total yield (%): 32.89

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.96                 |                  |
| Ash (%) :                       | 7.03                 | 7.10             |
| Volatile matter (%) :           | 7.88                 | 7.96             |
| Fixed carbon (%) :              | 84.13                | 84.94            |
| Total sulphur (%) :             | 0.45                 | 0.45             |
| Combustible sulphur (%) :       | 0.44                 |                  |
| Gross calorific value (cal/g) : | 7,734.00             | 7,809.00         |
| Volatile matter (dmmf%) :       | 7.90                 |                  |
| Hardgrove index :               | 59.00                |                  |
| Phosphorous in coal (%) :       | 0.091                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,209.00             | 1,108.00            |
| Softening temperature(°C) :     | 1,277.00             | 1,232.00            |
| Hemispherical temperature(°C) : | 1,295.00             | 1,259.00            |
| Final temperature(°C) :         | 1,427.00             | 1,390.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 56.54 | TiO2 (%) : | 1.73 |
| Al2O3 (%) : | 22.68 | Na2O (%) : | 2.13 |
| Fe2O3 (%) : | 2.15  | K2O (%) :  | 1.00 |
| CaO (%) :   | 4.38  | SO3 (%) :  | 0.52 |
| MgO (%) :   | 2.11  | P2O5 (%) : | 2.97 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87015 SEAM - L

SAMPLE ID - 67

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 67.60 ASH % - 45.39 |     | C.V. | CUM. C.V. |
|----------|-----------------------|-------|-------------|-------|------------|-------|---|-----|------|-----------|
|          | WT%                   | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 |     |      |           |
| S.G.TME  |                       |       |             |       |            |       |   |     |      |           |
| 1.40     | 0.86                  | 6.85  | 0.86        | 6.85  | 99.14      | 44.71 | 0.0                                     | 0.0 |      |           |
| 1.45     | 5.19                  | 7.10  | 6.05        | 7.06  | 93.95      | 46.79 | 0.0                                     | 0.0 |      |           |
| 1.50     | 6.33                  | 11.94 | 12.38       | 9.56  | 87.62      | 49.31 | 0.0                                     | 0.0 |      |           |
| 1.55     | 7.92                  | 16.77 | 20.30       | 12.37 | 79.70      | 52.54 | 0.0                                     | 0.0 |      |           |
| 1.60     | 7.32                  | 22.34 | 27.62       | 15.01 | 72.38      | 55.60 | 0.0                                     | 0.0 |      |           |
| 1.70     | 8.28                  | 28.88 | 35.90       | 18.21 | 64.10      | 59.05 | 0.0                                     | 0.0 |      |           |
| 1.80     | 7.98                  | 36.32 | 43.88       | 21.50 | 56.12      | 62.28 | 0.0                                     | 0.0 |      |           |
| 2.00     | 14.58                 | 45.52 | 58.46       | 27.49 | 41.54      | 68.16 | 0.0                                     | 0.0 |      |           |
| 2.60     | 41.54                 | 68.16 | 100.00      | 44.39 | 0.0        | 0.0   | 0.0                                     | 0.0 |      |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 26.40 ASH % - 28.83 |     | C.V. | CUM. C.V. |
|----------|----------------------|-------|-------------|-------|------------|-------|---|-----|------|-----------|
|          | WT%                  | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 |     |      |           |
| S.G.TME  |                      |       |             |       |            |       |   |     |      |           |
| 1.40     | 4.77                 | 2.41  | 4.77        | 2.41  | 95.23      | 30.67 | 0.0                                     | 0.0 |      |           |
| 1.45     | 16.30                | 5.79  | 21.07       | 5.02  | 78.93      | 35.81 | 0.0                                     | 0.0 |      |           |
| 1.50     | 12.31                | 11.15 | 33.38       | 7.28  | 66.62      | 40.36 | 0.0                                     | 0.0 |      |           |
| 1.55     | 11.26                | 16.07 | 44.64       | 9.50  | 55.36      | 45.30 | 0.0                                     | 0.0 |      |           |
| 1.60     | 6.63                 | 20.16 | 51.27       | 10.88 | 48.73      | 48.72 | 0.0                                     | 0.0 |      |           |
| 1.70     | 11.83                | 24.87 | 63.10       | 13.50 | 36.90      | 56.37 | 0.0                                     | 0.0 |      |           |
| 1.80     | 7.82                 | 31.52 | 70.92       | 15.49 | 29.08      | 63.05 | 0.0                                     | 0.0 |      |           |
| 2.00     | 9.84                 | 41.83 | 80.76       | 18.70 | 19.24      | 73.91 | 0.0                                     | 0.0 |      |           |
| 2.60     | 19.24                | 73.91 | 100.00      | 29.32 | 0.0        | 0.0   | 0.0                                     | 0.0 |      |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87015 SEAM - L

SAMPLE ID - 67

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 3.99 ASH % - 38.89 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 1.58      | 3.48  | 1.58        | 3.48  | 98.42               | 37.89 | 0.0                | 0.0  |
| 1.45     |          | 9.47      | 3.16  | 11.05       | 3.21  | 88.95               | 41.59 | 0.0                | 0.0  |
| 1.50     |          | 3.77      | 7.49  | 14.82       | 4.30  | 85.18               | 43.09 | 0.0                | 0.0  |
| 1.55     |          | 12.40     | 8.95  | 27.22       | 6.42  | 72.78               | 48.91 | 0.0                | 0.0  |
| 1.60     |          | 7.39      | 14.22 | 34.61       | 8.08  | 65.39               | 52.83 | 0.0                | 0.0  |
| 1.70     |          | 8.21      | 19.45 | 42.82       | 10.26 | 57.18               | 57.63 | 0.0                | 0.0  |
| 1.80     |          | 8.81      | 24.16 | 51.63       | 12.63 | 48.37               | 63.72 | 0.0                | 0.0  |
| 2.00     |          | 13.43     | 36.59 | 65.06       | 17.58 | 34.94               | 74.15 | 0.0                | 0.0  |
| 2.60     |          | 34.94     | 74.15 | 100.00      | 37.34 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.01 ASH % - 48.78 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 48.78 | 100.00      | 48.78 | 0.0                 | 0.0  | 14.45              | 14.45 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlR00H87015  
 Coal zone: L  
 Field sample no.: 07090 Composite sample no.: 236

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 12.09  
 Total yield (%): 12.09

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.85                 |                  |
| Ash (%):                       | 10.04                | 10.13            |
| Volatile matter (%):           | 5.93                 | 5.98             |
| Fixed carbon (%):              | 83.18                | 83.89            |
| Total sulphur (%):             | 0.54                 | 0.54             |
| Combustible sulphur (%):       | 0.53                 |                  |
| Gross calorific value (cal/g): | 7,579.00             | 7,644.00         |
| Volatile matter (dmmf %):      | 5.60                 |                  |
| Hardgrove index:               | 40.00                |                  |
| Phosphorous in coal (%):       | 0.242                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,214.00             | 1,187.00            |
| Softening temperature (°C):     | 1,261.00             | 1,209.00            |
| Hemispherical temperature (°C): | 1,274.00             | 1,230.00            |
| Final temperature (°C):         | 1,298.00             | 1,274.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 53.30 | TiO2 (%): | 2.20 |
| Al2O3 (%): | 20.79 | Na2O (%): | 2.18 |
| Fe2O3 (%): | 4.15  | K2O (%):  | 0.92 |
| CaO (%):   | 4.24  | SO3 (%):  | 0.34 |
| MgO (%):   | 2.24  | P2O5 (%): | 5.53 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87015  
 Coal zone: L  
 Field sample no.: 07090 Composite sample no.: 429

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.51  
 Contribution(%): 8.88  
 Total yield(%): 8.88

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.91                 |                  |
| Ash (%) :                       | 7.81                 | 7.88             |
| Volatile matter (%) :           | 6.22                 | 6.28             |
| Fixed carbon (%) :              | 85.06                | 85.84            |
| Total sulphur (%) :             | 0.63                 | 0.64             |
| Combustible sulphur (%) :       | 0.61                 |                  |
| Gross calorific value (cal/g) : | 7,643.00             | 7,714.00         |
| Volatile matter (dmmf%) :       | 6.00                 |                  |
| Hardgrove index:                | 40.00                |                  |
| Phosphorous in coal (%) :       | 0.050                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,243.00             | 1,180.00            |
| Softening temperature(°C) :     | 1,277.00             | 1,211.00            |
| Hemispherical temperature(°C) : | 1,295.00             | 1,232.00            |
| Final temperature(°C) :         | 1,359.00             | 1,338.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 57.38 | TiO2 (%) : | 3.60 |
| Al2O3 (%) : | 20.04 | Na2O (%) : | 1.76 |
| Fe2O3 (%) : | 5.18  | K2O (%) :  | 0.96 |
| CaO (%) :   | 3.66  | SO3 (%) :  | 0.59 |
| MgO (%) :   | 2.61  | P2O5 (%) : | 1.46 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDHB7015 SEAM - K

SAMPLE ID - 68

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 41.06 |       | ASH % - 30.44 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 1.87      | 1.74  | 1.87        | 1.74  | 98.13                     | 32.02 | 0.0           | 0.0  |
| 1.45     |          | 3.77      | 5.67  | 5.64        | 4.37  | 94.36                     | 33.07 | 0.0           | 0.0  |
| 1.50     |          | 16.46     | 11.42 | 22.10       | 9.62  | 77.90                     | 37.65 | 0.0           | 0.0  |
| 1.55     |          | 12.21     | 15.03 | 34.31       | 11.55 | 65.69                     | 41.85 | 0.0           | 0.0  |
| 1.60     |          | 3.91      | 17.69 | 38.22       | 12.17 | 61.78                     | 43.38 | 0.0           | 0.0  |
| 1.70     |          | 8.28      | 23.68 | 46.50       | 14.22 | 53.50                     | 46.43 | 0.0           | 0.0  |
| 1.80     |          | 16.54     | 28.67 | 63.04       | 18.01 | 36.96                     | 54.38 | 0.0           | 0.0  |
| 2.00     |          | 9.32      | 39.59 | 72.36       | 20.79 | 27.64                     | 59.37 | 0.0           | 0.0  |
| 2.60     |          | 27.64     | 59.37 | 100.00      | 31.46 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 43.39 |       | ASH % - 18.38 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 6.62      | 1.86  | 6.62        | 1.86  | 93.38                     | 18.75 | 0.0           | 0.0  |
| 1.45     |          | 19.36     | 4.66  | 25.98       | 3.95  | 74.02                     | 22.43 | 0.0           | 0.0  |
| 1.50     |          | 19.85     | 9.10  | 45.83       | 6.18  | 54.17                     | 27.31 | 0.0           | 0.0  |
| 1.55     |          | 12.25     | 12.69 | 58.08       | 7.55  | 41.92                     | 31.59 | 0.0           | 0.0  |
| 1.60     |          | 6.96      | 15.08 | 65.04       | 8.36  | 34.96                     | 34.87 | 0.0           | 0.0  |
| 1.70     |          | 10.65     | 19.02 | 75.69       | 9.86  | 24.31                     | 41.82 | 0.0           | 0.0  |
| 1.80     |          | 7.47      | 24.74 | 83.16       | 11.19 | 16.84                     | 49.40 | 0.0           | 0.0  |
| 2.00     |          | 7.28      | 34.88 | 90.44       | 13.10 | 9.56                      | 60.45 | 0.0           | 0.0  |
| 2.60     |          | 9.56      | 60.45 | 100.00      | 17.63 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87015 SEAM - K

SAMPLE ID - 68

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - 10.31 ASH % - 20.61 |       |         |      |
|----------|----------|-----------|-------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ/KG) | C.V. |
| 1.40     |          | 1.12      | 2.93  | 1.12        | 2.93  | 98.88                                   | 20.13 | 0.0     | 0.0  |
| 1.45     |          | 15.73     | 2.69  | 16.85       | 2.71  | 83.15                                   | 23.43 | 0.0     | 0.0  |
| 1.50     |          | 15.49     | 5.34  | 32.34       | 3.97  | 67.66                                   | 27.57 | 0.0     | 0.0  |
| 1.55     |          | 12.77     | 7.87  | 45.11       | 5.07  | 54.89                                   | 32.15 | 0.0     | 0.0  |
| 1.60     |          | 5.75      | 10.57 | 50.86       | 5.69  | 49.14                                   | 34.68 | 0.0     | 0.0  |
| 1.70     |          | 15.19     | 13.04 | 66.05       | 7.38  | 33.95                                   | 44.36 | 0.0     | 0.0  |
| 1.80     |          | 9.82      | 19.83 | 75.87       | 8.99  | 24.13                                   | 54.34 | 0.0     | 0.0  |
| 2.00     |          | 9.80      | 32.34 | 85.67       | 11.66 | 14.33                                   | 69.38 | 0.0     | 0.0  |
| 2.60     |          | 14.33     | 69.38 | 100.00      | 19.94 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - 5.24 ASH % - 31.01 |      |         |       |
|----------|----------|-----------|-------|-------------|-------|--|------|---------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                             |      | C.V.    | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                    | ASH% | (MJ/KG) | C.V.  |
| 240.00   |          | 100.00    | 31.01 | 100.00      | 31.01 | 0.0                                    | 0.0  | 21.22   | 21.22 |



===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87015  
 Coal zone: K  
 Field sample no.: 07093 Composite sample no.: 237

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.59  
 Contribution (%): 15.07  
 Total yield (%): 15.07

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.97                 |                  |
| Ash (%):                       | 11.46                | 11.57            |
| Volatile matter (%):           | 6.81                 | 6.88             |
| Fixed carbon (%):              | 80.76                | 81.55            |
| Total sulphur (%):             | 0.60                 | 0.61             |
| Combustible sulphur (%):       | 0.57                 |                  |
| Gross calorific value (cal/g): | 7,361.00             | 7,433.00         |
| Volatile matter (dmmf%):       | 6.60                 |                  |
| Hardgrove index:               | 44.00                |                  |
| Phosphorous in coal (%):       | 0.005                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,274.00             | 1,266.00            |
| Softening temperature(°C):     | 1,277.00             | 1,274.00            |
| Hemispherical temperature(°C): | 1,280.00             | 1,278.00            |
| Final temperature(°C):         | 1,298.00             | 1,296.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 46.31 | TiO2 (%): | 2.03 |
| Al2O3 (%): | 26.95 | Na2O (%): | 2.19 |
| Fe2O3 (%): | 3.56  | K2O (%):  | 1.20 |
| CaO (%):   | 9.61  | SO3 (%):  | 0.72 |
| MgO (%):   | 2.52  | P2O5 (%): | 0.10 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87015  
 Coal zone: K  
 Field sample no.: 07093 Composite sample no.: 430

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.55  
 Contribution (%): 24.25  
 Total yield (%): 24.25

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.87                 |                  |
| Ash (%):                       | 7.52                 | 7.59             |
| Volatile matter (%):           | 6.98                 | 7.04             |
| Fixed carbon (%):              | 84.63                | 85.37            |
| Total sulphur (%):             | 0.56                 | 0.56             |
| Combustible sulphur (%):       | 0.53                 |                  |
| Gross calorific value (cal/g): | 7,768.00             | 7,836.00         |
| Volatile matter (dmmf %):      | 6.80                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.074                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,277.00             | 1,261.00            |
| Softening temperature (°C):     | 1,343.00             | 1,290.00            |
| Hemispherical temperature (°C): | 1,361.00             | 1,322.00            |
| Final temperature (°C):         | 1,430.00             | 1,426.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 53.26 | TiO2 (%): | 2.24 |
| Al2O3 (%): | 26.08 | Na2O (%): | 1.99 |
| Fe2O3 (%): | 3.73  | K2O (%):  | 1.35 |
| CaO (%):   | 4.34  | SO3 (%):  | 1.10 |
| MgO (%):   | 3.11  | P2O5 (%): | 2.25 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87015 SEAM - H

SAMPLE ID - 69

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 69.15 ASH % - 41.79 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 0.08                  | 4.86  | 0.08      | 4.86  | 99.92       | 40.52 | 0.0        | 0.0  |   |           |
| 1.45     | 2.53                  | 3.79  | 2.61      | 3.82  | 97.39       | 41.47 | 0.0        | 0.0  |   |           |
| 1.50     | 11.37                 | 9.15  | 13.98     | 8.16  | 86.02       | 45.74 | 0.0        | 0.0  |   |           |
| 1.55     | 12.29                 | 15.12 | 26.27     | 11.41 | 73.73       | 50.85 | 0.0        | 0.0  |   |           |
| 1.60     | 13.16                 | 19.60 | 39.43     | 14.15 | 60.57       | 57.64 | 0.0        | 0.0  |   |           |
| 1.70     | 12.21                 | 27.33 | 51.64     | 17.26 | 48.36       | 65.29 | 0.0        | 0.0  |   |           |
| 1.80     | 4.34                  | 34.67 | 55.98     | 18.61 | 44.02       | 68.31 | 0.0        | 0.0  |   |           |
| 2.00     | 11.32                 | 44.72 | 67.30     | 23.00 | 32.70       | 76.47 | 0.0        | 0.0  |   |           |
| 2.60     | 32.70                 | 76.47 | 100.00    | 40.49 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 23.79 ASH % - 25.71 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 0.16                 | 4.45  | 0.16      | 4.45  | 99.84       | 25.95 | 0.0        | 0.0  |   |           |
| 1.45     | 10.69                | 2.82  | 10.85     | 2.84  | 89.15       | 28.72 | 0.0        | 0.0  |   |           |
| 1.50     | 24.83                | 6.95  | 35.68     | 5.70  | 64.32       | 37.13 | 0.0        | 0.0  |   |           |
| 1.55     | 15.19                | 12.43 | 50.87     | 7.71  | 49.13       | 44.77 | 0.0        | 0.0  |   |           |
| 1.60     | 9.90                 | 16.87 | 60.77     | 9.20  | 39.23       | 51.81 | 0.0        | 0.0  |   |           |
| 1.70     | 10.72                | 22.42 | 71.49     | 11.18 | 28.51       | 62.86 | 0.0        | 0.0  |   |           |
| 1.80     | 5.11                 | 28.67 | 76.60     | 12.35 | 23.40       | 70.32 | 0.0        | 0.0  |   |           |
| 2.00     | 4.87                 | 39.55 | 81.47     | 13.98 | 18.53       | 78.41 | 0.0        | 0.0  |   |           |
| 2.60     | 18.53                | 78.41 | 100.00    | 25.92 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87015 SEAM - H

SAMPLE ID - 69

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X |       | 0.15   |       | RELATIVE WEIGHT % - |       | 4.49 ASH % - 31.06 |           |
|----------|----------|--------|-------|--------|-------|---------------------|-------|--------------------|-----------|
|          |          | WT%    | ASH%  | WT%    | ASH%  | WT%                 | ASH%  | C.V. (MJ KG)       | CUM. C.V. |
| S.G.TME  |          |        |       |        |       |                     |       |                    |           |
| 1.40     |          | 0.22   | 3.97  | 0.22   | 3.97  | 99.78               | 30.25 | 0.0                | 0.0       |
| 1.45     |          | 9.96   | 2.19  | 10.18  | 2.23  | 89.82               | 33.37 | 0.0                | 0.0       |
| 1.50     |          | 14.54  | 5.03  | 24.72  | 3.88  | 75.28               | 38.84 | 0.0                | 0.0       |
| 1.55     |          | 10.03  | 8.31  | 34.75  | 5.16  | 65.25               | 43.53 | 0.0                | 0.0       |
| 1.60     |          | 2.75   | 10.77 | 37.50  | 5.57  | 62.50               | 44.97 | 0.0                | 0.0       |
| 1.70     |          | 11.99  | 13.48 | 49.49  | 7.48  | 50.51               | 52.45 | 0.0                | 0.0       |
| 1.80     |          | 11.43  | 18.60 | 60.92  | 9.57  | 39.08               | 62.35 | 0.0                | 0.0       |
| 2.00     |          | 11.92  | 31.04 | 72.84  | 13.08 | 27.16               | 76.09 | 0.0                | 0.0       |
| 2.60     |          | 27.16  | 76.09 | 100.00 | 30.20 | 0.0                 | 0.0   | 0.0                | 0.0       |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X |       | 0.00   |       | RELATIVE WEIGHT % - |      | 2.57 ASH % - 39.28 |           |
|----------|----------|--------|-------|--------|-------|---------------------|------|--------------------|-----------|
|          |          | WT%    | ASH%  | WT%    | ASH%  | WT%                 | ASH% | C.V. (MJ KG)       | CUM. C.V. |
| S.G.TME  |          |        |       |        |       |                     |      |                    |           |
| 240.00   |          | 100.00 | 39.28 | 100.00 | 39.28 | 0.0                 | 0.0  | 18.12              | 18.12     |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87015  
 Coal zone: H  
 Field sample no.: 07096 Composite sample no.: 238

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.56  
 Contribution (%): 23.38  
 Total yield (%): 23.38

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.77                 |                  |
| Ash (%):                       | 11.48                | 11.57            |
| Volatile matter (%):           | 5.64                 | 5.68             |
| Fixed carbon (%):              | 82.11                | 82.75            |
| Total sulphur (%):             | 0.44                 | 0.44             |
| Combustible sulphur (%):       | 0.40                 |                  |
| Gross calorific value (cal/g): | 7,194.00             | 7,250.00         |
| Volatile matter (dmmf %):      | 5.30                 |                  |
| Hardgrove index:               | 42.00                |                  |
| Phosphorous in coal (%):       | 0.092                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,261.00             | 1,243.00            |
| Softening temperature(°C):     | 1,293.00             | 1,277.00            |
| Hemispherical temperature(°C): | 1,317.00             | 1,306.00            |
| Final temperature(°C):         | 1,432.00             | 1,428.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 64.36 | TiO2 (%): | 1.98 |
| Al2O3 (%): | 19.28 | Na2O (%): | 2.05 |
| Fe2O3 (%): | 2.40  | K2O (%):  | 0.85 |
| CaO (%):   | 3.85  | SO3 (%):  | 0.85 |
| MgO (%):   | 2.04  | P2O5 (%): | 1.84 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87015  
 Coal zone: H  
 Field sample no.: 07096 Composite sample no.: 431

----- PRODUCT COAL ANALYSIS (SP3) -----  
 Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 11.65  
 Total yield (%): 11.65

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.75                 |                  |
| Ash (%):                       | 7.46                 | 7.52             |
| Volatile matter (%):           | 6.50                 | 6.55             |
| Fixed carbon (%):              | 85.29                | 85.93            |
| Total sulphur (%):             | 0.48                 | 0.48             |
| Combustible sulphur (%):       | 0.45                 |                  |
| Gross calorific value (cal/g): | 7,517.00             | 7,574.00         |
| Volatile matter (dmmf %):      | 6.30                 |                  |
| Hardgrove index:               | 43.00                |                  |
| Phosphorous in coal (%):       | 0.156                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,201.00             | 1,137.00            |
| Softening temperature (°C):     | 1,253.00             | 1,222.00            |
| Hemispherical temperature (°C): | 1,261.00             | 1,235.00            |
| Final temperature (°C):         | 1,348.00             | 1,346.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 57.68 | TiO2 (%): | 1.96 |
| Al2O3 (%): | 20.04 | Na2O (%): | 1.94 |
| Fe2O3 (%): | 2.54  | K2O (%):  | 0.90 |
| CaO (%):   | 2.25  | SO3 (%):  | 1.08 |
| MgO (%):   | 2.25  | P2O5 (%): | 4.80 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87016 SEAM - I

SAMPLE ID - 70

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 67.87 ASH % - 20.83 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 1.28                  | 8.00  | 1.28      | 8.00  | 98.72       | 22.65 | 0.0        | 0.0  |   |           |
| 1.45     | 18.91                 | 4.80  | 20.19     | 5.00  | 79.81       | 26.88 | 0.0        | 0.0  |   |           |
| 1.50     | 20.59                 | 10.04 | 40.78     | 7.55  | 59.22       | 32.73 | 0.0        | 0.0  |   |           |
| 1.55     | 7.21                  | 14.51 | 47.99     | 8.59  | 52.01       | 35.25 | 0.0        | 0.0  |   |           |
| 1.60     | 10.02                 | 20.79 | 58.01     | 10.70 | 41.99       | 38.71 | 0.0        | 0.0  |   |           |
| 1.70     | 13.43                 | 25.05 | 71.44     | 13.40 | 28.56       | 45.13 | 0.0        | 0.0  |   |           |
| 1.80     | 8.60                  | 32.81 | 80.04     | 15.48 | 19.96       | 50.44 | 0.0        | 0.0  |   |           |
| 2.00     | 13.37                 | 43.01 | 93.41     | 19.42 | 6.59        | 65.50 | 0.0        | 0.0  |   |           |
| 2.60     | 6.59                  | 65.50 | 100.00    | 22.46 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 25.67 ASH % - 16.96 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 4.84                 | 2.25  | 4.84      | 2.25  | 95.16       | 17.88 | 0.0        | 0.0  |   |           |
| 1.45     | 42.53                | 3.75  | 47.37     | 3.60  | 52.63       | 29.30 | 0.0        | 0.0  |   |           |
| 1.50     | 14.95                | 9.11  | 62.32     | 4.92  | 37.68       | 37.31 | 0.0        | 0.0  |   |           |
| 1.55     | 7.17                 | 12.86 | 69.49     | 5.74  | 30.51       | 43.06 | 0.0        | 0.0  |   |           |
| 1.60     | 3.81                 | 15.97 | 73.30     | 6.27  | 26.70       | 46.92 | 0.0        | 0.0  |   |           |
| 1.70     | 6.68                 | 21.25 | 79.98     | 7.52  | 20.02       | 55.49 | 0.0        | 0.0  |   |           |
| 1.80     | 3.94                 | 29.40 | 83.92     | 8.55  | 16.08       | 61.88 | 0.0        | 0.0  |   |           |
| 2.00     | 4.77                 | 39.57 | 88.69     | 10.22 | 11.31       | 71.29 | 0.0        | 0.0  |   |           |
| 2.60     | 11.31                | 71.29 | 100.00    | 17.12 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87016 SEAM - I

SAMPLE ID - 70

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 4.12 ASH % - 32.14 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 0.75     | 4.58      |      | 0.75        | 4.58  | 99.25               | 31.06 | 0.0                | 0.0  |
| 1.45     | 27.33    | 2.81      |      | 28.08       | 2.86  | 71.92               | 41.79 | 0.0                | 0.0  |
| 1.50     | 8.58     | 6.00      |      | 36.66       | 3.59  | 63.34               | 46.64 | 0.0                | 0.0  |
| 1.55     | 8.40     | 8.11      |      | 45.06       | 4.43  | 54.94               | 52.53 | 0.0                | 0.0  |
| 1.60     | 6.25     | 11.54     |      | 51.31       | 5.30  | 48.69               | 57.79 | 0.0                | 0.0  |
| 1.70     | 7.74     | 16.33     |      | 59.05       | 6.75  | 40.95               | 65.63 | 0.0                | 0.0  |
| 1.80     | 5.41     | 24.13     |      | 64.46       | 8.21  | 35.54               | 71.95 | 0.0                | 0.0  |
| 2.00     | 4.76     | 36.35     |      | 69.22       | 10.14 | 30.78               | 77.45 | 0.0                | 0.0  |
| 2.60     | 30.78    | 77.45     |      | 100.00      | 30.86 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 2.34 ASH % - 36.07 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 36.07     |      | 100.00      | 36.07 | 0.0                 | 0.0  | 20.87              | 20.87 |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87016 SEAM - I

SAMPLE ID - 71

WASHABILITY ID - WA1

| ANALYSIS TYPE - FLOAT |           |         |             |       |            |                     |         |                     |  |
|-----------------------|-----------|---------|-------------|-------|------------|---------------------|---------|---------------------|--|
| FRACTION              | SIZE(MM)  | 35.00 X |             | 6.00  |            | RELATIVE WEIGHT % - |         | 73.46 ASH % - 29.32 |  |
| S.G.TME               | ELEMENTAL |         | CUM. FLOATS |       | CUM. SINKS |                     | C.V.    | CUM.                |  |
|                       | WT%       | ASH%    | WT%         | ASH%  | WT%        | ASH%                | (MJ KG) | C.V.                |  |
| 1.40                  | 0.22      | 3.89    | 0.22        | 3.89  | 99.78      | 27.68               | 0.0     | 0.0                 |  |
| 1.45                  | 13.13     | 5.47    | 13.35       | 5.44  | 86.65      | 31.04               | 0.0     | 0.0                 |  |
| 1.50                  | 33.59     | 9.71    | 46.94       | 8.50  | 53.06      | 44.55               | 0.0     | 0.0                 |  |
| 1.55                  | 7.82      | 16.51   | 54.76       | 9.64  | 45.24      | 49.39               | 0.0     | 0.0                 |  |
| 1.60                  | 5.61      | 19.01   | 60.37       | 10.51 | 39.63      | 53.70               | 0.0     | 0.0                 |  |
| 1.70                  | 6.71      | 21.78   | 67.08       | 11.64 | 32.92      | 60.20               | 0.0     | 0.0                 |  |
| 1.80                  | 4.38      | 31.01   | 71.46       | 12.83 | 28.54      | 64.68               | 0.0     | 0.0                 |  |
| 2.00                  | 6.36      | 36.75   | 77.82       | 14.78 | 22.18      | 72.69               | 0.0     | 0.0                 |  |
| 2.60                  | 22.18     | 72.69   | 100.00      | 27.63 | 0.0        | 0.0                 | 0.0     | 0.0                 |  |

| ANALYSIS TYPE - FLOAT |           |        |             |       |            |                     |         |                     |  |
|-----------------------|-----------|--------|-------------|-------|------------|---------------------|---------|---------------------|--|
| FRACTION              | SIZE(MM)  | 6.00 X |             | 0.50  |            | RELATIVE WEIGHT % - |         | 20.45 ASH % - 25.63 |  |
| S.G.TME               | ELEMENTAL |        | CUM. FLOATS |       | CUM. SINKS |                     | C.V.    | CUM.                |  |
|                       | WT%       | ASH%   | WT%         | ASH%  | WT%        | ASH%                | (MJ KG) | C.V.                |  |
| 1.40                  | 5.86      | 2.01   | 5.86        | 2.01  | 94.14      | 26.33               | 0.0     | 0.0                 |  |
| 1.45                  | 33.44     | 4.66   | 39.30       | 4.26  | 60.70      | 38.27               | 0.0     | 0.0                 |  |
| 1.50                  | 21.64     | 9.52   | 60.94       | 6.13  | 39.06      | 54.20               | 0.0     | 0.0                 |  |
| 1.55                  | 5.51      | 14.61  | 66.45       | 6.83  | 33.55      | 60.70               | 0.0     | 0.0                 |  |
| 1.60                  | 3.56      | 18.23  | 70.01       | 7.41  | 29.99      | 65.75               | 0.0     | 0.0                 |  |
| 1.70                  | 3.82      | 24.48  | 73.83       | 8.30  | 26.17      | 71.77               | 0.0     | 0.0                 |  |
| 1.80                  | 2.16      | 32.16  | 75.99       | 8.97  | 24.01      | 75.33               | 0.0     | 0.0                 |  |
| 2.00                  | 3.60      | 41.05  | 79.59       | 10.43 | 20.41      | 81.38               | 0.0     | 0.0                 |  |
| 2.60                  | 20.41     | 81.38  | 100.00      | 24.91 | 0.0        | 0.0                 | 0.0     | 0.0                 |  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPMLRDDH87016 SEAM - I

SAMPLE ID - 71

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 3.37 ASH % - 56.29 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 1.80     | 3.45      |      | 1.80        | 3.45  | 98.20               | 56.69 | 0.0                | 0.0  |
| 1.45     | 10.04    | 2.83      |      | 11.84       | 2.92  | 88.16               | 62.82 | 0.0                | 0.0  |
| 1.50     | 9.38     | 5.99      |      | 21.22       | 4.28  | 78.78               | 69.59 | 0.0                | 0.0  |
| 1.55     | 3.31     | 10.87     |      | 24.53       | 5.17  | 75.47               | 72.16 | 0.0                | 0.0  |
| 1.60     | 2.56     | 12.52     |      | 27.09       | 5.86  | 72.91               | 74.25 | 0.0                | 0.0  |
| 1.70     | 4.64     | 16.29     |      | 31.73       | 7.39  | 68.27               | 78.19 | 0.0                | 0.0  |
| 1.80     | 3.60     | 23.05     |      | 35.33       | 8.98  | 64.67               | 81.26 | 0.0                | 0.0  |
| 2.00     | 4.83     | 35.60     |      | 40.16       | 12.19 | 59.84               | 84.95 | 0.0                | 0.0  |
| 2.60     | 59.84    | 84.95     |      | 100.00      | 55.73 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 2.72 ASH % - 59.71 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V. |
| 240.00   | 100.00   | 59.71     |      | 100.00      | 59.71 | 0.0                 | 0.0  | 9.45               | 9.45 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

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DATA SOURCE - KPNLRDDH87016 SEAM - I

SAMPLE ID - 72

WASHABILITY ID - WA1

| ANALYSIS TYPE - FLOAT |           |         |             |       |            |   |         |      |  |
|-----------------------|-----------|---------|-------------|-------|------------|---|---------|------|--|
| FRACTION              | SIZE(MM)  | 35.00 X |             | 6.00  |            | RELATIVE WEIGHT % - 70.85 ASH % - 10.81 |         |      |  |
| S.G.TME               | ELEMENTAL |         | CUM. FLOATS |       | CUM. SINKS |   | C.V.    | CUM. |  |
|                       | WT%       | ASH%    | WT%         | ASH%  | WT%        | ASH%                                    | (MJ KG) | C.V. |  |
| 1.40                  | 0.64      | 4.96    | 0.64        | 4.96  | 99.36      | 10.34                                   | 0.0     | 0.0  |  |
| 1.45                  | 50.35     | 4.74    | 50.99       | 4.74  | 49.01      | 16.09                                   | 0.0     | 0.0  |  |
| 1.50                  | 25.35     | 9.41    | 76.34       | 6.29  | 23.66      | 23.24                                   | 0.0     | 0.0  |  |
| 1.55                  | 11.51     | 14.50   | 87.85       | 7.37  | 12.15      | 31.53                                   | 0.0     | 0.0  |  |
| 1.60                  | 1.82      | 17.09   | 89.67       | 7.57  | 10.33      | 34.07                                   | 0.0     | 0.0  |  |
| 1.70                  | 3.11      | 26.08   | 92.78       | 8.19  | 7.22       | 37.51                                   | 0.0     | 0.0  |  |
| 1.80                  | 1.80      | 34.22   | 94.58       | 8.68  | 5.42       | 38.60                                   | 0.0     | 0.0  |  |
| 2.00                  | 1.78      | 34.85   | 96.36       | 9.16  | 3.64       | 40.44                                   | 0.0     | 0.0  |  |
| 2.60                  | 3.64      | 40.44   | 100.00      | 10.30 | 0.0        | 0.0                                     | 0.0     | 0.0  |  |

| ANALYSIS TYPE - FLOAT |           |        |             |      |            |  |         |      |  |
|-----------------------|-----------|--------|-------------|------|------------|--|---------|------|--|
| FRACTION              | SIZE(MM)  | 6.00 X |             | 0.50 |            | RELATIVE WEIGHT % - 23.39 ASH % - 9.27 |         |      |  |
| S.G.TME               | ELEMENTAL |        | CUM. FLOATS |      | CUM. SINKS |  | C.V.    | CUM. |  |
|                       | WT%       | ASH%   | WT%         | ASH% | WT%        | ASH%                                   | (MJ KG) | C.V. |  |
| 1.40                  | 5.77      | 3.58   | 5.77        | 3.58 | 94.23      | 10.22                                  | 0.0     | 0.0  |  |
| 1.45                  | 57.59     | 4.15   | 63.36       | 4.10 | 36.64      | 19.76                                  | 0.0     | 0.0  |  |
| 1.50                  | 16.22     | 9.31   | 79.58       | 5.16 | 20.42      | 28.06                                  | 0.0     | 0.0  |  |
| 1.55                  | 6.49      | 13.57  | 86.07       | 5.79 | 13.93      | 34.81                                  | 0.0     | 0.0  |  |
| 1.60                  | 3.12      | 17.27  | 89.19       | 6.20 | 10.81      | 39.88                                  | 0.0     | 0.0  |  |
| 1.70                  | 3.20      | 22.49  | 92.39       | 6.76 | 7.61       | 47.19                                  | 0.0     | 0.0  |  |
| 1.80                  | 1.62      | 29.70  | 94.01       | 7.16 | 5.99       | 51.92                                  | 0.0     | 0.0  |  |
| 2.00                  | 2.00      | 40.86  | 96.01       | 7.86 | 3.99       | 57.46                                  | 0.0     | 0.0  |  |
| 2.60                  | 3.99      | 57.46  | 100.00      | 9.84 | 0.0        | 0.0                                    | 0.0     | 0.0  |  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87016 SEAM - I

SAMPLE ID - 72

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 3.59 ASH % - 15.32 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 3.31      | 7.13  | 3.31        | 7.13  | 96.69               | 15.39 | 0.0                | 0.0  |
| 1.45     |          | 46.73     | 3.15  | 50.04       | 3.41  | 49.96               | 26.83 | 0.0                | 0.0  |
| 1.50     |          | 13.98     | 7.09  | 64.02       | 4.22  | 35.98               | 34.50 | 0.0                | 0.0  |
| 1.55     |          | 6.41      | 11.39 | 70.43       | 4.87  | 29.57               | 39.51 | 0.0                | 0.0  |
| 1.60     |          | 5.47      | 13.08 | 75.90       | 5.46  | 24.10               | 45.51 | 0.0                | 0.0  |
| 1.70     |          | 6.28      | 18.20 | 82.18       | 6.43  | 17.82               | 55.14 | 0.0                | 0.0  |
| 1.80     |          | 2.43      | 27.78 | 84.61       | 7.05  | 15.39               | 59.46 | 0.0                | 0.0  |
| 2.00     |          | 2.90      | 35.08 | 87.51       | 7.98  | 12.49               | 65.12 | 0.0                | 0.0  |
| 2.60     |          | 12.49     | 65.12 | 100.00      | 15.11 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.17 ASH % - 22.75 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 22.75 | 100.00      | 22.75 | 0.0                 | 0.0  | 25.97              | 25.97 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87016  
 Coal zone: 1  
 Field sample no.: 06887 Composite sample no.: 239

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.48  
 Contribution (%): 22.82  
 Total yield (%): 22.82

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.71                 |                  |
| Ash (%):                       | 5.53                 | 5.57             |
| Volatile matter (%):           | 5.38                 | 5.42             |
| Fixed carbon (%):              | 88.38                | 89.01            |
| Total sulphur (%):             | 0.50                 | 0.50             |
| Combustible sulphur (%):       | 0.48                 |                  |
| Gross calorific value (cal/g): | 7,882.00             | 7,939.00         |
| Volatile matter (dmmf %):      | 5.10                 |                  |
| Hardgrove index:               | 40.00                |                  |
| Phosphorous in coal (%):       | 0.016                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,209.00             | 1,120.00            |
| Softening temperature (°C):     | 1,372.00             | 1,317.00            |
| Hemispherical temperature (°C): | 1,403.00             | 1,359.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 65.60 | TiO2 (%): | 1.71 |
| Al2O3 (%): | 21.93 | Na2O (%): | 1.88 |
| Fe2O3 (%): | 2.13  | K2O (%):  | 1.05 |
| CaO (%):   | 2.35  | SO3 (%):  | 0.71 |
| MgO (%):   | 1.88  | P2O5 (%): | 0.66 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87016  
 Coal zone: 1  
 Field sample no.: 06887 Composite sample no.: 239

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.57  
 Contribution (%): 12.43  
 Total yield (%): 12.43

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.86                 |                  |
| Ash (%):                       | 13.01                | 13.12            |
| Volatile matter (%):           | 9.90                 | 9.99             |
| Fixed carbon (%):              | 76.23                | 76.89            |
| Total sulphur (%):             | 0.41                 | 0.41             |
| Combustible sulphur (%):       | 0.34                 |                  |
| Gross calorific value (cal/g): | 7,079.00             | 7,141.00         |
| Volatile matter (dmmf %):      | 10.30                |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.016                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,182.00             | 1,180.00            |
| Softening temperature (°C):     | 1,274.00             | 1,250.00            |
| Hemispherical temperature (°C): | 1,290.00             | 1,289.00            |
| Final temperature (°C):         | 1,364.00             | 1,361.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 62.94 | TiO2 (%): | 1.50 |
| Al2O3 (%): | 17.39 | Na2O (%): | 1.41 |
| Fe2O3 (%): | 2.92  | K2O (%):  | 0.88 |
| CaO (%):   | 3.78  | SO3 (%):  | 1.35 |
| MgO (%):   | 2.90  | P2O5 (%): | 0.28 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87016  
 Coal zone: 1  
 Field sample no.: 06888 Composite sample no.: 240

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.46  
 Contribution (%): 21.87  
 Total yield (%): 21.87

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.70                 |                  |
| Ash (%):                       | 5.53                 | 5.57             |
| Volatile matter (%):           | 5.41                 | 5.45             |
| Fixed carbon (%):              | 88.36                | 88.98            |
| Total sulphur (%):             | 0.50                 | 0.50             |
| Combustible sulphur (%):       | 0.49                 |                  |
| Gross calorific value (cal/g): | 7,894.00             | 7,949.00         |
| Volatile matter (dmmf %):      | 5.20                 |                  |
| Hardgrove index:               | 41.00                |                  |
| Phosphorous in coal (%):       | 0.008                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,143.00             | 1,080.00            |
| Softening temperature (°C):     | 1,222.00             | 1,111.00            |
| Hemispherical temperature (°C): | 1,472.00             | 1,472.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 58.18 | TiO2 (%): | 1.40 |
| Al2O3 (%): | 27.23 | Na2O (%): | 2.35 |
| Fe2O3 (%): | 3.25  | K2O (%):  | 0.97 |
| CaO (%):   | 1.09  | SO3 (%):  | 0.29 |
| MgO (%):   | 2.14  | P2O5 (%): | 0.32 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87016  
 Coal zone: 1  
 Field sample no.: 06888 Composite sample no.: 240

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 0.50  
 Cutpoint: sp.g. 1.56  
 Contribution(%): 18.38  
 Total yield(%): 18.38

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.95                 |                  |
| Ash (%) :                       | 13.03                | 13.16            |
| Volatile matter (%) :           | 9.51                 | 9.60             |
| Fixed carbon (%) :              | 76.51                | 77.24            |
| Total sulphur (%) :             | 0.43                 | 0.43             |
| Combustible sulphur (%) :       | 0.40                 |                  |
| Gross calorific value (cal/g) : | 7,113.00             | 7,181.00         |
| Volatile matter (dmmf%) :       | 9.80                 |                  |
| Hardgrove index :               | 44.00                |                  |
| Phosphorous in coal (%) :       | 0.013                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,180.00             | 1,178.00            |
| Softening temperature(°C) :     | 1,472.00             | 1,338.00            |
| Hemispherical temperature(°C) : | 1,472.00             | 1,380.00            |
| Final temperature(°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 59.78 | TiO2 (%) : | 2.15 |
| Al2O3 (%) : | 25.33 | Na2O (%) : | 2.10 |
| Fe2O3 (%) : | 3.78  | K2O (%) :  | 1.04 |
| CaO (%) :   | 1.18  | SO3 (%) :  | 0.54 |
| MgO (%) :   | 2.35  | P2O5 (%) : | 0.23 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87016  
 Coal zone: 1  
 Field sample no.: 06889 Composite sample no.: 241

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.55  
 Contribution (%): 64.42  
 Total yield (%): 64.42

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.83                 |                  |
| Ash (%):                       | 6.59                 | 6.65             |
| Volatile matter (%):           | 6.36                 | 6.41             |
| Fixed carbon (%):              | 86.22                | 86.94            |
| Total sulphur (%):             | 0.52                 | 0.52             |
| Combustible sulphur (%):       | 0.48                 |                  |
| Gross calorific value (cal/g): | 7,744.00             | 7,809.00         |
| Volatile matter (dmmf %):      | 6.20                 |                  |
| Hardgrove index:               | 42.00                |                  |
| Phosphorous in coal (%):       | 0.176                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,224.00             | 1,135.00            |
| Softening temperature (°C):     | 1,238.00             | 1,214.00            |
| Hemispherical temperature (°C): | 1,259.00             | 1,251.00            |
| Final temperature (°C):         | 1,340.00             | 1,338.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 39.34 | TiO2 (%): | 1.70 |
| Al2O3 (%): | 26.84 | Na2O (%): | 2.32 |
| Fe2O3 (%): | 5.79  | K2O (%):  | 1.20 |
| CaO (%):   | 7.16  | SO3 (%):  | 1.55 |
| MgO (%):   | 3.51  | P2O5 (%): | 6.12 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87016  
 Coal zone: I  
 Field sample no.: 06887 - 06889 Composite sample no.: 432

----- PRODUCT COAL ANALYSIS (SP3) -----  
 Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.71  
 Contribution (%): 19.26  
 Total yield (%): 19.26

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.90                 |                  |
| Ash (%) :                       | 7.18                 | 7.25             |
| Volatile matter (%) :           | 6.72                 | 6.78             |
| Fixed carbon (%) :              | 85.20                | 85.97            |
| Total sulphur (%) :             | 0.47                 | 0.47             |
| Combustible sulphur (%) :       | 0.44                 |                  |
| Gross calorific value (cal/g) : | 7,662.00             | 7,732.00         |
| Volatile matter (dmmf%) :       | 6.60                 |                  |
| Hardgrove index :               | 42.00                |                  |
| Phosphorous in coal (%) :       | 0.068                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,201.00             | 1,180.00            |
| Softening temperature (°C) :     | 1,314.00             | 1,243.00            |
| Hemispherical temperature (°C) : | 1,345.00             | 1,266.00            |
| Final temperature (°C) :         | 1,417.00             | 1,412.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 56.46 | TiO2 (%) : | 2.15 |
| Al2O3 (%) : | 24.19 | Na2O (%) : | 1.91 |
| Fe2O3 (%) : | 2.93  | K2O (%) :  | 1.04 |
| CaO (%) :   | 4.03  | SO3 (%) :  | 1.08 |
| MgO (%) :   | 2.38  | P2O5 (%) : | 2.16 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87017 SEAM - K

SAMPLE ID - 73

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 66.13 |       | ASH % - 37.34 |      |
|-------------------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|                   | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME           | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40              | 2.24      | 1.38  | 2.24        | 1.38  | 97.76                     | 37.16 | 0.0           | 0.0  |
| 1.45              | 6.04      | 7.08  | 8.28        | 5.54  | 91.72                     | 39.14 | 0.0           | 0.0  |
| 1.50              | 22.35     | 11.84 | 30.63       | 10.14 | 69.37                     | 47.93 | 0.0           | 0.0  |
| 1.55              | 14.58     | 17.54 | 45.21       | 12.52 | 54.79                     | 56.02 | 0.0           | 0.0  |
| 1.60              | 4.62      | 23.18 | 49.83       | 13.51 | 50.17                     | 59.04 | 0.0           | 0.0  |
| 1.70              | 8.23      | 29.75 | 58.06       | 15.81 | 41.94                     | 64.79 | 0.0           | 0.0  |
| 1.80              | 2.97      | 36.12 | 61.03       | 16.80 | 38.97                     | 66.97 | 0.0           | 0.0  |
| 2.00              | 9.16      | 48.60 | 70.19       | 20.95 | 29.81                     | 72.62 | 0.0           | 0.0  |
| 2.60              | 29.81     | 72.62 | 100.00      | 36.35 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 25.17 |       | ASH % - 21.48 |      |
|-------------------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|                   | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME           | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40              | 10.20     | 1.73  | 10.20       | 1.73  | 89.80                     | 22.70 | 0.0           | 0.0  |
| 1.45              | 13.87     | 5.35  | 24.07       | 3.82  | 75.93                     | 25.87 | 0.0           | 0.0  |
| 1.50              | 19.66     | 10.97 | 43.73       | 7.03  | 56.27                     | 31.07 | 0.0           | 0.0  |
| 1.55              | 12.78     | 16.11 | 56.51       | 9.09  | 43.49                     | 35.47 | 0.0           | 0.0  |
| 1.60              | 4.75      | 20.24 | 61.26       | 9.95  | 38.74                     | 37.34 | 0.0           | 0.0  |
| 1.70              | 11.16     | 23.26 | 72.42       | 12.00 | 27.58                     | 43.03 | 0.0           | 0.0  |
| 1.80              | 16.31     | 32.18 | 88.73       | 15.71 | 11.27                     | 58.74 | 0.0           | 0.0  |
| 2.00              | 5.43      | 45.36 | 94.16       | 17.42 | 5.84                      | 71.18 | 0.0           | 0.0  |
| 2.60              | 5.84      | 71.18 | 100.00      | 20.56 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87017 SEAM - K

SAMPLE ID - 73

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 4.77 ASH % - 21.85 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 13.15     | 2.27  | 13.15       | 2.27  | 86.85               | 23.19 | 0.0                | 0.0  |
| 1.45     |          | 17.86     | 3.51  | 31.01       | 2.98  | 68.99               | 28.28 | 0.0                | 0.0  |
| 1.50     |          | 19.88     | 6.86  | 50.89       | 4.50  | 49.11               | 36.95 | 0.0                | 0.0  |
| 1.55     |          | 6.56      | 10.93 | 57.45       | 5.23  | 42.55               | 40.96 | 0.0                | 0.0  |
| 1.60     |          | 7.82      | 14.77 | 65.27       | 6.38  | 34.73               | 46.86 | 0.0                | 0.0  |
| 1.70     |          | 11.14     | 19.38 | 76.41       | 8.27  | 23.59               | 59.84 | 0.0                | 0.0  |
| 1.80     |          | 4.36      | 28.05 | 80.77       | 9.34  | 19.23               | 67.05 | 0.0                | 0.0  |
| 2.00     |          | 4.36      | 39.59 | 85.13       | 10.89 | 14.87               | 75.10 | 0.0                | 0.0  |
| 2.60     |          | 14.87     | 75.10 | 100.00      | 20.44 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 3.93 ASH % - 23.58 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 23.58 | 100.00      | 23.58 | 0.0                 | 0.0  | 24.05              | 24.05 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87017  
 Coal zone: K  
 Field sample no.: 07068 Composite sample no.: 242

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 27.30  
 Total yield (%): 27.30

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.81                 |                  |
| Ash (%) :                       | 10.94                | 11.03            |
| Volatile matter (%) :           | 6.50                 | 6.55             |
| Fixed carbon (%) :              | 81.75                | 82.42            |
| Total sulphur (%) :             | 0.55                 | 0.55             |
| Combustible sulphur (%) :       | 0.53                 |                  |
| Gross calorific value (cal/g) : | 7,517.00             | 7,578.00         |
| Volatile matter (dmmf%) :       | 6.30                 |                  |
| Hardgrove index:                | 40.00                |                  |
| Phosphorous in coal (%) :       | 0.060                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,209.00             | 1,137.00            |
| Softening temperature(°C) :     | 1,348.00             | 1,290.00            |
| Hemispherical temperature(°C) : | 1,372.00             | 1,322.00            |
| Final temperature(°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 60.92 | TiO2 (%) : | 2.00 |
| Al2O3 (%) : | 21.55 | Na2O (%) : | 2.29 |
| Fe2O3 (%) : | 2.80  | K2O (%) :  | 1.06 |
| CaO (%) :   | 2.59  | SO3 (%) :  | 0.50 |
| MgO (%) :   | 1.59  | P2O5 (%) : | 1.25 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87017  
 Coal zone: K  
 Field sample no.: 07068 Composite sample no.: 433

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 11.84  
 Total yield (%): 11.84

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.94                 |                  |
| Ash (%):                       | 7.46                 | 7.53             |
| Volatile matter (%):           | 5.95                 | 6.01             |
| Fixed carbon (%):              | 85.65                | 86.46            |
| Total sulphur (%):             | 0.59                 | 0.60             |
| Combustible sulphur (%):       | 0.58                 |                  |
| Gross calorific value (cal/g): | 7,710.00             | 7,783.00         |
| Volatile matter (dmmf%):       | 5.70                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.028                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,435.00             | 1,411.00            |
| Softening temperature (°C):     | 1,472.00             | 1,472.00            |
| Hemispherical temperature (°C): | 1,472.00             | 1,472.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 61.96 | TiO2 (%): | 3.29 |
| Al2O3 (%): | 23.44 | Na2O (%): | 2.32 |
| Fe2O3 (%): | 1.89  | K2O (%):  | 1.17 |
| CaO (%):   | 1.59  | SO3 (%):  | 0.20 |
| MgO (%):   | 1.41  | P2O5 (%): | 0.85 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87017 SEAM - I

SAMPLE ID - 75

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | RELATIVE WEIGHT % - 25.98 ASH % - 39.87 |       |            |       |         |      |
|----------|-----------------------|-------|---|-------|------------|-------|---------|------|
|          | ELEMENTAL             |       | CUM. FLOATS                             |       | CUM. SINKS |       | C.V.    | CUM. |
| S.G.TME  | WT%                   | ASH%  | WT%                                     | ASH%  | WT%        | ASH%  | (MJ KG) | C.V. |
| 1.40     | 5.76                  | 4.22  | 5.76                                    | 4.22  | 94.24      | 41.04 | 0.0     | 0.0  |
| 1.45     | 15.37                 | 8.56  | 21.13                                   | 7.38  | 78.87      | 47.37 | 0.0     | 0.0  |
| 1.50     | 12.30                 | 14.56 | 33.43                                   | 10.02 | 66.57      | 53.43 | 0.0     | 0.0  |
| 1.55     | 13.62                 | 19.13 | 47.05                                   | 12.66 | 52.95      | 62.26 | 0.0     | 0.0  |
| 1.60     | 6.67                  | 23.61 | 53.72                                   | 14.02 | 46.28      | 67.83 | 0.0     | 0.0  |
| 1.70     | 8.95                  | 26.25 | 62.67                                   | 15.76 | 37.33      | 77.80 | 0.0     | 0.0  |
| 1.80     | 4.04                  | 39.30 | 66.71                                   | 17.19 | 33.29      | 82.47 | 0.0     | 0.0  |
| 2.00     | 2.26                  | 49.65 | 68.97                                   | 18.25 | 31.03      | 84.86 | 0.0     | 0.0  |
| 2.60     | 31.03                 | 84.86 | 100.00                                  | 38.92 | 0.0        | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | RELATIVE WEIGHT % - 46.74 ASH % - 19.94 |       |            |       |         |      |
|----------|----------------------|-------|---|-------|------------|-------|---------|------|
|          | ELEMENTAL            |       | CUM. FLOATS                             |       | CUM. SINKS |       | C.V.    | CUM. |
| S.G.TME  | WT%                  | ASH%  | WT%                                     | ASH%  | WT%        | ASH%  | (MJ KG) | C.V. |
| 1.40     | 31.12                | 3.22  | 31.12                                   | 3.22  | 68.88      | 28.47 | 0.0     | 0.0  |
| 1.45     | 17.22                | 7.38  | 48.34                                   | 4.70  | 51.66      | 35.50 | 0.0     | 0.0  |
| 1.50     | 14.17                | 11.74 | 62.51                                   | 6.30  | 37.49      | 44.48 | 0.0     | 0.0  |
| 1.55     | 6.80                 | 15.88 | 69.31                                   | 7.24  | 30.69      | 50.82 | 0.0     | 0.0  |
| 1.60     | 4.70                 | 18.32 | 74.01                                   | 7.94  | 25.99      | 56.70 | 0.0     | 0.0  |
| 1.70     | 8.12                 | 21.58 | 82.13                                   | 9.29  | 17.87      | 72.65 | 0.0     | 0.0  |
| 1.80     | 3.12                 | 30.27 | 85.25                                   | 10.06 | 14.75      | 81.62 | 0.0     | 0.0  |
| 2.00     | 3.01                 | 52.13 | 88.26                                   | 11.49 | 11.74      | 89.18 | 0.0     | 0.0  |
| 2.60     | 11.74                | 89.18 | 100.00                                  | 20.61 | 0.0        | 0.0   | 0.0     | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87017 SEAM - I

SAMPLE ID - 75

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X |       | 0.15        |       | RELATIVE WEIGHT % - 16.51 |       | ASH % - 11.42 |      |
|---------------------|-----------------|-------|-------------|-------|---------------------------|-------|---------------|------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40                | 37.47           | 2.54  | 37.47       | 2.54  | 62.53                     | 15.34 | 0.0           | 0.0  |
| 1.45                | 13.22           | 4.45  | 50.69       | 3.04  | 49.31                     | 18.26 | 0.0           | 0.0  |
| 1.50                | 12.41           | 7.02  | 63.10       | 3.82  | 36.90                     | 22.04 | 0.0           | 0.0  |
| 1.55                | 6.73            | 10.32 | 69.83       | 4.45  | 30.17                     | 24.65 | 0.0           | 0.0  |
| 1.60                | 7.74            | 11.74 | 77.57       | 5.18  | 22.43                     | 29.11 | 0.0           | 0.0  |
| 1.70                | 8.89            | 15.55 | 86.46       | 6.24  | 13.54                     | 38.01 | 0.0           | 0.0  |
| 1.80                | 4.10            | 24.51 | 90.56       | 7.07  | 9.44                      | 43.87 | 0.0           | 0.0  |
| 2.00                | 2.13            | 37.57 | 92.69       | 7.77  | 7.31                      | 45.71 | 0.0           | 0.0  |
| 2.60                | 7.31            | 45.71 | 100.00      | 10.54 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X |       | 0.00        |       | RELATIVE WEIGHT % - 10.77 |      | ASH % - 11.55 |       |
|---------------------|-----------------|-------|-------------|-------|---------------------------|------|---------------|-------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                |      | C.V.          | CUM.  |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                       | ASH% | (MJ KG)       | C.V.  |
| 240.00              | 100.00          | 11.55 | 100.00      | 11.55 | 0.0                       | 0.0  | 29.32         | 29.32 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87017  
 Coal zone: I  
 Field sample no.: 07072 Composite sample no.: 243

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.43  
 Contribution(%): 3.74  
 Total yield(%): 3.74

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture(%) :         | 0.70                 |                  |
| Ash(%) :                       | 5.31                 | 5.35             |
| Volatile matter(%) :           | 6.03                 | 6.07             |
| Fixed carbon(%) :              | 87.96                | 88.58            |
| Total sulphur(%) :             | 0.49                 | 0.49             |
| Combustible sulphur(%) :       | 0.47                 |                  |
| Gross calorific value(cal/g) : | 8,066.00             | 8,123.00         |
| Volatile matter(dmmf%) :       | 5.80                 |                  |
| Hardgrove index:               | 62.00                |                  |
| Phosphorous in coal(%) :       | 0.057                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,285.00             | 1,290.00            |
| Softening temperature(°C) :     | 1,380.00             | 1,353.00            |
| Hemispherical temperature(°C) : | 1,417.00             | 1,398.00            |
| Final temperature(°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2(%) :  | 54.16 | TiO2(%) : | 3.46 |
| Al2O3(%) : | 26.08 | Na2O(%) : | 2.59 |
| Fe2O3(%) : | 2.80  | K2O(%) :  | 0.92 |
| CaO(%) :   | 4.03  | SO3(%) :  | 0.71 |
| MgO(%) :   | 2.25  | P2O5(%) : | 2.48 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87017  
 Coal zone: 1  
 Field sample no.: 07072 Composite sample no.: 243

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.47  
 Contribution (%): 3.06  
 Total yield (%): 3.06

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.67                 |                  |
| Ash (%):                       | 10.90                | 10.97            |
| Volatile matter (%):           | 7.79                 | 7.84             |
| Fixed carbon (%):              | 80.64                | 81.19            |
| Total sulphur (%):             | 0.45                 | 0.45             |
| Combustible sulphur (%):       | 0.43                 |                  |
| Gross calorific value (cal/g): | 7,395.00             | 7,444.00         |
| Volatile matter (dmmf %):      | 7.80                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.065                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,182.00             | 1,106.00            |
| Softening temperature (°C):     | 1,472.00             | 1,377.00            |
| Hemispherical temperature (°C): | 1,472.00             | 1,427.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 59.30 | TiO2 (%): | 1.45 |
| Al2O3 (%): | 25.70 | Na2O (%): | 2.10 |
| Fe2O3 (%): | 2.47  | K2O (%):  | 0.83 |
| CaO (%):   | 1.90  | SO3 (%):  | 0.36 |
| MgO (%):   | 1.77  | P2O5 (%): | 1.36 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87017  
 Coal zone: 1  
 Field sample no.: 07072 Composite sample no.: 434

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.57  
 Contribution (%): 32.75  
 Total yield (%): 32.75

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.98                 |                  |
| Ash (%) :                       | 7.49                 | 7.56             |
| Volatile matter (%) :           | 6.68                 | 6.75             |
| Fixed carbon (%) :              | 84.85                | 85.69            |
| Total sulphur (%) :             | 0.46                 | 0.46             |
| Combustible sulphur (%) :       | 0.45                 |                  |
| Gross calorific value (cal/g) : | 7,715.00             | 7,791.00         |
| Volatile matter (dmmf%) :       | 6.60                 |                  |
| Hardgrove index:                | 58.00                |                  |
| Phosphorous in coal (%) :       | 0.126                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,245.00             | 1,240.00            |
| Softening temperature (°C) :     | 1,274.00             | 1,261.00            |
| Hemispherical temperature (°C) : | 1,293.00             | 1,277.00            |
| Final temperature (°C) :         | 1,343.00             | 1,338.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 54.70 | TiO2 (%) : | 1.98 |
| Al2O3 (%) : | 22.68 | Na2O (%) : | 2.13 |
| Fe2O3 (%) : | 2.51  | K2O (%) :  | 0.83 |
| CaO (%) :   | 4.71  | SO3 (%) :  | 0.27 |
| MgO (%) :   | 1.89  | P2O5 (%) : | 3.85 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87017 SEAM - H/I

SAMPLE ID - 76

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X          |       | 6.00               |       | RELATIVE WEIGHT % - 78.80 ASH % - 45.71 |       | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|----------|----------|------------------|-------|--------------------|-------|---|-------|-----------------|--------------|
|          |          | ELEMENTAL<br>WT% | ASH%  | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%                       | ASH%  |                 |              |
| S.G.TME  |          |                  |       |                    |       |   |       |                 |              |
| 1.40     |          | 0.31             | 3.19  | 0.31               | 3.19  | 99.69                                   | 44.95 | 0.0             | 0.0          |
| 1.45     |          | 0.61             | 9.55  | 0.92               | 7.41  | 99.08                                   | 45.16 | 0.0             | 0.0          |
| 1.50     |          | 2.31             | 14.41 | 3.23               | 12.42 | 96.77                                   | 45.90 | 0.0             | 0.0          |
| 1.55     |          | 10.21            | 19.79 | 13.44              | 18.02 | 86.56                                   | 48.98 | 0.0             | 0.0          |
| 1.60     |          | 13.67            | 25.09 | 27.11              | 21.58 | 72.89                                   | 53.46 | 0.0             | 0.0          |
| 1.70     |          | 17.63            | 30.86 | 44.74              | 25.24 | 55.26                                   | 60.67 | 0.0             | 0.0          |
| 1.80     |          | 15.86            | 40.03 | 60.60              | 29.11 | 39.40                                   | 68.97 | 0.0             | 0.0          |
| 2.00     |          | 12.81            | 46.83 | 73.41              | 32.20 | 26.59                                   | 79.64 | 0.0             | 0.0          |
| 2.60     |          | 26.59            | 79.64 | 100.00             | 44.82 | 0.0                                     | 0.0   | 0.0             | 0.0          |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X           |       | 0.50               |       | RELATIVE WEIGHT % - 15.60 ASH % - 29.08 |       | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|----------|----------|------------------|-------|--------------------|-------|---|-------|-----------------|--------------|
|          |          | ELEMENTAL<br>WT% | ASH%  | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%                       | ASH%  |                 |              |
| S.G.TME  |          |                  |       |                    |       |   |       |                 |              |
| 1.40     |          | 12.67            | 2.39  | 12.67              | 2.39  | 87.33                                   | 33.94 | 0.0             | 0.0          |
| 1.45     |          | 9.75             | 7.14  | 22.42              | 4.46  | 77.58                                   | 37.31 | 0.0             | 0.0          |
| 1.50     |          | 15.91            | 12.40 | 38.33              | 7.75  | 61.67                                   | 43.74 | 0.0             | 0.0          |
| 1.55     |          | 10.78            | 17.56 | 49.11              | 9.91  | 50.89                                   | 49.28 | 0.0             | 0.0          |
| 1.60     |          | 10.17            | 21.96 | 59.28              | 11.97 | 40.72                                   | 56.11 | 0.0             | 0.0          |
| 1.70     |          | 7.97             | 27.24 | 67.25              | 13.78 | 32.75                                   | 63.13 | 0.0             | 0.0          |
| 1.80     |          | 7.51             | 33.68 | 74.76              | 15.78 | 25.24                                   | 71.89 | 0.0             | 0.0          |
| 2.00     |          | 6.74             | 43.44 | 81.50              | 18.07 | 18.50                                   | 82.26 | 0.0             | 0.0          |
| 2.60     |          | 18.50            | 82.26 | 100.00             | 29.94 | 0.0                                     | 0.0   | 0.0             | 0.0          |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87017 SEAM - H/I

SAMPLE ID - 76

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % |       | 3.00 ASH % - 35.59 |      |
|----------|----------|-----------|------|-------------|-------|-------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS        |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%               | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 19.05    | 3.01      |      | 19.05       | 3.01  | 80.95             | 42.70 | 0.0                | 0.0  |
| 1.45     | 6.51     | 4.63      |      | 25.56       | 3.42  | 74.44             | 46.03 | 0.0                | 0.0  |
| 1.50     | 14.29    | 7.49      |      | 39.85       | 4.88  | 60.15             | 55.18 | 0.0                | 0.0  |
| 1.55     | 5.08     | 12.64     |      | 44.93       | 5.76  | 55.07             | 59.11 | 0.0                | 0.0  |
| 1.60     | 4.44     | 17.25     |      | 49.37       | 6.79  | 50.63             | 62.78 | 0.0                | 0.0  |
| 1.70     | 6.51     | 22.07     |      | 55.88       | 8.57  | 44.12             | 68.78 | 0.0                | 0.0  |
| 1.80     | 5.87     | 28.51     |      | 61.75       | 10.47 | 38.25             | 74.96 | 0.0                | 0.0  |
| 2.00     | 6.98     | 40.66     |      | 68.73       | 13.53 | 31.27             | 82.62 | 0.0                | 0.0  |
| 2.60     | 31.27    | 82.62     |      | 100.00      | 35.14 | 0.0               | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % |      | 2.60 ASH % - 43.27 |       |
|----------|----------|-----------|------|-------------|-------|-------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS        |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%               | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 43.27     |      | 100.00      | 43.27 | 0.0               | 0.0  | 16.74              | 16.74 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87017  
 Coal zone: H/I  
 Field sample no.: 07075 Composite sample no.: 244

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.50  
 Contribution(%): 1.88  
 Total yield(%): 1.88

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture(%) :         | 0.64                 |                  |
| Ash(%) :                       | 10.74                | 10.81            |
| Volatile matter(%) :           | 5.71                 | 5.75             |
| Fixed carbon(%) :              | 82.91                | 83.44            |
| Total sulphur(%) :             | 0.54                 | 0.54             |
| Combustible sulphur(%) :       | 0.53                 |                  |
| Gross calorific value(cal/g) : | 7,689.00             | 7,738.00         |
| Volatile matter(dmmf%) :       | 5.30                 |                  |
| Hardgrove index:               | 52.00                |                  |
| Phosphorous in coal(%) :       | 0.093                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,367.00             | 1,364.00            |
| Softening temperature(°C) :     | 1,388.00             | 1,385.00            |
| Hemispherical temperature(°C) : | 1,401.00             | 1,400.00            |
| Final temperature(°C) :         | 1,472.00             | 1,450.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2(%) :  | 72.96 | TiO2(%) : | 1.82 |
| Al2O3(%) : | 12.86 | Na2O(%) : | 1.24 |
| Fe2O3(%) : | 1.79  | K2O(%) :  | 0.45 |
| CaO(%) :   | 2.60  | SO3(%) :  | 0.15 |
| MgO(%) :   | 1.21  | P2O5(%) : | 1.99 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87017  
 Coal zone: H/I  
 Field sample no.: 07075 Composite sample no.: 435

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.50  
 Contribution (%): 5.46  
 Total yield (%): 5.46

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.67                 |                  |
| Ash (%):                       | 7.53                 | 7.58             |
| Volatile matter (%):           | 5.82                 | 5.86             |
| Fixed carbon (%):              | 85.98                | 86.56            |
| Total sulphur (%):             | 0.54                 | 0.54             |
| Combustible sulphur (%):       | 0.54                 |                  |
| Gross calorific value (cal/g): | 7,746.00             | 7,798.00         |
| Volatile matter (dmmf %):      | 5.60                 |                  |
| Hardgrove index:               | 54.00                |                  |
| Phosphorous in coal (%):       | 0.028                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,324.00             | 1,322.00            |
| Softening temperature (°C):     | 1,385.00             | 1,383.00            |
| Hemispherical temperature (°C): | 1,398.00             | 1,385.00            |
| Final temperature (°C):         | 1,451.00             | 1,450.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 69.64 | TiO2 (%): | 2.44 |
| Al2O3 (%): | 15.88 | Na2O (%): | 1.44 |
| Fe2O3 (%): | 2.67  | K2O (%):  | 0.56 |
| CaO (%):   | 1.50  | SO3 (%):  | 0.14 |
| MgO (%):   | 1.62  | P2O5 (%): | 0.86 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87018 SEAM - ?

SAMPLE ID - 78

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 59.02 ASH % - 40.79 |       |         |      |
|----------|----------|-----------|-------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     |          | 4.16      | 5.88  | 4.16        | 5.88  | 95.84                                   | 43.56 | 0.0     | 0.0  |
| 1.45     |          | 8.58      | 10.54 | 12.74       | 9.02  | 87.26                                   | 46.80 | 0.0     | 0.0  |
| 1.50     |          | 12.26     | 14.69 | 25.00       | 11.80 | 75.00                                   | 52.05 | 0.0     | 0.0  |
| 1.55     |          | 5.05      | 19.65 | 30.05       | 13.12 | 69.95                                   | 54.39 | 0.0     | 0.0  |
| 1.60     |          | 5.03      | 22.79 | 35.08       | 14.51 | 64.92                                   | 56.84 | 0.0     | 0.0  |
| 1.70     |          | 9.63      | 31.52 | 44.71       | 18.17 | 55.29                                   | 61.25 | 0.0     | 0.0  |
| 1.80     |          | 9.52      | 37.60 | 54.23       | 21.58 | 45.77                                   | 66.17 | 0.0     | 0.0  |
| 2.00     |          | 16.09     | 46.52 | 70.32       | 27.29 | 29.68                                   | 76.82 | 0.0     | 0.0  |
| 2.60     |          | 29.68     | 76.82 | 100.00      | 41.99 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 32.43 ASH % - 28.07 |       |         |      |
|----------|----------|-----------|-------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     |          | 31.47     | 4.59  | 31.47       | 4.59  | 68.53                                   | 38.44 | 0.0     | 0.0  |
| 1.45     |          | 15.64     | 9.49  | 47.11       | 6.22  | 52.89                                   | 47.00 | 0.0     | 0.0  |
| 1.50     |          | 12.10     | 14.02 | 59.21       | 7.81  | 40.79                                   | 56.78 | 0.0     | 0.0  |
| 1.55     |          | 3.77      | 18.86 | 62.98       | 8.47  | 37.02                                   | 60.64 | 0.0     | 0.0  |
| 1.60     |          | 3.31      | 23.28 | 66.29       | 9.21  | 33.71                                   | 64.31 | 0.0     | 0.0  |
| 1.70     |          | 3.58      | 29.26 | 69.87       | 10.24 | 30.13                                   | 68.47 | 0.0     | 0.0  |
| 1.80     |          | 3.11      | 36.57 | 72.98       | 11.36 | 27.02                                   | 72.15 | 0.0     | 0.0  |
| 2.00     |          | 5.03      | 47.30 | 78.01       | 13.68 | 21.99                                   | 77.83 | 0.0     | 0.0  |
| 2.60     |          | 21.99     | 77.83 | 100.00      | 27.79 | 0.0                                     | 0.0   | 0.0     | 0.0  |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87018 SEAM - ?

SAMPLE ID - 78

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 5.76 ASH % - 33.71 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 29.60     | 2.79  | 29.60       | 2.79  | 70.40               | 45.76 | 0.0                | 0.0  |
| 1.45     |          | 9.72      | 6.21  | 39.32       | 3.64  | 60.68               | 52.10 | 0.0                | 0.0  |
| 1.50     |          | 11.57     | 9.67  | 50.89       | 5.01  | 49.11               | 62.09 | 0.0                | 0.0  |
| 1.55     |          | 3.19      | 14.14 | 54.08       | 5.55  | 45.92               | 65.43 | 0.0                | 0.0  |
| 1.60     |          | 2.34      | 16.84 | 56.42       | 6.01  | 43.58               | 68.03 | 0.0                | 0.0  |
| 1.70     |          | 3.90      | 21.12 | 60.32       | 6.99  | 39.68               | 72.64 | 0.0                | 0.0  |
| 1.80     |          | 2.77      | 28.44 | 63.09       | 7.93  | 36.91               | 75.96 | 0.0                | 0.0  |
| 2.00     |          | 4.19      | 39.20 | 67.28       | 9.88  | 32.72               | 80.67 | 0.0                | 0.0  |
| 2.60     |          | 32.72     | 80.67 | 100.00      | 33.04 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.79 ASH % - 40.71 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 40.71 | 100.00      | 40.71 | 0.0                 | 0.0  | 17.96              | 17.96 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87018  
 Coal zone: ?  
 Field sample no.: 07064 Composite sample no.: 245

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 16.58  
 Total yield (%): 16.58

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.77                 |                  |
| Ash (%):                       | 11.13                | 11.22            |
| Volatile matter (%):           | 7.09                 | 7.15             |
| Fixed carbon (%):              | 81.01                | 81.63            |
| Total sulphur (%):             | 0.62                 | 0.62             |
| Combustible sulphur (%):       | 0.58                 |                  |
| Gross calorific value (cal/g): | 7,344.00             | 7,402.00         |
| Volatile matter (dmmf %):      | 6.90                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.349                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,214.00             | 1,208.00            |
| Softening temperature (°C):     | 1,298.00             | 1,290.00            |
| Hemispherical temperature (°C): | 1,311.00             | 1,301.00            |
| Final temperature (°C):         | 1,367.00             | 1,364.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 42.86 | TiO2 (%): | 1.86 |
| Al2O3 (%): | 23.82 | Na2O (%): | 2.80 |
| Fe2O3 (%): | 2.45  | K2O (%):  | 0.97 |
| CaO (%):   | 10.58 | SO3 (%):  | 0.86 |
| MgO (%):   | 1.86  | P2O5 (%): | 7.19 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87018  
 Coal zone: ?  
 Field sample no.: 07064 Composite sample no.: 436

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.49  
 Contribution (%): 18.15  
 Total yield (%): 18.15

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.78                 |                  |
| Ash (%):                       | 7.31                 | 7.37             |
| Volatile matter (%):           | 7.08                 | 7.14             |
| Fixed carbon (%):              | 84.83                | 85.49            |
| Total sulphur (%):             | 0.65                 | 0.66             |
| Combustible sulphur (%):       | 0.63                 |                  |
| Gross calorific value (cal/g): | 7,756.00             | 7,817.00         |
| Volatile matter (dmmf %):      | 6.90                 |                  |
| Hardgrove index:               | 44.00                |                  |
| Phosphorous in coal (%):       | 0.169                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,243.00             | 1,169.00            |
| Softening temperature (°C):     | 1,290.00             | 1,209.00            |
| Hemispherical temperature (°C): | 1,306.00             | 1,259.00            |
| Final temperature (°C):         | 1,369.00             | 1,366.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 44.55 | TiO2 (%): | 2.64 |
| Al2O3 (%): | 24.45 | Na2O (%): | 2.62 |
| Fe2O3 (%): | 4.00  | K2O (%):  | 1.11 |
| CaO (%):   | 7.72  | SO3 (%):  | 0.63 |
| MgO (%):   | 2.01  | P2O5 (%): | 5.30 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPMLRDDH87019 SEAM - I FLD

SAMPLE ID - 80

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 79.71 ASH % - 13.10 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 29.40                 | 3.34  | 29.40     | 3.34  | 70.60       | 16.30 | 0.0        | 0.0  |   |           |
| 1.45     | 34.22                 | 6.32  | 63.62     | 4.94  | 36.38       | 25.69 | 0.0        | 0.0  |   |           |
| 1.50     | 20.26                 | 10.85 | 83.88     | 6.37  | 16.12       | 44.35 | 0.0        | 0.0  |   |           |
| 1.55     | 5.57                  | 16.78 | 89.45     | 7.02  | 10.55       | 58.90 | 0.0        | 0.0  |   |           |
| 1.60     | 1.91                  | 20.00 | 91.36     | 7.29  | 8.64        | 67.50 | 0.0        | 0.0  |   |           |
| 1.70     | 0.38                  | 30.95 | 91.74     | 7.39  | 8.26        | 69.18 | 0.0        | 0.0  |   |           |
| 1.80     | 0.17                  | 32.07 | 91.91     | 7.43  | 8.09        | 69.96 | 0.0        | 0.0  |   |           |
| 2.00     | 0.53                  | 46.98 | 92.44     | 7.66  | 7.56        | 71.57 | 0.0        | 0.0  |   |           |
| 2.60     | 7.56                  | 71.57 | 100.00    | 12.49 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLDAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 16.23 ASH % - 11.20 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 49.49                | 2.51  | 49.49     | 2.51  | 50.51       | 18.36 | 0.0        | 0.0  |   |           |
| 1.45     | 18.86                | 6.89  | 68.35     | 3.72  | 31.65       | 25.20 | 0.0        | 0.0  |   |           |
| 1.50     | 15.01                | 11.50 | 83.36     | 5.12  | 16.64       | 37.56 | 0.0        | 0.0  |   |           |
| 1.55     | 4.00                 | 15.52 | 87.36     | 5.60  | 12.64       | 44.53 | 0.0        | 0.0  |   |           |
| 1.60     | 2.39                 | 20.14 | 89.75     | 5.98  | 10.25       | 50.22 | 0.0        | 0.0  |   |           |
| 1.70     | 2.26                 | 26.21 | 92.01     | 6.48  | 7.99        | 57.00 | 0.0        | 0.0  |   |           |
| 1.80     | 1.31                 | 34.73 | 93.32     | 6.88  | 6.68        | 61.37 | 0.0        | 0.0  |   |           |
| 2.00     | 2.20                 | 44.54 | 95.52     | 7.74  | 4.48        | 69.64 | 0.0        | 0.0  |   |           |
| 2.60     | 4.48                 | 69.64 | 100.00    | 10.52 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87019 SEAM - I FLD

SAMPLE ID - 80

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 2.70 ASH % - 14.97 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 4.85      | 2.50  | 4.85        | 2.50  | 95.15               | 15.46 | 0.0                | 0.0  |
| 1.45     |          | 61.96     | 3.26  | 66.81       | 3.20  | 33.19               | 38.23 | 0.0                | 0.0  |
| 1.50     |          | 1.57      | 4.24  | 68.38       | 3.23  | 31.62               | 39.92 | 0.0                | 0.0  |
| 1.55     |          | 5.42      | 12.63 | 73.80       | 3.92  | 26.20               | 45.57 | 0.0                | 0.0  |
| 1.60     |          | 4.43      | 15.62 | 78.23       | 4.58  | 21.77               | 51.66 | 0.0                | 0.0  |
| 1.70     |          | 4.57      | 20.90 | 82.80       | 5.48  | 17.20               | 59.84 | 0.0                | 0.0  |
| 1.80     |          | 3.14      | 27.49 | 85.94       | 6.29  | 14.06               | 67.06 | 0.0                | 0.0  |
| 2.00     |          | 2.43      | 39.88 | 88.37       | 7.21  | 11.63               | 72.74 | 0.0                | 0.0  |
| 2.60     |          | 11.63     | 72.74 | 100.00      | 14.83 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 1.36 ASH % - 22.06 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 2.40     |          | 100.00    | 22.06 | 100.00      | 22.06 | 0.0                 | 0.0  | 25.38              | 25.38 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87019 SEAM - I FLD

SAMPLE ID - 81

WASHABILITY ID - WA1

| ANALYSIS TYPE - FLOAT |           |              |        |             |       |   |      |         |      |
|-----------------------|-----------|--------------|--------|-------------|-------|---|------|---------|------|
| FRACTION              | SIZE(MM)  | 35.00 X 6.00 |        | CUM. FLOATS |       | RELATIVE WEIGHT % - 50.25 ASH % - 33.21 |      | C.V.    | CUM. |
| S.G.TME               | ELEMENTAL | WT%          | ASH%   | WT%         | ASH%  | WT%                                     | ASH% | (MJ KG) | C.V. |
| 1.40                  | 3.71      | 2.59         | 3.71   | 2.59        | 96.29 | 33.27                                   | 0.0  | 0.0     |      |
| 1.45                  | 14.25     | 6.57         | 17.96  | 5.75        | 82.04 | 37.91                                   | 0.0  | 0.0     |      |
| 1.50                  | 15.80     | 11.49        | 33.76  | 8.44        | 66.24 | 44.21                                   | 0.0  | 0.0     |      |
| 1.55                  | 11.45     | 16.18        | 45.21  | 10.40       | 54.79 | 50.07                                   | 0.0  | 0.0     |      |
| 1.60                  | 8.14      | 20.28        | 53.35  | 11.90       | 46.65 | 55.27                                   | 0.0  | 0.0     |      |
| 1.70                  | 12.18     | 26.88        | 65.53  | 14.69       | 34.47 | 65.30                                   | 0.0  | 0.0     |      |
| 1.80                  | 2.86      | 32.74        | 68.39  | 15.44       | 31.61 | 68.25                                   | 0.0  | 0.0     |      |
| 2.00                  | 7.15      | 37.50        | 75.54  | 17.53       | 24.46 | 77.24                                   | 0.0  | 0.0     |      |
| 2.60                  | 24.46     | 77.24        | 100.00 | 32.14       | 0.0   | 0.0                                     | 0.0  | 0.0     |      |

| ANALYSIS TYPE - FLOAT |           |             |        |             |       |   |      |         |      |
|-----------------------|-----------|-------------|--------|-------------|-------|---|------|---------|------|
| FRACTION              | SIZE(MM)  | 6.00 X 0.50 |        | CUM. FLOATS |       | RELATIVE WEIGHT % - 33.38 ASH % - 18.45 |      | C.V.    | CUM. |
| S.G.TME               | ELEMENTAL | WT%         | ASH%   | WT%         | ASH%  | WT%                                     | ASH% | (MJ KG) | C.V. |
| 1.40                  | 15.29     | 2.04        | 15.29  | 2.04        | 84.71 | 21.49                                   | 0.0  | 0.0     |      |
| 1.45                  | 24.53     | 5.45        | 39.82  | 4.14        | 60.18 | 28.03                                   | 0.0  | 0.0     |      |
| 1.50                  | 17.94     | 10.24       | 57.76  | 6.04        | 42.24 | 35.58                                   | 0.0  | 0.0     |      |
| 1.55                  | 12.01     | 14.78       | 69.77  | 7.54        | 30.23 | 43.84                                   | 0.0  | 0.0     |      |
| 1.60                  | 5.65      | 18.52       | 75.42  | 8.36        | 24.58 | 49.66                                   | 0.0  | 0.0     |      |
| 1.70                  | 7.16      | 22.92       | 82.58  | 9.63        | 17.42 | 60.66                                   | 0.0  | 0.0     |      |
| 1.80                  | 3.50      | 30.94       | 86.08  | 10.49       | 13.92 | 68.13                                   | 0.0  | 0.0     |      |
| 2.00                  | 2.94      | 41.46       | 89.02  | 11.51       | 10.98 | 75.27                                   | 0.0  | 0.0     |      |
| 2.60                  | 10.98     | 75.27       | 100.00 | 18.51       | 0.0   | 0.0                                     | 0.0  | 0.0     |      |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87019 SEAM - I FLD

SAMPLE ID - 81

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 0.50 X |       | 0.15        |       | RELATIVE WEIGHT % - 10.18 ASH % - 15.17 |       |         |      |
|----------|-----------------|-------|-------------|-------|---|-------|---------|------|
|          | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  | WT%             | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     | 19.12           | 3.27  | 19.12       | 3.27  | 80.88                                   | 16.62 | 0.0     | 0.0  |
| 1.45     | 19.59           | 3.77  | 38.71       | 3.52  | 61.29                                   | 20.73 | 0.0     | 0.0  |
| 1.50     | 12.52           | 6.23  | 51.23       | 4.18  | 48.77                                   | 24.45 | 0.0     | 0.0  |
| 1.55     | 10.92           | 9.37  | 62.15       | 5.10  | 37.85                                   | 28.80 | 0.0     | 0.0  |
| 1.60     | 7.85            | 12.12 | 70.00       | 5.88  | 30.00                                   | 33.16 | 0.0     | 0.0  |
| 1.70     | 13.16           | 15.60 | 83.16       | 7.42  | 16.84                                   | 46.88 | 0.0     | 0.0  |
| 1.80     | 5.60            | 23.37 | 88.76       | 8.43  | 11.24                                   | 58.60 | 0.0     | 0.0  |
| 2.00     | 4.22            | 35.41 | 92.98       | 9.65  | 7.02                                    | 72.54 | 0.0     | 0.0  |
| 2.60     | 7.02            | 72.54 | 100.00      | 14.07 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) 0.15 X |       | 0.00        |       | RELATIVE WEIGHT % - 6.20 ASH % - 18.12 |      |         |       |
|----------|-----------------|-------|-------------|-------|--|------|---------|-------|
|          | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                             |      | C.V.    | CUM.  |
| S.G.TME  | WT%             | ASH%  | WT%         | ASH%  | WT%                                    | ASH% | (MJ KG) | C.V.  |
| 240.00   | 100.00          | 18.12 | 100.00      | 18.12 | 0.0                                    | 0.0  | 26.72   | 26.72 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87019  
 Coal zone: I  
 Field sample no.: 06902 Composite sample no.: 246

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.50  
 Contribution (%): 63.74  
 Total yield (%): 63.74

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.70                 |                  |
| Ash (%) :                       | 5.63                 | 5.67             |
| Volatile matter (%) :           | 5.32                 | 5.36             |
| Fixed carbon (%) :              | 88.35                | 88.97            |
| Total sulphur (%) :             | 0.49                 | 0.49             |
| Combustible sulphur (%) :       | 0.48                 |                  |
| Gross calorific value (cal/g) : | 7,959.00             | 8,014.00         |
| Volatile matter (dmmf%) :       | 5.10                 |                  |
| Hardgrove index :               | 36.00                |                  |
| Phosphorous in coal (%) :       | 0.135                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,245.00             | 1,180.00            |
| Softening temperature (°C) :     | 1,269.00             | 1,238.00            |
| Hemispherical temperature (°C) : | 1,274.00             | 1,256.00            |
| Final temperature (°C) :         | 1,411.00             | 1,280.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 43.60 | TiO2 (%) : | 2.80 |
| Al2O3 (%) : | 29.11 | Na2O (%) : | 2.56 |
| Fe2O3 (%) : | 3.47  | K2O (%) :  | 0.89 |
| CaO (%) :   | 6.18  | S03 (%) :  | 0.25 |
| MgO (%) :   | 1.54  | P2O5 (%) : | 5.51 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87019  
 Coal zone: 1  
 Field sample no.: 06903 Composite sample no.: 247

----- PRODUCT COAL ANALYSIS (SP2) -----  
 Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.46  
 Contribution (%): 13.00  
 Total yield (%): 13.00

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.78                 |                  |
| Ash (%) :                       | 5.86                 | 5.91             |
| Volatile matter (%) :           | 5.63                 | 5.67             |
| Fixed carbon (%) :              | 87.73                | 88.42            |
| Total sulphur (%) :             | 0.47                 | 0.47             |
| Combustible sulphur (%) :       | 0.47                 |                  |
| Gross calorific value (cal/g) : | 7,925.00             | 7,988.00         |
| Volatile matter (dmmf%) :       | 5.40                 |                  |
| Hardgrove index:                | 63.00                |                  |
| Phosphorous in coal (%) :       | 0.045                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,156.00             | 1,154.00            |
| Softening temperature (°C) :     | 1,306.00             | 1,280.00            |
| Hemispherical temperature (°C) : | 1,327.00             | 1,301.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 58.66 | TiO2 (%) : | 1.95 |
| Al2O3 (%) : | 23.44 | Na2O (%) : | 2.10 |
| Fe2O3 (%) : | 2.30  | K2O (%) :  | 0.84 |
| CaO (%) :   | 2.89  | SO3 (%) :  | 0.18 |
| MgO (%) :   | 2.13  | P2O5 (%) : | 1.77 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87019  
 Coal zone: 1  
 Field sample no.: 06902 - 06903 Composite sample no.: 437

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.56  
 Contribution (%): 21.72  
 Total yield (%): 21.72

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.77                 |                  |
| Ash (%):                       | 7.23                 | 7.29             |
| Volatile matter (%):           | 7.60                 | 7.66             |
| Fixed carbon (%):              | 84.40                | 85.05            |
| Total sulphur (%):             | 0.47                 | 0.47             |
| Combustible sulphur (%):       | 0.45                 |                  |
| Gross calorific value (cal/g): | 7,490.00             | 7,549.00         |
| Volatile matter (dmmf %):      | 7.50                 |                  |
| Hardgrove index:               | 49.00                |                  |
| Phosphorous in coal (%):       | 0.045                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,122.00             | 1,074.00            |
| Softening temperature (°C):     | 1,380.00             | 1,319.00            |
| Hemispherical temperature (°C): | 1,422.00             | 1,380.00            |
| Final temperature (°C):         | 1,472.00             | 1,440.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 63.20 | TiO2 (%): | 2.15 |
| Al2O3 (%): | 22.30 | Na2O (%): | 1.89 |
| Fe2O3 (%): | 2.29  | K2O (%):  | 0.81 |
| CaO (%):   | 2.24  | SO3 (%):  | 0.70 |
| MgO (%):   | 1.77  | P2O5 (%): | 1.42 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87019 SEAM - H FLD

SAMPLE ID - 83

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM)  | 35.00 X |        | 6.00        |       | RELATIVE WEIGHT % - 61.52 ASH % - 56.42 |      | C.V.    | CUM. |
|----------|-----------|---------|--------|-------------|-------|---|------|---------|------|
|          |           | WT%     | ASH%   | WT%         | ASH%  | WT%                                     | ASH% |         |      |
| S.G.TME  | ELEMENTAL |         |        | CUM. FLOATS |       | CUM. SINKS                              |      | (MJ KG) | C.V. |
|          |           | WT%     | ASH%   | WT%         | ASH%  | WT%                                     | ASH% |         |      |
| 1.40     | 0.46      | 2.10    | 0.46   | 2.10        | 99.54 | 56.12                                   | 0.0  | 0.0     |      |
| 1.45     | 1.74      | 3.54    | 2.20   | 3.24        | 97.80 | 57.06                                   | 0.0  | 0.0     |      |
| 1.50     | 0.87      | 9.70    | 3.07   | 5.07        | 96.93 | 57.48                                   | 0.0  | 0.0     |      |
| 1.55     | 1.09      | 14.58   | 4.16   | 7.56        | 95.84 | 57.97                                   | 0.0  | 0.0     |      |
| 1.60     | 1.93      | 22.26   | 6.09   | 12.22       | 93.91 | 58.71                                   | 0.0  | 0.0     |      |
| 1.70     | 4.56      | 29.26   | 10.65  | 19.52       | 89.35 | 60.21                                   | 0.0  | 0.0     |      |
| 1.80     | 14.88     | 37.67   | 25.53  | 30.10       | 74.47 | 64.71                                   | 0.0  | 0.0     |      |
| 2.00     | 20.65     | 49.63   | 46.18  | 38.83       | 53.82 | 70.50                                   | 0.0  | 0.0     |      |
| 2.60     | 53.82     | 70.50   | 100.00 | 55.88       | 0.0   | 0.0                                     | 0.0  | 0.0     |      |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM)  | 6.00 X   |   | 0.50  |  | RELATIVE WEIGHT % - 28.38 ASH % - 42.48 |                          | C.V.    | CUM. |
|----------|-----------|--|---|---|--|---|--------------------------|---------|------|
|          |           | WT%  | ASH%  | WT%   | ASH%   | WT%                                     | ASH%                     |         |      |
| S.G.TME  | ELEMENTAL |  |   | CUM. FLOATS   |  | CUM. SINKS                              |                          | (MJ KG) | C.V. |
|          |           | WT% <td>ASH% <td>WT% <td>ASH% <td>WT% <td>ASH% <td></td> <td></td> </td></td></td></td></td> | ASH% <td>WT% <td>ASH% <td>WT% <td>ASH% <td></td> <td></td> </td></td></td></td> | WT% <td>ASH% <td>WT% <td>ASH% <td></td> <td></td> </td></td></td> | ASH% <td>WT% <td>ASH% <td></td> <td></td> </td></td> | WT% <td>ASH% <td></td> <td></td> </td>  | ASH% <td></td> <td></td> |         |      |
| 1.40     | 8.24      | 1.68   | 8.24  | 1.68  | 91.76  | 45.01                                   | 0.0                      | 0.0     |      |
| 1.45     | 9.82      | 3.16   | 18.06   | 2.48  | 81.94  | 50.02                                   | 0.0                      | 0.0     |      |
| 1.50     | 1.73      | 8.52   | 19.79   | 3.01  | 80.21  | 50.92                                   | 0.0                      | 0.0     |      |
| 1.55     | 2.30      | 13.93  | 22.09   | 4.15  | 77.91  | 52.01                                   | 0.0                      | 0.0     |      |
| 1.60     | 2.99      | 18.68  | 25.08   | 5.88  | 74.92  | 53.34                                   | 0.0                      | 0.0     |      |
| 1.70     | 7.57      | 26.05  | 32.65   | 10.56   | 67.35  | 56.41                                   | 0.0                      | 0.0     |      |
| 1.80     | 5.51      | 31.26  | 38.16   | 13.55   | 61.84  | 58.65                                   | 0.0                      | 0.0     |      |
| 2.00     | 22.48     | 39.75  | 60.64   | 23.26   | 39.36  | 69.44                                   | 0.0                      | 0.0     |      |
| 2.60     | 39.36     | 69.44  | 100.00  | 41.44   | 0.0  | 0.0                                     | 0.0                      | 0.0     |      |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87019 SEAM - H FLD

SAMPLE ID - 83

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % |       | 7.06 ASH % - 33.12 |      |
|----------|----------|-----------|------|-------------|-------|-------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS        |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%               | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 9.26     | 1.23      |      | 9.26        | 1.23  | 90.74             | 35.26 | 0.0                | 0.0  |
| 1.45     | 13.13    | 2.83      |      | 22.39       | 2.17  | 77.61             | 40.75 | 0.0                | 0.0  |
| 1.50     | 9.08     | 5.32      |      | 31.47       | 3.08  | 68.53             | 45.45 | 0.0                | 0.0  |
| 1.55     | 3.43     | 9.81      |      | 34.90       | 3.74  | 65.10             | 47.32 | 0.0                | 0.0  |
| 1.60     | 4.64     | 12.57     |      | 39.54       | 4.78  | 60.46             | 49.99 | 0.0                | 0.0  |
| 1.70     | 4.16     | 18.07     |      | 43.70       | 6.04  | 56.30             | 52.35 | 0.0                | 0.0  |
| 1.80     | 10.77    | 23.11     |      | 54.47       | 9.42  | 45.53             | 59.27 | 0.0                | 0.0  |
| 2.00     | 14.60    | 36.27     |      | 69.07       | 15.09 | 30.93             | 70.12 | 0.0                | 0.0  |
| 2.60     | 30.93    | 70.12     |      | 100.00      | 32.11 | 0.0               | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % |      | 3.04 ASH % - 33.92 |       |
|----------|----------|-----------|------|-------------|-------|-------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS        |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%               | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 33.92     |      | 100.00      | 33.92 | 0.0               | 0.0  | 20.25              | 20.25 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87019  
 Coal zone: H  
 Field sample no.: 06906 Composite sample no.: 248

----- PRODUCT COAL ANALYSIS (SP4) -----  
 Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.60  
 Contribution (%): 3.26  
 Total yield (%): 3.26

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.45                 |                  |
| Ash (%):                       | 9.03                 | 9.07             |
| Volatile matter (%):           | 6.53                 | 6.56             |
| Fixed carbon (%):              | 83.99                | 84.37            |
| Total sulphur (%):             | 0.69                 | 0.69             |
| Combustible sulphur (%):       | 0.65                 |                  |
| Gross calorific value (cal/g): | 7,562.00             | 7,596.00         |
| Volatile matter (dmmf %):      | 6.20                 |                  |
| Hardgrove index:               | 54.00                |                  |
| Phosphorous in coal (%):       | 0.011                |                  |

----- ASH FUSION ANALYSIS (AF1) -----  
OXIDIZING ATM REDUCING ATM

|                                 |          |          |
|---------------------------------|----------|----------|
| Initial temperature (°C):       | 1,243.00 | 1,122.00 |
| Softening temperature (°C):     | 1,285.00 | 1,159.00 |
| Hemispherical temperature (°C): | 1,312.00 | 1,214.00 |
| Final temperature (°C):         | 1,348.00 | 1,312.00 |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 61.60 | TiO2 (%): | 1.43 |
| Al2O3 (%): | 14.10 | Na2O (%): | 0.71 |
| Fe2O3 (%): | 8.84  | K2O (%):  | 0.66 |
| CaO (%):   | 2.60  | SO3 (%):  | 1.22 |
| MgO (%):   | 3.80  | P2O5 (%): | 0.27 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87019  
 Coal zone: H  
 Field sample no.: 06906 Composite sample no.: 438

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.74  
 Contribution(%): 10.06  
 Total yield(%): 10.06

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture(%) :         | 0.77                 |                  |
| Ash(%) :                       | 11.47                | 11.56            |
| Volatile matter(%) :           | 8.31                 | 8.37             |
| Fixed carbon(%) :              | 79.45                | 80.07            |
| Total sulphur(%) :             | 0.66                 | 0.67             |
| Combustible sulphur(%) :       | 0.64                 |                  |
| Gross calorific value(cal/g) : | 7,256.00             | 7,313.00         |
| Volatile matter(dmmf%) :       | 8.30                 |                  |
| Hardgrove index:               | 61.00                |                  |
| Phosphorous in coal(%) :       | 0.009                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,222.00             | 1,093.00            |
| Softening temperature(°C) :     | 1,351.00             | 1,224.00            |
| Hemispherical temperature(°C) : | 1,372.00             | 1,259.00            |
| Final temperature(°C) :         | 1,390.00             | 1,343.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2(%) :  | 60.78 | TiO2(%) : | 2.09 |
| Al2O3(%) : | 18.90 | Na2O(%) : | 1.07 |
| Fe2O3(%) : | 7.29  | K2O(%) :  | 1.28 |
| CaO(%) :   | 1.68  | SO3(%) :  | 0.47 |
| MgO(%) :   | 3.31  | P2O5(%) : | 0.17 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87020 SEAM - M

SAMPLE ID - 85

WASHABILITY ID - WA1

| ANALYSIS TYPE - FLOAT |          |           |       |             |       |   |       |         |      |
|-----------------------|----------|-----------|-------|-------------|-------|---|-------|---------|------|
| FRACTION              | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 64.98 ASH % - 78.01 |       |         |      |
| S.G.                  | TME      | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
|                       |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40                  |          | 0.05      | 3.36  | 0.05        | 3.36  | 99.95                                   | 77.21 | 0.0     | 0.0  |
| 1.45                  |          | 2.92      | 7.31  | 2.97        | 7.24  | 97.03                                   | 79.31 | 0.0     | 0.0  |
| 1.50                  |          | 0.29      | 11.61 | 3.26        | 7.63  | 96.74                                   | 79.51 | 0.0     | 0.0  |
| 1.55                  |          | 1.44      | 16.81 | 4.70        | 10.44 | 95.30                                   | 80.46 | 0.0     | 0.0  |
| 1.60                  |          | 2.13      | 28.19 | 6.83        | 15.98 | 93.17                                   | 81.65 | 0.0     | 0.0  |
| 1.70                  |          | 1.64      | 31.36 | 8.47        | 18.96 | 91.53                                   | 82.56 | 0.0     | 0.0  |
| 1.80                  |          | 1.54      | 35.65 | 10.01       | 21.52 | 89.99                                   | 83.36 | 0.0     | 0.0  |
| 2.00                  |          | 4.78      | 50.70 | 14.79       | 30.95 | 85.21                                   | 85.19 | 0.0     | 0.0  |
| 2.60                  |          | 85.21     | 85.19 | 100.00      | 77.17 | 0.0                                     | 0.0   | 0.0     | 0.0  |

| ANALYSIS TYPE - FLOAT |          |           |       |             |       |   |       |         |      |
|-----------------------|----------|-----------|-------|-------------|-------|---|-------|---------|------|
| FRACTION              | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 22.76 ASH % - 56.35 |       |         |      |
| S.G.                  | TME      | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
|                       |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40                  |          | 1.99      | 2.48  | 1.99        | 2.48  | 98.01                                   | 56.93 | 0.0     | 0.0  |
| 1.45                  |          | 7.98      | 6.19  | 9.97        | 5.45  | 90.03                                   | 61.42 | 0.0     | 0.0  |
| 1.50                  |          | 3.48      | 10.81 | 13.45       | 6.84  | 86.55                                   | 63.46 | 0.0     | 0.0  |
| 1.55                  |          | 3.77      | 16.56 | 17.22       | 8.97  | 82.78                                   | 65.60 | 0.0     | 0.0  |
| 1.60                  |          | 2.81      | 21.33 | 20.03       | 10.70 | 79.97                                   | 67.15 | 0.0     | 0.0  |
| 1.70                  |          | 7.34      | 26.52 | 27.37       | 14.94 | 72.63                                   | 71.26 | 0.0     | 0.0  |
| 1.80                  |          | 5.79      | 33.83 | 33.16       | 18.24 | 66.84                                   | 74.50 | 0.0     | 0.0  |
| 2.00                  |          | 9.57      | 45.53 | 42.73       | 24.35 | 57.27                                   | 79.34 | 0.0     | 0.0  |
| 2.60                  |          | 57.27     | 79.34 | 100.00      | 55.84 | 0.0                                     | 0.0   | 0.0     | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87020 SEAM - M

SAMPLE ID - 85

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 7.32 ASH % - 34.45 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 10.48    | 2.18      |      | 10.48       | 2.18  | 89.52               | 37.73 | 0.0                | 0.0  |
| 1.45     | 22.45    | 4.47      |      | 32.93       | 3.74  | 67.07               | 48.87 | 0.0                | 0.0  |
| 1.50     | 3.90     | 5.92      |      | 36.83       | 3.97  | 63.17               | 51.52 | 0.0                | 0.0  |
| 1.55     | 6.07     | 9.39      |      | 42.90       | 4.74  | 57.10               | 56.00 | 0.0                | 0.0  |
| 1.60     | 3.92     | 11.91     |      | 46.82       | 5.34  | 53.18               | 59.25 | 0.0                | 0.0  |
| 1.70     | 6.10     | 16.68     |      | 52.92       | 6.65  | 47.08               | 64.76 | 0.0                | 0.0  |
| 1.80     | 6.73     | 25.35     |      | 59.65       | 8.76  | 40.35               | 71.34 | 0.0                | 0.0  |
| 2.00     | 6.32     | 38.48     |      | 65.97       | 11.60 | 34.03               | 77.44 | 0.0                | 0.0  |
| 2.60     | 34.03    | 77.44     |      | 100.00      | 34.01 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 4.94 ASH % - 33.74 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 33.74     |      | 100.00      | 33.74 | 0.0                 | 0.0  | 20.49              | 20.49 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87020  
 Coal zone: M  
 Field sample no.: 07081 Composite sample no.: 249

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.56  
 Contribution (%): 3.54  
 Total yield (%): 3.54

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.60                 |                  |
| Ash (%):                       | 11.24                | 11.31            |
| Volatile matter (%):           | 7.53                 | 7.58             |
| Fixed carbon (%):              | 80.63                | 81.11            |
| Total sulphur (%):             | 0.91                 | 0.92             |
| Combustible sulphur (%):       | 0.83                 |                  |
| Gross calorific value (cal/g): | 7,356.00             | 7,401.00         |
| Volatile matter (dmmf %):      | 7.30                 |                  |
| Hardgrove index:               | 43.00                |                  |
| Phosphorous in coal (%):       | 0.218                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,214.00             | 1,108.00            |
| Softening temperature (°C):     | 1,264.00             | 1,169.00            |
| Hemispherical temperature (°C): | 1,285.00             | 1,182.00            |
| Final temperature (°C):         | 1,322.00             | 1,251.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 43.48 | TiO2 (%): | 1.37 |
| Al2O3 (%): | 21.85 | Na2O (%): | 1.87 |
| Fe2O3 (%): | 10.04 | K2O (%):  | 1.02 |
| CaO (%):   | 6.55  | SO3 (%):  | 1.72 |
| MgO (%):   | 2.74  | P2O5 (%): | 4.44 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87020  
 Coal zone: M  
 Field sample no.: 07081 Composite sample no.: 439

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 3.23  
 Total yield (%): 3.23

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.62                 |                  |
| Ash (%):                       | 7.38                 | 7.43             |
| Volatile matter (%):           | 7.14                 | 7.18             |
| Fixed carbon (%):              | 84.86                | 85.39            |
| Total sulphur (%):             | 0.72                 | 0.72             |
| Combustible sulphur (%):       | 0.70                 |                  |
| Gross calorific value (cal/g): | 7,734.00             | 7,782.00         |
| Volatile matter (dmmf %):      | 6.90                 |                  |
| Hardgrove index:               | 48.00                |                  |
| Phosphorous in coal (%):       | 0.184                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,190.00             | 1,106.00            |
| Softening temperature (°C):     | 1,266.00             | 1,222.00            |
| Hemispherical temperature (°C): | 1,285.00             | 1,243.00            |
| Final temperature (°C):         | 1,317.00             | 1,322.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 43.78 | TiO2 (%): | 4.39 |
| Al2O3 (%): | 25.33 | Na2O (%): | 2.29 |
| Fe2O3 (%): | 4.33  | K2O (%):  | 1.19 |
| CaO (%):   | 7.86  | SO3 (%):  | 0.60 |
| MgO (%):   | 2.01  | P2O5 (%): | 5.71 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87020 SEAM - L

SAMPLE ID - 86

WASHABILITY ID - WA1

| ANALYSIS TYPE - FLOAT |           |         |             |       |            |   |         |      |  |
|-----------------------|-----------|---------|-------------|-------|------------|---|---------|------|--|
| FRACTION              | SIZE(MM)  | 35.00 X |             | 6.00  |            | RELATIVE WEIGHT % - 60.66 ASH % - 62.51 |         |      |  |
| S.G.TME               | ELEMENTAL |         | CUM. FLOATS |       | CUM. SINKS |   | C.V.    | CUM. |  |
|                       | WT%       | ASH%    | WT%         | ASH%  | WT%        | ASH%                                    | (MJ KG) | C.V. |  |
| 1.40                  | 0.73      | 2.44    | 0.73        | 2.44  | 99.27      | 61.58                                   | 0.0     | 0.0  |  |
| 1.45                  | 3.61      | 8.42    | 4.34        | 7.41  | 95.66      | 63.59                                   | 0.0     | 0.0  |  |
| 1.50                  | 5.39      | 11.26   | 9.73        | 9.54  | 90.27      | 66.71                                   | 0.0     | 0.0  |  |
| 1.55                  | 3.22      | 15.57   | 12.95       | 11.04 | 87.05      | 68.60                                   | 0.0     | 0.0  |  |
| 1.60                  | 2.31      | 22.88   | 15.26       | 12.83 | 84.74      | 69.85                                   | 0.0     | 0.0  |  |
| 1.70                  | 5.10      | 32.80   | 20.36       | 17.84 | 79.64      | 72.22                                   | 0.0     | 0.0  |  |
| 1.80                  | 5.97      | 38.53   | 26.33       | 22.53 | 73.67      | 74.95                                   | 0.0     | 0.0  |  |
| 2.00                  | 11.05     | 49.85   | 37.38       | 30.60 | 62.62      | 79.38                                   | 0.0     | 0.0  |  |
| 2.60                  | 62.62     | 79.38   | 100.00      | 61.15 | 0.0        | 0.0                                     | 0.0     | 0.0  |  |

| ANALYSIS TYPE - FLOAT |           |        |             |       |            |   |         |      |  |
|-----------------------|-----------|--------|-------------|-------|------------|---|---------|------|--|
| FRACTION              | SIZE(MM)  | 6.00 X |             | 0.50  |            | RELATIVE WEIGHT % - 26.64 ASH % - 39.08 |         |      |  |
| S.G.TME               | ELEMENTAL |        | CUM. FLOATS |       | CUM. SINKS |   | C.V.    | CUM. |  |
|                       | WT%       | ASH%   | WT%         | ASH%  | WT%        | ASH%                                    | (MJ KG) | C.V. |  |
| 1.40                  | 7.49      | 2.25   | 7.49        | 2.25  | 92.51      | 41.24                                   | 0.0     | 0.0  |  |
| 1.45                  | 12.23     | 6.54   | 19.72       | 4.91  | 80.28      | 46.52                                   | 0.0     | 0.0  |  |
| 1.50                  | 7.70      | 10.33  | 27.42       | 6.43  | 72.58      | 50.36                                   | 0.0     | 0.0  |  |
| 1.55                  | 5.51      | 14.71  | 32.93       | 7.82  | 67.07      | 53.29                                   | 0.0     | 0.0  |  |
| 1.60                  | 5.21      | 18.68  | 38.14       | 9.30  | 61.86      | 56.21                                   | 0.0     | 0.0  |  |
| 1.70                  | 6.78      | 23.36  | 44.92       | 11.42 | 55.08      | 60.25                                   | 0.0     | 0.0  |  |
| 1.80                  | 7.21      | 30.88  | 52.13       | 14.11 | 47.87      | 64.67                                   | 0.0     | 0.0  |  |
| 2.00                  | 13.42     | 44.20  | 65.55       | 20.27 | 34.45      | 72.65                                   | 0.0     | 0.0  |  |
| 2.60                  | 34.45     | 72.65  | 100.00      | 38.32 | 0.0        | 0.0                                     | 0.0     | 0.0  |  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87020 SEAM - L

SAMPLE ID - 86

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

RELATIVE WEIGHT % - 7.98 ASH % - 26.41

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X |       | 0.15   |       | CUM. FLOATS |       | CUM. SINKS |      | C.V.<br>(MJ/KG) | CUM.<br>C.V. |
|---------------------|-----------------|-------|--------|-------|-------------|-------|------------|------|-----------------|--------------|
|                     | WT%             | ASH%  | WT%    | ASH%  | WT%         | ASH%  | WT%        | ASH% |                 |              |
| 1.40                | 13.49           | 2.10  | 13.49  | 2.10  | 86.51       | 28.88 | 0.0        | 0.0  |                 |              |
| 1.45                | 20.59           | 4.35  | 34.08  | 3.46  | 65.92       | 36.54 | 0.0        | 0.0  |                 |              |
| 1.50                | 1.65            | 6.69  | 35.73  | 3.61  | 64.27       | 37.30 | 0.0        | 0.0  |                 |              |
| 1.55                | 5.36            | 8.08  | 41.09  | 4.19  | 58.91       | 39.96 | 0.0        | 0.0  |                 |              |
| 1.60                | 6.29            | 11.04 | 47.38  | 5.10  | 52.62       | 43.42 | 0.0        | 0.0  |                 |              |
| 1.70                | 8.42            | 15.25 | 55.80  | 6.63  | 44.20       | 48.79 | 0.0        | 0.0  |                 |              |
| 1.80                | 7.69            | 22.09 | 63.49  | 8.50  | 36.51       | 54.41 | 0.0        | 0.0  |                 |              |
| 2.00                | 16.04           | 25.06 | 79.53  | 11.84 | 20.47       | 77.41 | 0.0        | 0.0  |                 |              |
| 2.60                | 20.47           | 77.41 | 100.00 | 25.27 | 0.0         | 0.0   | 0.0        | 0.0  |                 |              |

ANALYSIS TYPE - FROTH

RELATIVE WEIGHT % - 4.71 ASH % - 30.49

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X |       | 0.00   |       | CUM. FLOATS |      | CUM. SINKS |       | C.V.<br>(MJ/KG) | CUM.<br>C.V. |
|---------------------|-----------------|-------|--------|-------|-------------|------|------------|-------|-----------------|--------------|
|                     | WT%             | ASH%  | WT%    | ASH%  | WT%         | ASH% | WT%        | ASH%  |                 |              |
| 240.00              | 100.00          | 30.49 | 100.00 | 30.49 | 0.0         | 0.0  | 21.72      | 21.72 |                 |              |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87020  
 Coal zone: L  
 Field sample no.: 07084 Composite sample no.: 250

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.58  
 Contribution (%): 8.59  
 Total yield (%): 8.59

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.19                 |                  |
| Ash (%):                       | 11.32                | 11.34            |
| Volatile matter (%):           | 7.17                 | 7.18             |
| Fixed carbon (%):              | 81.32                | 81.48            |
| Total sulphur (%):             | 1.36                 | 1.36             |
| Combustible sulphur (%):       | 1.26                 |                  |
| Gross calorific value (cal/g): | 7,399.00             | 7,413.00         |
| Volatile matter (dmmf %):      | 6.60                 |                  |
| Hardgrove index:               | 42.00                |                  |
| Phosphorous in coal (%):       | 0.353                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,190.00             | 1,106.00            |
| Softening temperature (°C):     | 1,259.00             | 1,174.00            |
| Hemispherical temperature (°C): | 1,285.00             | 1,211.00            |
| Final temperature (°C):         | 1,290.00             | 1,264.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 36.56 | TiO2 (%): | 1.37 |
| Al2O3 (%): | 20.66 | Na2O (%): | 2.43 |
| Fe2O3 (%): | 12.35 | K2O (%):  | 0.92 |
| CaO (%):   | 10.07 | SO3 (%):  | 2.31 |
| MgO (%):   | 2.08  | P2O5 (%): | 7.14 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87020  
 Coal zone: L  
 Field sample no.: 07084 Composite sample no.: 440

----- PRODUCT COAL ANALYSIS (SP3) -----  
 Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 8.69  
 Total yield (%): 8.69

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.61                 |                  |
| Ash (%):                       | 7.84                 | 7.89             |
| Volatile matter (%):           | 6.94                 | 6.98             |
| Fixed carbon (%):              | 84.61                | 85.13            |
| Total sulphur (%):             | 0.79                 | 0.79             |
| Combustible sulphur (%):       | 0.76                 |                  |
| Gross calorific value (cal/g): | 7,674.00             | 7,721.00         |
| Volatile matter (dmmf %):      | 6.70                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.155                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,201.00             | 1,108.00            |
| Softening temperature (°C):     | 1,272.00             | 1,190.00            |
| Hemispherical temperature (°C): | 1,306.00             | 1,214.00            |
| Final temperature (°C):         | 1,364.00             | 1,360.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 44.16 | TiO2 (%): | 2.91 |
| Al2O3 (%): | 24.57 | Na2O (%): | 2.35 |
| Fe2O3 (%): | 6.92  | K2O (%):  | 1.23 |
| CaO (%):   | 6.18  | SO3 (%):  | 0.84 |
| MgO (%):   | 2.01  | P2O5 (%): | 4.52 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87020 SEAM - K/L

SAMPLE ID - 87

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 52.79 |       | ASH % - 58.20 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 1.23      | 6.94  | 1.23        | 6.94  | 98.77                     | 57.98 | 0.0           | 0.0  |
| 1.45     |          | 1.30      | 9.34  | 2.53        | 8.17  | 97.47                     | 58.63 | 0.0           | 0.0  |
| 1.50     |          | 2.51      | 13.34 | 5.04        | 10.75 | 94.96                     | 59.82 | 0.0           | 0.0  |
| 1.55     |          | 4.93      | 19.56 | 9.97        | 15.10 | 90.03                     | 62.03 | 0.0           | 0.0  |
| 1.60     |          | 4.82      | 22.94 | 14.79       | 17.66 | 85.21                     | 64.24 | 0.0           | 0.0  |
| 1.70     |          | 8.79      | 31.05 | 23.58       | 22.65 | 76.42                     | 68.06 | 0.0           | 0.0  |
| 1.80     |          | 5.49      | 38.07 | 29.07       | 25.56 | 70.93                     | 70.38 | 0.0           | 0.0  |
| 2.00     |          | 17.93     | 49.20 | 47.00       | 34.58 | 53.00                     | 77.54 | 0.0           | 0.0  |
| 2.60     |          | 53.00     | 77.54 | 100.00      | 57.35 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 29.80 |       | ASH % - 35.24 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 7.20      | 3.41  | 7.20        | 3.41  | 92.80                     | 37.03 | 0.0           | 0.0  |
| 1.45     |          | 12.06     | 7.87  | 19.26       | 6.20  | 80.74                     | 41.39 | 0.0           | 0.0  |
| 1.50     |          | 8.55      | 12.28 | 27.81       | 8.07  | 72.19                     | 44.83 | 0.0           | 0.0  |
| 1.55     |          | 9.57      | 16.41 | 37.38       | 10.21 | 62.62                     | 49.18 | 0.0           | 0.0  |
| 1.60     |          | 6.27      | 20.33 | 43.65       | 11.66 | 56.35                     | 52.39 | 0.0           | 0.0  |
| 1.70     |          | 10.36     | 24.64 | 54.01       | 14.15 | 45.99                     | 58.64 | 0.0           | 0.0  |
| 1.80     |          | 7.90      | 29.70 | 61.91       | 16.13 | 38.09                     | 64.64 | 0.0           | 0.0  |
| 2.00     |          | 11.12     | 40.90 | 73.03       | 19.91 | 26.97                     | 74.43 | 0.0           | 0.0  |
| 2.60     |          | 26.97     | 74.43 | 100.00      | 34.61 | 0.0                       | 0.0   | 0.0           | 0.0  |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87020 SEAM - K/L

SAMPLE ID - 87

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - 10.34 ASH % - 24.83 |       |         |      |
|----------|----------|-----------|------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                                     | ASH%  | (MJ/KG) | C.V. |
| 1.40     | 12.74    | 2.72      |      | 12.74       | 2.72  | 87.26                                   | 26.69 | 0.0     | 0.0  |
| 1.45     | 8.58     | 3.93      |      | 21.32       | 3.21  | 78.68                                   | 29.18 | 0.0     | 0.0  |
| 1.50     | 6.69     | 6.40      |      | 28.01       | 3.97  | 71.99                                   | 31.29 | 0.0     | 0.0  |
| 1.55     | 10.12    | 9.32      |      | 38.13       | 5.39  | 61.87                                   | 34.89 | 0.0     | 0.0  |
| 1.60     | 9.78     | 12.23     |      | 47.91       | 6.79  | 52.09                                   | 39.14 | 0.0     | 0.0  |
| 1.70     | 5.29     | 16.67     |      | 53.20       | 7.77  | 46.80                                   | 41.68 | 0.0     | 0.0  |
| 1.80     | 22.44    | 20.26     |      | 75.64       | 11.47 | 24.36                                   | 61.41 | 0.0     | 0.0  |
| 2.00     | 8.68     | 32.21     |      | 84.32       | 13.61 | 15.68                                   | 77.58 | 0.0     | 0.0  |
| 2.60     | 15.68    | 77.58     |      | 100.00      | 23.64 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - 7.07 ASH % - 27.15 |      |         |       |
|----------|----------|-----------|------|-------------|-------|--|------|---------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                             |      | C.V.    | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                                    | ASH% | (MJ/KG) | C.V.  |
| 240.00   | 100.00   | 27.15     |      | 100.00      | 27.15 | 0.0                                    | 0.0  | 22.54   | 22.54 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87020  
 Coal zone: K/L  
 Field sample no.: 07087 Composite sample no.: 251

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 3.89  
 Total yield (%): 3.89

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.70                 |                  |
| Ash (%):                       | 10.67                | 10.74            |
| Volatile matter (%):           | 9.91                 | 9.98             |
| Fixed carbon (%):              | 78.72                | 79.28            |
| Total sulphur (%):             | 0.60                 | 0.60             |
| Combustible sulphur (%):       | 0.58                 |                  |
| Gross calorific value (cal/g): | 7,387.00             | 7,439.00         |
| Volatile matter (dmmf%):       | 10.10                |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.145                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,169.00             | 1,064.00            |
| Softening temperature (°C):     | 1,293.00             | 1,193.00            |
| Hemispherical temperature (°C): | 1,327.00             | 1,231.00            |
| Final temperature (°C):         | 1,369.00             | 1,366.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 54.46 | TiO2 (%): | 1.92 |
| Al2O3 (%): | 24.19 | Na2O (%): | 1.56 |
| Fe2O3 (%): | 3.60  | K2O (%):  | 1.84 |
| CaO (%):   | 4.53  | SO3 (%):  | 0.42 |
| MgO (%):   | 2.03  | P2O5 (%): | 3.12 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPCLRDDH87020  
 Coal zone: K/L  
 Field sample no.: 07087 Composite sample no.: 441

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.49  
 Contribution (%): 7.42  
 Total yield (%): 7.42

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.86                 |                  |
| Ash (%):                       | 7.63                 | 7.70             |
| Volatile matter (%):           | 7.42                 | 7.48             |
| Fixed carbon (%):              | 84.09                | 84.82            |
| Total sulphur (%):             | 0.63                 | 0.64             |
| Combustible sulphur (%):       | 0.61                 |                  |
| Gross calorific value (cal/g): | 7,684.00             | 7,751.00         |
| Volatile matter (dmmf %):      | 7.30                 |                  |
| Hardgrove index:               | 48.00                |                  |
| Phosphorous in coal (%):       | 0.120                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,201.00             | 1,108.00            |
| Softening temperature (°C):     | 1,272.00             | 1,190.00            |
| Hemispherical temperature (°C): | 1,322.00             | 1,214.00            |
| Final temperature (°C):         | 1,390.00             | 1,306.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 50.08 | TiO2 (%): | 2.91 |
| Al2O3 (%): | 25.71 | Na2O (%): | 2.13 |
| Fe2O3 (%): | 4.12  | K2O (%):  | 1.98 |
| CaO (%):   | 5.71  | SO3 (%):  | 0.51 |
| MgO (%):   | 2.40  | P2O5 (%): | 3.60 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87021 SEAM - I

SAMPLE ID - 88

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 42.71 |       | ASH % - 45.14 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 3.82      | 5.26  | 3.82        | 5.26  | 96.18                     | 45.74 | 0.0           | 0.0  |
| 1.45     |          | 6.45      | 9.67  | 10.27       | 8.03  | 89.73                     | 48.33 | 0.0           | 0.0  |
| 1.50     |          | 9.60      | 14.14 | 19.87       | 10.98 | 80.13                     | 52.43 | 0.0           | 0.0  |
| 1.55     |          | 12.68     | 19.35 | 32.55       | 14.24 | 67.45                     | 58.65 | 0.0           | 0.0  |
| 1.60     |          | 4.80      | 20.87 | 37.35       | 15.09 | 62.65                     | 61.54 | 0.0           | 0.0  |
| 1.70     |          | 10.14     | 27.09 | 47.49       | 17.65 | 52.51                     | 68.19 | 0.0           | 0.0  |
| 1.80     |          | 6.80      | 34.23 | 54.29       | 19.73 | 45.71                     | 73.24 | 0.0           | 0.0  |
| 2.00     |          | 5.54      | 45.51 | 59.83       | 22.12 | 40.17                     | 77.07 | 0.0           | 0.0  |
| 2.60     |          | 40.17     | 77.07 | 100.00      | 44.19 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 38.00 |       | ASH % - 19.97 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 24.39     | 3.38  | 24.39       | 3.38  | 75.61                     | 26.09 | 0.0           | 0.0  |
| 1.45     |          | 15.72     | 8.19  | 40.11       | 5.27  | 59.89                     | 30.78 | 0.0           | 0.0  |
| 1.50     |          | 15.36     | 12.56 | 55.47       | 7.29  | 44.53                     | 37.07 | 0.0           | 0.0  |
| 1.55     |          | 9.45      | 16.37 | 64.92       | 8.61  | 35.08                     | 42.65 | 0.0           | 0.0  |
| 1.60     |          | 7.00      | 19.37 | 71.92       | 9.66  | 28.08                     | 48.45 | 0.0           | 0.0  |
| 1.70     |          | 7.15      | 24.05 | 79.07       | 10.96 | 20.93                     | 56.79 | 0.0           | 0.0  |
| 1.80     |          | 3.98      | 32.07 | 83.05       | 11.97 | 16.95                     | 62.59 | 0.0           | 0.0  |
| 2.00     |          | 4.69      | 41.44 | 87.74       | 13.54 | 12.26                     | 70.68 | 0.0           | 0.0  |
| 2.60     |          | 12.26     | 70.68 | 100.00      | 20.55 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87021 SEAM - I

SAMPLE ID - 88

WASHABILITY ID - WA1

| ----- ANALYSIS TYPE - FLOAT ----- |           |        |             |       |            |   |         |      |  |
|-----------------------------------|-----------|--------|-------------|-------|------------|---|---------|------|--|
| FRACTION                          | SIZE(MM)  | 0.50 X |             | 0.15  |            | RELATIVE WEIGHT % - 13.66 ASH % - 14.27 |         |      |  |
| S.G.TME                           | ELEMENTAL |        | CUM. FLOATS |       | CUM. SINKS |   | C.V.    | CUM. |  |
|                                   | WT%       | ASH%   | WT%         | ASH%  | WT%        | ASH%                                    | (MJ KG) | C.V. |  |
| 1.40                              | 37.32     | 2.41   | 37.32       | 2.41  | 62.68      | 19.64                                   | 0.0     | 0.0  |  |
| 1.45                              | 7.34      | 4.37   | 44.66       | 2.73  | 55.34      | 21.66                                   | 0.0     | 0.0  |  |
| 1.50                              | 10.10     | 6.27   | 54.76       | 3.38  | 45.24      | 25.10                                   | 0.0     | 0.0  |  |
| 1.55                              | 11.63     | 8.36   | 66.39       | 4.26  | 33.61      | 30.89                                   | 0.0     | 0.0  |  |
| 1.60                              | 8.26      | 11.25  | 74.65       | 5.03  | 25.35      | 37.29                                   | 0.0     | 0.0  |  |
| 1.70                              | 8.47      | 15.87  | 83.12       | 6.13  | 16.88      | 48.04                                   | 0.0     | 0.0  |  |
| 1.80                              | 5.70      | 23.20  | 88.82       | 7.23  | 11.18      | 60.71                                   | 0.0     | 0.0  |  |
| 2.00                              | 3.35      | 35.86  | 92.17       | 8.27  | 7.83       | 71.34                                   | 0.0     | 0.0  |  |
| 2.60                              | 7.83      | 71.34  | 100.00      | 13.21 | 0.0        | 0.0                                     | 0.0     | 0.0  |  |

| ----- ANALYSIS TYPE - FROTH ----- |           |        |             |       |            |  |         |       |  |
|-----------------------------------|-----------|--------|-------------|-------|------------|--|---------|-------|--|
| FRACTION                          | SIZE(MM)  | 0.15 X |             | 0.00  |            | RELATIVE WEIGHT % - 5.64 ASH % - 16.75 |         |       |  |
| S.G.TME                           | ELEMENTAL |        | CUM. FLOATS |       | CUM. SINKS |  | C.V.    | CUM.  |  |
|                                   | WT%       | ASH%   | WT%         | ASH%  | WT%        | ASH%                                   | (MJ KG) | C.V.  |  |
| 240.00                            | 100.00    | 16.75  | 100.00      | 16.75 | 0.0        | 0.0                                    | 27.40   | 27.40 |  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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DATA SOURCE - KPNLRDDHB7021 SEAM - I SAMPLE ID - 89 WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

FRACTION SIZE(MM) 35.00 X 6.00

| S. G. TME | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % |      |
|-----------|-----------|-------|-------------|-------|------------|-------|-------------------|------|
|           | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)           | C.V. |
| 1.40      | 35.27     | 5.08  | 35.27       | 5.08  | 64.73      | 15.31 | 0.0               | 0.0  |
| 1.45      | 44.42     | 7.09  | 79.69       | 6.20  | 20.31      | 33.28 | 0.0               | 0.0  |
| 1.50      | 7.74      | 11.09 | 87.43       | 6.63  | 12.57      | 46.95 | 0.0               | 0.0  |
| 1.55      | 3.22      | 18.34 | 90.65       | 7.05  | 9.35       | 56.80 | 0.0               | 0.0  |
| 1.60      | 1.76      | 20.73 | 92.41       | 7.31  | 7.59       | 65.16 | 0.0               | 0.0  |
| 1.70      | 0.62      | 26.75 | 93.03       | 7.44  | 6.97       | 68.58 | 0.0               | 0.0  |
| 1.80      | 0.21      | 35.07 | 93.24       | 7.50  | 6.76       | 69.62 | 0.0               | 0.0  |
| 2.00      | 0.93      | 45.74 | 94.17       | 7.88  | 5.83       | 73.43 | 0.0               | 0.0  |
| 2.60      | 5.83      | 73.43 | 100.00      | 11.70 | 0.0        | 0.0   | 0.0               | 0.0  |

RELATIVE WEIGHT % - 63.65 ASH % - 10.55

ANALYSIS TYPE - FLOAT

FRACTION SIZE(MM) 6.00 X 0.50

| S. G. TME | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % |      |
|-----------|-----------|-------|-------------|-------|------------|-------|-------------------|------|
|           | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)           | C.V. |
| 1.40      | 40.08     | 3.96  | 40.08       | 3.96  | 59.92      | 19.00 | 0.0               | 0.0  |
| 1.45      | 17.68     | 8.05  | 57.76       | 5.21  | 42.24      | 23.59 | 0.0               | 0.0  |
| 1.50      | 21.80     | 12.31 | 79.56       | 7.16  | 20.44      | 35.61 | 0.0               | 0.0  |
| 1.55      | 6.10      | 16.40 | 85.66       | 7.82  | 14.34      | 43.78 | 0.0               | 0.0  |
| 1.60      | 2.01      | 20.40 | 87.67       | 8.10  | 12.33      | 47.60 | 0.0               | 0.0  |
| 1.70      | 3.87      | 23.67 | 91.54       | 8.76  | 8.46       | 58.54 | 0.0               | 0.0  |
| 1.80      | 1.72      | 31.90 | 93.26       | 9.19  | 6.74       | 65.34 | 0.0               | 0.0  |
| 2.00      | 1.64      | 43.36 | 94.90       | 9.78  | 5.10       | 72.41 | 0.0               | 0.0  |
| 2.60      | 5.10      | 72.41 | 100.00      | 12.97 | 0.0        | 0.0   | 0.0               | 0.0  |

RELATIVE WEIGHT % - 24.75 ASH % - 12.95

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNERDDH87021 SEAM - I

SAMPLE ID - 89

WASHABILITY ID - WA1

| FRACTION SIZE(MM)     | ANALYSIS TYPE - FROTH |       |             |       | RELATIVE WEIGHT % - 8.33 ASH % - 13.44 |       |         |       |  |
|-----------------------|-----------------------|-------|-------------|-------|--|-------|---------|-------|--|
|                       | ELEMENTAL             |       | CUM. FLOATS |       | C.V.                                   |       | CUM.    |       |  |
| S.G.TME               | WT%                   | ASH%  | WT%         | ASH%  | WT%                                    | ASH%  | (MJ/KG) | C.V.  |  |
| 1.40                  | 40.76                 | 3.24  | 40.76       | 3.24  | 59.24                                  | 19.05 | 0.0     | 0.0   |  |
| 1.45                  | 6.58                  | 5.32  | 47.34       | 3.53  | 52.66                                  | 20.76 | 0.0     | 0.0   |  |
| 1.50                  | 20.33                 | 7.97  | 67.67       | 4.86  | 32.33                                  | 28.81 | 0.0     | 0.0   |  |
| 1.55                  | 5.82                  | 12.13 | 73.49       | 5.44  | 26.51                                  | 32.47 | 0.0     | 0.0   |  |
| 1.60                  | 4.34                  | 13.89 | 77.83       | 5.91  | 22.17                                  | 36.11 | 0.0     | 0.0   |  |
| 1.70                  | 9.08                  | 17.01 | 86.91       | 7.07  | 13.09                                  | 49.35 | 0.0     | 0.0   |  |
| 1.80                  | 3.98                  | 25.00 | 90.89       | 7.85  | 9.11                                   | 59.99 | 0.0     | 0.0   |  |
| 2.00                  | 2.46                  | 35.43 | 93.35       | 8.58  | 6.65                                   | 69.08 | 0.0     | 0.0   |  |
| 2.60                  | 6.65                  | 69.08 | 100.00      | 12.60 | 0.0                                    | 0.0   | 0.0     | 0.0   |  |
| -----                 |                       |       |             |       |  |       |         |       |  |
| ANALYSIS TYPE - FROTH |                       |       |             |       |  |       |         |       |  |
| FRACTION SIZE(MM)     | 0.15 X                |       | 0.00        |       | RELATIVE WEIGHT % - 3.27 ASH % - 17.24 |       |         |       |  |
| S.G.TME               | ELEMENTAL             |       | CUM. FLOATS |       | CUM. SINKS                             |       | C.V.    |       |  |
| 240.00                | WT%                   | ASH%  | WT%         | ASH%  | WT%                                    | ASH%  | (MJ/KG) | C.V.  |  |
|                       | 100.00                | 17.24 | 100.00      | 17.24 | 0.0                                    | 0.0   | 26.50   | 26.50 |  |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87021  
 Coal zone: 1  
 Field sample no.: 06952 Composite sample no.: 252

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.42  
 Contribution (%): 2.80  
 Total yield (%): 2.80

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.77                 |                  |
| Ash (%):                       | 5.43                 | 5.47             |
| Volatile matter (%):           | 7.54                 | 7.60             |
| Fixed carbon (%):              | 86.26                | 86.93            |
| Total sulphur (%):             | 0.46                 | 0.46             |
| Combustible sulphur (%):       | 0.44                 |                  |
| Gross calorific value (cal/g): | 7,911.00             | 7,973.00         |
| Volatile matter (dmmf %):      | 7.50                 |                  |
| Hardgrove index:               | 47.00                |                  |
| Phosphorous in coal (%):       | 0.061                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,174.00             | 1,140.00            |
| Softening temperature (°C):     | 1,264.00             | 1,203.00            |
| Hemispherical temperature (°C): | 1,272.00             | 1,259.00            |
| Final temperature (°C):         | 1,322.00             | 1,319.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 58.20 | TiO2 (%): | 0.67 |
| Al2O3 (%): | 20.52 | Na2O (%): | 1.47 |
| Fe2O3 (%): | 2.99  | K2O (%):  | 0.73 |
| CaO (%):   | 5.23  | SO3 (%):  | 1.02 |
| MgO (%):   | 2.55  | P2O5 (%): | 2.56 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87021  
 Coal zone: 1  
 Field sample no.: 06952 Composite sample no.: 252

----- PRODUCT COAL ANALYSIS (SP5) -----  
 Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.48  
 Contribution (%): 3.47  
 Total yield (%): 3.47

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.69                 |                  |
| Ash (%):                       | 10.60                | 10.67            |
| Volatile matter (%):           | 8.98                 | 9.04             |
| Fixed carbon (%):              | 79.73                | 80.29            |
| Total sulphur (%):             | 0.44                 | 0.44             |
| Combustible sulphur (%):       | 0.41                 |                  |
| Gross calorific value (cal/g): | 7,349.00             | 7,400.00         |
| Volatile matter (dmmf %):      | 9.10                 |                  |
| Hardgrove index:               | 47.00                |                  |
| Phosphorous in coal (%):       | 0.137                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,227.00             | 1,148.00            |
| Softening temperature (°C):     | 1,306.00             | 1,253.00            |
| Hemispherical temperature (°C): | 1,322.00             | 1,264.00            |
| Final temperature (°C):         | 1,388.00             | 1,348.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 62.84 | TiO2 (%): | 0.82 |
| Al2O3 (%): | 16.96 | Na2O (%): | 1.36 |
| Fe2O3 (%): | 1.82  | K2O (%):  | 0.58 |
| CaO (%):   | 5.21  | SO3 (%):  | 0.74 |
| MgO (%):   | 2.01  | P2O5 (%): | 2.95 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87021  
 Coal zone: 1  
 Field sample no.: 06953 Composite sample no.: 253

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size(mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.46  
 Contribution(%): 53.22  
 Total yield(%): 53.22

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture(%) :         | 0.72                 |                  |
| Ash(%) :                       | 6.19                 | 6.24             |
| Volatile matter(%) :           | 6.11                 | 6.15             |
| Fixed carbon(%) :              | 86.98                | 87.61            |
| Total sulphur(%) :             | 0.47                 | 0.47             |
| Combustible sulphur(%) :       | 0.46                 |                  |
| Gross calorific value(cal/g) : | 7,916.00             | 7,973.00         |
| Volatile matter(dmmf%) :       | 5.90                 |                  |
| Hardgrove index:               | 40.00                |                  |
| Phosphorous in coal(%) :       | 0.282                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,195.00             | 1,177.00            |
| Softening temperature(°C) :     | 1,290.00             | 1,266.00            |
| Hemispherical temperature(°C) : | 1,295.00             | 1,274.00            |
| Final temperature(°C) :         | 1,327.00             | 1,303.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |       |
|------------|-------|-----------|-------|
| SiO2(%) :  | 34.76 | TiO2(%) : | 1.49  |
| Al2O3(%) : | 28.65 | Na2O(%) : | 2.15  |
| Fe2O3(%) : | 4.85  | K2O(%) :  | 1.10  |
| CaO(%) :   | 9.41  | SO3(%) :  | 0.60  |
| MgO(%) :   | 1.86  | P2O5(%) : | 10.42 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87021  
 Coal zone: I  
 Field sample no.: 06953 Composite sample no.: 253

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 2.64  
 Total yield (%): 2.64

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.77                 |                  |
| Ash (%):                       | 13.54                | 13.65            |
| Volatile matter (%):           | 9.72                 | 9.80             |
| Fixed carbon (%):              | 75.97                | 76.55            |
| Total sulphur (%):             | 0.43                 | 0.43             |
| Combustible sulphur (%):       | 0.35                 |                  |
| Gross calorific value (cal/g): | 6,938.00             | 6,992.00         |
| Volatile matter (dmmf %):      | 10.10                |                  |
| Hardgrove index:               | 48.00                |                  |
| Phosphorous in coal (%):       | 0.320                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,159.00             | 1,006.00            |
| Softening temperature (°C):     | 1,253.00             | 1,148.00            |
| Hemispherical temperature (°C): | 1,264.00             | 1,174.00            |
| Final temperature (°C):         | 1,289.00             | 1,261.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 41.48 | TiO2 (%): | 1.12 |
| Al2O3 (%): | 19.73 | Na2O (%): | 1.68 |
| Fe2O3 (%): | 12.22 | K2O (%):  | 0.87 |
| CaO (%):   | 6.98  | SO3 (%):  | 1.46 |
| MgO (%):   | 4.20  | P2O5 (%): | 5.41 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87021  
 Coal zone: 1  
 Field sample no.: 06952 - 06953 Composite sample no.: 442

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 20.64  
 Total yield (%): 20.64

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.61                 |                  |
| Ash (%):                       | 7.44                 | 7.49             |
| Volatile matter (%):           | 7.35                 | 7.39             |
| Fixed carbon (%):              | 84.60                | 85.12            |
| Total sulphur (%):             | 0.47                 | 0.47             |
| Combustible sulphur (%):       | 0.46                 |                  |
| Gross calorific value (cal/g): | 7,751.00             | 7,798.00         |
| Volatile matter (dmmf %):      | 7.30                 |                  |
| Hardgrove index:               | 52.00                |                  |
| Phosphorous in coal (%):       | 0.114                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,180.00             | 1,106.00            |
| Softening temperature (°C):     | 1,306.00             | 1,272.00            |
| Hemispherical temperature (°C): | 1,343.00             | 1,312.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 56.26 | TiO2 (%): | 1.61 |
| Al2O3 (%): | 24.57 | Na2O (%): | 2.05 |
| Fe2O3 (%): | 1.72  | K2O (%):  | 0.96 |
| CaO (%):   | 4.34  | SO3 (%):  | 0.42 |
| MgO (%):   | 1.74  | P2O5 (%): | 3.52 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87021 SEAM - H

SAMPLE ID - 90

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 50.94 ASH % - 51.24 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 0.07                  | 6.15  | 0.07      | 6.15  | 99.93       | 50.53 | 0.0        | 0.0  |   |           |
| 1.45     | 0.32                  | 8.48  | 0.39      | 8.06  | 99.61       | 50.66 | 0.0        | 0.0  |   |           |
| 1.50     | 0.74                  | 12.87 | 1.13      | 11.21 | 98.87       | 50.94 | 0.0        | 0.0  |   |           |
| 1.55     | 3.04                  | 17.53 | 4.17      | 15.82 | 95.83       | 52.00 | 0.0        | 0.0  |   |           |
| 1.60     | 3.42                  | 21.82 | 7.59      | 18.52 | 92.41       | 53.12 | 0.0        | 0.0  |   |           |
| 1.70     | 16.62                 | 27.67 | 24.21     | 24.80 | 75.79       | 58.70 | 0.0        | 0.0  |   |           |
| 1.80     | 14.99                 | 35.14 | 39.20     | 28.76 | 60.80       | 64.51 | 0.0        | 0.0  |   |           |
| 2.00     | 20.03                 | 43.41 | 59.23     | 33.71 | 40.77       | 74.88 | 0.0        | 0.0  |   |           |
| 2.60     | 40.77                 | 74.88 | 100.00    | 50.50 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 32.63 ASH % - 30.49 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 5.66                 | 1.77  | 5.66      | 1.77  | 94.34       | 31.92 | 0.0        | 0.0  |   |           |
| 1.45     | 4.63                 | 5.47  | 10.29     | 3.43  | 89.71       | 33.29 | 0.0        | 0.0  |   |           |
| 1.50     | 6.72                 | 10.64 | 17.01     | 6.28  | 82.99       | 35.12 | 0.0        | 0.0  |   |           |
| 1.55     | 7.34                 | 14.47 | 24.35     | 8.75  | 75.65       | 37.13 | 0.0        | 0.0  |   |           |
| 1.60     | 5.41                 | 16.71 | 29.76     | 10.20 | 70.24       | 38.70 | 0.0        | 0.0  |   |           |
| 1.70     | 18.80                | 19.90 | 48.56     | 13.95 | 51.44       | 45.57 | 0.0        | 0.0  |   |           |
| 1.80     | 17.68                | 25.54 | 66.24     | 17.05 | 33.76       | 56.06 | 0.0        | 0.0  |   |           |
| 2.00     | 15.46                | 37.46 | 81.70     | 20.91 | 18.30       | 71.77 | 0.0        | 0.0  |   |           |
| 2.60     | 18.30                | 71.77 | 100.00    | 30.22 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPDLRDDH87021 SEAM - H

SAMPLE ID - 90

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X  |       | 0.15               |       | RELATIVE WEIGHT % - 11.07 ASH % - 20.14 |       | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|---------------------|------------------|-------|--------------------|-------|---|-------|-----------------|--------------|
|                     | ELEMENTAL<br>WT% | ASH%  | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%                       | ASH%  |                 |              |
| 1.40                | 16.12            | 1.58  | 16.12              | 1.58  | 83.88                                   | 22.71 | 0.0             | 0.0          |
| 1.45                | 21.65            | 3.00  | 37.77              | 2.39  | 62.23                                   | 29.56 | 0.0             | 0.0          |
| 1.50                | 9.40             | 5.26  | 47.17              | 2.97  | 52.83                                   | 33.89 | 0.0             | 0.0          |
| 1.55                | 4.60             | 8.35  | 51.77              | 3.44  | 48.23                                   | 36.32 | 0.0             | 0.0          |
| 1.60                | 5.61             | 9.62  | 57.38              | 4.05  | 42.62                                   | 39.84 | 0.0             | 0.0          |
| 1.70                | 11.87            | 14.96 | 69.25              | 5.92  | 30.75                                   | 49.44 | 0.0             | 0.0          |
| 1.80                | 8.64             | 22.40 | 77.89              | 7.75  | 22.11                                   | 60.01 | 0.0             | 0.0          |
| 2.00                | 7.73             | 34.61 | 85.62              | 10.17 | 14.38                                   | 73.66 | 0.0             | 0.0          |
| 2.60                | 14.38            | 73.66 | 100.00             | 19.30 | 0.0                                     | 0.0   | 0.0             | 0.0          |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X  |       | 0.00               |       | RELATIVE WEIGHT % - 5.36 ASH % - 20.92 |      | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|---------------------|------------------|-------|--------------------|-------|--|------|-----------------|--------------|
|                     | ELEMENTAL<br>WT% | ASH%  | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%                      | ASH% |                 |              |
| 240.00              | 100.00           | 20.92 | 100.00             | 20.92 | 0.0                                    | 0.0  | 25.58           | 25.58        |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87021 SEAM - H

SAMPLE ID - 92

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % |       | 35.89 ASH % - 36.15 |      |
|----------|----------|-----------|-------|-------------|-------|-------------------|-------|---------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS        |       | C.V.                | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%               | ASH%  | (MJ KG)             | C.V. |
| 1.40     |          | 1.46      | 3.70  | 1.46        | 3.70  | 98.54             | 35.66 | 0.0                 | 0.0  |
| 1.45     |          | 1.65      | 8.35  | 3.11        | 6.17  | 96.89             | 36.12 | 0.0                 | 0.0  |
| 1.50     |          | 5.58      | 12.78 | 8.69        | 10.41 | 91.31             | 37.55 | 0.0                 | 0.0  |
| 1.55     |          | 3.90      | 16.58 | 12.59       | 12.32 | 87.41             | 38.48 | 0.0                 | 0.0  |
| 1.60     |          | 18.89     | 24.94 | 31.48       | 19.89 | 68.52             | 42.22 | 0.0                 | 0.0  |
| 1.70     |          | 28.52     | 30.41 | 60.00       | 24.89 | 40.00             | 50.64 | 0.0                 | 0.0  |
| 1.80     |          | 9.28      | 35.03 | 69.28       | 26.25 | 30.72             | 55.35 | 0.0                 | 0.0  |
| 2.00     |          | 17.78     | 47.17 | 87.06       | 30.52 | 12.94             | 66.60 | 0.0                 | 0.0  |
| 2.60     |          | 12.94     | 66.60 | 100.00      | 35.19 | 0.0               | 0.0   | 0.0                 | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % |       | 40.47 ASH % - 25.89 |      |
|----------|----------|-----------|-------|-------------|-------|-------------------|-------|---------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS        |       | C.V.                | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%               | ASH%  | (MJ KG)             | C.V. |
| 1.40     |          | 15.69     | 2.24  | 15.69       | 2.24  | 84.31             | 28.78 | 0.0                 | 0.0  |
| 1.45     |          | 6.35      | 6.35  | 22.04       | 3.42  | 77.96             | 30.61 | 0.0                 | 0.0  |
| 1.50     |          | 7.37      | 11.21 | 29.41       | 5.38  | 70.59             | 32.64 | 0.0                 | 0.0  |
| 1.55     |          | 8.33      | 15.76 | 37.74       | 7.67  | 62.26             | 34.90 | 0.0                 | 0.0  |
| 1.60     |          | 6.89      | 19.08 | 44.63       | 9.43  | 55.37             | 36.86 | 0.0                 | 0.0  |
| 1.70     |          | 19.11     | 23.81 | 63.74       | 13.74 | 36.26             | 43.74 | 0.0                 | 0.0  |
| 1.80     |          | 14.79     | 30.02 | 78.53       | 16.81 | 21.47             | 53.20 | 0.0                 | 0.0  |
| 2.00     |          | 11.36     | 38.69 | 89.89       | 19.57 | 10.11             | 69.50 | 0.0                 | 0.0  |
| 2.60     |          | 10.11     | 69.50 | 100.00      | 24.62 | 0.0               | 0.0   | 0.0                 | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87021 SEAM - H

SAMPLE ID - 92

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - 14.99 ASH % - 20.80 |       |         |      |
|----------|----------|-----------|------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     | 17.64    | 1.78      |      | 17.64       | 1.78  | 82.36                                   | 23.65 | 0.0     | 0.0  |
| 1.45     | 18.75    | 3.72      |      | 36.39       | 2.78  | 63.61                                   | 29.53 | 0.0     | 0.0  |
| 1.50     | 4.95     | 7.91      |      | 41.34       | 3.39  | 58.66                                   | 31.35 | 0.0     | 0.0  |
| 1.55     | 9.49     | 12.35     |      | 50.83       | 5.07  | 49.17                                   | 35.02 | 0.0     | 0.0  |
| 1.60     | 4.65     | 15.65     |      | 55.48       | 5.95  | 44.52                                   | 37.04 | 0.0     | 0.0  |
| 1.70     | 13.48    | 20.01     |      | 68.96       | 8.70  | 31.04                                   | 44.44 | 0.0     | 0.0  |
| 1.80     | 12.63    | 27.26     |      | 81.59       | 11.57 | 18.41                                   | 56.22 | 0.0     | 0.0  |
| 2.00     | 8.17     | 37.92     |      | 89.76       | 13.97 | 10.24                                   | 70.82 | 0.0     | 0.0  |
| 2.60     | 10.24    | 70.82     |      | 100.00      | 19.79 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |      | RELATIVE WEIGHT % - 8.66 ASH % - 24.46 |      |         |       |
|----------|----------|-----------|------|-------------|------|--|------|---------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |      | CUM. SINKS                             |      | C.V.    | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH% | WT%                                    | ASH% | (MJ KG) | C.V.  |
| 240.00   | 100.00   | 8.66      |      | 100.00      | 8.66 | 0.0                                    | 0.0  | 24.43   | 24.43 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87021  
 Coal zone: H  
 Field sample no.: 06956 - 06958 Composite sample no.: 254

----- PRODUCT COAL ANALYSIS (SP4) -----  
 Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.53  
 Contribution(%): 1.88  
 Total yield(%): 1.88

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture(%) :         | 0.78                 |                  |
| Ash(%) :                       | 10.35                | 10.43            |
| Volatile matter(%) :           | 8.09                 | 8.15             |
| Fixed carbon(%) :              | 80.78                | 81.42            |
| Total sulphur(%) :             | 0.55                 | 0.55             |
| Combustible sulphur(%) :       | 0.52                 |                  |
| Gross calorific value(cal/g) : | 7,301.00             | 7,359.00         |
| Volatile matter(dmmf%) :       | 8.10                 |                  |
| Hardgrove index:               | 48.00                |                  |
| Phosphorous in coal(%) :       | 0.009                |                  |

----- ASH FUSION ANALYSIS (AF1) -----  
OXIDIZING ATM REDUCING ATM

|                                 |          |          |
|---------------------------------|----------|----------|
| Initial temperature(°C) :       | 1,159.00 | 1,111.00 |
| Softening temperature(°C) :     | 1,390.00 | 1,338.00 |
| Hemispherical temperature(°C) : | 1,424.00 | 1,380.00 |
| Final temperature(°C) :         | 1,472.00 | 1,472.00 |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2(%) :  | 67.98 | TiO2(%) : | 1.59 |
| Al2O3(%) : | 18.52 | Na2O(%) : | 1.59 |
| Fe2O3(%) : | 3.69  | K2O(%) :  | 0.98 |
| CaO(%) :   | 1.06  | SO3(%) :  | 0.71 |
| MgO(%) :   | 1.52  | P2O5(%) : | 0.20 |



===== GULF CANADA CORPORATION - COAL DIVISION =====

----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87021  
 Coal zone: H  
 Field sample no.: 06956 - 06958 Composite sample no.: 443

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 8.51  
 Total yield (%): 8.51

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.72                 |                  |
| Ash (%):                       | 6.82                 | 6.87             |
| Volatile matter (%):           | 8.16                 | 8.22             |
| Fixed carbon (%):              | 84.30                | 84.91            |
| Total sulphur (%):             | 0.62                 | 0.62             |
| Combustible sulphur (%):       | 0.61                 |                  |
| Gross calorific value (cal/g): | 7,756.00             | 7,812.00         |
| Volatile matter (dmmf%):       | 8.10                 |                  |
| Hardgrove index:               | 51.00                |                  |
| Phosphorous in coal (%):       | 0.009                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,243.00             | 1,180.00            |
| Softening temperature (°C):     | 1,472.00             | 1,348.00            |
| Hemispherical temperature (°C): | 1,472.00             | 1,388.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 67.08 | TiO2 (%): | 3.17 |
| Al2O3 (%): | 21.55 | Na2O (%): | 1.62 |
| Fe2O3 (%): | 2.40  | K2O (%):  | 0.98 |
| CaO (%):   | 0.95  | SO3 (%):  | 0.27 |
| MgO (%):   | 1.31  | P2O5 (%): | 0.30 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87022 SEAM - 0

SAMPLE ID - 94

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 35.00 X 6.00 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 75.11 ASH % - 52.16 |              |
|---------------------|-----------------------|-------|-------------|-------|------------|-------|---|--------------|
|                     | ELEMENTAL             |       | WT%         | ASH%  | WT%        | ASH%  | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| 1.45                | 1.93                  | 3.12  | 1.93        | 3.12  | 98.07      | 53.95 | 0.0                                     | 0.0          |
| 1.50                | 7.94                  | 10.08 | 9.87        | 8.72  | 90.13      | 57.81 | 0.0                                     | 0.0          |
| 1.55                | 5.08                  | 13.02 | 14.95       | 10.18 | 85.05      | 60.49 | 0.0                                     | 0.0          |
| 1.60                | 5.33                  | 23.02 | 20.28       | 13.55 | 79.72      | 62.99 | 0.0                                     | 0.0          |
| 1.70                | 10.47                 | 29.21 | 30.75       | 18.89 | 69.25      | 68.10 | 0.0                                     | 0.0          |
| 1.80                | 8.09                  | 40.54 | 38.84       | 23.40 | 61.16      | 71.75 | 0.0                                     | 0.0          |
| 2.00                | 14.67                 | 52.79 | 53.51       | 31.45 | 46.49      | 77.73 | 0.0                                     | 0.0          |
| 2.60                | 46.49                 | 77.73 | 100.00      | 52.97 | 0.0        | 0.0   | 0.0                                     | 0.0          |

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 6.00 X 0.50 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 17.88 ASH % - 28.09 |              |
|---------------------|----------------------|-------|-------------|-------|------------|-------|---|--------------|
|                     | ELEMENTAL            |       | WT%         | ASH%  | WT%        | ASH%  | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| 1.40                | 20.82                | 3.13  | 20.82       | 3.13  | 79.18      | 33.85 | 0.0                                     | 0.0          |
| 1.45                | 20.59                | 6.95  | 41.41       | 5.03  | 58.59      | 43.30 | 0.0                                     | 0.0          |
| 1.50                | 10.17                | 12.57 | 51.58       | 6.52  | 48.42      | 49.76 | 0.0                                     | 0.0          |
| 1.55                | 6.61                 | 17.62 | 58.19       | 7.78  | 41.81      | 54.84 | 0.0                                     | 0.0          |
| 1.60                | 3.18                 | 21.39 | 61.37       | 8.48  | 38.63      | 57.59 | 0.0                                     | 0.0          |
| 1.70                | 5.73                 | 28.49 | 67.10       | 10.19 | 32.90      | 62.66 | 0.0                                     | 0.0          |
| 1.80                | 4.03                 | 35.55 | 71.13       | 11.63 | 28.87      | 66.44 | 0.0                                     | 0.0          |
| 2.00                | 6.10                 | 46.23 | 77.23       | 14.36 | 22.77      | 71.86 | 0.0                                     | 0.0          |
| 2.60                | 22.77                | 71.86 | 100.00      | 27.45 | 0.0        | 0.0   | 0.0                                     | 0.0          |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87022 SEAM - 0

SAMPLE ID - 94

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 4.41 ASH % - 23.83 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 20.05     | 2.41  | 20.05       | 2.41  | 79.95               | 28.75 | 0.0                | 0.0  |
| 1.45     |          | 22.80     | 4.45  | 42.85       | 3.50  | 57.15               | 38.44 | 0.0                | 0.0  |
| 1.50     |          | 11.08     | 8.37  | 53.93       | 4.50  | 46.07               | 45.68 | 0.0                | 0.0  |
| 1.55     |          | 7.22      | 12.49 | 61.15       | 5.44  | 38.85               | 51.84 | 0.0                | 0.0  |
| 1.60     |          | 2.75      | 16.01 | 63.90       | 5.90  | 36.10               | 54.57 | 0.0                | 0.0  |
| 1.70     |          | 6.24      | 20.06 | 70.14       | 7.16  | 29.86               | 61.79 | 0.0                | 0.0  |
| 1.80     |          | 4.12      | 28.89 | 74.26       | 8.36  | 25.74               | 67.05 | 0.0                | 0.0  |
| 2.00     |          | 4.65      | 41.35 | 78.91       | 10.31 | 21.09               | 72.72 | 0.0                | 0.0  |
| 2.60     |          | 21.09     | 72.72 | 100.00      | 23.47 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.60 ASH % - 31.82 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 31.82 | 100.00      | 31.82 | 0.0                 | 0.0  | 21.18              | 21.18 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87022  
 Coal zone: 0  
 Field sample no.: 06941 Composite sample no.: 255

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.58  
 Contribution (%): 13.74  
 Total yield (%): 13.74

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.64                 |                  |
| Ash (%):                       | 9.56                 | 9.62             |
| Volatile matter (%):           | 5.86                 | 5.90             |
| Fixed carbon (%):              | 83.94                | 84.48            |
| Total sulphur (%):             | 0.56                 | 0.56             |
| Combustible sulphur (%):       | 0.54                 |                  |
| Gross calorific value (cal/g): | 7,450.00             | 7,497.00         |
| Volatile matter (dmmf %):      | 5.50                 |                  |
| Hardgrove index:               | 42.00                |                  |
| Phosphorous in coal (%):       | 0.346                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,211.00             | 1,156.00            |
| Softening temperature (°C):     | 1,253.00             | 1,243.00            |
| Hemispherical temperature (°C): | 1,264.00             | 1,261.00            |
| Final temperature (°C):         | 1,285.00             | 1,282.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|                                     |       |                                    |      |
|-------------------------------------|-------|------------------------------------|------|
| SiO <sub>2</sub> (%):               | 47.56 | TiO <sub>2</sub> (%):              | 1.66 |
| Al <sub>2</sub> O <sub>3</sub> (%): | 21.03 | Na <sub>2</sub> O (%):             | 1.91 |
| Fe <sub>2</sub> O <sub>3</sub> (%): | 1.52  | K <sub>2</sub> O (%):              | 1.20 |
| CaO (%):                            | 10.52 | SO <sub>3</sub> (%):               | 0.62 |
| MgO (%):                            | 1.71  | P <sub>2</sub> O <sub>5</sub> (%): | 8.30 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87022  
 Coal zone: 0  
 Field sample no.: 06941 Composite sample no.: 444

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 9.86  
 Total yield (%): 9.86

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.75                 |                  |
| Ash (%) :                       | 6.29                 | 6.34             |
| Volatile matter (%) :           | 6.16                 | 6.21             |
| Fixed carbon (%) :              | 86.80                | 87.45            |
| Total sulphur (%) :             | 0.62                 | 0.62             |
| Combustible sulphur (%) :       | 0.58                 |                  |
| Gross calorific value (cal/g) : | 7,842.00             | 7,901.00         |
| Volatile matter (dmmf%) :       | 5.90                 |                  |
| Hardgrove index:                | 44.00                |                  |
| Phosphorous in coal (%) :       | 0.217                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,174.00             | 1,172.00            |
| Softening temperature (°C) :     | 1,251.00             | 1,230.00            |
| Hemispherical temperature (°C) : | 1,264.00             | 1,238.00            |
| Final temperature (°C) :         | 1,293.00             | 1,261.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 44.90 | TiO2 (%) : | 1.50 |
| Al2O3 (%) : | 21.48 | Na2O (%) : | 1.86 |
| Fe2O3 (%) : | 2.67  | K2O (%) :  | 1.19 |
| CaO (%) :   | 10.63 | SO3 (%) :  | 1.69 |
| MgO (%) :   | 2.14  | P2O5 (%) : | 7.90 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87022 SEAM - N

SAMPLE ID - 95

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 58.22 |       | ASH % - 33.35 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ/KG)       | C.V. |
| 1.40     |          | 2.33      | 3.68  | 2.33        | 3.68  | 97.67                     | 33.52 | 0.0           | 0.0  |
| 1.45     |          | 9.24      | 6.19  | 11.57       | 5.68  | 88.43                     | 36.38 | 0.0           | 0.0  |
| 1.50     |          | 12.30     | 10.94 | 23.87       | 8.39  | 76.13                     | 40.49 | 0.0           | 0.0  |
| 1.55     |          | 12.61     | 15.67 | 36.48       | 10.91 | 63.52                     | 45.42 | 0.0           | 0.0  |
| 1.60     |          | 6.12      | 20.49 | 42.60       | 12.28 | 57.40                     | 48.07 | 0.0           | 0.0  |
| 1.70     |          | 15.75     | 27.74 | 58.35       | 16.46 | 41.65                     | 55.76 | 0.0           | 0.0  |
| 1.80     |          | 16.11     | 37.58 | 74.46       | 21.03 | 25.54                     | 67.23 | 0.0           | 0.0  |
| 2.00     |          | 7.67      | 47.92 | 82.13       | 23.54 | 17.87                     | 75.52 | 0.0           | 0.0  |
| 2.60     |          | 17.87     | 75.52 | 100.00      | 32.83 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 31.80 |       | ASH % - 21.91 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ/KG)       | C.V. |
| 1.40     |          | 14.99     | 2.29  | 14.99       | 2.29  | 85.01                     | 23.98 | 0.0           | 0.0  |
| 1.45     |          | 21.95     | 5.47  | 36.94       | 4.18  | 63.06                     | 30.43 | 0.0           | 0.0  |
| 1.50     |          | 14.34     | 10.22 | 51.28       | 5.87  | 48.72                     | 36.37 | 0.0           | 0.0  |
| 1.55     |          | 9.17      | 13.14 | 60.45       | 6.97  | 39.55                     | 41.76 | 0.0           | 0.0  |
| 1.60     |          | 5.21      | 16.97 | 65.66       | 7.77  | 34.34                     | 45.52 | 0.0           | 0.0  |
| 1.70     |          | 9.02      | 22.05 | 74.68       | 9.49  | 25.32                     | 53.88 | 0.0           | 0.0  |
| 1.80     |          | 5.91      | 31.15 | 80.59       | 11.08 | 19.41                     | 60.80 | 0.0           | 0.0  |
| 2.00     |          | 6.82      | 42.77 | 87.41       | 13.55 | 12.59                     | 70.57 | 0.0           | 0.0  |
| 2.60     |          | 12.59     | 70.57 | 100.00      | 20.73 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87022 SEAM - N

SAMPLE ID - 95

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 6.67 ASH % - 26.05 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 17.14    | 3.30      |      | 17.14       | 3.30  | 82.86               | 29.74 | 0.0                | 0.0  |
| 1.45     | 16.79    | 6.40      |      | 33.93       | 4.83  | 66.07               | 35.67 | 0.0                | 0.0  |
| 1.50     | 13.21    | 9.12      |      | 47.14       | 6.04  | 52.86               | 42.31 | 0.0                | 0.0  |
| 1.55     | 6.14     | 14.24     |      | 53.28       | 6.98  | 46.72               | 45.99 | 0.0                | 0.0  |
| 1.60     | 6.77     | 18.77     |      | 60.05       | 8.31  | 39.95               | 50.61 | 0.0                | 0.0  |
| 1.70     | 10.32    | 24.57     |      | 70.37       | 10.69 | 29.63               | 59.68 | 0.0                | 0.0  |
| 1.80     | 5.89     | 36.65     |      | 76.26       | 12.70 | 23.74               | 65.39 | 0.0                | 0.0  |
| 2.00     | 6.66     | 42.21     |      | 82.92       | 15.07 | 17.08               | 74.43 | 0.0                | 0.0  |
| 2.60     | 17.08    | 74.43     |      | 100.00      | 25.21 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 3.31 ASH % - 27.91 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 27.91     |      | 100.00      | 27.91 | 0.0                 | 0.0  | 22.76              | 22.76 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87022  
 Coal zone: N  
 Field sample no.: 06944 Composite sample no.: 256

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.59  
 Contribution (%): 23.45  
 Total yield (%): 23.45

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.64                 |                  |
| Ash (%):                       | 10.97                | 11.04            |
| Volatile matter (%):           | 6.21                 | 6.25             |
| Fixed carbon (%):              | 82.18                | 82.71            |
| Total sulphur (%):             | 1.30                 | 1.31             |
| Combustible sulphur (%):       | 1.25                 |                  |
| Gross calorific value (cal/g): | 7,414.00             | 7,461.00         |
| Volatile matter (dmmf %):      | 5.60                 |                  |
| Hardgrove index:               | 42.00                |                  |
| Phosphorous in coal (%):       | 0.226                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,195.00             | 1,148.00            |
| Softening temperature (°C):     | 1,269.00             | 1,185.00            |
| Hemispherical temperature (°C): | 1,274.00             | 1,198.00            |
| Final temperature (°C):         | 1,298.00             | 1,261.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 48.74 | TiO2 (%): | 1.60 |
| Al2O3 (%): | 21.55 | Na2O (%): | 2.08 |
| Fe2O3 (%): | 7.49  | K2O (%):  | 0.92 |
| CaO (%):   | 6.86  | SO3 (%):  | 1.03 |
| MgO (%):   | 1.15  | P2O5 (%): | 4.72 |



===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87022  
 Coal zone: N  
 Field sample no.: 06944 Composite sample no.: 445

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.58  
 Contribution (%): 19.67  
 Total yield (%): 19.67

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.70                 |                  |
| Ash (%) :                       | 8.48                 | 8.54             |
| Volatile matter (%) :           | 12.47                | 12.56            |
| Fixed carbon (%) :              | 78.35                | 78.90            |
| Total sulphur (%) :             | 0.95                 | 0.96             |
| Combustible sulphur (%) :       | 0.92                 |                  |
| Gross calorific value (cal/g) : | 7,660.00             | 7,714.00         |
| Volatile matter (dmmf%) :       | 12.80                |                  |
| Hardgrove index:                | 47.00                |                  |
| Phosphorous in coal (%) :       | 0.144                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,193.00             | 1,140.00            |
| Softening temperature (°C) :     | 1,266.00             | 1,182.00            |
| Hemispherical temperature (°C) : | 1,274.00             | 1,204.00            |
| Final temperature (°C) :         | 1,301.00             | 1,264.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 50.12 | TiO2 (%) : | 0.82 |
| Al2O3 (%) : | 22.39 | Na2O (%) : | 1.91 |
| Fe2O3 (%) : | 5.95  | K2O (%) :  | 1.17 |
| CaO (%) :   | 6.44  | SO3 (%) :  | 0.97 |
| MgO (%) :   | 1.46  | P2O5 (%) : | 3.89 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87022 SEAM - M/N

SAMPLE ID - 96

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 65.39 ASH % - 62.58 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.45     | 0.32                  | 7.72  | 0.32      | 7.72  | 99.68       | 63.98 | 0.0        | 0.0  |   |           |
| 1.50     | 0.60                  | 10.08 | 0.92      | 9.26  | 99.08       | 64.31 | 0.0        | 0.0  |   |           |
| 1.55     | 1.12                  | 17.69 | 2.04      | 13.89 | 97.96       | 64.84 | 0.0        | 0.0  |   |           |
| 1.60     | 1.55                  | 22.25 | 3.59      | 17.50 | 96.41       | 65.53 | 0.0        | 0.0  |   |           |
| 1.70     | 7.20                  | 30.61 | 10.79     | 26.25 | 89.21       | 68.34 | 0.0        | 0.0  |   |           |
| 1.80     | 8.55                  | 37.52 | 19.34     | 31.23 | 80.66       | 71.61 | 0.0        | 0.0  |   |           |
| 2.00     | 14.31                 | 49.78 | 33.65     | 39.12 | 66.35       | 76.32 | 0.0        | 0.0  |   |           |
| 2.60     | 66.35                 | 76.32 | 100.00    | 63.80 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 27.58 ASH % - 51.79 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 3.04                 | 3.25  | 3.04      | 3.25  | 96.96       | 52.77 | 0.0        | 0.0  |   |           |
| 1.45     | 2.31                 | 6.59  | 5.35      | 4.69  | 94.65       | 53.90 | 0.0        | 0.0  |   |           |
| 1.50     | 2.11                 | 10.83 | 7.46      | 6.43  | 92.54       | 54.88 | 0.0        | 0.0  |   |           |
| 1.55     | 2.49                 | 15.78 | 9.95      | 8.77  | 90.05       | 55.96 | 0.0        | 0.0  |   |           |
| 1.60     | 0.53                 | 19.86 | 10.48     | 9.33  | 89.52       | 56.17 | 0.0        | 0.0  |   |           |
| 1.70     | 7.90                 | 22.44 | 18.38     | 14.96 | 81.62       | 59.44 | 0.0        | 0.0  |   |           |
| 1.80     | 10.88                | 29.46 | 29.26     | 20.35 | 70.74       | 64.05 | 0.0        | 0.0  |   |           |
| 2.00     | 19.93                | 41.16 | 49.19     | 28.78 | 50.81       | 73.03 | 0.0        | 0.0  |   |           |
| 2.60     | 50.81                | 73.03 | 100.00    | 51.27 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87022 SEAM - M/N

SAMPLE ID - 96

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % |       | 4.50 ASH % - 41.89 |      |
|----------|----------|-----------|-------|-------------|-------|-------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS        |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%               | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 5.17      | 3.91  | 5.17        | 3.91  | 94.83             | 42.99 | 0.0                | 0.0  |
| 1.45     |          | 22.36     | 6.86  | 27.53       | 6.31  | 72.47             | 54.13 | 0.0                | 0.0  |
| 1.50     |          | 0.39      | 7.28  | 27.92       | 6.32  | 72.08             | 54.39 | 0.0                | 0.0  |
| 1.55     |          | 0.28      | 14.14 | 28.20       | 6.40  | 71.80             | 54.55 | 0.0                | 0.0  |
| 1.60     |          | 0.84      | 15.36 | 29.04       | 6.66  | 70.96             | 55.01 | 0.0                | 0.0  |
| 1.70     |          | 8.09      | 17.80 | 37.13       | 9.08  | 62.87             | 59.80 | 0.0                | 0.0  |
| 1.80     |          | 10.06     | 24.30 | 47.19       | 12.33 | 52.81             | 66.56 | 0.0                | 0.0  |
| 2.00     |          | 12.81     | 35.80 | 60.00       | 17.34 | 40.00             | 76.41 | 0.0                | 0.0  |
| 2.60     |          | 40.00     | 76.41 | 100.00      | 40.97 | 0.0               | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % |      | 2.53 ASH % - 39.48 |       |
|----------|----------|-----------|-------|-------------|-------|-------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS        |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%               | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 39.48 | 100.00      | 39.48 | 0.0               | 0.0  | 18.27              | 18.27 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87022  
 Coal zone: M/N  
 Field sample no.: 06947 Composite sample no.: 257

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 0.90  
 Total yield (%): 0.90

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.87                 |                  |
| Ash (%):                       | 9.69                 | 9.78             |
| Volatile matter (%):           | 6.73                 | 6.79             |
| Fixed carbon (%):              | 82.71                | 83.43            |
| Total sulphur (%):             | 0.66                 | 0.67             |
| Gross calorific value (cal/g): | 7,591.00             | 7,657.00         |
| Volatile matter (dmmf %):      | 6.50                 |                  |
| Hardgrove index:               | 46.00                |                  |

No AF1 or AM1 data available (insufficient sample).

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87022  
 Coal zone: M/N  
 Field sample no.: 06947 Composite sample no.: 446

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 2.22  
 Total yield (%): 2.22

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.67                 |                  |
| Ash (%) :                       | 7.00                 | 7.05             |
| Volatile matter (%) :           | 7.97                 | 8.02             |
| Fixed carbon (%) :              | 84.36                | 84.93            |
| Total sulphur (%) :             | 0.72                 | 0.72             |
| Combustible sulphur (%) :       | 0.71                 |                  |
| Gross calorific value (cal/g) : | 7,698.00             | 7,750.00         |
| Volatile matter (dmmf%) :       | 7.80                 |                  |
| Hardgrove index:                | 45.00                |                  |
| Phosphorous in coal (%) :       | 0.017                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,322.00             | 1,214.00            |
| Softening temperature (°C) :     | 1,327.00             | 1,245.00            |
| Hemispherical temperature (°C) : | 1,343.00             | 1,253.00            |
| Final temperature (°C) :         | 1,419.00             | 1,412.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 53.22 | TiO2 (%) : | 4.92 |
| Al2O3 (%) : | 23.06 | Na2O (%) : | 1.48 |
| Fe2O3 (%) : | 5.52  | K2O (%) :  | 0.92 |
| CaO (%) :   | 2.41  | SO3 (%) :  | 0.49 |
| MgO (%) :   | 2.44  | P2O5 (%) : | 0.54 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87023 SEAM - K/L

SAMPLE ID - 98

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 59.89 |       | ASH % - 69.72 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 0.39      | 3.30  | 0.39        | 3.30  | 99.61                     | 70.98 | 0.0           | 0.0  |
| 1.45     |          | 0.81      | 6.28  | 1.20        | 5.31  | 98.80                     | 71.51 | 0.0           | 0.0  |
| 1.50     |          | 1.14      | 11.99 | 2.34        | 8.57  | 97.66                     | 72.21 | 0.0           | 0.0  |
| 1.55     |          | 1.59      | 14.52 | 3.93        | 10.97 | 96.07                     | 73.16 | 0.0           | 0.0  |
| 1.60     |          | 2.02      | 19.40 | 5.95        | 13.83 | 94.05                     | 74.31 | 0.0           | 0.0  |
| 1.70     |          | 4.71      | 26.25 | 10.66       | 19.32 | 89.34                     | 76.85 | 0.0           | 0.0  |
| 1.80     |          | 4.96      | 37.84 | 15.62       | 25.20 | 84.38                     | 79.14 | 0.0           | 0.0  |
| 2.00     |          | 8.91      | 47.73 | 24.53       | 33.38 | 75.47                     | 82.85 | 0.0           | 0.0  |
| 2.60     |          | 75.47     | 82.85 | 100.00      | 70.72 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 31.62 |       | ASH % - 39.59 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 1.40      | 2.86  | 1.40        | 2.86  | 98.60                     | 38.91 | 0.0           | 0.0  |
| 1.45     |          | 8.08      | 4.56  | 9.48        | 4.31  | 90.52                     | 41.97 | 0.0           | 0.0  |
| 1.50     |          | 8.89      | 9.21  | 18.37       | 6.68  | 81.63                     | 45.54 | 0.0           | 0.0  |
| 1.55     |          | 8.07      | 11.63 | 26.44       | 8.19  | 73.56                     | 49.26 | 0.0           | 0.0  |
| 1.60     |          | 7.35      | 16.12 | 33.79       | 9.92  | 66.21                     | 52.94 | 0.0           | 0.0  |
| 1.70     |          | 14.01     | 20.89 | 47.80       | 13.13 | 52.20                     | 61.54 | 0.0           | 0.0  |
| 1.80     |          | 10.51     | 26.80 | 58.31       | 15.60 | 41.69                     | 70.30 | 0.0           | 0.0  |
| 2.00     |          | 9.58      | 39.35 | 67.89       | 18.95 | 32.11                     | 79.53 | 0.0           | 0.0  |
| 2.60     |          | 32.11     | 79.53 | 100.00      | 38.40 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87023 SEAM - K/L

SAMPLE ID - 98

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 5.95 ASH % - 31.99 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V. CUM.          |      |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.45     | 6.20     | 3.40      |      | 6.20        | 3.40  | 93.80               | 32.99 | 0.0                | 0.0  |
| 1.50     | 12.45    | 6.32      |      | 18.65       | 5.35  | 81.35               | 37.07 | 0.0                | 0.0  |
| 1.55     | 11.34    | 8.68      |      | 29.99       | 6.61  | 70.01               | 41.67 | 0.0                | 0.0  |
| 1.60     | 6.52     | 11.63     |      | 36.51       | 7.51  | 63.49               | 44.76 | 0.0                | 0.0  |
| 1.70     | 14.16    | 15.35     |      | 50.67       | 9.70  | 49.33               | 53.20 | 0.0                | 0.0  |
| 1.80     | 13.42    | 21.21     |      | 64.09       | 12.11 | 35.91               | 65.15 | 0.0                | 0.0  |
| 2.00     | 9.35     | 34.39     |      | 73.44       | 14.95 | 26.56               | 75.98 | 0.0                | 0.0  |
| 2.60     | 26.56    | 75.98     |      | 100.00      | 31.16 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 2.54 ASH % - 36.98 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V. CUM.          |       |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 36.98     |      | 100.00      | 36.98 | 0.0                 | 0.0  | 19.31              | 19.31 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87023  
 Coal zone: K/L  
 Field sample no.: 07006 Composite sample no.: 258

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.57  
 Contribution (%): 2.73  
 Total yield (%): 2.73

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.73                 |                  |
| Ash (%):                       | 10.02                | 10.09            |
| Volatile matter (%):           | 7.23                 | 7.28             |
| Fixed carbon (%):              | 82.02                | 82.63            |
| Total sulphur (%):             | 0.83                 | 0.84             |
| Combustible sulphur (%):       | 0.71                 |                  |
| Gross calorific value (cal/g): | 7,376.00             | 7,430.00         |
| Volatile matter (dmmf %):      | 7.00                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.217                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,211.00             | 1,111.00            |
| Softening temperature (°C):     | 1,243.00             | 1,148.00            |
| Hemispherical temperature (°C): | 1,251.00             | 1,164.00            |
| Final temperature (°C):         | 1,266.00             | 1,262.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 47.94 | TiO2 (%): | 1.69 |
| Al2O3 (%): | 16.63 | Na2O (%): | 1.26 |
| Fe2O3 (%): | 6.86  | K2O (%):  | 1.37 |
| CaO (%):   | 8.62  | SO3 (%):  | 3.04 |
| MgO (%):   | 3.00  | P2O5 (%): | 4.96 |



===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87023  
 Coal zone: K/L  
 Field sample no.: 07006 Composite sample no.: 447

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 6.54  
 Total yield (%): 6.54

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 1.29                 |                  |
| Ash (%) :                       | 7.15                 | 7.24             |
| Volatile matter (%) :           | 7.64                 | 7.74             |
| Fixed carbon (%) :              | 83.92                | 85.02            |
| Total sulphur (%) :             | 0.75                 | 0.76             |
| Combustible sulphur (%) :       | 0.70                 |                  |
| Gross calorific value (cal/g) : | 7,696.00             | 7,797.00         |
| Volatile matter (dmmf%) :       | 7.50                 |                  |
| Hardgrove index:                | 46.00                |                  |
| Phosphorous in coal (%) :       | 0.094                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,211.00             | 1,124.00            |
| Softening temperature (°C) :     | 1,230.00             | 1,148.00            |
| Hemispherical temperature (°C) : | 1,253.00             | 1,153.00            |
| Final temperature (°C) :         | 1,293.00             | 1,290.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 48.27 | TiO2 (%) : | 3.34 |
| Al2O3 (%) : | 20.52 | Na2O (%) : | 1.39 |
| Fe2O3 (%) : | 4.23  | K2O (%) :  | 1.39 |
| CaO (%) :   | 7.16  | SO3 (%) :  | 1.79 |
| MgO (%) :   | 3.89  | P2O5 (%) : | 3.00 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87023 SEAM - K/L OVT

SAMPLE ID - 100

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 61.28 ASH % - 63.61 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.45     | 0.46                  | 8.22  | 0.46      | 8.22  | 99.54       | 63.16 | 0.0        | 0.0  |   |           |
| 1.50     | 1.13                  | 14.24 | 1.59      | 12.50 | 98.41       | 63.73 | 0.0        | 0.0  |   |           |
| 1.55     | 1.72                  | 18.13 | 3.31      | 15.42 | 96.69       | 64.54 | 0.0        | 0.0  |   |           |
| 1.60     | 1.95                  | 20.91 | 5.26      | 17.46 | 94.74       | 65.43 | 0.0        | 0.0  |   |           |
| 1.70     | 9.29                  | 30.31 | 14.55     | 25.66 | 85.45       | 69.25 | 0.0        | 0.0  |   |           |
| 1.80     | 15.09                 | 39.00 | 29.64     | 32.45 | 70.36       | 75.74 | 0.0        | 0.0  |   |           |
| 2.00     | 12.48                 | 48.34 | 42.12     | 37.16 | 57.88       | 81.65 | 0.0        | 0.0  |   |           |
| 2.60     | 57.88                 | 81.65 | 100.00    | 62.91 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 31.76 ASH % - 37.62 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 1.23                 | 3.90  | 1.23      | 3.90  | 98.77       | 32.88 | 0.0        | 0.0  |   |           |
| 1.45     | 7.30                 | 5.34  | 8.53      | 5.13  | 91.47       | 35.08 | 0.0        | 0.0  |   |           |
| 1.50     | 8.77                 | 9.78  | 17.30     | 7.49  | 82.70       | 37.76 | 0.0        | 0.0  |   |           |
| 1.55     | 8.47                 | 14.85 | 25.77     | 9.91  | 74.23       | 40.37 | 0.0        | 0.0  |   |           |
| 1.60     | 7.29                 | 18.88 | 33.06     | 11.89 | 66.94       | 42.72 | 0.0        | 0.0  |   |           |
| 1.70     | 13.75                | 24.51 | 46.81     | 15.59 | 53.19       | 47.42 | 0.0        | 0.0  |   |           |
| 1.80     | 10.59                | 32.90 | 57.40     | 18.79 | 42.60       | 51.03 | 0.0        | 0.0  |   |           |
| 2.00     | 30.02                | 41.47 | 87.42     | 26.58 | 12.58       | 73.85 | 0.0        | 0.0  |   |           |
| 2.60     | 12.58                | 73.85 | 100.00    | 32.52 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87023 SEAM - K/L OVT

SAMPLE ID - 100

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X |       | 0.15        |       | RELATIVE WEIGHT % - |       | 4.62 ASH % - 29.91 |      |
|---------------------|-----------------|-------|-------------|-------|---------------------|-------|--------------------|------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.45                | 10.04           | 4.88  | 10.04       | 4.88  | 89.96               | 31.79 | 0.0                | 0.0  |
| 1.50                | 13.11           | 7.92  | 23.15       | 6.60  | 76.85               | 35.86 | 0.0                | 0.0  |
| 1.55                | 11.17           | 11.29 | 34.32       | 8.13  | 65.68               | 40.04 | 0.0                | 0.0  |
| 1.60                | 5.84            | 13.49 | 40.16       | 8.91  | 59.84               | 42.63 | 0.0                | 0.0  |
| 1.70                | 13.93           | 18.96 | 54.09       | 11.50 | 45.91               | 49.81 | 0.0                | 0.0  |
| 1.80                | 11.58           | 24.66 | 65.67       | 13.82 | 34.33               | 58.29 | 0.0                | 0.0  |
| 2.00                | 12.70           | 37.31 | 78.37       | 17.62 | 21.63               | 70.61 | 0.0                | 0.0  |
| 2.60                | 21.63           | 70.61 | 100.00      | 29.09 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.33 ASH % - 33.40 |       |
|---------------------|-----------------|-------|-------------|-------|---------------------|------|--------------------|-------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00              | 100.00          | 33.40 | 100.00      | 33.40 | 0.0                 | 0.0  | 20.62              | 20.62 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87023  
 Coal zone: K/L (ovt)  
 Field sample no.: 07003 Composite sample no.: 259

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.49  
 Contribution (%): 0.68  
 Total yield (%): 0.68

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.68                 |                  |
| Ash (%) :                       | 9.10                 | 9.16             |
| Volatile matter (%) :           | 5.90                 | 5.94             |
| Fixed carbon (%) :              | 84.32                | 84.90            |
| Total sulphur (%) :             | 0.56                 | 0.56             |
| Combustible sulphur (%) :       | 0.55                 |                  |
| Gross calorific value (cal/g) : | 7,667.00             | 7,719.00         |
| Volatile matter (dmmf%) :       | 5.60                 |                  |
| Hardgrove index:                | 45.00                |                  |
| Phosphorous in coal (%) :       | 0.115                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,219.00             | 1,119.00            |
| Softening temperature (°C) :     | 1,343.00             | 1,330.00            |
| Hemispherical temperature (°C) : | 1,377.00             | 1,345.00            |
| Final temperature (°C) :         | 1,432.00             | 1,429.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 56.20 | TiO2 (%) : | 1.05 |
| Al2O3 (%) : | 21.19 | Na2O (%) : | 1.33 |
| Fe2O3 (%) : | 3.96  | K2O (%) :  | 1.76 |
| CaO (%) :   | 5.20  | SO3 (%) :  | 0.31 |
| MgO (%) :   | 1.81  | P2O5 (%) : | 2.89 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87023  
 Coal zone: K/L (ovt)  
 Field sample no.: 07003 Composite sample no.: 448

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.50  
 Contribution (%): 5.49  
 Total yield (%): 5.49

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.59                 |                  |
| Ash (%):                       | 7.33                 | 7.37             |
| Volatile matter (%):           | 6.71                 | 6.75             |
| Fixed carbon (%):              | 85.37                | 85.88            |
| Total sulphur (%):             | 0.55                 | 0.55             |
| Combustible sulphur (%):       | 0.54                 |                  |
| Gross calorific value (cal/g): | 7,724.00             | 7,770.00         |
| Volatile matter (dmmf %):      | 6.50                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.074                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,187.00             | 1,095.00            |
| Softening temperature (°C):     | 1,322.00             | 1,274.00            |
| Hemispherical temperature (°C): | 1,359.00             | 1,324.00            |
| Final temperature (°C):         | 1,451.00             | 1,430.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 54.66 | TiO2 (%): | 3.42 |
| Al2O3 (%): | 22.68 | Na2O (%): | 1.29 |
| Fe2O3 (%): | 3.84  | K2O (%):  | 1.96 |
| CaO (%):   | 3.16  | SO3 (%):  | 0.19 |
| MgO (%):   | 2.35  | P2O5 (%): | 2.31 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87024 SEAM - M/N

SAMPLE ID - 102

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 51.70 ASH % - 61.34 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 0.56                  | 7.48  | 0.56      | 7.48  | 99.44       | 62.26 | 0.0        | 0.0  |   |           |
| 1.45     | 1.08                  | 8.78  | 1.64      | 8.34  | 98.36       | 62.85 | 0.0        | 0.0  |   |           |
| 1.50     | 2.58                  | 12.99 | 4.22      | 11.18 | 95.78       | 64.19 | 0.0        | 0.0  |   |           |
| 1.55     | 3.14                  | 18.30 | 7.36      | 14.22 | 92.64       | 65.75 | 0.0        | 0.0  |   |           |
| 1.60     | 2.62                  | 22.44 | 9.98      | 16.38 | 90.02       | 67.01 | 0.0        | 0.0  |   |           |
| 1.70     | 4.29                  | 30.11 | 14.27     | 20.51 | 85.73       | 68.86 | 0.0        | 0.0  |   |           |
| 1.80     | 5.62                  | 39.43 | 19.89     | 25.85 | 80.11       | 70.92 | 0.0        | 0.0  |   |           |
| 2.00     | 12.79                 | 44.71 | 32.68     | 33.23 | 67.32       | 75.90 | 0.0        | 0.0  |   |           |
| 2.60     | 67.32                 | 75.90 | 100.00    | 61.96 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 38.95 ASH % - 41.10 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 4.26                 | 3.37  | 4.26      | 3.37  | 95.74       | 42.12 | 0.0        | 0.0  |   |           |
| 1.45     | 6.81                 | 7.76  | 11.07     | 6.07  | 88.93       | 44.75 | 0.0        | 0.0  |   |           |
| 1.50     | 9.52                 | 12.43 | 20.59     | 9.01  | 79.41       | 48.62 | 0.0        | 0.0  |   |           |
| 1.55     | 8.28                 | 16.06 | 28.87     | 11.03 | 71.13       | 52.41 | 0.0        | 0.0  |   |           |
| 1.60     | 6.53                 | 19.54 | 35.40     | 12.60 | 64.60       | 55.74 | 0.0        | 0.0  |   |           |
| 1.70     | 12.53                | 23.98 | 47.93     | 15.58 | 52.07       | 63.38 | 0.0        | 0.0  |   |           |
| 1.80     | 8.12                 | 29.57 | 56.05     | 17.60 | 43.95       | 69.62 | 0.0        | 0.0  |   |           |
| 2.00     | 10.28                | 42.65 | 66.33     | 21.49 | 33.67       | 77.86 | 0.0        | 0.0  |   |           |
| 2.60     | 33.67                | 77.86 | 100.00    | 40.47 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPRLRDDH87024 SEAM - M/N

SAMPLE ID - 102

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 0.50 X           |       | 0.15               |       | RELATIVE WEIGHT % - 6.23 ASH % - 35.70 |       | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|---------------------|----------|------------------|-------|--------------------|-------|--|-------|-----------------|--------------|
|                     |          | ELEMENTAL<br>WT% | ASH%  | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%                      | ASH%  |                 |              |
| 1.40                |          | 3.18             | 3.70  | 3.18               | 3.70  | 96.82                                  | 35.58 | 0.0             | 0.0          |
| 1.45                |          | 7.05             | 4.03  | 10.23              | 3.93  | 89.77                                  | 38.06 | 0.0             | 0.0          |
| 1.50                |          | 9.61             | 6.78  | 19.84              | 5.31  | 80.16                                  | 41.81 | 0.0             | 0.0          |
| 1.55                |          | 5.74             | 9.96  | 25.58              | 6.35  | 74.42                                  | 44.26 | 0.0             | 0.0          |
| 1.60                |          | 7.49             | 12.60 | 33.07              | 7.77  | 66.93                                  | 47.80 | 0.0             | 0.0          |
| 1.70                |          | 13.61            | 16.71 | 46.68              | 10.37 | 53.32                                  | 55.74 | 0.0             | 0.0          |
| 1.80                |          | 10.30            | 22.89 | 56.98              | 12.64 | 43.02                                  | 63.61 | 0.0             | 0.0          |
| 2.00                |          | 12.73            | 35.07 | 69.71              | 16.73 | 30.29                                  | 75.60 | 0.0             | 0.0          |
| 2.60                |          | 30.29            | 75.60 | 100.00             | 34.56 | 0.0                                    | 0.0   | 0.0             | 0.0          |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) | 0.15 X           |       | 0.00               |       | RELATIVE WEIGHT % - 3.12 ASH % - 39.92 |      | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|---------------------|----------|------------------|-------|--------------------|-------|--|------|-----------------|--------------|
|                     |          | ELEMENTAL<br>WT% | ASH%  | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%                      | ASH% |                 |              |
| 240.00              |          | 100.00           | 39.92 | 100.00             | 39.92 | 0.0                                    | 0.0  | 18.35           | 18.35        |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87024  
 Coal zone: M/N  
 Field sample no.: 06911 Composite sample no.: 260

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 3.09  
 Total yield (%): 3.09

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.78                 |                  |
| Ash (%) :                       | 11.45                | 11.54            |
| Volatile matter (%) :           | 5.81                 | 5.86             |
| Fixed carbon (%) :              | 81.96                | 82.60            |
| Total sulphur (%) :             | 0.53                 | 0.53             |
| Combustible sulphur (%) :       | 0.52                 |                  |
| Gross calorific value (cal/g) : | 7,419.00             | 7,477.00         |
| Volatile matter (dmmf%) :       | 5.50                 |                  |
| Hardgrove index:                | 52.00                |                  |
| Phosphorous in coal (%) :       | 0.293                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,222.00             | 1,169.00            |
| Softening temperature (°C) :     | 1,269.00             | 1,253.00            |
| Hemispherical temperature (°C) : | 1,274.00             | 1,264.00            |
| Final temperature (°C) :         | 1,348.00             | 1,347.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 50.38 | TiO2 (%) : | 1.43 |
| Al2O3 (%) : | 23.06 | Na2O (%) : | 1.79 |
| Fe2O3 (%) : | 2.46  | K2O (%) :  | 1.44 |
| CaO (%) :   | 7.72  | SO3 (%) :  | 0.17 |
| MgO (%) :   | 1.72  | P2O5 (%) : | 5.87 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87024  
 Coal zone: M/N  
 Field sample no.: 06911 Composite sample no.: 449

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.47  
 Contribution (%): 5.66  
 Total yield (%): 5.66

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.80                 |                  |
| Ash (%):                       | 7.25                 | 7.31             |
| Volatile matter (%):           | 6.37                 | 6.42             |
| Fixed carbon (%):              | 85.58                | 86.27            |
| Total sulphur (%):             | 0.55                 | 0.55             |
| Combustible sulphur (%):       | 0.54                 |                  |
| Gross calorific value (cal/g): | 7,720.00             | 7,782.00         |
| Volatile matter (dmmf %):      | 6.20                 |                  |
| Hardgrove index:               | 56.00                |                  |
| Phosphorous in coal (%):       | 0.085                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,203.00             | 1,074.00            |
| Softening temperature (°C):     | 1,390.00             | 1,272.00            |
| Hemispherical temperature (°C): | 1,324.00             | 1,288.00            |
| Final temperature (°C):         | 1,393.00             | 1,392.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 54.21 | TiO2 (%): | 2.35 |
| Al2O3 (%): | 22.92 | Na2O (%): | 1.58 |
| Fe2O3 (%): | 3.64  | K2O (%):  | 1.38 |
| CaO (%):   | 4.33  | SO3 (%):  | 0.30 |
| MgO (%):   | 1.99  | P2O5 (%): | 2.68 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87024 SEAM - ?

SAMPLE ID - 103

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 17.41 |       | ASH % - 51.50 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V. CUM.     |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 0.45      | 12.10 | 0.45        | 12.10 | 99.55                     | 52.19 | 0.0           | 0.0  |
| 1.45     |          | 1.62      | 7.23  | 2.07        | 8.29  | 97.93                     | 52.94 | 0.0           | 0.0  |
| 1.50     |          | 9.36      | 8.51  | 11.43       | 8.47  | 88.57                     | 57.63 | 0.0           | 0.0  |
| 1.55     |          | 5.78      | 13.30 | 17.21       | 10.09 | 82.79                     | 60.73 | 0.0           | 0.0  |
| 1.60     |          | 4.54      | 15.37 | 21.75       | 11.19 | 78.25                     | 63.36 | 0.0           | 0.0  |
| 1.70     |          | 7.26      | 22.09 | 29.01       | 13.92 | 70.99                     | 67.58 | 0.0           | 0.0  |
| 1.80     |          | 4.46      | 26.59 | 33.47       | 15.61 | 66.53                     | 70.33 | 0.0           | 0.0  |
| 2.00     |          | 5.59      | 44.58 | 39.06       | 19.76 | 60.94                     | 72.69 | 0.0           | 0.0  |
| 2.60     |          | 60.94     | 72.69 | 100.00      | 52.01 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 55.36 |       | ASH % - 34.86 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V. CUM.     |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 3.06      | 2.57  | 3.06        | 2.57  | 96.94                     | 35.65 | 0.0           | 0.0  |
| 1.45     |          | 9.51      | 5.17  | 12.57       | 4.54  | 87.43                     | 38.96 | 0.0           | 0.0  |
| 1.50     |          | 13.26     | 7.99  | 25.83       | 6.31  | 74.17                     | 44.50 | 0.0           | 0.0  |
| 1.55     |          | 8.73      | 10.47 | 34.56       | 7.36  | 65.44                     | 49.04 | 0.0           | 0.0  |
| 1.60     |          | 6.37      | 12.36 | 40.93       | 8.14  | 59.07                     | 53.00 | 0.0           | 0.0  |
| 1.70     |          | 11.18     | 15.21 | 52.11       | 9.66  | 47.89                     | 61.82 | 0.0           | 0.0  |
| 1.80     |          | 5.59      | 21.46 | 57.70       | 10.80 | 42.30                     | 67.15 | 0.0           | 0.0  |
| 2.00     |          | 8.17      | 35.17 | 65.87       | 13.82 | 34.13                     | 74.81 | 0.0           | 0.0  |
| 2.60     |          | 34.13     | 74.81 | 100.00      | 34.64 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87024 SEAM - ?

SAMPLE ID - 103

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 18.38 ASH % - 24.58 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|---------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.                | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)             | C.V. |
| 1.40     |          | 4.12      | 3.01  | 4.12        | 3.01  | 95.88               | 24.79 | 0.0                 | 0.0  |
| 1.45     |          | 11.26     | 3.40  | 15.38       | 3.30  | 84.62               | 27.64 | 0.0                 | 0.0  |
| 1.50     |          | 13.35     | 5.10  | 28.73       | 4.13  | 71.27               | 31.86 | 0.0                 | 0.0  |
| 1.55     |          | 9.12      | 7.07  | 37.85       | 4.84  | 62.15               | 35.50 | 0.0                 | 0.0  |
| 1.60     |          | 12.86     | 8.62  | 50.71       | 5.80  | 49.29               | 42.51 | 0.0                 | 0.0  |
| 1.70     |          | 13.32     | 11.40 | 64.03       | 6.96  | 35.97               | 54.03 | 0.0                 | 0.0  |
| 1.80     |          | 6.49      | 17.21 | 70.52       | 7.91  | 29.48               | 62.14 | 0.0                 | 0.0  |
| 2.00     |          | 6.80      | 28.91 | 77.32       | 9.75  | 22.68               | 72.10 | 0.0                 | 0.0  |
| 2.60     |          | 22.68     | 72.10 | 100.00      | 23.89 | 0.0                 | 0.0   | 0.0                 | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 8.85 ASH % - 26.62 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 26.62 | 100.00      | 26.62 | 0.0                 | 0.0  | 24.10              | 24.10 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87024  
 Coal zone: ?  
 Field sample no.: 06914 Composite sample no.: 261

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.63  
 Contribution (%): 4.36  
 Total yield (%): 4.36

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.79                 |                  |
| Ash (%):                       | 11.14                | 11.23            |
| Volatile matter (%):           | 8.67                 | 8.74             |
| Fixed carbon (%):              | 79.40                | 80.03            |
| Total sulphur (%):             | 3.24                 | 3.27             |
| Combustible sulphur (%):       | 3.21                 |                  |
| Gross calorific value (cal/g): | 7,287.00             | 7,345.00         |
| Volatile matter (dmmf %):      | 7.60                 |                  |
| Hardgrove index:               | 56.00                |                  |
| Phosphorous in coal (%):       | 0.225                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,248.00             | 1,056.00            |
| Softening temperature (°C):     | 1,390.00             | 1,085.00            |
| Hemispherical temperature (°C): | 1,309.00             | 1,101.00            |
| Final temperature (°C):         | 1,351.00             | 1,282.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 34.52 | TiO2 (%): | 1.09 |
| Al2O3 (%): | 15.15 | Na2O (%): | 1.14 |
| Fe2O3 (%): | 28.36 | K2O (%):  | 0.58 |
| CaO (%):   | 7.66  | SO3 (%):  | 0.61 |
| MgO (%):   | 1.57  | P2O5 (%): | 4.63 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87024  
 Coal zone: ?  
 Field sample no.: 06914 Composite sample no.: 450

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.56  
 Contribution (%): 20.04  
 Total yield (%): 20.04

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.72                 |                  |
| Ash (%):                       | 7.39                 | 7.44             |
| Volatile matter (%):           | 7.72                 | 7.78             |
| Fixed carbon (%):              | 84.17                | 84.78            |
| Total sulphur (%):             | 2.57                 | 2.59             |
| Combustible sulphur (%):       | 2.56                 |                  |
| Gross calorific value (cal/g): | 7,677.00             | 7,733.00         |
| Volatile matter (dmmf %):      | 6.80                 |                  |
| Hardgrove index:               | 59.00                |                  |
| Phosphorous in coal (%):       | 0.114                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,243.00             | 1,058.00            |
| Softening temperature(°C):     | 1,312.00             | 1,093.00            |
| Hemispherical temperature(°C): | 1,361.00             | 1,106.00            |
| Final temperature(°C):         | 1,427.00             | 1,314.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 30.80 | TiO2 (%): | 2.09 |
| Al2O3 (%): | 17.24 | Na2O (%): | 1.34 |
| Fe2O3 (%): | 33.01 | K2O (%):  | 0.67 |
| CaO (%):   | 5.43  | SO3 (%):  | 0.34 |
| MgO (%):   | 1.38  | P2O5 (%): | 3.53 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87024 SEAM - M

SAMPLE ID - 104

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 67.36 |       | ASH % - 36.55 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 0.56      | 5.36  | 0.56        | 5.36  | 99.44                     | 37.55 | 0.0           | 0.0  |
| 1.45     |          | 1.88      | 7.85  | 2.44        | 7.28  | 97.56                     | 38.12 | 0.0           | 0.0  |
| 1.50     |          | 9.39      | 13.64 | 11.83       | 12.33 | 88.17                     | 40.73 | 0.0           | 0.0  |
| 1.55     |          | 6.17      | 18.60 | 18.00       | 14.48 | 82.00                     | 42.39 | 0.0           | 0.0  |
| 1.60     |          | 12.67     | 22.88 | 30.67       | 17.95 | 69.33                     | 45.96 | 0.0           | 0.0  |
| 1.70     |          | 22.91     | 29.44 | 53.58       | 22.86 | 46.42                     | 54.11 | 0.0           | 0.0  |
| 1.80     |          | 15.01     | 38.87 | 68.59       | 26.37 | 31.41                     | 61.40 | 0.0           | 0.0  |
| 2.00     |          | 13.18     | 49.31 | 81.77       | 30.06 | 18.23                     | 70.14 | 0.0           | 0.0  |
| 2.60     |          | 18.23     | 70.14 | 100.00      | 37.37 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 24.74 |       | ASH % - 28.62 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 9.54      | 2.53  | 9.54        | 2.53  | 90.46                     | 30.69 | 0.0           | 0.0  |
| 1.45     |          | 11.00     | 6.63  | 20.54       | 4.73  | 79.46                     | 34.02 | 0.0           | 0.0  |
| 1.50     |          | 12.70     | 11.84 | 33.24       | 7.44  | 66.76                     | 38.24 | 0.0           | 0.0  |
| 1.55     |          | 8.15      | 16.66 | 41.39       | 9.26  | 58.61                     | 41.24 | 0.0           | 0.0  |
| 1.60     |          | 10.28     | 20.92 | 51.67       | 11.58 | 48.33                     | 45.57 | 0.0           | 0.0  |
| 1.70     |          | 15.27     | 26.40 | 66.94       | 14.96 | 33.06                     | 54.42 | 0.0           | 0.0  |
| 1.80     |          | 9.13      | 33.51 | 76.07       | 17.19 | 23.93                     | 62.40 | 0.0           | 0.0  |
| 2.00     |          | 8.60      | 43.52 | 84.67       | 19.86 | 15.33                     | 72.99 | 0.0           | 0.0  |
| 2.60     |          | 15.33     | 72.99 | 100.00      | 28.01 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87024 SEAM - M

SAMPLE ID - 104

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X           |       | 0.15               |       | RELATIVE WEIGHT % - 4.53 ASH % - 31.67 |       | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|----------|----------|------------------|-------|--------------------|-------|--|-------|-----------------|--------------|
|          |          | ELEMENTAL<br>WT% | ASH%  | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%                      | ASH%  |                 |              |
| 1.40     |          | 7.06             | 2.94  | 7.06               | 2.94  | 92.94                                  | 33.30 | 0.0             | 0.0          |
| 1.45     |          | 10.06            | 4.53  | 17.12              | 3.87  | 82.88                                  | 36.79 | 0.0             | 0.0          |
| 1.50     |          | 11.16            | 7.44  | 28.28              | 5.28  | 71.72                                  | 41.36 | 0.0             | 0.0          |
| 1.55     |          | 4.16             | 12.49 | 32.44              | 6.21  | 67.56                                  | 43.13 | 0.0             | 0.0          |
| 1.60     |          | 6.95             | 15.36 | 39.39              | 7.82  | 60.61                                  | 46.32 | 0.0             | 0.0          |
| 1.70     |          | 11.84            | 20.23 | 51.23              | 10.69 | 48.77                                  | 52.65 | 0.0             | 0.0          |
| 1.80     |          | 5.88             | 25.18 | 57.11              | 12.18 | 42.89                                  | 56.42 | 0.0             | 0.0          |
| 2.00     |          | 15.76            | 34.31 | 72.87              | 16.97 | 27.13                                  | 69.26 | 0.0             | 0.0          |
| 2.60     |          | 27.13            | 69.26 | 100.00             | 31.15 | 0.0                                    | 0.0   | 0.0             | 0.0          |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X           |       | 0.00               |       | RELATIVE WEIGHT % - 3.37 ASH % - 39.22 |      | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|----------|----------|------------------|-------|--------------------|-------|--|------|-----------------|--------------|
|          |          | ELEMENTAL<br>WT% | ASH%  | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%                      | ASH% |                 |              |
| 240.00   |          | 100.00           | 39.22 | 100.00             | 39.22 | 0.0                                    | 0.0  | 18.51           | 18.51        |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87024  
 Coal zone: M  
 Field sample no.: 06917 Composite sample no.: 262

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.50  
 Contribution (%): 6.31  
 Total yield (%): 6.31

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.85                 |                  |
| Ash (%):                       | 9.85                 | 9.93             |
| Volatile matter (%):           | 7.25                 | 7.31             |
| Fixed carbon (%):              | 82.05                | 82.76            |
| Total sulphur (%):             | 0.60                 | 0.61             |
| Combustible sulphur (%):       | 0.59                 |                  |
| Gross calorific value (cal/g): | 7,497.00             | 7,562.00         |
| Volatile matter (dmmf %):      | 7.10                 |                  |
| Hardgrove index:               | 44.00                |                  |
| Phosphorous in coal (%):       | 0.235                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,224.00             | 1,151.00            |
| Softening temperature (°C):     | 1,290.00             | 1,264.00            |
| Hemispherical temperature (°C): | 1,390.00             | 1,272.00            |
| Final temperature (°C):         | 1,343.00             | 1,341.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 49.20 | TiO2 (%): | 1.85 |
| Al2O3 (%): | 24.57 | Na2O (%): | 1.84 |
| Fe2O3 (%): | 3.22  | K2O (%):  | 1.41 |
| CaO (%):   | 6.94  | SO3 (%):  | 0.13 |
| MgO (%):   | 1.67  | P2O5 (%): | 5.47 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87024  
 Coal zone: M  
 Field sample no.: 06917 Composite sample no.: 451

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.50  
 Contribution (%): 8.31  
 Total yield (%): 8.31

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.75                 |                  |
| Ash (%) :                       | 6.80                 | 6.85             |
| Volatile matter (%) :           | 6.35                 | 6.40             |
| Fixed carbon (%) :              | 86.10                | 86.75            |
| Total sulphur (%) :             | 0.78                 | 0.79             |
| Combustible sulphur (%) :       | 0.77                 |                  |
| Gross calorific value (cal/g) : | 7,729.00             | 7,788.00         |
| Volatile matter (dmmf%) :       | 6.10                 |                  |
| Hardgrove index :               | 42.00                |                  |
| Phosphorous in coal (%) :       | 0.069                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,224.00             | 1,214.00            |
| Softening temperature (°C) :     | 1,348.00             | 1,295.00            |
| Hemispherical temperature (°C) : | 1,351.00             | 1,314.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 50.48 | TiO2 (%) : | 3.81 |
| Al2O3 (%) : | 24.32 | Na2O (%) : | 1.64 |
| Fe2O3 (%) : | 5.62  | K2O (%) :  | 1.49 |
| CaO (%) :   | 3.32  | SO3 (%) :  | 0.23 |
| MgO (%) :   | 1.79  | P2O5 (%) : | 2.33 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87024 SEAM - L

SAMPLE ID - 105

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 49.40 ASH % - 24.30 |           |
|----------|-----------------------|-------|-------------|-------|------------|-------|---|-----------|
|          | ELEMENTAL WT%         | ASH%  | WT%         | ASH%  | WT%        | ASH%  | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |             |       |            |       |   |           |
| 1.40     | 25.44                 | 7.01  | 25.44       | 7.01  | 74.56      | 28.64 | 0.0                                     | 0.0       |
| 1.45     | 13.53                 | 7.82  | 38.97       | 7.29  | 61.03      | 33.26 | 0.0                                     | 0.0       |
| 1.50     | 22.95                 | 11.26 | 61.92       | 8.76  | 38.08      | 46.52 | 0.0                                     | 0.0       |
| 1.55     | 4.61                  | 17.58 | 66.53       | 9.37  | 33.47      | 50.50 | 0.0                                     | 0.0       |
| 1.60     | 3.21                  | 22.23 | 69.74       | 9.96  | 30.26      | 53.50 | 0.0                                     | 0.0       |
| 1.70     | 3.44                  | 27.84 | 73.18       | 10.81 | 26.82      | 56.79 | 0.0                                     | 0.0       |
| 1.80     | 2.88                  | 37.65 | 76.06       | 11.82 | 23.94      | 59.09 | 0.0                                     | 0.0       |
| 2.00     | 8.38                  | 44.23 | 84.44       | 15.04 | 15.56      | 67.10 | 0.0                                     | 0.0       |
| 2.60     | 15.56                 | 67.10 | 100.00      | 23.14 | 0.0        | 0.0   | 0.0                                     | 0.0       |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 38.37 ASH % - 21.17 |           |
|----------|----------------------|-------|-------------|-------|------------|-------|---|-----------|
|          | ELEMENTAL WT%        | ASH%  | WT%         | ASH%  | WT%        | ASH%  | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |             |       |            |       |   |           |
| 1.40     | 18.55                | 2.43  | 18.55       | 2.43  | 81.45      | 24.70 | 0.0                                     | 0.0       |
| 1.45     | 20.57                | 6.35  | 39.12       | 4.49  | 60.88      | 30.91 | 0.0                                     | 0.0       |
| 1.50     | 12.29                | 10.73 | 51.41       | 5.98  | 48.59      | 36.01 | 0.0                                     | 0.0       |
| 1.55     | 7.16                 | 14.02 | 58.57       | 6.97  | 41.43      | 39.81 | 0.0                                     | 0.0       |
| 1.60     | 4.02                 | 16.99 | 62.59       | 7.61  | 37.41      | 42.26 | 0.0                                     | 0.0       |
| 1.70     | 6.06                 | 21.52 | 68.65       | 8.84  | 31.35      | 46.27 | 0.0                                     | 0.0       |
| 1.80     | 4.28                 | 28.13 | 72.93       | 9.97  | 27.07      | 49.14 | 0.0                                     | 0.0       |
| 2.00     | 10.43                | 38.13 | 83.36       | 13.49 | 16.64      | 56.04 | 0.0                                     | 0.0       |
| 2.60     | 16.64                | 56.04 | 100.00      | 20.57 | 0.0        | 0.0   | 0.0                                     | 0.0       |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87024 SEAM - L

SAMPLE ID - 105

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X |       | 0.15        |       | RELATIVE WEIGHT % - |       | 8.69 ASH % - 20.58 |      |
|---------------------|-----------------|-------|-------------|-------|---------------------|-------|--------------------|------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40                | 9.00            | 2.13  | 9.00        | 2.13  | 91.00               | 20.99 | 0.0                | 0.0  |
| 1.45                | 20.60           | 4.15  | 29.60       | 3.54  | 70.40               | 25.92 | 0.0                | 0.0  |
| 1.50                | 14.00           | 7.02  | 43.60       | 4.65  | 56.40               | 30.61 | 0.0                | 0.0  |
| 1.55                | 9.48            | 9.93  | 53.08       | 5.60  | 46.92               | 34.79 | 0.0                | 0.0  |
| 1.60                | 4.88            | 13.28 | 57.96       | 6.24  | 42.04               | 37.28 | 0.0                | 0.0  |
| 1.70                | 9.67            | 16.20 | 67.63       | 7.67  | 32.37               | 43.58 | 0.0                | 0.0  |
| 1.80                | 7.48            | 22.52 | 75.11       | 9.15  | 24.89               | 49.91 | 0.0                | 0.0  |
| 2.00                | 10.06           | 35.49 | 85.17       | 12.26 | 14.83               | 59.69 | 0.0                | 0.0  |
| 2.60                | 14.83           | 59.69 | 100.00      | 19.29 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X |       | 0.00        |       | RELATIVE WEIGHT % - |      | 3.54 ASH % - 25.42 |       |
|---------------------|-----------------|-------|-------------|-------|---------------------|------|--------------------|-------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00              | 100.00          | 25.42 | 100.00      | 25.42 | 0.0                 | 0.0  | 23.06              | 23.06 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87024  
 Coal zone: L  
 Field sample no.: 06920 Composite sample no.: 263

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.81  
 Contribution (%): 40.00  
 Total yield (%): 40.00

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.94                 |                  |
| Ash (%):                       | 11.83                | 11.94            |
| Volatile matter (%):           | 5.62                 | 5.67             |
| Fixed carbon (%):              | 81.61                | 82.39            |
| Total sulphur (%):             | 0.52                 | 0.52             |
| Combustible sulphur (%):       | 0.45                 |                  |
| Gross calorific value (cal/g): | 7,290.00             | 7,359.00         |
| Volatile matter (dmmf %):      | 5.20                 |                  |
| Hardgrove index:               | 44.00                |                  |
| Phosphorous in coal (%):       | 0.204                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,222.00             | 1,220.00            |
| Softening temperature (°C):     | 1,311.00             | 1,295.00            |
| Hemispherical temperature (°C): | 1,327.00             | 1,309.00            |
| Final temperature (°C):         | 1,385.00             | 1,381.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 43.06 | TiO2 (%): | 1.77 |
| Al2O3 (%): | 26.84 | Na2O (%): | 1.83 |
| Fe2O3 (%): | 5.22  | K2O (%):  | 1.07 |
| CaO (%):   | 6.86  | SO3 (%):  | 1.58 |
| MgO (%):   | 3.05  | P2O5 (%): | 3.95 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 19, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87024  
 Coal zone: L  
 Field sample no.: 06920 Composite sample no.: 452

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.59  
 Contribution (%): 23.20  
 Total yield (%): 23.20

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.93                 |                  |
| Ash (%) :                       | 6.88                 | 6.94             |
| Volatile matter (%) :           | 5.56                 | 5.61             |
| Fixed carbon (%) :              | 86.63                | 87.45            |
| Total sulphur (%) :             | 0.50                 | 0.50             |
| Combustible sulphur (%) :       | 0.49                 |                  |
| Gross calorific value (cal/g) : | 7,710.00             | 7,783.00         |
| Volatile matter (dmmf%) :       | 5.30                 |                  |
| Hardgrove index:                | 49.00                |                  |
| Phosphorous in coal (%) :       | 0.121                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,222.00             | 1,077.00            |
| Softening temperature (°C) :     | 1,290.00             | 1,274.00            |
| Hemispherical temperature (°C) : | 1,298.00             | 1,295.00            |
| Final temperature (°C) :         | 1,451.00             | 1,440.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 44.76 | TiO2 (%) : | 2.19 |
| Al2O3 (%) : | 29.49 | Na2O (%) : | 2.16 |
| Fe2O3 (%) : | 3.40  | K2O (%) :  | 1.26 |
| CaO (%) :   | 5.37  | SO3 (%) :  | 0.39 |
| MgO (%) :   | 2.10  | P2O5 (%) : | 4.03 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87024  
 Coal zone: L  
 Field sample no.: 06920 Composite sample no.: 452

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 0.00  
 Contribution (%): 23.20  
 Total yield (%): 23.20

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.93                 |                  |
| Ash (%):                       | 6.88                 | 6.94             |
| Volatile matter (%):           | 5.56                 | 5.61             |
| Fixed carbon (%):              | 86.63                | 87.45            |
| Total sulphur (%):             | 0.50                 | 0.50             |
| Combustible sulphur (%):       | 0.49                 |                  |
| Gross calorific value (cal/g): | 7,710.00             | 7,783.00         |
| Volatile matter (dmmf %):      | 5.30                 |                  |
| Hardgrove index:               | 49.00                |                  |
| Phosphorous in coal (%):       | 0.121                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,222.00             | 1,077.00            |
| Softening temperature (°C):     | 1,290.00             | 1,274.00            |
| Hemispherical temperature (°C): | 1,298.00             | 1,295.00            |
| Final temperature (°C):         | 1,451.00             | 1,440.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|                                     |       |                                    |      |
|-------------------------------------|-------|------------------------------------|------|
| SiO <sub>2</sub> (%):               | 44.76 | TiO <sub>2</sub> (%):              | 2.19 |
| Al <sub>2</sub> O <sub>3</sub> (%): | 29.49 | Na <sub>2</sub> O (%):             | 2.16 |
| Fe <sub>2</sub> O <sub>3</sub> (%): | 3.40  | K <sub>2</sub> O (%):              | 1.26 |
| CaO (%):                            | 5.37  | SO <sub>3</sub> (%):               | 0.39 |
| MgO (%):                            | 2.10  | P <sub>2</sub> O <sub>5</sub> (%): | 4.03 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87024 SEAM - K/L

SAMPLE ID - 106

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | RELATIVE WEIGHT % - 77.01 ASH % - 46.61 |       |            |       |         |      |
|----------|-----------------------|-------|---|-------|------------|-------|---------|------|
|          | ELEMENTAL             |       | CUM. FLOATS                             |       | CUM. SINKS |       | C.V.    | CUM. |
| S.G.TME  | WT%                   | ASH%  | WT%                                     | ASH%  | WT%        | ASH%  | (MJ KG) | C.V. |
| 1.40     | 0.96                  | 2.63  | 0.96                                    | 2.63  | 99.04      | 47.47 | 0.0     | 0.0  |
| 1.45     | 2.67                  | 7.49  | 3.63                                    | 6.20  | 96.37      | 48.58 | 0.0     | 0.0  |
| 1.50     | 11.78                 | 12.79 | 15.41                                   | 11.24 | 84.59      | 53.56 | 0.0     | 0.0  |
| 1.55     | 10.89                 | 17.92 | 26.30                                   | 14.01 | 73.70      | 58.83 | 0.0     | 0.0  |
| 1.60     | 7.69                  | 23.30 | 33.99                                   | 16.11 | 66.01      | 62.97 | 0.0     | 0.0  |
| 1.70     | 11.61                 | 32.28 | 45.60                                   | 20.23 | 54.40      | 69.52 | 0.0     | 0.0  |
| 1.80     | 7.36                  | 40.65 | 52.96                                   | 23.06 | 47.04      | 74.03 | 0.0     | 0.0  |
| 2.00     | 8.99                  | 49.04 | 61.95                                   | 26.83 | 38.05      | 79.94 | 0.0     | 0.0  |
| 2.60     | 38.05                 | 79.94 | 100.00                                  | 47.04 | 0.0        | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | RELATIVE WEIGHT % - 17.98 ASH % - 31.34 |       |            |       |         |      |
|----------|----------------------|-------|---|-------|------------|-------|---------|------|
|          | ELEMENTAL            |       | CUM. FLOATS                             |       | CUM. SINKS |       | C.V.    | CUM. |
| S.G.TME  | WT%                  | ASH%  | WT%                                     | ASH%  | WT%        | ASH%  | (MJ KG) | C.V. |
| 1.40     | 12.01                | 1.51  | 12.01                                   | 1.51  | 87.99      | 34.51 | 0.0     | 0.0  |
| 1.45     | 17.88                | 5.50  | 29.89                                   | 3.90  | 70.11      | 41.91 | 0.0     | 0.0  |
| 1.50     | 14.32                | 11.71 | 44.21                                   | 6.43  | 55.79      | 49.66 | 0.0     | 0.0  |
| 1.55     | 7.23                 | 16.43 | 51.44                                   | 7.83  | 48.56      | 54.61 | 0.0     | 0.0  |
| 1.60     | 6.52                 | 20.88 | 57.96                                   | 9.30  | 42.04      | 59.84 | 0.0     | 0.0  |
| 1.70     | 8.35                 | 27.04 | 66.31                                   | 11.53 | 33.69      | 67.97 | 0.0     | 0.0  |
| 1.80     | 6.20                 | 46.22 | 72.51                                   | 14.50 | 27.49      | 72.88 | 0.0     | 0.0  |
| 2.00     | 4.70                 | 34.95 | 77.21                                   | 15.75 | 22.79      | 80.70 | 0.0     | 0.0  |
| 2.60     | 22.79                | 80.70 | 100.00                                  | 30.55 | 0.0        | 0.0   | 0.0     | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPCLRDDH87024 SEAM - K/L

SAMPLE ID - 106

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) | 0.50 X |       | 0.15   |       | RELATIVE WEIGHT % - 3.24 ASH % - 38.22 |       | C.V. (MJ/KG) | CUM. C.V. |
|-------------------|--------|-------|--------|-------|--|-------|--------------|-----------|
|                   | WT%    | ASH%  | WT%    | ASH%  | WT%                                    | ASH%  |              |           |
| S.G.TME           |        |       |        |       |  |       |              |           |
| 1.40              | 7.73   | 6.06  | 7.73   | 6.06  | 92.27                                  | 40.06 | 0.0          | 0.0       |
| 1.45              | 19.80  | 3.36  | 27.53  | 4.12  | 72.47                                  | 50.09 | 0.0          | 0.0       |
| 1.50              | 8.06   | 8.54  | 35.59  | 5.12  | 64.41                                  | 55.29 | 0.0          | 0.0       |
| 1.55              | 5.33   | 11.95 | 40.92  | 6.01  | 59.08                                  | 59.20 | 0.0          | 0.0       |
| 1.60              | 3.26   | 15.45 | 44.18  | 6.71  | 55.82                                  | 61.75 | 0.0          | 0.0       |
| 1.70              | 7.91   | 19.64 | 52.09  | 8.67  | 47.91                                  | 68.71 | 0.0          | 0.0       |
| 1.80              | 4.76   | 26.82 | 56.85  | 10.19 | 43.15                                  | 73.33 | 0.0          | 0.0       |
| 2.00              | 7.88   | 40.19 | 64.73  | 13.84 | 35.27                                  | 80.73 | 0.0          | 0.0       |
| 2.60              | 35.27  | 80.73 | 100.00 | 37.43 | 0.0                                    | 0.0   | 0.0          | 0.0       |

ANALYSIS TYPE - FROTH

| FRACTION SIZE(MM) | 0.15 X |       | 0.00   |       | RELATIVE WEIGHT % - 1.77 ASH % - 46.69 |      | C.V. (MJ/KG) | CUM. C.V. |
|-------------------|--------|-------|--------|-------|--|------|--------------|-----------|
|                   | WT%    | ASH%  | WT%    | ASH%  | WT%                                    | ASH% |              |           |
| S.G.TME           |        |       |        |       |  |      |              |           |
| 240.00            | 100.00 | 46.69 | 100.00 | 46.69 | 0.0                                    | 0.0  | 16.02        | 16.02     |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87024  
 Coal zone: K/L  
 Field sample no.: 06926 - 06927 Composite sample no.: 264

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 16.75  
 Total yield (%): 16.75

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.89                 |                  |
| Ash (%):                       | 10.22                | 10.31            |
| Volatile matter (%):           | 5.33                 | 5.38             |
| Fixed carbon (%):              | 83.56                | 84.31            |
| Total sulphur (%):             | 0.49                 | 0.49             |
| Combustible sulphur (%):       | 0.48                 |                  |
| Gross calorific value (cal/g): | 7,490.00             | 7,558.00         |
| Volatile matter (dmmf %):      | 5.00                 |                  |
| Hardgrove index:               | 41.00                |                  |
| Phosphorous in coal (%):       | 0.134                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,099.00             | 1,097.00            |
| Softening temperature (°C):     | 1,264.00             | 1,209.00            |
| Hemispherical temperature (°C): | 1,290.00             | 1,222.00            |
| Final temperature (°C):         | 1,330.00             | 1,324.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 56.96 | TiO2 (%): | 1.83 |
| Al2O3 (%): | 20.04 | Na2O (%): | 1.49 |
| Fe2O3 (%): | 4.72  | K2O (%):  | 0.92 |
| CaO (%):   | 4.03  | SO3 (%):  | 0.23 |
| MgO (%):   | 2.58  | P2O5 (%): | 3.00 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87024  
 Coal zone: K/L  
 Field sample no.: 06926 - 06927 Composite sample no.: 453

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 8.83  
 Total yield (%): 8.83

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.86                 |                  |
| Ash (%) :                       | 7.17                 | 7.23             |
| Volatile matter (%) :           | 5.29                 | 5.34             |
| Fixed carbon (%) :              | 86.68                | 87.43            |
| Total sulphur (%) :             | 0.52                 | 0.52             |
| Combustible sulphur (%) :       | 0.51                 |                  |
| Gross calorific value (cal/g) : | 7,746.00             | 7,813.00         |
| Volatile matter (dmmf%) :       | 5.00                 |                  |
| Hardgrove index :               | 41.00                |                  |
| Phosphorous in coal (%) :       | 0.052                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,182.00             | 1,098.00            |
| Softening temperature (°C) :     | 1,317.00             | 1,274.00            |
| Hemispherical temperature (°C) : | 1,327.00             | 1,301.00            |
| Final temperature (°C) :         | 1,401.00             | 1,399.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|                                      |       |                                     |      |
|--------------------------------------|-------|-------------------------------------|------|
| SiO <sub>2</sub> (%) :               | 62.46 | TiO <sub>2</sub> (%) :              | 2.05 |
| Al <sub>2</sub> O <sub>3</sub> (%) : | 20.04 | Na <sub>2</sub> O (%) :             | 1.52 |
| Fe <sub>2</sub> O <sub>3</sub> (%) : | 3.84  | K <sub>2</sub> O (%) :              | 1.01 |
| CaO (%) :                            | 2.41  | SO <sub>3</sub> (%) :               | 0.31 |
| MgO (%) :                            | 2.26  | P <sub>2</sub> O <sub>5</sub> (%) : | 1.66 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPCLRDDH87025 SEAM - K

SAMPLE ID - 107

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 35.00 X   |        | 6.00        |       | RELATIVE WEIGHT % - 84.35 |      | ASH % - 61.07 |      |
|---------------------|----------|-----------|--------|-------------|-------|---------------------------|------|---------------|------|
|                     |          | ELEMENTAL |        | CUM. FLOATS |       | CUM. SINKS                |      | C.V.          | CUM. |
|                     |          | WT%       | ASH%   | WT%         | ASH%  | WT%                       | ASH% | (MJ KG)       | C.V. |
| 1.40                | 0.73     | 7.21      | 0.73   | 7.21        | 99.27 | 61.40                     | 0.0  | 0.0           |      |
| 1.45                | 0.06     | 8.09      | 0.79   | 7.28        | 99.21 | 61.43                     | 0.0  | 0.0           |      |
| 1.50                | 0.15     | 16.19     | 0.94   | 8.70        | 99.06 | 61.50                     | 0.0  | 0.0           |      |
| 1.55                | 0.65     | 24.20     | 1.59   | 15.04       | 98.41 | 61.74                     | 0.0  | 0.0           |      |
| 1.60                | 2.87     | 26.01     | 4.46   | 22.10       | 95.54 | 62.82                     | 0.0  | 0.0           |      |
| 1.70                | 7.17     | 34.09     | 11.63  | 29.49       | 88.37 | 65.15                     | 0.0  | 0.0           |      |
| 1.80                | 9.80     | 41.38     | 21.43  | 34.93       | 78.57 | 68.11                     | 0.0  | 0.0           |      |
| 2.00                | 24.66    | 49.53     | 46.09  | 42.74       | 53.91 | 76.61                     | 0.0  | 0.0           |      |
| 2.60                | 53.91    | 76.61     | 100.00 | 61.00       | 0.0   | 0.0                       | 0.0  | 0.0           |      |

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 6.00 X    |        | 0.50        |       | RELATIVE WEIGHT % - 8.11 |      | ASH % - 56.23 |      |
|---------------------|----------|-----------|--------|-------------|-------|--------------------------|------|---------------|------|
|                     |          | ELEMENTAL |        | CUM. FLOATS |       | CUM. SINKS               |      | C.V.          | CUM. |
|                     |          | WT%       | ASH%   | WT%         | ASH%  | WT%                      | ASH% | (MJ KG)       | C.V. |
| 1.40                | 9.67     | 2.39      | 9.67   | 2.39        | 90.33 | 63.13                    | 0.0  | 0.0           |      |
| 1.45                | 1.92     | 7.60      | 11.59  | 3.25        | 88.41 | 64.34                    | 0.0  | 0.0           |      |
| 1.50                | 1.92     | 14.11     | 13.51  | 4.80        | 86.49 | 65.46                    | 0.0  | 0.0           |      |
| 1.55                | 2.01     | 21.46     | 15.52  | 6.95        | 84.48 | 66.50                    | 0.0  | 0.0           |      |
| 1.60                | 5.26     | 25.90     | 20.78  | 11.75       | 79.22 | 69.20                    | 0.0  | 0.0           |      |
| 1.70                | 7.94     | 32.39     | 28.72  | 17.46       | 71.28 | 73.30                    | 0.0  | 0.0           |      |
| 1.80                | 7.18     | 39.76     | 35.90  | 21.92       | 64.10 | 77.06                    | 0.0  | 0.0           |      |
| 2.00                | 10.97    | 48.99     | 46.87  | 28.25       | 53.13 | 82.85                    | 0.0  | 0.0           |      |
| 2.60                | 53.13    | 82.85     | 100.00 | 57.26       | 0.0   | 0.0                      | 0.0  | 0.0           |      |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87025 SEAM - K

SAMPLE ID - 107

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 4.26 ASH % - 27.22 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 12.09    | 2.14      |      | 12.09       | 2.14  | 87.91               | 31.73 | 0.0                | 0.0  |
| 1.45     | 26.00    | 3.11      |      | 38.09       | 2.80  | 61.91               | 43.75 | 0.0                | 0.0  |
| 1.50     | 14.94    | 6.44      |      | 53.03       | 3.83  | 46.97               | 55.61 | 0.0                | 0.0  |
| 1.55     | 3.31     | 12.73     |      | 56.34       | 4.35  | 43.66               | 58.87 | 0.0                | 0.0  |
| 1.60     | 1.60     | 18.70     |      | 57.94       | 4.75  | 42.06               | 60.39 | 0.0                | 0.0  |
| 1.70     | 5.70     | 21.76     |      | 63.64       | 6.27  | 36.36               | 66.45 | 0.0                | 0.0  |
| 1.80     | 4.56     | 28.61     |      | 68.20       | 7.76  | 31.80               | 71.88 | 0.0                | 0.0  |
| 2.00     | 6.60     | 43.15     |      | 74.80       | 10.89 | 25.20               | 79.40 | 0.0                | 0.0  |
| 2.60     | 25.20    | 79.40     |      | 100.00      | 28.15 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 3.28 ASH % - 35.35 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 35.35     |      | 100.00      | 35.35 | 0.0                 | 0.0  | 19.56              | 19.56 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88 WASHABILITY REPORT 1 PAGE -

DATA SOURCE - KPNLRDDH87025 SEAM - K SAMPLE ID - 108 WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT FRACTION SIZE(MM) 35.00 X 6.00 RELATIVE WEIGHT % - 68.31 ASH % - 26.25

| S.G.TME | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % |      |
|---------|-----------|-------|-------------|-------|------------|-------|-------------------|------|
|         | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)           | C.V. |
| 1.40    | 5.66      | 6.49  | 5.66        | 6.49  | 94.34      | 26.81 | 0.0               | 0.0  |
| 1.45    | 12.89     | 8.09  | 18.55       | 7.60  | 81.45      | 29.77 | 0.0               | 0.0  |
| 1.50    | 33.23     | 12.76 | 51.78       | 10.91 | 48.22      | 41.50 | 0.0               | 0.0  |
| 1.55    | 8.70      | 19.23 | 60.48       | 12.11 | 39.52      | 46.40 | 0.0               | 0.0  |
| 1.60    | 7.14      | 22.93 | 67.62       | 13.25 | 32.38      | 51.58 | 0.0               | 0.0  |
| 1.70    | 9.46      | 31.03 | 77.08       | 15.43 | 22.92      | 60.06 | 0.0               | 0.0  |
| 1.80    | 3.79      | 36.95 | 80.87       | 16.44 | 19.13      | 64.64 | 0.0               | 0.0  |
| 2.00    | 6.52      | 49.59 | 87.39       | 18.91 | 12.61      | 72.42 | 0.0               | 0.0  |
| 2.60    | 12.61     | 72.42 | 100.00      | 25.66 | 0.0        | 0.0   | 0.0               | 0.0  |

ANALYSIS TYPE - FLOAT FRACTION SIZE(MM) 6.00 X 0.50 RELATIVE WEIGHT % - 21.37 ASH % - 18.72

| S.G.TME | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % |      |
|---------|-----------|-------|-------------|-------|------------|-------|-------------------|------|
|         | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)           | C.V. |
| 1.40    | 9.46      | 3.26  | 9.46        | 3.26  | 90.54      | 20.28 | 0.0               | 0.0  |
| 1.45    | 31.19     | 5.72  | 40.65       | 5.15  | 59.35      | 27.93 | 0.0               | 0.0  |
| 1.50    | 22.29     | 12.54 | 62.94       | 7.77  | 37.06      | 37.19 | 0.0               | 0.0  |
| 1.55    | 8.31      | 17.49 | 71.25       | 8.90  | 28.75      | 42.88 | 0.0               | 0.0  |
| 1.60    | 6.67      | 21.38 | 77.92       | 9.97  | 22.08      | 49.38 | 0.0               | 0.0  |
| 1.70    | 6.84      | 28.29 | 84.76       | 11.45 | 15.24      | 58.84 | 0.0               | 0.0  |
| 1.80    | 3.46      | 36.35 | 88.22       | 12.42 | 11.78      | 65.45 | 0.0               | 0.0  |
| 2.00    | 3.68      | 47.77 | 91.90       | 13.84 | 8.10       | 73.48 | 0.0               | 0.0  |
| 2.60    | 8.10      | 73.48 | 100.00      | 18.67 | 0.0        | 0.0   | 0.0               | 0.0  |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87025 SEAM - K

SAMPLE ID - 108

WASHABILITY ID - WA1

| FRACTION SIZE(MM) | ANALYSIS TYPE - FLOAT |       |          |             | RELATIVE WEIGHT % - 6.02 ASH % - 16.05 |            |              |           |
|-------------------|-----------------------|-------|----------|-------------|--|------------|--------------|-----------|
|                   | ELEMENTAL WT%         | ASH%  | CUM. WT% | FLOATS ASH% | CUM. WT%                               | SINKS ASH% | (MJ KG) C.V. | CUM. C.V. |
| 1.40              | 24.87                 | 2.30  | 24.87    | 2.30        | 75.13                                  | 19.61      | 0.0          | 0.0       |
| 1.45              | 20.47                 | 4.69  | 45.34    | 3.38        | 54.66                                  | 25.19      | 0.0          | 0.0       |
| 1.50              | 14.88                 | 8.66  | 60.22    | 4.68        | 39.78                                  | 31.38      | 0.0          | 0.0       |
| 1.55              | 8.62                  | 12.78 | 68.84    | 5.70        | 31.16                                  | 36.52      | 0.0          | 0.0       |
| 1.60              | 5.14                  | 13.19 | 73.98    | 6.22        | 26.02                                  | 41.13      | 0.0          | 0.0       |
| 1.70              | 10.23                 | 20.04 | 84.21    | 7.90        | 15.79                                  | 54.80      | 0.0          | 0.0       |
| 1.80              | 3.87                  | 29.17 | 88.08    | 8.83        | 11.92                                  | 63.12      | 0.0          | 0.0       |
| 2.00              | 3.77                  | 41.23 | 91.85    | 10.16       | 8.15                                   | 73.24      | 0.0          | 0.0       |
| 2.60              | 8.15                  | 73.24 | 100.00   | 15.30       | 0.0                                    | 0.0        | 0.0          | 0.0       |

| FRACTION SIZE(MM) | ANALYSIS TYPE - FROTH |       |          |             | RELATIVE WEIGHT % - 4.30 ASH % - 19.26 |            |              |           |
|-------------------|-----------------------|-------|----------|-------------|--|------------|--------------|-----------|
|                   | ELEMENTAL WT%         | ASH%  | CUM. WT% | FLOATS ASH% | CUM. WT%                               | SINKS ASH% | (MJ KG) C.V. | CUM. C.V. |
| 240.00            | 100.00                | 19.26 | 100.00   | 19.26       | 0.0                                    | 0.0        | 26.27        | 26.27     |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87025  
 Coal zone: K  
 Field sample no.: 06930 Composite sample no.: 265

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 0.95  
 Total yield (%): 0.95

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.84                 |                  |
| Ash (%) :                       | 12.17                | 12.27            |
| Volatile matter (%) :           | 6.15                 | 6.20             |
| Fixed carbon (%) :              | 80.84                | 81.53            |
| Total sulphur (%) :             | 0.60                 | 0.61             |
| Combustible sulphur (%) :       | 0.50                 |                  |
| Gross calorific value (cal/g) : | 7,208.00             | 7,270.00         |
| Volatile matter (dmmf%) :       | 5.80                 |                  |
| Hardgrove index :               | 48.00                |                  |
| Phosphorous in coal (%) :       | 0.004                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,150.00             | 1,066.00            |
| Softening temperature (°C) :     | 1,267.00             | 1,222.00            |
| Hemispherical temperature (°C) : | 1,275.00             | 1,243.00            |
| Final temperature (°C) :         | 1,371.00             | 1,369.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 62.40 | TiO2 (%) : | 1.30 |
| Al2O3 (%) : | 18.39 | Na2O (%) : | 1.50 |
| Fe2O3 (%) : | 4.33  | K2O (%) :  | 1.00 |
| CaO (%) :   | 2.91  | SO3 (%) :  | 2.06 |
| MgO (%) :   | 1.54  | P2O5 (%) : | 0.08 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87025  
 Coal zone: K  
 Field sample no.: 06931 Composite sample no.: 266

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.55  
 Contribution (%): 39.47  
 Total yield (%): 39.47

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.89                 |                  |
| Ash (%) :                       | 10.65                | 10.75            |
| Volatile matter (%) :           | 6.36                 | 6.42             |
| Fixed carbon (%) :              | 82.10                | 82.83            |
| Total sulphur (%) :             | 0.53                 | 0.53             |
| Combustible sulphur (%) :       | 0.49                 |                  |
| Gross calorific value (cal/g) : | 7,452.00             | 7,519.00         |
| Volatile matter (dmmf%) :       | 6.10                 |                  |
| Hardgrove index :               | 42.00                |                  |
| Phosphorous in coal (%) :       | 0.240                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,222.00             | 1,219.00            |
| Softening temperature(°C) :     | 1,274.00             | 1,209.00            |
| Hemispherical temperature(°C) : | 1,285.00             | 1,235.00            |
| Final temperature(°C) :         | 1,303.00             | 1,301.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 49.20 | TiO2 (%) : | 1.43 |
| Al2O3 (%) : | 23.82 | Na2O (%) : | 2.08 |
| Fe2O3 (%) : | 4.20  | K2O (%) :  | 0.96 |
| CaO (%) :   | 6.80  | SO3 (%) :  | 0.85 |
| MgO (%) :   | 1.47  | P2O5 (%) : | 5.16 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87025  
 Coal zone: K  
 Field sample no.: 06930 - 06931 Composite sample no.: 454

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.49  
 Contribution (%): 9.40  
 Total yield (%): 9.40

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.99                 |                  |
| Ash (%):                       | 6.67                 | 6.74             |
| Volatile matter (%):           | 6.26                 | 6.32             |
| Fixed carbon (%):              | 86.08                | 86.94            |
| Total sulphur (%):             | 0.56                 | 0.57             |
| Combustible sulphur (%):       | 0.55                 |                  |
| Gross calorific value (cal/g): | 7,803.00             | 7,881.00         |
| Volatile matter (dmmf %):      | 6.10                 |                  |
| Hardgrove index:               | 48.00                |                  |
| Phosphorous in coal (%):       | 0.079                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,209.00             | 1,066.00            |
| Softening temperature (°C):     | 1,322.00             | 1,274.00            |
| Hemispherical temperature (°C): | 1,356.00             | 1,298.00            |
| Final temperature (°C):         | 1,443.00             | 1,441.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 58.12 | TiO2 (%): | 2.19 |
| Al2O3 (%): | 24.51 | Na2O (%): | 1.97 |
| Fe2O3 (%): | 3.64  | K2O (%):  | 0.99 |
| CaO (%):   | 3.67  | SO3 (%):  | 0.48 |
| MgO (%):   | 1.53  | P2O5 (%): | 2.70 |

Coal Quality <sup>#3</sup>  
Data  
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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87025 SEAM - I

SAMPLE ID - 109

WASHABILITY ID - WA1

----- ANALYSIS TYPE - FLOAT -----

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 55.73 ASH % - 33.37 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ/KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 7.03                  | 3.34  | 7.03      | 3.34  | 92.97       | 38.13 | 0.0        | 0.0  |   |           |
| 1.45     | 15.54                 | 8.09  | 22.57     | 6.61  | 77.43       | 44.15 | 0.0        | 0.0  |   |           |
| 1.50     | 16.62                 | 13.53 | 39.19     | 9.54  | 60.81       | 52.52 | 0.0        | 0.0  |   |           |
| 1.55     | 3.97                  | 18.11 | 43.16     | 10.33 | 56.84       | 54.93 | 0.0        | 0.0  |   |           |
| 1.60     | 5.73                  | 19.96 | 48.89     | 11.46 | 51.11       | 58.85 | 0.0        | 0.0  |   |           |
| 1.70     | 10.87                 | 25.77 | 59.76     | 14.06 | 40.24       | 67.78 | 0.0        | 0.0  |   |           |
| 1.80     | 5.07                  | 31.89 | 64.83     | 15.46 | 35.17       | 72.96 | 0.0        | 0.0  |   |           |
| 2.00     | 3.02                  | 49.60 | 67.85     | 16.98 | 32.15       | 75.15 | 0.0        | 0.0  |   |           |
| 2.60     | 32.15                 | 75.15 | 100.00    | 35.68 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

----- ANALYSIS TYPE - FLOAT -----

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 35.19 ASH % - 14.66 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ/KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 31.40                | 3.12  | 31.40     | 3.12  | 68.60       | 19.78 | 0.0        | 0.0  |   |           |
| 1.45     | 21.41                | 7.40  | 52.81     | 4.86  | 47.19       | 25.39 | 0.0        | 0.0  |   |           |
| 1.50     | 11.51                | 10.79 | 64.32     | 5.92  | 35.68       | 30.11 | 0.0        | 0.0  |   |           |
| 1.55     | 9.88                 | 13.86 | 74.20     | 6.97  | 25.80       | 36.33 | 0.0        | 0.0  |   |           |
| 1.60     | 4.13                 | 17.08 | 78.33     | 7.51  | 21.67       | 39.99 | 0.0        | 0.0  |   |           |
| 1.70     | 8.12                 | 19.59 | 86.45     | 8.64  | 13.55       | 52.22 | 0.0        | 0.0  |   |           |
| 1.80     | 3.82                 | 27.90 | 90.27     | 9.46  | 9.73        | 61.77 | 0.0        | 0.0  |   |           |
| 2.00     | 2.61                 | 39.51 | 92.88     | 10.30 | 7.12        | 69.93 | 0.0        | 0.0  |   |           |
| 2.60     | 7.12                 | 69.93 | 100.00    | 14.55 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDHB7025 SEAM - I

SAMPLE ID - 109

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       |         | 6.05 ASH % - 17.51 |      |
|-------------------|-----------|-------|-------------|-------|---------------------|-------|---------|--------------------|------|
|                   | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.    | CUM.               |      |
| S.G.TME           | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG) | C.V.               | C.V. |
| 1.40              | 19.91     | 2.30  | 19.91       | 2.30  | 80.09               | 19.92 | 0.0     | 0.0                |      |
| 1.45              | 15.47     | 4.23  | 35.38       | 3.14  | 64.62               | 23.67 | 0.0     | 0.0                |      |
| 1.50              | 12.09     | 6.43  | 47.47       | 3.98  | 52.53               | 27.64 | 0.0     | 0.0                |      |
| 1.55              | 11.73     | 9.27  | 59.20       | 5.03  | 40.80               | 32.93 | 0.0     | 0.0                |      |
| 1.60              | 6.75      | 11.97 | 65.95       | 5.74  | 34.05               | 37.08 | 0.0     | 0.0                |      |
| 1.70              | 12.46     | 15.01 | 78.41       | 7.21  | 21.59               | 49.82 | 0.0     | 0.0                |      |
| 1.80              | 7.60      | 37.12 | 86.01       | 9.86  | 13.99               | 56.72 | 0.0     | 0.0                |      |
| 2.00              | 3.80      | 38.04 | 89.81       | 11.05 | 10.19               | 63.68 | 0.0     | 0.0                |      |
| 2.60              | 10.19     | 63.68 | 100.00      | 16.41 | 0.0                 | 0.0   | 0.0     | 0.0                |      |

ANALYSIS TYPE - FROTH

| FRACTION SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      |         | 3.03 ASH % - 22.32 |      |
|-------------------|-----------|-------|-------------|-------|---------------------|------|---------|--------------------|------|
|                   | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.    | CUM.               |      |
| S.G.TME           | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG) | C.V.               | C.V. |
| 240.00            | 100.00    | 22.32 | 100.00      | 22.32 | 0.0                 | 0.0  | 26.79   | 26.79              |      |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87025 SEAM - I

SAMPLE ID - 110

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |      | 6.00        |      | RELATIVE WEIGHT % - 72.10 |       | ASH % - 7.76 |      |
|----------|----------|-----------|------|-------------|------|---------------------------|-------|--------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |      | CUM. SINKS                |       | C.V.         | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH% | WT%                       | ASH%  | (MJ KG)      | C.V. |
| 1.40     | 30.37    | 3.69      |      | 30.37       | 3.69 | 69.63                     | 10.11 | 0.0          | 0.0  |
| 1.45     | 55.09    | 7.48      |      | 85.46       | 6.13 | 14.54                     | 20.05 | 0.0          | 0.0  |
| 1.50     | 9.55     | 12.62     |      | 95.01       | 6.79 | 4.99                      | 34.27 | 0.0          | 0.0  |
| 1.55     | 0.57     | 16.54     |      | 95.58       | 6.84 | 4.42                      | 36.56 | 0.0          | 0.0  |
| 1.60     | 0.27     | 17.36     |      | 95.85       | 6.87 | 4.15                      | 37.81 | 0.0          | 0.0  |
| 1.70     | 2.46     | 18.43     |      | 98.31       | 7.16 | 1.69                      | 66.02 | 0.0          | 0.0  |
| 1.80     | 0.10     | 27.25     |      | 98.41       | 7.18 | 1.59                      | 68.46 | 0.0          | 0.0  |
| 2.00     | 0.22     | 47.79     |      | 98.63       | 7.27 | 1.37                      | 71.78 | 0.0          | 0.0  |
| 2.60     | 1.37     | 71.78     |      | 100.00      | 8.16 | 0.0                       | 0.0   | 0.0          | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |      | 0.50        |      | RELATIVE WEIGHT % - 22.03 |       | ASH % - 9.46 |      |
|----------|----------|-----------|------|-------------|------|---------------------------|-------|--------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |      | CUM. SINKS                |       | C.V.         | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH% | WT%                       | ASH%  | (MJ KG)      | C.V. |
| 1.40     | 44.85    | 3.10      |      | 44.85       | 3.10 | 55.15                     | 13.27 | 0.0          | 0.0  |
| 1.45     | 29.90    | 6.90      |      | 74.75       | 4.62 | 25.25                     | 20.81 | 0.0          | 0.0  |
| 1.50     | 8.33     | 10.90     |      | 83.08       | 5.25 | 16.92                     | 25.69 | 0.0          | 0.0  |
| 1.55     | 4.85     | 14.41     |      | 87.93       | 5.75 | 12.07                     | 30.22 | 0.0          | 0.0  |
| 1.60     | 2.79     | 17.35     |      | 90.72       | 6.11 | 9.28                      | 34.09 | 0.0          | 0.0  |
| 1.70     | 4.15     | 20.58     |      | 94.87       | 6.74 | 5.13                      | 45.02 | 0.0          | 0.0  |
| 1.80     | 1.41     | 29.38     |      | 96.28       | 7.08 | 3.72                      | 50.95 | 0.0          | 0.0  |
| 2.00     | 1.40     | 39.04     |      | 97.68       | 7.53 | 2.32                      | 58.14 | 0.0          | 0.0  |
| 2.60     | 2.32     | 58.14     |      | 100.00      | 8.71 | 0.0                       | 0.0   | 0.0          | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87025 SEAM - I

SAMPLE ID - 110

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 3.85 ASH % - 12.33 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 25.87    | 2.79      |      | 25.87       | 2.79  | 74.13               | 14.65 | 0.0                | 0.0  |
| 1.45     | 13.80    | 4.07      |      | 39.67       | 3.24  | 60.33               | 17.07 | 0.0                | 0.0  |
| 1.50     | 14.30    | 6.09      |      | 53.97       | 3.99  | 46.03               | 20.48 | 0.0                | 0.0  |
| 1.55     | 10.67    | 8.12      |      | 64.64       | 4.67  | 35.36               | 24.21 | 0.0                | 0.0  |
| 1.60     | 7.49     | 10.70     |      | 72.13       | 5.30  | 27.87               | 27.84 | 0.0                | 0.0  |
| 1.70     | 13.58    | 14.54     |      | 85.71       | 6.76  | 14.29               | 40.49 | 0.0                | 0.0  |
| 1.80     | 6.37     | 22.12     |      | 92.08       | 7.83  | 7.92                | 55.26 | 0.0                | 0.0  |
| 2.00     | 3.07     | 36.17     |      | 95.15       | 8.74  | 4.85                | 67.34 | 0.0                | 0.0  |
| 2.60     | 4.85     | 67.34     |      | 100.00      | 11.58 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 2.02 ASH % - 16.40 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 16.40     |      | 100.00      | 16.40 | 0.0                 | 0.0  | 29.07              | 29.07 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87025  
 Coal zone: 1  
 Field sample no.: 06934 Composite sample no.: 267

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.45  
 Contribution (%): 9.23  
 Total yield (%): 9.23

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.86                 |                  |
| Ash (%):                       | 5.28                 | 5.33             |
| Volatile matter (%):           | 5.60                 | 5.65             |
| Fixed carbon (%):              | 88.26                | 89.02            |
| Total sulphur (%):             | 0.49                 | 0.49             |
| Combustible sulphur (%):       | 0.48                 |                  |
| Gross calorific value (cal/g): | 7,932.00             | 8,001.00         |
| Volatile matter (dmmf%):       | 5.40                 |                  |
| Hardgrove index:               | 43.00                |                  |
| Phosphorous in coal (%):       | 0.008                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,227.00             | 1,069.00            |
| Softening temperature(°C):     | 1,472.00             | 1,380.00            |
| Hemispherical temperature(°C): | 1,472.00             | 1,398.00            |
| Final temperature(°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 57.28 | TiO2 (%): | 2.16 |
| Al2O3 (%): | 26.08 | Na2O (%): | 1.91 |
| Fe2O3 (%): | 2.02  | K2O (%):  | 1.10 |
| CaO (%):   | 1.96  | SO3 (%):  | 0.71 |
| MgO (%):   | 1.83  | P2O5 (%): | 0.35 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87025  
 Coal zone: 1  
 Field sample no.: 06934 Composite sample no.: 267

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.47  
 Contribution (%): 6.43  
 Total yield (%): 6.43

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.92                 |                  |
| Ash (%):                       | 10.50                | 10.60            |
| Volatile matter (%):           | 6.62                 | 6.68             |
| Fixed carbon (%):              | 81.96                | 82.72            |
| Total sulphur (%):             | 0.46                 | 0.46             |
| Combustible sulphur (%):       | 0.43                 |                  |
| Gross calorific value (cal/g): | 7,423.00             | 7,492.00         |
| Volatile matter (dmmf %):      | 6.40                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.014                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,224.00             | 1,069.00            |
| Softening temperature(°C):     | 1,472.00             | 1,472.00            |
| Hemispherical temperature(°C): | 1,472.00             | 1,472.00            |
| Final temperature(°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 67.24 | TiO2 (%): | 1.06 |
| Al2O3 (%): | 23.57 | Na2O (%): | 1.81 |
| Fe2O3 (%): | 1.29  | K2O (%):  | 1.14 |
| CaO (%):   | 1.18  | SO3 (%):  | 0.60 |
| MgO (%):   | 1.53  | P2O5 (%): | 0.30 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87025  
 Coal zone: 1  
 Field sample no.: 06935 Composite sample no.: 268

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.46  
 Contribution (%): 64.37  
 Total yield (%): 64.37

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.77                 |                  |
| Ash (%):                       | 5.30                 | 5.34             |
| Volatile matter (%):           | 6.22                 | 6.27             |
| Fixed carbon (%):              | 87.71                | 88.39            |
| Total sulphur (%):             | 0.50                 | 0.50             |
| Combustible sulphur (%):       | 0.48                 |                  |
| Gross calorific value (cal/g): | 7,935.00             | 7,997.00         |
| Volatile matter (dmmf %):      | 6.10                 |                  |
| Hardgrove index:               | 38.00                |                  |
| Phosphorous in coal (%):       | 0.185                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,174.00             | 1,177.00            |
| Softening temperature (°C):     | 1,285.00             | 1,269.00            |
| Hemispherical temperature (°C): | 1,295.00             | 1,274.00            |
| Final temperature (°C):         | 1,327.00             | 1,311.00            |

----- ASH MINERAL ANALYSIS (AMI) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 40.18 | TiO2 (%): | 1.49 |
| Al2O3 (%): | 29.79 | Na2O (%): | 2.28 |
| Fe2O3 (%): | 2.77  | K2O (%):  | 1.29 |
| CaO (%):   | 7.46  | SO3 (%):  | 0.85 |
| MgO (%):   | 1.74  | P2O5 (%): | 8.00 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87025  
 Coal zone: 1  
 Field sample no.: 06934 - 06935 Composite sample no.: 455

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 22.89  
 Total yield (%): 22.89

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.13                 |                  |
| Ash (%):                       | 6.26                 | 6.33             |
| Volatile matter (%):           | 6.04                 | 6.11             |
| Fixed carbon (%):              | 86.57                | 87.56            |
| Gross calorific value (cal/g): | 7,863.00             | 7,953.00         |
| Volatile matter (dmmf %):      | 6.10                 |                  |
| Hardgrove index:               | 47.00                |                  |
| Phosphorous in coal (%):       | 0.006                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,209.00             | 1,119.00            |
| Softening temperature (°C):     | 1,472.00             | 1,359.00            |
| Hemispherical temperature (°C): | 1,472.00             | 1,419.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AMi) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 67.18 | TiO2 (%): | 1.23 |
| Al2O3 (%): | 21.55 | Na2O (%): | 1.60 |
| Fe2O3 (%): | 2.20  | K2O (%):  | 1.05 |
| CaO (%):   | 1.68  | SO3 (%):  | 0.85 |
| MgO (%):   | 1.97  | P2O5 (%): | 0.23 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87026 SEAM - H OVT

SAMPLE ID - 111

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 68.15 |       | ASH % - 38.15 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 1.62      | 2.87  | 1.62        | 2.87  | 98.38                     | 39.80 | 0.0           | 0.0  |
| 1.45     |          | 2.98      | 9.36  | 4.60        | 7.07  | 95.40                     | 40.75 | 0.0           | 0.0  |
| 1.50     |          | 13.68     | 14.53 | 18.28       | 12.65 | 81.72                     | 45.14 | 0.0           | 0.0  |
| 1.55     |          | 6.95      | 18.99 | 25.23       | 14.40 | 74.77                     | 47.58 | 0.0           | 0.0  |
| 1.60     |          | 5.18      | 24.56 | 30.41       | 16.13 | 69.59                     | 49.29 | 0.0           | 0.0  |
| 1.70     |          | 13.65     | 31.82 | 44.06       | 20.99 | 55.94                     | 53.55 | 0.0           | 0.0  |
| 1.80     |          | 15.49     | 40.62 | 59.55       | 26.10 | 40.45                     | 58.50 | 0.0           | 0.0  |
| 2.00     |          | 20.09     | 48.96 | 79.64       | 31.86 | 20.36                     | 67.92 | 0.0           | 0.0  |
| 2.60     |          | 20.36     | 67.92 | 100.00      | 39.21 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 23.83 |       | ASH % - 25.07 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 11.34     | 3.17  | 11.34       | 3.17  | 88.66                     | 27.86 | 0.0           | 0.0  |
| 1.45     |          | 12.97     | 7.43  | 24.31       | 5.44  | 75.69                     | 31.37 | 0.0           | 0.0  |
| 1.50     |          | 13.86     | 12.75 | 38.17       | 8.10  | 61.83                     | 35.54 | 0.0           | 0.0  |
| 1.55     |          | 12.52     | 17.28 | 50.69       | 10.36 | 49.31                     | 40.17 | 0.0           | 0.0  |
| 1.60     |          | 6.57      | 20.95 | 57.26       | 11.58 | 42.74                     | 43.13 | 0.0           | 0.0  |
| 1.70     |          | 15.41     | 25.19 | 72.67       | 14.47 | 27.33                     | 53.24 | 0.0           | 0.0  |
| 1.80     |          | 7.45      | 34.08 | 80.12       | 16.29 | 19.88                     | 60.43 | 0.0           | 0.0  |
| 2.00     |          | 7.64      | 44.03 | 87.76       | 18.70 | 12.24                     | 70.66 | 0.0           | 0.0  |
| 2.60     |          | 12.24     | 70.66 | 100.00      | 25.06 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87026 SEAM - H OVT

SAMPLE ID - 111

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 5.01 ASH % - 23.25 |      |
|---------------------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|                     |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
|                     |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40                | 17.57    | 2.32      |      | 17.57       | 2.32  | 82.43               | 27.19 | 0.0                | 0.0  |
| 1.45                | 17.94    | 5.36      |      | 35.51       | 3.86  | 64.49               | 33.26 | 0.0                | 0.0  |
| 1.50                | 9.03     | 9.47      |      | 44.54       | 4.99  | 55.46               | 37.13 | 0.0                | 0.0  |
| 1.55                | 7.41     | 12.55     |      | 51.95       | 6.07  | 48.05               | 40.93 | 0.0                | 0.0  |
| 1.60                | 6.24     | 15.54     |      | 58.19       | 7.09  | 41.81               | 44.71 | 0.0                | 0.0  |
| 1.70                | 12.82    | 21.01     |      | 71.01       | 9.60  | 28.99               | 55.20 | 0.0                | 0.0  |
| 1.80                | 6.95     | 26.07     |      | 77.96       | 11.07 | 22.04               | 64.38 | 0.0                | 0.0  |
| 2.00                | 6.92     | 41.55     |      | 84.88       | 13.55 | 15.12               | 74.83 | 0.0                | 0.0  |
| 2.60                | 15.12    | 74.83     |      | 100.00      | 22.82 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 3.01 ASH % - 28.43 |       |
|---------------------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|                     |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
|                     |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00              | 100.00   | 28.43     |      | 100.00      | 28.43 | 0.0                 | 0.0  | 22.63              | 22.63 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87026  
 Coal zone: H (ovt)  
 Field sample no.: 06961 Composite sample no.: 269

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.49  
 Contribution(%): 8.91  
 Total yield(%): 8.91

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture(%) :         | 0.79                 |                  |
| Ash(%) :                       | 8.51                 | 8.58             |
| Volatile matter(%) :           | 5.88                 | 5.93             |
| Fixed carbon(%) :              | 84.82                | 85.49            |
| Total sulphur(%) :             | 1.23                 | 1.24             |
| Combustible sulphur(%) :       | 1.22                 |                  |
| Gross calorific value(cal/g) : | 7,715.00             | 7,777.00         |
| Volatile matter(dmmf%) :       | 5.30                 |                  |
| Hardgrove index:               | 38.00                |                  |
| Phosphorous in coal(%) :       | 0.175                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,216.00             | 1,130.00            |
| Softening temperature(°C) :     | 1,274.00             | 1,148.00            |
| Hemispherical temperature(°C) : | 1,275.00             | 1,159.00            |
| Final temperature(°C) :         | 1,327.00             | 1,222.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2(%) :  | 46.89 | TiO2(%) : | 0.76 |
| Al2O3(%) : | 20.63 | Na2O(%) : | 1.85 |
| Fe2O3(%) : | 11.19 | K2O(%) :  | 1.14 |
| CaO(%) :   | 6.08  | SO3(%) :  | 0.17 |
| MgO(%) :   | 1.83  | P2O5(%) : | 4.70 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87026  
 Coal zone: H (ovt)  
 Field sample no.: 06961 Composite sample no.: 456

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.49  
 Contribution(%): 7.99  
 Total yield(%): 7.99

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.90                 |                  |
| Ash (%) :                       | 6.93                 | 6.99             |
| Volatile matter (%) :           | 6.11                 | 6.17             |
| Fixed carbon (%) :              | 86.06                | 86.84            |
| Total sulphur (%) :             | 0.73                 | 0.74             |
| Combustible sulphur (%) :       | 0.72                 |                  |
| Gross calorific value (cal/g) : | 7,794.00             | 7,865.00         |
| Volatile matter (dmmf%) :       | 5.80                 |                  |
| Hardgrove index:                | 45.00                |                  |
| Phosphorous in coal (%) :       | 0.168                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,201.00             | 1,082.00            |
| Softening temperature (°C) :     | 1,295.00             | 1,222.00            |
| Hemispherical temperature (°C) : | 1,311.00             | 1,274.00            |
| Final temperature (°C) :         | 1,380.00             | 1,364.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 52.84 | TiO2 (%) : | 1.92 |
| Al2O3 (%) : | 21.93 | Na2O (%) : | 1.90 |
| Fe2O3 (%) : | 6.32  | K2O (%) :  | 1.37 |
| CaO (%) :   | 4.20  | SO3 (%) :  | 0.23 |
| MgO (%) :   | 2.01  | P2O5 (%) : | 5.56 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87026 SEAM - H/I OVT

SAMPLE ID - 112

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X 6.00 |        | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 24.86 ASH % - 46.70 |      |
|----------|----------|--------------|--------|-------------|-------|------------|------|---|------|
|          |          | ELEMENTAL    | WT%    | ASH%        | WT%   | ASH%       | WT%  | ASH%                                    | C.V. |
| S.G.TME  |          | WT%          | ASH%   | WT%         | ASH%  | WT%        | ASH% | (MJ KG)                                 | C.V. |
| 1.45     | 5.15     | 9.94         | 5.15   | 9.94        | 94.85 | 49.38      | 0.0  | 0.0                                     |      |
| 1.50     | 4.52     | 12.19        | 9.67   | 10.99       | 90.33 | 51.24      | 0.0  | 0.0                                     |      |
| 1.55     | 1.04     | 12.37        | 10.71  | 11.13       | 89.29 | 51.69      | 0.0  | 0.0                                     |      |
| 1.60     | 2.33     | 14.41        | 13.04  | 11.71       | 86.96 | 52.69      | 0.0  | 0.0                                     |      |
| 1.70     | 16.27    | 28.69        | 29.31  | 21.14       | 70.69 | 58.22      | 0.0  | 0.0                                     |      |
| 1.80     | 10.78    | 29.24        | 40.09  | 23.32       | 59.91 | 63.43      | 0.0  | 0.0                                     |      |
| 2.00     | 17.45    | 47.76        | 57.54  | 30.73       | 42.46 | 69.87      | 0.0  | 0.0                                     |      |
| 2.60     | 42.46    | 69.87        | 100.00 | 47.35       | 0.0   | 0.0        | 0.0  | 0.0                                     |      |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X 0.50 |        | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 38.54 ASH % - 27.68 |      |
|----------|----------|-------------|--------|-------------|-------|------------|------|---|------|
|          |          | ELEMENTAL   | WT%    | ASH%        | WT%   | ASH%       | WT%  | ASH%                                    | C.V. |
| S.G.TME  |          | WT%         | ASH%   | WT%         | ASH%  | WT%        | ASH% | (MJ KG)                                 | C.V. |
| 1.40     | 1.15     | 9.44        | 1.15   | 9.44        | 98.85 | 28.50      | 0.0  | 0.0                                     |      |
| 1.45     | 9.97     | 6.75        | 11.12  | 7.03        | 88.88 | 30.94      | 0.0  | 0.0                                     |      |
| 1.50     | 13.33    | 10.41       | 24.45  | 8.87        | 75.55 | 34.56      | 0.0  | 0.0                                     |      |
| 1.55     | 11.01    | 13.94       | 35.46  | 10.45       | 64.54 | 38.08      | 0.0  | 0.0                                     |      |
| 1.60     | 10.60    | 16.73       | 46.06  | 11.89       | 53.94 | 42.28      | 0.0  | 0.0                                     |      |
| 1.70     | 19.42    | 20.92       | 65.48  | 14.57       | 34.52 | 54.30      | 0.0  | 0.0                                     |      |
| 1.80     | 7.87     | 29.96       | 73.35  | 16.22       | 26.65 | 61.48      | 0.0  | 0.0                                     |      |
| 2.00     | 6.85     | 39.00       | 80.20  | 18.17       | 19.80 | 69.26      | 0.0  | 0.0                                     |      |
| 2.60     | 19.80    | 69.26       | 100.00 | 28.28       | 0.0   | 0.0        | 0.0  | 0.0                                     |      |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87026 SEAM - H/I DVT

SAMPLE ID - 112

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - 19.04 ASH % - 16.51 |       |         |      |
|----------|----------|-----------|-------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     |          | 10.49     | 3.44  | 10.49       | 3.44  | 89.51                                   | 18.29 | 0.0     | 0.0  |
| 1.45     |          | 13.34     | 4.51  | 23.83       | 4.04  | 76.17                                   | 20.71 | 0.0     | 0.0  |
| 1.50     |          | 22.57     | 7.14  | 46.40       | 5.55  | 53.60                                   | 26.42 | 0.0     | 0.0  |
| 1.55     |          | 2.64      | 10.69 | 49.04       | 5.82  | 50.96                                   | 27.23 | 0.0     | 0.0  |
| 1.60     |          | 8.90      | 11.50 | 57.94       | 6.70  | 42.06                                   | 30.56 | 0.0     | 0.0  |
| 1.70     |          | 19.55     | 15.01 | 77.49       | 8.79  | 22.51                                   | 44.07 | 0.0     | 0.0  |
| 1.80     |          | 8.68      | 21.08 | 86.17       | 10.03 | 13.83                                   | 58.49 | 0.0     | 0.0  |
| 2.00     |          | 4.78      | 39.36 | 90.95       | 11.57 | 9.05                                    | 68.60 | 0.0     | 0.0  |
| 2.60     |          | 9.05      | 68.60 | 100.00      | 16.73 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - 17.56 ASH % - 13.38 |      |         |       |
|----------|----------|-----------|-------|-------------|-------|---|------|---------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                              |      | C.V.    | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH% | (MJ KG) | C.V.  |
| 240.00   |          | 100.00    | 13.38 | 100.00      | 13.38 | 0.0                                     | 0.0  | 28.28   | 28.28 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87026  
 Coal zone: H/1 (ovt)  
 Field sample no.: 06964 Composite sample no.: 270

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.60  
 Contribution (%): 4.14  
 Total yield (%): 4.14

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.84                 |                  |
| Ash (%):                       | 12.52                | 12.63            |
| Volatile matter (%):           | 8.27                 | 8.34             |
| Fixed carbon (%):              | 78.37                | 79.03            |
| Total sulphur (%):             | 2.00                 | 2.02             |
| Combustible sulphur (%):       | 1.92                 |                  |
| Gross calorific value (cal/g): | 7,225.00             | 7,286.00         |
| Volatile matter (dmmf %):      | 7.70                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.394                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,190.00             | 1,072.00            |
| Softening temperature (°C):     | 1,290.00             | 1,209.00            |
| Hemispherical temperature (°C): | 1,295.00             | 1,222.00            |
| Final temperature (°C):         | 1,311.00             | 1,327.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 36.74 | TiO2 (%): | 0.75 |
| Al2O3 (%): | 20.88 | Na2O (%): | 1.78 |
| Fe2O3 (%): | 14.50 | K2O (%):  | 0.80 |
| CaO (%):   | 9.90  | SO3 (%):  | 1.54 |
| MgO (%):   | 1.68  | P2O5 (%): | 7.21 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87026  
 Coal zone: H/1 (ovt)  
 Field sample no.: 06964 Composite sample no.: 457

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.46  
 Contribution (%): 5.22  
 Total yield (%): 5.22

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.60                 |                  |
| Ash (%):                       | 6.86                 | 6.90             |
| Volatile matter (%):           | 6.60                 | 6.64             |
| Fixed carbon (%):              | 85.94                | 86.46            |
| Total sulphur (%):             | 1.42                 | 1.43             |
| Combustible sulphur (%):       | 1.41                 |                  |
| Gross calorific value (cal/g): | 7,818.00             | 7,865.00         |
| Volatile matter (dmmf %):      | 6.10                 |                  |
| Hardgrove index:               | 47.00                |                  |
| Phosphorous in coal (%):       | 0.081                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,214.00             | 1,106.00            |
| Softening temperature (°C):     | 1,286.00             | 1,180.00            |
| Hemispherical temperature (°C): | 1,301.00             | 1,209.00            |
| Final temperature (°C):         | 1,356.00             | 1,230.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 43.51 | TiO2 (%): | 0.72 |
| Al2O3 (%): | 23.06 | Na2O (%): | 2.21 |
| Fe2O3 (%): | 14.70 | K2O (%):  | 0.83 |
| CaO (%):   | 6.46  | SO3 (%):  | 0.46 |
| MgO (%):   | 1.14  | P2O5 (%): | 2.72 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87026 SEAM - I PART

SAMPLE ID - 113

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X |       | 6.00        |       | RELATIVE WEIGHT % - 52.78 ASH % - 29.27 |       |         |      |
|----------|------------------|-------|-------------|-------|---|-------|---------|------|
|          | ELEMENTAL        |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  | WT%              | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     | 1.03             | 4.14  | 1.03        | 4.14  | 98.97                                   | 30.68 | 0.0     | 0.0  |
| 1.45     | 5.25             | 8.99  | 6.28        | 8.19  | 93.72                                   | 31.89 | 0.0     | 0.0  |
| 1.50     | 21.82            | 14.45 | 28.10       | 13.05 | 71.90                                   | 37.18 | 0.0     | 0.0  |
| 1.55     | 9.47             | 18.02 | 37.57       | 14.30 | 62.43                                   | 40.09 | 0.0     | 0.0  |
| 1.60     | 9.74             | 21.95 | 47.31       | 15.88 | 52.69                                   | 43.44 | 0.0     | 0.0  |
| 1.70     | 10.20            | 30.00 | 57.51       | 18.38 | 42.49                                   | 46.67 | 0.0     | 0.0  |
| 1.80     | 17.04            | 37.75 | 74.55       | 22.81 | 25.45                                   | 52.64 | 0.0     | 0.0  |
| 2.00     | 17.64            | 45.81 | 92.19       | 27.21 | 7.81                                    | 68.07 | 0.0     | 0.0  |
| 2.60     | 7.81             | 68.07 | 100.00      | 30.40 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X |       | 0.50        |       | RELATIVE WEIGHT % - 37.44 ASH % - 19.65 |       |         |      |
|----------|-----------------|-------|-------------|-------|---|-------|---------|------|
|          | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  | WT%             | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     | 11.74           | 3.95  | 11.74       | 3.95  | 88.26                                   | 20.63 | 0.0     | 0.0  |
| 1.45     | 11.86           | 7.27  | 23.60       | 5.62  | 76.40                                   | 22.70 | 0.0     | 0.0  |
| 1.50     | 17.81           | 12.46 | 41.41       | 8.56  | 58.59                                   | 25.82 | 0.0     | 0.0  |
| 1.55     | 21.51           | 16.53 | 62.92       | 11.29 | 37.08                                   | 31.21 | 0.0     | 0.0  |
| 1.60     | 11.23           | 20.10 | 74.15       | 12.62 | 25.85                                   | 36.03 | 0.0     | 0.0  |
| 1.70     | 11.77           | 24.13 | 85.92       | 14.20 | 14.08                                   | 45.98 | 0.0     | 0.0  |
| 1.80     | 5.26            | 32.02 | 91.18       | 15.23 | 8.82                                    | 54.30 | 0.0     | 0.0  |
| 2.00     | 4.02            | 42.48 | 95.20       | 16.38 | 4.80                                    | 64.20 | 0.0     | 0.0  |
| 2.60     | 4.80            | 64.20 | 100.00      | 18.67 | 0.0                                     | 0.0   | 0.0     | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87026 SEAM - I PART

SAMPLE ID - 113

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 6.50 ASH % - 20.54 |      |
|---------------------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|                     |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
|                     |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40                |          | 20.64     | 2.23  | 20.64       | 2.23  | 79.36               | 24.47 | 0.0                | 0.0  |
| 1.45                |          | 6.53      | 4.12  | 27.17       | 2.68  | 72.83               | 26.30 | 0.0                | 0.0  |
| 1.50                |          | 14.55     | 7.42  | 41.72       | 4.34  | 58.28               | 31.01 | 0.0                | 0.0  |
| 1.55                |          | 8.19      | 11.35 | 49.91       | 5.49  | 50.09               | 34.22 | 0.0                | 0.0  |
| 1.60                |          | 8.45      | 14.60 | 58.36       | 6.81  | 41.64               | 38.20 | 0.0                | 0.0  |
| 1.70                |          | 13.94     | 18.10 | 72.30       | 8.98  | 27.70               | 48.32 | 0.0                | 0.0  |
| 1.80                |          | 8.54      | 18.96 | 80.84       | 10.04 | 19.16               | 61.41 | 0.0                | 0.0  |
| 2.00                |          | 6.45      | 36.07 | 87.29       | 11.96 | 12.71               | 74.27 | 0.0                | 0.0  |
| 2.60                |          | 12.71     | 74.27 | 100.00      | 19.88 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 3.28 ASH % - 29.79 |       |
|---------------------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|                     |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
|                     |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00              |          | 100.00    | 29.79 | 100.00      | 29.79 | 0.0                 | 0.0  | 21.83              | 21.83 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87026  
 Coal zone: I Part  
 Field sample no.: 06967 Composite sample no.: 271

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.49  
 Contribution (%): 11.13  
 Total yield (%): 11.13

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.79                 |                  |
| Ash (%) :                       | 10.13                | 10.21            |
| Volatile matter (%) :           | 6.39                 | 6.44             |
| Fixed carbon (%) :              | 82.69                | 83.35            |
| Total sulphur (%) :             | 0.53                 | 0.53             |
| Gross calorific value (cal/g) : | 7,462.00             | 7,521.00         |
| Volatile matter (dmmf%) :       | 6.20                 |                  |
| Hardgrove index:                | 44.00                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,169.00             | 1,082.00            |
| Softening temperature(°C):     | 1,330.00             | 1,224.00            |
| Hemispherical temperature(°C): | 1,356.00             | 1,274.00            |
| Final temperature(°C):         | 1,422.00             | 1,406.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87026  
 Coal zone: I Part  
 Field sample no.: 06967 Composite sample no.: 458

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.48  
 Contribution (%): 12.93  
 Total yield (%): 12.93

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.68                 |                  |
| Ash (%):                       | 6.82                 | 6.87             |
| Volatile matter (%):           | 6.31                 | 6.35             |
| Fixed carbon (%):              | 86.19                | 86.78            |
| Total sulphur (%):             | 0.56                 | 0.56             |
| Combustible sulphur (%):       | 0.54                 |                  |
| Gross calorific value (cal/g): | 7,782.00             | 7,835.00         |
| Volatile matter (dmmf %):      | 6.10                 |                  |
| Hardgrove index:               | 40.00                |                  |
| Phosphorous in coal (%):       | 0.069                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,198.00             | 1,064.00            |
| Softening temperature (°C):     | 1,311.00             | 1,201.00            |
| Hemispherical temperature (°C): | 1,319.00             | 1,230.00            |
| Final temperature (°C):         | 1,343.00             | 1,341.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 51.32 | TiO2 (%): | 1.88 |
| Al2O3 (%): | 22.31 | Na2O (%): | 1.67 |
| Fe2O3 (%): | 5.58  | K2O (%):  | 1.76 |
| CaO (%):   | 4.87  | SO3 (%):  | 0.75 |
| MgO (%):   | 2.64  | P2O5 (%): | 2.33 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87026 SEAM - H

SAMPLE ID - 114

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 69.92 ASH % - 58.83 |     | C.V. | CUM. C.V. |
|----------|-----------------------|-------|-------------|-------|------------|-------|---|-----|------|-----------|
|          | WT%                   | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 |     |      |           |
| S.G.TME  |                       |       |             |       |            |       |   |     |      |           |
| 1.40     | 0.17                  | 4.86  | 0.17        | 4.86  | 99.83      | 59.41 | 0.0                                     | 0.0 |      |           |
| 1.45     | 0.47                  | 6.51  | 0.64        | 6.07  | 99.36      | 59.66 | 0.0                                     | 0.0 |      |           |
| 1.50     | 0.95                  | 11.05 | 1.59        | 9.05  | 98.41      | 60.13 | 0.0                                     | 0.0 |      |           |
| 1.55     | 1.72                  | 17.42 | 3.31        | 13.40 | 96.69      | 60.89 | 0.0                                     | 0.0 |      |           |
| 1.60     | 3.52                  | 23.37 | 6.83        | 18.54 | 93.17      | 62.31 | 0.0                                     | 0.0 |      |           |
| 1.70     | 5.61                  | 30.59 | 12.44       | 23.97 | 87.56      | 64.34 | 0.0                                     | 0.0 |      |           |
| 1.80     | 6.60                  | 39.60 | 19.04       | 29.39 | 80.96      | 66.36 | 0.0                                     | 0.0 |      |           |
| 2.00     | 24.44                 | 50.21 | 43.48       | 41.09 | 56.52      | 73.34 | 0.0                                     | 0.0 |      |           |
| 2.60     | 56.52                 | 73.34 | 100.00      | 59.32 | 0.0        | 0.0   | 0.0                                     | 0.0 |      |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 19.27 ASH % - 37.71 |     | C.V. | CUM. C.V. |
|----------|----------------------|-------|-------------|-------|------------|-------|---|-----|------|-----------|
|          | WT%                  | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 |     |      |           |
| S.G.TME  |                      |       |             |       |            |       |   |     |      |           |
| 1.40     | 6.10                 | 2.06  | 6.10        | 2.06  | 93.90      | 39.47 | 0.0                                     | 0.0 |      |           |
| 1.45     | 8.50                 | 6.51  | 14.60       | 4.65  | 85.40      | 42.75 | 0.0                                     | 0.0 |      |           |
| 1.50     | 9.94                 | 11.91 | 24.54       | 7.59  | 75.46      | 46.82 | 0.0                                     | 0.0 |      |           |
| 1.55     | 6.30                 | 16.14 | 30.84       | 9.34  | 69.16      | 49.61 | 0.0                                     | 0.0 |      |           |
| 1.60     | 6.22                 | 19.37 | 37.06       | 11.02 | 62.94      | 52.60 | 0.0                                     | 0.0 |      |           |
| 1.70     | 10.36                | 25.10 | 47.42       | 14.10 | 52.58      | 58.02 | 0.0                                     | 0.0 |      |           |
| 1.80     | 7.31                 | 34.51 | 54.73       | 16.82 | 45.27      | 61.81 | 0.0                                     | 0.0 |      |           |
| 2.00     | 16.59                | 45.36 | 71.32       | 23.46 | 28.68      | 71.33 | 0.0                                     | 0.0 |      |           |
| 2.60     | 28.68                | 71.33 | 100.00      | 37.19 | 0.0        | 0.0   | 0.0                                     | 0.0 |      |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDHB7026 SEAM - H

SAMPLE ID - 114

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 6.89 ASH % - 21.81 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 24.00    | 1.89      |      | 24.00       | 1.89  | 76.00               | 26.67 | 0.0                | 0.0  |
| 1.45     | 15.33    | 4.19      |      | 39.33       | 2.79  | 60.67               | 32.35 | 0.0                | 0.0  |
| 1.50     | 12.92    | 8.37      |      | 52.25       | 4.17  | 47.75               | 38.84 | 0.0                | 0.0  |
| 1.55     | 6.58     | 11.95     |      | 58.83       | 5.04  | 41.17               | 43.14 | 0.0                | 0.0  |
| 1.60     | 4.61     | 14.67     |      | 63.44       | 5.74  | 36.56               | 46.73 | 0.0                | 0.0  |
| 1.70     | 8.87     | 19.06     |      | 72.31       | 7.37  | 27.69               | 55.60 | 0.0                | 0.0  |
| 1.80     | 5.48     | 26.11     |      | 77.79       | 8.69  | 22.21               | 62.87 | 0.0                | 0.0  |
| 2.00     | 5.91     | 38.38     |      | 83.70       | 10.79 | 16.30               | 71.75 | 0.0                | 0.0  |
| 2.60     | 16.30    | 71.75     |      | 100.00      | 20.72 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 3.92 ASH % - 23.59 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 23.59     |      | 100.00      | 23.59 | 0.0                 | 0.0  | 24.21              | 24.21 |



===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87026  
 Coal zone: H  
 Field sample no.: 06970 Composite sample no.: 272

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 1.67  
 Total yield (%): 1.67

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.60                 |                  |
| Ash (%):                       | 9.04                 | 9.09             |
| Volatile matter (%):           | 7.25                 | 7.29             |
| Fixed carbon (%):              | 83.11                | 83.62            |
| Total sulphur (%):             | 0.57                 | 0.57             |
| Combustible sulphur (%):       | 0.56                 |                  |
| Gross calorific value (cal/g): | 7,471.00             | 7,516.00         |
| Volatile matter (dmmf%):       | 7.10                 |                  |
| Hardgrove index:               | 43.00                |                  |
| Phosphorous in coal (%):       | 0.086                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,180.00             | 1,116.00            |
| Softening temperature (°C):     | 1,472.00             | 1,340.00            |
| Hemispherical temperature (°C): | 1,472.00             | 1,348.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 52.00 | TiO2 (%): | 1.47 |
| Al2O3 (%): | 27.22 | Na2O (%): | 2.05 |
| Fe2O3 (%): | 3.39  | K2O (%):  | 1.78 |
| CaO (%):   | 3.16  | SO3 (%):  | 0.16 |
| MgO (%):   | 1.83  | P2O5 (%): | 2.17 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87026  
 Coal zone: H  
 Field sample no.: 06970 Composite sample no.: 459

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.50  
 Contribution (%): 4.52  
 Total yield (%): 4.52

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.56                 |                  |
| Ash (%) :                       | 7.44                 | 7.48             |
| Volatile matter (%) :           | 6.59                 | 6.63             |
| Fixed carbon (%) :              | 85.41                | 85.89            |
| Total sulphur (%) :             | 0.56                 | 0.56             |
| Combustible sulphur (%) :       | 0.56                 |                  |
| Gross calorific value (cal/g) : | 7,717.00             | 7,761.00         |
| Volatile matter (dmmf%) :       | 6.40                 |                  |
| Hardgrove index:                | 46.00                |                  |
| Phosphorous in coal (%) :       | 0.082                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,209.00             | 1,095.00            |
| Softening temperature (°C) :     | 1,438.00             | 1,345.00            |
| Hemispherical temperature (°C) : | 1,472.00             | 1,351.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 49.80 | TiO2 (%) : | 3.38 |
| Al2O3 (%) : | 28.73 | Na2O (%) : | 2.21 |
| Fe2O3 (%) : | 3.90  | K2O (%) :  | 1.95 |
| CaO (%) :   | 3.81  | SO3 (%) :  | 0.15 |
| MgO (%) :   | 1.85  | P2O5 (%) : | 2.52 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87026 SEAM - PH

SAMPLE ID - 115

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 60.60 ASH % - 43.25 |      |
|----------|-----------------------|-------|-------------|-------|------------|-------|---|------|
|          | ELEMENTAL             |       |             |       |            |       | C.V.                                    |      |
| S.G.TME  | WT%                   | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 | C.V. |
| 1.40     | 1.56                  | 5.21  | 1.56        | 5.21  | 98.44      | 42.79 | 0.0                                     | 0.0  |
| 1.45     | 5.96                  | 8.53  | 7.52        | 7.84  | 92.48      | 44.99 | 0.0                                     | 0.0  |
| 1.50     | 11.48                 | 14.22 | 19.00       | 11.70 | 81.00      | 49.35 | 0.0                                     | 0.0  |
| 1.55     | 8.76                  | 19.22 | 27.76       | 14.07 | 72.24      | 53.01 | 0.0                                     | 0.0  |
| 1.60     | 5.24                  | 24.45 | 33.00       | 15.72 | 67.00      | 55.24 | 0.0                                     | 0.0  |
| 1.70     | 20.34                 | 33.14 | 53.34       | 22.36 | 46.66      | 64.88 | 0.0                                     | 0.0  |
| 1.80     | 8.96                  | 40.26 | 62.30       | 24.94 | 37.70      | 70.73 | 0.0                                     | 0.0  |
| 2.00     | 10.66                 | 50.33 | 72.96       | 28.65 | 27.04      | 78.77 | 0.0                                     | 0.0  |
| 2.60     | 27.04                 | 78.77 | 100.00      | 42.20 | 0.0        | 0.0   | 0.0                                     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 30.38 ASH % - 27.22 |      |
|----------|----------------------|-------|-------------|-------|------------|-------|---|------|
|          | ELEMENTAL            |       |             |       |            |       | C.V.                                    |      |
| S.G.TME  | WT%                  | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 | C.V. |
| 1.40     | 20.13                | 2.27  | 20.13       | 2.27  | 79.87      | 32.89 | 0.0                                     | 0.0  |
| 1.45     | 17.01                | 7.37  | 37.14       | 4.61  | 62.86      | 39.80 | 0.0                                     | 0.0  |
| 1.50     | 15.93                | 12.99 | 53.07       | 7.12  | 46.93      | 48.90 | 0.0                                     | 0.0  |
| 1.55     | 7.39                 | 17.71 | 60.46       | 8.42  | 39.54      | 54.73 | 0.0                                     | 0.0  |
| 1.60     | 5.46                 | 22.35 | 65.92       | 9.57  | 34.08      | 59.92 | 0.0                                     | 0.0  |
| 1.70     | 6.68                 | 29.31 | 72.60       | 11.39 | 27.40      | 67.38 | 0.0                                     | 0.0  |
| 1.80     | 2.67                 | 36.43 | 75.27       | 12.28 | 24.73      | 70.72 | 0.0                                     | 0.0  |
| 2.00     | 4.17                 | 44.16 | 79.44       | 13.95 | 20.56      | 76.11 | 0.0                                     | 0.0  |
| 2.60     | 20.56                | 76.11 | 100.00      | 26.73 | 0.0        | 0.0   | 0.0                                     | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87026 SEAM - PH

SAMPLE ID - 115

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X |        | 0.15  |       | RELATIVE WEIGHT % - |      | 6.53 ASH % - 21.40 |           |
|----------|----------|--------|--------|-------|-------|---------------------|------|--------------------|-----------|
|          |          | WT%    | ASH%   | WT%   | ASH%  | WT%                 | ASH% | C.V. (MJ KG)       | CUM. C.V. |
| S.G.TME  |          |        |        |       |       |                     |      |                    |           |
| 1.40     | 33.40    | 1.64   | 33.40  | 1.64  | 66.60 | 30.49               | 0.0  | 0.0                |           |
| 1.45     | 16.76    | 4.35   | 50.16  | 2.55  | 49.84 | 39.29               | 0.0  | 0.0                |           |
| 1.50     | 8.97     | 8.96   | 59.13  | 3.52  | 40.87 | 45.94               | 0.0  | 0.0                |           |
| 1.55     | 2.97     | 12.88  | 62.10  | 3.97  | 37.90 | 48.53               | 0.0  | 0.0                |           |
| 1.60     | 5.32     | 15.72  | 67.42  | 4.89  | 32.58 | 53.89               | 0.0  | 0.0                |           |
| 1.70     | 6.31     | 21.73  | 73.73  | 6.33  | 26.27 | 61.62               | 0.0  | 0.0                |           |
| 1.80     | 3.03     | 29.69  | 76.76  | 7.26  | 23.24 | 65.78               | 0.0  | 0.0                |           |
| 2.00     | 3.09     | 40.66  | 79.85  | 8.55  | 20.15 | 69.63               | 0.0  | 0.0                |           |
| 2.60     | 20.15    | 69.63  | 100.00 | 20.86 | 0.0   | 0.0                 | 0.0  | 0.0                |           |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X |        | 0.00  |      | RELATIVE WEIGHT % - |       | 2.50 ASH % - 24.18 |           |
|----------|----------|--------|--------|-------|------|---------------------|-------|--------------------|-----------|
|          |          | WT%    | ASH%   | WT%   | ASH% | WT%                 | ASH%  | C.V. (MJ KG)       | CUM. C.V. |
| S.G.TME  |          |        |        |       |      |                     |       |                    |           |
| 240.00   | 100.00   | 24.18  | 100.00 | 24.18 | 0.0  | 0.0                 | 24.29 | 24.29              |           |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87026  
 Coal zone: Ph  
 Field sample no.: 06973 Composite sample no.: 273

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 14.12  
 Total yield (%): 14.12

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.59                 |                  |
| Ash (%):                       | 11.15                | 11.22            |
| Volatile matter (%):           | 5.70                 | 5.73             |
| Fixed carbon (%):              | 82.56                | 83.05            |
| Total sulphur (%):             | 0.54                 | 0.54             |
| Combustible sulphur (%):       | 0.52                 |                  |
| Gross calorific value (cal/g): | 7,457.00             | 7,501.00         |
| Volatile matter (dmmf%):       | 5.30                 |                  |
| Hardgrove index:               | 40.00                |                  |
| Phosphorous in coal (%):       | 0.111                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,201.00             | 1,072.00            |
| Softening temperature(°C):     | 1,337.00             | 1,274.00            |
| Hemispherical temperature(°C): | 1,359.00             | 1,301.00            |
| Final temperature(°C):         | 1,403.00             | 1,400.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 55.48 | TiO2 (%): | 1.33 |
| Al2O3 (%): | 22.30 | Na2O (%): | 1.88 |
| Fe2O3 (%): | 3.52  | K2O (%):  | 1.67 |
| CaO (%):   | 4.11  | SO3 (%):  | 0.54 |
| MgO (%):   | 2.12  | P2O5 (%): | 2.29 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87026  
 Coal zone: Ph  
 Field sample no.: 06973 Composite sample no.: 460

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 14.12  
 Total yield (%): 14.12

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.54                 |                  |
| Ash (%) :                       | 7.36                 | 7.40             |
| Volatile matter (%) :           | 5.72                 | 5.75             |
| Fixed carbon (%) :              | 86.38                | 86.85            |
| Total sulphur (%) :             | 0.56                 | 0.56             |
| Combustible sulphur (%) :       | 0.53                 |                  |
| Gross calorific value (cal/g) : | 7,806.00             | 7,848.00         |
| Volatile matter (dmmf%) :       | 5.40                 |                  |
| Hardgrove index :               | 42.00                |                  |
| Phosphorous in coal (%) :       | 0.074                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,222.00             | 1,156.00            |
| Softening temperature (°C) :     | 1,343.00             | 1,272.00            |
| Hemispherical temperature (°C) : | 1,359.00             | 1,298.00            |
| Final temperature (°C) :         | 1,443.00             | 1,435.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 54.80 | TiO2 (%) : | 1.66 |
| Al2O3 (%) : | 22.36 | Na2O (%) : | 1.73 |
| Fe2O3 (%) : | 3.44  | K2O (%) :  | 1.58 |
| CaO (%) :   | 4.53  | SO3 (%) :  | 0.93 |
| MgO (%) :   | 2.17  | P2O5 (%) : | 2.30 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87027 SEAM - H

SAMPLE ID - 116

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 73.66 ASH % - 55.29 |              |
|---------------------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|                     | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| 1.40                | 0.20                  | 5.72  | 0.20      | 5.72  | 99.80       | 56.16 | 0.0        | 0.0  |   |              |
| 1.45                | 0.89                  | 8.83  | 1.09      | 8.26  | 98.91       | 56.59 | 0.0        | 0.0  |   |              |
| 1.50                | 6.30                  | 15.32 | 7.39      | 14.28 | 92.61       | 59.40 | 0.0        | 0.0  |   |              |
| 1.55                | 4.46                  | 20.31 | 11.85     | 16.55 | 88.15       | 61.38 | 0.0        | 0.0  |   |              |
| 1.60                | 6.42                  | 25.33 | 18.27     | 19.63 | 81.73       | 64.21 | 0.0        | 0.0  |   |              |
| 1.70                | 11.89                 | 33.55 | 30.16     | 25.12 | 69.84       | 69.43 | 0.0        | 0.0  |   |              |
| 1.80                | 7.98                  | 42.22 | 38.14     | 28.70 | 61.86       | 72.94 | 0.0        | 0.0  |   |              |
| 2.00                | 11.51                 | 55.55 | 49.65     | 34.92 | 50.35       | 76.91 | 0.0        | 0.0  |   |              |
| 2.60                | 50.35                 | 76.91 | 100.00    | 56.06 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 19.95 ASH % - 45.13 |              |
|---------------------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|                     | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| 1.40                | 6.24                 | 2.37  | 6.24      | 2.37  | 93.76       | 46.98 | 0.0        | 0.0  |   |              |
| 1.45                | 4.97                 | 6.61  | 11.21     | 4.25  | 88.79       | 49.24 | 0.0        | 0.0  |   |              |
| 1.50                | 11.22                | 12.42 | 22.43     | 8.34  | 77.57       | 54.56 | 0.0        | 0.0  |   |              |
| 1.55                | 8.09                 | 16.86 | 30.52     | 10.60 | 69.48       | 58.95 | 0.0        | 0.0  |   |              |
| 1.60                | 7.75                 | 20.81 | 38.27     | 12.66 | 61.73       | 63.74 | 0.0        | 0.0  |   |              |
| 1.70                | 8.23                 | 28.48 | 46.50     | 15.46 | 53.50       | 69.17 | 0.0        | 0.0  |   |              |
| 1.80                | 4.86                 | 36.69 | 51.36     | 17.47 | 48.64       | 72.41 | 0.0        | 0.0  |   |              |
| 2.00                | 7.99                 | 45.97 | 59.35     | 21.31 | 40.65       | 77.61 | 0.0        | 0.0  |   |              |
| 2.60                | 40.65                | 77.61 | 100.00    | 44.20 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPDLRDDH87027 SEAM - H

SAMPLE ID - 116

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X |       | 0.15        |       | RELATIVE WEIGHT % - |       | 4.05 ASH % - 35.40 |      |
|---------------------|-----------------|-------|-------------|-------|---------------------|-------|--------------------|------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40                | 12.52           | 2.91  | 12.52       | 2.91  | 87.48               | 39.37 | 0.0                | 0.0  |
| 1.45                | 18.22           | 3.77  | 30.74       | 3.42  | 69.26               | 48.74 | 0.0                | 0.0  |
| 1.50                | 6.12            | 7.58  | 36.86       | 4.11  | 63.14               | 52.73 | 0.0                | 0.0  |
| 1.55                | 6.40            | 12.30 | 43.26       | 5.32  | 56.74               | 57.29 | 0.0                | 0.0  |
| 1.60                | 3.76            | 16.32 | 47.02       | 6.20  | 52.98               | 60.20 | 0.0                | 0.0  |
| 1.70                | 7.09            | 21.72 | 54.11       | 8.23  | 45.89               | 66.14 | 0.0                | 0.0  |
| 1.80                | 5.01            | 28.65 | 59.12       | 9.96  | 40.88               | 70.74 | 0.0                | 0.0  |
| 2.00                | 6.40            | 40.97 | 65.52       | 12.99 | 34.48               | 76.26 | 0.0                | 0.0  |
| 2.60                | 34.48           | 76.26 | 100.00      | 34.81 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.34 ASH % - 37.69 |       |
|---------------------|-----------------|-------|-------------|-------|---------------------|------|--------------------|-------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00              | 100.00          | 37.69 | 100.00      | 37.69 | 0.0                 | 0.0  | 19.30              | 19.30 |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPMLRDDH87027 SEAM - H

SAMPLE ID - 117

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 43.45 |       | ASH % - 30.92 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 3.86      | 3.94  | 3.86        | 3.94  | 96.14                     | 31.52 | 0.0           | 0.0  |
| 1.45     |          | 12.74     | 9.71  | 16.60       | 8.37  | 83.40                     | 34.85 | 0.0           | 0.0  |
| 1.50     |          | 11.37     | 13.58 | 27.97       | 10.49 | 72.03                     | 38.21 | 0.0           | 0.0  |
| 1.55     |          | 15.10     | 19.91 | 43.07       | 13.79 | 56.93                     | 43.06 | 0.0           | 0.0  |
| 1.60     |          | 9.23      | 22.76 | 52.30       | 15.37 | 47.70                     | 46.99 | 0.0           | 0.0  |
| 1.70     |          | 14.00     | 29.24 | 66.30       | 18.30 | 33.70                     | 54.36 | 0.0           | 0.0  |
| 1.80     |          | 3.64      | 35.71 | 69.94       | 19.21 | 30.06                     | 56.62 | 0.0           | 0.0  |
| 2.00     |          | 13.90     | 43.08 | 83.84       | 23.17 | 16.16                     | 68.27 | 0.0           | 0.0  |
| 2.60     |          | 16.16     | 68.27 | 100.00      | 30.45 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 42.58 |       | ASH % - 21.25 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 13.09     | 2.75  | 13.09       | 2.75  | 86.91                     | 23.60 | 0.0           | 0.0  |
| 1.45     |          | 16.72     | 7.75  | 29.81       | 5.55  | 70.19                     | 27.38 | 0.0           | 0.0  |
| 1.50     |          | 14.05     | 12.94 | 43.86       | 7.92  | 56.14                     | 30.99 | 0.0           | 0.0  |
| 1.55     |          | 13.78     | 17.04 | 57.64       | 10.10 | 42.36                     | 35.53 | 0.0           | 0.0  |
| 1.60     |          | 9.00      | 20.59 | 66.64       | 11.52 | 33.36                     | 39.56 | 0.0           | 0.0  |
| 1.70     |          | 14.19     | 25.53 | 80.83       | 13.98 | 19.17                     | 49.95 | 0.0           | 0.0  |
| 1.80     |          | 5.42      | 32.36 | 86.25       | 15.13 | 13.75                     | 56.89 | 0.0           | 0.0  |
| 2.00     |          | 5.35      | 41.76 | 91.60       | 16.69 | 8.40                      | 66.52 | 0.0           | 0.0  |
| 2.60     |          | 8.40      | 66.52 | 100.00      | 20.87 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87027 SEAM - H

SAMPLE ID - 117

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 9.66 ASH % - 21.97 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 8.51      | 1.78  | 8.51        | 1.78  | 91.49               | 23.02 | 0.0                | 0.0  |
| 1.45     |          | 19.02     | 4.68  | 27.53       | 3.78  | 72.47               | 27.83 | 0.0                | 0.0  |
| 1.50     |          | 9.66      | 8.61  | 37.19       | 5.04  | 62.81               | 30.78 | 0.0                | 0.0  |
| 1.55     |          | 8.97      | 12.46 | 46.16       | 6.48  | 53.84               | 33.84 | 0.0                | 0.0  |
| 1.60     |          | 6.75      | 15.46 | 52.91       | 7.63  | 47.09               | 36.47 | 0.0                | 0.0  |
| 1.70     |          | 18.87     | 20.32 | 71.78       | 10.96 | 28.22               | 47.27 | 0.0                | 0.0  |
| 1.80     |          | 8.13      | 27.44 | 79.91       | 12.64 | 20.09               | 55.30 | 0.0                | 0.0  |
| 2.00     |          | 8.67      | 36.96 | 88.58       | 15.02 | 11.42               | 69.22 | 0.0                | 0.0  |
| 2.60     |          | 11.42     | 69.22 | 100.00      | 21.21 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 4.31 ASH % - 28.08 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 28.08 | 100.00      | 28.08 | 0.0                 | 0.0  | 22.60              | 22.60 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87027 SEAM - H

SAMPLE ID - 118

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 53.00 ASH % - 30.46 |              |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |              |
| 1.40     | 2.59                  | 7.33  | 2.59      | 7.33  | 97.41       | 30.29 | 0.0        | 0.0  |   |              |
| 1.45     | 9.89                  | 9.79  | 12.48     | 9.28  | 87.52       | 32.60 | 0.0        | 0.0  |   |              |
| 1.50     | 15.49                 | 14.13 | 27.97     | 11.97 | 72.03       | 36.58 | 0.0        | 0.0  |   |              |
| 1.55     | 11.22                 | 18.75 | 39.19     | 13.91 | 60.81       | 39.86 | 0.0        | 0.0  |   |              |
| 1.60     | 8.23                  | 23.39 | 47.42     | 15.55 | 52.58       | 42.44 | 0.0        | 0.0  |   |              |
| 1.70     | 12.67                 | 30.85 | 60.09     | 18.78 | 39.91       | 46.12 | 0.0        | 0.0  |   |              |
| 1.80     | 7.23                  | 37.29 | 67.32     | 20.77 | 32.68       | 48.08 | 0.0        | 0.0  |   |              |
| 2.00     | 12.24                 | 41.71 | 79.56     | 23.99 | 20.44       | 51.89 | 0.0        | 0.0  |   |              |
| 2.60     | 20.44                 | 51.89 | 100.00    | 29.69 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 34.53 ASH % - 17.21 |              |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |              |
| 1.40     | 19.08                | 3.56  | 19.08     | 3.56  | 80.92       | 20.00 | 0.0        | 0.0  |   |              |
| 1.45     | 20.59                | 7.07  | 39.67     | 5.38  | 60.33       | 24.42 | 0.0        | 0.0  |   |              |
| 1.50     | 9.92                 | 9.62  | 49.59     | 6.23  | 50.41       | 27.33 | 0.0        | 0.0  |   |              |
| 1.55     | 10.99                | 12.62 | 60.58     | 7.39  | 39.42       | 31.43 | 0.0        | 0.0  |   |              |
| 1.60     | 8.13                 | 14.43 | 68.71     | 8.22  | 31.29       | 35.85 | 0.0        | 0.0  |   |              |
| 1.70     | 11.40                | 19.88 | 80.11     | 9.88  | 19.89       | 45.00 | 0.0        | 0.0  |   |              |
| 1.80     | 5.83                 | 30.55 | 85.94     | 11.28 | 14.06       | 51.00 | 0.0        | 0.0  |   |              |
| 2.00     | 6.54                 | 41.58 | 92.48     | 13.43 | 7.52        | 59.19 | 0.0        | 0.0  |   |              |
| 2.60     | 7.52                 | 59.19 | 100.00    | 16.87 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87027 SEAM - H

SAMPLE ID - 118

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 8.28 ASH % - 13.01 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 33.55    | 2.91      |      | 33.55       | 2.91  | 66.45               | 17.46 | 0.0                | 0.0  |
| 1.45     | 20.23    | 5.62      |      | 53.78       | 3.93  | 46.22               | 22.64 | 0.0                | 0.0  |
| 1.50     | 10.73    | 6.81      |      | 64.51       | 4.41  | 35.49               | 27.43 | 0.0                | 0.0  |
| 1.55     | 8.68     | 11.43     |      | 73.19       | 5.24  | 26.81               | 32.61 | 0.0                | 0.0  |
| 1.60     | 3.88     | 12.96     |      | 77.07       | 5.63  | 22.93               | 35.94 | 0.0                | 0.0  |
| 1.70     | 8.27     | 17.44     |      | 85.34       | 6.77  | 14.66               | 46.37 | 0.0                | 0.0  |
| 1.80     | 3.88     | 26.29     |      | 89.22       | 7.62  | 10.78               | 53.60 | 0.0                | 0.0  |
| 2.00     | 3.98     | 38.69     |      | 93.20       | 8.95  | 6.80                | 62.32 | 0.0                | 0.0  |
| 2.60     | 6.80     | 62.32     |      | 100.00      | 12.58 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 4.19 ASH % - 15.73 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 15.73     |      | 100.00      | 15.73 | 0.0                 | 0.0  | 27.17              | 27.17 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87027  
 Coal zone: H  
 Field sample no.: 07045 - 07047 Composite sample no.: 274

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 14.38  
 Total yield (%): 14.38

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.01                 |                  |
| Ash (%):                       | 11.79                | 11.91            |
| Volatile matter (%):           | 6.94                 | 7.01             |
| Fixed carbon (%):              | 80.26                | 81.08            |
| Total sulphur (%):             | 0.59                 | 0.60             |
| Combustible sulphur (%):       | 0.55                 |                  |
| Gross calorific value (cal/g): | 7,373.00             | 7,448.00         |
| Volatile matter (dmmf%):       | 6.80                 |                  |
| Hardgrove index:               | 43.00                |                  |
| Phosphorous in coal (%):       | 0.304                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,211.10             | 1,210.00            |
| Softening temperature(°C):     | 1,274.00             | 1,271.00            |
| Hemispherical temperature(°C): | 1,288.00             | 1,285.00            |
| Final temperature(°C):         | 1,327.00             | 1,323.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 50.24 | TiO2 (%): | 1.33 |
| Al2O3 (%): | 25.33 | Na2O (%): | 2.05 |
| Fe2O3 (%): | 2.03  | K2O (%):  | 1.32 |
| CaO (%):   | 7.89  | SO3 (%):  | 0.86 |
| MgO (%):   | 1.59  | P2O5 (%): | 5.90 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87027  
 Coal zone: H  
 Field sample no.: 07045 - 07047 Composite sample no.: 461

----- PRODUCT COAL ANALYSIS (SP3) -----  
 Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 14.49  
 Total yield (%): 14.49

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.20                 |                  |
| Ash (%):                       | 6.97                 | 7.05             |
| Volatile matter (%):           | 7.49                 | 7.58             |
| Fixed carbon (%):              | 84.34                | 85.37            |
| Total sulphur (%):             | 0.57                 | 0.58             |
| Combustible sulphur (%):       | 0.52                 |                  |
| Gross calorific value (cal/g): | 7,758.00             | 7,852.00         |
| Volatile matter (dmmf %):      | 7.40                 |                  |
| Hardgrove index:               | 42.00                |                  |
| Phosphorous in coal (%):       | 0.149                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,074.00             | 1,069.00            |
| Softening temperature (°C):     | 1,206.00             | 1,203.00            |
| Hemispherical temperature (°C): | 1,280.00             | 1,272.00            |
| Final temperature (°C):         | 1,338.00             | 1,336.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 50.78 | TiO2 (%): | 1.72 |
| Al2O3 (%): | 24.95 | Na2O (%): | 1.87 |
| Fe2O3 (%): | 2.86  | K2O (%):  | 1.26 |
| CaO (%):   | 6.72  | SO3 (%):  | 1.74 |
| MgO (%):   | 1.86  | P2O5 (%): | 4.90 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87027 SEAM - H-1

SAMPLE ID - 119

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 58.59 |       | ASH % - 70.82 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 0.09      | 2.72  | 0.09        | 2.72  | 99.91                     | 71.64 | 0.0           | 0.0  |
| 1.45     |          | 0.16      | 6.11  | 0.25        | 4.89  | 99.75                     | 71.75 | 0.0           | 0.0  |
| 1.50     |          | 0.51      | 13.50 | 0.76        | 10.67 | 99.24                     | 72.05 | 0.0           | 0.0  |
| 1.55     |          | 1.79      | 17.39 | 2.55        | 15.39 | 97.45                     | 73.05 | 0.0           | 0.0  |
| 1.60     |          | 1.93      | 21.14 | 4.48        | 17.87 | 95.52                     | 74.10 | 0.0           | 0.0  |
| 1.70     |          | 5.96      | 26.84 | 10.44       | 22.99 | 89.56                     | 77.24 | 0.0           | 0.0  |
| 1.80     |          | 6.36      | 35.47 | 16.80       | 27.71 | 83.20                     | 80.44 | 0.0           | 0.0  |
| 2.00     |          | 11.57     | 47.60 | 28.37       | 35.82 | 71.63                     | 85.74 | 0.0           | 0.0  |
| 2.60     |          | 71.63     | 85.74 | 100.00      | 71.58 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLDAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 28.44 |       | ASH % - 52.50 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 3.10      | 2.70  | 3.10        | 2.70  | 96.90                     | 53.89 | 0.0           | 0.0  |
| 1.45     |          | 2.51      | 6.09  | 5.61        | 4.22  | 94.39                     | 55.17 | 0.0           | 0.0  |
| 1.50     |          | 2.94      | 10.66 | 8.55        | 6.43  | 91.45                     | 56.60 | 0.0           | 0.0  |
| 1.55     |          | 2.56      | 14.15 | 11.11       | 8.21  | 88.89                     | 57.82 | 0.0           | 0.0  |
| 1.60     |          | 3.22      | 16.65 | 14.33       | 10.11 | 85.67                     | 59.37 | 0.0           | 0.0  |
| 1.70     |          | 11.08     | 21.65 | 25.41       | 15.14 | 74.59                     | 64.97 | 0.0           | 0.0  |
| 1.80     |          | 8.54      | 28.53 | 33.95       | 18.51 | 66.05                     | 69.68 | 0.0           | 0.0  |
| 2.00     |          | 15.89     | 40.80 | 49.84       | 25.62 | 50.16                     | 78.83 | 0.0           | 0.0  |
| 2.60     |          | 50.16     | 78.83 | 100.00      | 52.31 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87027 SEAM - H-1

SAMPLE ID - 119

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 8.95 ASH % - 38.57 |      |
|---------------------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|                     |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
|                     |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40                | 5.58     | 2.40      |      | 5.58        | 2.40  | 94.42               | 41.00 | 0.0                | 0.0  |
| 1.45                | 9.90     | 3.42      |      | 15.48       | 3.05  | 84.52               | 45.40 | 0.0                | 0.0  |
| 1.50                | 7.06     | 6.38      |      | 22.54       | 4.09  | 77.46               | 48.95 | 0.0                | 0.0  |
| 1.55                | 5.97     | 9.15      |      | 28.51       | 5.15  | 71.49               | 52.28 | 0.0                | 0.0  |
| 1.60                | 4.18     | 12.12     |      | 32.69       | 6.04  | 67.31               | 54.77 | 0.0                | 0.0  |
| 1.70                | 10.33    | 16.28     |      | 43.02       | 8.50  | 56.98               | 61.75 | 0.0                | 0.0  |
| 1.80                | 8.63     | 22.20     |      | 51.65       | 10.79 | 48.35               | 68.81 | 0.0                | 0.0  |
| 2.00                | 11.29    | 34.92     |      | 62.94       | 15.12 | 37.06               | 79.13 | 0.0                | 0.0  |
| 2.60                | 37.06    | 79.13     |      | 100.00      | 38.84 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 4.02 ASH % - 37.10 |       |
|---------------------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|                     |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
|                     |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00              | 100.00   | 37.10     |      | 100.00      | 37.10 | 0.0                 | 0.0  | 19.06              | 19.06 |



===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87027  
 Coal zone: H (-1)  
 Field sample no.: 06998 Composite sample no.: 275

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 0.60  
 Total yield (%): 0.60

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.24                 |                  |
| Ash (%):                       | 10.36                | 10.49            |
| Volatile matter (%):           | 7.53                 | 7.62             |
| Fixed carbon (%):              | 80.87                | 81.89            |
| Gross calorific value (cal/g): | 7,309.00             | 7,401.00         |
| Volatile matter (dmmf %):      | 7.70                 |                  |
| Hardgrove index:               | 44.00                |                  |
| Phosphorous in coal (%):       | 0.101                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,211.00             | 1,198.00            |
| Softening temperature (°C):     | 1,274.00             | 1,222.00            |
| Hemispherical temperature (°C): | 1,342.00             | 1,243.00            |
| Final temperature (°C):         | 1,354.00             | 1,343.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 55.77 | TiO2 (%): | 2.13 |
| Al2O3 (%): | 19.90 | Na2O (%): | 1.31 |
| Fe2O3 (%): | 3.90  | K2O (%):  | 1.08 |
| CaO (%):   | 5.11  | SO3 (%):  | 1.32 |
| MgO (%):   | 2.45  | P2O5 (%): | 2.23 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87027  
 Coal zone: H (-1)  
 Field sample no.: 06998 Composite sample no.: 462

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.53  
 Contribution(%): 2.55  
 Total yield(%): 2.55

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture(%) :         | 0.66                 |                  |
| Ash(%) :                       | 6.10                 | 6.14             |
| Volatile matter(%) :           | 7.89                 | 7.94             |
| Fixed carbon(%) :              | 85.35                | 85.92            |
| Total sulphur(%) :             | 0.57                 | 0.57             |
| Combustible sulphur(%) :       | 0.53                 |                  |
| Gross calorific value(cal/g) : | 7,765.00             | 7,816.00         |
| Volatile matter(dmmf%) :       | 7.80                 |                  |
| Hardgrove index:               | 44.00                |                  |
| Phosphorous in coal(%) :       | 0.051                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,248.00             | 1,169.00            |
| Softening temperature(°C) :     | 1,269.00             | 1,201.00            |
| Hemispherical temperature(°C) : | 1,277.00             | 1,211.00            |
| Final temperature(°C) :         | 1,311.00             | 1,301.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2(%) :  | 51.76 | TiO2(%) : | 3.72 |
| Al2O3(%) : | 20.85 | Na2O(%) : | 1.47 |
| Fe2O3(%) : | 5.40  | K2O(%) :  | 1.34 |
| CaO(%) :   | 4.69  | SO3(%) :  | 1.58 |
| MgO(%) :   | 2.87  | P2O5(%) : | 1.91 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87027 SEAM - PH

SAMPLE ID - 120

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 72.88 ASH % - 76.23 |      |
|----------|-----------------------|-------|-------------|-------|------------|-------|---|------|
|          | ELEMENTAL             |       |             |       |            |       | C.V.                                    | CUM. |
| S.G.TME  | WT%                   | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 | C.V. |
| 1.40     | 0.09                  | 10.12 | 0.09        | 10.12 | 99.91      | 75.28 | 0.0                                     | 0.0  |
| 1.45     | 0.14                  | 9.94  | 0.23        | 10.01 | 99.77      | 75.37 | 0.0                                     | 0.0  |
| 1.50     | 0.13                  | 11.46 | 0.36        | 10.53 | 99.64      | 75.45 | 0.0                                     | 0.0  |
| 1.55     | 1.14                  | 20.59 | 1.50        | 18.18 | 98.50      | 76.09 | 0.0                                     | 0.0  |
| 1.60     | 1.30                  | 24.26 | 2.80        | 21.00 | 97.20      | 76.78 | 0.0                                     | 0.0  |
| 1.70     | 1.82                  | 30.18 | 4.62        | 24.62 | 95.38      | 77.67 | 0.0                                     | 0.0  |
| 1.80     | 2.63                  | 38.74 | 7.25        | 29.74 | 92.75      | 78.78 | 0.0                                     | 0.0  |
| 2.00     | 3.63                  | 50.20 | 10.88       | 36.57 | 89.12      | 79.94 | 0.0                                     | 0.0  |
| 2.60     | 89.12                 | 79.94 | 100.00      | 75.22 | 0.0        | 0.0   | 0.0                                     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 22.20 ASH % - 63.27 |      |
|----------|----------------------|-------|-------------|-------|------------|-------|---|------|
|          | ELEMENTAL            |       |             |       |            |       | C.V.                                    | CUM. |
| S.G.TME  | WT%                  | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 | C.V. |
| 1.40     | 3.19                 | 3.27  | 3.19        | 3.27  | 96.81      | 64.55 | 0.0                                     | 0.0  |
| 1.45     | 2.09                 | 6.86  | 5.28        | 4.69  | 94.72      | 65.82 | 0.0                                     | 0.0  |
| 1.50     | 1.66                 | 11.47 | 6.94        | 6.31  | 93.06      | 66.79 | 0.0                                     | 0.0  |
| 1.55     | 1.52                 | 16.62 | 8.46        | 8.16  | 91.54      | 67.63 | 0.0                                     | 0.0  |
| 1.60     | 2.22                 | 21.18 | 10.68       | 10.87 | 89.32      | 68.78 | 0.0                                     | 0.0  |
| 1.70     | 5.93                 | 27.90 | 16.61       | 16.95 | 83.39      | 71.69 | 0.0                                     | 0.0  |
| 1.80     | 4.55                 | 35.04 | 21.16       | 20.84 | 78.84      | 73.80 | 0.0                                     | 0.0  |
| 2.00     | 13.25                | 44.56 | 34.41       | 29.97 | 65.59      | 79.71 | 0.0                                     | 0.0  |
| 2.60     | 65.59                | 79.71 | 100.00      | 62.60 | 0.0        | 0.0   | 0.0                                     | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87027 SEAM - PH

SAMPLE ID - 120

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 0.50 X |       | 0.15        |       | RELATIVE WEIGHT % - |       | 2.21 ASH % - 46.14 |      |
|----------|-----------------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 11.36           | 3.34  | 11.36       | 3.34  | 88.64               | 49.22 | 0.0                | 0.0  |
| 1.45     | 8.84            | 4.31  | 20.20       | 3.76  | 79.80               | 54.20 | 0.0                | 0.0  |
| 1.50     | 6.68            | 9.38  | 26.88       | 5.16  | 73.12               | 58.29 | 0.0                | 0.0  |
| 1.55     | 2.66            | 17.14 | 29.54       | 6.24  | 70.46               | 59.85 | 0.0                | 0.0  |
| 1.60     | 3.18            | 15.81 | 32.72       | 7.17  | 67.28               | 61.93 | 0.0                | 0.0  |
| 1.70     | 4.89            | 21.97 | 37.61       | 9.09  | 62.39               | 65.06 | 0.0                | 0.0  |
| 1.80     | 4.89            | 29.44 | 42.50       | 11.43 | 57.50               | 68.09 | 0.0                | 0.0  |
| 2.00     | 9.25            | 41.43 | 51.75       | 16.80 | 48.25               | 73.20 | 0.0                | 0.0  |
| 2.60     | 48.25           | 73.20 | 100.00      | 44.01 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) 0.15 X |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.72 ASH % - 47.37 |       |
|----------|-----------------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00          | 47.37 | 100.00      | 47.37 | 0.0                 | 0.0  | 12.80              | 12.80 |

SAMPLE PRODUCT ID:

COAL COMPOSITION ID:

ASH MINERAL ID:

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87027  
 Coal zone: PH  
 Field sample no.: 07050 Composite sample no.: 276

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 0.64  
 Total yield (%): 0.64

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.88                 |                  |
| Ash (%):                       | 10.86                | 10.96            |
| Volatile matter (%):           | 7.45                 | 7.52             |
| Fixed carbon (%):              | 80.81                | 81.52            |
| Total sulphur (%):             | 0.71                 | 0.72             |
| Combustible sulphur (%):       | 0.69                 |                  |
| Gross calorific value (cal/g): | 7,359.00             | 7,424.00         |
| Volatile matter (dmmf %):      | 7.30                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.031                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,240.00             | 1,111.00            |
| Softening temperature (°C):     | 1,343.00             | 1,288.00            |
| Hemispherical temperature (°C): | 1,364.00             | 1,330.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 52.00 | TiO2 (%): | 4.67 |
| Al2O3 (%): | 26.80 | Na2O (%): | 2.02 |
| Fe2O3 (%): | 4.77  | K2O (%):  | 1.61 |
| CaO (%):   | 2.80  | SO3 (%):  | 0.38 |
| MgO (%):   | 1.66  | P2O5 (%): | 0.65 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87027  
 Coal zone: PH  
 Field sample no.: 07050 Composite sample no.: 463

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 1.75  
 Total yield (%): 1.75

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.61                 |                  |
| Ash (%):                       | 7.68                 | 7.73             |
| Volatile matter (%):           | 6.67                 | 6.71             |
| Fixed carbon (%):              | 85.04                | 85.56            |
| Total sulphur (%):             | 0.80                 | 0.80             |
| Combustible sulphur (%):       | 0.78                 |                  |
| Gross calorific value (cal/g): | 7,732.00             | 7,779.00         |
| Volatile matter (dmmf %):      | 6.40                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.018                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,190.00             | 1,116.00            |
| Softening temperature (°C):     | 1,367.00             | 1,301.00            |
| Hemispherical temperature (°C): | 1,395.00             | 1,317.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 57.00 | TiO2 (%): | 7.25 |
| Al2O3 (%): | 23.06 | Na2O (%): | 1.69 |
| Fe2O3 (%): | 4.72  | K2O (%):  | 1.23 |
| CaO (%):   | 1.51  | SO3 (%):  | 0.57 |
| MgO (%):   | 1.74  | P2O5 (%): | 0.54 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87028 SEAM - N

SAMPLE ID - 121

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |        | 6.00        |       | RELATIVE WEIGHT % - 58.10 |      | ASH % - 52.90 |      |
|----------|----------|-----------|--------|-------------|-------|---------------------------|------|---------------|------|
|          |          | ELEMENTAL |        | CUM. FLOATS |       | CUM. SINKS                |      | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%   | WT%         | ASH%  | WT%                       | ASH% | (MJ KG)       | C.V. |
| 1.40     | 0.10     | 13.94     | 0.10   | 13.94       | 99.90 | 51.73                     | 0.0  | 0.0           |      |
| 1.45     | 0.10     | 4.96      | 0.20   | 9.45        | 99.80 | 51.78                     | 0.0  | 0.0           |      |
| 1.50     | 0.23     | 13.48     | 0.43   | 11.61       | 99.57 | 51.87                     | 0.0  | 0.0           |      |
| 1.55     | 0.31     | 18.00     | 0.74   | 14.28       | 99.26 | 51.97                     | 0.0  | 0.0           |      |
| 1.60     | 1.87     | 26.30     | 2.61   | 22.89       | 97.39 | 52.47                     | 0.0  | 0.0           |      |
| 1.70     | 15.09    | 34.53     | 17.70  | 32.81       | 82.30 | 55.76                     | 0.0  | 0.0           |      |
| 1.80     | 17.29    | 40.97     | 34.99  | 36.84       | 65.01 | 59.69                     | 0.0  | 0.0           |      |
| 2.00     | 29.00    | 49.90     | 63.99  | 42.76       | 36.01 | 67.57                     | 0.0  | 0.0           |      |
| 2.60     | 36.01    | 67.57     | 100.00 | 51.69       | 0.0   | 0.0                       | 0.0  | 0.0           |      |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |        | 0.50        |       | RELATIVE WEIGHT % - 22.86 |      | ASH % - 33.12 |      |
|----------|----------|-----------|--------|-------------|-------|---------------------------|------|---------------|------|
|          |          | ELEMENTAL |        | CUM. FLOATS |       | CUM. SINKS                |      | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%   | WT%         | ASH%  | WT%                       | ASH% | (MJ KG)       | C.V. |
| 1.40     | 5.59     | 3.58      | 5.59   | 3.58        | 94.41 | 35.19                     | 0.0  | 0.0           |      |
| 1.45     | 9.28     | 6.82      | 14.87  | 5.60        | 85.13 | 38.28                     | 0.0  | 0.0           |      |
| 1.50     | 11.87    | 13.00     | 26.74  | 8.89        | 73.26 | 42.38                     | 0.0  | 0.0           |      |
| 1.55     | 7.14     | 16.53     | 33.88  | 10.50       | 66.12 | 45.17                     | 0.0  | 0.0           |      |
| 1.60     | 8.06     | 23.30     | 41.94  | 12.96       | 58.06 | 48.20                     | 0.0  | 0.0           |      |
| 1.70     | 16.29    | 29.76     | 58.23  | 17.66       | 41.77 | 55.40                     | 0.0  | 0.0           |      |
| 1.80     | 11.49    | 37.22     | 69.72  | 20.88       | 30.28 | 62.29                     | 0.0  | 0.0           |      |
| 2.00     | 13.61    | 47.50     | 83.33  | 25.23       | 16.67 | 74.37                     | 0.0  | 0.0           |      |
| 2.60     | 16.67    | 74.37     | 100.00 | 33.42       | 0.0   | 0.0                       | 0.0  | 0.0           |      |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87028 SEAM - N

SAMPLE ID - 121

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X |       | 0.15   |       | RELATIVE WEIGHT % - 12.63 ASH % - 14.64 |       | C.V. | CUM. |
|----------|----------|--------|-------|--------|-------|---|-------|------|------|
|          |          | WT%    | ASH%  | WT%    | ASH%  | WT%                                     | ASH%  |      |      |
| S.G.TME  |          |        |       |        |       |   |       |      |      |
| 1.40     |          | 37.54  | 3.46  | 37.54  | 3.46  | 62.46                                   | 21.89 | 0.0  | 0.0  |
| 1.45     |          | 17.93  | 5.96  | 55.47  | 4.27  | 44.53                                   | 28.31 | 0.0  | 0.0  |
| 1.50     |          | 15.44  | 8.56  | 70.91  | 5.20  | 29.09                                   | 38.79 | 0.0  | 0.0  |
| 1.55     |          | 2.56   | 13.79 | 73.47  | 5.50  | 26.53                                   | 41.20 | 0.0  | 0.0  |
| 1.60     |          | 4.34   | 15.91 | 77.81  | 6.08  | 22.19                                   | 46.15 | 0.0  | 0.0  |
| 1.70     |          | 6.09   | 21.50 | 83.90  | 7.20  | 16.10                                   | 55.47 | 0.0  | 0.0  |
| 1.80     |          | 4.14   | 29.46 | 88.04  | 8.25  | 11.96                                   | 64.47 | 0.0  | 0.0  |
| 2.00     |          | 4.31   | 43.60 | 92.35  | 9.90  | 7.65                                    | 76.23 | 0.0  | 0.0  |
| 2.60     |          | 7.65   | 76.23 | 100.00 | 14.97 | 0.0                                     | 0.0   | 0.0  | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X |       | 0.00   |       | RELATIVE WEIGHT % - 6.41 ASH % - 14.80 |      | C.V.  | CUM.  |
|----------|----------|--------|-------|--------|-------|--|------|-------|-------|
|          |          | WT%    | ASH%  | WT%    | ASH%  | WT%                                    | ASH% |       |       |
| S.G.TME  |          |        |       |        |       |  |      |       |       |
| 240.00   |          | 100.00 | 14.80 | 100.00 | 14.80 | 0.0                                    | 0.0  | 28.50 | 28.50 |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87028 SEAM - M/N

SAMPLE ID - 122

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 35.00 X   |      | 6.00        |       | RELATIVE WEIGHT % - 59.32 |       | ASH % - 68.36 |      |
|---------------------|----------|-----------|------|-------------|-------|---------------------------|-------|---------------|------|
|                     |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
|                     |          | WT%       | ASH% | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40                | 0.50     | 5.15      |      | 0.50        | 5.15  | 99.50                     | 69.42 | 0.0           | 0.0  |
| 1.45                | 1.87     | 9.83      |      | 2.37        | 8.84  | 97.63                     | 70.57 | 0.0           | 0.0  |
| 1.50                | 1.92     | 13.80     |      | 4.29        | 11.06 | 95.71                     | 71.71 | 0.0           | 0.0  |
| 1.55                | 2.49     | 18.85     |      | 6.78        | 13.92 | 93.22                     | 73.12 | 0.0           | 0.0  |
| 1.60                | 3.58     | 26.27     |      | 10.36       | 18.19 | 89.64                     | 74.99 | 0.0           | 0.0  |
| 1.70                | 3.55     | 32.42     |      | 13.91       | 21.82 | 86.09                     | 76.74 | 0.0           | 0.0  |
| 1.80                | 1.54     | 39.73     |      | 15.45       | 23.61 | 84.55                     | 77.42 | 0.0           | 0.0  |
| 2.00                | 3.88     | 51.17     |      | 19.33       | 29.14 | 80.67                     | 78.68 | 0.0           | 0.0  |
| 2.60                | 80.67    | 78.68     |      | 100.00      | 69.10 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 6.00 X    |      | 0.50        |       | RELATIVE WEIGHT % - 30.15 |       | ASH % - 53.88 |      |
|---------------------|----------|-----------|------|-------------|-------|---------------------------|-------|---------------|------|
|                     |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
|                     |          | WT%       | ASH% | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40                | 4.91     | 3.44      |      | 4.91        | 3.44  | 95.09                     | 56.38 | 0.0           | 0.0  |
| 1.45                | 4.08     | 8.53      |      | 8.99        | 5.75  | 91.01                     | 58.53 | 0.0           | 0.0  |
| 1.50                | 8.68     | 13.09     |      | 17.67       | 9.36  | 82.33                     | 63.32 | 0.0           | 0.0  |
| 1.55                | 7.55     | 17.34     |      | 25.22       | 11.75 | 74.78                     | 67.96 | 0.0           | 0.0  |
| 1.60                | 5.17     | 22.45     |      | 30.39       | 13.57 | 69.61                     | 71.34 | 0.0           | 0.0  |
| 1.70                | 4.71     | 28.79     |      | 35.10       | 15.61 | 64.90                     | 74.43 | 0.0           | 0.0  |
| 1.80                | 3.44     | 37.80     |      | 38.54       | 17.59 | 61.46                     | 76.48 | 0.0           | 0.0  |
| 2.00                | 7.60     | 47.92     |      | 46.14       | 22.59 | 53.86                     | 80.51 | 0.0           | 0.0  |
| 2.60                | 53.86    | 80.51     |      | 100.00      | 53.78 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87028 SEAM - M/N

SAMPLE ID - 122

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAD

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 7.23 ASH % - 45.44 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOADS |       | CUM. SINKS          |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ/KG)            | C.V. |
| 1.40     |          | 9.05      | 2.91  | 9.05        | 2.91  | 90.95               | 48.85 | 0.0                | 0.0  |
| 1.45     |          | 7.04      | 4.90  | 16.09       | 3.78  | 83.91               | 52.54 | 0.0                | 0.0  |
| 1.50     |          | 8.89      | 7.76  | 24.98       | 5.20  | 75.02               | 57.85 | 0.0                | 0.0  |
| 1.55     |          | 3.02      | 12.81 | 28.00       | 6.02  | 72.00               | 59.73 | 0.0                | 0.0  |
| 1.60     |          | 6.73      | 15.77 | 34.73       | 7.91  | 65.27               | 64.27 | 0.0                | 0.0  |
| 1.70     |          | 7.97      | 21.23 | 42.70       | 10.39 | 57.30               | 70.25 | 0.0                | 0.0  |
| 1.80     |          | 4.95      | 28.12 | 47.65       | 12.24 | 52.35               | 74.24 | 0.0                | 0.0  |
| 2.00     |          | 6.26      | 40.65 | 53.91       | 15.54 | 46.09               | 78.80 | 0.0                | 0.0  |
| 2.60     |          | 46.09     | 78.80 | 100.00      | 44.69 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 3.30 ASH % - 43.65 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ/KG)            | C.V.  |
| 240.00   |          | 100.00    | 43.65 | 100.00      | 43.65 | 0.0                 | 0.0  | 16.59              | 16.59 |

SAMPLE PRODUCT ID:

COAL COMPOSITION ID:

ASH MINERAL ID:

## ===== GULF CANADA CORPORATION - COAL DIVISION =====

## ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87028  
 Coal zone: M/N  
 Field sample no.: 07015 Composite sample no.: 278

## ----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 3.23  
 Total yield (%): 3.23

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.88                 |                  |
| Ash (%):                       | 10.85                | 10.95            |
| Volatile matter (%):           | 6.95                 | 7.01             |
| Fixed carbon (%):              | 81.32                | 82.04            |
| Total sulphur (%):             | 0.58                 | 0.59             |
| Combustible sulphur (%):       | 0.55                 |                  |
| Gross calorific value (cal/g): | 7,438.00             | 7,504.00         |
| Volatile matter (dmmf %):      | 6.80                 |                  |
| Hardgrove index:               | 48.00                |                  |
| Phosphorous in coal (%):       | 0.288                |                  |

## ----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,290.00             | 1,238.00            |
| Softening temperature (°C):     | 1,298.00             | 1,259.00            |
| Hemispherical temperature (°C): | 1,306.00             | 1,269.00            |
| Final temperature (°C):         | 1,343.00             | 1,341.00            |

## ----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 47.24 | TiO2 (%): | 2.20 |
| Al2O3 (%): | 21.15 | Na2O (%): | 1.85 |
| Fe2O3 (%): | 3.65  | K2O (%):  | 1.45 |
| CaO (%):   | 8.40  | SO3 (%):  | 0.75 |
| MgO (%):   | 2.38  | P2O5 (%): | 6.09 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87028  
 Coal zone: M/N  
 Field sample no.: 07015 Composite sample no.: 465

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.47  
 Contribution (%): 3.85  
 Total yield (%): 3.85

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.75                 |                  |
| Ash (%) :                       | 6.92                 | 6.97             |
| Volatile matter (%) :           | 6.91                 | 6.96             |
| Fixed carbon (%) :              | 85.42                | 86.07            |
| Total sulphur (%) :             | 0.60                 | 0.60             |
| Combustible sulphur (%) :       | 0.58                 |                  |
| Gross calorific value (cal/g) : | 7,808.00             | 7,867.00         |
| Volatile matter (dmmf%) :       | 6.70                 |                  |
| Hardgrove index :               | 45.00                |                  |
| Phosphorous in coal (%) :       | 0.057                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,238.00             | 1,140.00            |
| Softening temperature (°C) :     | 1,277.00             | 1,203.00            |
| Hemispherical temperature (°C) : | 1,288.00             | 1,224.00            |
| Final temperature (°C) :         | 1,298.00             | 1,295.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|                                      |       |                                     |      |
|--------------------------------------|-------|-------------------------------------|------|
| SiO <sub>2</sub> (%) :               | 50.06 | TiO <sub>2</sub> (%) :              | 3.14 |
| Al <sub>2</sub> O <sub>3</sub> (%) : | 22.55 | Na <sub>2</sub> O (%) :             | 1.62 |
| Fe <sub>2</sub> O <sub>3</sub> (%) : | 5.63  | K <sub>2</sub> O (%) :              | 1.28 |
| CaO (%) :                            | 5.99  | SO <sub>3</sub> (%) :               | 0.55 |
| MgO (%) :                            | 2.73  | P <sub>2</sub> O <sub>5</sub> (%) : | 1.89 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87028 SEAM - ?

SAMPLE ID - 123

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 37.33 ASH % - 23.49 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 0.48                  | 5.51  | 0.48      | 5.51  | 99.52       | 24.29 | 0.0        | 0.0  |   |           |
| 1.45     | 12.93                 | 6.49  | 13.41     | 6.45  | 86.59       | 26.95 | 0.0        | 0.0  |   |           |
| 1.50     | 7.75                  | 10.11 | 21.16     | 7.79  | 78.84       | 28.60 | 0.0        | 0.0  |   |           |
| 1.55     | 14.68                 | 16.40 | 35.84     | 11.32 | 64.16       | 31.40 | 0.0        | 0.0  |   |           |
| 1.60     | 21.13                 | 19.23 | 56.97     | 14.25 | 43.03       | 37.37 | 0.0        | 0.0  |   |           |
| 1.70     | 12.23                 | 22.98 | 69.20     | 15.80 | 30.80       | 43.08 | 0.0        | 0.0  |   |           |
| 1.80     | 6.57                  | 31.59 | 75.77     | 17.16 | 24.23       | 46.20 | 0.0        | 0.0  |   |           |
| 2.00     | 13.38                 | 33.94 | 89.15     | 19.68 | 10.85       | 61.32 | 0.0        | 0.0  |   |           |
| 2.60     | 10.85                 | 61.32 | 100.00    | 24.20 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 38.09 ASH % - 17.46 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 10.09                | 3.90  | 10.09     | 3.90  | 89.91       | 19.99 | 0.0        | 0.0  |   |           |
| 1.45     | 24.45                | 6.56  | 34.54     | 5.78  | 65.46       | 25.01 | 0.0        | 0.0  |   |           |
| 1.50     | 15.32                | 10.12 | 49.86     | 7.12  | 50.14       | 29.56 | 0.0        | 0.0  |   |           |
| 1.55     | 12.48                | 14.48 | 62.34     | 8.59  | 37.66       | 34.56 | 0.0        | 0.0  |   |           |
| 1.60     | 10.80                | 18.08 | 73.14     | 9.99  | 26.86       | 41.19 | 0.0        | 0.0  |   |           |
| 1.70     | 9.87                 | 22.63 | 83.01     | 11.49 | 16.99       | 51.96 | 0.0        | 0.0  |   |           |
| 1.80     | 3.80                 | 29.68 | 86.81     | 12.29 | 13.19       | 58.38 | 0.0        | 0.0  |   |           |
| 2.00     | 3.55                 | 37.19 | 90.36     | 13.27 | 9.64        | 66.19 | 0.0        | 0.0  |   |           |
| 2.60     | 9.64                 | 66.19 | 100.00    | 18.37 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87028 SEAM - 7

SAMPLE ID - 123

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - 16.94 ASH % - 11.41 |       |         |      |
|----------|----------|-----------|------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     | 18.92    | 2.39      |      | 18.92       | 2.39  | 81.08                                   | 13.46 | 0.0     | 0.0  |
| 1.45     | 40.73    | 5.31      |      | 59.65       | 4.38  | 40.35                                   | 21.68 | 0.0     | 0.0  |
| 1.50     | 7.87     | 9.30      |      | 67.52       | 4.96  | 32.48                                   | 24.68 | 0.0     | 0.0  |
| 1.55     | 8.31     | 11.59     |      | 75.83       | 5.68  | 24.17                                   | 29.18 | 0.0     | 0.0  |
| 1.60     | 5.69     | 14.29     |      | 81.52       | 6.28  | 18.48                                   | 33.76 | 0.0     | 0.0  |
| 1.70     | 7.76     | 18.63     |      | 89.28       | 7.36  | 10.72                                   | 44.72 | 0.0     | 0.0  |
| 1.80     | 2.79     | 24.64     |      | 92.07       | 7.88  | 7.93                                    | 51.79 | 0.0     | 0.0  |
| 2.00     | 2.46     | 33.12     |      | 94.53       | 8.54  | 5.47                                    | 60.18 | 0.0     | 0.0  |
| 2.60     | 5.47     | 60.18     |      | 100.00      | 11.36 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - 7.64 ASH % - 13.20 |      |         |       |
|----------|----------|-----------|------|-------------|-------|--|------|---------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                             |      | C.V.    | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                                    | ASH% | (MJ KG) | C.V.  |
| 240.00   | 100.00   | 13.20     |      | 100.00      | 13.20 | 0.0                                    | 0.0  | 28.47   | 28.47 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87028  
 Coal zone: ?  
 Field sample no.: 07018 Composite sample no.: 279

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.56  
 Contribution(%): 16.93  
 Total yield(%): 16.93

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture(%) :         | 0.59                 |                  |
| Ash(%) :                       | 11.46                | 11.53            |
| Volatile matter(%) :           | 6.80                 | 6.84             |
| Fixed carbon(%) :              | 81.15                | 81.63            |
| Total sulphur(%) :             | 2.46                 | 2.47             |
| Combustible sulphur(%) :       | 2.45                 |                  |
| Gross calorific value(cal/g) : | 7,397.00             | 7,441.00         |
| Volatile matter(dmmf%) :       | 5.80                 |                  |
| Hardgrove index:               | 47.00                |                  |
| Phosphorous in coal(%) :       | 0.260                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,243.00             | 1,143.00            |
| Softening temperature(°C) :     | 1,261.00             | 1,161.00            |
| Hemispherical temperature(°C) : | 1,277.00             | 1,177.00            |
| Final temperature(°C) :         | 1,295.00             | 1,259.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2(%) :  | 37.88 | TiO2(%) : | 1.94 |
| Al2O3(%) : | 20.84 | Na2O(%) : | 2.16 |
| Fe2O3(%) : | 18.53 | K2O(%) :  | 0.91 |
| CaO(%) :   | 7.00  | SO3(%) :  | 0.29 |
| MgO(%) :   | 1.36  | P2O5(%) : | 5.19 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87028  
 Coal zone: ?  
 Field sample no.: 07018 Composite sample no.: 466

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 20.25  
 Total yield (%): 20.25

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.79                 |                  |
| Ash (%):                       | 6.81                 | 6.86             |
| Volatile matter (%):           | 6.96                 | 7.02             |
| Fixed carbon (%):              | 85.44                | 86.12            |
| Total sulphur (%):             | 1.87                 | 1.88             |
| Combustible sulphur (%):       | 1.85                 |                  |
| Gross calorific value (cal/g): | 7,794.00             | 7,856.00         |
| Volatile matter (dmmf %):      | 6.30                 |                  |
| Hardgrove index:               | 47.00                |                  |
| Phosphorous in coal (%):       | 0.094                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,201.00             | 1,111.00            |
| Softening temperature (°C):     | 1,330.00             | 1,201.00            |
| Hemispherical temperature (°C): | 1,353.00             | 1,230.00            |
| Final temperature (°C):         | 1,406.00             | 1,404.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 36.84 | TiO2 (%): | 1.93 |
| Al2O3 (%): | 20.64 | Na2O (%): | 1.81 |
| Fe2O3 (%): | 23.42 | K2O (%):  | 0.81 |
| CaO (%):   | 4.90  | SO3 (%):  | 0.60 |
| MgO (%):   | 1.99  | P2O5 (%): | 3.17 |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87028 SEAM - M

SAMPLE ID - 124

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X 6.00 |        | ELEMENTAL |       | CUM. FLOATS |      | CUM. SINKS |      | RELATIVE WEIGHT % - 53.37 ASH % - 38.79 |           |
|----------|----------|--------------|--------|-----------|-------|-------------|------|------------|------|---|-----------|
|          |          | WT%          | ASH%   | WT%       | ASH%  | WT%         | ASH% | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |          |              |        |           |       |             |      |            |      |   |           |
| 1.40     | 2.18     | 11.72        | 2.18   | 11.72     | 97.82 | 39.32       | 0.0  | 0.0        |      |   |           |
| 1.45     | 7.29     | 10.94        | 9.47   | 11.12     | 90.53 | 41.61       | 0.0  | 0.0        |      |   |           |
| 1.50     | 10.32    | 15.23        | 19.79  | 13.26     | 80.21 | 45.00       | 0.0  | 0.0        |      |   |           |
| 1.55     | 10.82    | 20.11        | 30.61  | 15.68     | 69.39 | 48.88       | 0.0  | 0.0        |      |   |           |
| 1.60     | 13.84    | 24.73        | 44.45  | 18.50     | 55.55 | 54.90       | 0.0  | 0.0        |      |   |           |
| 1.70     | 13.24    | 32.73        | 57.69  | 21.77     | 42.31 | 61.84       | 0.0  | 0.0        |      |   |           |
| 1.80     | 7.90     | 41.46        | 65.59  | 24.14     | 34.41 | 66.51       | 0.0  | 0.0        |      |   |           |
| 2.00     | 10.05    | 48.68        | 75.64  | 27.40     | 24.36 | 73.87       | 0.0  | 0.0        |      |   |           |
| 2.60     | 24.36    | 73.87        | 100.00 | 38.72     | 0.0   | 0.0         | 0.0  | 0.0        |      |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X 0.50 |        | ELEMENTAL |       | CUM. FLOATS |      | CUM. SINKS |      | RELATIVE WEIGHT % - 32.42 ASH % - 28.63 |           |
|----------|----------|-------------|--------|-----------|-------|-------------|------|------------|------|---|-----------|
|          |          | WT%         | ASH%   | WT%       | ASH%  | WT%         | ASH% | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |          |             |        |           |       |             |      |            |      |   |           |
| 1.40     | 16.90    | 2.54        | 16.90  | 2.54      | 83.10 | 32.84       | 0.0  | 0.0        |      |   |           |
| 1.45     | 14.93    | 8.11        | 31.83  | 5.15      | 68.17 | 38.26       | 0.0  | 0.0        |      |   |           |
| 1.50     | 10.56    | 13.92       | 42.39  | 7.34      | 57.61 | 42.72       | 0.0  | 0.0        |      |   |           |
| 1.55     | 10.45    | 18.66       | 52.84  | 9.58      | 47.16 | 48.05       | 0.0  | 0.0        |      |   |           |
| 1.60     | 6.10     | 23.18       | 58.94  | 10.98     | 41.06 | 51.75       | 0.0  | 0.0        |      |   |           |
| 1.70     | 10.11    | 29.88       | 69.05  | 13.75     | 30.95 | 58.89       | 0.0  | 0.0        |      |   |           |
| 1.80     | 4.27     | 36.19       | 73.32  | 15.06     | 26.68 | 62.52       | 0.0  | 0.0        |      |   |           |
| 2.00     | 9.72     | 45.48       | 83.04  | 18.62     | 16.96 | 72.29       | 0.0  | 0.0        |      |   |           |
| 2.60     | 16.96    | 72.29       | 100.00 | 27.72     | 0.0   | 0.0         | 0.0  | 0.0        |      |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87028 SEAM - M

SAMPLE ID - 124

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 8.96 ASH % - 28.89 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 19.74    | 4.69      |      | 19.74       | 4.69  | 80.26               | 35.90 | 0.0                | 0.0  |
| 1.45     | 18.60    | 9.82      |      | 38.34       | 7.18  | 61.66               | 43.77 | 0.0                | 0.0  |
| 1.50     | 6.90     | 13.23     |      | 45.24       | 8.10  | 54.76               | 47.62 | 0.0                | 0.0  |
| 1.55     | 1.78     | 15.33     |      | 47.02       | 8.38  | 52.98               | 48.70 | 0.0                | 0.0  |
| 1.60     | 7.14     | 21.47     |      | 54.16       | 10.10 | 45.84               | 52.95 | 0.0                | 0.0  |
| 1.70     | 10.56    | 28.90     |      | 64.72       | 13.17 | 35.28               | 60.14 | 0.0                | 0.0  |
| 1.80     | 6.67     | 40.52     |      | 71.39       | 15.72 | 28.61               | 64.72 | 0.0                | 0.0  |
| 2.00     | 9.77     | 73.47     |      | 81.16       | 22.68 | 18.84               | 60.18 | 0.0                | 0.0  |
| 2.60     | 18.84    | 60.18     |      | 100.00      | 29.74 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 5.25 ASH % - 32.62 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 32.62     |      | 100.00      | 32.62 | 0.0                 | 0.0  | 20.84              | 20.84 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87028  
 Coal zone: M  
 Field sample no.: 07021 Composite sample no.: 280

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.47  
 Contribution (%): 7.71  
 Total yield (%): 7.71

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.93                 |                  |
| Ash (%):                       | 10.64                | 10.74            |
| Volatile matter (%):           | 6.86                 | 6.92             |
| Fixed carbon (%):              | 81.57                | 82.34            |
| Total sulphur (%):             | 0.63                 | 0.64             |
| Combustible sulphur (%):       | 0.62                 |                  |
| Gross calorific value (cal/g): | 7,526.00             | 7,597.00         |
| Volatile matter (dmmf %):      | 6.60                 |                  |
| Hardgrove index:               | 48.00                |                  |
| Phosphorous in coal (%):       | 0.123                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,203.00             | 1,201.00            |
| Softening temperature (°C):     | 1,317.00             | 1,285.00            |
| Hemispherical temperature (°C): | 1,343.00             | 1,314.00            |
| Final temperature (°C):         | 1,432.00             | 1,428.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 53.58 | TiO2 (%): | 2.18 |
| Al2O3 (%): | 23.19 | Na2O (%): | 2.15 |
| Fe2O3 (%): | 3.67  | K2O (%):  | 1.48 |
| CaO (%):   | 3.98  | SO3 (%):  | 0.33 |
| MgO (%):   | 2.00  | P2O5 (%): | 2.65 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87028  
 Coal zone: M  
 Field sample no.: 07021 Composite sample no.: 467

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.50  
 Contribution (%): 13.88  
 Total yield (%): 13.88

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.99                 |                  |
| Ash (%) :                       | 7.04                 | 7.11             |
| Volatile matter (%) :           | 6.68                 | 6.75             |
| Fixed carbon (%) :              | 85.29                | 86.14            |
| Total sulphur (%) :             | 0.65                 | 0.66             |
| Combustible sulphur (%) :       | 0.64                 |                  |
| Gross calorific value (cal/g) : | 7,842.00             | 7,920.00         |
| Volatile matter (dmmf%) :       | 6.50                 |                  |
| Hardgrove index :               | 47.00                |                  |
| Phosphorous in coal (%) :       | 0.072                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,172.00             | 1,169.00            |
| Softening temperature (°C) :     | 1,338.00             | 1,264.00            |
| Hemispherical temperature (°C) : | 1,380.00             | 1,306.00            |
| Final temperature (°C) :         | 1,424.00             | 1,414.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 54.64 | TiO2 (%) : | 2.02 |
| Al2O3 (%) : | 22.98 | Na2O (%) : | 1.76 |
| Fe2O3 (%) : | 4.32  | K2O (%) :  | 1.45 |
| CaO (%) :   | 3.53  | SO3 (%) :  | 0.30 |
| MgO (%) :   | 1.88  | P2O5 (%) : | 2.33 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87028 SEAM - L

SAMPLE ID - 125

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 22.28 ASH % - 51.03 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 0.94                  | 4.79  | 0.94      | 4.79  | 99.06       | 50.54 | 0.0        | 0.0  |   |           |
| 1.45     | 4.93                  | 8.25  | 5.87      | 7.70  | 94.13       | 52.75 | 0.0        | 0.0  |   |           |
| 1.50     | 7.21                  | 12.14 | 13.08     | 10.15 | 86.92       | 56.12 | 0.0        | 0.0  |   |           |
| 1.55     | 3.87                  | 17.88 | 16.95     | 11.91 | 83.05       | 57.90 | 0.0        | 0.0  |   |           |
| 1.60     | 2.93                  | 23.52 | 19.88     | 13.62 | 80.12       | 59.16 | 0.0        | 0.0  |   |           |
| 1.70     | 3.58                  | 31.54 | 23.46     | 16.36 | 76.54       | 60.45 | 0.0        | 0.0  |   |           |
| 1.80     | 1.92                  | 39.77 | 25.38     | 18.13 | 74.62       | 60.98 | 0.0        | 0.0  |   |           |
| 2.00     | 7.81                  | 51.51 | 33.19     | 25.98 | 66.81       | 62.09 | 0.0        | 0.0  |   |           |
| 2.60     | 66.81                 | 62.09 | 100.00    | 50.11 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 43.29 ASH % - 17.57 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 15.18                | 2.58  | 15.18     | 2.58  | 84.82       | 19.83 | 0.0        | 0.0  |   |           |
| 1.45     | 29.39                | 6.59  | 44.57     | 5.22  | 55.43       | 26.85 | 0.0        | 0.0  |   |           |
| 1.50     | 15.60                | 11.37 | 60.17     | 6.82  | 39.83       | 32.91 | 0.0        | 0.0  |   |           |
| 1.55     | 8.20                 | 14.91 | 68.37     | 7.79  | 31.63       | 37.57 | 0.0        | 0.0  |   |           |
| 1.60     | 7.14                 | 17.35 | 75.51     | 8.69  | 24.49       | 43.47 | 0.0        | 0.0  |   |           |
| 1.70     | 6.43                 | 21.53 | 81.94     | 9.70  | 18.06       | 51.28 | 0.0        | 0.0  |   |           |
| 1.80     | 4.04                 | 29.56 | 85.98     | 10.63 | 14.02       | 57.54 | 0.0        | 0.0  |   |           |
| 2.00     | 5.29                 | 42.63 | 91.27     | 12.49 | 8.73        | 66.58 | 0.0        | 0.0  |   |           |
| 2.60     | 8.73                 | 66.58 | 100.00    | 17.21 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87028 SEAM - L

SAMPLE ID - 125

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - 22.60 |       | ASH % - 13.32 |      |
|----------|----------|-----------|------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     | 16.18    | 2.70      |      | 16.18       | 2.70  | 83.82                     | 14.41 | 0.0           | 0.0  |
| 1.45     | 19.99    | 4.07      |      | 36.17       | 3.46  | 63.83                     | 17.64 | 0.0           | 0.0  |
| 1.50     | 16.51    | 6.88      |      | 52.68       | 4.53  | 47.32                     | 21.40 | 0.0           | 0.0  |
| 1.55     | 12.19    | 9.52      |      | 64.87       | 5.47  | 35.13                     | 25.52 | 0.0           | 0.0  |
| 1.60     | 9.29     | 11.40     |      | 74.16       | 6.21  | 25.84                     | 30.60 | 0.0           | 0.0  |
| 1.70     | 12.81    | 15.95     |      | 86.97       | 7.65  | 13.03                     | 45.00 | 0.0           | 0.0  |
| 1.80     | 4.54     | 23.88     |      | 91.51       | 8.45  | 8.49                      | 56.29 | 0.0           | 0.0  |
| 2.00     | 3.33     | 37.31     |      | 94.84       | 9.46  | 5.16                      | 68.54 | 0.0           | 0.0  |
| 2.60     | 5.16     | 68.54     |      | 100.00      | 12.51 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - 11.83 |      | ASH % - 15.20 |       |
|----------|----------|-----------|------|-------------|-------|---------------------------|------|---------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                |      | C.V.          |       |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                       | ASH% | (MJ KG)       | C.V.  |
| 240.00   | 100.00   | 15.20     |      | 100.00      | 15.20 | 0.0                       | 0.0  | 27.63         | 27.63 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87028  
 Coal zone: L  
 Field sample no.: 07024 Composite sample no.: 281

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.55  
 Contribution (%): 4.02  
 Total yield (%): 4.02

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.85                 |                  |
| Ash (%) :                       | 11.18                | 11.28            |
| Volatile matter (%) :           | 7.19                 | 7.25             |
| Fixed carbon (%) :              | 80.78                | 81.47            |
| Total sulphur (%) :             | 0.56                 | 0.56             |
| Combustible sulphur (%) :       | 0.50                 |                  |
| Gross calorific value (cal/g) : | 7,368.00             | 7,432.00         |
| Volatile matter (dmmf%) :       | 7.00                 |                  |
| Hardgrove index :               | 45.00                |                  |
| Phosphorous in coal (%) :       | 0.141                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,248.00             | 1,238.00            |
| Softening temperature (°C) :     | 1,327.00             | 1,303.00            |
| Hemispherical temperature (°C) : | 1,367.00             | 1,330.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 52.48 | TiO2 (%) : | 2.13 |
| Al2O3 (%) : | 26.84 | Na2O (%) : | 2.51 |
| Fe2O3 (%) : | 1.95  | K2O (%) :  | 1.74 |
| CaO (%) :   | 4.53  | SO3 (%) :  | 1.25 |
| MgO (%) :   | 1.85  | P2O5 (%) : | 2.88 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87028  
 Coal zone: L  
 Field sample no.: 07024 Composite sample no.: 468

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.54  
 Contribution(%): 27.12  
 Total yield(%): 27.12

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture(%) :         | 1.05                 |                  |
| Ash(%) :                       | 7.07                 | 7.14             |
| Volatile matter(%) :           | 7.08                 | 7.16             |
| Fixed carbon(%) :              | 84.80                | 85.70            |
| Total sulphur(%) :             | 0.63                 | 0.64             |
| Combustible sulphur(%) :       | 0.62                 |                  |
| Gross calorific value(cal/g) : | 7,758.00             | 7,840.00         |
| Volatile matter(dmmf%) :       | 6.90                 |                  |
| Hardgrove index:               | 43.00                |                  |
| Phosphorous in coal(%) :       | 0.086                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,282.00             | 1,280.00            |
| Softening temperature(°C) :     | 1,472.00             | 1,414.00            |
| Hemispherical temperature(°C) : | 1,472.00             | 1,443.00            |
| Final temperature(°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2(%) :  | 49.88 | TiO2(%) : | 2.02 |
| Al2O3(%) : | 31.00 | Na2O(%) : | 2.35 |
| Fe2O3(%) : | 1.97  | K2O(%) :  | 1.51 |
| CaO(%) :   | 3.58  | SO3(%) :  | 0.34 |
| MgO(%) :   | 2.35  | P2O5(%) : | 2.78 |



GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87028 SEAM - K/L

SAMPLE ID - 127

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 70.46 ASH % - 71.68 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 0.06                  | 2.24  | 0.06      | 2.24  | 99.94       | 72.41 | 0.0        | 0.0  |   |           |
| 1.45     | 0.06                  | 4.05  | 0.12      | 3.14  | 99.88       | 72.45 | 0.0        | 0.0  |   |           |
| 1.50     | 0.11                  | 8.97  | 0.23      | 5.93  | 99.77       | 72.52 | 0.0        | 0.0  |   |           |
| 1.55     | 0.19                  | 16.55 | 0.42      | 10.73 | 99.58       | 72.63 | 0.0        | 0.0  |   |           |
| 1.60     | 0.42                  | 21.00 | 0.84      | 15.87 | 99.16       | 72.85 | 0.0        | 0.0  |   |           |
| 1.70     | 2.27                  | 31.95 | 3.11      | 27.61 | 96.89       | 73.80 | 0.0        | 0.0  |   |           |
| 1.80     | 4.74                  | 40.52 | 7.85      | 35.40 | 92.15       | 75.52 | 0.0        | 0.0  |   |           |
| 2.00     | 10.83                 | 52.14 | 18.68     | 45.11 | 81.32       | 78.63 | 0.0        | 0.0  |   |           |
| 2.60     | 81.32                 | 78.63 | 100.00    | 72.37 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 20.28 ASH % - 62.86 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 3.56                 | 1.88  | 3.56      | 1.88  | 96.44       | 65.44 | 0.0        | 0.0  |   |           |
| 1.45     | 2.56                 | 4.98  | 6.12      | 3.18  | 93.88       | 67.09 | 0.0        | 0.0  |   |           |
| 1.50     | 1.83                 | 10.18 | 7.95      | 4.79  | 92.05       | 68.22 | 0.0        | 0.0  |   |           |
| 1.55     | 1.38                 | 15.20 | 9.33      | 6.33  | 90.67       | 69.03 | 0.0        | 0.0  |   |           |
| 1.60     | 1.90                 | 19.62 | 11.23     | 8.58  | 88.77       | 70.09 | 0.0        | 0.0  |   |           |
| 1.70     | 4.94                 | 25.76 | 16.17     | 13.83 | 83.83       | 72.70 | 0.0        | 0.0  |   |           |
| 1.80     | 5.12                 | 33.66 | 21.29     | 18.60 | 78.71       | 75.24 | 0.0        | 0.0  |   |           |
| 2.00     | 11.13                | 45.83 | 32.42     | 27.95 | 67.58       | 80.08 | 0.0        | 0.0  |   |           |
| 2.60     | 67.58                | 80.08 | 100.00    | 63.18 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87028 SEAM - K/L

SAMPLE ID - 127

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 6.27 ASH % - 46.55 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 6.84      | 1.84  | 6.84        | 1.84  | 93.16               | 48.92 | 0.0                | 0.0  |
| 1.45     |          | 13.54     | 2.88  | 20.38       | 2.53  | 79.62               | 56.74 | 0.0                | 0.0  |
| 1.50     |          | 8.41      | 10.59 | 28.79       | 4.89  | 71.21               | 62.19 | 0.0                | 0.0  |
| 1.55     |          | 2.95      | 15.36 | 31.74       | 5.86  | 68.26               | 64.22 | 0.0                | 0.0  |
| 1.60     |          | 4.15      | 18.17 | 35.89       | 7.28  | 64.11               | 67.20 | 0.0                | 0.0  |
| 1.70     |          | 4.94      | 20.60 | 40.83       | 8.89  | 59.17               | 71.09 | 0.0                | 0.0  |
| 1.80     |          | 1.86      | 27.89 | 42.69       | 9.72  | 57.31               | 72.49 | 0.0                | 0.0  |
| 2.00     |          | 11.94     | 38.53 | 54.63       | 16.02 | 45.37               | 81.43 | 0.0                | 0.0  |
| 2.60     |          | 45.37     | 81.43 | 100.00      | 45.70 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 3.00 ASH % - 43.62 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 43.62 | 100.00      | 43.62 | 0.0                 | 0.0  | 17.04              | 17.04 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87028  
 Coal zone: K/L  
 Field sample no.: 07030 Composite sample no.: 282

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.56  
 Contribution (%): 0.34  
 Total yield (%): 0.34

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.30                 |                  |
| Ash (%):                       | 11.76                | 11.92            |
| Volatile matter (%):           | 7.68                 | 7.78             |
| Fixed carbon (%):              | 79.26                | 80.30            |
| Total sulphur (%):             | 0.62                 | 0.63             |
| Combustible sulphur (%):       | 0.59                 |                  |
| Gross calorific value (cal/g): | 7,352.00             | 7,449.00         |
| Volatile matter (dmmf %):      | 7.60                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.194                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,216.00             | 1,209.00            |
| Softening temperature (°C):     | 1,340.00             | 1,311.00            |
| Hemispherical temperature (°C): | 1,364.00             | 1,338.00            |
| Final temperature (°C):         | 1,430.00             | 1,414.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 60.33 | TiO2 (%): | 1.00 |
| Al2O3 (%): | 19.60 | Na2O (%): | 1.09 |
| Fe2O3 (%): | 3.45  | K2O (%):  | 0.78 |
| CaO (%):   | 4.56  | SO3 (%):  | 0.63 |
| MgO (%):   | 1.58  | P2O5 (%): | 3.78 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87028  
 Coal zone: K/L  
 Field sample no.: 07030 Composite sample no.: 469

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.58  
 Contribution(%): 2.02  
 Total yield(%): 2.02

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 1.23                 |                  |
| Ash (%) :                       | 8.42                 | 8.53             |
| Volatile matter (%) :           | 7.97                 | 8.07             |
| Fixed carbon (%) :              | 82.38                | 83.40            |
| Total sulphur (%) :             | 0.61                 | 0.62             |
| Combustible sulphur (%) :       | 0.60                 |                  |
| Gross calorific value (cal/g) : | 7,474.00             | 7,567.00         |
| Volatile matter (dmmf%) :       | 7.90                 |                  |
| Hardgrove index :               | 50.00                |                  |
| Phosphorous in coal (%) :       | 0.143                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,274.00             | 1,224.00            |
| Softening temperature (°C) :     | 1,295.00             | 1,274.00            |
| Hemispherical temperature (°C) : | 1,309.00             | 1,298.00            |
| Final temperature (°C) :         | 1,406.00             | 1,402.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 64.42 | TiO2 (%) : | 2.02 |
| Al2O3 (%) : | 15.50 | Na2O (%) : | 1.04 |
| Fe2O3 (%) : | 2.45  | K2O (%) :  | 0.61 |
| CaO (%) :   | 5.15  | SO3 (%) :  | 0.32 |
| MgO (%) :   | 1.50  | P2O5 (%) : | 3.88 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87028 SEAM - 2

SAMPLE ID - 128

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 85.44 ASH % - 69.97 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 0.08                  | 6.94  | 0.08      | 6.94  | 99.92       | 70.17 | 0.0        | 0.0  |   |           |
| 1.45     | 0.14                  | 6.04  | 0.22      | 6.37  | 99.78       | 70.26 | 0.0        | 0.0  |   |           |
| 1.50     | 0.18                  | 8.45  | 0.40      | 7.30  | 99.60       | 70.37 | 0.0        | 0.0  |   |           |
| 1.55     | 0.17                  | 12.06 | 0.57      | 8.72  | 99.43       | 70.47 | 0.0        | 0.0  |   |           |
| 1.60     | 0.33                  | 23.31 | 0.90      | 14.07 | 99.10       | 70.63 | 0.0        | 0.0  |   |           |
| 1.70     | 1.19                  | 27.62 | 2.09      | 21.79 | 97.91       | 71.15 | 0.0        | 0.0  |   |           |
| 1.80     | 2.49                  | 37.93 | 4.58      | 30.56 | 95.42       | 72.02 | 0.0        | 0.0  |   |           |
| 2.00     | 14.28                 | 51.40 | 18.86     | 46.34 | 81.14       | 75.65 | 0.0        | 0.0  |   |           |
| 2.60     | 81.14                 | 75.65 | 100.00    | 70.12 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 11.04 ASH % - 50.62 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 5.78                 | 3.81  | 5.78      | 3.81  | 94.22       | 52.57 | 0.0        | 0.0  |   |           |
| 1.45     | 4.52                 | 6.35  | 10.30     | 4.92  | 89.70       | 54.90 | 0.0        | 0.0  |   |           |
| 1.50     | 4.87                 | 11.48 | 15.17     | 7.03  | 84.83       | 57.39 | 0.0        | 0.0  |   |           |
| 1.55     | 3.62                 | 16.09 | 18.79     | 8.77  | 81.21       | 59.23 | 0.0        | 0.0  |   |           |
| 1.60     | 4.00                 | 20.66 | 22.79     | 10.86 | 77.21       | 61.23 | 0.0        | 0.0  |   |           |
| 1.70     | 8.35                 | 26.67 | 31.14     | 15.10 | 68.86       | 65.42 | 0.0        | 0.0  |   |           |
| 1.80     | 8.32                 | 35.03 | 39.46     | 19.30 | 60.54       | 69.59 | 0.0        | 0.0  |   |           |
| 2.00     | 10.27                | 44.50 | 49.73     | 24.51 | 50.27       | 74.72 | 0.0        | 0.0  |   |           |
| 2.60     | 50.27                | 74.72 | 100.00    | 49.75 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87028 SEAM - ?

SAMPLE ID - 128

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 2.25 ASH % - 35.54 |      |
|-------------------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|                   | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME           | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40              | 16.45     | 2.88  | 16.45       | 2.88  | 83.55               | 41.46 | 0.0                | 0.0  |
| 1.45              | 9.87      | 4.12  | 26.32       | 3.34  | 73.68               | 46.46 | 0.0                | 0.0  |
| 1.50              | 11.33     | 7.21  | 37.65       | 4.51  | 62.35               | 53.59 | 0.0                | 0.0  |
| 1.55              | 4.20      | 12.23 | 41.85       | 5.28  | 58.15               | 56.58 | 0.0                | 0.0  |
| 1.60              | 4.75      | 15.56 | 46.60       | 6.33  | 53.40               | 60.23 | 0.0                | 0.0  |
| 1.70              | 5.67      | 22.98 | 52.27       | 8.14  | 47.73               | 64.65 | 0.0                | 0.0  |
| 1.80              | 4.94      | 29.09 | 57.21       | 9.95  | 42.79               | 68.76 | 0.0                | 0.0  |
| 2.00              | 8.41      | 40.23 | 65.62       | 13.83 | 34.38               | 75.74 | 0.0                | 0.0  |
| 2.60              | 34.38     | 75.74 | 100.00      | 35.11 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 1.27 ASH % - 40.40 |       |
|-------------------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|                   | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME           | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00            | 100.00    | 40.40 | 100.00      | 40.40 | 0.0                 | 0.0  | 18.48              | 18.48 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87028 SEAM - 2

SAMPLE ID - 129

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X |       | 6.00        |       | RELATIVE WEIGHT % - 74.03 ASH % - 51.80 |       |         |      |
|----------|------------------|-------|-------------|-------|---|-------|---------|------|
|          | ELEMENTAL        |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  | WT%              | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     | 1.69             | 3.05  | 1.69        | 3.05  | 98.31                                   | 51.72 | 0.0     | 0.0  |
| 1.45     | 5.99             | 7.21  | 7.68        | 6.29  | 92.32                                   | 54.60 | 0.0     | 0.0  |
| 1.50     | 4.66             | 11.69 | 12.34       | 8.33  | 87.66                                   | 56.89 | 0.0     | 0.0  |
| 1.55     | 5.93             | 19.24 | 18.27       | 11.87 | 81.73                                   | 59.62 | 0.0     | 0.0  |
| 1.60     | 1.27             | 20.24 | 19.54       | 12.42 | 80.46                                   | 60.24 | 0.0     | 0.0  |
| 1.70     | 3.53             | 28.61 | 23.07       | 14.89 | 76.93                                   | 61.69 | 0.0     | 0.0  |
| 1.80     | 4.26             | 36.24 | 27.33       | 18.22 | 72.67                                   | 63.18 | 0.0     | 0.0  |
| 2.00     | 22.33            | 48.40 | 49.66       | 31.79 | 50.34                                   | 69.74 | 0.0     | 0.0  |
| 2.60     | 50.34            | 69.74 | 100.00      | 50.89 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X |       | 0.50        |       | RELATIVE WEIGHT % - 20.10 ASH % - 32.50 |       |         |      |
|----------|-----------------|-------|-------------|-------|---|-------|---------|------|
|          | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  | WT%             | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40     | 18.07           | 5.93  | 18.07       | 5.93  | 81.93                                   | 37.66 | 0.0     | 0.0  |
| 1.45     | 14.09           | 6.31  | 32.16       | 6.10  | 67.84                                   | 44.17 | 0.0     | 0.0  |
| 1.50     | 7.55            | 11.13 | 39.71       | 7.05  | 60.29                                   | 48.31 | 0.0     | 0.0  |
| 1.55     | 5.07            | 16.37 | 44.78       | 8.11  | 55.22                                   | 51.24 | 0.0     | 0.0  |
| 1.60     | 2.30            | 20.94 | 47.08       | 8.74  | 52.92                                   | 52.56 | 0.0     | 0.0  |
| 1.70     | 4.92            | 26.44 | 52.00       | 10.41 | 48.00                                   | 55.23 | 0.0     | 0.0  |
| 1.80     | 5.53            | 33.38 | 57.53       | 12.62 | 42.47                                   | 58.08 | 0.0     | 0.0  |
| 2.00     | 16.47           | 43.16 | 74.00       | 19.42 | 26.00                                   | 67.53 | 0.0     | 0.0  |
| 2.60     | 26.00           | 67.53 | 100.00      | 31.93 | 0.0                                     | 0.0   | 0.0     | 0.0  |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDHB7028 SEAM - ?

SAMPLE ID - 129

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X |       | 0.15        |       | RELATIVE WEIGHT % - |       | 4.10 ASH % - 27.89 |      |
|---------------------|-----------------|-------|-------------|-------|---------------------|-------|--------------------|------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40                | 22.13           | 2.31  | 22.13       | 2.31  | 77.87               | 33.94 | 0.0                | 0.0  |
| 1.45                | 11.74           | 4.82  | 33.87       | 3.18  | 66.13               | 39.11 | 0.0                | 0.0  |
| 1.50                | 10.64           | 8.19  | 44.51       | 4.38  | 55.49               | 45.04 | 0.0                | 0.0  |
| 1.55                | 5.42            | 12.14 | 49.93       | 5.22  | 50.07               | 48.60 | 0.0                | 0.0  |
| 1.60                | 2.34            | 14.99 | 52.27       | 5.66  | 47.73               | 50.25 | 0.0                | 0.0  |
| 1.70                | 7.86            | 19.71 | 60.13       | 7.49  | 39.87               | 56.27 | 0.0                | 0.0  |
| 1.80                | 4.92            | 27.57 | 65.05       | 9.01  | 34.95               | 60.31 | 0.0                | 0.0  |
| 2.00                | 9.45            | 38.72 | 74.50       | 12.78 | 25.50               | 68.31 | 0.0                | 0.0  |
| 2.60                | 25.50           | 68.31 | 100.00      | 26.94 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X |       | 0.00        |       | RELATIVE WEIGHT % - |      | 1.77 ASH % - 32.88 |       |
|---------------------|-----------------|-------|-------------|-------|---------------------|------|--------------------|-------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00              | 100.00          | 32.88 | 100.00      | 32.88 | 0.0                 | 0.0  | 21.58              | 21.58 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87028  
 Coal zone: ?  
 Field sample no.: 07033 Composite sample no.: 283

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.58  
 Contribution (%): 0.54  
 Total yield (%): 0.54

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 1.06                 |                  |
| Ash (%) :                       | 11.84                | 11.97            |
| Volatile matter (%) :           | 6.84                 | 6.91             |
| Fixed carbon (%) :              | 80.26                | 81.12            |
| Total sulphur (%) :             | 1.36                 | 1.37             |
| Combustible sulphur (%) :       | 1.34                 |                  |
| Gross calorific value (cal/g) : | 7,323.00             | 7,401.00         |
| Volatile matter (dmmf%) :       | 6.30                 |                  |
| Hardgrove index:                | 46.00                |                  |
| Phosphorous in coal (%) :       | 0.067                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,253.00             | 1,114.00            |
| Softening temperature (°C) :     | 1,348.00             | 1,248.00            |
| Hemispherical temperature (°C) : | 1,369.00             | 1,290.00            |
| Final temperature (°C) :         | 1,427.00             | 1,372.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 63.47 | TiO2 (%) : | 1.90 |
| Al2O3 (%) : | 15.68 | Na2O (%) : | 0.99 |
| Fe2O3 (%) : | 8.56  | K2O (%) :  | 0.62 |
| CaO (%) :   | 1.89  | SO3 (%) :  | 0.34 |
| MgO (%) :   | 1.60  | P2O5 (%) : | 1.29 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87028  
 Coal zone: ?  
 Field sample no.: 07034 Composite sample no.: 284

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.56  
 Contribution (%): 14.08  
 Total yield (%): 14.08

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.25                 |                  |
| Ash (%):                       | 11.75                | 11.90            |
| Volatile matter (%):           | 6.74                 | 6.83             |
| Fixed carbon (%):              | 80.26                | 81.27            |
| Total sulphur (%):             | 0.72                 | 0.73             |
| Combustible sulphur (%):       | 0.57                 |                  |
| Gross calorific value (cal/g): | 7,383.00             | 7,476.00         |
| Volatile matter (dmmf %):      | 6.50                 |                  |
| Hardgrove index:               | 53.00                |                  |
| Phosphorous in coal (%):       | 0.331                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,243.00             | 1,201.00            |
| Softening temperature (°C):     | 1,253.00             | 1,211.00            |
| Hemispherical temperature (°C): | 1,259.00             | 1,222.00            |
| Final temperature (°C):         | 1,280.00             | 1,264.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 45.70 | TiO2 (%): | 0.88 |
| Al2O3 (%): | 18.39 | Na2O (%): | 1.58 |
| Fe2O3 (%): | 3.87  | K2O (%):  | 0.86 |
| CaO (%):   | 11.47 | SO3 (%):  | 3.24 |
| MgO (%):   | 3.22  | P2O5 (%): | 6.46 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87028  
 Coal zone: ?  
 Field sample no.: 07033 Composite sample no.: 470

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 1.77  
 Total yield (%): 1.77

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.75                 |                  |
| Ash (%):                       | 6.09                 | 6.14             |
| Volatile matter (%):           | 6.53                 | 6.58             |
| Fixed carbon (%):              | 86.63                | 87.28            |
| Total sulphur (%):             | 1.10                 | 1.11             |
| Combustible sulphur (%):       | 1.08                 |                  |
| Gross calorific value (cal/g): | 7,820.00             | 7,880.00         |
| Volatile matter (dmmf %):      | 6.10                 |                  |
| Hardgrove index:               | 47.00                |                  |
| Phosphorous in coal (%):       | 0.023                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,238.00             | 1,085.00            |
| Softening temperature (°C):     | 1,295.00             | 1,137.00            |
| Hemispherical temperature (°C): | 1,317.00             | 1,159.00            |
| Final temperature (°C):         | 1,364.00             | 1,290.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 57.56 | TiO2 (%): | 3.86 |
| Al2O3 (%): | 15.88 | Na2O (%): | 1.27 |
| Fe2O3 (%): | 10.35 | K2O (%):  | 0.81 |
| CaO (%):   | 2.35  | SO3 (%):  | 0.64 |
| MgO (%):   | 1.53  | P2O5 (%): | 0.88 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87028  
 Coal zone: ?  
 Field sample no.: 07034 Composite sample no.: 471

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 8.08  
 Total yield (%): 8.08

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.09                 |                  |
| Ash (%):                       | 5.64                 | 5.70             |
| Volatile matter (%):           | 6.33                 | 6.40             |
| Fixed carbon (%):              | 86.94                | 87.90            |
| Total sulphur (%):             | 0.77                 | 0.78             |
| Combustible sulphur (%):       | 0.73                 |                  |
| Gross calorific value (cal/g): | 7,952.00             | 8,039.00         |
| Volatile matter (dmmf %):      | 6.10                 |                  |
| Hardgrove index:               | 50.00                |                  |
| Phosphorous in coal (%):       | 0.191                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,174.00             | 1,169.00            |
| Softening temperature (°C):     | 1,259.00             | 1,203.00            |
| Hemispherical temperature (°C): | 1,264.00             | 1,232.00            |
| Final temperature (°C):         | 1,285.00             | 1,274.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 43.72 | TiO2 (%): | 2.02 |
| Al2O3 (%): | 19.96 | Na2O (%): | 1.60 |
| Fe2O3 (%): | 2.99  | K2O (%):  | 1.04 |
| CaO (%):   | 11.70 | SO3 (%):  | 1.73 |
| MgO (%):   | 2.49  | P2O5 (%): | 7.76 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87028 SEAM - K

SAMPLE ID - 130

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X |       | 6.00        |       | RELATIVE WEIGHT % - 60.02 |       | ASH % - 57.17 |      |
|----------|------------------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          | ELEMENTAL        |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  | WT%              | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     | 0.56             | 3.24  | 0.56        | 3.24  | 99.44                     | 56.43 | 0.0           | 0.0  |
| 1.45     | 0.34             | 11.12 | 0.90        | 6.22  | 99.10                     | 56.59 | 0.0           | 0.0  |
| 1.50     | 0.75             | 12.70 | 1.65        | 9.16  | 98.35                     | 56.92 | 0.0           | 0.0  |
| 1.55     | 7.10             | 17.86 | 8.75        | 16.22 | 91.25                     | 59.96 | 0.0           | 0.0  |
| 1.60     | 5.55             | 21.24 | 14.30       | 18.17 | 85.70                     | 62.47 | 0.0           | 0.0  |
| 1.70     | 12.74            | 28.36 | 27.04       | 22.97 | 72.96                     | 68.43 | 0.0           | 0.0  |
| 1.80     | 5.97             | 36.30 | 33.01       | 25.38 | 66.99                     | 71.29 | 0.0           | 0.0  |
| 2.00     | 12.92            | 47.43 | 45.93       | 31.58 | 54.07                     | 76.99 | 0.0           | 0.0  |
| 2.60     | 54.07            | 76.99 | 100.00      | 56.13 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X |       | 0.50        |       | RELATIVE WEIGHT % - 21.45 |       | ASH % - 44.99 |      |
|----------|-----------------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  | WT%             | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     | 9.53            | 3.39  | 9.53        | 3.39  | 90.47                     | 48.42 | 0.0           | 0.0  |
| 1.45     | 3.74            | 5.04  | 13.27       | 3.86  | 86.73                     | 50.29 | 0.0           | 0.0  |
| 1.50     | 1.88            | 9.89  | 15.15       | 4.60  | 84.85                     | 51.18 | 0.0           | 0.0  |
| 1.55     | 2.33            | 14.87 | 17.48       | 5.97  | 82.52                     | 52.21 | 0.0           | 0.0  |
| 1.60     | 3.14            | 17.95 | 20.62       | 7.80  | 79.38                     | 53.57 | 0.0           | 0.0  |
| 1.70     | 11.72           | 22.32 | 32.34       | 13.06 | 67.66                     | 58.98 | 0.0           | 0.0  |
| 1.80     | 10.01           | 28.94 | 42.35       | 16.81 | 57.65                     | 64.19 | 0.0           | 0.0  |
| 2.00     | 13.30           | 39.36 | 55.65       | 22.20 | 44.35                     | 71.64 | 0.0           | 0.0  |
| 2.60     | 44.35           | 71.64 | 100.00      | 44.13 | 0.0                       | 0.0   | 0.0           | 0.0  |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87028 SEAM - K

SAMPLE ID - 130

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 9.80 ASH % - 29.56 |              |
|---------------------|----------|-------|-------------|-------|------------|-------|--|--------------|
|                     | 0.50 X   | 0.15  | WT%         | ASH%  | WT%        | ASH%  | C.V.<br>(MJ KG)                        | CUM.<br>C.V. |
| 1.40                | 14.40    | 1.90  | 14.40       | 1.90  | 85.60      | 33.27 | 0.0                                    | 0.0          |
| 1.45                | 13.14    | 3.93  | 27.54       | 2.87  | 72.46      | 38.59 | 0.0                                    | 0.0          |
| 1.50                | 4.81     | 6.07  | 32.35       | 3.34  | 67.65      | 40.90 | 0.0                                    | 0.0          |
| 1.55                | 4.28     | 9.59  | 36.63       | 4.07  | 63.37      | 43.02 | 0.0                                    | 0.0          |
| 1.60                | 4.62     | 11.56 | 41.25       | 4.91  | 58.75      | 45.49 | 0.0                                    | 0.0          |
| 1.70                | 13.59    | 15.97 | 54.84       | 7.65  | 45.16      | 54.38 | 0.0                                    | 0.0          |
| 1.80                | 8.27     | 22.82 | 63.11       | 9.64  | 36.89      | 61.45 | 0.0                                    | 0.0          |
| 2.00                | 12.20    | 35.69 | 75.31       | 13.86 | 24.69      | 74.18 | 0.0                                    | 0.0          |
| 2.60                | 24.69    | 74.18 | 100.00      | 28.75 | 0.0        | 0.0   | 0.0                                    | 0.0          |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 8.73 ASH % - 26.91 |              |
|---------------------|----------|-------|-------------|-------|------------|------|--|--------------|
|                     | 0.15 X   | 0.00  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                        | CUM.<br>C.V. |
| 240.00              | 100.00   | 26.91 | 100.00      | 26.91 | 0.0        | 0.0  | 24.32                                  | 24.32        |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87028  
 Coal zone: K  
 Field sample no.: 07037 - 07039 Composite sample no.: 285

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 1.25  
 Total yield (%): 1.25

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.89                 |                  |
| Ash (%):                       | 13.51                | 13.77            |
| Volatile matter (%):           | 10.76                | 10.97            |
| Fixed carbon (%):              | 73.84                | 75.26            |
| Total sulphur (%):             | 0.61                 | 0.62             |
| Combustible sulphur (%):       | 0.48                 |                  |
| Gross calorific value (cal/g): | 7,129.00             | 7,267.00         |
| Volatile matter (dmmf %):      | 11.40                |                  |
| Hardgrove index:               | 39.00                |                  |
| Phosphorous in coal (%):       | 0.215                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,222.00             | 1,190.00            |
| Softening temperature (°C):     | 1,261.00             | 1,222.00            |
| Hemispherical temperature (°C): | 1,274.00             | 1,261.00            |
| Final temperature (°C):         | 1,369.00             | 1,364.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 60.70 | TiO2 (%): | 0.80 |
| Al2O3 (%): | 13.98 | Na2O (%): | 0.77 |
| Fe2O3 (%): | 2.80  | K2O (%):  | 0.57 |
| CaO (%):   | 7.58  | SO3 (%):  | 2.47 |
| MgO (%):   | 2.93  | P2O5 (%): | 3.65 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87028  
 Coal zone: K  
 Field sample no.: 07037 - 07039 Composite sample no.: 472

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.59  
 Contribution (%): 4.25  
 Total yield (%): 4.25

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 1.13                 |                  |
| Ash (%) :                       | 6.69                 | 6.77             |
| Volatile matter (%) :           | 7.32                 | 7.40             |
| Fixed carbon (%) :              | 84.86                | 85.83            |
| Total sulphur (%) :             | 0.65                 | 0.66             |
| Combustible sulphur (%) :       | 0.60                 |                  |
| Gross calorific value (cal/g) : | 7,763.00             | 7,851.00         |
| Volatile matter (dmmf%) :       | 7.20                 |                  |
| Hardgrove index:                | 40.00                |                  |
| Phosphorous in coal (%) :       | 0.117                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,180.00             | 1,172.00            |
| Softening temperature(°C):     | 1,253.00             | 1,185.00            |
| Hemispherical temperature(°C): | 1,261.00             | 1,206.00            |
| Final temperature(°C):         | 1,303.00             | 1,280.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 58.26 | TiO2 (%) : | 1.25 |
| Al2O3 (%) : | 15.88 | Na2O (%) : | 1.42 |
| Fe2O3 (%) : | 3.58  | K2O (%) :  | 0.78 |
| CaO (%) :   | 7.36  | SO3 (%) :  | 2.03 |
| MgO (%) :   | 2.45  | P2O5 (%) : | 4.02 |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87029 SEAM - H

SAMPLE ID - 132

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - |       | 31.14   | ASH % - | 32.03 |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|---------|---------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.    | CUM.    | C.V.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG) |         | C.V.  |
| 1.40     |          | 1.75      | 4.64  | 1.75        | 4.64  | 98.25               | 32.33 | 0.0     |         | 0.0   |
| 1.45     |          | 3.92      | 2.76  | 5.67        | 3.34  | 94.33               | 33.56 | 0.0     |         | 0.0   |
| 1.50     |          | 14.44     | 12.19 | 20.11       | 9.69  | 79.89               | 37.42 | 0.0     |         | 0.0   |
| 1.55     |          | 20.53     | 14.36 | 40.64       | 12.05 | 59.36               | 45.40 | 0.0     |         | 0.0   |
| 1.60     |          | 9.06      | 19.01 | 49.70       | 13.32 | 50.30               | 50.16 | 0.0     |         | 0.0   |
| 1.70     |          | 11.09     | 30.36 | 60.79       | 16.43 | 39.21               | 55.75 | 0.0     |         | 0.0   |
| 1.80     |          | 8.50      | 42.75 | 69.29       | 19.66 | 30.71               | 59.35 | 0.0     |         | 0.0   |
| 2.00     |          | 11.45     | 50.68 | 80.74       | 24.06 | 19.26               | 64.51 | 0.0     |         | 0.0   |
| 2.60     |          | 19.26     | 64.51 | 100.00      | 31.85 | 0.0                 | 0.0   | 0.0     |         | 0.0   |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - |       | 40.87   | ASH % - | 20.37 |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|---------|---------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.    | CUM.    | C.V.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG) |         | C.V.  |
| 1.40     |          | 5.95      | 1.93  | 5.95        | 1.93  | 94.05               | 20.86 | 0.0     |         | 0.0   |
| 1.45     |          | 19.04     | 6.04  | 24.99       | 5.06  | 75.01               | 24.62 | 0.0     |         | 0.0   |
| 1.50     |          | 19.62     | 10.92 | 44.61       | 7.64  | 55.39               | 29.47 | 0.0     |         | 0.0   |
| 1.55     |          | 13.43     | 15.37 | 58.04       | 9.43  | 41.96               | 33.98 | 0.0     |         | 0.0   |
| 1.60     |          | 10.59     | 19.20 | 68.63       | 10.94 | 31.37               | 38.97 | 0.0     |         | 0.0   |
| 1.70     |          | 11.29     | 25.19 | 79.92       | 12.95 | 20.08               | 46.72 | 0.0     |         | 0.0   |
| 1.80     |          | 6.09      | 33.21 | 86.01       | 14.38 | 13.99               | 52.60 | 0.0     |         | 0.0   |
| 2.00     |          | 7.04      | 44.36 | 93.05       | 16.65 | 6.95                | 60.95 | 0.0     |         | 0.0   |
| 2.60     |          | 6.95      | 60.95 | 100.00      | 19.73 | 0.0                 | 0.0   | 0.0     |         | 0.0   |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87029 SEAM - H

SAMPLE ID - 132

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - 16.84 ASH % - 15.23 |       |         |      |
|----------|----------|-----------|------|-------------|-------|---|-------|---------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                                     | ASH%  | (MJ/KG) | C.V. |
| 1.40     | 14.41    | 1.90      |      | 14.41       | 1.90  | 85.59                                   | 16.50 | 0.0     | 0.0  |
| 1.45     | 24.55    | 4.23      |      | 38.96       | 3.37  | 61.04                                   | 21.43 | 0.0     | 0.0  |
| 1.50     | 17.84    | 8.34      |      | 56.80       | 4.93  | 43.20                                   | 26.84 | 0.0     | 0.0  |
| 1.55     | 8.70     | 12.14     |      | 65.50       | 5.89  | 34.50                                   | 30.54 | 0.0     | 0.0  |
| 1.60     | 7.97     | 15.24     |      | 73.47       | 6.90  | 26.53                                   | 35.14 | 0.0     | 0.0  |
| 1.70     | 11.40    | 20.17     |      | 84.87       | 8.68  | 15.13                                   | 46.42 | 0.0     | 0.0  |
| 1.80     | 4.64     | 29.13     |      | 89.51       | 9.74  | 10.49                                   | 54.07 | 0.0     | 0.0  |
| 2.00     | 4.38     | 40.43     |      | 93.89       | 11.18 | 6.11                                    | 63.84 | 0.0     | 0.0  |
| 2.60     | 6.11     | 63.84     |      | 100.00      | 14.39 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - 11.15 ASH % - 18.42 |      |         |       |
|----------|----------|-----------|------|-------------|-------|---|------|---------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                              |      | C.V.    | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                                     | ASH% | (MJ/KG) | C.V.  |
| 240.00   | 100.00   | 18.42     |      | 100.00      | 18.42 | 0.0                                     | 0.0  | 27.42   | 27.42 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87029  
 Coal zone: H  
 Field sample no.: 06976 Composite sample no.: 286

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.55  
 Contribution (%): 10.69  
 Total yield (%): 10.69

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 1.40                 |                  |
| Ash (%) :                       | 13.26                | 13.45            |
| Volatile matter (%) :           | 9.47                 | 9.60             |
| Fixed carbon (%) :              | 75.87                | 76.95            |
| Total sulphur (%) :             | 0.52                 | 0.53             |
| Combustible sulphur (%) :       | 0.45                 |                  |
| Gross calorific value (cal/g) : | 7,134.00             | 7,235.00         |
| Volatile matter (dmmf%) :       | 9.80                 |                  |
| Hardgrove index :               | 46.00                |                  |
| Phosphorous in coal (%) :       | 0.069                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,206.00             | 1,143.00            |
| Softening temperature (°C) :     | 1,403.00             | 1,343.00            |
| Hemispherical temperature (°C) : | 1,424.00             | 1,374.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 59.24 | TiO2 (%) : | 0.80 |
| Al2O3 (%) : | 24.95 | Na2O (%) : | 1.60 |
| Fe2O3 (%) : | 2.18  | K2O (%) :  | 1.63 |
| CaO (%) :   | 3.64  | SO3 (%) :  | 1.28 |
| MgO (%) :   | 2.54  | P2O5 (%) : | 1.20 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87029  
 Coal zone: H  
 Field sample no.: 06976 Composite sample no.: 473

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.50  
 Contribution (%): 16.00  
 Total yield (%): 16.00

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.84                 |                  |
| Ash (%) :                       | 6.85                 | 6.91             |
| Volatile matter (%) :           | 8.43                 | 8.50             |
| Fixed carbon (%) :              | 83.88                | 84.59            |
| Total sulphur (%) :             | 0.58                 | 0.58             |
| Combustible sulphur (%) :       | 0.57                 |                  |
| Gross calorific value (cal/g) : | 7,648.00             | 7,713.00         |
| Volatile matter (dmmf%) :       | 8.40                 |                  |
| Hardgrove index :               | 48.00                |                  |
| Phosphorous in coal (%) :       | 0.034                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,243.00             | 1,106.00            |
| Softening temperature (°C) :     | 1,272.00             | 1,472.00            |
| Hemispherical temperature (°C) : | 1,472.00             | 1,472.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 57.20 | TiO2 (%) : | 2.43 |
| Al2O3 (%) : | 29.00 | Na2O (%) : | 2.32 |
| Fe2O3 (%) : | 1.74  | K2O (%) :  | 1.54 |
| CaO (%) :   | 2.32  | SO3 (%) :  | 0.40 |
| MgO (%) :   | 1.62  | P2O5 (%) : | 1.15 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87029 SEAM - H/I OVT

SAMPLE ID - 134

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 63.11 ASH % - 63.34 |       | C.V.    | CUM. |
|----------|----------|-----------|-------|-------------|-------|---|-------|---------|------|
|          |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  |         |      |
| S.G.TME  |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                              |       | (MJ KG) | C.V. |
|          |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  |         |      |
| 1.45     |          | 0.57      | 10.90 | 0.57        | 10.90 | 99.43                                   | 62.74 | 0.0     | 0.0  |
| 1.50     |          | 1.84      | 14.00 | 2.41        | 13.27 | 97.59                                   | 63.66 | 0.0     | 0.0  |
| 1.55     |          | 1.90      | 17.67 | 4.31        | 15.21 | 95.69                                   | 64.57 | 0.0     | 0.0  |
| 1.60     |          | 2.39      | 23.94 | 6.70        | 18.32 | 93.30                                   | 65.61 | 0.0     | 0.0  |
| 1.70     |          | 12.22     | 33.08 | 18.92       | 27.85 | 81.08                                   | 70.51 | 0.0     | 0.0  |
| 1.80     |          | 12.24     | 41.47 | 31.16       | 33.20 | 68.84                                   | 75.68 | 0.0     | 0.0  |
| 2.00     |          | 14.49     | 50.87 | 45.65       | 38.81 | 54.35                                   | 82.29 | 0.0     | 0.0  |
| 2.60     |          | 54.35     | 82.29 | 100.00      | 62.44 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 24.00 ASH % - 34.85 |       | C.V.    | CUM. |
|----------|----------|-----------|-------|-------------|-------|---|-------|---------|------|
|          |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  |         |      |
| S.G.TME  |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                              |       | (MJ KG) | C.V. |
|          |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  |         |      |
| 1.40     |          | 4.69      | 2.32  | 4.69        | 2.32  | 95.31                                   | 35.83 | 0.0     | 0.0  |
| 1.45     |          | 12.37     | 4.24  | 17.06       | 3.71  | 82.94                                   | 40.54 | 0.0     | 0.0  |
| 1.50     |          | 9.10      | 8.07  | 26.16       | 5.23  | 73.84                                   | 44.54 | 0.0     | 0.0  |
| 1.55     |          | 6.63      | 13.59 | 32.79       | 6.92  | 67.21                                   | 47.59 | 0.0     | 0.0  |
| 1.60     |          | 5.33      | 16.94 | 38.12       | 8.32  | 61.88                                   | 50.24 | 0.0     | 0.0  |
| 1.70     |          | 13.08     | 23.16 | 51.20       | 12.11 | 48.80                                   | 57.49 | 0.0     | 0.0  |
| 1.80     |          | 9.47      | 30.74 | 60.67       | 15.02 | 39.33                                   | 63.93 | 0.0     | 0.0  |
| 2.00     |          | 12.04     | 41.39 | 72.71       | 19.39 | 27.29                                   | 73.88 | 0.0     | 0.0  |
| 2.60     |          | 27.29     | 73.88 | 100.00      | 34.26 | 0.0                                     | 0.0   | 0.0     | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87029 SEAM - H/I OVT

SAMPLE ID - 134

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 7.95 ASH % - 25.11 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 19.39     | 4.07  | 19.39       | 4.07  | 80.61               | 31.38 | 0.0                | 0.0  |
| 1.45     |          | 17.25     | 6.28  | 36.64       | 5.11  | 63.36               | 38.22 | 0.0                | 0.0  |
| 1.50     |          | 13.71     | 11.55 | 50.35       | 6.86  | 49.65               | 45.58 | 0.0                | 0.0  |
| 1.55     |          | 5.84      | 16.69 | 56.19       | 7.89  | 43.81               | 49.43 | 0.0                | 0.0  |
| 1.60     |          | 4.82      | 22.11 | 61.01       | 9.01  | 38.99               | 52.81 | 0.0                | 0.0  |
| 1.70     |          | 8.57      | 28.67 | 69.58       | 11.43 | 30.42               | 59.61 | 0.0                | 0.0  |
| 1.80     |          | 6.64      | 35.99 | 76.22       | 13.57 | 23.78               | 66.21 | 0.0                | 0.0  |
| 2.00     |          | 6.96      | 46.84 | 83.18       | 16.35 | 16.82               | 74.22 | 0.0                | 0.0  |
| 2.60     |          | 16.82     | 74.22 | 100.00      | 26.09 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 4.94 ASH % - 25.80 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 25.80 | 100.00      | 25.80 | 0.0                 | 0.0  | 25.26              | 25.26 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87029  
 Coal zone: H/1 (ovt)  
 Field sample no.: 06982 Composite sample no.: 287

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.43  
 Contribution (%): 0.90  
 Total yield (%): 0.90

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.86                 |                  |
| Ash (%):                       | 10.08                | 10.17            |
| Volatile matter (%):           | 6.64                 | 6.70             |
| Fixed carbon (%):              | 82.42                | 83.13            |
| Total sulphur (%):             | 0.58                 | 0.59             |
| Combustible sulphur (%):       | 0.52                 |                  |
| Gross calorific value (cal/g): | 7,514.00             | 7,580.00         |
| Volatile matter (dmmf %):      | 6.40                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.039                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,324.00             | 1,235.00            |
| Softening temperature (°C):     | 1,353.00             | 1,264.00            |
| Hemispherical temperature (°C): | 1,389.00             | 1,290.00            |
| Final temperature (°C):         | 1,447.00             | 1,432.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 47.77 | TiO2 (%): | 3.26 |
| Al2O3 (%): | 26.89 | Na2O (%): | 1.80 |
| Fe2O3 (%): | 3.86  | K2O (%):  | 1.51 |
| CaO (%):   | 6.35  | SO3 (%):  | 1.54 |
| MgO (%):   | 1.85  | P2O5 (%): | 0.88 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87029  
 Coal zone: H/I (ovt)  
 Field sample no.: 06982 Composite sample no.: 474

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.57  
 Contribution (%): 8.18  
 Total yield (%): 8.18

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.75                 |                  |
| Ash (%):                       | 9.45                 | 9.52             |
| Volatile matter (%):           | 6.70                 | 6.75             |
| Fixed carbon (%):              | 83.10                | 83.73            |
| Total sulphur (%):             | 0.62                 | 0.62             |
| Combustible sulphur (%):       | 0.60                 |                  |
| Gross calorific value (cal/g): | 7,459.00             | 7,516.00         |
| Volatile matter (dmmf %):      | 6.50                 |                  |
| Hardgrove index:               | 47.00                |                  |
| Phosphorous in coal (%):       | 0.217                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,274.00             | 1,145.00            |
| Softening temperature (°C):     | 1,280.00             | 1,253.00            |
| Hemispherical temperature (°C): | 1,298.00             | 1,266.00            |
| Final temperature (°C):         | 1,322.00             | 1,319.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 48.34 | TiO2 (%): | 1.46 |
| Al2O3 (%): | 25.33 | Na2O (%): | 1.73 |
| Fe2O3 (%): | 4.95  | K2O (%):  | 1.26 |
| CaO (%):   | 6.72  | SO3 (%):  | 0.54 |
| MgO (%):   | 2.06  | P2O5 (%): | 5.25 |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPDLRDDH87029 SEAM - H/I

SAMPLE ID - 135

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 68.49 ASH % - 54.40 |              |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ/KG)                         | CUM.<br>C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |              |
| 1.45     | 0.40                  | 4.87  | 0.40      | 4.87  | 99.60       | 55.52 | 0.0        | 0.0  |   |              |
| 1.50     | 1.11                  | 11.37 | 1.51      | 9.65  | 98.49       | 56.02 | 0.0        | 0.0  |   |              |
| 1.55     | 0.79                  | 18.61 | 2.30      | 12.73 | 97.70       | 56.32 | 0.0        | 0.0  |   |              |
| 1.60     | 1.72                  | 22.04 | 4.02      | 16.71 | 95.98       | 56.94 | 0.0        | 0.0  |   |              |
| 1.70     | 10.11                 | 29.42 | 14.13     | 25.80 | 85.87       | 60.18 | 0.0        | 0.0  |   |              |
| 1.80     | 15.21                 | 41.85 | 29.34     | 34.12 | 70.66       | 64.12 | 0.0        | 0.0  |   |              |
| 2.00     | 27.04                 | 52.30 | 56.38     | 42.84 | 43.62       | 71.45 | 0.0        | 0.0  |   |              |
| 2.60     | 43.62                 | 71.45 | 100.00    | 55.32 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |

ANALYSIS TYPE - FLDAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 20.12 ASH % - 37.53 |              |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ/KG)                         | CUM.<br>C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |              |
| 1.40     | 8.93                 | 2.22  | 8.93      | 2.22  | 91.07       | 40.02 | 0.0        | 0.0  |   |              |
| 1.45     | 5.01                 | 4.78  | 13.94     | 3.14  | 86.06       | 42.07 | 0.0        | 0.0  |   |              |
| 1.50     | 7.72                 | 10.60 | 21.66     | 5.80  | 78.34       | 45.17 | 0.0        | 0.0  |   |              |
| 1.55     | 5.70                 | 14.54 | 27.36     | 7.62  | 72.64       | 47.57 | 0.0        | 0.0  |   |              |
| 1.60     | 4.90                 | 18.15 | 32.26     | 9.22  | 67.74       | 49.70 | 0.0        | 0.0  |   |              |
| 1.70     | 14.43                | 26.85 | 46.69     | 14.67 | 53.31       | 55.88 | 0.0        | 0.0  |   |              |
| 1.80     | 13.33                | 35.85 | 60.02     | 19.37 | 39.98       | 62.56 | 0.0        | 0.0  |   |              |
| 2.00     | 15.56                | 46.59 | 75.58     | 24.98 | 24.42       | 72.74 | 0.0        | 0.0  |   |              |
| 2.60     | 24.42                | 72.74 | 100.00    | 36.64 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87029 SEAM - H/I

SAMPLE ID - 135

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % |       | 7.83 ASH % - 23.44 |      |
|----------|----------|-----------|------|-------------|-------|-------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS        |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%               | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 21.43    | 3.72      |      | 21.43       | 3.72  | 78.57             | 27.62 | 0.0                | 0.0  |
| 1.45     | 12.21    | 5.13      |      | 33.64       | 4.23  | 66.36             | 31.76 | 0.0                | 0.0  |
| 1.50     | 16.85    | 7.34      |      | 50.49       | 5.27  | 49.51             | 40.07 | 0.0                | 0.0  |
| 1.55     | 4.93     | 12.52     |      | 55.42       | 5.91  | 44.58             | 43.11 | 0.0                | 0.0  |
| 1.60     | 6.65     | 15.39     |      | 62.07       | 6.93  | 37.93             | 47.97 | 0.0                | 0.0  |
| 1.70     | 9.91     | 21.20     |      | 71.98       | 8.89  | 28.02             | 57.44 | 0.0                | 0.0  |
| 1.80     | 5.62     | 28.95     |      | 77.60       | 10.35 | 22.40             | 64.59 | 0.0                | 0.0  |
| 2.00     | 7.34     | 41.77     |      | 84.94       | 13.06 | 15.06             | 75.71 | 0.0                | 0.0  |
| 2.60     | 15.06    | 75.71     |      | 100.00      | 22.50 | 0.0               | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % |      | 3.56 ASH % - 27.03 |       |
|----------|----------|-----------|------|-------------|-------|-------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS        |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%               | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 27.03     |      | 100.00      | 27.03 | 0.0               | 0.0  | 24.99              | 24.99 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87029 SEAM - H

SAMPLE ID - 136

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 54.63 ASH % - 59.65 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 0.17                  | 8.02  | 0.17      | 8.02  | 99.83       | 56.03 | 0.0        | 0.0  |   |           |
| 1.45     | 0.15                  | 7.47  | 0.32      | 7.76  | 99.68       | 56.11 | 0.0        | 0.0  |   |           |
| 1.50     | 0.54                  | 12.68 | 0.86      | 10.85 | 99.14       | 56.34 | 0.0        | 0.0  |   |           |
| 1.55     | 0.86                  | 19.33 | 1.72      | 15.09 | 98.28       | 56.67 | 0.0        | 0.0  |   |           |
| 1.60     | 1.28                  | 23.44 | 3.00      | 18.65 | 97.00       | 57.11 | 0.0        | 0.0  |   |           |
| 1.70     | 14.55                 | 31.43 | 17.55     | 29.25 | 82.45       | 61.64 | 0.0        | 0.0  |   |           |
| 1.80     | 24.65                 | 42.23 | 42.20     | 36.83 | 57.80       | 69.91 | 0.0        | 0.0  |   |           |
| 2.00     | 19.33                 | 52.41 | 61.53     | 41.72 | 38.47       | 78.71 | 0.0        | 0.0  |   |           |
| 2.60     | 38.47                 | 78.71 | 100.00    | 55.95 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLDAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 29.17 ASH % - 31.73 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 12.13                | 3.12  | 12.13     | 3.12  | 87.87       | 35.85 | 0.0        | 0.0  |   |           |
| 1.45     | 11.99                | 6.31  | 24.12     | 4.71  | 75.88       | 40.52 | 0.0        | 0.0  |   |           |
| 1.50     | 8.82                 | 11.64 | 32.94     | 6.56  | 67.06       | 44.31 | 0.0        | 0.0  |   |           |
| 1.55     | 8.06                 | 16.27 | 41.00     | 8.47  | 59.00       | 48.14 | 0.0        | 0.0  |   |           |
| 1.60     | 8.38                 | 20.40 | 49.38     | 10.50 | 50.62       | 52.74 | 0.0        | 0.0  |   |           |
| 1.70     | 10.94                | 27.97 | 60.32     | 13.66 | 39.68       | 59.57 | 0.0        | 0.0  |   |           |
| 1.80     | 7.95                 | 36.68 | 68.27     | 16.34 | 31.73       | 65.30 | 0.0        | 0.0  |   |           |
| 2.00     | 10.09                | 48.29 | 78.36     | 20.46 | 21.64       | 73.23 | 0.0        | 0.0  |   |           |
| 2.60     | 21.64                | 73.23 | 100.00    | 31.88 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87029 SEAM - H

SAMPLE ID - 136

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - 11.74 |       | ASH % - 21.92 |      |
|----------|----------|-----------|------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     | 13.31    | 1.66      |      | 13.31       | 1.66  | 86.69                     | 30.15 | 0.0           | 0.0  |
| 1.45     | 16.77    | 4.12      |      | 30.08       | 3.03  | 69.92                     | 36.40 | 0.0           | 0.0  |
| 1.50     | 15.67    | 7.49      |      | 45.75       | 4.56  | 54.25                     | 44.75 | 0.0           | 0.0  |
| 1.55     | 5.21     | 11.22     |      | 50.96       | 5.24  | 49.04                     | 48.31 | 0.0           | 0.0  |
| 1.60     | 6.24     | 16.63     |      | 57.20       | 6.48  | 42.80                     | 52.93 | 0.0           | 0.0  |
| 1.70     | 10.09    | 21.60     |      | 67.29       | 8.75  | 32.71                     | 62.59 | 0.0           | 0.0  |
| 1.80     | 3.98     | 30.57     |      | 71.27       | 9.97  | 28.73                     | 67.03 | 0.0           | 0.0  |
| 2.00     | 5.35     | 41.56     |      | 76.62       | 12.17 | 23.38                     | 72.86 | 0.0           | 0.0  |
| 2.60     | 23.38    | 72.86     |      | 100.00      | 26.36 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - 4.46 |      | ASH % - 25.37 |       |
|----------|----------|-----------|------|-------------|-------|--------------------------|------|---------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS               |      | C.V.          | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                      | ASH% | (MJ KG)       | C.V.  |
| 240.00   | 100.00   | 25.37     |      | 100.00      | 25.37 | 0.0                      | 0.0  | 24.10         | 24.10 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87029  
 Coal zone: H  
 Field sample no.: 06988 Composite sample no.: 475

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 10.93  
 Total yield (%): 10.93

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 1.12                 |                  |
| Ash (%) :                       | 7.30                 | 7.38             |
| Volatile matter (%) :           | 6.88                 | 6.96             |
| Fixed carbon (%) :              | 84.70                | 85.66            |
| Total sulphur (%) :             | 0.62                 | 0.63             |
| Combustible sulphur (%) :       | 0.61                 |                  |
| Gross calorific value (cal/g) : | 7,803.00             | 7,892.00         |
| Volatile matter (dmmf%) :       | 6.70                 |                  |
| Hardgrove index :               | 45.00                |                  |
| Phosphorous in coal (%) :       | 0.155                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,274.00             | 1,245.00            |
| Softening temperature(°C) :     | 1,290.00             | 1,261.00            |
| Hemispherical temperature(°C) : | 1,295.00             | 1,280.00            |
| Final temperature(°C) :         | 1,380.00             | 1,378.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 49.36 | TiO2 (%) : | 2.02 |
| Al2O3 (%) : | 24.79 | Na2O (%) : | 1.85 |
| Fe2O3 (%) : | 3.40  | K2O (%) :  | 1.32 |
| CaO (%) :   | 6.07  | SO3 (%) :  | 0.39 |
| MgO (%) :   | 1.51  | P2O5 (%) : | 4.85 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87029 SEAM - PH

SAMPLE ID - 137

WASHABILITY ID - WA1

| ANALYSIS TYPE - FLOAT |             |             |       |            |       |   |      |         |      |
|-----------------------|-------------|-------------|-------|------------|-------|---|------|---------|------|
| FRACTION              | SIZE(MM)    | 35.00 X     |       | 6.00       |       | RELATIVE WEIGHT % - 50.17 ASH % - 52.44 |      |         |      |
| S.G.TME               | ELEMENTAL   | CUM. FLOATS |       | CUM. SINKS |       | C.V.                                    |      | CUM.    |      |
|                       | WT% ASH%    | WT%         | ASH%  | WT%        | ASH%  | WT%                                     | ASH% | (MJ KG) | C.V. |
| 1.40                  | 0.16 4.64   | 0.16        | 4.64  | 99.84      | 53.53 | 0.0                                     | 0.0  |         |      |
| 1.45                  | 0.41 5.60   | 0.57        | 5.33  | 99.43      | 53.73 | 0.0                                     | 0.0  |         |      |
| 1.50                  | 4.27 11.82  | 4.84        | 11.06 | 95.16      | 55.61 | 0.0                                     | 0.0  |         |      |
| 1.55                  | 2.80 16.29  | 7.64        | 12.97 | 92.36      | 56.80 | 0.0                                     | 0.0  |         |      |
| 1.60                  | 2.69 21.27  | 10.33       | 15.13 | 89.67      | 57.87 | 0.0                                     | 0.0  |         |      |
| 1.70                  | 11.19 31.09 | 21.52       | 23.43 | 78.48      | 61.69 | 0.0                                     | 0.0  |         |      |
| 1.80                  | 11.46 38.37 | 32.98       | 28.62 | 67.02      | 65.68 | 0.0                                     | 0.0  |         |      |
| 2.00                  | 24.69 51.44 | 57.67       | 38.39 | 42.33      | 73.98 | 0.0                                     | 0.0  |         |      |
| 2.60                  | 42.33 73.98 | 100.00      | 53.46 | 0.0        | 0.0   | 0.0                                     | 0.0  |         |      |

| ANALYSIS TYPE - FLOAT |             |             |       |            |       |   |      |         |      |
|-----------------------|-------------|-------------|-------|------------|-------|---|------|---------|------|
| FRACTION              | SIZE(MM)    | 6.00 X      |       | 0.50       |       | RELATIVE WEIGHT % - 30.25 ASH % - 25.97 |      |         |      |
| S.G.TME               | ELEMENTAL   | CUM. FLOATS |       | CUM. SINKS |       | C.V.                                    |      | CUM.    |      |
|                       | WT% ASH%    | WT%         | ASH%  | WT%        | ASH%  | WT%                                     | ASH% | (MJ KG) | C.V. |
| 1.40                  | 20.48 2.32  | 20.48       | 2.32  | 79.52      | 32.68 | 0.0                                     | 0.0  |         |      |
| 1.45                  | 10.08 5.67  | 30.56       | 3.42  | 69.44      | 36.60 | 0.0                                     | 0.0  |         |      |
| 1.50                  | 11.81 10.90 | 42.37       | 5.51  | 57.63      | 41.87 | 0.0                                     | 0.0  |         |      |
| 1.55                  | 6.97 14.98  | 49.34       | 6.85  | 50.66      | 45.57 | 0.0                                     | 0.0  |         |      |
| 1.60                  | 6.47 18.59  | 55.81       | 8.21  | 44.19      | 49.52 | 0.0                                     | 0.0  |         |      |
| 1.70                  | 9.74 25.38  | 65.55       | 10.76 | 34.45      | 56.34 | 0.0                                     | 0.0  |         |      |
| 1.80                  | 6.90 34.69  | 72.45       | 13.04 | 27.55      | 61.76 | 0.0                                     | 0.0  |         |      |
| 2.00                  | 9.99 46.21  | 82.44       | 17.06 | 17.56      | 70.61 | 0.0                                     | 0.0  |         |      |
| 2.60                  | 17.56 70.61 | 100.00      | 26.46 | 0.0        | 0.0   | 0.0                                     | 0.0  |         |      |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87029 SEAM - PH

SAMPLE ID - 137

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X |       | 0.15        |       | RELATIVE WEIGHT % - 13.03 ASH % - 15.88 |       |         |      |
|---------------------|-----------------|-------|-------------|-------|---|-------|---------|------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                              |       | C.V.    | CUM. |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                                     | ASH%  | (MJ KG) | C.V. |
| 1.40                | 41.48           | 1.62  | 41.48       | 1.62  | 58.52                                   | 23.99 | 0.0     | 0.0  |
| 1.45                | 19.11           | 3.62  | 60.59       | 2.25  | 39.41                                   | 33.86 | 0.0     | 0.0  |
| 1.50                | 9.87            | 7.52  | 70.46       | 2.99  | 29.54                                   | 42.67 | 0.0     | 0.0  |
| 1.55                | 4.20            | 11.29 | 74.66       | 3.46  | 25.34                                   | 47.87 | 0.0     | 0.0  |
| 1.60                | 3.24            | 15.62 | 77.90       | 3.96  | 22.10                                   | 52.60 | 0.0     | 0.0  |
| 1.70                | 4.87            | 20.78 | 82.77       | 4.95  | 17.23                                   | 61.59 | 0.0     | 0.0  |
| 1.80                | 2.41            | 30.00 | 85.18       | 5.66  | 14.82                                   | 66.72 | 0.0     | 0.0  |
| 2.00                | 3.57            | 42.38 | 88.75       | 7.14  | 11.25                                   | 74.45 | 0.0     | 0.0  |
| 2.60                | 11.25           | 74.45 | 100.00      | 14.71 | 0.0                                     | 0.0   | 0.0     | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X |       | 0.00        |       | RELATIVE WEIGHT % - 6.55 ASH % - 18.78 |      |         |       |
|---------------------|-----------------|-------|-------------|-------|--|------|---------|-------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                             |      | C.V.    | CUM.  |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                                    | ASH% | (MJ KG) | C.V.  |
| 240.00              | 100.00          | 18.78 | 100.00      | 18.78 | 0.0                                    | 0.0  | 27.99   | 27.99 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87029  
 Coal zone: Ph  
 Field sample no.: 06991 Composite sample no.: 289

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 3.10  
 Total yield (%): 3.10

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.72                 |                  |
| Ash (%):                       | 10.92                | 11.00            |
| Volatile matter (%):           | 7.22                 | 7.27             |
| Fixed carbon (%):              | 81.14                | 81.73            |
| Total sulphur (%):             | 0.55                 | 0.55             |
| Combustible sulphur (%):       | 0.48                 |                  |
| Gross calorific value (cal/g): | 7,385.00             | 7,439.00         |
| Volatile matter (dmmf%):       | 7.10                 |                  |
| Hardgrove index:               | 44.00                |                  |
| Phosphorous in coal (%):       | 0.322                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,259.00             | 1,248.00            |
| Softening temperature(°C):     | 1,290.00             | 1,280.00            |
| Hemispherical temperature(°C): | 1,295.00             | 1,285.00            |
| Final temperature(°C):         | 1,319.00             | 1,318.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 42.36 | TiO2 (%): | 1.46 |
| Al2O3 (%): | 25.71 | Na2O (%): | 2.05 |
| Fe2O3 (%): | 3.26  | K2O (%):  | 1.36 |
| CaO (%):   | 8.68  | SO3 (%):  | 1.65 |
| MgO (%):   | 2.03  | P2O5 (%): | 6.75 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87029  
 Coal zone: Ph  
 Field sample no.: 06991 Composite sample no.: 476

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.57  
 Contribution (%): 15.90  
 Total yield (%): 15.90

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.00                 |                  |
| Ash (%):                       | 6.99                 | 7.06             |
| Volatile matter (%):           | 7.55                 | 7.63             |
| Fixed carbon (%):              | 84.46                | 85.31            |
| Total sulphur (%):             | 0.61                 | 0.62             |
| Combustible sulphur (%):       | 0.59                 |                  |
| Gross calorific value (cal/g): | 7,813.00             | 7,892.00         |
| Volatile matter (dmmf %):      | 7.50                 |                  |
| Hardgrove index:               | 46.00                |                  |
| Phosphorous in coal (%):       | 0.164                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,224.00             | 1,222.00            |
| Softening temperature (°C):     | 1,280.00             | 1,253.00            |
| Hemispherical temperature (°C): | 1,282.00             | 1,272.00            |
| Final temperature (°C):         | 1,340.00             | 1,336.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 47.24 | TiO2 (%): | 1.86 |
| Al2O3 (%): | 23.96 | Na2O (%): | 2.00 |
| Fe2O3 (%): | 3.88  | K2O (%):  | 1.35 |
| CaO (%):   | 7.05  | SO3 (%):  | 0.85 |
| MgO (%):   | 1.91  | P2O5 (%): | 5.38 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87029 SEAM - F

SAMPLE ID - 138

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X          |       | 6.00               |       | RELATIVE WEIGHT % - 70.29 ASH % - 61.86 |       | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|----------|----------|------------------|-------|--------------------|-------|---|-------|-----------------|--------------|
|          |          | ELEMENTAL<br>WT% | ASH%  | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%                       | ASH%  |                 |              |
| S.G.TME  |          |                  |       |                    |       |   |       |                 |              |
| 1.40     |          | 0.80             | 3.39  | 0.80               | 3.39  | 99.20                                   | 63.06 | 0.0             | 0.0          |
| 1.45     |          | 0.91             | 5.51  | 1.71               | 4.52  | 98.29                                   | 63.60 | 0.0             | 0.0          |
| 1.50     |          | 1.04             | 9.89  | 2.75               | 6.55  | 97.25                                   | 64.17 | 0.0             | 0.0          |
| 1.55     |          | 1.09             | 16.93 | 3.84               | 9.50  | 96.16                                   | 64.71 | 0.0             | 0.0          |
| 1.60     |          | 2.32             | 20.88 | 6.16               | 13.78 | 93.84                                   | 65.79 | 0.0             | 0.0          |
| 1.70     |          | 6.28             | 29.39 | 12.44              | 21.66 | 87.56                                   | 68.40 | 0.0             | 0.0          |
| 1.80     |          | 4.34             | 39.14 | 16.78              | 26.18 | 83.22                                   | 69.93 | 0.0             | 0.0          |
| 2.00     |          | 18.74            | 50.54 | 35.52              | 39.03 | 64.48                                   | 75.56 | 0.0             | 0.0          |
| 2.60     |          | 64.48            | 75.56 | 100.00             | 62.59 | 0.0                                     | 0.0   | 0.0             | 0.0          |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X           |       | 0.50               |       | RELATIVE WEIGHT % - 20.92 ASH % - 48.96 |       | C.V.<br>(MJ KG) | CUM.<br>C.V. |
|----------|----------|------------------|-------|--------------------|-------|---|-------|-----------------|--------------|
|          |          | ELEMENTAL<br>WT% | ASH%  | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%                       | ASH%  |                 |              |
| S.G.TME  |          |                  |       |                    |       |   |       |                 |              |
| 1.40     |          | 2.96             | 3.78  | 2.96               | 3.78  | 97.04                                   | 49.32 | 0.0             | 0.0          |
| 1.45     |          | 4.12             | 4.88  | 7.08               | 4.42  | 92.92                                   | 51.29 | 0.0             | 0.0          |
| 1.50     |          | 5.88             | 11.27 | 12.96              | 7.53  | 87.04                                   | 53.99 | 0.0             | 0.0          |
| 1.55     |          | 7.65             | 16.38 | 20.61              | 10.81 | 79.39                                   | 57.62 | 0.0             | 0.0          |
| 1.60     |          | 4.24             | 20.89 | 24.85              | 12.53 | 75.15                                   | 59.69 | 0.0             | 0.0          |
| 1.70     |          | 9.52             | 27.31 | 34.37              | 16.63 | 65.63                                   | 64.38 | 0.0             | 0.0          |
| 1.80     |          | 8.99             | 35.42 | 43.36              | 20.52 | 56.64                                   | 68.98 | 0.0             | 0.0          |
| 2.00     |          | 16.08            | 46.69 | 59.44              | 27.60 | 40.56                                   | 77.82 | 0.0             | 0.0          |
| 2.60     |          | 40.56            | 77.82 | 100.00             | 47.97 | 0.0                                     | 0.0   | 0.0             | 0.0          |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87029 SEAM - F

SAMPLE ID - 138

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 5.86 ASH % - 31.56 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 4.39      | 2.54  | 4.39        | 2.54  | 95.61               | 31.87 | 0.0                | 0.0  |
| 1.45     |          | 18.31     | 3.53  | 22.70       | 3.34  | 77.30               | 38.59 | 0.0                | 0.0  |
| 1.50     |          | 8.59      | 7.49  | 31.29       | 4.48  | 68.71               | 42.47 | 0.0                | 0.0  |
| 1.55     |          | 7.55      | 13.50 | 38.84       | 6.23  | 61.16               | 46.05 | 0.0                | 0.0  |
| 1.60     |          | 6.22      | 16.04 | 45.06       | 7.59  | 54.94               | 49.45 | 0.0                | 0.0  |
| 1.70     |          | 11.94     | 21.61 | 57.00       | 10.52 | 43.00               | 57.18 | 0.0                | 0.0  |
| 1.80     |          | 8.87      | 29.61 | 65.87       | 13.09 | 34.13               | 64.34 | 0.0                | 0.0  |
| 2.00     |          | 11.24     | 42.34 | 77.11       | 17.36 | 22.89               | 75.15 | 0.0                | 0.0  |
| 2.60     |          | 22.89     | 75.15 | 100.00      | 30.59 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.93 ASH % - 29.06 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 29.06 | 100.00      | 29.06 | 0.0                 | 0.0  | 23.39              | 23.39 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87029  
 Coal zone: F  
 Field sample no.: 06994 Composite sample no.: 290

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.58  
 Contribution (%): 3.22  
 Total yield (%): 3.22

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.23                 |                  |
| Ash (%):                       | 13.58                | 13.75            |
| Volatile matter (%):           | 7.55                 | 7.64             |
| Fixed carbon (%):              | 77.64                | 78.61            |
| Total sulphur (%):             | 0.52                 | 0.53             |
| Combustible sulphur (%):       | 0.48                 |                  |
| Gross calorific value (cal/g): | 7,132.00             | 7,221.00         |
| Volatile matter (dmmf %):      | 7.50                 |                  |
| Hardgrove index:               | 44.00                |                  |
| Phosphorous in coal (%):       | 0.068                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,348.00             | 1,256.00            |
| Softening temperature (°C):     | 1,430.00             | 1,311.00            |
| Hemispherical temperature (°C): | 1,443.00             | 1,374.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 59.00 | TiO2 (%): | 1.25 |
| Al2O3 (%): | 22.30 | Na2O (%): | 1.54 |
| Fe2O3 (%): | 2.63  | K2O (%):  | 1.82 |
| CaO (%):   | 1.96  | SO3 (%):  | 0.82 |
| MgO (%):   | 1.87  | P2O5 (%): | 1.14 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 26, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87029  
 Coal zone: F  
 Field sample no.: 06994 Composite sample no.: 477

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.50  
 Contribution (%): 2.71  
 Total yield (%): 2.71

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.94                 |                  |
| Ash (%):                       | 7.39                 | 7.46             |
| Volatile matter (%):           | 6.31                 | 6.37             |
| Fixed carbon (%):              | 85.36                | 86.17            |
| Total sulphur (%):             | 0.58                 | 0.59             |
| Combustible sulphur (%):       | 0.57                 |                  |
| Gross calorific value (cal/g): | 7,777.00             | 7,851.00         |
| Volatile matter (dmmf %):      | 6.10                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.039                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,438.00             | 1,180.00            |
| Softening temperature (°C):     | 1,472.00             | 1,259.00            |
| Hemispherical temperature (°C): | 1,472.00             | 1,274.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 57.44 | TiO2 (%): | 2.02 |
| Al2O3 (%): | 24.57 | Na2O (%): | 1.66 |
| Fe2O3 (%): | 3.12  | K2O (%):  | 2.04 |
| CaO (%):   | 1.79  | SO3 (%):  | 0.48 |
| MgO (%):   | 1.77  | P2O5 (%): | 1.20 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87030 SEAM - M

SAMPLE ID - 139

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 35.00 X |       | 6.00        |       | RELATIVE WEIGHT % - 64.29 |       | ASH % - 47.58 |      |
|---------------------|------------------|-------|-------------|-------|---------------------------|-------|---------------|------|
|                     | ELEMENTAL        |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
|                     | WT%              | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40                | 0.59             | 2.98  | 0.59        | 2.98  | 99.41                     | 47.22 | 0.0           | 0.0  |
| 1.45                | 3.54             | 8.89  | 4.13        | 8.05  | 95.87                     | 48.64 | 0.0           | 0.0  |
| 1.50                | 12.93            | 13.47 | 17.06       | 12.16 | 82.94                     | 54.12 | 0.0           | 0.0  |
| 1.55                | 7.58             | 19.27 | 24.64       | 14.35 | 75.36                     | 57.63 | 0.0           | 0.0  |
| 1.60                | 5.26             | 25.54 | 29.90       | 16.31 | 70.10                     | 60.03 | 0.0           | 0.0  |
| 1.70                | 9.12             | 32.84 | 39.02       | 20.18 | 60.98                     | 64.10 | 0.0           | 0.0  |
| 1.80                | 12.29            | 41.30 | 51.31       | 25.24 | 48.69                     | 69.86 | 0.0           | 0.0  |
| 2.00                | 9.48             | 53.13 | 60.79       | 29.59 | 39.21                     | 73.90 | 0.0           | 0.0  |
| 2.60                | 39.21            | 73.90 | 100.00      | 46.96 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 6.00 X |       | 0.50        |       | RELATIVE WEIGHT % - 25.65 |       | ASH % - 30.97 |      |
|---------------------|-----------------|-------|-------------|-------|---------------------------|-------|---------------|------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40                | 21.38           | 2.39  | 21.38       | 2.39  | 78.62                     | 38.53 | 0.0           | 0.0  |
| 1.45                | 10.24           | 8.71  | 31.62       | 4.44  | 68.38                     | 43.00 | 0.0           | 0.0  |
| 1.50                | 12.04           | 13.45 | 43.66       | 6.92  | 56.34                     | 49.31 | 0.0           | 0.0  |
| 1.55                | 6.16            | 17.95 | 49.82       | 8.29  | 50.18                     | 53.16 | 0.0           | 0.0  |
| 1.60                | 6.53            | 23.11 | 56.35       | 10.00 | 43.65                     | 57.66 | 0.0           | 0.0  |
| 1.70                | 8.99            | 30.88 | 65.34       | 12.88 | 34.66                     | 64.60 | 0.0           | 0.0  |
| 1.80                | 6.00            | 39.17 | 71.34       | 15.09 | 28.66                     | 69.93 | 0.0           | 0.0  |
| 2.00                | 8.65            | 49.71 | 79.99       | 18.83 | 20.01                     | 78.67 | 0.0           | 0.0  |
| 2.60                | 20.01           | 78.67 | 100.00      | 30.81 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRODH87030 SEAM - M

SAMPLE ID - 139

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 7.08 ASH % - 22.44 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 37.89     | 2.00  | 37.89       | 2.00  | 62.11               | 34.20 | 0.0                | 0.0  |
| 1.45     |          | 13.38     | 4.73  | 51.27       | 2.71  | 48.73               | 42.29 | 0.0                | 0.0  |
| 1.50     |          | 7.71      | 9.67  | 58.98       | 3.62  | 41.02               | 48.42 | 0.0                | 0.0  |
| 1.55     |          | 3.84      | 13.53 | 62.82       | 4.23  | 37.18               | 52.03 | 0.0                | 0.0  |
| 1.60     |          | 4.17      | 16.34 | 66.99       | 4.98  | 33.01               | 56.54 | 0.0                | 0.0  |
| 1.70     |          | 5.58      | 22.17 | 72.57       | 6.30  | 27.43               | 63.53 | 0.0                | 0.0  |
| 1.80     |          | 4.02      | 30.63 | 76.59       | 7.58  | 23.41               | 69.18 | 0.0                | 0.0  |
| 2.00     |          | 5.58      | 42.17 | 82.17       | 9.93  | 17.83               | 77.63 | 0.0                | 0.0  |
| 2.60     |          | 17.83     | 77.63 | 100.00      | 22.00 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.98 ASH % - 29.40 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 29.40 | 100.00      | 29.40 | 0.0                 | 0.0  | 23.94              | 23.94 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87030  
 Coal zone: M  
 Field sample no.: 05868 Composite sample no.: 291

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.50  
 Contribution (%): 9.91  
 Total yield (%): 9.91

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.71                 |                  |
| Ash (%) :                       | 10.48                | 10.56            |
| Volatile matter (%) :           | 7.65                 | 7.71             |
| Fixed carbon (%) :              | 81.16                | 81.73            |
| Total sulphur (%) :             | 0.86                 | 0.87             |
| Combustible sulphur (%) :       | 0.85                 |                  |
| Gross calorific value (cal/g) : | 7,538.00             | 7,592.00         |
| Volatile matter (dmmf%) :       | 7.40                 |                  |
| Hardgrove index:                | 44.00                |                  |
| Phosphorous in coal (%) :       | 0.229                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,253.00             | 1,203.00            |
| Softening temperature (°C) :     | 1,290.00             | 1,243.00            |
| Hemispherical temperature (°C) : | 1,309.00             | 1,248.00            |
| Final temperature (°C) :         | 1,338.00             | 1,336.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 46.08 | TiO2 (%) : | 1.69 |
| Al2O3 (%) : | 25.71 | Na2O (%) : | 1.87 |
| Fe2O3 (%) : | 5.83  | K2O (%) :  | 1.20 |
| CaO (%) :   | 6.35  | SO3 (%) :  | 0.12 |
| MgO (%) :   | 1.67  | P2O5 (%) : | 5.00 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87030  
 Coal zone: M  
 Field sample no.: 05868 Composite sample no.: 478

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.52  
 Contribution (%): 11.74  
 Total yield (%): 11.74

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.03                 |                  |
| Ash (%):                       | 7.61                 | 7.69             |
| Volatile matter (%):           | 6.79                 | 6.86             |
| Fixed carbon (%):              | 84.57                | 85.45            |
| Total sulphur (%):             | 0.66                 | 0.67             |
| Combustible sulphur (%):       | 0.65                 |                  |
| Gross calorific value (cal/g): | 7,782.00             | 7,863.00         |
| Volatile matter (dmmf %):      | 6.60                 |                  |
| Hardgrove index:               | 42.00                |                  |
| Phosphorous in coal (%):       | 0.062                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,245.00             | 1,174.00            |
| Softening temperature (°C):     | 1,430.00             | 1,335.00            |
| Hemispherical temperature (°C): | 1,443.00             | 1,359.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 56.26 | TiO2 (%): | 2.34 |
| Al2O3 (%): | 23.82 | Na2O (%): | 1.66 |
| Fe2O3 (%): | 4.36  | K2O (%):  | 1.42 |
| CaO (%):   | 2.66  | SO3 (%):  | 0.36 |
| MgO (%):   | 1.89  | P2O5 (%): | 1.87 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87030 SEAM - L

SAMPLE ID - 140

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |        | 6.00        |       | RELATIVE WEIGHT % - 60.21 ASH % - 19.69 |      | C.V.    | CUM. C.V. |
|----------|----------|-----------|--------|-------------|-------|---|------|---------|-----------|
|          |          | WT%       | ASH%   | WT%         | ASH%  | WT%                                     | ASH% |         |           |
| S.G.TME  |          | ELEMENTAL |        | CUM. FLDATS |       | CUM. SINKS                              |      | (MJ KG) |           |
|          |          | WT%       | ASH%   | WT%         | ASH%  | WT%                                     | ASH% |         |           |
| 1.40     | 6.79     | 4.45      | 6.79   | 4.45        | 93.21 | 21.50                                   | 0.0  | 0.0     |           |
| 1.45     | 48.64    | 8.79      | 55.43  | 8.26        | 44.57 | 35.37                                   | 0.0  | 0.0     |           |
| 1.50     | 6.38     | 13.84     | 61.81  | 8.83        | 38.19 | 38.97                                   | 0.0  | 0.0     |           |
| 1.55     | 7.66     | 19.03     | 69.47  | 9.96        | 30.53 | 43.97                                   | 0.0  | 0.0     |           |
| 1.60     | 5.86     | 22.44     | 75.33  | 10.93       | 24.67 | 49.09                                   | 0.0  | 0.0     |           |
| 1.70     | 6.32     | 29.32     | 81.65  | 12.35       | 18.35 | 55.89                                   | 0.0  | 0.0     |           |
| 1.80     | 1.67     | 20.56     | 83.32  | 12.52       | 16.68 | 59.43                                   | 0.0  | 0.0     |           |
| 2.00     | 6.30     | 51.21     | 89.62  | 15.24       | 10.38 | 64.42                                   | 0.0  | 0.0     |           |
| 2.60     | 10.38    | 64.42     | 100.00 | 20.34       | 0.0   | 0.0                                     | 0.0  | 0.0     |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |        | 0.50        |       | RELATIVE WEIGHT % - 30.77 ASH % - 13.73 |      | C.V.    | CUM. C.V. |
|----------|----------|-----------|--------|-------------|-------|---|------|---------|-----------|
|          |          | WT%       | ASH%   | WT%         | ASH%  | WT%                                     | ASH% |         |           |
| S.G.TME  |          | ELEMENTAL |        | CUM. FLOATS |       | CUM. SINKS                              |      | (MJ KG) |           |
|          |          | WT%       | ASH%   | WT%         | ASH%  | WT%                                     | ASH% |         |           |
| 1.40     | 39.20    | 3.42      | 39.20  | 3.42        | 60.80 | 19.81                                   | 0.0  | 0.0     |           |
| 1.45     | 26.60    | 8.38      | 65.80  | 5.43        | 34.20 | 28.69                                   | 0.0  | 0.0     |           |
| 1.50     | 10.03    | 13.31     | 75.83  | 6.47        | 24.17 | 35.08                                   | 0.0  | 0.0     |           |
| 1.55     | 5.98     | 17.29     | 81.81  | 7.26        | 18.19 | 40.93                                   | 0.0  | 0.0     |           |
| 1.60     | 1.82     | 19.41     | 83.63  | 7.52        | 16.37 | 43.32                                   | 0.0  | 0.0     |           |
| 1.70     | 4.84     | 25.68     | 88.47  | 8.52        | 11.53 | 50.72                                   | 0.0  | 0.0     |           |
| 1.80     | 2.66     | 31.88     | 91.13  | 9.20        | 8.87  | 56.37                                   | 0.0  | 0.0     |           |
| 2.00     | 3.97     | 39.64     | 95.10  | 10.47       | 4.90  | 69.93                                   | 0.0  | 0.0     |           |
| 2.60     | 4.90     | 69.93     | 100.00 | 13.38       | 0.0   | 0.0                                     | 0.0  | 0.0     |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87030 SEAM - L

SAMPLE ID - 140

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 6.49 ASH % - 16.76 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 33.58     | 2.65  | 33.58       | 2.65  | 66.42               | 22.60 | 0.0                | 0.0  |
| 1.45     |          | 19.53     | 5.58  | 53.11       | 3.73  | 46.89               | 29.69 | 0.0                | 0.0  |
| 1.50     |          | 10.66     | 8.47  | 63.77       | 4.52  | 36.23               | 35.93 | 0.0                | 0.0  |
| 1.55     |          | 5.76      | 12.84 | 69.53       | 5.21  | 30.47               | 40.30 | 0.0                | 0.0  |
| 1.60     |          | 3.91      | 15.04 | 73.44       | 5.73  | 26.56               | 44.02 | 0.0                | 0.0  |
| 1.70     |          | 8.13      | 19.30 | 81.57       | 7.09  | 18.43               | 54.92 | 0.0                | 0.0  |
| 1.80     |          | 3.24      | 26.63 | 84.81       | 7.83  | 15.19               | 60.96 | 0.0                | 0.0  |
| 2.00     |          | 4.85      | 36.48 | 89.66       | 9.38  | 10.34               | 72.44 | 0.0                | 0.0  |
| 2.60     |          | 10.34     | 72.44 | 100.00      | 15.90 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.53 ASH % - 23.12 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 23.12 | 100.00      | 23.12 | 0.0                 | 0.0  | 26.14              | 26.14 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87030  
 Coal zone: L  
 Field sample no.: 05852 Composite sample no.: 292

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.68  
 Contribution (%): 47.57  
 Total yield (%): 47.57

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.97                 |                  |
| Ash (%):                       | 11.06                | 11.17            |
| Volatile matter (%):           | 7.27                 | 7.34             |
| Fixed carbon (%):              | 80.70                | 81.49            |
| Total sulphur (%):             | 0.52                 | 0.53             |
| Combustible sulphur (%):       | 0.48                 |                  |
| Gross calorific value (cal/g): | 7,366.00             | 7,438.00         |
| Volatile matter (dmmf %):      | 7.20                 |                  |
| Hardgrove index:               | 41.00                |                  |
| Phosphorous in coal (%):       | 0.147                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,227.00             | 1,223.00            |
| Softening temperature (°C):     | 1,311.00             | 1,264.00            |
| Hemispherical temperature (°C): | 1,340.00             | 1,282.00            |
| Final temperature (°C):         | 1,432.00             | 1,430.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 46.76 | TiO2 (%): | 1.73 |
| Al2O3 (%): | 26.08 | Na2O (%): | 2.40 |
| Fe2O3 (%): | 5.38  | K2O (%):  | 1.18 |
| CaO (%):   | 5.21  | SO3 (%):  | 1.00 |
| MgO (%):   | 2.97  | P2O5 (%): | 3.04 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87030  
 Coal zone: L  
 Field sample no.: 05852 Composite sample no.: 479

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.60  
 Contribution (%): 25.51  
 Total yield (%): 25.51

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.87                 |                  |
| Ash (%) :                       | 7.36                 | 7.42             |
| Volatile matter (%) :           | 7.31                 | 7.37             |
| Fixed carbon (%) :              | 84.46                | 85.21            |
| Total sulphur (%) :             | 0.58                 | 0.59             |
| Combustible sulphur (%) :       | 0.56                 |                  |
| Gross calorific value (cal/g) : | 7,715.00             | 7,783.00         |
| Volatile matter (dmmf%) :       | 7.20                 |                  |
| Hardgrove index :               | 43.00                |                  |
| Phosphorous in coal (%) :       | 0.105                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,317.00             | 1,272.00            |
| Softening temperature (°C) :     | 1,361.00             | 1,295.00            |
| Hemispherical temperature (°C) : | 1,382.00             | 1,309.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 51.14 | TiO2 (%) : | 1.93 |
| Al2O3 (%) : | 28.73 | Na2O (%) : | 2.43 |
| Fe2O3 (%) : | 3.37  | K2O (%) :  | 1.26 |
| CaO (%) :   | 4.62  | SO3 (%) :  | 0.57 |
| MgO (%) :   | 2.20  | P2O5 (%) : | 3.26 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87030 SEAM - ?

SAMPLE ID - 141

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00   |       | RELATIVE WEIGHT % - 60.52 ASH % - 26.76 |            | C.V. | CUM. |
|----------|----------|-----------|-------|--------|-------|---|------------|------|------|
|          |          | ELEMENTAL | WT%   | WT%    | ASH%  | CUM. FLOATS                             | CUM. SINKS |      |      |
| S.G.TME  |          | WT%       | ASH%  | WT%    | ASH%  | WT%                                     | ASH%       |      |      |
| 1.40     |          | 0.56      | 4.71  | 0.56   | 4.71  | 99.44                                   | 26.70      | 0.0  | 0.0  |
| 1.45     |          | 5.28      | 9.27  | 5.84   | 8.83  | 94.16                                   | 27.67      | 0.0  | 0.0  |
| 1.50     |          | 6.11      | 12.90 | 11.95  | 10.91 | 88.05                                   | 28.70      | 0.0  | 0.0  |
| 1.55     |          | 16.40     | 17.58 | 28.35  | 14.77 | 71.65                                   | 31.24      | 0.0  | 0.0  |
| 1.60     |          | 15.86     | 19.87 | 44.21  | 16.60 | 55.79                                   | 34.48      | 0.0  | 0.0  |
| 1.70     |          | 25.58     | 25.69 | 69.79  | 19.93 | 30.21                                   | 41.92      | 0.0  | 0.0  |
| 1.80     |          | 10.27     | 31.11 | 80.06  | 21.37 | 19.94                                   | 47.49      | 0.0  | 0.0  |
| 2.00     |          | 6.39      | 36.77 | 86.45  | 22.50 | 13.55                                   | 52.54      | 0.0  | 0.0  |
| 2.60     |          | 13.55     | 52.54 | 100.00 | 26.57 | 0.0                                     | 0.0        | 0.0  | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50   |       | RELATIVE WEIGHT % - 29.75 ASH % - 17.01 |            | C.V. | CUM. |
|----------|----------|-----------|-------|--------|-------|---|------------|------|------|
|          |          | ELEMENTAL | WT%   | WT%    | ASH%  | CUM. FLOATS                             | CUM. SINKS |      |      |
| S.G.TME  |          | WT%       | ASH%  | WT%    | ASH%  | WT%                                     | ASH%       |      |      |
| 1.40     |          | 18.44     | 3.48  | 18.44  | 3.48  | 81.56                                   | 20.53      | 0.0  | 0.0  |
| 1.45     |          | 22.18     | 8.45  | 40.62  | 6.19  | 59.38                                   | 25.05      | 0.0  | 0.0  |
| 1.50     |          | 17.46     | 12.08 | 58.08  | 7.96  | 41.92                                   | 30.45      | 0.0  | 0.0  |
| 1.55     |          | 12.81     | 16.57 | 70.89  | 9.52  | 29.11                                   | 36.55      | 0.0  | 0.0  |
| 1.60     |          | 6.58      | 19.76 | 77.47  | 10.39 | 22.53                                   | 41.46      | 0.0  | 0.0  |
| 1.70     |          | 7.70      | 22.67 | 85.17  | 11.50 | 14.83                                   | 51.21      | 0.0  | 0.0  |
| 1.80     |          | 3.67      | 29.23 | 88.84  | 12.23 | 11.16                                   | 58.44      | 0.0  | 0.0  |
| 2.00     |          | 3.67      | 36.84 | 92.51  | 13.21 | 7.49                                    | 69.03      | 0.0  | 0.0  |
| 2.60     |          | 7.49      | 69.03 | 100.00 | 17.39 | 0.0                                     | 0.0        | 0.0  | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87030 SEAM - ?

SAMPLE ID - 141

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 6.65 ASH % - 17.84 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 22.96     | 3.10  | 22.96       | 3.10  | 77.04               | 21.57 | 0.0                | 0.0  |
| 1.45     |          | 19.63     | 6.83  | 42.59       | 4.82  | 57.41               | 26.61 | 0.0                | 0.0  |
| 1.50     |          | 10.32     | 9.28  | 52.91       | 5.69  | 47.09               | 30.41 | 0.0                | 0.0  |
| 1.55     |          | 8.65      | 11.79 | 61.56       | 6.55  | 38.44               | 34.60 | 0.0                | 0.0  |
| 1.60     |          | 5.66      | 13.09 | 67.22       | 7.10  | 32.78               | 38.32 | 0.0                | 0.0  |
| 1.70     |          | 12.31     | 16.59 | 79.53       | 8.57  | 20.47               | 51.38 | 0.0                | 0.0  |
| 1.80     |          | 4.66      | 22.64 | 84.19       | 9.35  | 15.81               | 59.85 | 0.0                | 0.0  |
| 2.00     |          | 4.33      | 32.44 | 88.52       | 10.48 | 11.48               | 70.19 | 0.0                | 0.0  |
| 2.60     |          | 11.48     | 70.19 | 100.00      | 17.33 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 3.08 ASH % - 21.79 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 21.79 | 100.00      | 21.79 | 0.0                 | 0.0  | 26.57              | 26.57 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 26, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87030  
 Coal zone: ?  
 Field sample no.: 05855 Composite sample no.: 293

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution(%): 11.07  
 Total yield(%): 11.07

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.44                 |                  |
| Ash (%) :                       | 11.38                | 11.43            |
| Volatile matter (%) :           | 7.45                 | 7.48             |
| Fixed carbon (%) :              | 80.73                | 81.09            |
| Total sulphur (%) :             | 1.83                 | 1.84             |
| Combustible sulphur (%) :       | 1.82                 |                  |
| Gross calorific value (cal/g) : | 7,562.00             | 7,595.00         |
| Volatile matter (dmmf%) :       | 6.80                 |                  |
| Hardgrove index :               | 44.00                |                  |
| Phosphorous in coal (%) :       | 0.187                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,222.00             | 1,098.00            |
| Softening temperature(°C) :     | 1,259.00             | 1,127.00            |
| Hemispherical temperature(°C) : | 1,269.00             | 1,172.00            |
| Final temperature(°C) :         | 1,327.00             | 1,295.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 44.94 | TiO2 (%) : | 0.64 |
| Al2O3 (%) : | 20.91 | Na2O (%) : | 1.58 |
| Fe2O3 (%) : | 15.44 | K2O (%) :  | 1.25 |
| CaO (%) :   | 5.04  | SO3 (%) :  | 0.21 |
| MgO (%) :   | 1.43  | P2O5 (%) : | 3.77 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87030  
 Coal zone: ?  
 Field sample no.: 05855 Composite sample no.: 480

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.49  
 Contribution(%): 5.29  
 Total yield(%): 5.29

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture(%) :         | 0.52                 |                  |
| Ash(%) :                       | 7.00                 | 7.04             |
| Volatile matter(%) :           | 7.73                 | 7.77             |
| Fixed carbon(%) :              | 84.75                | 85.19            |
| Total sulphur(%) :             | 1.88                 | 1.39             |
| Combustible sulphur(%) :       | 1.87                 |                  |
| Gross calorific value(cal/g) : | 7,772.00             | 7,813.00         |
| Volatile matter(dmmf%) :       | 7.10                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal(%) :       | 0.114                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,280.00             | 1,106.00            |
| Softening temperature(°C) :     | 1,306.00             | 1,132.00            |
| Hemispherical temperature(°C) : | 1,317.00             | 1,227.00            |
| Final temperature(°C) :         | 1,372.00             | 1,306.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2(%) :  | 38.90 | TiO2(%) : | 1.60 |
| Al2O3(%) : | 23.55 | Na2O(%) : | 1.81 |
| Fe2O3(%) : | 17.94 | K2O(%) :  | 0.98 |
| CaO(%) :   | 4.94  | SO3(%) :  | 0.33 |
| MgO(%) :   | 1.31  | P2O5(%) : | 3.74 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87030 SEAM - K/L

SAMPLE ID - 142

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 70.86 ASH % - 66.04 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 0.50                  | 3.08  | 0.50      | 3.08  | 99.50       | 65.93 | 0.0        | 0.0  |   |           |
| 1.45     | 0.31                  | 7.23  | 0.81      | 4.67  | 99.19       | 66.12 | 0.0        | 0.0  |   |           |
| 1.50     | 0.55                  | 14.56 | 1.36      | 8.67  | 98.64       | 66.40 | 0.0        | 0.0  |   |           |
| 1.55     | 2.37                  | 19.12 | 3.73      | 15.31 | 96.27       | 67.57 | 0.0        | 0.0  |   |           |
| 1.60     | 2.52                  | 24.00 | 6.25      | 18.81 | 93.75       | 68.74 | 0.0        | 0.0  |   |           |
| 1.70     | 3.70                  | 30.90 | 9.95      | 23.31 | 90.05       | 70.29 | 0.0        | 0.0  |   |           |
| 1.80     | 4.02                  | 39.93 | 13.97     | 28.09 | 86.03       | 71.71 | 0.0        | 0.0  |   |           |
| 2.00     | 17.67                 | 49.24 | 31.64     | 39.90 | 68.36       | 77.52 | 0.0        | 0.0  |   |           |
| 2.60     | 68.36                 | 77.52 | 100.00    | 65.62 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 20.20 ASH % - 49.99 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 11.04                | 2.48  | 11.04     | 2.48  | 88.96       | 54.26 | 0.0        | 0.0  |   |           |
| 1.45     | 5.55                 | 7.43  | 16.59     | 4.14  | 83.41       | 57.37 | 0.0        | 0.0  |   |           |
| 1.50     | 5.27                 | 11.95 | 21.86     | 6.02  | 78.14       | 60.44 | 0.0        | 0.0  |   |           |
| 1.55     | 3.76                 | 16.75 | 25.62     | 7.59  | 74.38       | 62.65 | 0.0        | 0.0  |   |           |
| 1.60     | 3.37                 | 20.37 | 28.99     | 9.08  | 71.01       | 64.65 | 0.0        | 0.0  |   |           |
| 1.70     | 7.27                 | 26.22 | 36.26     | 12.52 | 63.74       | 69.04 | 0.0        | 0.0  |   |           |
| 1.80     | 5.12                 | 33.95 | 41.38     | 15.17 | 58.62       | 72.10 | 0.0        | 0.0  |   |           |
| 2.00     | 11.01                | 45.55 | 52.39     | 21.55 | 47.61       | 78.24 | 0.0        | 0.0  |   |           |
| 2.60     | 47.61                | 78.24 | 100.00    | 48.54 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87030 SEAM - K/L

SAMPLE ID - 142

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 5.79    | ASH % - 37.50 |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|---------|---------------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.    | CUM.          |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG) | C.V.          |
| 1.40     |          | 17.91     | 2.37  | 17.91       | 2.37  | 82.09               | 44.51 | 0.0     | 0.0           |
| 1.45     |          | 11.57     | 4.85  | 29.48       | 3.34  | 70.52               | 51.01 | 0.0     | 0.0           |
| 1.50     |          | 7.07      | 8.07  | 36.55       | 4.26  | 63.45               | 55.80 | 0.0     | 0.0           |
| 1.55     |          | 3.42      | 11.00 | 39.97       | 4.83  | 60.03               | 58.35 | 0.0     | 0.0           |
| 1.60     |          | 3.68      | 13.32 | 43.65       | 5.55  | 56.35               | 61.29 | 0.0     | 0.0           |
| 1.70     |          | 6.86      | 19.38 | 50.51       | 7.43  | 49.49               | 67.10 | 0.0     | 0.0           |
| 1.80     |          | 2.01      | 25.77 | 52.52       | 8.13  | 47.48               | 68.85 | 0.0     | 0.0           |
| 2.00     |          | 7.90      | 37.70 | 60.42       | 12.00 | 39.58               | 75.07 | 0.0     | 0.0           |
| 2.60     |          | 39.58     | 75.07 | 100.00      | 36.96 | 0.0                 | 0.0   | 0.0     | 0.0           |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 3.15    | ASH % - 41.14 |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|---------|---------------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.    | CUM.          |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG) | C.V.          |
| 240.00   |          | 100.00    | 41.14 | 100.00      | 41.14 | 0.0                 | 0.0  | 18.56   | 18.56         |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87030  
 Coal zone: K/L  
 Field sample no.: 05858 Composite sample no.: 294

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 1.38  
 Total yield (%): 1.38

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.77                 |                  |
| Ash (%) :                       | 11.79                | 11.88            |
| Volatile matter (%) :           | 6.64                 | 6.69             |
| Fixed carbon (%) :              | 80.80                | 81.43            |
| Total sulphur (%) :             | 0.54                 | 0.54             |
| Combustible sulphur (%) :       | 0.52                 |                  |
| Gross calorific value (cal/g) : | 7,225.00             | 7,281.00         |
| Volatile matter (dmmf%) :       | 6.40                 |                  |
| Hardgrove index:                | 44.00                |                  |
| Phosphorous in coal (%) :       | 0.034                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,372.00             | 1,295.00            |
| Softening temperature (°C) :     | 1,472.00             | 1,343.00            |
| Hemispherical temperature (°C) : | 1,472.00             | 1,380.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 67.58 | TiO2 (%) : | 2.13 |
| Al2O3 (%) : | 20.79 | Na2O (%) : | 1.85 |
| Fe2O3 (%) : | 2.02  | K2O (%) :  | 1.13 |
| CaO (%) :   | 1.51  | SO3 (%) :  | 0.48 |
| MgO (%) :   | 1.51  | P2O5 (%) : | 0.67 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87030  
 Coal zone: K/L  
 Field sample no.: 05858 Composite sample no.: 481

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.55  
 Contribution (%): 5.13  
 Total yield (%): 5.13

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.04                 |                  |
| Ash (%):                       | 6.95                 | 7.02             |
| Volatile matter (%):           | 6.88                 | 6.95             |
| Fixed carbon (%):              | 85.13                | 86.03            |
| Total sulphur (%):             | 0.62                 | 0.63             |
| Combustible sulphur (%):       | 0.61                 |                  |
| Gross calorific value (cal/g): | 7,794.00             | 7,876.00         |
| Volatile matter (dmmf%):       | 6.70                 |                  |
| Hardgrove index:               | 43.00                |                  |
| Phosphorous in coal (%):       | 0.065                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,174.00             | 1,058.00            |
| Softening temperature(°C):     | 1,348.00             | 1,253.00            |
| Hemispherical temperature(°C): | 1,364.00             | 1,301.00            |
| Final temperature(°C):         | 1,427.00             | 1,424.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 63.00 | TiO2 (%): | 3.95 |
| Al2O3 (%): | 20.41 | Na2O (%): | 1.80 |
| Fe2O3 (%): | 2.39  | K2O (%):  | 1.06 |
| CaO (%):   | 3.02  | SO3 (%):  | 0.27 |
| MgO (%):   | 1.47  | P2O5 (%): | 2.15 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87030 SEAM - K

SAMPLE ID - 143

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 59.44 |       | ASH % - 55.53 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 0.17      | 3.99  | 0.17        | 3.99  | 99.83                     | 55.02 | 0.0           | 0.0  |
| 1.45     |          | 0.21      | 7.59  | 0.38        | 5.98  | 99.62                     | 55.12 | 0.0           | 0.0  |
| 1.50     |          | 0.20      | 10.93 | 0.58        | 7.69  | 99.42                     | 55.21 | 0.0           | 0.0  |
| 1.55     |          | 0.21      | 17.38 | 0.79        | 10.26 | 99.21                     | 55.29 | 0.0           | 0.0  |
| 1.60     |          | 1.04      | 19.92 | 1.83        | 15.75 | 98.17                     | 55.66 | 0.0           | 0.0  |
| 1.70     |          | 12.41     | 28.74 | 14.24       | 27.07 | 85.76                     | 59.56 | 0.0           | 0.0  |
| 1.80     |          | 12.17     | 36.69 | 26.41       | 31.50 | 73.59                     | 63.34 | 0.0           | 0.0  |
| 2.00     |          | 26.01     | 47.47 | 52.42       | 39.43 | 47.58                     | 72.02 | 0.0           | 0.0  |
| 2.60     |          | 47.58     | 72.02 | 100.00      | 54.93 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 29.22 |       | ASH % - 36.20 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 4.34      | 3.08  | 4.34        | 3.08  | 95.66                     | 37.03 | 0.0           | 0.0  |
| 1.45     |          | 4.64      | 4.27  | 8.98        | 3.69  | 91.02                     | 38.70 | 0.0           | 0.0  |
| 1.50     |          | 2.93      | 8.01  | 11.91       | 4.76  | 88.09                     | 39.72 | 0.0           | 0.0  |
| 1.55     |          | 3.12      | 11.42 | 15.03       | 6.14  | 84.97                     | 40.76 | 0.0           | 0.0  |
| 1.60     |          | 4.80      | 14.06 | 19.83       | 8.06  | 80.17                     | 42.36 | 0.0           | 0.0  |
| 1.70     |          | 15.79     | 18.01 | 35.62       | 12.47 | 64.38                     | 48.33 | 0.0           | 0.0  |
| 1.80     |          | 15.64     | 23.40 | 51.26       | 15.80 | 48.74                     | 56.33 | 0.0           | 0.0  |
| 2.00     |          | 19.40     | 32.59 | 70.66       | 20.41 | 29.34                     | 72.03 | 0.0           | 0.0  |
| 2.60     |          | 29.34     | 72.03 | 100.00      | 35.56 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87030 SEAM - K

SAMPLE ID - 143

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 7.17 ASH % - 37.67 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 8.28      | 2.52  | 8.28        | 2.52  | 91.72               | 41.67 | 0.0                | 0.0  |
| 1.45     |          | 8.94      | 5.21  | 17.22       | 3.92  | 82.78               | 45.61 | 0.0                | 0.0  |
| 1.50     |          | 3.92      | 10.05 | 21.14       | 5.05  | 78.86               | 47.37 | 0.0                | 0.0  |
| 1.55     |          | 2.58      | 14.76 | 23.72       | 6.11  | 76.28               | 48.48 | 0.0                | 0.0  |
| 1.60     |          | 3.99      | 18.37 | 27.71       | 7.88  | 72.29               | 50.14 | 0.0                | 0.0  |
| 1.70     |          | 10.02     | 23.55 | 37.73       | 12.04 | 62.27               | 54.42 | 0.0                | 0.0  |
| 1.80     |          | 10.18     | 30.04 | 47.91       | 15.86 | 52.09               | 59.18 | 0.0                | 0.0  |
| 2.00     |          | 19.25     | 39.19 | 67.16       | 22.55 | 32.84               | 70.90 | 0.0                | 0.0  |
| 2.60     |          | 32.84     | 70.90 | 100.00      | 38.43 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 4.17 ASH % - 41.73 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 41.73 | 100.00      | 41.73 | 0.0                 | 0.0  | 18.18              | 18.18 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87030  
 Coal zone: K  
 Field sample no.: 05862 Composite sample no.: 295

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.57  
 Contribution (%): 0.98  
 Total yield (%): 0.98

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.79                 |                  |
| Ash (%):                       | 13.11                | 13.21            |
| Volatile matter (%):           | 6.85                 | 6.90             |
| Fixed carbon (%):              | 79.25                | 79.89            |
| Total sulphur (%):             | 1.77                 | 1.78             |
| Combustible sulphur (%):       | 1.61                 |                  |
| Gross calorific value (cal/g): | 7,170.00             | 7,227.00         |
| Volatile matter (dmmf %):      | 6.10                 |                  |
| Hardgrove index:               | 43.00                |                  |
| Phosphorous in coal (%):       | 0.105                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,190.00             | 1,106.00            |
| Softening temperature (°C):     | 1,274.00             | 1,137.00            |
| Hemispherical temperature (°C): | 1,282.00             | 1,148.00            |
| Final temperature (°C):         | 1,340.00             | 1,330.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|                                     |       |                                    |      |
|-------------------------------------|-------|------------------------------------|------|
| SiO <sub>2</sub> (%):               | 52.78 | TiO <sub>2</sub> (%):              | 2.71 |
| Al <sub>2</sub> O <sub>3</sub> (%): | 15.88 | Na <sub>2</sub> O (%):             | 1.77 |
| Fe <sub>2</sub> O <sub>3</sub> (%): | 10.81 | K <sub>2</sub> O (%):              | 0.73 |
| CaO (%):                            | 4.37  | SO <sub>3</sub> (%):               | 3.09 |
| MgO (%):                            | 1.77  | P <sub>2</sub> O <sub>5</sub> (%): | 1.84 |



===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87030  
 Coal zone: K  
 Field sample no.: 05862 Composite sample no.: 482

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.59  
 Contribution (%): 5.02  
 Total yield (%): 5.02

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.96                 |                  |
| Ash (%):                       | 9.20                 | 9.29             |
| Volatile matter (%):           | 6.27                 | 6.33             |
| Fixed carbon (%):              | 83.57                | 84.38            |
| Total sulphur (%):             | 1.74                 | 1.76             |
| Combustible sulphur (%):       | 1.67                 |                  |
| Gross calorific value (cal/g): | 7,574.00             | 7,647.00         |
| Volatile matter (dmmf %):      | 5.50                 |                  |
| Hardgrove index:               | 42.00                |                  |
| Phosphorous in coal (%):       | 0.109                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,145.00             | 1,095.00            |
| Softening temperature (°C):     | 1,298.00             | 1,122.00            |
| Hemispherical temperature (°C): | 1,309.00             | 1,140.00            |
| Final temperature (°C):         | 1,348.00             | 1,293.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 48.28 | TiO2 (%): | 4.21 |
| Al2O3 (%): | 16.63 | Na2O (%): | 1.70 |
| Fe2O3 (%): | 14.39 | K2O (%):  | 0.60 |
| CaO (%):   | 4.39  | SO3 (%):  | 1.93 |
| MgO (%):   | 1.48  | P2O5 (%): | 2.71 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87030 SEAM - I

SAMPLE ID - 144

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 59.35 ASH % - 40.78 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 1.18                  | 8.31  | 1.18      | 8.31  | 98.82       | 40.32 | 0.0        | 0.0  |   |           |
| 1.45     | 3.32                  | 9.50  | 4.50      | 9.19  | 95.50       | 41.39 | 0.0        | 0.0  |   |           |
| 1.50     | 8.60                  | 13.82 | 13.10     | 12.23 | 86.90       | 44.12 | 0.0        | 0.0  |   |           |
| 1.55     | 11.51                 | 17.05 | 24.61     | 14.48 | 75.39       | 48.25 | 0.0        | 0.0  |   |           |
| 1.60     | 5.96                  | 19.95 | 30.57     | 15.55 | 69.43       | 50.68 | 0.0        | 0.0  |   |           |
| 1.70     | 11.31                 | 27.09 | 41.88     | 18.67 | 58.12       | 55.27 | 0.0        | 0.0  |   |           |
| 1.80     | 10.28                 | 34.11 | 52.16     | 21.71 | 47.84       | 59.81 | 0.0        | 0.0  |   |           |
| 2.00     | 13.81                 | 44.20 | 65.97     | 26.42 | 34.03       | 66.15 | 0.0        | 0.0  |   |           |
| 2.60     | 34.03                 | 66.15 | 100.00    | 39.94 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 30.10 ASH % - 23.73 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 4.36                 | 8.10  | 4.36      | 8.10  | 95.64       | 23.78 | 0.0        | 0.0  |   |           |
| 1.45     | 15.44                | 8.13  | 19.80     | 8.12  | 80.20       | 26.79 | 0.0        | 0.0  |   |           |
| 1.50     | 18.37                | 10.66 | 38.17     | 9.34  | 61.83       | 31.59 | 0.0        | 0.0  |   |           |
| 1.55     | 11.43                | 13.90 | 49.60     | 10.39 | 50.40       | 35.60 | 0.0        | 0.0  |   |           |
| 1.60     | 8.51                 | 17.11 | 58.11     | 11.38 | 41.89       | 39.35 | 0.0        | 0.0  |   |           |
| 1.70     | 11.53                | 21.62 | 69.64     | 13.07 | 30.36       | 46.09 | 0.0        | 0.0  |   |           |
| 1.80     | 7.26                 | 27.92 | 76.90     | 14.48 | 23.10       | 51.80 | 0.0        | 0.0  |   |           |
| 2.00     | 10.27                | 38.44 | 87.17     | 17.30 | 12.83       | 62.49 | 0.0        | 0.0  |   |           |
| 2.60     | 12.83                | 62.49 | 100.00    | 23.10 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87030 SEAM - I

SAMPLE ID - 144

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 6.29 ASH % - 27.55 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 2.64      | 2.61  | 2.64        | 2.61  | 97.36               | 27.45 | 0.0                | 0.0  |
| 1.45     |          | 9.07      | 4.67  | 11.71       | 4.21  | 88.29               | 29.79 | 0.0                | 0.0  |
| 1.50     |          | 11.10     | 6.53  | 22.81       | 5.34  | 77.19               | 33.13 | 0.0                | 0.0  |
| 1.55     |          | 8.44      | 8.69  | 31.25       | 6.24  | 68.75               | 36.13 | 0.0                | 0.0  |
| 1.60     |          | 8.19      | 11.64 | 39.44       | 7.36  | 60.56               | 39.44 | 0.0                | 0.0  |
| 1.70     |          | 14.06     | 15.14 | 53.50       | 9.41  | 46.50               | 46.79 | 0.0                | 0.0  |
| 1.80     |          | 10.63     | 21.65 | 64.13       | 11.44 | 35.87               | 54.24 | 0.0                | 0.0  |
| 2.00     |          | 13.14     | 34.91 | 77.27       | 15.43 | 22.73               | 65.42 | 0.0                | 0.0  |
| 2.60     |          | 22.73     | 65.42 | 100.00      | 26.79 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 4.26 ASH % - 35.26 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 35.26 | 100.00      | 35.26 | 0.0                 | 0.0  | 20.43              | 20.43 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 27, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87030  
 Coal zone: 1  
 Field sample no.: 05865 Composite sample no.: 296

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.50  
 Contribution (%): 6.88  
 Total yield (%): 6.88

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.90                 |                  |
| Volatile matter (%):           | 6.72                 | 6.78             |
| Fixed carbon (%):              | 81.11                | 93.22            |
| Total sulphur (%):             | 0.54                 | 0.54             |
| Combustible sulphur (%):       | 0.54                 |                  |
| Gross calorific value (cal/g): | 7,641.00             | 7,710.00         |
| Volatile matter (dmmf %):      | 18.00                |                  |
| Hardgrove index:               | 42.00                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,209.00             | 1,156.00            |
| Softening temperature (°C):     | 1,271.00             | 1,243.00            |
| Hemispherical temperature (°C): | 1,285.00             | 1,256.00            |
| Final temperature (°C):         | 1,332.00             | 1,327.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 49.24 | TiO2 (%): | 1.94 |
| Al2O3 (%): | 25.71 | Na2O (%): | 2.26 |
| Fe2O3 (%): | 5.20  | K2O (%):  | 1.16 |
| CaO (%):   | 6.55  | SO3 (%):  | 0.92 |
| MgO (%):   | 2.18  | P2O5 (%): | 4.29 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87031 SEAM - M

SAMPLE ID - 145

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM)    | 35.00 X 6.00 |             | RELATIVE WEIGHT % - 40.60 ASH % - 54.67 |          | CUM. SINKS |  | C.V. | CUM. |
|----------|-------------|--------------|-------------|---|----------|------------|--|------|------|
| S.G.TME  | ELEMENTAL   | CUM. FLOATS  |             | CUM. SINKS                              |          | C.V.       |  | CUM. | C.V. |
|          | WT% ASH%    | WT% ASH%     | WT% ASH%    | WT% ASH%                                | WT% ASH% | (MJ KG)    |  | C.V. | C.V. |
| 1.40     | 0.37 3.80   | 0.37 3.80    | 99.63 54.03 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 1.45     | 1.27 9.89   | 1.64 8.52    | 98.36 54.60 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 1.50     | 1.69 15.62  | 3.33 12.12   | 96.67 55.29 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 1.55     | 1.71 19.81  | 5.04 14.73   | 94.96 55.92 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 1.60     | 4.39 25.05  | 9.43 19.53   | 90.57 57.42 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 1.70     | 10.47 32.43 | 19.90 26.32  | 80.10 60.69 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 1.80     | 12.89 42.26 | 32.79 32.59  | 67.21 64.22 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 2.00     | 23.39 53.23 | 56.18 41.18  | 43.82 70.09 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 2.60     | 43.82 70.09 | 100.00 53.85 | 0.0 0.0     | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM)    | 6.00 X 0.50  |             | RELATIVE WEIGHT % - 45.64 ASH % - 32.48 |          | CUM. SINKS |  | C.V. | CUM. |
|----------|-------------|--------------|-------------|---|----------|------------|--|------|------|
| S.G.TME  | ELEMENTAL   | CUM. FLOATS  |             | CUM. SINKS                              |          | C.V.       |  | CUM. | C.V. |
|          | WT% ASH%    | WT% ASH%     | WT% ASH%    | WT% ASH%                                | WT% ASH% | (MJ KG)    |  | C.V. | C.V. |
| 1.40     | 8.32 3.12   | 8.32 3.12    | 91.68 35.01 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 1.45     | 11.75 7.29  | 20.07 5.56   | 79.93 39.09 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 1.50     | 9.40 12.87  | 29.47 7.89   | 70.53 42.58 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 1.55     | 7.88 17.76  | 37.35 9.97   | 62.65 45.71 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 1.60     | 6.97 22.36  | 44.32 11.92  | 55.68 48.63 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 1.70     | 14.25 28.02 | 58.57 15.84  | 41.43 55.72 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 1.80     | 9.81 36.41  | 68.38 18.79  | 31.62 61.71 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 2.00     | 13.26 47.19 | 81.64 23.40  | 18.36 72.19 | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |
| 2.60     | 18.36 72.19 | 100.00 32.36 | 0.0 0.0     | 0.0                                     | 0.0      |            |  | 0.0  | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87031 SEAM - M

SAMPLE ID - 145

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |      | 0.15        |       | RELATIVE WEIGHT % - |       | 8.95 ASH % - 26.95 |      |
|----------|----------|-----------|------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 13.82    | 2.72      |      | 13.82       | 2.72  | 86.18               | 30.21 | 0.0                | 0.0  |
| 1.45     | 14.47    | 4.76      |      | 28.29       | 3.76  | 71.71               | 35.35 | 0.0                | 0.0  |
| 1.50     | 12.38    | 9.33      |      | 40.67       | 5.46  | 59.33               | 40.78 | 0.0                | 0.0  |
| 1.55     | 5.03     | 12.80     |      | 45.70       | 6.27  | 54.30               | 43.37 | 0.0                | 0.0  |
| 1.60     | 6.50     | 17.66     |      | 52.20       | 7.68  | 47.80               | 46.86 | 0.0                | 0.0  |
| 1.70     | 11.88    | 22.26     |      | 64.08       | 10.39 | 35.92               | 55.00 | 0.0                | 0.0  |
| 1.80     | 8.44     | 30.26     |      | 72.52       | 12.70 | 27.48               | 62.60 | 0.0                | 0.0  |
| 2.00     | 10.03    | 42.07     |      | 82.55       | 16.27 | 17.45               | 74.40 | 0.0                | 0.0  |
| 2.60     | 17.45    | 74.40     |      | 100.00      | 26.41 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |      | 0.00        |       | RELATIVE WEIGHT % - |      | 4.81 ASH % - 31.18 |       |
|----------|----------|-----------|------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |      | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH% | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00   | 31.18     |      | 100.00      | 31.18 | 0.0                 | 0.0  | 22.28              | 22.28 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87031  
 Coal zone: M  
 Field sample no.: 05805 Composite sample no.: 297

----- PRODUCT COAL ANALYSIS (SP4) -----  
 Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.50  
 Contribution(%): 1.09  
 Total yield(%): 1.09

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture(%) :         | 0.98                 |                  |
| Ash(%) :                       | 10.60                | 10.70            |
| Volatile matter(%) :           | 6.53                 | 6.59             |
| Fixed carbon(%) :              | 81.89                | 82.71            |
| Total sulphur(%) :             | 0.64                 | 0.65             |
| Combustible sulphur(%) :       | 0.61                 |                  |
| Gross calorific value(cal/g) : | 7,777.00             | 7,854.00         |
| Volatile matter(dmmf%) :       | 6.30                 |                  |
| Hardgrove index:               | 51.00                |                  |
| Phosphorous in coal(%) :       | 0.052                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,390.00             | 1,343.00            |
| Softening temperature(°C) :     | 1,415.00             | 1,364.00            |
| Hemispherical temperature(°C) : | 1,472.00             | 1,432.00            |
| Final temperature(°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2(%) :  | 55.60 | TiO2(%) : | 1.08 |
| Al2O3(%) : | 24.40 | Na2O(%) : | 1.72 |
| Fe2O3(%) : | 4.26  | K2O(%) :  | 1.85 |
| CaO(%) :   | 2.24  | SO3(%) :  | 0.73 |
| MgO(%) :   | 2.10  | P2O5(%) : | 1.13 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87031  
 Coal zone: M  
 Field sample no.: 05805 Composite sample no.: 484

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.49  
 Contribution (%): 12.05  
 Total yield (%): 12.05

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.70                 |                  |
| Ash (%):                       | 6.82                 | 6.87             |
| Volatile matter (%):           | 7.22                 | 7.27             |
| Fixed carbon (%):              | 85.26                | 85.86            |
| Total sulphur (%):             | 0.70                 | 0.70             |
| Combustible sulphur (%):       | 0.68                 |                  |
| Gross calorific value (cal/g): | 7,842.00             | 7,896.00         |
| Volatile matter (dmmf %):      | 7.00                 |                  |
| Hardgrove index:               | 49.00                |                  |
| Phosphorous in coal (%):       | 0.021                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,227.00             | 1,143.00            |
| Softening temperature (°C):     | 1,443.00             | 1,359.00            |
| Hemispherical temperature (°C): | 1,453.00             | 1,385.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 57.82 | TiO2 (%): | 2.98 |
| Al2O3 (%): | 23.82 | Na2O (%): | 1.46 |
| Fe2O3 (%): | 5.15  | K2O (%):  | 1.52 |
| CaO (%):   | 2.07  | SO3 (%):  | 0.56 |
| MgO (%):   | 2.25  | P2O5 (%): | 0.70 |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87031 SEAM - ?

SAMPLE ID - 147

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 59.32 ASH % - 44.71 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 0.55                  | 4.11  | 0.55      | 4.11  | 99.45       | 44.49 | 0.0        | 0.0  |   |           |
| 1.45     | 3.83                  | 7.59  | 4.38      | 7.15  | 95.62       | 45.97 | 0.0        | 0.0  |   |           |
| 1.50     | 15.79                 | 11.93 | 20.17     | 10.89 | 79.83       | 52.71 | 0.0        | 0.0  |   |           |
| 1.55     | 1.75                  | 17.97 | 21.92     | 11.46 | 78.08       | 53.48 | 0.0        | 0.0  |   |           |
| 1.60     | 4.58                  | 20.07 | 26.50     | 12.95 | 73.50       | 55.57 | 0.0        | 0.0  |   |           |
| 1.70     | 7.08                  | 28.61 | 33.58     | 16.25 | 66.42       | 58.44 | 0.0        | 0.0  |   |           |
| 1.80     | 6.15                  | 39.53 | 39.73     | 19.85 | 60.27       | 60.37 | 0.0        | 0.0  |   |           |
| 2.00     | 27.90                 | 47.62 | 67.63     | 31.31 | 32.37       | 71.36 | 0.0        | 0.0  |   |           |
| 2.60     | 32.37                 | 71.36 | 100.00    | 44.27 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 29.63 ASH % - 36.34 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 7.59                 | 7.68  | 7.59      | 7.68  | 92.41       | 38.00 | 0.0        | 0.0  |   |           |
| 1.45     | 17.08                | 7.90  | 24.67     | 7.83  | 75.33       | 44.83 | 0.0        | 0.0  |   |           |
| 1.50     | 16.95                | 11.53 | 41.62     | 9.34  | 58.38       | 54.50 | 0.0        | 0.0  |   |           |
| 1.55     | 7.95                 | 15.71 | 49.57     | 10.36 | 50.43       | 60.61 | 0.0        | 0.0  |   |           |
| 1.60     | 4.66                 | 20.55 | 54.23     | 11.24 | 45.77       | 64.69 | 0.0        | 0.0  |   |           |
| 1.70     | 6.12                 | 27.24 | 60.35     | 12.86 | 39.65       | 70.47 | 0.0        | 0.0  |   |           |
| 1.80     | 4.41                 | 36.50 | 64.76     | 14.47 | 35.24       | 74.72 | 0.0        | 0.0  |   |           |
| 2.00     | 5.66                 | 46.57 | 70.42     | 17.05 | 29.58       | 80.11 | 0.0        | 0.0  |   |           |
| 2.60     | 29.58                | 80.11 | 100.00    | 35.70 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87031 SEAM - ?

SAMPLE ID - 147

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 7.51 ASH % - 30.60 |      |
|---------------------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|                     |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
|                     |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40                |          | 9.68      | 3.07  | 9.68        | 3.07  | 90.32               | 32.68 | 0.0                | 0.0  |
| 1.45                |          | 9.49      | 5.32  | 19.17       | 4.18  | 80.83               | 35.90 | 0.0                | 0.0  |
| 1.50                |          | 24.26     | 9.00  | 43.43       | 6.87  | 56.57               | 47.43 | 0.0                | 0.0  |
| 1.55                |          | 6.42      | 12.44 | 49.85       | 7.59  | 50.15               | 51.91 | 0.0                | 0.0  |
| 1.60                |          | 6.42      | 15.16 | 56.27       | 8.45  | 43.73               | 57.31 | 0.0                | 0.0  |
| 1.70                |          | 9.01      | 19.28 | 65.28       | 9.95  | 34.72               | 67.18 | 0.0                | 0.0  |
| 1.80                |          | 4.89      | 25.51 | 70.17       | 11.03 | 29.83               | 74.01 | 0.0                | 0.0  |
| 2.00                |          | 5.18      | 38.11 | 75.35       | 12.89 | 24.65               | 81.55 | 0.0                | 0.0  |
| 2.60                |          | 24.65     | 81.55 | 100.00      | 29.82 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 3.54 ASH % - 38.19 |       |
|---------------------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|                     |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
|                     |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00              |          | 100.00    | 38.19 | 100.00      | 38.19 | 0.0                 | 0.0  | 20.45              | 20.45 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87031  
 Coal zone: ?  
 Field sample no.: 05811 Composite sample no.: 298

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.57  
 Contribution (%): 13.57  
 Total yield (%): 13.57

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.04                 |                  |
| Ash (%):                       | 10.88                | 10.99            |
| Volatile matter (%):           | 6.15                 | 6.21             |
| Fixed carbon (%):              | 81.93                | 82.80            |
| Total sulphur (%):             | 1.66                 | 1.68             |
| Combustible sulphur (%):       | 1.64                 |                  |
| Gross calorific value (cal/g): | 7,474.00             | 7,552.00         |
| Volatile matter (dmmf%):       | 5.40                 |                  |
| Hardgrove index:               | 50.00                |                  |
| Phosphorous in coal (%):       | 0.226                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,195.00             | 1,137.00            |
| Softening temperature (°C):     | 1,253.00             | 1,153.00            |
| Hemispherical temperature (°C): | 1,274.00             | 1,174.00            |
| Final temperature (°C):         | 1,306.00             | 1,264.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 44.28 | TiO2 (%): | 1.73 |
| Al2O3 (%): | 19.66 | Na2O (%): | 1.83 |
| Fe2O3 (%): | 12.36 | K2O (%):  | 1.27 |
| CaO (%):   | 7.08  | SO3 (%):  | 0.50 |
| MgO (%):   | 1.66  | P2O5 (%): | 4.75 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87031 SEAM - ?

SAMPLE ID - 148

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 47.10 ASH % - 54.29 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 0.33                  | 7.31  | 0.33      | 7.31  | 99.67       | 55.18 | 0.0        | 0.0  |   |           |
| 1.45     | 1.45                  | 8.20  | 1.78      | 8.03  | 98.22       | 55.87 | 0.0        | 0.0  |   |           |
| 1.50     | 4.59                  | 14.59 | 6.37      | 12.76 | 93.63       | 57.89 | 0.0        | 0.0  |   |           |
| 1.55     | 2.84                  | 18.69 | 9.21      | 14.59 | 90.79       | 59.12 | 0.0        | 0.0  |   |           |
| 1.60     | 9.55                  | 25.22 | 18.76     | 20.00 | 81.24       | 63.10 | 0.0        | 0.0  |   |           |
| 1.70     | 14.33                 | 31.94 | 33.09     | 25.17 | 66.91       | 69.78 | 0.0        | 0.0  |   |           |
| 1.80     | 4.55                  | 42.75 | 37.64     | 27.30 | 62.36       | 71.75 | 0.0        | 0.0  |   |           |
| 2.00     | 15.71                 | 53.55 | 53.35     | 35.03 | 46.65       | 77.88 | 0.0        | 0.0  |   |           |
| 2.60     | 46.65                 | 77.88 | 100.00    | 55.02 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 35.43 ASH % - 42.15 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 4.70                 | 2.43  | 4.70      | 2.43  | 95.30       | 44.32 | 0.0        | 0.0  |   |           |
| 1.45     | 10.41                | 6.12  | 15.11     | 4.97  | 84.89       | 49.00 | 0.0        | 0.0  |   |           |
| 1.50     | 9.92                 | 11.65 | 25.03     | 7.62  | 74.97       | 53.94 | 0.0        | 0.0  |   |           |
| 1.55     | 8.62                 | 16.85 | 33.65     | 9.98  | 66.35       | 58.76 | 0.0        | 0.0  |   |           |
| 1.60     | 6.26                 | 21.41 | 39.91     | 11.78 | 60.09       | 62.65 | 0.0        | 0.0  |   |           |
| 1.70     | 11.46                | 28.53 | 51.37     | 15.51 | 48.63       | 70.69 | 0.0        | 0.0  |   |           |
| 1.80     | 5.71                 | 37.41 | 57.08     | 17.70 | 42.92       | 75.12 | 0.0        | 0.0  |   |           |
| 2.00     | 7.99                 | 49.68 | 65.07     | 21.63 | 34.93       | 80.94 | 0.0        | 0.0  |   |           |
| 2.60     | 34.93                | 80.94 | 100.00    | 42.35 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87031 SEAM - ?

SAMPLE ID - 148

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - 11.97 |       | ASH % - 33.27 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ/KG)       | C.V. |
| 1.40     |          | 4.57      | 2.95  | 4.57        | 2.95  | 95.43                     | 33.64 | 0.0           | 0.0  |
| 1.45     |          | 17.39     | 3.55  | 21.96       | 3.43  | 78.04                     | 40.35 | 0.0           | 0.0  |
| 1.50     |          | 11.04     | 8.29  | 33.00       | 5.05  | 67.00                     | 45.63 | 0.0           | 0.0  |
| 1.55     |          | 11.50     | 10.92 | 44.50       | 6.57  | 55.50                     | 52.82 | 0.0           | 0.0  |
| 1.60     |          | 4.80      | 15.21 | 49.30       | 7.41  | 50.70                     | 56.38 | 0.0           | 0.0  |
| 1.70     |          | 11.58     | 22.77 | 60.88       | 10.33 | 39.12                     | 66.33 | 0.0           | 0.0  |
| 1.80     |          | 5.07      | 29.62 | 65.95       | 11.81 | 34.05                     | 71.80 | 0.0           | 0.0  |
| 2.00     |          | 7.20      | 42.66 | 73.15       | 14.85 | 26.85                     | 79.61 | 0.0           | 0.0  |
| 2.60     |          | 26.85     | 79.61 | 100.00      | 32.24 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - 5.50 |      | ASH % - 34.21 |       |
|----------|----------|-----------|-------|-------------|-------|--------------------------|------|---------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS               |      | C.V.          | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                      | ASH% | (MJ/KG)       | C.V.  |
| 240.00   |          | 100.00    | 34.21 | 100.00      | 34.21 | 0.0                      | 0.0  | 22.19         | 22.19 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87031  
 Coal zone: ?  
 Field sample no.: 05814 Composite sample no.: 299

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.49  
 Contribution (%): 2.19  
 Total yield (%): 2.19

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.62                 |                  |
| Ash (%):                       | 10.34                | 10.40            |
| Volatile matter (%):           | 7.54                 | 7.59             |
| Fixed carbon (%):              | 81.50                | 82.01            |
| Total sulphur (%):             | 0.63                 | 0.63             |
| Combustible sulphur (%):       | 0.62                 |                  |
| Gross calorific value (cal/g): | 7,474.00             | 7,520.00         |
| Volatile matter (dmmf%):       | 7.40                 |                  |
| Hardgrove index:               | 51.00                |                  |
| Phosphorous in coal (%):       | 0.255                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,253.00             | 1,219.00            |
| Softening temperature(°C):     | 1,269.00             | 1,227.00            |
| Hemispherical temperature(°C): | 1,274.00             | 1,238.00            |
| Final temperature(°C):         | 1,306.00             | 1,303.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 48.24 | TiO2 (%): | 1.07 |
| Al2O3 (%): | 23.41 | Na2O (%): | 1.54 |
| Fe2O3 (%): | 5.02  | K2O (%):  | 1.33 |
| CaO (%):   | 7.09  | SO3 (%):  | 0.23 |
| MgO (%):   | 2.24  | P2O5 (%): | 5.64 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 17, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87031  
 Coal zone: ?  
 Field sample no.: 05814 Composite sample no.: 486

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.50  
 Contribution (%): 8.13  
 Total yield (%): 8.13

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 1.00                 |                  |
| Ash (%):                       | 7.25                 | 7.32             |
| Volatile matter (%):           | 7.05                 | 7.12             |
| Fixed carbon (%):              | 84.70                | 85.56            |
| Total sulphur (%):             | 0.70                 | 0.71             |
| Combustible sulphur (%):       | 0.69                 |                  |
| Gross calorific value (cal/g): | 7,748.00             | 7,827.00         |
| Volatile matter (dmmf%):       | 6.90                 |                  |
| Hardgrove index:               | 50.00                |                  |
| Phosphorous in coal (%):       | 0.141                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,201.00             | 1,132.00            |
| Softening temperature(°C):     | 1,269.00             | 1,201.00            |
| Hemispherical temperature(°C): | 1,285.00             | 1,216.00            |
| Final temperature(°C):         | 1,361.00             | 1,317.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 52.64 | TiO2 (%): | 3.41 |
| Al2O3 (%): | 22.30 | Na2O (%): | 1.80 |
| Fe2O3 (%): | 5.29  | K2O (%):  | 1.51 |
| CaO (%):   | 5.96  | SO3 (%):  | 0.19 |
| MgO (%):   | 1.72  | P2O5 (%): | 4.46 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87032 SEAM - I

SAMPLE ID - 153

WASHABILITY ID - WA1

----- ANALYSIS TYPE - FLOAT -----

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 67.34 |       | ASH % - 34.06 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 11.07     | 6.93  | 11.07       | 6.93  | 88.93                     | 37.35 | 0.0           | 0.0  |
| 1.45     |          | 27.08     | 6.84  | 38.15       | 6.87  | 61.85                     | 50.70 | 0.0           | 0.0  |
| 1.50     |          | 13.21     | 12.83 | 51.36       | 8.40  | 48.64                     | 60.99 | 0.0           | 0.0  |
| 1.55     |          | 6.11      | 17.07 | 57.47       | 9.32  | 42.53                     | 67.30 | 0.0           | 0.0  |
| 1.60     |          | 4.59      | 22.24 | 62.06       | 10.28 | 37.94                     | 72.75 | 0.0           | 0.0  |
| 1.70     |          | 3.90      | 28.88 | 65.96       | 11.38 | 34.04                     | 77.78 | 0.0           | 0.0  |
| 1.80     |          | 3.64      | 37.16 | 69.60       | 12.73 | 30.40                     | 82.64 | 0.0           | 0.0  |
| 2.00     |          | 3.64      | 45.02 | 73.24       | 14.33 | 26.76                     | 87.76 | 0.0           | 0.0  |
| 2.60     |          | 26.76     | 87.76 | 100.00      | 33.98 | 0.0                       | 0.0   | 0.0           | 0.0  |

----- ANALYSIS TYPE - FLOAT -----

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 22.59 |       | ASH % - 24.66 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 22.13     | 2.52  | 22.13       | 2.52  | 77.87                     | 31.32 | 0.0           | 0.0  |
| 1.45     |          | 15.86     | 6.52  | 37.99       | 4.19  | 62.01                     | 37.66 | 0.0           | 0.0  |
| 1.50     |          | 13.61     | 11.10 | 51.60       | 6.01  | 48.40                     | 45.13 | 0.0           | 0.0  |
| 1.55     |          | 7.34      | 15.75 | 58.94       | 7.23  | 41.06                     | 50.38 | 0.0           | 0.0  |
| 1.60     |          | 5.74      | 18.86 | 64.68       | 8.26  | 35.32                     | 55.50 | 0.0           | 0.0  |
| 1.70     |          | 7.65      | 29.67 | 72.33       | 10.52 | 27.67                     | 62.64 | 0.0           | 0.0  |
| 1.80     |          | 5.21      | 30.43 | 77.54       | 11.86 | 22.46                     | 70.11 | 0.0           | 0.0  |
| 2.00     |          | 4.88      | 38.89 | 82.42       | 13.46 | 17.58                     | 78.78 | 0.0           | 0.0  |
| 2.60     |          | 17.58     | 78.78 | 100.00      | 24.94 | 0.0                       | 0.0   | 0.0           | 0.0  |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87032 SEAM - I

SAMPLE ID - 153

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 5.25 ASH % - 21.39 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 16.35     | 3.75  | 16.35       | 3.75  | 83.65               | 24.24 | 0.0                | 0.0  |
| 1.45     |          | 12.02     | 3.60  | 28.37       | 3.69  | 71.63               | 27.71 | 0.0                | 0.0  |
| 1.50     |          | 22.27     | 4.99  | 50.64       | 4.26  | 49.36               | 37.95 | 0.0                | 0.0  |
| 1.55     |          | 8.14      | 9.66  | 58.78       | 5.01  | 41.22               | 43.54 | 0.0                | 0.0  |
| 1.60     |          | 8.28      | 13.42 | 67.06       | 6.05  | 32.94               | 51.11 | 0.0                | 0.0  |
| 1.70     |          | 8.25      | 17.53 | 75.31       | 7.30  | 24.69               | 62.33 | 0.0                | 0.0  |
| 1.80     |          | 4.40      | 25.53 | 79.71       | 8.31  | 20.29               | 70.31 | 0.0                | 0.0  |
| 2.00     |          | 4.44      | 41.63 | 84.15       | 10.07 | 15.85               | 78.35 | 0.0                | 0.0  |
| 2.60     |          | 15.85     | 78.35 | 100.00      | 20.89 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 4.82 ASH % - 24.26 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 24.26 | 100.00      | 24.26 | 0.0                 | 0.0  | 26.91              | 26.91 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87032 SEAM - I

SAMPLE ID - 154

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 81.25 ASH % - 18.79 |              |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |              |
| 1.40     | 11.78                 | 3.48  | 11.78     | 3.48  | 88.22       | 21.80 | 0.0        | 0.0  |   |              |
| 1.45     | 47.52                 | 6.85  | 59.30     | 6.18  | 40.70       | 39.25 | 0.0        | 0.0  |   |              |
| 1.50     | 14.52                 | 14.57 | 73.82     | 7.83  | 26.18       | 52.93 | 0.0        | 0.0  |   |              |
| 1.55     | 5.50                  | 16.75 | 79.32     | 8.45  | 20.68       | 62.55 | 0.0        | 0.0  |   |              |
| 1.60     | 2.01                  | 23.42 | 81.33     | 8.82  | 18.67       | 66.77 | 0.0        | 0.0  |   |              |
| 1.70     | 1.07                  | 26.23 | 82.40     | 9.05  | 17.60       | 69.23 | 0.0        | 0.0  |   |              |
| 1.80     | 1.88                  | 29.85 | 84.28     | 9.51  | 15.72       | 73.94 | 0.0        | 0.0  |   |              |
| 2.00     | 3.75                  | 51.15 | 88.03     | 11.28 | 11.97       | 81.08 | 0.0        | 0.0  |   |              |
| 2.60     | 11.97                 | 81.08 | 100.00    | 19.64 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 14.85 ASH % - 11.67 |              |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|--------------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V.<br>(MJ KG)                         | CUM.<br>C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |              |
| 1.40     | 38.15                | 3.07  | 38.15     | 3.07  | 61.85       | 17.78 | 0.0        | 0.0  |   |              |
| 1.45     | 37.24                | 6.99  | 75.39     | 5.01  | 24.61       | 34.10 | 0.0        | 0.0  |   |              |
| 1.50     | 8.28                 | 11.50 | 83.67     | 5.65  | 16.33       | 45.56 | 0.0        | 0.0  |   |              |
| 1.55     | 3.53                 | 15.74 | 87.20     | 6.06  | 12.80       | 53.79 | 0.0        | 0.0  |   |              |
| 1.60     | 2.04                 | 19.42 | 89.24     | 6.36  | 10.76       | 60.30 | 0.0        | 0.0  |   |              |
| 1.70     | 2.08                 | 24.70 | 91.32     | 6.78  | 8.68        | 68.84 | 0.0        | 0.0  |   |              |
| 1.80     | 0.90                 | 34.82 | 92.22     | 7.05  | 7.78        | 72.77 | 0.0        | 0.0  |   |              |
| 2.00     | 1.19                 | 44.81 | 93.41     | 7.54  | 6.59        | 77.82 | 0.0        | 0.0  |   |              |
| 2.60     | 6.59                 | 77.82 | 100.00    | 12.17 | 0.0         | 0.0   | 0.0        | 0.0  |   |              |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87032 SEAM - I

SAMPLE ID - 154

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 2.34 ASH % - 18.66 |      |
|---------------------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|                     |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
|                     |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40                |          | 16.59     | 3.00  | 16.59       | 3.00  | 83.41               | 21.34 | 0.0                | 0.0  |
| 1.45                |          | 30.14     | 4.43  | 46.73       | 3.92  | 53.27               | 30.91 | 0.0                | 0.0  |
| 1.50                |          | 13.27     | 8.41  | 60.00       | 4.91  | 40.00               | 38.38 | 0.0                | 0.0  |
| 1.55                |          | 7.39      | 10.83 | 67.39       | 5.56  | 32.61               | 44.62 | 0.0                | 0.0  |
| 1.60                |          | 5.97      | 14.50 | 73.36       | 6.29  | 26.64               | 51.37 | 0.0                | 0.0  |
| 1.70                |          | 8.15      | 16.59 | 81.51       | 7.32  | 18.49               | 66.70 | 0.0                | 0.0  |
| 1.80                |          | 2.46      | 27.52 | 83.97       | 7.91  | 16.03               | 72.71 | 0.0                | 0.0  |
| 2.00                |          | 2.09      | 41.01 | 86.06       | 8.72  | 13.94               | 77.46 | 0.0                | 0.0  |
| 2.60                |          | 13.94     | 77.46 | 100.00      | 18.30 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 1.56 ASH % - 22.40 |       |
|---------------------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|                     |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
|                     |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00              |          | 100.00    | 22.40 | 100.00      | 22.40 | 0.0                 | 0.0  | 26.60              | 26.60 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87032  
 Coal zone: 1  
 Field sample no.: 05801 Composite sample no.: 303

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.75  
 Contribution (%): 45.36  
 Total yield (%): 45.36

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.71                 |                  |
| Ash (%):                       | 11.09                | 11.17            |
| Volatile matter (%):           | 6.92                 | 6.97             |
| Fixed carbon (%):              | 81.28                | 81.86            |
| Total sulphur (%):             | 0.55                 | 0.55             |
| Combustible sulphur (%):       | 0.50                 |                  |
| Gross calorific value (cal/g): | 7,399.00             | 7,453.00         |
| Volatile matter (dmmf %):      | 6.70                 |                  |
| Hardgrove index:               | 43.00                |                  |
| Phosphorous in coal (%):       | 0.052                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,216.00             | 1,185.00            |
| Softening temperature (°C):     | 1,348.00             | 1,290.00            |
| Hemispherical temperature (°C): | 1,364.00             | 1,343.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 62.84 | TiO2 (%): | 1.80 |
| Al2O3 (%): | 20.79 | Na2O (%): | 1.59 |
| Fe2O3 (%): | 2.65  | K2O (%):  | 0.86 |
| CaO (%):   | 2.43  | SO3 (%):  | 1.04 |
| MgO (%):   | 1.90  | P2O5 (%): | 1.07 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- C L E A N   S I M U L A T E D   P R O D U C T   R E P O R T -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87032  
 Coal zone: |  
 Field sample no.: 05802 Composite sample no.: 304

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.45  
 Contribution (%): 53.91  
 Total yield (%): 53.91

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.50                 |                  |
| Ash (%):                       | 6.09                 | 6.12             |
| Volatile matter (%):           | 6.35                 | 6.38             |
| Fixed carbon (%):              | 87.06                | 87.50            |
| Total sulphur (%):             | 0.48                 | 0.48             |
| Combustible sulphur (%):       | 0.46                 |                  |
| Gross calorific value (cal/g): | 7,916.00             | 7,955.00         |
| Volatile matter (dmmf %):      | 6.20                 |                  |
| Hardgrove index:               | 36.00                |                  |
| Phosphorous in coal (%):       | 0.180                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,211.00             | 1,151.00            |
| Softening temperature (°C):     | 1,280.00             | 1,238.00            |
| Hemispherical temperature (°C): | 1,285.00             | 1,272.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 43.78 | TiO2 (%): | 1.64 |
| Al2O3 (%): | 29.35 | Na2O (%): | 2.26 |
| Fe2O3 (%): | 2.17  | K2O (%):  | 1.10 |
| CaO (%):   | 5.89  | SO3 (%):  | 0.70 |
| MgO (%):   | 1.71  | P2O5 (%): | 6.76 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87032  
 Coal zone: 1  
 Field sample no.: 05801 - 05802 Composite sample no.: 490

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.59  
 Contribution (%): 13.74  
 Total yield (%): 13.74

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.76                 |                  |
| Ash (%):                       | 7.07                 | 7.12             |
| Volatile matter (%):           | 7.38                 | 7.44             |
| Fixed carbon (%):              | 84.79                | 85.44            |
| Total sulphur (%):             | 0.42                 | 0.42             |
| Combustible sulphur (%):       | 0.41                 |                  |
| Gross calorific value (cal/g): | 7,777.00             | 7,837.00         |
| Volatile matter (dmmf %):      | 7.30                 |                  |
| Hardgrove index:               | 45.00                |                  |
| Phosphorous in coal (%):       | 0.082                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,182.00             | 1,108.00            |
| Softening temperature (°C):     | 1,243.00             | 1,230.00            |
| Hemispherical temperature (°C): | 1,274.00             | 1,267.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 56.70 | TiO2 (%): | 2.17 |
| Al2O3 (%): | 24.57 | Na2O (%): | 1.88 |
| Fe2O3 (%): | 1.99  | K2O (%):  | 0.99 |
| CaO (%):   | 3.16  | SO3 (%):  | 0.49 |
| MgO (%):   | 1.86  | P2O5 (%): | 2.65 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87033 SEAM - K

SAMPLE ID - 155

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 74.27 ASH % - 25.88 |      |
|----------|-----------------------|-------|-------------|-------|------------|-------|---|------|
|          | ELEMENTAL             |       |             |       |            |       | C.V.                                    | CUM. |
| S.G.TME  | WT%                   | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 | C.V. |
| 1.40     | 3.22                  | 3.41  | 3.22        | 3.41  | 96.78      | 27.45 | 0.0                                     | 0.0  |
| 1.45     | 19.48                 | 9.16  | 22.70       | 8.34  | 77.30      | 32.06 | 0.0                                     | 0.0  |
| 1.50     | 17.77                 | 13.32 | 40.47       | 10.53 | 59.53      | 37.65 | 0.0                                     | 0.0  |
| 1.55     | 12.40                 | 19.56 | 52.87       | 12.65 | 47.13      | 42.41 | 0.0                                     | 0.0  |
| 1.60     | 6.00                  | 24.03 | 58.87       | 13.81 | 41.13      | 45.09 | 0.0                                     | 0.0  |
| 1.70     | 17.53                 | 31.14 | 76.40       | 17.78 | 23.60      | 55.45 | 0.0                                     | 0.0  |
| 1.80     | 6.17                  | 38.47 | 82.57       | 19.33 | 17.43      | 61.46 | 0.0                                     | 0.0  |
| 2.00     | 5.42                  | 43.48 | 87.99       | 20.82 | 12.01      | 69.57 | 0.0                                     | 0.0  |
| 2.60     | 12.01                 | 69.57 | 100.00      | 26.67 | 0.0        | 0.0   | 0.0                                     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 20.95 ASH % - 26.41 |      |
|----------|----------------------|-------|-------------|-------|------------|-------|---|------|
|          | ELEMENTAL            |       |             |       |            |       | C.V.                                    | CUM. |
| S.G.TME  | WT%                  | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 | C.V. |
| 1.40     | 26.03                | 2.94  | 26.03       | 2.94  | 73.97      | 35.16 | 0.0                                     | 0.0  |
| 1.45     | 19.44                | 7.62  | 45.47       | 4.94  | 54.53      | 44.98 | 0.0                                     | 0.0  |
| 1.50     | 12.83                | 12.59 | 58.30       | 6.62  | 41.70      | 54.94 | 0.0                                     | 0.0  |
| 1.55     | 5.15                 | 17.73 | 63.45       | 7.53  | 36.55      | 60.19 | 0.0                                     | 0.0  |
| 1.60     | 3.65                 | 22.48 | 67.10       | 8.34  | 32.90      | 64.37 | 0.0                                     | 0.0  |
| 1.70     | 4.42                 | 29.20 | 71.52       | 9.63  | 28.48      | 69.83 | 0.0                                     | 0.0  |
| 1.80     | 2.75                 | 35.01 | 74.27       | 10.57 | 25.73      | 73.55 | 0.0                                     | 0.0  |
| 2.00     | 4.09                 | 43.22 | 78.36       | 12.27 | 21.64      | 79.28 | 0.0                                     | 0.0  |
| 2.60     | 21.64                | 79.28 | 100.00      | 26.77 | 0.0        | 0.0   | 0.0                                     | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87033 SEAM - K

SAMPLE ID - 155

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) | 0.50 X           |      | 0.15               |       | RELATIVE WEIGHT % - |       | 3.10 ASH % - 37.25 |              |
|---------------------|----------|------------------|------|--------------------|-------|---------------------|-------|--------------------|--------------|
|                     |          | ELEMENTAL<br>WT% | ASH% | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%   | ASH%  | C.V.<br>(MJ/KG)    | CUM.<br>C.V. |
| 1.40                | 20.94    | 2.53             |      | 20.94              | 2.53  | 79.06               | 46.04 | 0.0                | 0.0          |
| 1.45                | 10.83    | 5.57             |      | 31.77              | 3.57  | 68.23               | 52.46 | 0.0                | 0.0          |
| 1.50                | 8.55     | 9.75             |      | 40.32              | 4.88  | 59.68               | 58.58 | 0.0                | 0.0          |
| 1.55                | 3.92     | 13.05            |      | 44.24              | 5.60  | 55.76               | 61.78 | 0.0                | 0.0          |
| 1.60                | 3.20     | 17.22            |      | 47.44              | 6.39  | 52.56               | 64.49 | 0.0                | 0.0          |
| 1.70                | 6.45     | 22.49            |      | 53.89              | 8.31  | 46.11               | 70.37 | 0.0                | 0.0          |
| 1.80                | 4.64     | 29.54            |      | 58.53              | 10.00 | 41.47               | 74.94 | 0.0                | 0.0          |
| 2.00                | 5.73     | 40.75            |      | 64.26              | 12.74 | 35.74               | 80.42 | 0.0                | 0.0          |
| 2.60                | 35.74    | 80.42            |      | 100.00             | 36.93 | 0.0                 | 0.0   | 0.0                | 0.0          |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) | 0.15 X           |      | 0.00               |       | RELATIVE WEIGHT % - |      | 1.68 ASH % - 48.20 |              |
|---------------------|----------|------------------|------|--------------------|-------|---------------------|------|--------------------|--------------|
|                     |          | ELEMENTAL<br>WT% | ASH% | CUM. FLOATS<br>WT% | ASH%  | CUM. SINKS<br>WT%   | ASH% | C.V.<br>(MJ/KG)    | CUM.<br>C.V. |
| 240.00              | 100.00   | 48.20            |      | 100.00             | 48.20 | 0.0                 | 0.0  | 15.84              | 15.84        |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87033 SEAM - K

SAMPLE ID - 157

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 61.77 ASH % - 39.65 |      |
|----------|-----------------------|-------|-------------|-------|------------|-------|---|------|
|          | ELEMENTAL             |       |             |       |            |       | C.V.                                    | CUM. |
| S.G.TME  | WT%                   | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 | C.V. |
| 1.40     | 6.61                  | 3.10  | 6.61        | 3.10  | 93.39      | 41.22 | 0.0                                     | 0.0  |
| 1.45     | 9.31                  | 10.25 | 15.92       | 7.28  | 84.08      | 44.65 | 0.0                                     | 0.0  |
| 1.50     | 10.59                 | 15.36 | 26.51       | 10.51 | 73.49      | 48.87 | 0.0                                     | 0.0  |
| 1.55     | 11.26                 | 19.54 | 37.77       | 13.20 | 62.23      | 54.18 | 0.0                                     | 0.0  |
| 1.60     | 8.91                  | 20.88 | 46.68       | 14.67 | 53.32      | 59.74 | 0.0                                     | 0.0  |
| 1.70     | 9.40                  | 30.85 | 56.08       | 17.38 | 43.92      | 65.92 | 0.0                                     | 0.0  |
| 1.80     | 5.52                  | 42.06 | 61.60       | 19.59 | 38.40      | 69.35 | 0.0                                     | 0.0  |
| 2.00     | 12.28                 | 52.62 | 73.88       | 25.08 | 26.12      | 77.22 | 0.0                                     | 0.0  |
| 2.60     | 26.12                 | 77.22 | 100.00      | 38.70 | 0.0        | 0.0   | 0.0                                     | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | CUM. FLOATS |       | CUM. SINKS |       | RELATIVE WEIGHT % - 30.65 ASH % - 27.48 |      |
|----------|----------------------|-------|-------------|-------|------------|-------|---|------|
|          | ELEMENTAL            |       |             |       |            |       | C.V.                                    | CUM. |
| S.G.TME  | WT%                  | ASH%  | WT%         | ASH%  | WT%        | ASH%  | (MJ KG)                                 | C.V. |
| 1.40     | 28.25                | 3.00  | 28.25       | 3.00  | 71.75      | 37.19 | 0.0                                     | 0.0  |
| 1.45     | 13.21                | 8.96  | 41.46       | 4.90  | 58.54      | 43.56 | 0.0                                     | 0.0  |
| 1.50     | 8.19                 | 14.21 | 49.65       | 6.43  | 50.35      | 48.33 | 0.0                                     | 0.0  |
| 1.55     | 6.45                 | 18.92 | 56.10       | 7.87  | 43.90      | 52.65 | 0.0                                     | 0.0  |
| 1.60     | 2.13                 | 23.06 | 58.23       | 8.43  | 41.77      | 54.16 | 0.0                                     | 0.0  |
| 1.70     | 6.07                 | 29.15 | 64.30       | 10.38 | 35.70      | 58.41 | 0.0                                     | 0.0  |
| 1.80     | 6.74                 | 37.81 | 71.04       | 12.98 | 28.96      | 63.21 | 0.0                                     | 0.0  |
| 2.00     | 11.00                | 47.87 | 82.04       | 17.66 | 17.96      | 72.60 | 0.0                                     | 0.0  |
| 2.60     | 17.96                | 72.60 | 100.00      | 27.53 | 0.0        | 0.0   | 0.0                                     | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87033 SEAM - K

SAMPLE ID - 157

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION<br>S.G.TME | SIZE(MM) 0.50 X |       | 0.15        |       | RELATIVE WEIGHT % - |       | 5.23 ASH % - 30.52 |      |
|---------------------|-----------------|-------|-------------|-------|---------------------|-------|--------------------|------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40                | 20.18           | 2.95  | 20.18       | 2.95  | 79.82               | 37.44 | 0.0                | 0.0  |
| 1.45                | 10.71           | 6.41  | 30.89       | 4.15  | 69.11               | 42.25 | 0.0                | 0.0  |
| 1.50                | 10.89           | 8.98  | 41.78       | 5.41  | 58.22               | 48.47 | 0.0                | 0.0  |
| 1.55                | 3.39            | 14.07 | 45.17       | 6.06  | 54.83               | 50.60 | 0.0                | 0.0  |
| 1.60                | 4.64            | 16.67 | 49.81       | 7.05  | 50.19               | 53.74 | 0.0                | 0.0  |
| 1.70                | 6.61            | 23.37 | 56.42       | 8.96  | 43.58               | 58.34 | 0.0                | 0.0  |
| 1.80                | 6.61            | 28.29 | 63.03       | 10.99 | 36.97               | 63.72 | 0.0                | 0.0  |
| 2.00                | 10.89           | 42.88 | 73.92       | 15.69 | 26.08               | 72.42 | 0.0                | 0.0  |
| 2.60                | 26.08           | 72.42 | 100.00      | 30.48 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION<br>S.G.TME | SIZE(MM) 0.15 X |       | 0.00        |       | RELATIVE WEIGHT % - |      | 2.35 ASH % - 40.74 |       |
|---------------------|-----------------|-------|-------------|-------|---------------------|------|--------------------|-------|
|                     | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
|                     | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00              | 100.00          | 40.74 | 100.00      | 40.74 | 0.0                 | 0.0  | 19.40              | 19.40 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87033  
 Coal zone: K  
 Field sample no.: 05874 Composite sample no.: 305

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 36.21  
 Total yield (%): 36.21

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.82                 |                  |
| Ash (%):                       | 10.24                | 10.32            |
| Volatile matter (%):           | 6.76                 | 6.82             |
| Fixed carbon (%):              | 82.18                | 82.86            |
| Total sulphur (%):             | 0.47                 | 0.47             |
| Combustible sulphur (%):       | 0.45                 |                  |
| Gross calorific value (cal/g): | 7,521.00             | 7,584.00         |
| Volatile matter (dmmf %):      | 6.60                 |                  |
| Hardgrove index:               | 40.00                |                  |
| Phosphorous in coal (%):       | 0.146                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,182.00             | 1,108.00            |
| Softening temperature (°C):     | 1,335.00             | 1,182.00            |
| Hemispherical temperature (°C): | 1,356.00             | 1,238.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 52.30 | TiO2 (%): | 2.27 |
| Al2O3 (%): | 27.22 | Na2O (%): | 2.29 |
| Fe2O3 (%): | 2.52  | K2O (%):  | 1.11 |
| CaO (%):   | 4.45  | SO3 (%):  | 0.45 |
| MgO (%):   | 1.72  | P2O5 (%): | 3.26 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87033  
 Coal zone: K  
 Field sample no.: 05876 Composite sample no.: 306

----- PRODUCT COAL ANALYSIS (SP4) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 21.05  
 Total yield (%): 21.05

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.73                 |                  |
| Ash (%):                       | 10.28                | 10.36            |
| Volatile matter (%):           | 7.24                 | 7.29             |
| Fixed carbon (%):              | 81.75                | 82.35            |
| Total sulphur (%):             | 0.45                 | 0.45             |
| Combustible sulphur (%):       | 0.44                 |                  |
| Gross calorific value (cal/g): | 7,514.00             | 7,570.00         |
| Volatile matter (dmmf %):      | 7.10                 |                  |
| Hardgrove index:               | 40.00                |                  |
| Phosphorous in coal (%):       | 0.010                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,190.00             | 1,106.00            |
| Softening temperature (°C):     | 1,472.00             | 1,472.00            |
| Hemispherical temperature (°C): | 1,472.00             | 1,472.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 59.66 | TiO2 (%): | 2.17 |
| Al2O3 (%): | 26.46 | Na2O (%): | 1.99 |
| Fe2O3 (%): | 2.77  | K2O (%):  | 1.57 |
| CaO (%):   | 0.92  | SO3 (%):  | 0.31 |
| MgO (%):   | 2.39  | P2O5 (%): | 0.23 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87033  
 Coal zone: K  
 Field sample no.: 05874 - 05876 Composite sample no.: 491

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.54  
 Contribution (%): 21.05  
 Total yield (%): 21.05

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.80                 |                  |
| Ash (%):                       | 7.12                 | 7.18             |
| Volatile matter (%):           | 6.63                 | 6.68             |
| Fixed carbon (%):              | 85.45                | 86.14            |
| Total sulphur (%):             | 0.52                 | 0.52             |
| Combustible sulphur (%):       | 0.51                 |                  |
| Gross calorific value (cal/g): | 7,763.00             | 7,826.00         |
| Volatile matter (dmmf %):      | 6.50                 |                  |
| Hardgrove index:               | 40.00                |                  |
| Phosphorous in coal (%):       | 0.061                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|--------------------------------|----------------------|---------------------|
| Initial temperature(°C):       | 1,190.00             | 1,106.00            |
| Softening temperature(°C):     | 1,338.00             | 1,317.00            |
| Hemispherical temperature(°C): | 1,411.00             | 1,359.00            |
| Final temperature(°C):         | 1,422.00             | 1,453.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 56.30 | TiO2 (%): | 3.84 |
| Al2O3 (%): | 24.57 | Na2O (%): | 1.91 |
| Fe2O3 (%): | 3.22  | K2O (%):  | 1.16 |
| CaO (%):   | 2.85  | SO3 (%):  | 0.43 |
| MgO (%):   | 1.98  | P2O5 (%): | 1.96 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87033 SEAM - I

SAMPLE ID - 158

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 58.40 |       | ASH % - 44.69 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 2.03      | 2.97  | 2.03        | 2.97  | 97.97                     | 44.92 | 0.0           | 0.0  |
| 1.45     |          | 27.87     | 7.32  | 29.90       | 7.02  | 70.10                     | 59.87 | 0.0           | 0.0  |
| 1.50     |          | 12.43     | 11.33 | 42.33       | 8.29  | 57.67                     | 70.33 | 0.0           | 0.0  |
| 1.55     |          | 4.20      | 17.45 | 46.53       | 9.12  | 53.47                     | 74.49 | 0.0           | 0.0  |
| 1.60     |          | 3.88      | 19.94 | 50.41       | 9.95  | 49.59                     | 78.75 | 0.0           | 0.0  |
| 1.70     |          | 4.12      | 27.60 | 54.53       | 11.28 | 45.47                     | 83.39 | 0.0           | 0.0  |
| 1.80     |          | 2.86      | 29.84 | 57.39       | 12.21 | 42.61                     | 86.98 | 0.0           | 0.0  |
| 2.00     |          | 2.87      | 47.16 | 60.26       | 13.87 | 39.74                     | 89.86 | 0.0           | 0.0  |
| 2.60     |          | 39.74     | 89.86 | 100.00      | 44.07 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |       | RELATIVE WEIGHT % - 34.20 |       | ASH % - 20.99 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 25.63     | 2.98  | 25.63       | 2.98  | 74.37                     | 26.50 | 0.0           | 0.0  |
| 1.45     |          | 32.66     | 6.76  | 58.29       | 5.10  | 41.71                     | 41.96 | 0.0           | 0.0  |
| 1.50     |          | 13.69     | 11.66 | 71.98       | 6.35  | 28.02                     | 56.77 | 0.0           | 0.0  |
| 1.55     |          | 4.60      | 15.85 | 76.58       | 6.92  | 23.42                     | 64.81 | 0.0           | 0.0  |
| 1.60     |          | 2.69      | 18.84 | 79.27       | 7.32  | 20.73                     | 70.77 | 0.0           | 0.0  |
| 1.70     |          | 2.35      | 24.13 | 81.62       | 7.81  | 18.38                     | 76.73 | 0.0           | 0.0  |
| 1.80     |          | 1.33      | 32.89 | 82.95       | 8.21  | 17.05                     | 80.15 | 0.0           | 0.0  |
| 2.00     |          | 1.68      | 43.60 | 84.63       | 8.91  | 15.37                     | 84.15 | 0.0           | 0.0  |
| 2.60     |          | 15.37     | 84.15 | 100.00      | 20.47 | 0.0                       | 0.0   | 0.0           | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

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DATA SOURCE - KPNLRDDH87033 SEAM - I

SAMPLE ID - 158

WASHABILITY ID - WA1

| ANALYSIS TYPE - FLOAT |          |           |       |             |       |  |       |         |      |
|-----------------------|----------|-----------|-------|-------------|-------|--|-------|---------|------|
| FRACTION              | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - 4.53 ASH % - 22.47 |       |         |      |
|                       |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                             |       | C.V.    | CUM. |
| S.G.TME               |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                    | ASH%  | (MJ KG) | C.V. |
| 1.40                  |          | 19.23     | 1.71  | 19.23       | 1.71  | 80.77                                  | 26.42 | 0.0     | 0.0  |
| 1.45                  |          | 22.55     | 3.94  | 41.78       | 2.91  | 58.22                                  | 35.13 | 0.0     | 0.0  |
| 1.50                  |          | 16.10     | 6.28  | 57.88       | 3.85  | 42.12                                  | 46.16 | 0.0     | 0.0  |
| 1.55                  |          | 7.42      | 11.02 | 65.30       | 4.66  | 34.70                                  | 53.67 | 0.0     | 0.0  |
| 1.60                  |          | 4.97      | 14.55 | 70.27       | 5.36  | 29.73                                  | 60.21 | 0.0     | 0.0  |
| 1.70                  |          | 5.19      | 18.91 | 75.46       | 6.30  | 24.54                                  | 68.94 | 0.0     | 0.0  |
| 1.80                  |          | 2.97      | 25.27 | 78.43       | 7.01  | 21.57                                  | 74.96 | 0.0     | 0.0  |
| 2.00                  |          | 2.82      | 37.90 | 81.25       | 8.09  | 18.75                                  | 80.53 | 0.0     | 0.0  |
| 2.60                  |          | 18.75     | 80.53 | 100.00      | 21.67 | 0.0                                    | 0.0   | 0.0     | 0.0  |

| ANALYSIS TYPE - FROTH |          |           |       |             |       |  |      |         |       |
|-----------------------|----------|-----------|-------|-------------|-------|--|------|---------|-------|
| FRACTION              | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - 2.87 ASH % - 35.18 |      |         |       |
|                       |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                             |      | C.V.    | CUM.  |
| S.G.TME               |          | WT%       | ASH%  | WT%         | ASH%  | WT%                                    | ASH% | (MJ KG) | C.V.  |
| 240.00                |          | 100.00    | 35.18 | 100.00      | 35.18 | 0.0                                    | 0.0  | 20.19   | 20.19 |

GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

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DATA SOURCE - KPNLRDDH87033 SEAM - I

SAMPLE ID - 159

WASHABILITY ID - WA1

----- ANALYSIS TYPE - FLOAT -----

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 64.57 ASH % - 42.81 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ/KG)                            | CUM. C.V. |
| S.G.TME  |                       |       |           |       |             |       |            |      |   |           |
| 1.40     | 0.60                  | 1.97  | 0.60      | 1.97  | 99.40       | 41.81 | 0.0        | 0.0  |   |           |
| 1.45     | 5.59                  | 7.81  | 6.19      | 7.24  | 93.81       | 43.84 | 0.0        | 0.0  |   |           |
| 1.50     | 13.49                 | 11.73 | 19.68     | 10.32 | 80.32       | 49.23 | 0.0        | 0.0  |   |           |
| 1.55     | 9.78                  | 16.58 | 29.46     | 12.40 | 70.54       | 53.76 | 0.0        | 0.0  |   |           |
| 1.60     | 11.33                 | 21.26 | 40.79     | 14.86 | 59.21       | 59.97 | 0.0        | 0.0  |   |           |
| 1.70     | 11.41                 | 28.07 | 52.20     | 17.75 | 47.80       | 67.59 | 0.0        | 0.0  |   |           |
| 1.80     | 4.48                  | 35.61 | 56.68     | 19.16 | 43.32       | 70.90 | 0.0        | 0.0  |   |           |
| 2.00     | 6.94                  | 45.19 | 63.62     | 22.00 | 36.38       | 75.80 | 0.0        | 0.0  |   |           |
| 2.60     | 36.38                 | 75.80 | 100.00    | 41.57 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

----- ANALYSIS TYPE - FLOAT -----

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 27.72 ASH % - 19.25 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ/KG)                            | CUM. C.V. |
| S.G.TME  |                      |       |           |       |             |       |            |      |   |           |
| 1.40     | 15.29                | 1.92  | 15.29     | 1.92  | 84.71       | 22.47 | 0.0        | 0.0  |   |           |
| 1.45     | 20.45                | 5.47  | 35.74     | 3.95  | 64.26       | 27.88 | 0.0        | 0.0  |   |           |
| 1.50     | 21.80                | 10.15 | 57.54     | 6.30  | 42.46       | 36.98 | 0.0        | 0.0  |   |           |
| 1.55     | 10.64                | 14.65 | 68.18     | 7.60  | 31.82       | 44.44 | 0.0        | 0.0  |   |           |
| 1.60     | 8.17                 | 18.15 | 76.35     | 8.73  | 23.65       | 53.53 | 0.0        | 0.0  |   |           |
| 1.70     | 7.32                 | 22.63 | 83.67     | 9.95  | 16.33       | 67.38 | 0.0        | 0.0  |   |           |
| 1.80     | 2.12                 | 31.41 | 85.79     | 10.48 | 14.21       | 72.74 | 0.0        | 0.0  |   |           |
| 2.00     | 2.13                 | 41.10 | 87.92     | 11.22 | 12.08       | 78.32 | 0.0        | 0.0  |   |           |
| 2.60     | 12.08                | 78.32 | 100.00    | 19.33 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

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DATA SOURCE - KPNLRDDH87033 SEAM - I

SAMPLE ID - 159

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 0.50 X    |       | 0.15        |       | RELATIVE WEIGHT % - |       | 4.67 ASH % - 21.07 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               |      |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     |          | 12.57     | 1.91  | 12.57       | 1.91  | 87.43               | 22.91 | 0.0                | 0.0  |
| 1.45     |          | 23.66     | 4.43  | 36.23       | 3.56  | 63.77               | 29.77 | 0.0                | 0.0  |
| 1.50     |          | 16.76     | 7.86  | 52.99       | 4.92  | 47.01               | 37.58 | 0.0                | 0.0  |
| 1.55     |          | 7.87      | 11.94 | 60.86       | 5.83  | 39.14               | 42.73 | 0.0                | 0.0  |
| 1.60     |          | 5.70      | 15.56 | 66.56       | 6.66  | 33.44               | 47.36 | 0.0                | 0.0  |
| 1.70     |          | 10.17     | 18.74 | 76.73       | 8.26  | 23.27               | 59.88 | 0.0                | 0.0  |
| 1.80     |          | 4.94      | 26.36 | 81.67       | 9.35  | 18.33               | 68.91 | 0.0                | 0.0  |
| 2.00     |          | 4.08      | 38.13 | 85.75       | 10.72 | 14.25               | 77.72 | 0.0                | 0.0  |
| 2.60     |          | 14.25     | 77.72 | 100.00      | 20.27 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) | 0.15 X    |       | 0.00        |       | RELATIVE WEIGHT % - |      | 3.04 ASH % - 31.32 |       |
|----------|----------|-----------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               |       |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   |          | 100.00    | 31.32 | 100.00      | 31.32 | 0.0                 | 0.0  | 21.56              | 21.56 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87033 SEAM - I

SAMPLE ID - 160

WASHABILITY ID - WA1

ANALYSIS TYPE - FLDAT

| FRACTION | SIZE(MM) | 35.00 X   |       | 6.00        |       | RELATIVE WEIGHT % - 66.04 |       | ASH % - 11.86 |      |
|----------|----------|-----------|-------|-------------|-------|---------------------------|-------|---------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS                |       | C.V.          | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH%  | WT%                       | ASH%  | (MJ KG)       | C.V. |
| 1.40     |          | 8.64      | 7.05  | 8.64        | 7.05  | 91.36                     | 11.48 | 0.0           | 0.0  |
| 1.45     |          | 71.66     | 7.83  | 80.30       | 7.75  | 19.70                     | 24.78 | 0.0           | 0.0  |
| 1.50     |          | 11.06     | 10.26 | 91.36       | 8.05  | 8.64                      | 43.36 | 0.0           | 0.0  |
| 1.55     |          | 2.87      | 17.80 | 94.23       | 8.35  | 5.77                      | 56.07 | 0.0           | 0.0  |
| 1.60     |          | 1.53      | 23.69 | 95.76       | 8.59  | 4.24                      | 67.75 | 0.0           | 0.0  |
| 1.70     |          | 0.43      | 25.45 | 96.19       | 8.67  | 3.81                      | 72.53 | 0.0           | 0.0  |
| 1.80     |          | 0.18      | 36.27 | 96.37       | 8.72  | 3.63                      | 74.32 | 0.0           | 0.0  |
| 2.00     |          | 0.17      | 42.24 | 96.54       | 8.78  | 3.46                      | 75.90 | 0.0           | 0.0  |
| 2.60     |          | 3.46      | 75.90 | 100.00      | 11.10 | 0.0                       | 0.0   | 0.0           | 0.0  |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) | 6.00 X    |       | 0.50        |      | RELATIVE WEIGHT % - 27.75 |       | ASH % - 9.65 |      |
|----------|----------|-----------|-------|-------------|------|---------------------------|-------|--------------|------|
|          |          | ELEMENTAL |       | CUM. FLOATS |      | CUM. SINKS                |       | C.V.         | CUM. |
| S.G.TME  |          | WT%       | ASH%  | WT%         | ASH% | WT%                       | ASH%  | (MJ KG)      | C.V. |
| 1.40     |          | 40.04     | 2.87  | 40.04       | 2.87 | 59.96                     | 12.57 | 0.0          | 0.0  |
| 1.45     |          | 41.37     | 6.21  | 81.41       | 4.57 | 18.59                     | 26.72 | 0.0          | 0.0  |
| 1.50     |          | 7.51      | 11.75 | 88.92       | 5.17 | 11.08                     | 36.86 | 0.0          | 0.0  |
| 1.55     |          | 2.35      | 16.46 | 91.27       | 5.46 | 8.73                      | 42.35 | 0.0          | 0.0  |
| 1.60     |          | 1.61      | 20.32 | 92.88       | 5.72 | 7.12                      | 47.33 | 0.0          | 0.0  |
| 1.70     |          | 1.89      | 27.51 | 94.77       | 6.16 | 5.23                      | 54.50 | 0.0          | 0.0  |
| 1.80     |          | 0.86      | 35.76 | 95.63       | 6.42 | 4.37                      | 58.18 | 0.0          | 0.0  |
| 2.00     |          | 1.27      | 44.45 | 96.90       | 6.92 | 3.10                      | 63.81 | 0.0          | 0.0  |
| 2.60     |          | 3.10      | 63.81 | 100.00      | 8.68 | 0.0                       | 0.0   | 0.0          | 0.0  |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

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WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPNLRDDH87033 SEAM - I

SAMPLE ID - 160

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 0.50 X |       | 0.15        |       | RELATIVE WEIGHT % - |       | 4.23 ASH % - 14.14 |      |
|----------|-----------------|-------|-------------|-------|---------------------|-------|--------------------|------|
|          | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |       | C.V.               | CUM. |
| S.G.TME  | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH%  | (MJ KG)            | C.V. |
| 1.40     | 23.91           | 2.12  | 23.91       | 2.12  | 76.09               | 16.85 | 0.0                | 0.0  |
| 1.45     | 30.81           | 4.62  | 54.72       | 3.53  | 45.28               | 25.17 | 0.0                | 0.0  |
| 1.50     | 17.35           | 7.68  | 72.07       | 4.53  | 27.93               | 36.04 | 0.0                | 0.0  |
| 1.55     | 6.01            | 12.26 | 78.08       | 5.12  | 21.92               | 42.56 | 0.0                | 0.0  |
| 1.60     | 4.03            | 17.14 | 82.11       | 5.71  | 17.89               | 48.29 | 0.0                | 0.0  |
| 1.70     | 3.76            | 20.48 | 85.87       | 6.36  | 14.13               | 55.69 | 0.0                | 0.0  |
| 1.80     | 2.32            | 27.84 | 88.19       | 6.92  | 11.81               | 61.16 | 0.0                | 0.0  |
| 2.00     | 2.46            | 37.84 | 90.65       | 7.76  | 9.35                | 67.29 | 0.0                | 0.0  |
| 2.60     | 9.35            | 67.29 | 100.00      | 13.33 | 0.0                 | 0.0   | 0.0                | 0.0  |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM) 0.15 X |       | 0.00        |       | RELATIVE WEIGHT % - |      | 1.98 ASH % - 25.35 |       |
|----------|-----------------|-------|-------------|-------|---------------------|------|--------------------|-------|
|          | ELEMENTAL       |       | CUM. FLOATS |       | CUM. SINKS          |      | C.V.               | CUM.  |
| S.G.TME  | WT%             | ASH%  | WT%         | ASH%  | WT%                 | ASH% | (MJ KG)            | C.V.  |
| 240.00   | 100.00          | 25.35 | 100.00      | 25.35 | 0.0                 | 0.0  | 23.67              | 23.67 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 26, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87033  
 Coal zone: I  
 Field sample no.: 05879 Composite sample no.: 307

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.44  
 Contribution (%): 14.72  
 Total yield (%): 14.72

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.43                 |                  |
| Ash (%):                       | 6.37                 | 6.40             |
| Volatile matter (%):           | 6.82                 | 6.85             |
| Fixed carbon (%):              | 86.38                | 86.75            |
| Total sulphur (%):             | 0.48                 | 0.48             |
| Combustible sulphur (%):       | 0.47                 |                  |
| Gross calorific value (cal/g): | 7,870.00             | 7,904.00         |
| Volatile matter (dmmf %):      | 6.70                 |                  |
| Hardgrove index:               | 41.00                |                  |
| Phosphorous in coal (%):       | 0.058                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,130.00             | 1,116.00            |
| Softening temperature (°C):     | 1,348.00             | 1,343.00            |
| Hemispherical temperature (°C): | 1,395.00             | 1,388.00            |
| Final temperature (°C):         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 60.88 | TiO2 (%): | 1.45 |
| Al2O3 (%): | 22.68 | Na2O (%): | 2.32 |
| Fe2O3 (%): | 1.37  | K2O (%):  | 0.86 |
| CaO (%):   | 3.19  | SO3 (%):  | 0.27 |
| MgO (%):   | 1.36  | P2O5 (%): | 2.10 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 26, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87033  
 Coal zone: 1  
 Field sample no.: 05879 Composite sample no.: 307

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.53  
 Contribution (%): 11.65  
 Total yield (%): 11.65

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.87                 |                  |
| Ash (%) :                       | 11.93                | 12.03            |
| Volatile matter (%) :           | 7.48                 | 7.55             |
| Fixed carbon (%) :              | 79.72                | 80.42            |
| Total sulphur (%) :             | 0.38                 | 0.38             |
| Combustible sulphur (%) :       | 0.35                 |                  |
| Gross calorific value (cal/g) : | 7,304.00             | 7,368.00         |
| Volatile matter (dmmf%) :       | 7.50                 |                  |
| Hardgrove index:                | 42.00                |                  |
| Phosphorous in coal (%) :       | 0.021                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,190.00             | 1,114.00            |
| Softening temperature (°C) :     | 1,432.00             | 1,359.00            |
| Hemispherical temperature (°C) : | 1,472.00             | 1,395.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 63.46 | TiO2 (%) : | 0.98 |
| Al2O3 (%) : | 21.55 | Na2O (%) : | 1.91 |
| Fe2O3 (%) : | 1.94  | K2O (%) :  | 0.97 |
| CaO (%) :   | 1.76  | SO3 (%) :  | 0.72 |
| MgO (%) :   | 1.99  | P2O5 (%) : | 0.41 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 26, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87033  
 Coal zone: 1  
 Field sample no.: 05880 Composite sample no.: 308

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.44  
 Contribution (%): 3.15  
 Total yield (%): 3.15

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.41                 |                  |
| Ash (%) :                       | 4.47                 | 4.49             |
| Volatile matter (%) :           | 6.69                 | 6.72             |
| Fixed carbon (%) :              | 88.43                | 88.79            |
| Total sulphur (%) :             | 0.47                 | 0.47             |
| Combustible sulphur (%) :       | 0.47                 |                  |
| Gross calorific value (cal/g) : | 8,016.00             | 8,049.00         |
| Volatile matter (dmmf%) :       | 6.60                 |                  |
| Hardgrove index:                | 43.00                |                  |
| Phosphorous in coal (%) :       | 0.019                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,116.00             | 1,114.00            |
| Softening temperature(°C) :     | 1,472.00             | 1,472.00            |
| Hemispherical temperature(°C) : | 1,472.00             | 1,472.00            |
| Final temperature(°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 62.40 | TiO2 (%) : | 2.51 |
| Al2O3 (%) : | 26.46 | Na2O (%) : | 1.99 |
| Fe2O3 (%) : | 1.53  | K2O (%) :  | 1.03 |
| CaO (%) :   | 1.26  | S03 (%) :  | 0.25 |
| MgO (%) :   | 1.26  | P2O5 (%) : | 0.96 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 26, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87033  
 Coal zone: 1  
 Field sample no.: 05879 - 05881 Composite sample no.: 492

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.61  
 Contribution (%): 24.34  
 Total yield (%): 24.34

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.63                 |                  |
| Ash (%) :                       | 7.53                 | 7.58             |
| Volatile matter (%) :           | 6.87                 | 6.91             |
| Fixed carbon (%) :              | 84.97                | 85.51            |
| Total sulphur (%) :             | 0.47                 | 0.47             |
| Combustible sulphur (%) :       | 0.44                 |                  |
| Gross calorific value (cal/g) : | 7,729.00             | 7,778.00         |
| Volatile matter (dmmf%) :       | 6.70                 |                  |
| Hardgrove index:                | 45.00                |                  |
| Phosphorous in coal (%) :       | 0.089                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                  | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|----------------------------------|----------------------|---------------------|
| Initial temperature (°C) :       | 1,222.00             | 1,211.00            |
| Softening temperature (°C) :     | 1,343.00             | 1,295.00            |
| Hemispherical temperature (°C) : | 1,364.00             | 1,343.00            |
| Final temperature (°C) :         | 1,472.00             | 1,472.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 58.08 | TiO2 (%) : | 2.15 |
| Al2O3 (%) : | 24.19 | Na2O (%) : | 1.94 |
| Fe2O3 (%) : | 2.15  | K2O (%) :  | 1.00 |
| CaO (%) :   | 3.44  | SO3 (%) :  | 0.91 |
| MgO (%) :   | 1.95  | P2O5 (%) : | 2.72 |

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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87034 SEAM - I

SAMPLE ID - 161

WASHABILITY ID - WA1

ANALYSIS TYPE - FLDAT

| FRACTION | SIZE(MM) 35.00 X 6.00 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 47.08 ASH % - 34.43 |           |
|----------|-----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                   | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 5.60                  | 3.55  | 5.60      | 3.55  | 94.40       | 36.88 | 0.0        | 0.0  |   |           |
| 1.45     | 17.53                 | 5.76  | 23.13     | 5.22  | 76.87       | 43.97 | 0.0        | 0.0  |   |           |
| 1.50     | 15.87                 | 10.14 | 39.00     | 7.22  | 61.00       | 52.77 | 0.0        | 0.0  |   |           |
| 1.55     | 4.75                  | 17.00 | 43.75     | 8.29  | 56.25       | 55.80 | 0.0        | 0.0  |   |           |
| 1.60     | 4.22                  | 21.85 | 47.97     | 9.48  | 52.03       | 58.55 | 0.0        | 0.0  |   |           |
| 1.70     | 9.76                  | 28.96 | 57.73     | 12.77 | 42.27       | 65.38 | 0.0        | 0.0  |   |           |
| 1.80     | 11.41                 | 40.48 | 69.14     | 17.35 | 30.86       | 74.59 | 0.0        | 0.0  |   |           |
| 2.00     | 8.26                  | 71.60 | 77.40     | 23.14 | 22.60       | 75.68 | 0.0        | 0.0  |   |           |
| 2.60     | 22.60                 | 75.68 | 100.00    | 35.01 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM) 6.00 X 0.50 |       | ELEMENTAL |       | CUM. FLOATS |       | CUM. SINKS |      | RELATIVE WEIGHT % - 35.21 ASH % - 16.10 |           |
|----------|----------------------|-------|-----------|-------|-------------|-------|------------|------|---|-----------|
|          | WT%                  | ASH%  | WT%       | ASH%  | WT%         | ASH%  | WT%        | ASH% | C.V. (MJ KG)                            | CUM. C.V. |
| 1.40     | 26.95                | 4.38  | 26.95     | 4.38  | 73.05       | 21.62 | 0.0        | 0.0  |   |           |
| 1.45     | 15.20                | 4.98  | 42.15     | 4.60  | 57.85       | 26.00 | 0.0        | 0.0  |   |           |
| 1.50     | 28.44                | 7.72  | 70.59     | 5.85  | 29.41       | 43.67 | 0.0        | 0.0  |   |           |
| 1.55     | 5.24                 | 14.85 | 75.83     | 6.48  | 24.17       | 49.92 | 0.0        | 0.0  |   |           |
| 1.60     | 3.39                 | 18.36 | 79.22     | 6.98  | 20.78       | 55.06 | 0.0        | 0.0  |   |           |
| 1.70     | 4.08                 | 23.67 | 83.30     | 7.80  | 16.70       | 62.73 | 0.0        | 0.0  |   |           |
| 1.80     | 2.59                 | 32.02 | 85.89     | 8.53  | 14.11       | 68.37 | 0.0        | 0.0  |   |           |
| 2.00     | 2.89                 | 42.71 | 88.78     | 9.65  | 11.22       | 74.98 | 0.0        | 0.0  |   |           |
| 2.60     | 11.22                | 74.98 | 100.00    | 16.98 | 0.0         | 0.0   | 0.0        | 0.0  |   |           |



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GULF CANADA RESOURCES LIMITED - COAL DIVISION

MAY 04/88

WASHABILITY REPORT 1

PAGE -

DATA SOURCE - KPnlRDDH87034 SEAM - I

SAMPLE ID - 161

WASHABILITY ID - WA1

ANALYSIS TYPE - FLOAT

| FRACTION | SIZE(MM)  | 0.50 X      |        | 0.15       |       | RELATIVE WEIGHT % - |      | 9.71    | ASH % - | 15.25 |
|----------|-----------|-------------|--------|------------|-------|---------------------|------|---------|---------|-------|
|          |           | WT%         | ASH%   | WT%        | ASH%  | WT%                 | ASH% | C.V.    | CUM.    | C.V.  |
| S.G.TME  | ELEMENTAL | CUM. FLOATS |        | CUM. SINKS |       | C.V.                |      | CUM.    |         |       |
|          |           | WT%         | ASH%   | WT%        | ASH%  | WT%                 | ASH% | (MJ KG) | C.V.    |       |
| 1.40     | 19.64     | 1.94        | 19.64  | 1.94       | 80.36 | 17.58               | 0.0  | 0.0     |         |       |
| 1.45     | 31.56     | 3.95        | 51.20  | 3.18       | 48.80 | 26.40               | 0.0  | 0.0     |         |       |
| 1.50     | 15.17     | 7.13        | 66.37  | 4.08       | 33.63 | 35.09               | 0.0  | 0.0     |         |       |
| 1.55     | 4.25      | 9.64        | 70.62  | 4.42       | 29.38 | 38.77               | 0.0  | 0.0     |         |       |
| 1.60     | 5.30      | 12.52       | 75.92  | 4.98       | 24.08 | 44.55               | 0.0  | 0.0     |         |       |
| 1.70     | 7.63      | 16.55       | 83.55  | 6.04       | 16.45 | 57.54               | 0.0  | 0.0     |         |       |
| 1.80     | 3.45      | 26.89       | 87.00  | 6.87       | 13.00 | 65.67               | 0.0  | 0.0     |         |       |
| 2.00     | 3.04      | 38.14       | 90.04  | 7.92       | 9.96  | 74.07               | 0.0  | 0.0     |         |       |
| 2.60     | 9.96      | 74.07       | 100.00 | 14.51      | 0.0   | 0.0                 | 0.0  | 0.0     |         |       |

ANALYSIS TYPE - FROTH

| FRACTION | SIZE(MM)  | 0.15 X      |        | 0.00       |      | RELATIVE WEIGHT % - |       | 8.00    | ASH % - | 17.55 |
|----------|-----------|-------------|--------|------------|------|---------------------|-------|---------|---------|-------|
|          |           | WT%         | ASH%   | WT%        | ASH% | WT%                 | ASH%  | C.V.    | CUM.    | C.V.  |
| S.G.TME  | ELEMENTAL | CUM. FLOATS |        | CUM. SINKS |      | C.V.                |       | CUM.    |         |       |
|          |           | WT%         | ASH%   | WT%        | ASH% | WT%                 | ASH%  | (MJ KG) | C.V.    |       |
| 240.00   | 100.00    | 17.55       | 100.00 | 17.55      | 0.0  | 0.0                 | 26.92 | 26.92   |         |       |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87034  
 Coal zone: 1  
 Field sample no.: 05871 Composite sample no.: 309

----- PRODUCT COAL ANALYSIS (SP2) -----

Target Ash: 6.3 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.48  
 Contribution (%): 16.45  
 Total yield (%): 2.42

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.52                 |                  |
| Ash (%):                       | 6.49                 | 6.52             |
| Volatile matter (%):           | 6.97                 | 7.01             |
| Fixed carbon (%):              | 86.02                | 86.47            |
| Total sulphur (%):             | 0.48                 | 0.48             |
| Combustible sulphur (%):       | 0.47                 |                  |
| Gross calorific value (cal/g): | 7,837.00             | 7,878.00         |
| Volatile matter (dmmf %):      | 6.80                 |                  |
| Hardgrove index:               | 41.00                |                  |
| Phosphorous in coal (%):       | 0.211                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,222.00             | 1,153.00            |
| Softening temperature (°C):     | 1,274.00             | 1,253.00            |
| Hemispherical temperature (°C): | 1,280.00             | 1,274.00            |
| Final temperature (°C):         | 1,395.00             | 1,390.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 44.74 | TiO2 (%): | 1.61 |
| Al2O3 (%): | 26.84 | Na2O (%): | 1.99 |
| Fe2O3 (%): | 2.39  | K2O (%):  | 1.04 |
| CaO (%):   | 7.22  | SO3 (%):  | 0.31 |
| MgO (%):   | 1.87  | P2O5 (%): | 7.45 |

===== GULF CANADA CORPORATION - COAL DIVISION =====

----- CLEAN SIMULATED PRODUCT REPORT -----

May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPNLRDDH87034  
 Coal zone: 1  
 Field sample no.: 05871 Composite sample no.: 309

----- PRODUCT COAL ANALYSIS (SP5) -----

Target Ash: 12.0 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 35.00 X 6.00  
 Cutpoint: sp.g. 1.51  
 Contribution (%): 2.42  
 Total yield (%): 2.42

|                                | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|--------------------------------|----------------------|------------------|
| Proximate analysis             |                      |                  |
| Residual moisture (%):         | 0.79                 |                  |
| Ash (%):                       | 13.04                | 13.14            |
| Volatile matter (%):           | 9.53                 | 9.61             |
| Fixed carbon (%):              | 76.64                | 77.25            |
| Total sulphur (%):             | 0.36                 | 0.36             |
| Combustible sulphur (%):       | 0.32                 |                  |
| Gross calorific value (cal/g): | 7,084.00             | 7,141.00         |
| Volatile matter (dmmf %):      | 9.90                 |                  |
| Hardgrove index:               | 42.00                |                  |
| Phosphorous in coal (%):       | 0.194                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature (°C):       | 1,180.00             | 1,106.00            |
| Softening temperature (°C):     | 1,251.00             | 1,190.00            |
| Hemispherical temperature (°C): | 1,264.00             | 1,201.00            |
| Final temperature (°C):         | 1,298.00             | 1,289.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|            |       |           |      |
|------------|-------|-----------|------|
| SiO2 (%):  | 53.54 | TiO2 (%): | 0.98 |
| Al2O3 (%): | 20.41 | Na2O (%): | 1.55 |
| Fe2O3 (%): | 4.95  | K2O (%):  | 0.94 |
| CaO (%):   | 5.49  | SO3 (%):  | 0.69 |
| MgO (%):   | 3.25  | P2O5 (%): | 3.40 |

===== GULF CANADA CORPORATION - COAL DIVISION =====  
 ----- CLEAN SIMULATED PRODUCT REPORT -----  
 May 13, 1988.

PROJECT: KLAPPAN DATA SOURCE: KPnlRDDH87034  
 Coal zone: 1  
 Field sample no.: 05871 Composite sample no.: 493

----- PRODUCT COAL ANALYSIS (SP3) -----

Target Ash: 7.5 %

Standard: ASTM  
 Size analysis  
 Fraction size (mm): 6.00 X 0.50  
 Cutpoint: sp.g. 1.66  
 Contribution(%): 28.85  
 Total yield(%): 28.85

|                                 | <u>AIR DRY BASIS</u> | <u>DRY BASIS</u> |
|---------------------------------|----------------------|------------------|
| Proximate analysis              |                      |                  |
| Residual moisture (%) :         | 0.68                 |                  |
| Ash (%) :                       | 6.82                 | 6.87             |
| Volatile matter (%) :           | 7.08                 | 7.13             |
| Fixed carbon (%) :              | 85.42                | 86.00            |
| Total sulphur (%) :             | 0.51                 | 0.51             |
| Combustible sulphur (%) :       | 0.49                 |                  |
| Gross calorific value (cal/g) : | 7,782.00             | 7,835.00         |
| Volatile matter (dmmf%) :       | 7.00                 |                  |
| Hardgrove index:                | 52.00                |                  |
| Phosphorous in coal (%) :       | 0.179                |                  |

----- ASH FUSION ANALYSIS (AF1) -----

|                                 | <u>OXIDIZING ATM</u> | <u>REDUCING ATM</u> |
|---------------------------------|----------------------|---------------------|
| Initial temperature(°C) :       | 1,156.00             | 1,106.00            |
| Softening temperature(°C) :     | 1,269.00             | 1,264.00            |
| Hemispherical temperature(°C) : | 1,277.00             | 1,275.00            |
| Final temperature(°C) :         | 1,364.00             | 1,357.00            |

----- ASH MINERAL ANALYSIS (AM1) -----

|             |       |            |      |
|-------------|-------|------------|------|
| SiO2 (%) :  | 46.28 | TiO2 (%) : | 2.51 |
| Al2O3 (%) : | 25.71 | Na2O (%) : | 1.66 |
| Fe2O3 (%) : | 2.60  | K2O (%) :  | 0.98 |
| CaO (%) :   | 5.88  | SO3 (%) :  | 0.86 |
| MgO (%) :   | 1.92  | P2O5 (%) : | 6.01 |

Reserve and  
Resource Data +  
Coal Reflectance.

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Analyses.

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Table 7.3

## SUMMIT AREA INFERRED RESOURCE DATA POINTS

| Data Source | Seam** | Drilled Interval (m) | Seam True Thickness (m) | Interseam True Thickness (m) | Coal (m)/ Coal + Rock |
|-------------|--------|----------------------|-------------------------|------------------------------|-----------------------|
| DDH82007    | S'     | 19.19 - 23.10        | 3.91                    |                              | 2.13/3.91             |
|             | R'     | 57.14 - 59.85        | 2.71                    | 33.85                        | 1.95/2.71             |
|             | Q'     | 81.26 - 81.71        | 0.45                    | 21.41                        | Coal Loss             |
|             | P'     | 96.56 - 97.85        | 1.29                    | 14.85                        | 0.80/1.29             |
| DDH83003    | Q'     | In casing            | 0.47*                   |                              | 0.47/0.47*            |
|             | P'     | 40.30 - 42.05        | 1.72                    | 27.34                        | 1.05/1.72             |
|             | O'     | 44.80 - 48.00        | 3.20                    | 2.71                         | 1.93/3.20             |
|             | N'     | 126.95 - 128.24      | 1.26                    | 76.58                        | 1.06/1.26             |
|             | M'     | 137.68 - 139.10      | 1.40                    | 9.15                         | 1.09/1.40             |

\*Spudded into seam, unconsolidated therefore minimum thickness; average thickness in surface exposures is 0.50 m.

Table 7.4

INFERRED RESOURCE DATA SUMMARY TABLE  
(Seam Tonnage in Million Tonnes)

DDH82007 Resource Area

| Section                | 5 500N | 6 000N | Total<br>(per seam) |
|------------------------|--------|--------|---------------------|
| Seam                   |        |        |                     |
| S'                     | 1.632  | 1.077  | 2.710               |
| R'                     | 1.584  | 1.086  | 2.670               |
| P'                     | .916   | .733   | 1.648               |
| Total<br>(per section) | 4.132  | 2.896  |                     |

Total Inferred Resource for DDH82007 Resource Area: 7.028 mt

DDH83003 Resource Area

| Section                | 9 000N | 9 500N | 10 000N | 10 500N | 11 000N | Total<br>(per seam) |
|------------------------|--------|--------|---------|---------|---------|---------------------|
| Seam                   |        |        |         |         |         |                     |
| Q'                     | .324   | .137   |         |         |         | .461                |
| P'                     | 2.226  | 1.077  | .431    |         |         | 3.734               |
| O'                     | 4.943  | 2.004  | 1.470   |         |         | 8.417               |
| N'                     |        | 1.578  | 2.078   | 1.683   |         | 5.339               |
| M'                     |        | 1.754  | 2.309   | 2.104   | 1.403   | 7.569               |
| Total<br>(per section) | 7.493  | 6.550  | 6.287   | 3.788   | 1.403   |                     |

Total Inferred Resource for DDH83003 Resource Area: 25.521 mt

Total Inferred Resources 32.549 mt

Table 8.2

AVERAGE VITRINITE REFLECTANCE FOR  
1986 TRENCHES ANALYSED IN 1987

|                                    | Summit | Nass |
|------------------------------------|--------|------|
| No. of Samples Included in Average | 3      | 7    |
| Vitrinite Reflectance              | 3.47   | 3.18 |



Table 8.3

SUMMIT-NASS-SKEENA AREA  
ASH AND REFLECTANCE SUMMARY  
1986 - 1987

| Area     | Location  | Ash (%) | Reflectance | Sequence |
|----------|-----------|---------|-------------|----------|
| Summit   | TRC86019  | 37.20   | 4.43        | K1 appan |
|          | TRC86030  | 44.64   | 5.20        | K1 appan |
|          | TRC86031  | 36.45   | 4.95        | K1 appan |
|          | TRC86032+ | 35.62   | 3.05        | K1 appan |
|          | TRC86033  | 22.57   | --          | K1 appan |
|          | TRC86034+ | 28.61   | 3.41        | K1 appan |
|          | TRC86035+ | 31.62   | 3.96        | K1 appan |
|          | TRC87300  | 50.64   | 3.96        | K1 appan |
|          | TRC87301  | 37.33   | 4.22        | K1 appan |
|          | TRC87302  | 16.09   | 3.44        | K1 appan |
|          | TRC87303  | 49.54   | 3.86        | K1 appan |
|          | TRC87304  | 38.97   | 4.63        | K1 appan |
|          | TRC87307  | 44.54   | 5.14        | K1 appan |
| Nass     | TRC86021+ | 27.59   | 3.42        | K1 appan |
|          | TRC86022  | 24.85   | 3.94        | K1 appan |
|          | TRC86023  | 18.34   | --          | K1 appan |
|          | TRC86024+ | 29.97   | 3.34        | K1 appan |
|          | TRC86025+ | 16.08   | 3.61        | K1 appan |
|          | TRC86026+ | 9.60    | 3.50        | K1 appan |
|          | TRC86027+ | 26.99   | 2.91        | K1 appan |
|          | TRC86028+ | 15.87   | 2.77        | K1 appan |
|          | TRC86029+ | 10.05   | 2.69        | K1 appan |
| TRC86036 | 9.41      | --      | K1 appan    |          |
| Skeena   | TRC86020  | 35.05   | 3.23        | K1 appan |

+ 1986 trench samples analyzed for vitrinite reflectance in 1987.

**APPENDIX C**

**RESOURCES DATA AND CALCULATIONS**

SUMMIT AREA

INFERRED RESOURCES

## SUMMIT AREA : INFERRED RESOURCE CALCUALTIONS

March 1988

SECTION : 5500 N  
 RESOURCE TYPE : INFERRED  
 DRILL HOLE : KPNSSDDH82007

| SEAM<br>NAME | SEAM<br>THICKNESS<br>(M) | SPECIFIC<br>GRAVITY<br>(TN/M3) | SEAM<br>LENGTH<br>(M) | WIDTH OF<br>INFLUENCE<br>(M) | TONNES    |
|--------------|--------------------------|--------------------------------|-----------------------|------------------------------|-----------|
| S'           | 3.91                     | 1.67                           | 500                   | 500                          | 1,632,425 |
| R'           | 2.71                     | 1.67                           | 700                   | 500                          | 1,583,995 |
| P'           | 1.29                     | 1.67                           | 850                   | 500                          | 915,578   |

INF5500 TOTAL TONNES FOR THIS SECTION ---> 4,131,998

SECTION : 6000 N  
 RESOURCE TYPE : INFERRED  
 DRILL HOLE : KPNSSDDH82007

| SEAM<br>NAME | SEAM<br>THICKNESS<br>(M) | SPECIFIC<br>GRAVITY<br>(TN/M3) | SEAM<br>LENGTH<br>(M) | WIDTH OF<br>INFLUENCE<br>(M) | TONNES    |
|--------------|--------------------------|--------------------------------|-----------------------|------------------------------|-----------|
| S'           | 3.91                     | 1.67                           | 330                   | 500                          | 1,077,401 |
| R'           | 2.71                     | 1.67                           | 480                   | 500                          | 1,086,168 |
| P'           | 1.29                     | 1.67                           | 680                   | 500                          | 732,462   |

INF6000 TOTAL TONNES FOR THIS SECTION ---> 2,896,031

SECTION : 9000 N  
 RESOURCE TYPE : INFERRED  
 DRILL HOLE : KPNSSDDH83003

| SEAM<br>NAME | SEAM<br>THICKNESS<br>(M) | SPECIFIC<br>GRAVITY<br>(TN/M3) | SEAM<br>LENGTH<br>(M) | WIDTH OF<br>INFLUENCE<br>(M) | TONNES    |
|--------------|--------------------------|--------------------------------|-----------------------|------------------------------|-----------|
| Q'           | 0.47                     | 1.67                           | 825                   | 500                          | 323,771   |
| P'           | 1.72                     | 1.67                           | 1550                  | 500                          | 2,226,110 |
| O'           | 3.20                     | 1.67                           | 1850                  | 500                          | 4,943,200 |
| N'           | 1.26                     | 1.67                           |                       | 500                          | 0         |
| M'           | 1.40                     | 1.67                           |                       | 500                          | 0         |

INF9000 TOTAL TONNES FOR THIS SECTION ---> 7,493,081

SECTION : 9500 N  
 RESOURCE TYPE : INFERRED  
 DRILL HOLE : KPNSDDH83003

| SEAM NAME | SEAM THICKNESS (M) | SPECIFIC GRAVITY (TN/M3) | SEAM LENGTH (M) | WIDTH OF INFLUENCE (M) | TONNES    |
|-----------|--------------------|--------------------------|-----------------|------------------------|-----------|
| Q'        | 0.47               | 1.67                     | 350             | 500                    | 137,358   |
| P'        | 1.72               | 1.67                     | 750             | 500                    | 1,077,150 |
| O'        | 3.20               | 1.67                     | 750             | 500                    | 2,004,000 |
| N'        | 1.26               | 1.67                     | 1500            | 500                    | 1,578,150 |
| M'        | 1.40               | 1.67                     | 1500            | 500                    | 1,753,500 |

INF9500 TOTAL TONNES FOR THIS SECTION ---> 6,550,158

SECTION : 10000 N  
 RESOURCE TYPE : INFERRED  
 DRILL HOLE : KPNSDDH83003

| SEAM NAME | SEAM THICKNESS (M) | SPECIFIC GRAVITY (TN/M3) | SEAM LENGTH (M) | WIDTH OF INFLUENCE (M) | TONNES    |
|-----------|--------------------|--------------------------|-----------------|------------------------|-----------|
| P'        | 1.72               | 1.67                     | 300             | 500                    | 430,860   |
| O'        | 3.20               | 1.67                     | 550             | 500                    | 1,469,600 |
| N'        | 1.26               | 1.67                     | 1975            | 500                    | 2,077,898 |
| M'        | 1.40               | 1.67                     | 1975            | 500                    | 2,308,775 |

INF10000 TOTAL TONNES FOR THIS SECTION ---> 6,287,133

SECTION : 10500 N  
 RESOURCE TYPE : INFERRED  
 DRILL HOLE : KPNSDDH83003

| SEAM NAME | SEAM THICKNESS (M) | SPECIFIC GRAVITY (TN/M3) | SEAM LENGTH (M) | WIDTH OF INFLUENCE (M) | TONNES    |
|-----------|--------------------|--------------------------|-----------------|------------------------|-----------|
| N'        | 1.26               | 1.67                     | 1600            | 500                    | 1,683,360 |
| M'        | 1.40               | 1.67                     | 1800            | 500                    | 2,104,200 |

INF10500 TOTAL TONNES FOR THIS SECTION ---> 3,787,560

SECTION : 11000 N  
 RESOURCE TYPE : INFERRED  
 DRILL HOLE : KPNSSDDH83003

| SEAM<br>NAME | SEAM<br>THICKNESS<br>(M) | SPECIFIC<br>GRAVITY<br>(TN/M3) | SEAM<br>LENGTH<br>(M) | WIDTH OF<br>INFLUENCE<br>(M) | TONNES    |
|--------------|--------------------------|--------------------------------|-----------------------|------------------------------|-----------|
| M'           | 1.40                     | 1.67                           | 1200                  | 500                          | 1,402,800 |

INF11000 TOTAL TONNES FOR THIS SECTION ---> 1,402,800

---

TOTAL INFERRED TONNAGE = 32,548,759 TONNES

---

SUMMIT-NASS AREA

SPECULATIVE RESOURCES

SUMMIT-NASS AREA : SPECULATIVE RESOURCE CALCUALTIONS  
AND TOTAL TONNAGE

March 1988

AREA : SUMMIT AND NASS  
 RESOURCE TYPE : SPECULATIVE

| AREA<br>NAME | PLANIMETERED<br>AREA<br>(M <sup>2</sup> ) | SPECIFIC<br>GRAVITY<br>(TN/M <sup>3</sup> ) | SEAM<br>THICKNESS<br>(M) | TOTAL<br>TONNES |
|--------------|---|---|--------------------------|-----------------|
| SUMMIT       | 80,800,000                                | 1.67  | 10.30                    | 1,389,840,800   |
| NASS         | 115,390,000                               | 1.67  | 10.30                    | 1,984,823,390   |
| TOTALS       | 196,190,000                               | 1.67  | 10.30                    | 3,374,664,190   |

---

TOTAL SPECULATIVE TONNAGE = 3,374,664,190 TONNES

---

TOTAL INFERRED TONNAGE = 32,548,759 TONNES

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TOTAL TONNAGE OF THE SUMMIT  
 NASS RESOURCE AREA = 3,407,212,949 TONNES

---



MT. KLAPPAN PROPERTY : SPECULATIVE RESOURCE CALCUALTIONS

March 1988

AREA : MT. KLAPPAN ANTHRACITE PROPERTY  
RESOURCE TYPE : SPECULATIVE

| AREA<br>NAME | PLANIMETERED<br>AREA<br>$(M^2)$ | SPECIFIC<br>GRAVITY<br>$(TN/M^3)$ | SEAM<br>THICKNESS<br>$(M)$ | TOTAL<br>TONNES |
|--------------|---------------------------------|-----------------------------------|----------------------------|-----------------|
| SUMMIT       | 80,800,000                      | 1.67                              | 10.30                      | 1,389,840,800   |
| NASS         | 115,390,000                     | 1.67                              | 10.30                      | 1,984,823,390   |
| LOST-FOX     | 41,000,000                      | 1.67                              | 10.30                      | 705,241,000     |
| HOBBIT       | 39,175,000                      | 1.67                              | 10.30                      | 673,849,175     |
| TOTALS       | 276,365,000                     | 1.67                              | 10.30                      | 4,753,754,365   |

---

TOTAL SPECULATIVE TONNAGE  
OF THE ENTIRE MT. KLAPPAN  
RESOURCE AREA = 4,753,754,365 TONNES

---

# Vitrinite Reflectance

**GULF CANADA CORPORATION**  
**1987 KPNSSSTRC Trench 87300 #10251**

## BASIC STATISTICS

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 3.96   |
| Standard Error of the Mean.....      | .02    |
| Coefficient of Variation.....%       | 4.22   |
| Variance.....                        | .0279  |
| Standard Deviation.....              | .1671  |
| Skewness.....                        | -.1691 |
| Kurtosis.....                        | 2.4511 |

## CELL STATISTICS

| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 12          | 3.60        | 4                      | 4.00          |
| 13          | 3.65        | 4                      | 4.00          |
| 14          | 3.70        | 4                      | 4.00          |
| 15          | 3.75        | 5                      | 5.00          |
| 16          | 3.80        | 6                      | 6.00          |
| 17          | 3.85        | 11                     | 11.00         |
| 18          | 3.90        | 8                      | 8.00          |
| 19          | 3.95        | 13                     | 13.00         |
| 20          | 4.00        | 15                     | 15.00         |
| 21          | 4.05        | 7                      | 7.00          |
| 22          | 4.10        | 10                     | 10.00         |
| 23          | 4.15        | 5                      | 5.00          |
| 24          | 4.20        | 3                      | 3.00          |
| 25          | 4.25        | 5                      | 5.00          |

## VITRINITE TYPE DISTRIBUTION

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V36            | 8.00          |
| V37            | 9.00          |
| V38            | 17.00         |
| V39            | 21.00         |
| V40            | 22.00         |
| V41            | 15.00         |
| V42            | 8.00          |

# VITRINITE HISTOGRAM

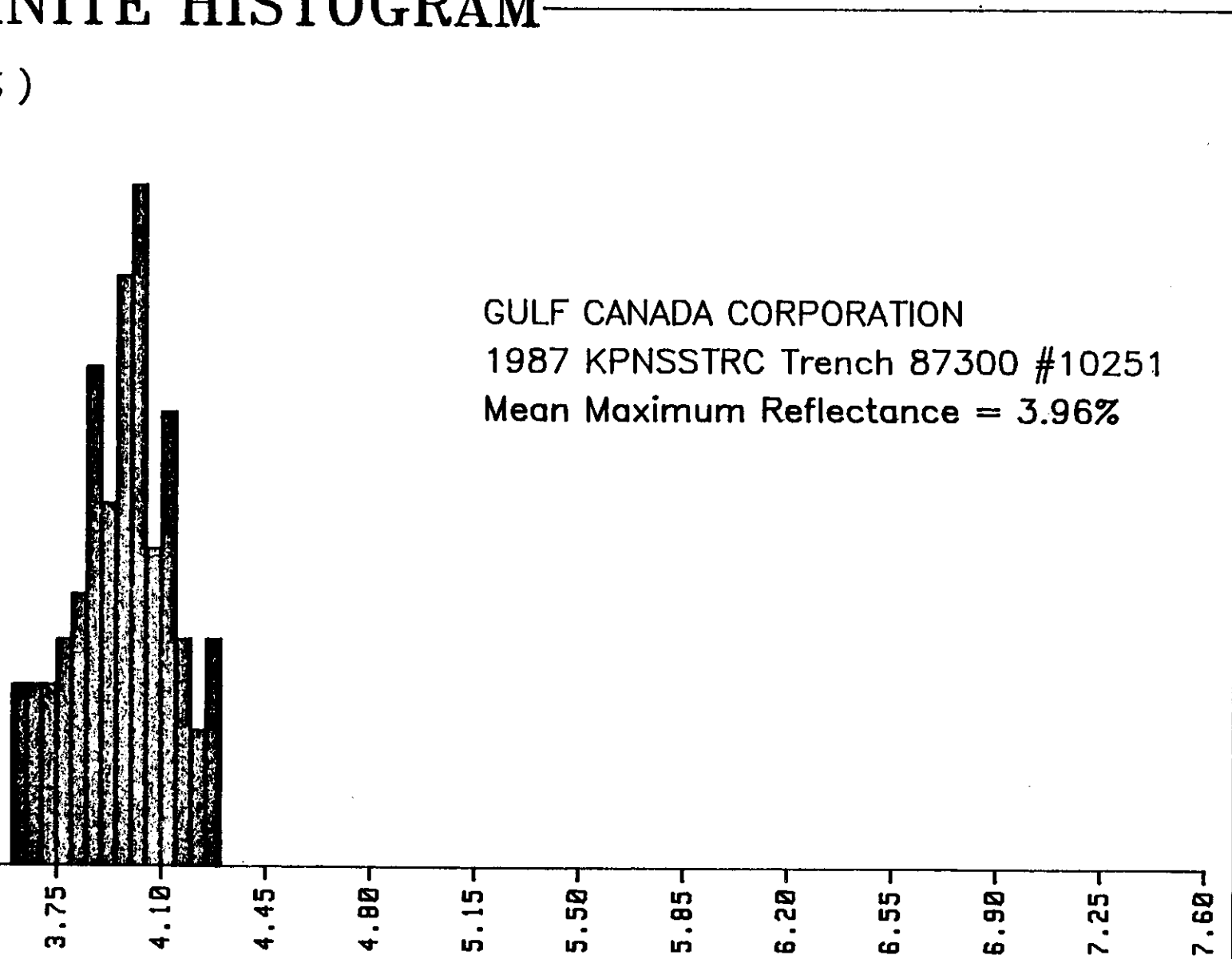
Frequency ( % )

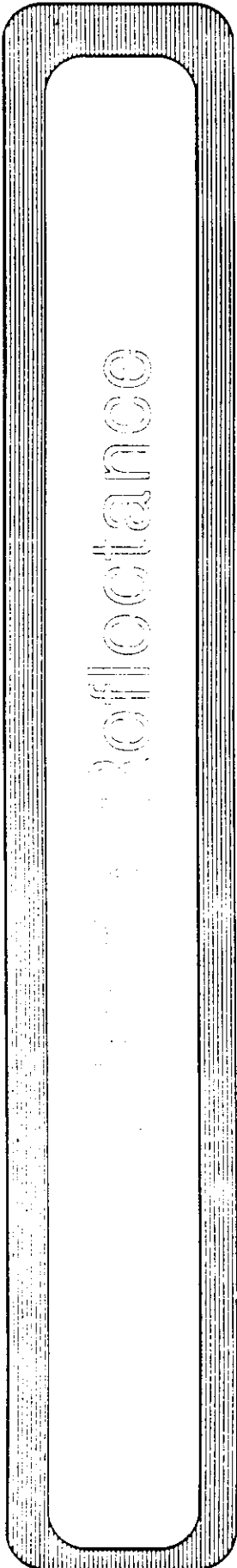
16.0  
14.0  
12.0  
10.0  
8.0  
6.0  
4.0  
2.0  
0.0

GULF CANADA CORPORATION  
1987 KPNSSTRC Trench 87300 #10251  
Mean Maximum Reflectance = 3.96%

3.05 3.40 3.75 4.10 4.45 4.80 5.15 5.50 5.85 6.20 6.55 6.90 7.25 7.60

Maximum Reflectance ( % )





**GULF CANADA CORPORATION**  
1987 KPNSSTRC 87301 #10252

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 4.22   |
| Standard Error of the Mean.....      | .02    |
| Coefficient of Variation.....%       | 3.86   |
| Variance.....                        | .0266  |
| Standard Deviation.....              | .1630  |
| Skewness.....                        | -.3689 |
| Kurtosis.....                        | 2.4933 |

**CELL STATISTICS**

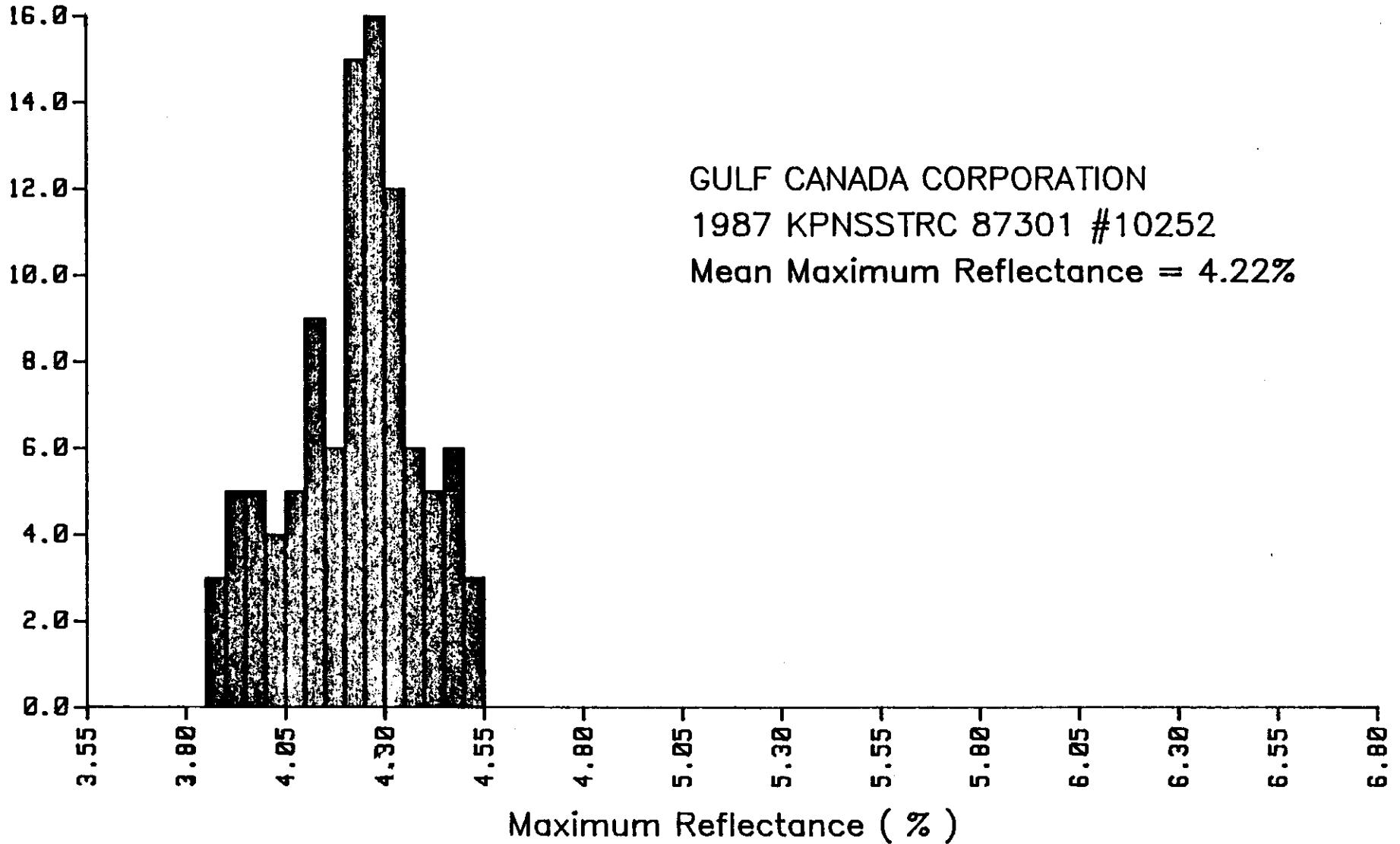
| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 7           | 3.85        | 3                      | 3.00          |
| 8           | 3.90        | 5                      | 5.00          |
| 9           | 3.95        | 5                      | 5.00          |
| 10          | 4.00        | 4                      | 4.00          |
| 11          | 4.05        | 5                      | 5.00          |
| 12          | 4.10        | 9                      | 9.00          |
| 13          | 4.15        | 6                      | 6.00          |
| 14          | 4.20        | 15                     | 15.00         |
| 15          | 4.25        | 16                     | 16.00         |
| 16          | 4.30        | 12                     | 12.00         |
| 17          | 4.35        | 6                      | 6.00          |
| 18          | 4.40        | 5                      | 5.00          |
| 19          | 4.45        | 6                      | 6.00          |
| 20          | 4.50        | 3                      | 3.00          |

**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V38            | 3.00          |
| V39            | 10.00         |
| V40            | 9.00          |
| V41            | 15.00         |
| V42            | 31.00         |
| V43            | 18.00         |
| V44            | 11.00         |
| V45            | 3.00          |

# VITRINITE HISTOGRAM

Frequency ( % )



GULF CANADA CORPORATION  
1987 KPNSSTRC 87301 #10252  
Mean Maximum Reflectance = 4.22%

# Vitrinite Reflectance

**GULF CANADA CORPORATION**  
**1987 KPNSSTRC 87302 #10253**

## BASIC STATISTICS

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 3.44   |
| Standard Error of the Mean.....      | .01    |
| Coefficient of Variation.....%       | 3.23   |
| Variance.....                        | .0123  |
| Standard Deviation.....              | .1109  |
| Skewness.....                        | -.0938 |
| Kurtosis.....                        | 2.3602 |

## CELL STATISTICS

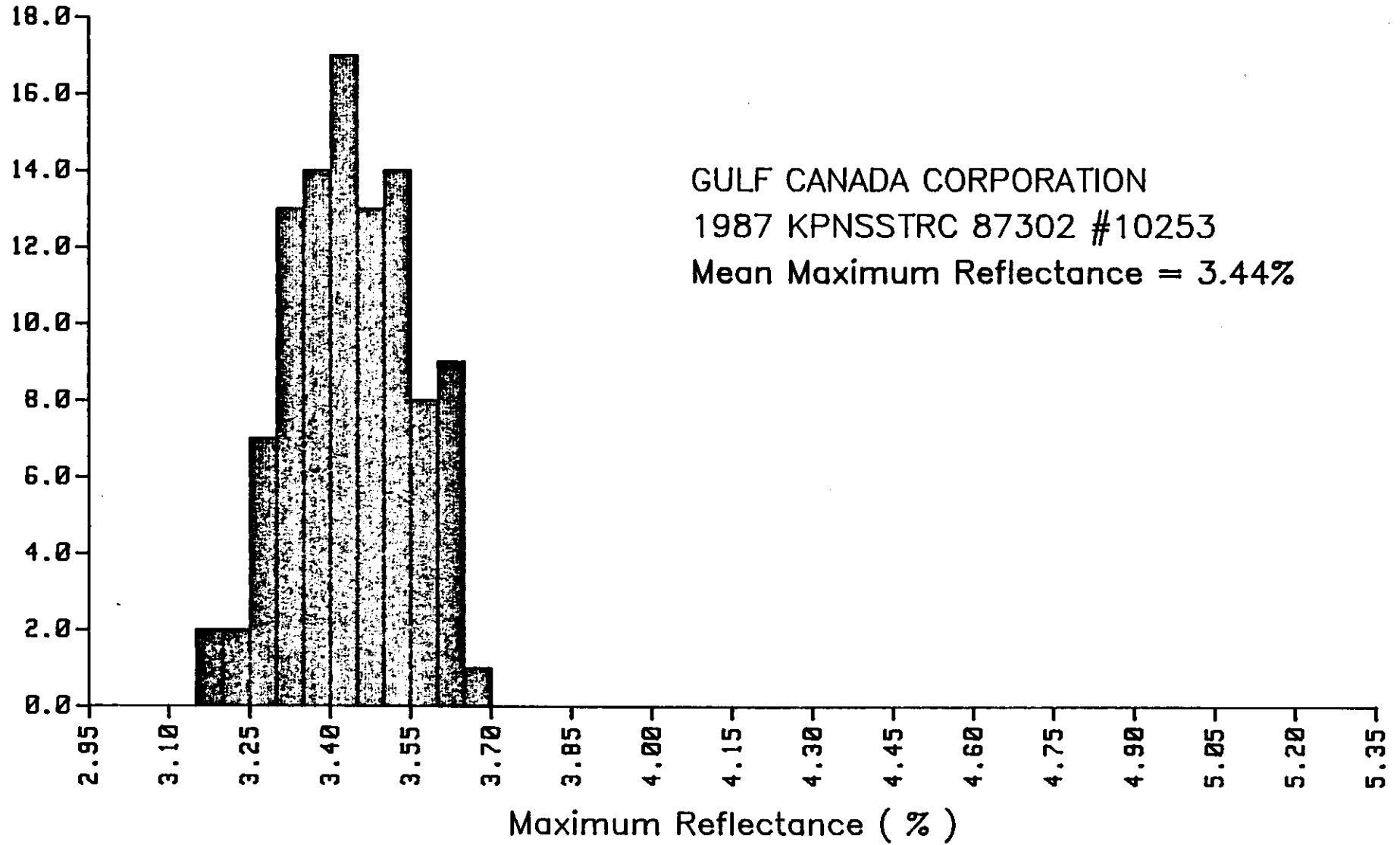
| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 3           | 3.15        | 2                      | 2.00          |
| 4           | 3.20        | 2                      | 2.00          |
| 5           | 3.25        | 7                      | 7.00          |
| 6           | 3.30        | 13                     | 13.00         |
| 7           | 3.35        | 14                     | 14.00         |
| 8           | 3.40        | 17                     | 17.00         |
| 9           | 3.45        | 13                     | 13.00         |
| 10          | 3.50        | 14                     | 14.00         |
| 11          | 3.55        | 8                      | 8.00          |
| 12          | 3.60        | 9                      | 9.00          |
| 13          | 3.65        | 1                      | 1.00          |

## VITRINITE TYPE DISTRIBUTION

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V31            | 2.00          |
| V32            | 9.00          |
| V33            | 27.00         |
| V34            | 30.00         |
| V35            | 22.00         |
| V36            | 10.00         |

# VITRINITE HISTOGRAM

Frequency ( % )



GULF CANADA CORPORATION  
1987 KPNSSTRC 87302 #10253  
Mean Maximum Reflectance = 3.44%

**GULF CANADA CORPORATION  
1987 KPNSSTRC 87303 #10254**

Reflectance

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 3.86   |
| Standard Error of the Mean.....      | .01    |
| Coefficient of Variation.....%       | 3.25   |
| Variance.....                        | .0157  |
| Standard Deviation.....              | .1254  |
| Skewness.....                        | .1530  |
| Kurtosis.....                        | 2.9558 |

**CELL STATISTICS**

| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 8           | 3.55        | 1                      | 1.00          |
| 9           | 3.60        | 4                      | 4.00          |
| 10          | 3.65        | 7                      | 7.00          |
| 11          | 3.70        | 9                      | 9.00          |
| 12          | 3.75        | 9                      | 9.00          |
| 13          | 3.80        | 11                     | 11.00         |
| 14          | 3.85        | 22                     | 22.00         |
| 15          | 3.90        | 16                     | 16.00         |
| 16          | 3.95        | 8                      | 8.00          |
| 17          | 4.00        | 7                      | 7.00          |
| 18          | 4.05        | 2                      | 2.00          |
| 19          | 4.10        | 2                      | 2.00          |
| 20          | 4.15        | 2                      | 2.00          |

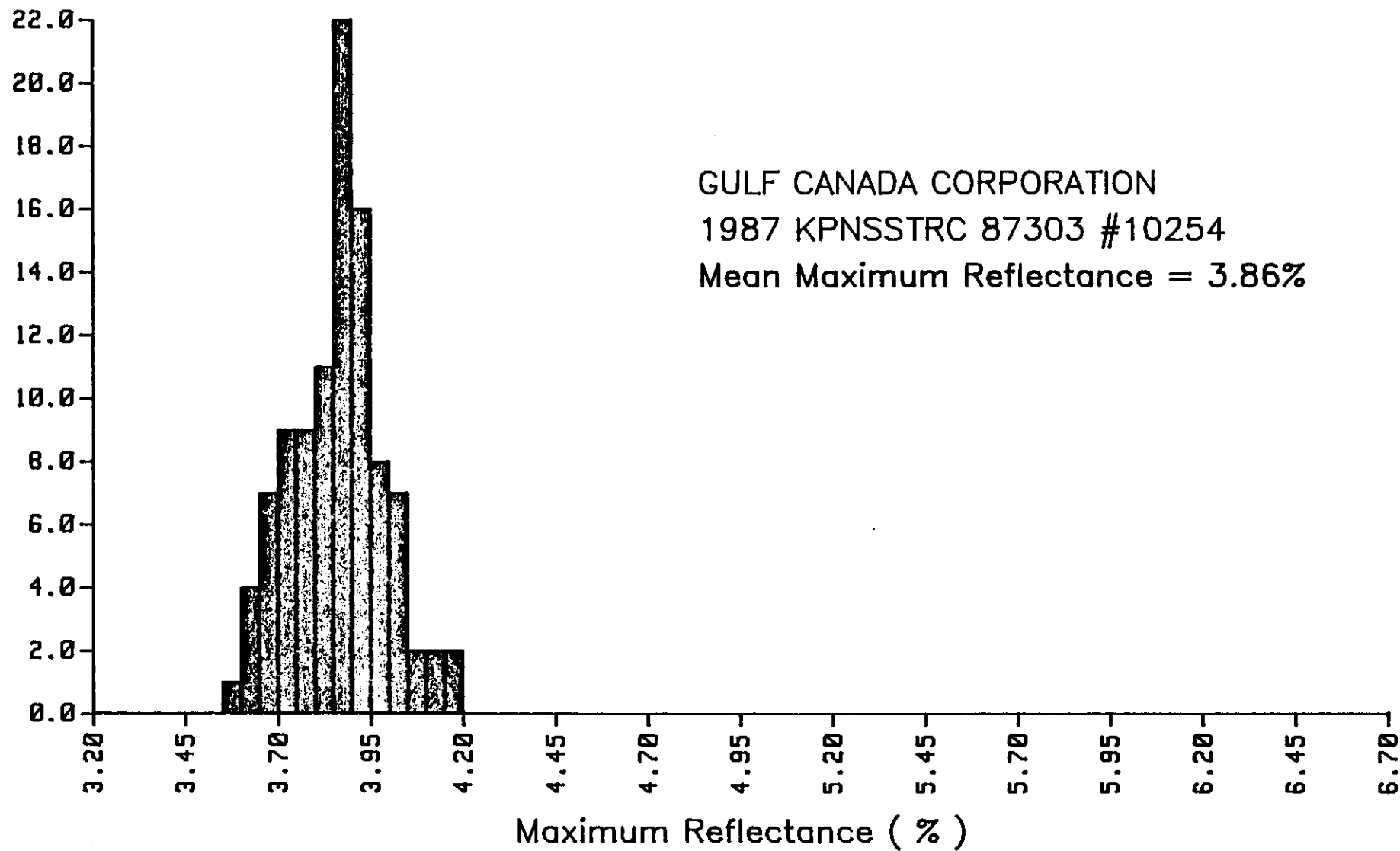
**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V35            | 1.00          |
| V36            | 11.00         |
| V37            | 18.00         |
| V38            | 33.00         |
| V39            | 24.00         |
| V40            | 9.00          |
| V41            | 4.00          |



# VITRINITE HISTOGRAM

Frequency ( % )



David E. Pearson & Associates Ltd.

**GULF CANADA CORPORATION**  
**1987 KPNSSTRC Trench 87304 #10255**

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 4.63   |
| Standard Error of the Mean.....      | .02    |
| Coefficient of Variation.....%       | 3.81   |
| Variance.....                        | .0311  |
| Standard Deviation.....              | .1765  |
| Skewness.....                        | -.0127 |
| Kurtosis.....                        | 2.2690 |

**CELL STATISTICS**

| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 8           | 4.30        | 7                      | 7.00          |
| 9           | 4.35        | 5                      | 5.00          |
| 10          | 4.40        | 6                      | 6.00          |
| 11          | 4.45        | 4                      | 4.00          |
| 12          | 4.50        | 9                      | 9.00          |
| 13          | 4.55        | 12                     | 12.00         |
| 14          | 4.60        | 12                     | 12.00         |
| 15          | 4.65        | 14                     | 14.00         |
| 16          | 4.70        | 5                      | 5.00          |
| 17          | 4.75        | 7                      | 7.00          |
| 18          | 4.80        | 4                      | 4.00          |
| 19          | 4.85        | 6                      | 6.00          |
| 20          | 4.90        | 7                      | 7.00          |
| 21          | 4.95        | 2                      | 2.00          |

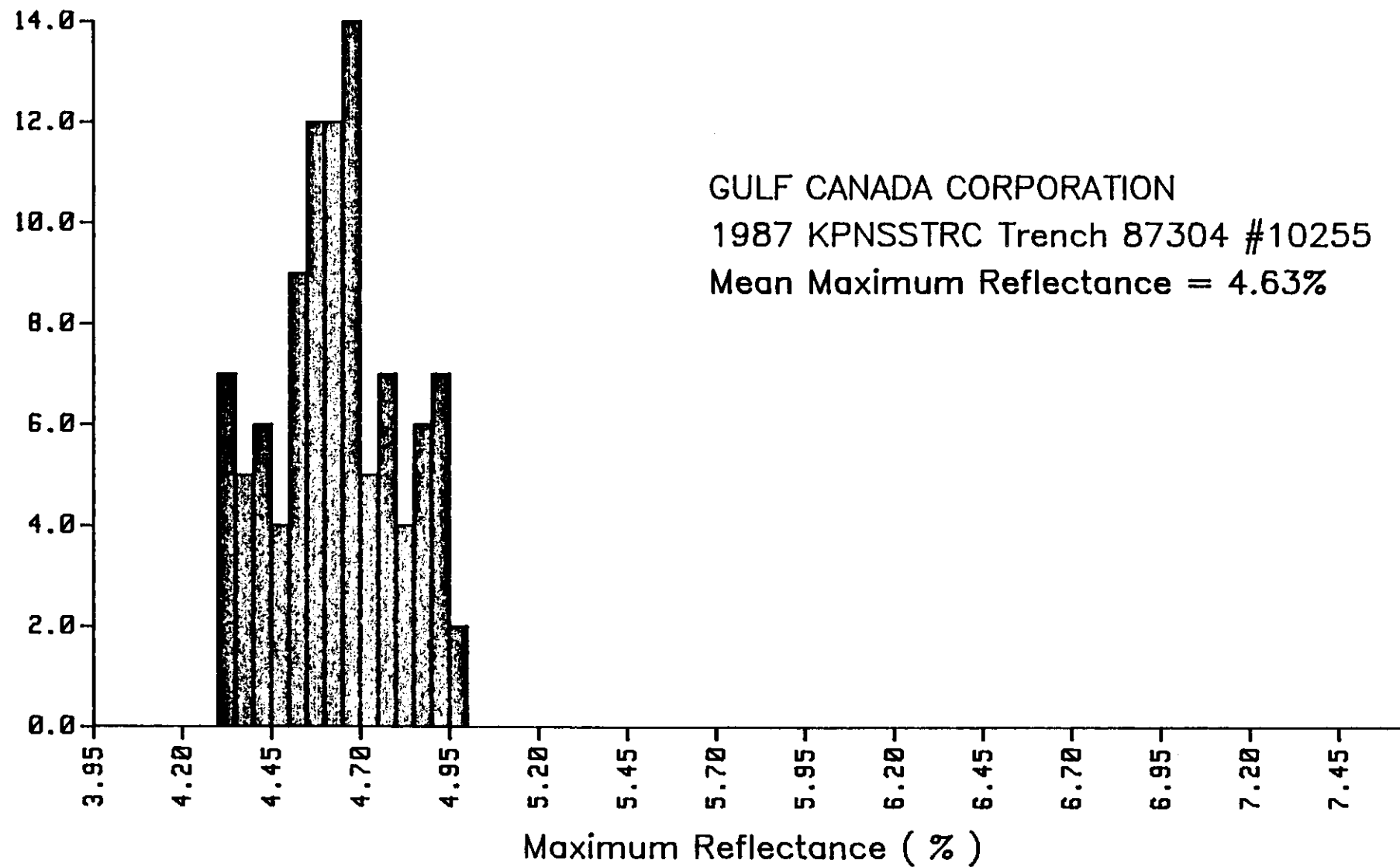
**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V43            | 12.00         |
| V44            | 10.00         |
| V45            | 21.00         |
| V46            | 26.00         |
| V47            | 12.00         |
| V48            | 10.00         |
| V49            | 9.00          |

Maximum Reflectance

# VITRINITE HISTOGRAM

Frequency ( % )



**GULF CANADA CORPORATION**  
**1987 KPNSSTRC Trench 87307 #10257**

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 5.14   |
| Standard Error of the Mean.....      | .01    |
| Coefficient of Variation.....%       | 2.87   |
| Variance.....                        | .0217  |
| Standard Deviation.....              | .1473  |
| Skewness.....                        | .2065  |
| Kurtosis.....                        | 2.6340 |

**CELL STATISTICS**

| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 7           | 4.80        | 1                      | 1.00          |
| 8           | 4.85        | 5                      | 5.00          |
| 9           | 4.90        | 3                      | 3.00          |
| 10          | 4.95        | 5                      | 5.00          |
| 11          | 5.00        | 13                     | 13.00         |
| 12          | 5.05        | 14                     | 14.00         |
| 13          | 5.10        | 14                     | 14.00         |
| 14          | 5.15        | 13                     | 13.00         |
| 15          | 5.20        | 7                      | 7.00          |
| 16          | 5.25        | 10                     | 10.00         |
| 17          | 5.30        | 6                      | 6.00          |
| 18          | 5.35        | 4                      | 4.00          |
| 19          | 5.40        | 2                      | 2.00          |
| 20          | 5.45        | 3                      | 3.00          |

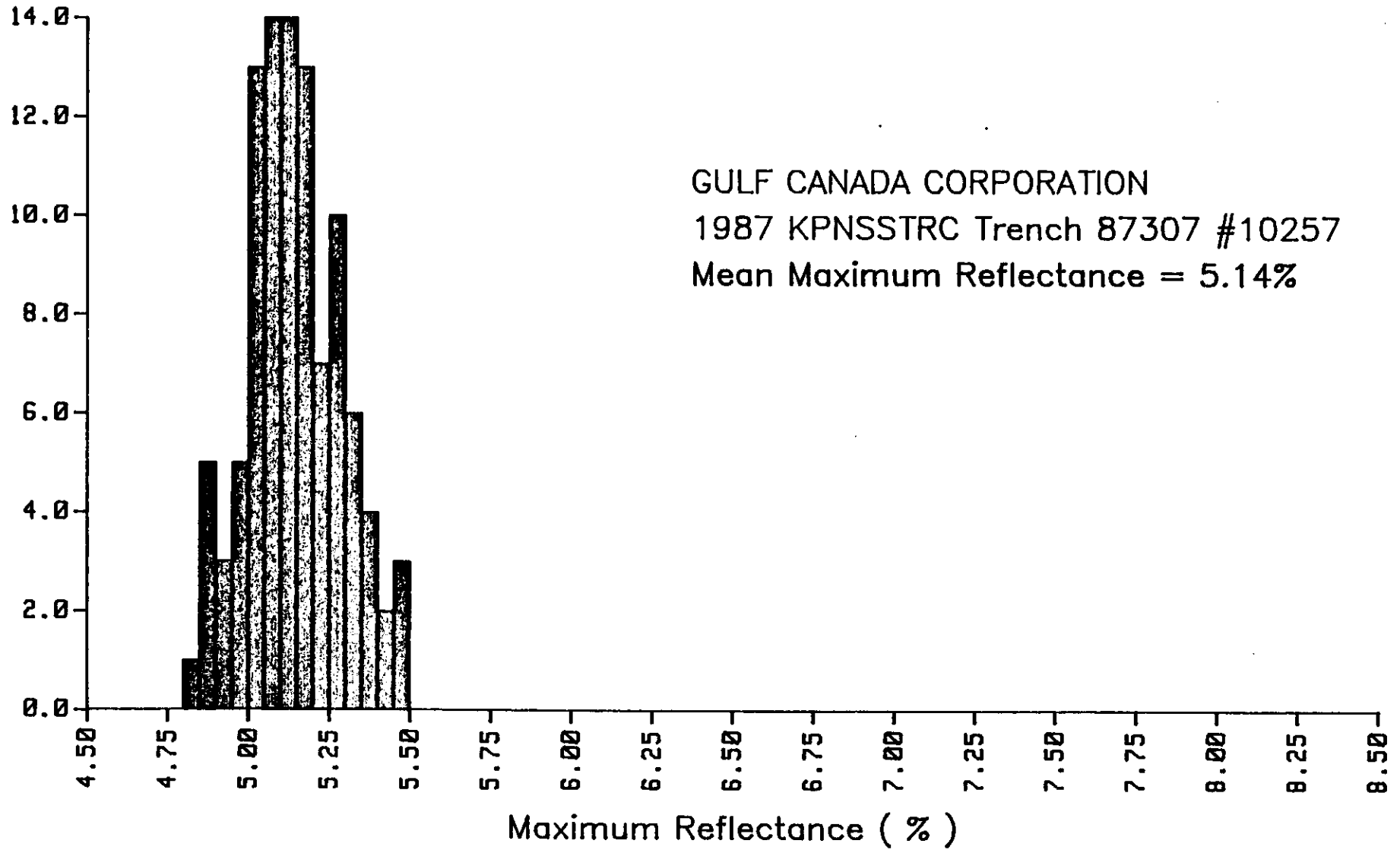
**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V48            | 6.00          |
| V49            | 8.00          |
| V50            | 27.00         |
| V51            | 27.00         |
| V52            | 17.00         |
| V53            | 10.00         |
| V54            | 5.00          |

1987 KPNSSTRC Trench 87307 #10257

# VITRINITE HISTOGRAM

Frequency ( % )



GULF CANADA CORPORATION  
1987 KPNSSTRC Trench 87307 #10257  
Mean Maximum Reflectance = 5.14%

APPENDIX I  
SUMMIT-NASS-SKEENA AREA  
1986 REFLECTANCE DATA

KPNNRTRC86021

**GULF CANADA CORPORATION**  
**1986 KPNNRTRC Trench 86021 #5304, 5305**

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 3.42   |
| Standard Error of the Mean.....      | .01    |
| Coefficient of Variation.....%       | 3.45   |
| Variance.....                        | .0139  |
| Standard Deviation.....              | .1178  |
| Skewness.....                        | -.0965 |
| Kurtosis.....                        | 2.5038 |

**CELL STATISTICS**

| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 8           | 3.15        | 4                      | 4.00          |
| 9           | 3.20        | 5                      | 5.00          |
| 10          | 3.25        | 8                      | 8.00          |
| 11          | 3.30        | 6                      | 6.00          |
| 12          | 3.35        | 21                     | 21.00         |
| 13          | 3.40        | 14                     | 14.00         |
| 14          | 3.45        | 16                     | 16.00         |
| 15          | 3.50        | 10                     | 10.00         |
| 16          | 3.55        | 11                     | 11.00         |
| 17          | 3.60        | 3                      | 3.00          |
| 18          | 3.65        | 2                      | 2.00          |

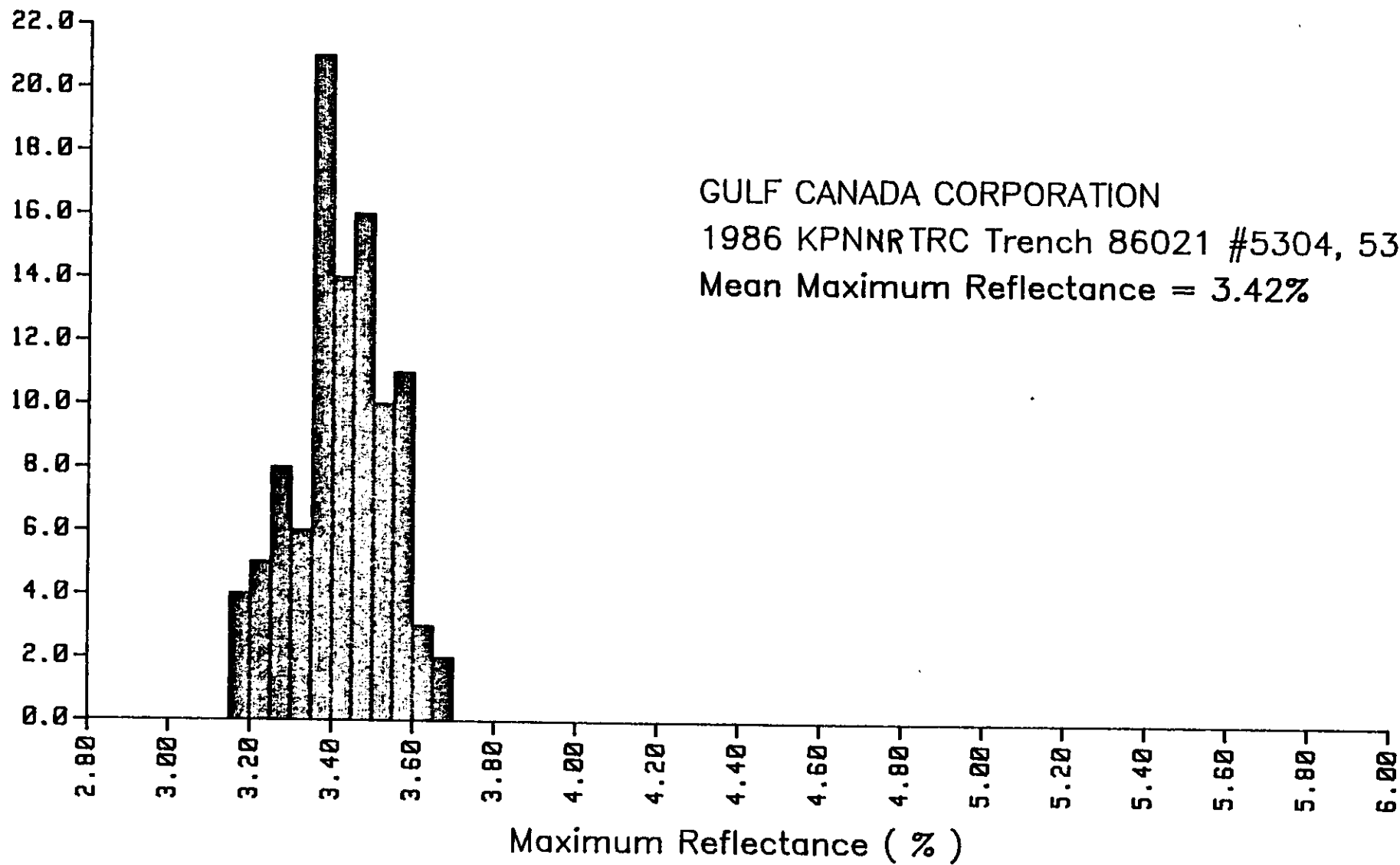
**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V31            | 4.00          |
| V32            | 13.00         |
| V33            | 27.00         |
| V34            | 30.00         |
| V35            | 21.00         |
| V36            | 5.00          |



# VITRINITE HISTOGRAM

Frequency ( % )



David E. Pearson & Associates Ltd.

**KPNNRTRC86024**

**GULF CANADA RESOURCES  
1986 KPNNRTRC 86024 #5308**

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 3.34   |
| Standard Error of the Mean.....      | .01    |
| Coefficient of Variation.....%       | 4.03   |
| Variance.....                        | .0181  |
| Standard Deviation.....              | .1344  |
| Skewness.....                        | -.1411 |
| Kurtosis.....                        | 2.6889 |

**CELL STATISTICS**

| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 5           | 3.00        | 1                      | 1.00          |
| 6           | 3.05        | 4                      | 4.00          |
| 7           | 3.10        | 4                      | 4.00          |
| 8           | 3.15        | 5                      | 5.00          |
| 9           | 3.20        | 10                     | 10.00         |
| 10          | 3.25        | 11                     | 11.00         |
| 11          | 3.30        | 14                     | 14.00         |
| 12          | 3.35        | 16                     | 16.00         |
| 13          | 3.40        | 15                     | 15.00         |
| 14          | 3.45        | 7                      | 7.00          |
| 15          | 3.50        | 6                      | 6.00          |
| 16          | 3.55        | 5                      | 5.00          |
| 17          | 3.60        | 2                      | 2.00          |

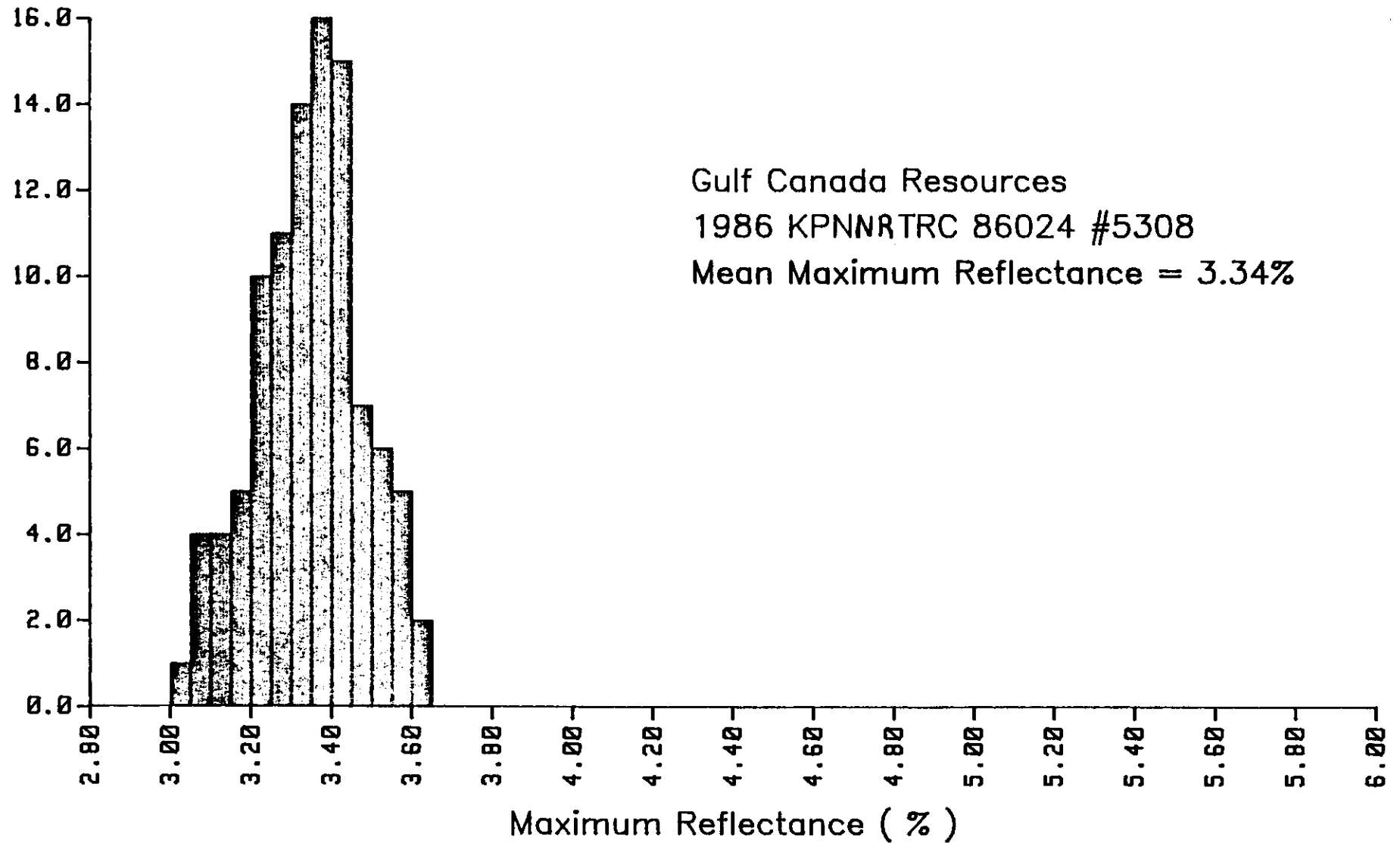
**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V30            | 5.00          |
| V31            | 9.00          |
| V32            | 21.00         |
| V33            | 30.00         |
| V34            | 22.00         |
| V35            | 11.00         |
| V36            | 2.00          |

Vitrinite Reflectance

# VITRINITE HISTOGRAM

Frequency ( % )



David E. Pearson & Associates Ltd.

**KPNNRTRC86025**

Vitrinite Reflectance

**GULF CANADA CORPORATION**  
**1986 KPNNRTRC 86025 #5309**

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 3.61   |
| Standard Error of the Mean.....      | .01    |
| Coefficient of Variation.....%       | 3.46   |
| Variance.....                        | .0156  |
| Standard Deviation.....              | .1251  |
| Skewness.....                        | -.3481 |
| Kurtosis.....                        | 2.3872 |

**CELL STATISTICS**

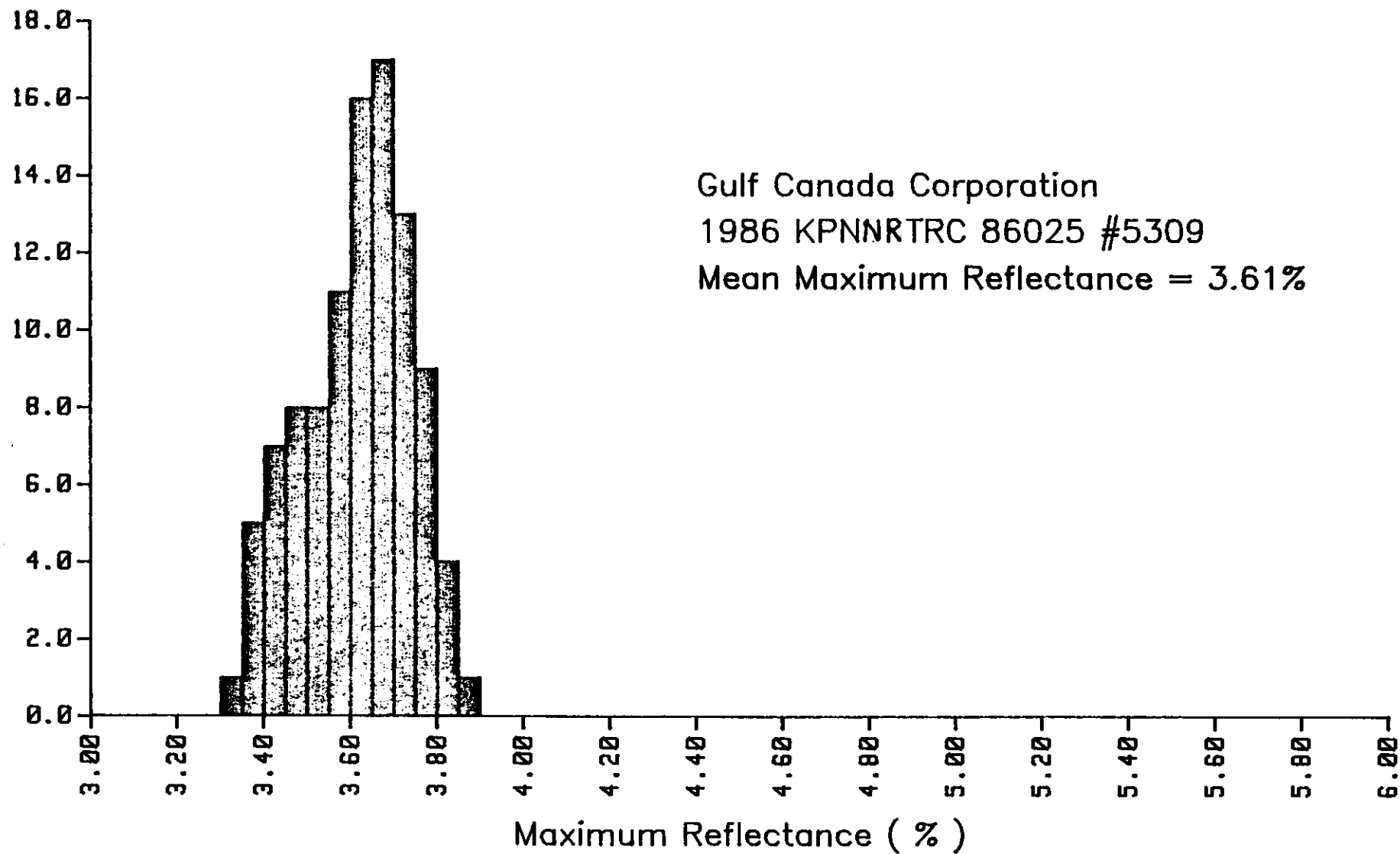
| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 7           | 3.30        | 1                      | 1.00          |
| 8           | 3.35        | 5                      | 5.00          |
| 9           | 3.40        | 7                      | 7.00          |
| 10          | 3.45        | 8                      | 8.00          |
| 11          | 3.50        | 8                      | 8.00          |
| 12          | 3.55        | 11                     | 11.00         |
| 13          | 3.60        | 16                     | 16.00         |
| 14          | 3.65        | 17                     | 17.00         |
| 15          | 3.70        | 13                     | 13.00         |
| 16          | 3.75        | 9                      | 9.00          |
| 17          | 3.80        | 4                      | 4.00          |
| 18          | 3.85        | 1                      | 1.00          |

**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V33            | 6.00          |
| V34            | 15.00         |
| V35            | 19.00         |
| V36            | 33.00         |
| V37            | 22.00         |
| V38            | 5.00          |

# VITRINITE HISTOGRAM

Frequency ( % )



David E. Pearson & Associates Ltd.

KPNNRTRC86026



**GULF CANADA CORPORATION**  
**1986 KPNNRTRC 86026 #5310**

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 3.50   |
| Standard Error of the Mean.....      | .01    |
| Coefficient of Variation.....%       | 3.69   |
| Variance.....                        | .0167  |
| Standard Deviation.....              | .1293  |
| Skewness.....                        | .0228  |
| Kurtosis.....                        | 2.9119 |

**CELL STATISTICS**

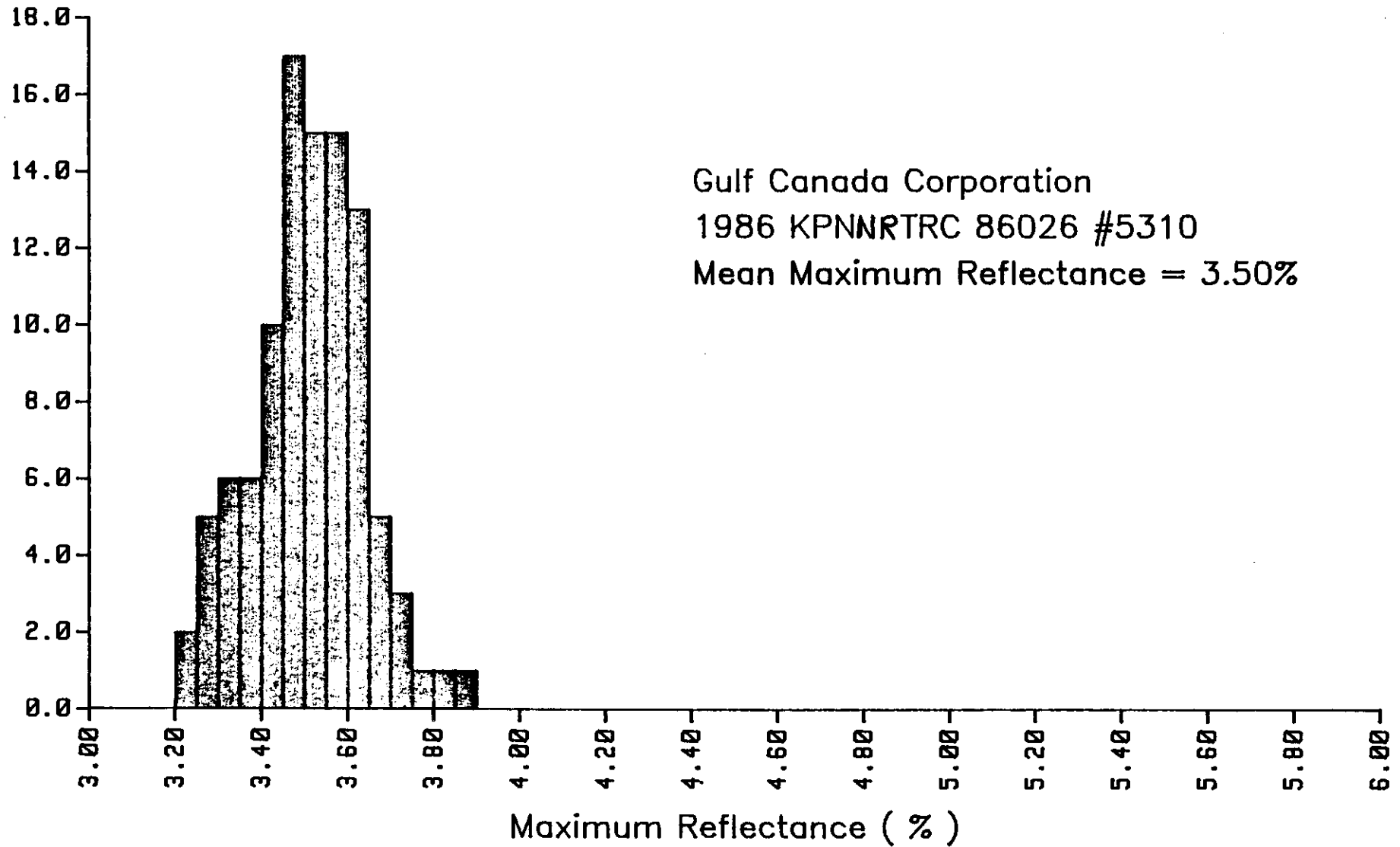
| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 5           | 3.20        | 2                      | 2.00          |
| 6           | 3.25        | 5                      | 5.00          |
| 7           | 3.30        | 6                      | 6.00          |
| 8           | 3.35        | 6                      | 6.00          |
| 9           | 3.40        | 10                     | 10.00         |
| 10          | 3.45        | 17                     | 17.00         |
| 11          | 3.50        | 15                     | 15.00         |
| 12          | 3.55        | 15                     | 15.00         |
| 13          | 3.60        | 13                     | 13.00         |
| 14          | 3.65        | 5                      | 5.00          |
| 15          | 3.70        | 3                      | 3.00          |
| 16          | 3.75        | 1                      | 1.00          |
| 17          | 3.80        | 1                      | 1.00          |
| 18          | 3.85        | 1                      | 1.00          |

**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V32            | 7.00          |
| V33            | 12.00         |
| V34            | 27.00         |
| V35            | 30.00         |
| V36            | 18.00         |
| V37            | 4.00          |
| V38            | 2.00          |

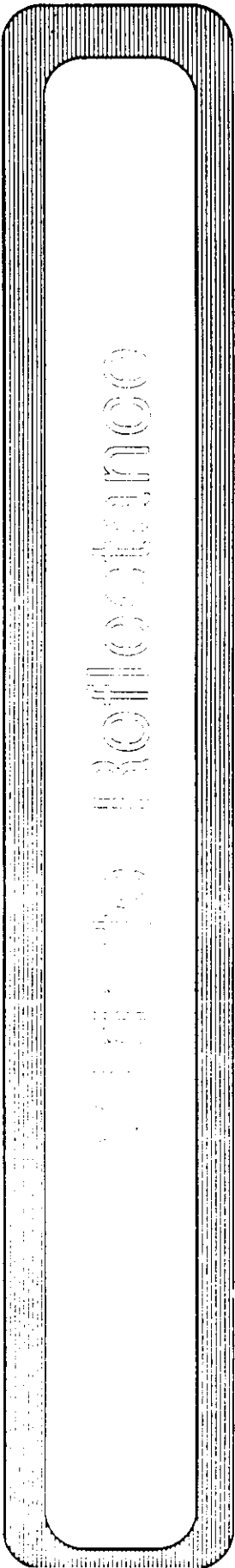
# VITRINITE HISTOGRAM

Frequency ( % )



Gulf Canada Corporation  
1986 KPNNRTRC 86026 #5310  
Mean Maximum Reflectance = 3.50%

KPNNRTRC86027



**GULF CANADA CORPORATION**  
**1986 KPNNRTRC Trench 86027 #5451**

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 2.91   |
| Standard Error of the Mean.....      | .01    |
| Coefficient of Variation.....%       | 2.97   |
| Variance.....                        | .0075  |
| Standard Deviation.....              | .0865  |
| Skewness.....                        | .0279  |
| Kurtosis.....                        | 2.5709 |

**CELL STATISTICS**

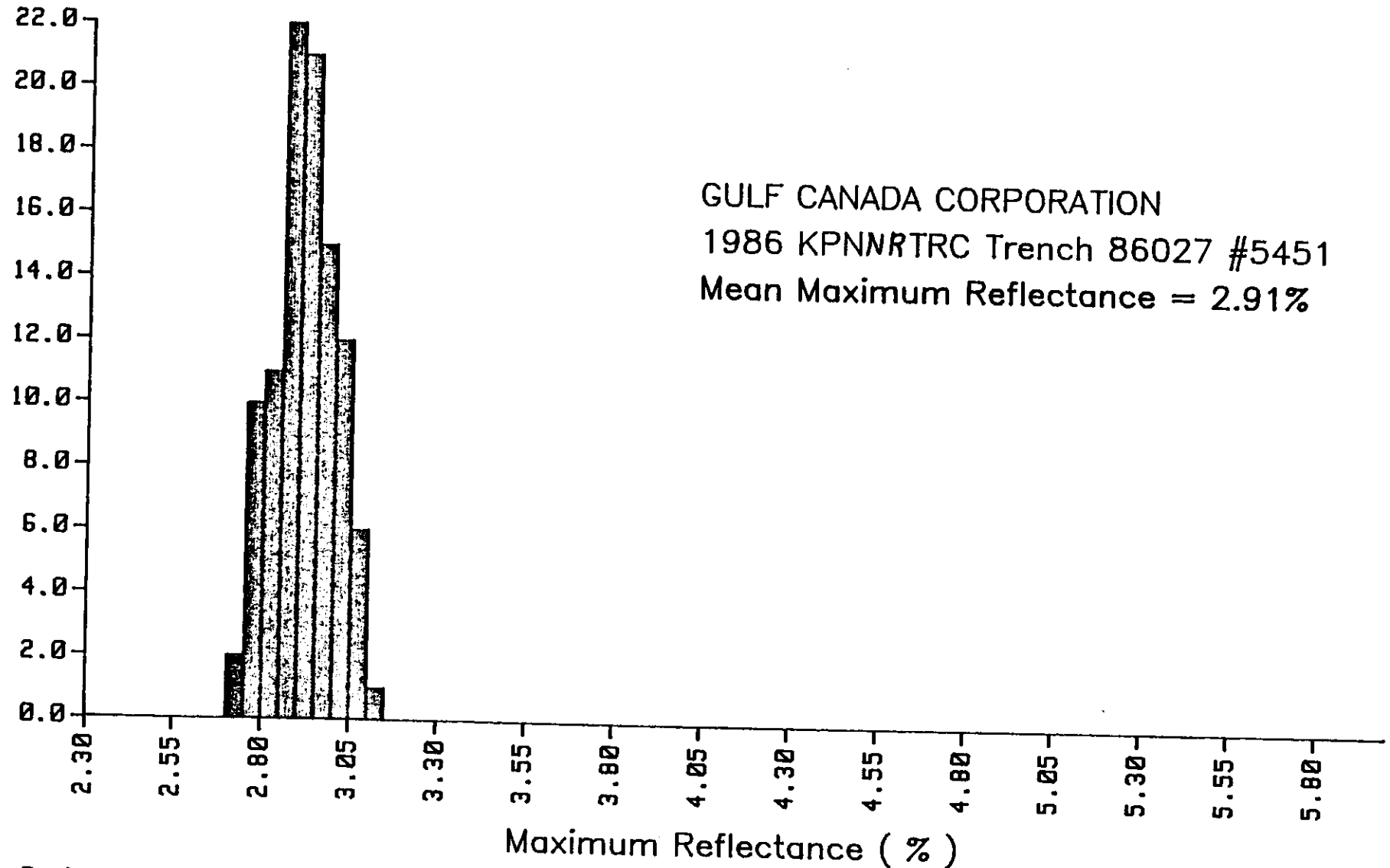
| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 9           | 2.70        | 2                      | 2.00          |
| 10          | 2.75        | 10                     | 10.00         |
| 11          | 2.80        | 11                     | 11.00         |
| 12          | 2.85        | 22                     | 22.00         |
| 13          | 2.90        | 21                     | 21.00         |
| 14          | 2.95        | 15                     | 15.00         |
| 15          | 3.00        | 12                     | 12.00         |
| 16          | 3.05        | 6                      | 6.00          |
| 17          | 3.10        | 1                      | 1.00          |

**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V27            | 12.00         |
| V28            | 33.00         |
| V29            | 36.00         |
| V30            | 18.00         |
| V31            | 1.00          |

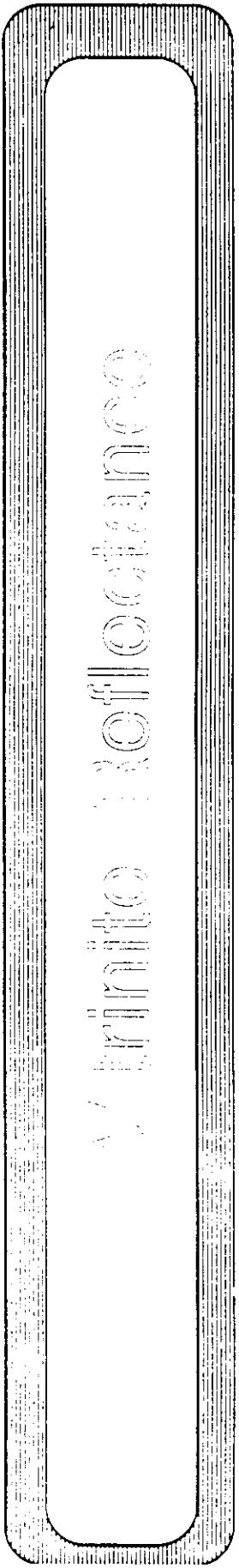
# VITRINITE HISTOGRAM

Frequency ( % )



GULF CANADA CORPORATION  
1986 KPNRTRC Trench 86027 #5451  
Mean Maximum Reflectance = 2.91%

**KPNNRTRC86028**



**GULF CANADA CORPORATION**  
**1986 KPNNRTRC Trench 86028 #5452**

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 2.77   |
| Standard Error of the Mean.....      | .01    |
| Coefficient of Variation.....%       | 5.05   |
| Variance.....                        | .0195  |
| Standard Deviation.....              | .1396  |
| Skewness.....                        | .0635  |
| Kurtosis.....                        | 2.2289 |

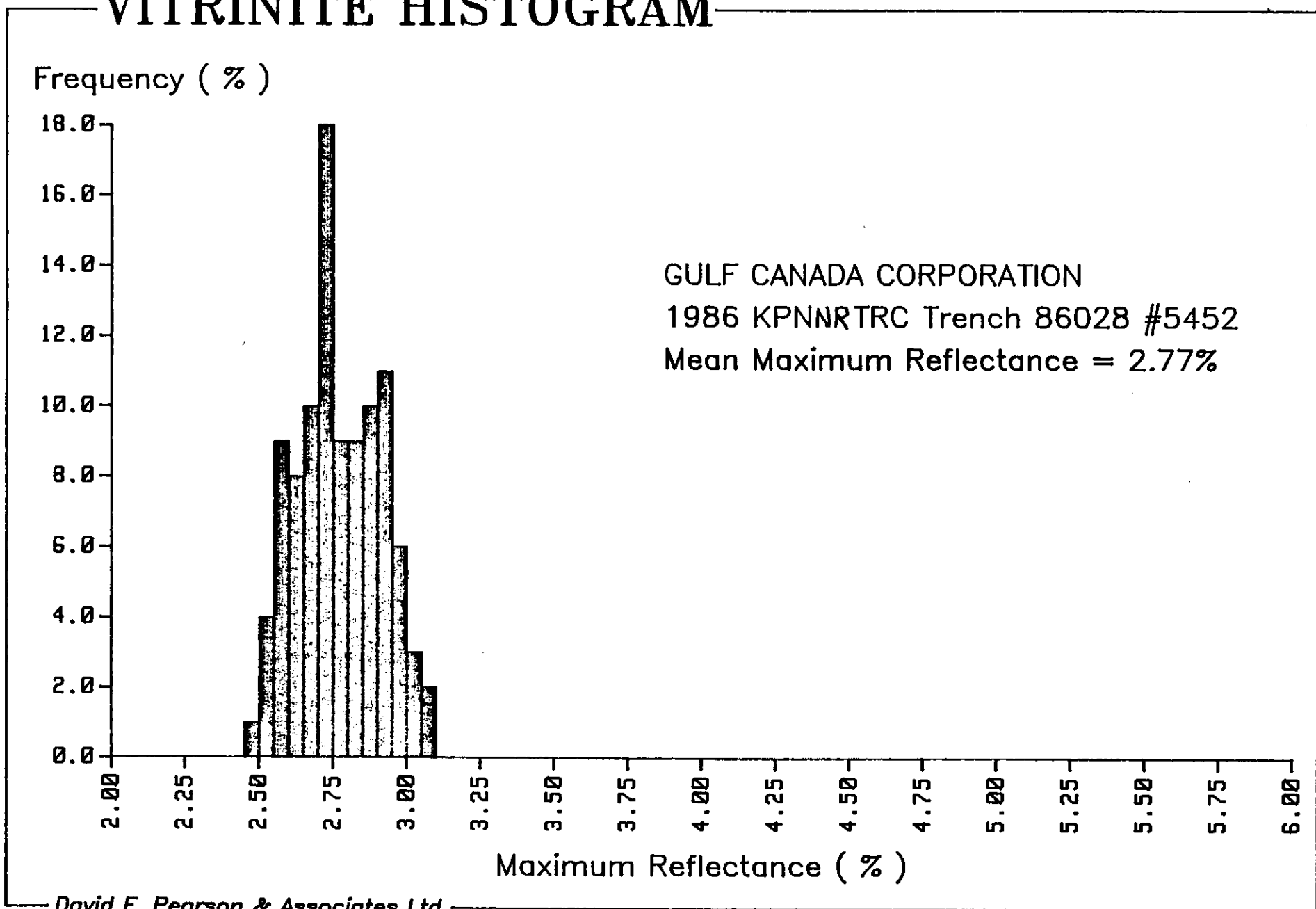
**CELL STATISTICS**

| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 10          | 2.45        | 1                      | 1.00          |
| 11          | 2.50        | 4                      | 4.00          |
| 12          | 2.55        | 9                      | 9.00          |
| 13          | 2.60        | 8                      | 8.00          |
| 14          | 2.65        | 10                     | 10.00         |
| 15          | 2.70        | 18                     | 18.00         |
| 16          | 2.75        | 9                      | 9.00          |
| 17          | 2.80        | 9                      | 9.00          |
| 18          | 2.85        | 10                     | 10.00         |
| 19          | 2.90        | 11                     | 11.00         |
| 20          | 2.95        | 6                      | 6.00          |
| 21          | 3.00        | 3                      | 3.00          |
| 22          | 3.05        | 2                      | 2.00          |

**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V24            | 1.00          |
| V25            | 13.00         |
| V26            | 18.00         |
| V27            | 27.00         |
| V28            | 19.00         |
| V29            | 17.00         |
| V30            | 5.00          |

# VITRINITE HISTOGRAM





**KPNNRTRC86029**

**GULF CANADA CORPORATION**  
**1986 KPNNR,TRC Trench 86029 #5453**

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 2.69   |
| Standard Error of the Mean.....      | .02    |
| Coefficient of Variation.....%       | 6.20   |
| Variance.....                        | .0279  |
| Standard Deviation.....              | .1669  |
| Skewness.....                        | -.5813 |
| Kurtosis.....                        | 2.5269 |

**CELL STATISTICS**

| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 7           | 2.30        | 2                      | 2.00          |
| 8           | 2.35        | 8                      | 8.00          |
| 9           | 2.40        | 2                      | 2.00          |
| 10          | 2.45        | 5                      | 5.00          |
| 11          | 2.50        | 1                      | 1.00          |
| 12          | 2.55        | 6                      | 6.00          |
| 13          | 2.60        | 8                      | 8.00          |
| 14          | 2.65        | 15                     | 15.00         |
| 15          | 2.70        | 12                     | 12.00         |
| 16          | 2.75        | 11                     | 11.00         |
| 17          | 2.80        | 9                      | 9.00          |
| 18          | 2.85        | 12                     | 12.00         |
| 19          | 2.90        | 8                      | 8.00          |
| 20          | 2.95        | 1                      | 1.00          |

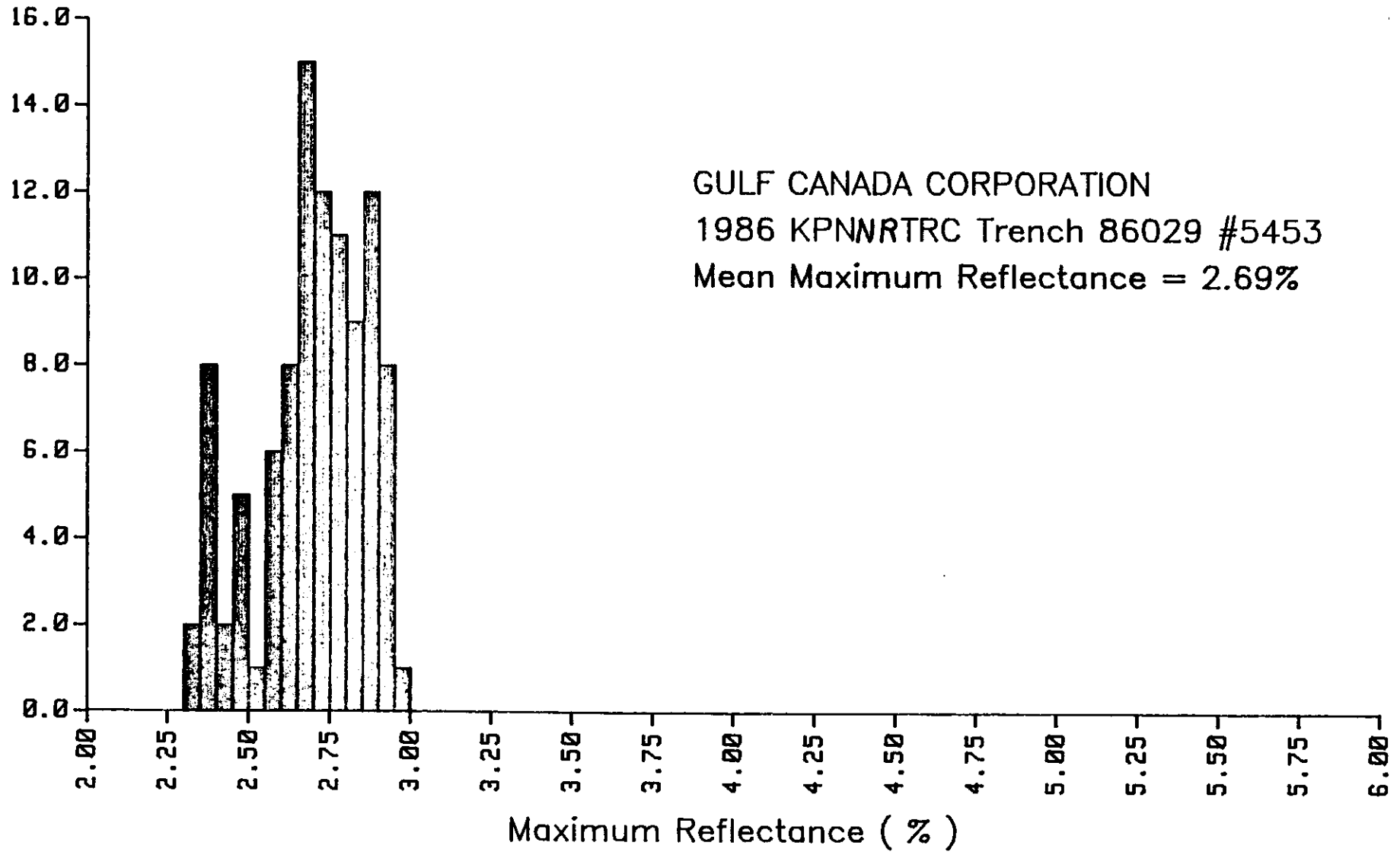
**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V23            | 10.00         |
| V24            | 7.00          |
| V25            | 7.00          |
| V26            | 23.00         |
| V27            | 23.00         |
| V28            | 21.00         |
| V29            | 9.00          |

Maximum Reflectance

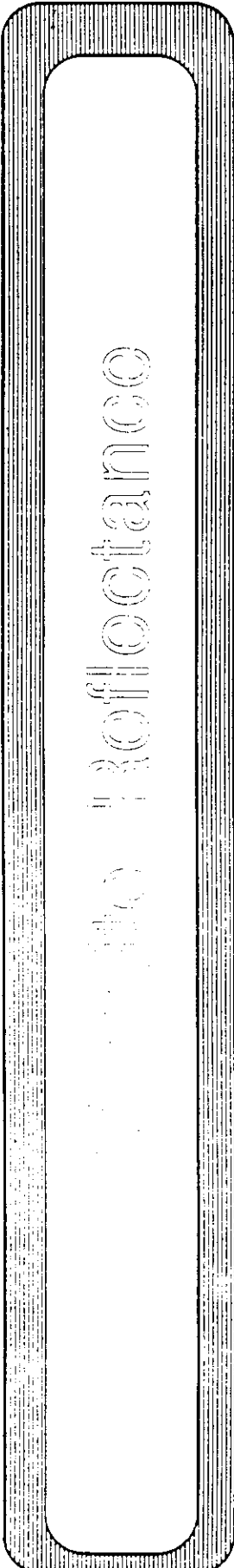
# VITRINITE HISTOGRAM

Frequency ( % )



GULF CANADA CORPORATION  
1986 KPNRTRC Trench 86029 #5453  
Mean Maximum Reflectance = 2.69%

**KPNSSTRC86032**



**GULF CANADA CORPORATION**  
**1986 KPNSSTRC 86032 #5456**

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 3.05   |
| Standard Error of the Mean.....      | .04    |
| Coefficient of Variation.....%       | 13.05  |
| Variance.....                        | .1586  |
| Standard Deviation.....              | .3982  |
| Skewness.....                        | -.5643 |
| Kurtosis.....                        | 2.3611 |

**CELL STATISTICS**

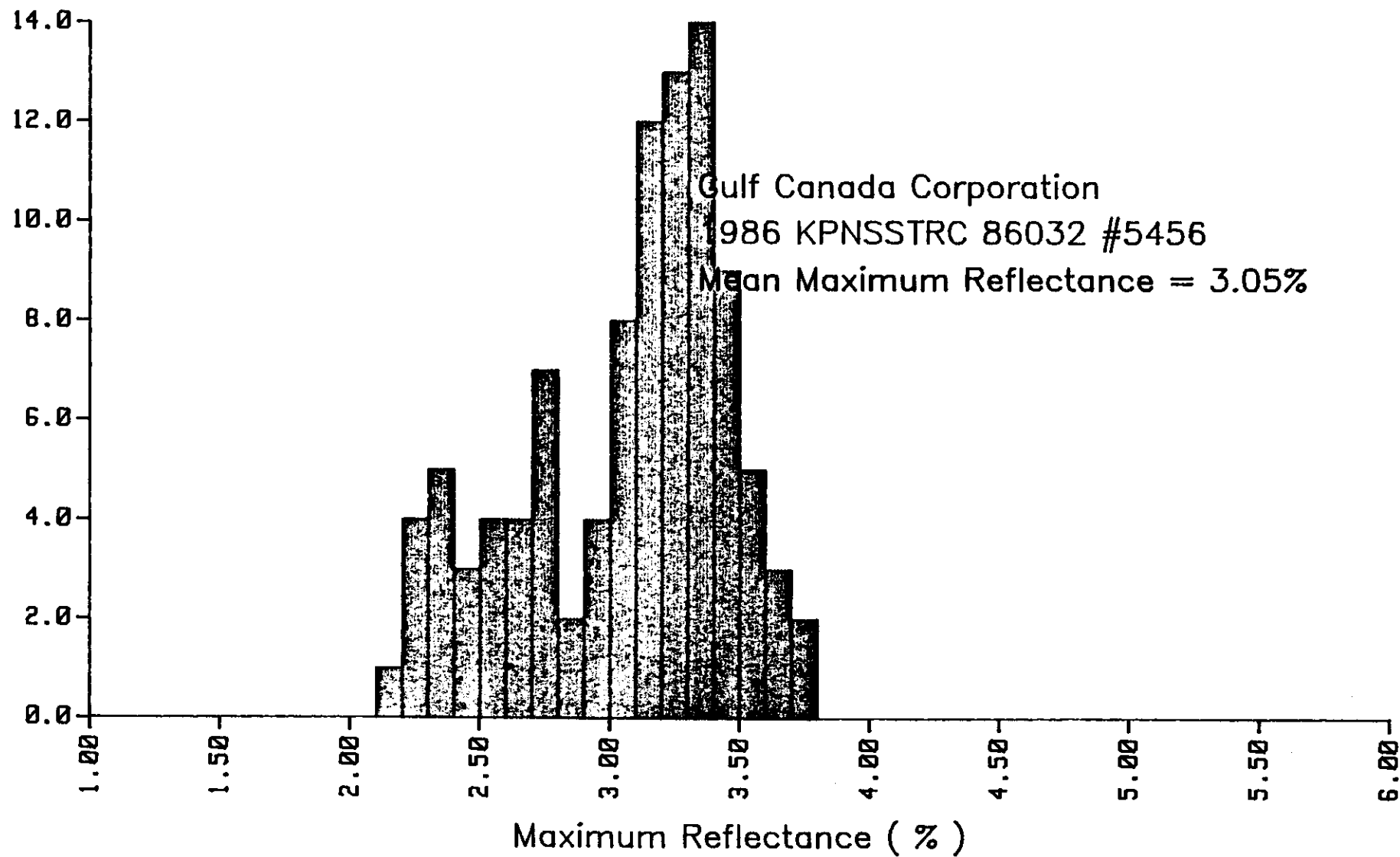
| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 12          | 2.10        | 1                      | 1.00          |
| 13          | 2.20        | 4                      | 4.00          |
| 14          | 2.30        | 5                      | 5.00          |
| 15          | 2.40        | 3                      | 3.00          |
| 16          | 2.50        | 4                      | 4.00          |
| 17          | 2.60        | 4                      | 4.00          |
| 18          | 2.70        | 7                      | 7.00          |
| 19          | 2.80        | 2                      | 2.00          |
| 20          | 2.90        | 4                      | 4.00          |
| 21          | 3.00        | 8                      | 8.00          |
| 22          | 3.10        | 12                     | 12.00         |
| 23          | 3.20        | 13                     | 13.00         |
| 24          | 3.30        | 14                     | 14.00         |
| 25          | 3.40        | 9                      | 9.00          |
| 26          | 3.50        | 5                      | 5.00          |
| 27          | 3.60        | 3                      | 3.00          |
| 28          | 3.70        | 2                      | 2.00          |

**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V21            | 1.00          |
| V22            | 4.00          |
| V23            | 5.00          |
| V24            | 3.00          |
| V25            | 4.00          |
| V26            | 4.00          |
| V27            | 7.00          |
| V28            | 2.00          |
| V29            | 1.00          |

# VITRINITE HISTOGRAM

Frequency ( . % )



Gulf Canada Corporation  
1986 KPNSSTRC 86032 #5456  
Mean Maximum Reflectance = 3.05%

KPNSSTRC86034

**GULF CANADA CORPORATION  
1986 KPNSTRC 86034 #5313**

Vitrinite Reflectance

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 3.41   |
| Standard Error of the Mean.....      | .02    |
| Coefficient of Variation.....%       | 5.40   |
| Variance.....                        | .0339  |
| Standard Deviation.....              | .1841  |
| Skewness.....                        | .1445  |
| Kurtosis.....                        | 2.1223 |

**CELL STATISTICS**

| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 12          | 3.05        | 1                      | 1.00          |
| 13          | 3.10        | 5                      | 5.00          |
| 14          | 3.15        | 8                      | 8.00          |
| 15          | 3.20        | 8                      | 8.00          |
| 16          | 3.25        | 8                      | 8.00          |
| 17          | 3.30        | 8                      | 8.00          |
| 18          | 3.35        | 8                      | 8.00          |
| 19          | 3.40        | 11                     | 11.00         |
| 20          | 3.45        | 8                      | 8.00          |
| 21          | 3.50        | 8                      | 8.00          |
| 22          | 3.55        | 10                     | 10.00         |
| 23          | 3.60        | 5                      | 5.00          |
| 24          | 3.65        | 5                      | 5.00          |
| 25          | 3.70        | 4                      | 4.00          |
| 26          | 3.75        | 2                      | 2.00          |
| 27          | 3.80        | 1                      | 1.00          |

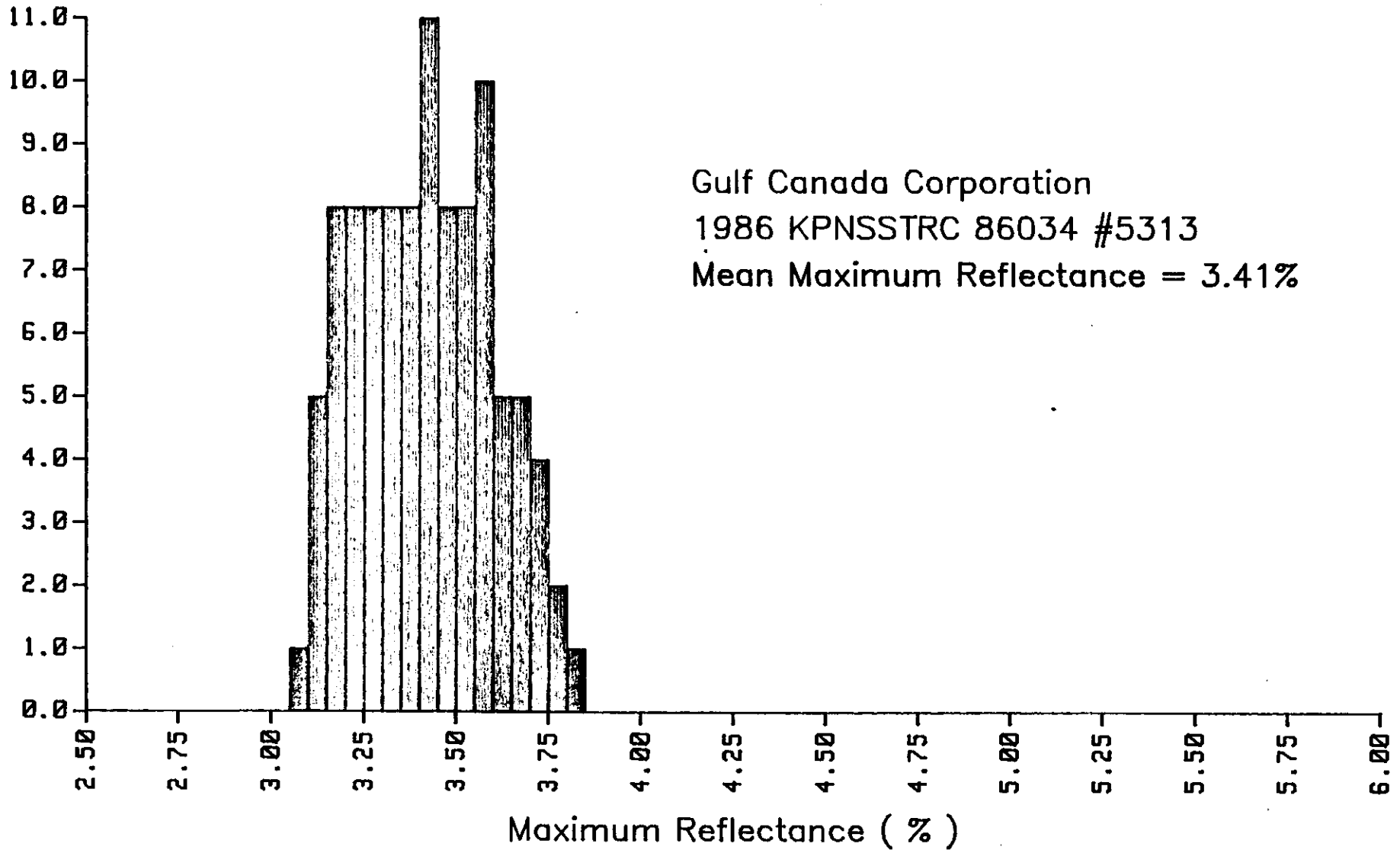
**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V30            | 1.00          |
| V31            | 13.00         |
| V32            | 16.00         |
| V33            | 16.00         |
| V34            | 19.00         |
| V35            | 18.00         |
| V36            | 10.00         |
| V37            | 6.00          |
| V38            | 1.00          |



# VITRINITE HISTOGRAM

Frequency ( % )



Gulf Canada Corporation  
1986 KPNSSTRC 86034 #5313  
Mean Maximum Reflectance = 3.41%

KPNSSTRC86035

**GULF CANADA CORPORATION**  
**1986 KPNSSTRC Trench 86035 #5314**

Maximum Reflectance

**BASIC STATISTICS**

|                                      |        |
|--------------------------------------|--------|
| Total Number of Observations.....    | 100    |
| Mean Maximum Reflectance (Romax)...% | 3.96   |
| Standard Error of the Mean.....      | .01    |
| Coefficient of Variation.....%       | 3.31   |
| Variance.....                        | .0172  |
| Standard Deviation.....              | .1312  |
| Skewness.....                        | .0074  |
| Kurtosis.....                        | 2.4701 |

**CELL STATISTICS**

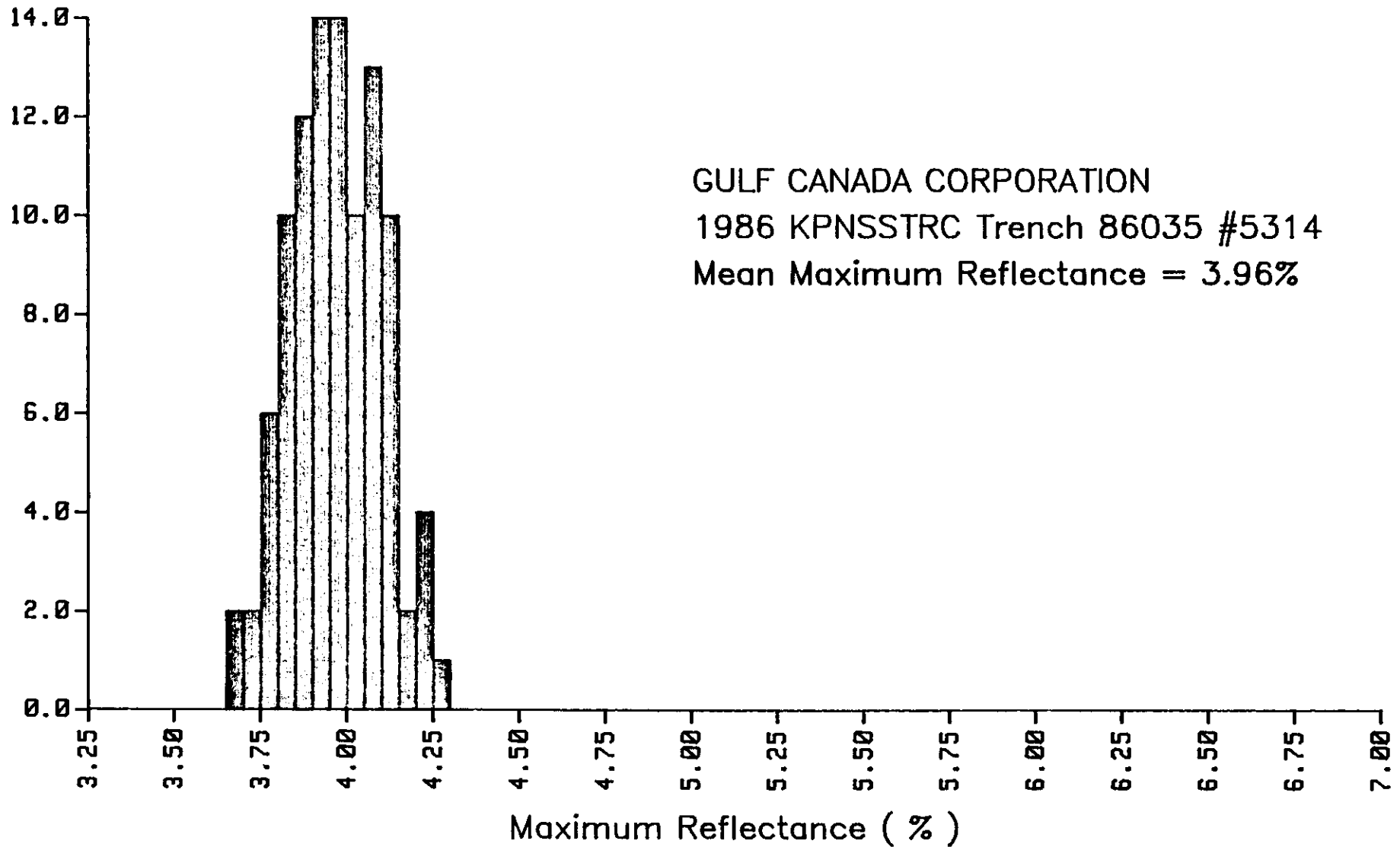
| Cell Number | Lower Limit | Number of Observations | Frequency (%) |
|-------------|-------------|------------------------|---------------|
| 9           | 3.65        | 2                      | 2.00          |
| 10          | 3.70        | 2                      | 2.00          |
| 11          | 3.75        | 6                      | 6.00          |
| 12          | 3.80        | 10                     | 10.00         |
| 13          | 3.85        | 12                     | 12.00         |
| 14          | 3.90        | 14                     | 14.00         |
| 15          | 3.95        | 14                     | 14.00         |
| 16          | 4.00        | 10                     | 10.00         |
| 17          | 4.05        | 13                     | 13.00         |
| 18          | 4.10        | 10                     | 10.00         |
| 19          | 4.15        | 2                      | 2.00          |
| 20          | 4.20        | 4                      | 4.00          |
| 21          | 4.25        | 1                      | 1.00          |

**VITRINITE TYPE DISTRIBUTION**

| Vitrinite Type | Frequency (%) |
|----------------|---------------|
| V36            | 2.00          |
| V37            | 8.00          |
| V38            | 22.00         |
| V39            | 28.00         |
| V40            | 23.00         |
| V41            | 12.00         |
| V42            | 5.00          |

# VITRINITE HISTOGRAM

Frequency ( % )



GULF CANADA CORPORATION  
1986 KPNSSTRC Trench 86035 #5314  
Mean Maximum Reflectance = 3.96%

Reserves &  
Resource Data  
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TABLE 7.2a

LOST-FOX AREA ANTHRACITE RESOURCE SUMMARY: 1988

| Seam:                         | Category      |               |                 | TOTAL        |
|-------------------------------|---------------|---------------|-----------------|--------------|
|                               | MEASURED      | INDICATED     | INFERRED        |              |
| P                             | 55680.672     | 92207.046     | 192576.217      | 340463.935   |
| O                             | 683813.434    | 674104.550    | 2575967.030     | 3933885.014  |
| N                             | 657205.037    | 890616.344    | 3502698.164     | 5050519.544  |
| M/N                           | 154977.894    | 48184.400     | 74941.500       | 278103.794   |
| M                             | 3681410.400   | 6349816.880   | 10510209.864    | 20541437.144 |
| L                             | 4042184.699   | 5195671.001   | 5356224.818     | 14594080.517 |
| K/L                           | 4223918.937   | 5816913.865   | 4191617.493     | 14232450.294 |
| K                             | 10557911.582  | 14986074.711  | 13828652.144    | 39372638.437 |
| J                             | 587352.150    | 1505236.495   | 1409770.740     | 3502359.385  |
| I                             | 23498120.453  | 22762683.759  | 20694544.373    | 66955348.585 |
| H                             | 19773028.122  | 20938097.026  | 22192162.150    | 62903287.298 |
| H-1                           | 66394.075     | 8894.900      | 0.000           | 75288.975    |
| H/I                           | 1049929.000   | 489543.383    | 167678.438      | 1707150.820  |
| H-lower                       | 33901.000     | 0.000         | 0.000           | 33901.000    |
| Phantom                       | 3032963.805   | 4508933.931   | 6587643.945     | 14129541.681 |
| G                             | 4440654.450   | 9455890.230   | 9838663.650     | 23735208.330 |
| G-lower                       | 369121.500    | 187592.513    | 369056.250      | 925770.263   |
| F/G                           | 31066.650     | 13754.700     | 0.000           | 44821.350    |
| F                             | 5197642.087   | 7902116.475   | 16313027.986    | 29412786.548 |
| E                             | 1982566.950   | 2977507.572   | 4554986.904     | 9515061.426  |
| D                             | 1367363.775   | 3238990.425   | 13759165.145    | 18365519.345 |
| C                             | 191399.813    | 416021.038    | 2554949.667     | 3162370.517  |
| B                             | 0.000         | 0.000         | 0.000           | 0.000        |
| A                             | 0.000         | 0.000         | 0.000           | 0.000        |
| -----                         |               |               |                 | -----        |
| MEAS:                         | IND:          | INF:          | TOTAL:          |              |
| 85678606.484                  | 108458851.242 | 138674536.475 | 332811994.202   |              |
| Tonnes                        |               |               |                 |              |
| Speculative Resource:         |               |               | 705241000.000   |              |
| -----                         |               |               |                 |              |
| LOST-FOX AREA TOTAL RESOURCE: |               |               | 1038052994.202  |              |
| Tonnes                        |               |               |                 |              |
| or                            |               |               | 1038.05 Million |              |
| Tonnes                        |               |               |                 |              |

TABLE 7.2b

LOST-FOX AREA ANTHRACITE RESOURCE SUMMARY: 1988

| Section: | Category                      |               |               |                                     |
|----------|-------------------------------|---------------|---------------|-------------------------------------|
|          | MEASURED                      | INDICATED     | INFERRED      | TOTAL                               |
| 4000 N   | 0.000                         | 55919.172     | 337416.672    | 393335.844                          |
| 3875 N   | 23078.475                     | 931372.575    | 623725.575    | 1578176.625                         |
| 3750 N   | 1059948.312                   | 945121.103    | 937936.725    | 2943006.140                         |
| 3625 N   | 1234871.844                   | 1039813.063   | 924935.613    | 3199620.519                         |
| 3500 N   | 1080028.113                   | 1760730.538   | 1328949.272   | 4169707.922                         |
| 3375 N   | 1371402.063                   | 1469207.688   | 1892962.743   | 4733572.493                         |
| 3250 N   | 2384369.650                   | 3394415.800   | 4422548.075   | 10201333.525                        |
| 3125 N   | 1474460.525                   | 6976859.003   | 6389076.470   | 14840395.998                        |
| 3000 N   | 5110249.383                   | 4712672.509   | 5407678.647   | 15230600.538                        |
| 2875 N   | 6045114.250                   | 3829152.641   | 5078837.905   | 14953104.796                        |
| 2750 N   | 6407029.400                   | 5856322.208   | 6366313.719   | 18629665.327                        |
| 2625 N   | 5595834.175                   | 7367552.009   | 8182718.975   | 21146105.159                        |
| 2500 N   | 4845468.113                   | 8317180.218   | 4841333.688   | 18003982.018                        |
| 2375 N   | 7227085.530                   | 6240469.152   | 5835067.738   | 19302622.420                        |
| 2250 N   | 7003878.239                   | 8113993.576   | 4524263.643   | 19642135.458                        |
| 2125 N   | 5450804.335                   | 8677888.786   | 4848624.978   | 18977318.099                        |
| 2000 N   | 5719894.836                   | 6082200.945   | 8948743.823   | 20750839.603                        |
| 1875 N   | 4567501.963                   | 3896358.905   | 7428729.563   | 15892590.430                        |
| 1750 N   | 2992019.365                   | 6193877.918   | 8557149.575   | 17743046.858                        |
| 1625 N   | 3362112.482                   | 6039315.922   | 8060125.189   | 17461553.593                        |
| 1500 N   | 4451264.924                   | 3751859.235   | 9109442.308   | 17312566.467                        |
| 1375 N   | 3749956.325                   | 3211602.088   | 7728281.088   | 14689839.500                        |
| 1250 N   | 3411343.975                   | 4011629.080   | 9987960.428   | 17410933.482                        |
| 1125 N   | 1110890.213                   | 4642008.513   | 11503107.018  | 17256005.743                        |
| 1000 N   | 0.000                         | 941328.600    | 5408607.050   | 6349935.650                         |
| -----    |                               |               |               |                                     |
|          | MEAS:                         | IND:          | INF:          | TOTAL:                              |
|          | 85678606.486                  | 108458851.241 | 138674536.474 | 332811994.201                       |
|          |                               |               |               | Tonnes                              |
|          |                               |               |               | Speculative Resource: 705241000.000 |
| -----    |                               |               |               |                                     |
|          | LOST-FOX AREA TOTAL RESOURCE: |               |               | 1038052994.201                      |
|          |                               |               |               | Tonnes                              |
|          |                               |               | or            | 1038.05 Million                     |
|          |                               |               |               | Tonnes                              |

TABLE 7.3

DIAMOND DRILL HOLE SEAM INTERSECTIONS USED IN 1987 RESOURCE CALCULATIONS  
(true thickness in meters)

| Drillhole | A | B    | C    | D       | E    | F     | F/G  | GI    | G    | PH   | H      | H/I  | I      | J    | K      | K/L  | L    | M      | M-upr | M/N  | N      | O      | P |
|-----------|---|------|------|---------|------|-------|------|-------|------|------|--------|------|--------|------|--------|------|------|--------|-------|------|--------|--------|---|
| DDH82005  |   |      |      |         |      |       |      |       |      |      |        |      | 4.98   |      | 5.16   |      | 5.75 | 2.24   |       |      |        |        |   |
| DDH83001  |   |      |      |         | 1.32 | 4.79  |      | 2.25  | 3.93 |      | 4.54   |      | 5.51   |      |        |      |      |        |       |      |        |        |   |
| DDH84005  |   |      |      |         |      |       |      |       | 0.78 |      |        |      |        |      |        |      |      |        |       |      |        |        |   |
| DDH84006  |   |      |      |         |      |       |      |       |      |      | 0.61   |      | (5.86) | 3.56 | 2.88   |      |      |        |       |      |        |        |   |
| DDH84007  |   |      |      | (2.40)  | 1.07 |       | 0.89 |       |      | 2.98 | 3.98   |      | 5.43   |      |        |      |      |        |       |      |        |        |   |
| DDH84008  |   |      |      |         |      |       |      |       | 3.28 |      | (5.13) |      | 3.86   |      | 3.93   |      |      |        |       |      |        |        |   |
| DDH85001  |   |      |      |         |      |       |      |       | 0.94 |      | 2.15   |      | 4.38   |      |        |      |      |        |       |      |        |        |   |
| DDH85003  |   |      |      |         |      |       |      |       |      |      |        |      |        |      |        |      |      | 5.30   |       | 0.56 | (1.58) |        |   |
| DDH85004  |   |      |      | *(1.36) | 2.35 |       |      |       | 4.23 |      | 3.96   |      | 3.70   |      |        |      |      |        |       |      |        |        |   |
| DDH85005  |   |      |      |         |      |       |      |       |      |      |        |      |        |      | 3.10   | 0.66 | 0.61 | (3.44) |       |      |        | (1.00) |   |
| DDH85006  |   |      |      |         | 0.91 | 3.10  |      |       | 3.49 |      | 2.76   |      |        |      |        |      |      |        |       |      |        |        |   |
| DDH85008  |   |      |      |         |      | *0.66 |      | *0.67 | 1.69 |      |        |      |        |      |        |      |      |        |       |      |        |        |   |
| DDH85009  |   |      |      |         |      |       |      |       |      |      |        |      | 4.90   |      | (3.04) |      | 4.46 |        |       |      |        |        |   |
| DDH85010  |   |      |      |         |      |       |      |       |      |      |        |      |        |      | 3.96   |      | 1.81 | 4.60   |       |      |        |        |   |
| DDH85011  |   |      |      |         |      |       |      |       |      |      |        |      | 1.75   |      | 3.47   |      |      |        |       |      |        |        |   |
| DDH85012  |   |      |      |         |      |       |      |       |      |      | 3.22   |      |        |      | 1.74   | 1.49 | 1.37 |        |       |      |        |        |   |
| DDH85013  |   |      |      |         |      |       | 3.20 | *0.87 | 0.65 |      | 0.65   | 4.37 | 6.16   |      | 0.98   |      |      |        |       |      |        |        |   |
| DDH85014  |   |      |      |         |      |       | 2.71 |       |      |      | 2.09   | 5.46 |        |      |        |      |      |        |       |      |        |        |   |
| DDH85015  |   |      |      |         | 0.95 | 2.73  |      | 1.30  | 3.43 |      |        |      |        |      |        |      |      |        |       |      |        |        |   |
| DDH85016  |   |      |      | 2.41    | 2.22 | 2.13  |      |       | 0.79 |      | 6.75   | 5.55 |        |      |        |      |      |        |       |      |        |        |   |
| DDH85017  |   |      |      |         | 2.34 | 1.93  |      | 0.97  | 1.01 |      | 4.67   | 5.37 |        |      |        |      |      |        |       |      |        |        |   |
| DDH85018  |   |      |      | 1.89    |      | 6.02  |      |       |      |      | 3.63   | 2.61 |        |      |        |      |      |        |       |      |        |        |   |
| DDH85019  |   | 0.51 |      |         |      | 4.21  | 0.51 | 0.52  |      |      |        |      |        |      |        |      |      |        |       |      |        |        |   |
| DDH85020  |   | 1.19 | 4.74 |         | 1.91 |       |      |       |      |      |        |      |        |      |        |      |      |        |       |      |        |        |   |
| DDH85021  |   |      |      |         | 1.81 | 3.43  |      |       |      |      | 5.55   | 1.61 |        |      |        |      |      |        |       |      |        |        |   |
| DDH85022  |   |      |      |         |      |       |      |       |      |      | 3.85   | 4.69 |        |      |        |      |      |        |       |      |        |        |   |
| DDH85023  |   |      |      |         |      |       |      |       |      |      |        |      |        |      | 4.47   |      | 4.57 | (3.44) |       |      |        |        |   |
| DDH85024  |   |      |      |         |      |       |      |       |      |      | 4.62   | 6.45 |        |      |        |      |      |        |       |      |        |        |   |
| DDH85025  |   |      |      |         |      |       |      |       |      |      | 3.72   | 4.42 |        |      |        |      |      |        |       |      |        |        |   |
| DDH85026  |   |      |      |         |      |       |      |       |      |      | 3.43   | 5.68 |        |      |        |      |      |        |       |      |        |        |   |
| DDH85027  |   |      |      |         |      |       |      |       |      |      | 2.25   | 5.03 |        | 1.08 | 3.22   | 1.62 | 1.20 | 2.63   | 1.15  | 2.17 | *1.51  |        |   |
| DDH85028  |   |      |      |         |      |       |      |       |      |      | 4.08   | 4.74 |        |      |        |      |      |        |       |      |        |        |   |
| DDH85029  |   |      |      |         |      |       |      |       |      |      |        |      |        |      |        |      |      |        |       |      |        |        |   |
| DDH85030  |   |      |      |         |      |       |      |       |      |      |        |      | 3.98   |      |        |      |      |        |       |      |        |        |   |
| DDH85031  |   |      |      |         |      |       |      |       |      |      |        |      | 4.54   |      |        |      |      |        |       |      |        |        |   |
| DDH85032  |   |      |      |         |      |       |      |       |      |      |        |      | 5.47   |      |        |      |      |        |       |      |        |        |   |
| DDH85033  |   |      |      |         |      |       |      |       |      |      |        |      | 5.48   |      |        |      |      |        |       |      |        |        |   |
| DDH85034  |   |      |      |         |      |       |      |       |      |      |        |      | 5.14   |      |        |      |      |        |       |      |        |        |   |

( ) average true thickness in metres; seam intersected more than once, or local straight average.

\* indicates values not included in Table 6.7 and not on 1987 cross sections.



TABLE 7.3 (cont.)

DIAMOND DRILL HOLE SEAM INTERSECTIONS USED IN 1987 RESOURCE CALCULATIONS  
(true thickness in meters)

| Drillhole | A      | B | C | D    | E | F | F/G | GI | G    | PH   | H      | H/I  | I      | J    | K      | K/L    | L    | M    | M-upr | M/N  | N | O    | P      |      |
|-----------|--------|---|---|------|---|---|-----|----|------|------|--------|------|--------|------|--------|--------|------|------|-------|------|---|------|--------|------|
| DDH86001  |        |   |   |      |   |   |     |    |      |      | 2.84   |      | 3.55   |      |        |        |      |      |       |      |   |      |        |      |
| DDH86002  |        |   |   |      |   |   |     |    |      | 0.84 | (2.81) |      |        |      |        |        |      |      |       |      |   |      |        |      |
| DDH86003  |        |   |   |      |   |   |     |    |      |      | 3.35   |      | 7.25   |      |        |        |      |      |       |      |   |      |        |      |
| DDH86004  |        |   |   |      |   |   |     |    |      |      | 7.10   |      | 5.28   |      | (4.46) | (2.30) |      |      |       |      |   |      |        |      |
| DDH86005  |        |   |   |      |   |   |     |    |      |      | 2.94   |      | 4.79   |      |        |        |      |      |       |      |   |      |        |      |
| DDH86006  |        |   |   |      |   |   |     |    |      |      | 5.89   |      | (5.01) |      |        |        |      |      |       |      |   |      |        |      |
| DDH86007  |        |   |   |      |   |   |     |    |      |      | 3.66   |      | 5.57   |      |        |        |      |      |       |      |   |      |        |      |
| DDH86008  |        |   |   |      |   |   |     |    |      | 4.68 | 5.89   |      | 4.18   |      |        |        |      |      |       |      |   |      |        |      |
| DDH86009  |        |   |   |      |   |   |     |    |      |      | 9.01   |      | 5.80   |      | 5.82   |        |      |      |       |      |   |      |        |      |
| DDH86010  |        |   |   |      |   |   |     |    |      |      | 3.91   |      | 5.15   | 1.08 |        |        |      |      |       |      |   |      |        |      |
| DDH86011  |        |   |   |      |   |   |     |    |      |      |        |      |        |      |        | 1.70   | 4.91 |      |       |      |   |      |        |      |
| DDH86012  |        |   |   |      |   |   |     |    |      |      |        |      |        |      |        |        |      |      |       |      |   | 1.42 | (1.24) |      |
| DDH86013  |        |   |   |      |   |   |     |    |      |      |        |      | 6.98   | 0.61 |        |        |      |      |       |      |   |      |        |      |
| DDH86014  |        |   |   |      |   |   |     |    |      |      |        |      |        |      | 2.58   | 0.97   | 3.05 |      |       |      |   |      |        |      |
| DDH86015  |        |   |   |      |   |   |     |    |      |      |        |      |        |      | 3.98   | 0.50   | 1.24 |      |       |      |   |      |        |      |
| DDH86016  |        |   |   |      |   |   |     |    |      |      |        |      |        |      | 2.62   | 2.74   | 2.29 |      |       |      |   |      |        |      |
| DDH86017  |        |   |   |      |   |   |     |    |      |      | (3.59) |      | 5.16   |      |        |        |      |      |       |      |   |      |        |      |
| DDH86018  |        |   |   |      |   |   |     |    |      | 3.80 | 0.83   |      | 1.62   |      |        |        |      |      |       |      |   |      |        |      |
| DDH86019  |        |   |   |      |   |   |     |    |      |      |        |      | 6.95   | 1.03 | 3.33   | 4.43   | 1.88 | 0.68 |       | 1.17 |   |      |        |      |
| DDH86020  | 3.10   |   |   |      |   |   |     |    |      |      |        |      |        |      |        |        |      |      |       |      |   |      |        |      |
| DDH86021  |        |   |   |      |   |   |     |    |      |      |        |      | (4.58) |      | 1.15   |        |      |      |       |      |   |      |        |      |
| DDH86022  |        |   |   |      |   |   |     |    |      |      |        |      | (2.84) |      | 1.92   | 4.30   | 2.39 | 1.52 |       |      |   |      |        |      |
| DDH86023  | (1.96) |   |   |      |   |   |     |    |      |      |        |      |        |      |        |        |      |      |       |      |   |      |        |      |
| DDH86024  |        |   |   |      |   |   |     |    |      |      |        |      |        |      |        |        |      |      |       |      |   |      |        |      |
| DDH86025  |        |   |   |      |   |   |     |    |      |      |        |      | (3.82) |      |        |        |      |      |       |      |   | 1.05 | 1.85   | 0.92 |
| DDH86026  |        |   |   |      |   |   |     |    |      |      |        |      |        |      |        |        |      |      |       |      |   |      |        |      |
| DDH86027  |        |   |   |      |   |   |     |    |      |      |        |      | 0.95   |      | 2.77   | 5.80   |      |      |       |      |   | 1.81 | 2.98   |      |
| DDH86028  | 1.65   |   |   | 2.85 |   |   |     |    |      |      |        |      |        |      |        |        |      |      |       |      |   |      |        |      |
| DDH86029  |        |   |   |      |   |   |     |    |      |      | 1.22   |      | 4.42   |      | 2.96   |        |      |      |       |      |   |      |        |      |
| DDH86030  |        |   |   |      |   |   |     |    |      |      | 2.98   |      | 5.59   | 0.82 |        |        |      |      |       |      |   |      |        |      |
| DDH86031  |        |   |   |      |   |   |     |    | 5.78 | 2.32 | 6.58   |      | 4.50   |      |        | 9.54   |      |      |       |      |   |      |        |      |
| DDH86032  |        |   |   |      |   |   |     |    |      |      | 4.92   |      | 3.16   |      |        |        |      |      |       |      |   |      |        |      |
| DDH86033  |        |   |   |      |   |   |     |    |      |      |        |      |        |      | 5.03   | 2.11   | 2.45 | 3.55 |       |      |   |      |        |      |
| DDH86034  |        |   |   |      |   |   |     |    |      |      |        |      | 5.09   | 0.75 | 6.50   | 3.84   |      |      |       |      |   |      |        |      |
| DDH86035  |        |   |   |      |   |   |     |    |      |      | 1.16   | 0.77 | 1.23   |      | 8.35   | 1.42   | 3.35 |      |       |      |   |      |        |      |
| DDH86036  |        |   |   |      |   |   |     |    |      |      | 2.17   | 1.33 | 5.16   | 0.99 | 1.86   |        |      |      |       |      |   |      |        |      |
| DDH86037  |        |   |   |      |   |   |     |    |      |      |        |      |        |      |        | 0.66   | 2.34 | 4.70 |       |      |   |      | 2.50   |      |
| DDH86038  |        |   |   |      |   |   |     |    |      |      |        |      |        |      |        |        |      |      |       |      |   |      |        |      |

( ) average true thickness in metres; seam intersected more than once, or local straight

\* indicates values not included in Table 6.7 and not on 1987 cross sections.

TABLE 7.3 (cont.)

DIAMOND DRILL HOLE SEAM INTERSECTIONS USED IN 1987 RESOURCE CALCULATIONS  
(true thickness in meters)

| Drillhole           | A    | B    | C    | D     | E     | F     | F/G  | GI   | G     | PH     | H-1  | H-lwr | H      | H/12   | H/I    | I      | J    | K      | K/L    | L      | M     | M-upr | M/N  | N     | O     | P    |
|---------------------|------|------|------|-------|-------|-------|------|------|-------|--------|------|-------|--------|--------|--------|--------|------|--------|--------|--------|-------|-------|------|-------|-------|------|
| DDH87001            |      |      |      |       |       |       |      |      |       |        |      |       | 7.35   |        |        | 2.09   |      |        |        |        |       |       |      |       |       |      |
| DDH87002            |      |      |      |       |       |       |      |      |       |        |      |       | 4.10   |        |        | (6.07) |      |        |        |        |       |       |      |       |       |      |
| DDH87003            |      |      |      |       |       |       |      |      |       |        |      |       | 3.55   |        | 1.81   | 5.52   |      |        |        |        |       |       |      |       |       |      |
| DDH87004            |      |      |      |       |       |       |      |      |       | 1.43   |      |       | 1.90   |        | 1.31   | 3.82   |      |        |        |        |       |       |      |       |       |      |
| DDH87005            |      |      |      |       |       |       |      |      |       |        |      |       | 1.42   |        |        | 3.44   |      | 8.06   | 4.43   |        |       |       |      |       |       |      |
| DDH87006            |      |      |      |       |       |       |      |      |       |        |      |       | 1.28   |        | 2.25   | 1.83   |      |        |        |        |       |       |      |       |       |      |
| DDH87007            |      |      |      |       |       |       |      |      | 2.71  | 1.35   | 1.16 | 2.93  |        |        |        | 2.23   |      | 6.01   |        |        |       |       |      |       |       |      |
| DDH87008            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        | 5.18   |      |        |        |        |       |       |      |       |       |      |
| DDH87009            |      |      |      |       |       |       |      |      |       | 2.16   |      |       | 2.77   |        |        | 4.79   |      |        |        |        |       |       |      |       |       |      |
| DDH87011            |      |      |      |       |       |       |      |      |       | 0.51   |      |       | 4.97   |        |        |        |      |        |        |        |       |       |      |       |       |      |
| DDH87012            |      |      |      |       |       |       |      |      |       |        |      |       | 5.31   |        |        | 1.51   |      |        |        |        |       |       |      |       |       |      |
| DDH87013            |      |      |      |       |       |       |      |      |       | 1.36   |      |       | 1.35   |        |        | 4.77   | 0.94 |        |        |        |       |       |      |       |       |      |
| DDH87014            |      |      |      |       |       |       |      |      |       |        |      |       |        |        | 1.59   | 3.04   |      | 1.87   |        |        |       |       |      |       |       |      |
| DDH87015            |      |      |      |       |       |       |      |      |       |        |      |       | 3.33   |        |        |        |      | 1.92   |        | 4.84   |       |       |      |       |       |      |
| DDH87016            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        | 4.92   |      |        |        |        |       |       |      |       |       |      |
| DDH87017            |      |      |      |       |       |       |      |      |       |        |      |       | 1.38   |        |        | 2.26   |      | 2.82   |        |        |       |       |      |       |       |      |
| DDH87018            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        |        |      |        |        |        |       |       |      |       |       |      |
| DDH87019            |      |      |      |       |       |       |      |      |       |        |      |       | 1.98   | 1.66   | 1.79   | (3.23) |      |        |        |        |       |       |      |       |       |      |
| DDH87020            |      |      |      |       |       |       |      |      |       |        |      |       | 3.82   |        |        | 3.82   |      |        | 4.64   | 4.38   | 3.61  |       | 3.09 |       |       |      |
| DDH87021            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        |        |      |        |        |        |       |       |      |       |       |      |
| DDH87022            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        |        |      |        |        |        |       |       |      | 1.92  | 2.70  | 2.48 |
| DDH87023            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        |        |      |        |        |        |       |       |      |       |       |      |
| DDH87024            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        |        |      |        | (1.66) |        |       |       |      |       |       |      |
| DDH87025            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        |        |      |        | 2.86   | 2.06   | 2.40  |       | 1.17 | 1.91  | 0.66  |      |
| DDH87026            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        | 4.59   |      | 4.98   |        |        |       |       |      |       |       |      |
| DDH87027            |      |      |      |       |       |       |      |      |       |        |      |       | 0.85   |        | (1.43) | (0.60) |      |        |        |        |       |       |      |       |       |      |
| DDH87028            |      |      |      |       |       |       |      |      |       | (0.67) | 0.97 | 1.31  | 8.62   |        |        |        |      |        |        |        |       |       |      |       |       |      |
| DDH87029            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        |        |      | 2.25   |        | 0.73   | 1.48  |       | 0.88 | 0.88  | 1.49  |      |
| DDH87030            |      |      |      |       |       | 1.45  |      |      |       |        |      |       | (1.69) | (0.85) |        |        |      |        |        |        |       |       |      |       |       |      |
| DDH87031            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        | 2.87   |      | 3.26   | 3.50   | 1.98   | 2.23  |       |      |       |       |      |
| DDH87032            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        |        |      | 4.17   | (2.18) | (1.55) | 2.08  |       |      |       |       |      |
| DDH87033            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        | 5.59   |      |        |        |        |       |       |      |       |       |      |
| DDH87034            |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        | 5.56   |      | 5.32   |        |        |       |       |      |       |       |      |
|                     |      |      |      |       |       |       |      |      |       |        |      |       |        |        |        | 4.78   |      |        |        |        |       |       |      |       |       |      |
| NO. INTERSECTIONS   | 4    | 0    | 2    | 4     | 11    | 14    | 2    | 7    | 14    | 14     | 1    | 1     | 61     | 4      | 7      | 78     | 8    | 37     | 26     | 23     | 16    | 1     | 7    | 9     | 11    | 1    |
| TOTAL METRES        | 8.66 | 0.00 | 1.70 | 11.89 | 18.98 | 39.78 | 1.38 | 7.25 | 33.42 | 25.24  | 1.31 | 1.16  | 211.70 | 4.74   | 10.85  | 343.71 | 9.78 | 135.29 | 73.36  | 61.17  | 45.90 | 2.63  | 9.94 | 15.10 | 17.95 | 0.92 |
| AVG. TRUE THICKNESS | 2.17 | 0.00 | 0.85 | 2.97  | 1.73  | 2.84  | 0.69 | 1.04 | 2.39  | 1.80   | 1.31 | 1.16  | 3.47   | 1.19   | 1.55   | 4.41   | 1.22 | 3.66   | 2.82   | 2.66   | 2.87  | 2.63  | 1.42 | 1.68  | 1.63  | 0.92 |

( ) average true thickness in metres; seam intersected more than once, or local straight average

\* indicates values not included in Table 6.7 and not on 1987 cross sections.

- average seam thickness = 2.043 metres.

TABLE 7.4

## SUMMARY OF MEAN SPECIFIC GRAVITIES

| SEAM         | MEAN S.G.<br>(t/m <sup>3</sup> ) | # of Occurrences |
|--------------|----------------------------------|------------------|
| O            | 1.72                             | 7                |
| N            | 1.67                             | 9                |
| M/N          | 1.88                             | 5                |
| M            | 1.76                             | 17               |
| L            | 1.67                             | 17               |
| K/L          | 1.79                             | 15               |
| K            | 1.66                             | 30               |
| J            | 1.61                             | 2                |
| I            | 1.55                             | 57               |
| H/I          | 1.67                             | 3                |
| H/I2         | 1.77                             | 3                |
| H            | 1.67                             | 53               |
| H-1          | 1.94                             | 1                |
| Phantom      | 1.78                             | 12               |
| G            | 1.80                             | 8                |
| G lower      | 1.80                             | 5                |
| F/G          | 1.86                             | 1                |
| F            | 1.74                             | 14               |
| E            | 1.56                             | 10               |
| D            | 1.74                             | 4                |
| C            | 1.49                             | 1                |
| A            | 1.53                             | 1                |
| Overall Mean | 1.67                             | 275              |

Table 8.2

STRAIGHT AVERAGE SIZE CONSIST  
LOST-FOX AREA 1987

| Seam    | 35 x 25mm | 25 x 12mm | 12 x 6mm | 6 x 0.5mm | 0.5 x 0.15mm | 0.15 x 0mm |
|---------|-----------|-----------|----------|-----------|--------------|------------|
|         | wt%       | wt%       | wt%      | wt%       | wt%          | wt%        |
| F       | 26.12     | 26.91     | 17.26    | 20.92     | 5.86         | 2.93       |
| G       | 18.68     | 19.45     | 17.95    | 32.48     | 7.05         | 4.39       |
| Phantom | 21.66     | 22.87     | 16.90    | 28.12     | 6.73         | 3.72       |
| H/I     | 21.89     | 22.74     | 15.07    | 23.75     | 7.58         | 8.97       |
| H-1     | 20.37     | 22.79     | 15.43    | 28.44     | 8.95         | 4.02       |
| H       | 23.66     | 21.19     | 16.17    | 27.69     | 7.29         | 4.00       |
| I       | 19.80     | 20.08     | 17.92    | 29.94     | 7.66         | 4.60       |
| J       | 20.21     | 15.49     | 14.96    | 38.92     | 6.94         | 3.48       |
| K       | 23.75     | 23.32     | 17.94    | 24.26     | 6.61         | 4.12       |
| K/L     | 22.29     | 23.19     | 17.20    | 26.45     | 7.08         | 3.79       |
| L       | 20.23     | 17.36     | 14.48    | 33.04     | 9.96         | 4.93       |
| M       | 18.61     | 22.27     | 17.24    | 30.24     | 7.37         | 4.27       |
| M/N     | 18.44     | 20.99     | 19.38    | 32.22     | 5.99         | 2.98       |
| N       | 23.73     | 19.46     | 14.97    | 27.33     | 9.65         | 4.86       |
| O       | 39.29     | 23.80     | 12.02    | 17.88     | 4.41         | 2.60       |

**APPENDIX D**  
**RESOURCE DATA AND CALCULATIONS**

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1000 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| .....        | .....                    | .....                    | .....                                      | .....                 | .....                     | .....                        |

NO "MEASURED" RESERVES IN THIS SECTION! ERR  
 0  
 0  
 0

.....  
 seams >=0.5m

TOTAL TONNES FOR THIS SECTION : ERR

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1250 N  
 RESOURCE TYPE : MEASURED

| SEAM NAME | DIAMOND DRILL HOLE | SEAM THICKNESS (m) | SPECIFIC GRAVITY (t/m <sup>3</sup> ) | SEAM LENGTH (m) | WIDTH INFLUENCE (m) | TOTAL TONNES SEAMS >=0.5m |
|-----------|--------------------|--------------------|--------------------------------------|-----------------|---------------------|---------------------------|
| N         | 85027              | 2.17               | 1.67                                 | 194             | 125                 | 87879.575                 |
| M/N       | 85027              | 1.15               | 1.88                                 | 175             | 125                 | 47293.75                  |
| M         | 86033              | 9.86               | 1.76                                 | 245             | 125                 | 531454                    |
| M         | 85027              | 1.2                | 1.76                                 | 310             | 125                 | 81840                     |
| M         | 86022              | 1.52               | 1.76                                 | 210             | 125                 | 70224                     |
| L         | 86035              | 3.35               | 1.67                                 | 125             | 100                 | 69931.25                  |
| L         | 86035              | 3.35               | 1.67                                 | 155             | 125                 | 108393.4375               |
| L         | 86033              | 2.45               | 1.67                                 | 230             | 125                 | 117630.625                |
| L         | 85027              | 1.62               | 1.67                                 | 320             | 125                 | 108216                    |
| L         | 86022              | 2.39               | 1.67                                 | 133             | 125                 | 66355.3625                |
| K/L       | 86035              | 1.42               | 1.79                                 | 210             | 125                 | 66722.25                  |
| K/L       | 85027              | 3.22               | 1.79                                 | 305             | 125                 | 219744.875                |
| K/L       | 86022              | 4.3                | 1.79                                 | 165             | 125                 | 158750.625                |
| K         | 86035              | 8.35               | 1.66                                 | 284             | 125                 | 492065.5                  |
| K         | 86033              | 5.05               | 1.66                                 | 223             | 125                 | 233676.125                |
| K         | 85027              | 1.08               | 1.66                                 | 310             | 125                 | 69471                     |
| K         | 86022              | 1.92               | 1.66                                 | 174             | 125                 | 69321.6                   |
| I         | 86035              | 1.23               | 1.55                                 | 273             | 125                 | 65059.3125                |
| I         | 85027              | 5.03               | 1.55                                 | 340             | 125                 | 331351.25                 |
| I         | 86022              | 1.14               | 1.55                                 | 40              | 125                 | 8835                      |
| I         | 86022              | 4.54               | 1.55                                 | 150             | 125                 | 131943.75                 |
| H/I       | 86035              | 0.77               | 1.67                                 | 275             | 125                 | 44202.8125                |
| H         | 86035              | 1.16               | 1.67                                 | 275             | 125                 | 66591.25                  |
| H         | 85027              | 2.25               | 1.67                                 | 350             | 125                 | 164390.625                |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 3411343.975

| SEAM TOTALS: |  | TOTAL TONNES |
|--------------|--|--------------|
| N:           |  | 87879.575    |
| M/N:         |  | 47293.75     |
| M:           |  | 683518       |
| L:           |  | 470526.675   |
| K/L:         |  | 445217.75    |
| K:           |  | 864534.225   |
| I:           |  | 537189.3125  |
| H/I:         |  | 44202.8125   |
| H:           |  | 230981.875   |

3411343.975

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1375 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| M/N          | 86019                    | 1.17                     | 1.88                                       | 50                    | 95                        | 10448.1                      |
| M            | 86022                    | 1.52                     | 1.76                                       | 150                   | 80                        | 32102.4                      |
| M            | 86019                    | 0.68                     | 1.76                                       | 100                   | 125                       | 14960                        |
| M            | 86033                    | 3.55                     | 1.76                                       | 175                   | 125                       | 136675                       |
| L            | 86022                    | 2.39                     | 1.67                                       | 250                   | 125                       | 124728.125                   |
| L            | 86019                    | 1.88                     | 1.67                                       | 250                   | 125                       | 98112.5                      |
| L            | 86033                    | 2.45                     | 1.67                                       | 250                   | 125                       | 127859.375                   |
| K/L          | 86022                    | 4.3                      | 1.79                                       | 275                   | 125                       | 264584.375                   |
| K/L          | 86019                    | 4.43                     | 1.79                                       | 135                   | 125                       | 133813.6875                  |
| K/L          | 86033                    | 2.11                     | 1.79                                       | 350                   | 100                       | 132191.5                     |
| K/L          | 86034                    | 3.84                     | 1.79                                       | 220                   | 100                       | 151219.2                     |
| K            | 86022                    | 1.92                     | 1.66                                       | 285                   | 125                       | 113544                       |
| K            | 86019                    | 3.33                     | 1.66                                       | 245                   | 125                       | 169288.875                   |
| K            | 86013                    | 4.76                     | 1.66                                       | 300                   | 125                       | 296310                       |
| K            | 86033                    | 5.03                     | 1.66                                       | 280                   | 125                       | 292243                       |
| K            | 86034                    | 6.5                      | 1.66                                       | 220                   | 125                       | 296725                       |
| J            | 86022                    | 0                        | 1.61                                       | 285                   |                           | 0                            |
| J            | 86019                    | 0                        | 1.61                                       | 245                   |                           | 0                            |
| J            | 86013                    | 0.61                     | 1.61                                       | 345                   | 125                       | 42353.0625                   |
| J            | 86034                    | 0.75                     | 1.61                                       | 220                   | 125                       | 33206.25                     |
| I            | 86022                    | 1.14                     | 1.55                                       | 285                   | 125                       | 62949.375                    |
| I            | 86019                    | 6.95                     | 1.55                                       | 240                   | 125                       | 323175                       |
| I            | 86013                    | 6.98                     | 1.55                                       | 115                   | 125                       | 155523.125                   |
| I            | 86013                    | 6.98                     | 1.55                                       | 210                   | 125                       | 283998.75                    |
| I            | 86034                    | 5.09                     | 1.55                                       | 220                   | 125                       | 216961.25                    |
| I            | 86022                    | 4.54                     | 1.55                                       | 200                   | 125                       | 175925                       |
| H            | 85027                    | 2.25                     | 1.67                                       | 130                   | 125                       | 61059.375                    |
|              |                          |                          |  |                       |                           | 0                            |
|              |                          |                          |  |                       |                           | 0                            |
|              |                          |                          |  |                       |                           | 0                            |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 3749956.325

SEAM TOTALS:

M/N: 10448.1

continued on next page



LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1500 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| P            | 86025                    | 0.92                     | 1.67                                       | 100                   | 125                       | 19205                        |
| O            | 86025                    | 1.85                     | 1.72                                       | 95                    | 125                       | 37786.25                     |
| N            | 86025                    | 1.05                     | 1.67                                       | 48                    | 125                       | 10521                        |
| M/M          | 86019                    | 1.17                     | 1.88                                       | 86                    | 115                       | 21754.044                    |
| M            | 86019                    | 0.68                     | 1.76                                       | 140                   | 125                       | 20944                        |
| L            | 86019                    | 1.88                     | 1.67                                       | 203                   | 125                       | 79667.35                     |
| K/L          | 86019                    | 4.43                     | 1.79                                       | 257                   | 125                       | 254741.6125                  |
| K/L          | 86034                    | 3.84                     | 1.79                                       | 216                   | 125                       | 185587.2                     |
| K            | 86021                    | 1.15                     | 1.66                                       | 65                    | 125                       | 15510.625                    |
| K            | 86022                    | 1.92                     | 1.66                                       | 32                    | 125                       | 12748.8                      |
| K            | 86019                    | 3.33                     | 1.66                                       | 307                   | 125                       | 212129.325                   |
| K            | 86013                    | 0.61                     | 1.66                                       | 383                   | 125                       | 48478.225                    |
| K            | 86034                    | 6.5                      | 1.66                                       | 297                   | 125                       | 400578.75                    |
| K            | 86036                    | 1.86                     | 1.66                                       | 70                    | 115                       | 24855.18                     |
| K            | 86036                    | 1.86                     | 1.66                                       | 76                    | 125                       | 29332.2                      |
| J            | 86025                    | 0                        | 1.61                                       | 166                   | 125                       | 0                            |
| J            | 86021                    | 0                        | 1.61                                       | 121                   | 125                       | 0                            |
| J            | 86022                    | 0                        | 1.61                                       | 100                   | 125                       | 0                            |
| J            | 86019                    | 0                        | 1.61                                       | 280                   | 125                       | 0                            |
| J            | 86013                    | 0.61                     | 1.61                                       | 384                   | 125                       | 47140.8                      |
| J            | 86034                    | 0.75                     | 1.61                                       | 297                   | 125                       | 44828.4375                   |
| J            | 86036                    | 0.99                     | 1.61                                       | 276                   | 125                       | 54989.55                     |
| I            | 86025                    | 2.9                      | 1.55                                       | 66                    | 125                       | 37083.75                     |
| I            | 86021                    | 4.55                     | 1.55                                       | 106                   | 125                       | 93445.625                    |
| I            | 86025                    | 4.74                     | 1.55                                       | 87                    | 125                       | 79898.625                    |
| I            | 86021                    | 4.6                      | 1.55                                       | 106                   | 125                       | 94472.5                      |
| I            | 86022                    | 1.14                     | 1.55                                       | 100                   | 125                       | 22087.5                      |
| I            | 86019                    | 6.95                     | 1.55                                       | 284                   | 125                       | 382423.75                    |
| I            | 85026                    | 5.68                     | 1.55                                       | 210                   | 125                       | 231105                       |
| I            | 86013                    | 6.98                     | 1.55                                       | 175                   | 125                       | 236665.625                   |
| I            | 86013                    | 6.98                     | 1.55                                       | 255                   | 125                       | 344855.625                   |
| I            | 86034                    | 5.09                     | 1.55                                       | 297                   | 125                       | 292897.6875                  |
| I            | 86036                    | 5.16                     | 1.55                                       | 281                   | 125                       | 280929.75                    |
| I            | 87004                    | 3.82                     | 1.55                                       | 261                   | 125                       | 193172.625                   |
| H/I          | 86036                    | 1.33                     | 1.67                                       | 273                   | 125                       | 75795.0375                   |
| H/I          | 87004                    | 1.31                     | 1.67                                       | 258                   | 125                       | 70553.325                    |
| H            | 85026                    | 3.43                     | 1.67                                       | 258                   | 125                       | 184731.225                   |
| H            | 87004                    | 1.9                      | 1.67                                       | 258                   | 125                       | 102329.25                    |
| PH           | 85026                    | 0                        | 1.78                                       | 258                   | 125                       | 0                            |
| PH           | 87004                    | 1.43                     | 1.78                                       | 258                   | 125                       | 82089.15                     |

continued on next page

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1625 N  
 RESOURCE TYPE : MEASURED

| SEAM NAME | DIAMOND DRILL HOLE | SEAM THICKNESS (m) | SPECIFIC GRAVITY (t/m <sup>3</sup> ) | SEAM LENGTH (m) | WIDTH INFLUENCE (m) | TOTAL TONNES SEAMS >=0.5m |
|-----------|--------------------|--------------------|--------------------------------------|-----------------|---------------------|---------------------------|
| P         | DDH86025           | 0.92               | 1.67                                 | 167             | 110.5               | 28351.9574                |
| O         | DDH86025           | 1.85               | 1.72                                 | 230             | 125                 | 91482.5                   |
| N         | DDH86025           | 1.05               | 1.67                                 | 193             | 125                 | 42303.1875                |
| L         | DDH86011           | 4.91               | 1.67                                 | 197             | 125                 | 201917.6125               |
| L         | DDH86015           | 1.24               | 1.67                                 | 164             | 120.5               | 40923.1496                |
| L         | DDH86016           | 2.29               | 1.67                                 | 216             | 125                 | 103256.1                  |
| K/L       | DDH86011           | 1.7                | 1.79                                 | 274             | 125                 | 104222.75                 |
| K/L       | DDH86015           | 0.5                | 1.79                                 | 145             | 125                 | 16221.875                 |
| K/L       | DDH86016           | 2.74               | 1.79                                 | 255             | 125                 | 156334.125                |
| K/L       | DDH86034           | 3.84               | 1.79                                 | 66              | 125                 | 56707.2                   |
| K         | DDH86015           | 3.98               | 1.66                                 | 174             | 125                 | 143697.9                  |
| K         | DDH86016           | 2.62               | 1.66                                 | 340             | 125                 | 184841                    |
| K         | DDH86021           | 1.15               | 1.66                                 | 115             | 125                 | 27441.875                 |
| K         | DDH86034           | 6.5                | 1.66                                 | 45              | 125                 | 60693.75                  |
| K         | DDH86036           | 1.86               | 1.66                                 | 183             | 125                 | 70628.85                  |
| J         | DDH86034           | 0.75               | 1.61                                 | 44              | 125                 | 6641.25                   |
| J         | DDH86036           | 0.99               | 1.61                                 | 254             | 125                 | 50606.325                 |
| I         | DDH85026           | 5.68               | 1.55                                 | 240             | 125                 | 264120                    |
| I         | DDH86021           | 4.55               | 1.55                                 | 198             | 125                 | 174549.375                |
| I         | DDH86021           | 4.6                | 1.55                                 | 316             | 125                 | 281635                    |
| I         | DDH86025           | 2.9                | 1.55                                 | 216             | 125                 | 121365                    |
| I         | DDH86025           | 4.74               | 1.55                                 | 236             | 125                 | 216736.5                  |
| I         | DDH86034           | 5.09               | 1.55                                 | 56              | 125                 | 55226.5                   |
| I         | DDH86036           | 5.16               | 1.55                                 | 240             | 125                 | 239940                    |
| I         | DDH87004           | 3.82               | 1.55                                 | 233             | 125                 | 172449.125                |
| H         | DDH85026           | 3.43               | 1.67                                 | 364             | 125                 | 260628.55                 |
| H         | DDH87004           | 1.9                | 1.67                                 | 258             | 125                 | 102329.25                 |
| PH        | DDH87004           | 1.43               | 1.78                                 | 273             | 125                 | 86861.775                 |

TOTAL TONNES FOR THIS SECTION : 3362112.482

SEAM TOTALS:

P: 28351.9574  
 O: 91482.5  
 N: 42303.1875

continued on next page

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1750 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| P            | DDH86025                 | 0.92                     | 1.67                                       | 45                    | 117.5                     | 8123.715                     |
| O            | DDH86025                 | 1.85                     | 1.72                                       | 130                   | 125                       | 51707.5                      |
| N            | DDH86025                 | 1.05                     | 1.67                                       | 93                    | 125                       | 20384.4375                   |
| L            | DDH86011                 | 4.91                     | 1.67                                       | 195                   | 125                       | 199867.6875                  |
| L            | DDH86015                 | 1.24                     | 1.67                                       | 15                    | 125                       | 3882.75                      |
| L            | DDH86016                 | 2.29                     | 1.67                                       | 120                   | 125                       | 57364.5                      |
| K            | DDH86015                 | 3.98                     | 1.66                                       | 146                   | 125                       | 120574.1                     |
| K            | DDH86016                 | 2.62                     | 1.66                                       | 260                   | 87.5                      | 98944.3                      |
| K            | DDH86021                 | 1.15                     | 1.66                                       | 37                    | 125                       | 8829.125                     |
| J            | DDH86030                 | 0.82                     | 1.61                                       | 109                   | 125                       | 17987.725                    |
| I            | DDH85022                 | 4.69                     | 1.55                                       | 230                   | 125                       | 208998.125                   |
| I            | DDH85025                 | 4.42                     | 1.55                                       | 22                    | 125                       | 18840.25                     |
| I            | DDH85028                 | 4.74                     | 1.55                                       | 190                   | 125                       | 174491.25                    |
| I            | DDH86025                 | 2.9                      | 1.55                                       | 180                   | 125                       | 101137.5                     |
| I            | DDH86025                 | 4.74                     | 1.55                                       | 130                   | 125                       | 119388.75                    |
| I            | DDH86030                 | 5.59                     | 1.55                                       | 103                   | 125                       | 111555.4375                  |
| I            | DDH87001                 | 2.09                     | 1.55                                       | 215                   | 125                       | 87061.5625                   |
| I            | DDH87003                 | 5.52                     | 1.55                                       | 267                   | 125                       | 285556.5                     |
| I            | DDH87006                 | 1.83                     | 1.55                                       | 372                   | 125                       | 131897.25                    |
| I            | DDH87016                 | 4.92                     | 1.55                                       | 50                    | 125                       | 47662.5                      |
| H/I          | DDH87003                 | 1.8                      | 1.67                                       | 253                   | 125                       | 95064.75                     |
| H/I          | DDH87006                 | 2.25                     | 1.67                                       | 375                   | 125                       | 176132.8125                  |
| H            | DDH85022                 | 3.85                     | 1.67                                       | 262                   | 125                       | 210566.125                   |
| H            | DDH85025                 | 3.72                     | 1.67                                       | 20                    | 125                       | 15531                        |
| H            | DDH86030                 | 2.98                     | 1.67                                       | 100                   | 125                       | 62207.5                      |
| H            | DDH87001                 | 5.43                     | 1.67                                       | 242                   | 125                       | 274310.025                   |
| H            | DDH87003                 | 3.55                     | 1.67                                       | 275                   | 125                       | 203792.1875                  |
| H            | DDH87006                 | 1.28                     | 1.67                                       | 300                   | 125                       | 80160                        |
| .....        |                          |                          |  |                       |                           | seams >=0.5m                 |

TOTAL TONNES FOR THIS SECTION : 2992019.365

SEAM TOTALS:

P: 8123.715  
 O: 51707.5  
 N: 20384.4375

continued on next page

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1875 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 86027                    | 2.98                     | 1.72                                       | 188                   | 125                       | 120451.6                     |
| N            | 86027                    | 1.81                     | 1.67                                       | 173                   | 125                       | 65365.8875                   |
| L            | 86014                    | 3.05                     | 1.67                                       | 112                   | 125                       | 71309                        |
| K/L          | 87023                    | 1.55                     | 1.79                                       | 273                   | 125                       | 94679.8125                   |
| K/L          | 87023                    | 1.76                     | 1.79                                       | 70                    | 125                       | 27566                        |
| K            | 86014                    | 2.58                     | 1.66                                       | 125                   | 125                       | 66918.75                     |
| K            | 86014                    | 3.26                     | 1.66                                       | 151                   | 125                       | 102143.95                    |
| K            | 86027                    | 2.77                     | 1.66                                       | 40                    | 125                       | 22991                        |
| J            | 86027                    | 0                        | 1.61                                       | 34                    | 125                       | 0                            |
| J            | 87016                    | 0                        | 1.61                                       | 185                   | 125                       | 0                            |
| J            | 86009                    | 0                        | 1.61                                       | 256                   | 125                       | 0                            |
| J            | 86010                    | 1.08                     | 1.61                                       | 278                   | 125                       | 60423.3                      |
| J            | 86030                    | 0.82                     | 1.61                                       | 156                   | 125                       | 25743.9                      |
| I            | 86027                    | 0.95                     | 1.55                                       | 30                    | 125                       | 5521.875                     |
| I            | 85028                    | 4.74                     | 1.55                                       | 104                   | 125                       | 95511                        |
| I            | 85025                    | 4.42                     | 1.55                                       | 256                   | 125                       | 219232                       |
| I            | 85022                    | 3.85                     | 1.55                                       | 120                   | 125                       | 89512.5                      |
| I            | 87016                    | 4.92                     | 1.55                                       | 145                   | 125                       | 138221.25                    |
| I            | 86009                    | 5.8                      | 1.55                                       | 210                   | 125                       | 235987.5                     |
| I            | 86010                    | 5.15                     | 1.55                                       | 278                   | 125                       | 277391.875                   |
| I            | 86030                    | 5.59                     | 1.55                                       | 271                   | 125                       | 293509.9375                  |
| I            | 87001                    | 2.09                     | 1.55                                       | 275                   | 125                       | 111357.8125                  |
| I            | 87003                    | 5.52                     | 1.55                                       | 204                   | 125                       | 218178                       |
| I            | 87006                    | 1.83                     | 1.55                                       | 408                   | 125                       | 144661.5                     |
| PH           | 85028                    | 0                        | 1.78                                       | 103                   | 125                       | 0                            |
| PH           | 86018                    | 3.18                     | 1.78                                       | 43                    | 125                       | 30424.65                     |
| PH           | 85025                    | 0                        | 1.78                                       | 268                   | 125                       | 0                            |
| PH           | 85022                    | 0                        | 1.78                                       | 248                   | 125                       | 0                            |
| PH           | 86030                    | 0                        | 1.78                                       | 312                   | 125                       | 0                            |
| H/I          | 87003                    | 1.8                      | 1.67                                       | 50                    | 125                       | 18787.5                      |
| H/I          | 87006                    | 2.25                     | 1.67                                       | 383                   | 125                       | 179890.3125                  |
| H            | 85028                    | 4.08                     | 1.67                                       | 95                    | 125                       | 80911.5                      |
| H            | 86018                    | 0.83                     | 1.67                                       | 43                    | 125                       | 7450.2875                    |
| H            | 85025                    | 3.72                     | 1.67                                       | 257                   | 125                       | 199573.35                    |
| H            | 85022                    | 3.85                     | 1.67                                       | 253                   | 125                       | 203332.9375                  |
| H            | 86009                    | 9.01                     | 1.67                                       | 226                   | 125                       | 425069.275                   |
| H            | 86010                    | 3.91                     | 1.67                                       | 252                   | 125                       | 205685.55                    |
| H            | 86030                    | 2.98                     | 1.67                                       | 266                   | 125                       | 165471.95                    |
| H            | 87001                    | 5.43                     | 1.67                                       | 276                   | 125                       | 312849.45                    |
| H            | 87003                    | 3.55                     | 1.67                                       | 204                   | 125                       | 151176.75                    |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2000 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 86027                    | 2.98                     | 1.72                                       | 116                   | 40                        | 23782.784                    |
| O            | 86012                    | 1.46                     | 1.72                                       | 189                   | 125                       | 59327.1                      |
| N            | 86027                    | 1.81                     | 1.67                                       | 168                   | 90                        | 45703.224                    |
| N            | 86012                    | 1.42                     | 1.67                                       | 226                   | 125                       | 66992.05                     |
| L            | 86014                    | 3.05                     | 1.67                                       | 146                   | 125                       | 92956.375                    |
| K/L          | 86027                    | 5.8                      | 1.79                                       | 142                   | 125                       | 184280.5                     |
| K/L          | 86014                    | 0.97                     | 1.79                                       | 130                   | 125                       | 28214.875                    |
| K/L          | 87023                    | 1.55                     | 1.79                                       | 40                    | 90                        | 9988.2                       |
| K/L          | 87023                    | 1.55                     | 1.79                                       | 106                   | 125                       | 36762.125                    |
| K/L          | 87023                    | 1.76                     | 1.79                                       | 111                   | 125                       | 43711.8                      |
| K            | 86027                    | 2.77                     | 1.66                                       | 137                   | 125                       | 78744.175                    |
| K            | 86014                    | 3.26                     | 1.66                                       | 10                    | 90                        | 4870.44                      |
| K            | 86014                    | 3.26                     | 1.66                                       | 149                   | 125                       | 100791.05                    |
| K            | 86014                    | 2.58                     | 1.66                                       | 179                   | 125                       | 95827.65                     |
| K            | 86009                    | 5.82                     | 1.66                                       | 160                   | 125                       | 193224                       |
| J            | 86027                    | 0                        | 1.61                                       | 128                   | 125                       | 0                            |
| J            | 86009                    | 0                        | 1.61                                       | 191                   | 125                       | 0                            |
| J            | 86007                    | 5.57                     | 1.61                                       | 16                    | 125                       | 17935.4                      |
| J            | 86010                    | 1.08                     | 1.61                                       | 270                   | 125                       | 58684.5                      |
| I            | 86027                    | 0.95                     | 1.55                                       | 127                   | 125                       | 23375.9375                   |
| I            | 86018                    | 1.62                     | 1.55                                       | 20                    | 100                       | 5022                         |
| I            | 86018                    | 1.62                     | 1.55                                       | 204                   | 125                       | 64030.5                      |
| I            | 85025                    | 4.42                     | 1.55                                       | 115                   | 125                       | 98483.125                    |
| I            | 85024                    | 6.45                     | 1.55                                       | 93                    | 125                       | 116220.9375                  |
| I            | 86017                    | 5.16                     | 1.55                                       | 268                   | 125                       | 267933                       |
| I            | 86009                    | 5.8                      | 1.55                                       | 304                   | 125                       | 341620                       |
| I            | 86007                    | 5.57                     | 1.55                                       | 16                    | 125                       | 17267                        |
| I            | 86010                    | 5.15                     | 1.55                                       | 270                   | 125                       | 269409.375                   |
| I            | 86032                    | 3.16                     | 1.55                                       | 264                   | 125                       | 161634                       |
| I            | 87021                    | 3.82                     | 1.55                                       | 296                   | 125                       | 219077                       |
| I            | 87002                    | 6.37                     | 1.55                                       | 158                   | 125                       | 195001.625                   |
| I            | 87002                    | 3.87                     | 1.55                                       | 73                    | 125                       | 54736.3125                   |
| I            | 87002                    | 7.97                     | 1.55                                       | 190                   | 125                       | 293395.625                   |
| H/I          | 87002                    | 0                        | 1.67                                       | 223                   | 125                       | 0                            |
| H            | 87007                    | 2.93                     | 1.67                                       | 26                    | 125                       | 15902.575                    |
| H            | 86018                    | 0.83                     | 1.67                                       | 292                   | 125                       | 50592.65                     |
| H            | 85025                    | 3.72                     | 1.67                                       | 120                   | 125                       | 93186                        |
| H            | 85024                    | 4.62                     | 1.67                                       | 93                    | 125                       | 89691.525                    |
| H            | 86017                    | 4.45                     | 1.67                                       | 268                   | 125                       | 248955.25                    |
| H            | 86009                    | 9.01                     | 1.67                                       | 300                   | 125                       | 564251.25                    |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2125 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 86012                    | 1.46                     | 1.72                                       | 227                   | 125                       | 71255.3                      |
| O(O/T)       | 86012                    | 1.02                     | 1.72                                       | 40                    | 125                       | 8772                         |
| N            | 86012                    | 1.42                     | 1.67                                       | 298                   | 125                       | 88334.65                     |
| K/L          | 87005                    | 4.43                     | 1.79                                       | 204                   | 125                       | 202207.35                    |
| L            | 86014                    | 3.05                     | 1.67                                       | 65                    | 125                       | 41384.6875                   |
| K            | 86029                    | 2.96                     | 1.66                                       | 148                   | 125                       | 90901.6                      |
| K            | 87007                    | 6.01                     | 1.66                                       | 204                   | 80                        | 162818.112                   |
| K            | 86014                    | 2.58                     | 1.66                                       | 70                    | 125                       | 37474.5                      |
| K            | 86004                    | 5.47                     | 1.66                                       | 88                    | 125                       | 99882.2                      |
| K            | 87005                    | 8.06                     | 1.66                                       | 272                   | 125                       | 454906.4                     |
| J            | 86004                    | 0                        | 1.61                                       | 96                    | 125                       | 0                            |
| J            | 86007                    | 0                        | 1.61                                       | 305                   | 125                       | 0                            |
| J            | 87005                    | 0                        | 1.61                                       | 295                   | 125                       | 0                            |
| I            | 86029                    | 4.42                     | 1.55                                       | 291                   | 125                       | 249205.125                   |
| I            | 86018                    | 1.62                     | 1.55                                       | 175                   | 125                       | 54928.125                    |
| I            | 85024                    | 6.45                     | 1.55                                       | 255                   | 85                        | 216695.8125                  |
| I            | 86017                    | 5.16                     | 1.55                                       | 128                   | 90                        | 92136.96                     |
| I            | 84006                    | 6.67                     | 1.55                                       | 231                   | 125                       | 298524.1875                  |
| I            | 86004                    | 5.28                     | 1.55                                       | 100                   | 125                       | 102300                       |
| I            | 86007                    | 5.57                     | 1.55                                       | 317                   | 125                       | 342102.4375                  |
| I            | 86032                    | 3.16                     | 1.55                                       | 131                   | 125                       | 80204.75                     |
| I (REP.)     | 87002                    | 7.97                     | 1.55                                       | 203                   | 125                       | 313470.0625                  |
| I            | 87005                    | 3.44                     | 1.55                                       | 277                   | 125                       | 184620.5                     |
| H            | 86029                    | 1.22                     | 1.67                                       | 175                   | 125                       | 44568.125                    |
| H            | 87007                    | 2.93                     | 1.67                                       | 67                    | 125                       | 40979.7125                   |
| H            | 86018                    | 0.83                     | 1.67                                       | 71                    | 125                       | 12301.6375                   |
| H            | 86002                    | 4.85                     | 1.67                                       | 393                   | 125                       | 397887.9375                  |
| H            | 85024                    | 4.62                     | 1.67                                       | 242                   | 125                       | 233390.85                    |
| H            | 86017                    | 4.45                     | 1.67                                       | 151                   | 125                       | 140269.5625                  |
| H            | 84006                    | 0.61                     | 1.67                                       | 257                   | 125                       | 32725.7375                   |
| H            | 86004                    | 7.1                      | 1.67                                       | 100                   | 125                       | 148212.5                     |
| H            | 86007                    | 3.66                     | 1.67                                       | 317                   | 125                       | 242195.925                   |
| H            | 87021                    | 3.82                     | 1.67                                       | 307                   | 125                       | 244809.475                   |
| H            | 87002                    | 4.1                      | 1.67                                       | 196                   | 125                       | 167751.5                     |
| H            | 87005                    | 1.42                     | 1.67                                       | 277                   | 125                       | 82109.725                    |
| H            | 87026                    | 1.25                     | 1.67                                       | 206                   | 125                       | 53753.125                    |
| H(O/T)       | 87026                    | 1.25                     | 1.67                                       | 111                   | 125                       | 28964.0625                   |
| H/I          | 87002                    | 0                        | 1.67                                       | 135                   | 125                       | 0                            |
| H/I          | 87005                    | 0                        | 1.67                                       | 277                   | 125                       | 0                            |
| H/I(O/T)     | 87026                    | 0                        | 1.67                                       | 105                   | 125                       | 0                            |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2250 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 85005                    | 1.33                     | 1.72                                       | 55                    | 125                       | 15727.25                     |
| N            | 87028                    | 0.88                     | 1.67                                       | 125                   | 84                        | 15430.8                      |
| M            | 85010                    | 5.74                     | 1.76                                       | 240                   | 125                       | 303072                       |
| M            | 85005                    | 2.93                     | 1.76                                       | 73                    | 125                       | 47055.8                      |
| M            | 85023                    | 3.44                     | 1.76                                       | 96                    | 125                       | 72652.8                      |
| L            | 85010                    | 1.81                     | 1.67                                       | 250                   | 125                       | 94459.375                    |
| L            | 85005                    | 0.61                     | 1.67                                       | 74                    | 125                       | 9422.975                     |
| L            | 85023                    | 4.57                     | 1.67                                       | 175                   | 125                       | 166947.8125                  |
| K/L          | 87005                    | 4.43                     | 1.79                                       | 43                    | 125                       | 42622.1375                   |
| K/L          | 86004                    | 2.04                     | 1.79                                       | 50                    | 125                       | 22822.5                      |
| K/L          | 86004                    | 1.09                     | 1.79                                       | 10                    | 125                       | 2438.875                     |
| K/L          | 86004                    | 3.76                     | 1.79                                       | 175                   | 125                       | 147227.5                     |
| K            | 87005                    | 8.06                     | 1.66                                       | 170                   | 125                       | 284316.5                     |
| K            | 86004                    | 5.47                     | 1.66                                       | 30                    | 125                       | 34050.75                     |
| K            | 86004                    | 3.44                     | 1.66                                       | 200                   | 125                       | 142760                       |
| K            | 85010                    | 3.96                     | 1.66                                       | 235                   | 125                       | 193099.5                     |
| K            | 85005                    | 3.73                     | 1.66                                       | 76                    | 125                       | 58822.1                      |
| K            | 85023                    | 4.47                     | 1.66                                       | 182                   | 125                       | 168809.55                    |
| K            | 84006                    | 2.88                     | 1.66                                       | 203                   | 125                       | 121312.8                     |
| J            | 84006                    | 3.56                     | 1.61                                       | 177                   | 125                       | 126811.65                    |
| I            | 87009                    | 4.79                     | 1.55                                       | 159                   | 125                       | 147561.9375                  |
| I            | 87009                    | 4.79                     | 1.55                                       | 105                   | 100                       | 77957.25                     |
| I            | 87005                    | 3.44                     | 1.55                                       | 73                    | 125                       | 48654.5                      |
| I            | 87012                    | 1.51                     | 1.55                                       | 5                     | 125                       | 1462.8125                    |
| I            | 87008                    | 3.33                     | 1.55                                       | 85                    | 80                        | 35098.2                      |
| I            | 87008                    | 4.77                     | 1.55                                       | 260                   | 80                        | 153784.8                     |
| I            | 87008                    | 4.77                     | 1.55                                       | 135                   | 125                       | 124765.3125                  |
| I            | 84007                    | 5.43                     | 1.55                                       | 250                   | 125                       | 263015.625                   |
| I            | 86007                    | 5.57                     | 1.55                                       | 85                    | 125                       | 91730.9375                   |
| I            | 86004                    | 5.28                     | 1.55                                       | 169                   | 125                       | 172887                       |
| I            | 84006                    | 6.67                     | 1.55                                       | 160                   | 125                       | 206770                       |
| I            | 84006                    | 6.67                     | 1.55                                       | 80                    | 84                        | 69474.72                     |
| I            | 86029                    | 4.42                     | 1.55                                       | 80                    | 108                       | 59192.64                     |
| I            | 86031                    | 4.5                      | 1.55                                       | 270                   | 125                       | 235406.25                    |
| H            | 87026                    | 1.25                     | 1.67                                       | 440                   | 125                       | 114812.5                     |
| H            | 87027                    | 8.62                     | 1.67                                       | 87                    | 125                       | 156549.975                   |
| H            | 87009                    | 2.77                     | 1.67                                       | 257                   | 125                       | 148607.0375                  |
| H            | 87005                    | 1.42                     | 1.67                                       | 279                   | 125                       | 82702.575                    |
| H            | 87012                    | 5.31                     | 1.67                                       | 5                     | 125                       | 5542.3125                    |
| H            | 84007                    | 3.98                     | 1.67                                       | 260                   | 125                       | 216014.5                     |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2375 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 87028                    | 1.49                     | 1.72                                       | 124                   | 125                       | 39723.4                      |
| O            | 85005                    | 1.33                     | 1.72                                       | 100                   | 125                       | 28595                        |
| N            | 87028                    | 0.88                     | 1.67                                       | 118                   | 125                       | 21676.6                      |
| M/N          | 87028                    | 0.88                     | 1.88                                       | 140                   | 125                       | 28952                        |
| M            | 87028                    | 1.48                     | 1.76                                       | 107                   | 125                       | 34839.2                      |
| M            | 85010                    | 5.74                     | 1.76                                       | 300                   | 125                       | 378840                       |
| M            | 85005                    | 3.94                     | 1.76                                       | 115                   | 125                       | 99682                        |
| M            | 85005                    | 2.93                     | 1.76                                       | 280                   | 125                       | 180488                       |
| M            | 85023                    | 3.44                     | 1.76                                       | 98                    | 125                       | 74166.4                      |
| L            | 87028                    | 0.73                     | 1.67                                       | 105                   | 125                       | 16000.6875                   |
| L            | 85010                    | 1.81                     | 1.67                                       | 307                   | 125                       | 115996.1125                  |
| L            | 85005                    | 0.61                     | 1.67                                       | 278                   | 125                       | 35399.825                    |
| L            | 85023                    | 4.57                     | 1.67                                       | 200                   | 125                       | 190797.5                     |
| K/L          | 86004                    | 2.04                     | 1.79                                       | 135                   | 125                       | 61620.75                     |
| K            | 87028                    | 2.25                     | 1.66                                       | 112                   | 125                       | 52290                        |
| K            | 87025                    | 4.98                     | 1.66                                       | 45                    | 125                       | 46500.75                     |
| K            | 85011                    | 4.19                     | 1.66                                       | 115                   | 125                       | 99983.875                    |
| K            | 86004                    | 5.47                     | 1.66                                       | 43                    | 125                       | 48806.075                    |
| K            | 85010                    | 3.96                     | 1.66                                       | 290                   | 125                       | 238293                       |
| K            | 85005                    | 3.73                     | 1.66                                       | 285                   | 125                       | 220582.875                   |
| K            | 85023                    | 4.47                     | 1.66                                       | 224                   | 125                       | 207765.6                     |
| I            | 87009                    | 4.79                     | 1.55                                       | 68                    | 125                       | 63108.25                     |
| I            | 87012                    | 1.51                     | 1.55                                       | 280                   | 125                       | 81917.5                      |
| I            | 87008                    | 3.33                     | 1.55                                       | 75                    | 125                       | 48389.0625                   |
| I            | 87008                    | 4.77                     | 1.55                                       | 100                   | 125                       | 92418.75                     |
| I            | 87008                    | 7.43                     | 1.55                                       | 265                   | 125                       | 381484.0625                  |
| I            | 84007                    | 5.43                     | 1.55                                       | 185                   | 125                       | 194631.5625                  |
| I            | 85011                    | 1.75                     | 1.55                                       | 162                   | 125                       | 54928.125                    |
| I            | 87025                    | 4.59                     | 1.55                                       | 128                   | 125                       | 113832                       |
| I            | 86004                    | 5.28                     | 1.55                                       | 43                    | 125                       | 43989                        |
| I            | 85009                    | 4.9                      | 1.55                                       | 245                   | 125                       | 232596.875                   |
| H            | 87027                    | 8.62                     | 1.67                                       | 340                   | 125                       | 611804.5                     |
| H            | 87009                    | 2.77                     | 1.67                                       | 185                   | 125                       | 106973.9375                  |
| H            | 87012                    | 5.31                     | 1.67                                       | 297                   | 125                       | 329213.3625                  |
| H            | 84007                    | 3.98                     | 1.67                                       | 236                   | 125                       | 196074.7                     |
| H            | 86004                    | 7.1                      | 1.67                                       | 45                    | 125                       | 66695.625                    |
| H            | 86031                    | 6.58                     | 1.67                                       | 218                   | 125                       | 299439.35                    |
| H            | 87011                    | 4.97                     | 1.67                                       | 285                   | 125                       | 295683.9375                  |
| H-1          | 87027                    | 1.31                     | 1.94                                       | 209                   | 125                       | 66394.075                    |
| PH           | 87027                    | 0.97                     | 1.78                                       | 370                   | 115                       | 73466.83                     |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2500 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 85005                    | 0.67                     | 1.72                                       | 55                    | 125                       | 7922.75                      |
| O            | 85005                    | 1.33                     | 1.72                                       | 25                    | 125                       | 7148.75                      |
| O            | 87028                    | 1.49                     | 1.72                                       | 260                   | 125                       | 83291                        |
| N            | 85005                    | 0                        | 1.67                                       | 130                   | 125                       | 0                            |
| N            | 87028                    | 0.88                     | 1.67                                       | 290                   | 125                       | 53273                        |
| M            | 85005                    | 3.94                     | 1.76                                       | 45                    | 125                       | 39006                        |
| M            | 85005                    | 2.93                     | 1.76                                       | 160                   | 125                       | 103136                       |
| M            | 87028                    | 1.48                     | 1.76                                       | 385                   | 125                       | 125356                       |
| M/M          | 87028                    | 0.88                     | 1.88                                       | 225                   | 125                       | 46530                        |
| L            | 85009                    | 4.46                     | 1.67                                       | 145                   | 125                       | 134998.625                   |
| L            | 85005                    | 0.61                     | 1.67                                       | 160                   | 125                       | 20374                        |
| L            | 87028                    | 0.73                     | 1.67                                       | 310                   | 125                       | 47240.125                    |
| K            | 85009                    | 3.27                     | 1.66                                       | 240                   | 125                       | 162846                       |
| K            | 85009                    | 2.81                     | 1.66                                       | 35                    | 125                       | 20407.625                    |
| K            | 85005                    | 3.1                      | 1.66                                       | 160                   | 125                       | 102920                       |
| K            | 85011                    | 3.47                     | 1.66                                       | 55                    | 125                       | 39601.375                    |
| K            | 87014                    | 1.87                     | 1.66                                       | 350                   | 125                       | 135808.75                    |
| K            | 87028                    | 3.2                      | 1.66                                       | 320                   | 125                       | 212480                       |
| K/L          | 87028                    | 9.74                     | 1.79                                       | 320                   | 125                       | 697384                       |
| I            | 85009                    | 4.9                      | 1.55                                       | 325                   | 125                       | 308546.875                   |
| I            | 87017                    | 2.26                     | 1.55                                       | 195                   | 125                       | 85385.625                    |
| I            | 86008                    | 3.5                      | 1.55                                       | 160                   | 125                       | 108500                       |
| I            | 87014                    | 3.04                     | 1.55                                       | 300                   | 125                       | 176700                       |
| I            | 87012                    | 1.51                     | 1.55                                       | 185                   | 125                       | 54124.0625                   |
| J            | 85009                    | 0                        | 1.61                                       | 340                   |                           | 0                            |
| J            | 85017                    | 0                        | 1.61                                       | 185                   |                           | 0                            |
| J            | 87014                    | 0                        | 1.61                                       | 285                   |                           | 0                            |
| J            | 87012                    | 0                        | 1.61                                       | 110                   |                           | 0                            |
| H/I          | 87014                    | 1.6                      | 1.67                                       | 285                   | 125                       | 95190                        |
| H/I          | 87012                    | 0                        | 1.67                                       | 195                   |                           | 0                            |
| PH           | 87011                    | 0.51                     | 1.78                                       | 225                   | 125                       | 25531.875                    |
| PH           | 85006                    | 0                        | 1.78                                       | 260                   |                           | 0                            |
| PH           | 85017                    | 0                        | 1.78                                       | 195                   |                           | 0                            |
| PH           | 86008                    | 4.68                     | 1.78                                       | 300                   | 125                       | 312390                       |
| PH           | 87027                    | 0.97                     | 1.78                                       | 140                   | 75                        | 18129.3                      |
| G            | 85006                    | 3.49                     | 1.8  | 215                   | 125                       | 168828.75                    |
| G            | 85006                    | 0                        | 1.8  | 170                   |                           | 0                            |
| G            | 85017                    | 1.01                     | 1.8  | 195                   | 125                       | 44313.75                     |
| G            | 87027                    | 0.71                     | 1.8  | 140                   | 125                       | 22365                        |
| H            | 87011                    | 4.97                     | 1.67                                       | 210                   | 125                       | 217872.375                   |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2625 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 87028                    | 1.49                     | 1.72                                       | 115                   | 125                       | 36840.25                     |
| N            | 87028                    | 0.88                     | 1.67                                       | 115                   | 125                       | 21125.5                      |
| N            | 85003                    | 1.72                     | 1.67                                       | 140                   | 125                       | 50267                        |
| N            | 85003                    | 1.44                     | 1.67                                       | 120                   | 125                       | 36072                        |
| M            | 87031                    | 2.08                     | 1.76                                       | 177                   | 125                       | 80995.2                      |
| M            | 87028                    | 1.48                     | 1.76                                       | 96                    | 125                       | 31257.6                      |
| M            | 85003                    | 5.3                      | 1.76                                       | 300                   | 125                       | 349800                       |
| L            | 87031                    | 1.64                     | 1.67                                       | 201                   | 125                       | 68812.35                     |
| L            | 87028                    | 0.73                     | 1.67                                       | 96                    | 125                       | 14629.2                      |
| K/L          | 87031                    | 3.65                     | 1.79                                       | 216                   | 125                       | 176404.5                     |
| K/L          | 87028                    | 0.73                     | 1.79                                       | 96                    | 125                       | 15680.4                      |
| K            | 87031                    | 4.17                     | 1.66                                       | 218                   | 125                       | 188629.95                    |
| K            | 87028                    | 2.25                     | 1.66                                       | 96                    | 125                       | 44820                        |
| K            | 87014                    | 4.76                     | 1.66                                       | 147                   | 125                       | 145191.9                     |
| K            | 84008                    | 3.93                     | 1.66                                       | 203                   | 125                       | 165541.425                   |
| I            | 87014                    | 3.04                     | 1.55                                       | 280                   | 125                       | 164920                       |
| I            | 86008                    | 4.86                     | 1.55                                       | 12                    | 125                       | 11299.5                      |
| I            | 85017                    | 5.37                     | 1.55                                       | 312                   | 125                       | 324616.5                     |
| I            | 84008                    | 3.86                     | 1.55                                       | 212                   | 125                       | 158549.5                     |
| I            | 82005                    | 4.98                     | 1.55                                       | 402                   | 125                       | 387879.75                    |
| I            | 86001                    | 3.55                     | 1.55                                       | 100                   | 108                       | 59427                        |
| H/I          | 87014                    | 1.6                      | 1.67                                       | 272                   | 125                       | 90848                        |
| H/I          | 87019                    | 1.79                     | 1.67                                       | 312                   | 125                       | 116582.7                     |
| H            | 87019                    | 5.2                      | 1.67                                       | 412                   | 125                       | 447226                       |
| H            | 86008                    | 5.89                     | 1.67                                       | 10                    | 125                       | 12295.375                    |
| H            | 85017                    | 4.67                     | 1.67                                       | 320                   | 125                       | 311956                       |
| H            | 84008                    | 6.41                     | 1.67                                       | 218                   | 125                       | 291703.075                   |
| H            | 86001                    | 2.84                     | 1.67                                       | 270                   | 125                       | 160069.5                     |
| PH           | 87029                    | 1.34                     | 1.78                                       | 25                    | 125                       | 7453.75                      |
| PH           | 86008                    | 4.68                     | 1.78                                       | 10                    | 125                       | 10413                        |
| PH           | 85017                    | 4.41                     | 1.78                                       | 305                   | 125                       | 299273.625                   |
| G            | 85017                    | 3.8                      | 1.8  | 310                   | 125                       | 265050                       |
| G            | 84008                    | 3.28                     | 1.8  | 204                   | 125                       | 150552                       |
| G            | 85006                    | 6.1                      | 1.8  | 205                   | 125                       | 281362.5                     |
| GL           | 85017                    | 0.97                     | 1.8  | 307                   | 125                       | 67002.75                     |
| F            | 87029                    | 1.45                     | 1.74                                       | 15                    | 125                       | 4730.625                     |
| F            | 85017                    | 1.93                     | 1.74                                       | 310                   | 125                       | 130130.25                    |
| F            | 85006                    | 3.1                      | 1.74                                       | 210                   | 125                       | 141592.5                     |
| E            | 85017                    | 3.93                     | 1.56                                       | 310                   | 125                       | 237568.5                     |
| E            | 85006                    | 0.91                     | 1.56                                       | 210                   | 125                       | 37264.5                      |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2750 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| M            | 85003                    | 5.3                      | 1.76                                       | 185                   | 125                       | 215710                       |
| M            | 85003                    | 5.3                      | 1.76                                       | 225                   | 125                       | 262350                       |
| M            | 82005                    | 2.24                     | 1.76                                       | 100                   | 125                       | 49280                        |
| M            | 87031                    | 2.08                     | 1.76                                       | 185                   | 125                       | 84656                        |
| L            | 87031                    | 1.45                     | 1.67                                       | 205                   | 125                       | 62050.9375                   |
| L            | 87031                    | 1.64                     | 1.67                                       | 120                   | 125                       | 41082                        |
| L            | 84008                    | 0                        | 0  | 165                   | 125                       | 0                            |
| L            | 82005                    | 5.75                     | 1.67                                       | 425                   | 125                       | 510132.8125                  |
| K/L          | 87031                    | 0.7                      | 1.79                                       | 160                   | 125                       | 25060                        |
| K/L          | 87031                    | 3.65                     | 1.79                                       | 185                   | 125                       | 151087.1875                  |
| K            | 87031                    | 4.17                     | 1.66                                       | 250                   | 125                       | 216318.75                    |
| K            | 87017                    | 2.82                     | 1.66                                       | 200                   | 125                       | 117030                       |
| K            | 84008                    | 3.93                     | 1.66                                       | 315                   | 125                       | 256874.625                   |
| K            | 82005                    | 5.16                     | 1.66                                       | 500                   | 125                       | 535350                       |
| I            | 87017                    | 2.26                     | 1.55                                       | 80                    | 125                       | 35030                        |
| I            | 85017                    | 5.37                     | 1.55                                       | 54                    | 125                       | 56183.625                    |
| I            | 86006                    | 5.01                     | 1.55                                       | 142                   | 125                       | 137837.625                   |
| I            | 84008                    | 3.86                     | 1.55                                       | 306                   | 125                       | 228849.75                    |
| I            | 82005                    | 4.98                     | 1.55                                       | 420                   | 125                       | 405247.5                     |
| I            | 82005                    | 4.98                     | 1.55                                       | 215                   | 125                       | 207448.125                   |
| I            | 85033                    | 5.48                     | 1.55                                       | 45                    | 125                       | 47778.75                     |
| I            | 85033                    | 5.48                     | 1.55                                       | 130                   | 125                       | 138027.5                     |
| I            | 85004                    | 3.7                      | 1.55                                       | 125                   | 125                       | 89609.375                    |
| H/I          | 87017                    | 1.11                     | 1.67                                       | 125                   | 125                       | 28964.0625                   |
| H/I          | 87019                    | 1.79                     | 1.67                                       | 155                   | 125                       | 57917.6875                   |
| H/I          | 84008                    | 0                        | 0  | 250                   | 125                       | 0                            |
| PH           | 87029                    | 1.34                     | 1.78                                       | 300                   | 125                       | 89445                        |
| PH           | 85019                    | 0                        | 0  | 155                   | 125                       | 0                            |
| PH           | 85017                    | 4.41                     | 1.78                                       | 10                    | 125                       | 9812.25                      |
| H            | 87029                    | 0.92                     | 1.67                                       | 200                   | 125                       | 38410                        |
| H            | 87029                    | 3.29                     | 1.67                                       | 45                    | 125                       | 30905.4375                   |
| H            | 87019                    | 1.98                     | 1.67                                       | 320                   | 125                       | 132264                       |
| H            | 85017                    | 4.67                     | 1.67                                       | 55                    | 125                       | 53617.4375                   |
| H            | 86006                    | 5.89                     | 1.67                                       | 140                   | 125                       | 172135.25                    |
| H            | 84008                    | 6.41                     | 1.67                                       | 235                   | 125                       | 314450.5625                  |
| H            | 84008                    | 3.84                     | 1.67                                       | 90                    | 125                       | 72144                        |
| H            | 85004                    | 3.96                     | 1.67                                       | 275                   | 125                       | 227328.75                    |
| G            | 85017                    | 1.01                     | 1.8  | 60                    | 125                       | 13635                        |
| G            | 84008                    | 3.28                     | 1.8  | 300                   | 125                       | 221400                       |
| G            | 85004                    | 1.37                     | 1.8  | 242                   | 125                       | 74596.5                      |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2875 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| M            | 87031                    | 2.08                     | 1.76                                       | 20                    | 125                       | 9152                         |
| M            | 82005                    | 2.24                     | 1.76                                       | 100                   | 125                       | 49280                        |
| L            | 87031                    | 1.45                     | 1.67                                       | 30                    | 125                       | 9080.625                     |
| L            | 85012                    | 1.37                     | 1.67                                       | 275                   | 125                       | 78646.5625                   |
| L            | 82005                    | 5.75                     | 1.67                                       | 300                   | 125                       | 360093.75                    |
| K            | 82005                    | 5.16                     | 1.66                                       | 450                   | 125                       | 481815                       |
| K            | 85012                    | 1.74                     | 1.66                                       | 300                   | 125                       | 108315                       |
| K            | 85013                    | 0.98                     | 1.66                                       | 125                   | 125                       | 25418.75                     |
| K            | 87033                    | 5.32                     | 1.66                                       | 80                    | 125                       | 88312                        |
| J            | 82005                    | 0                        | 0  | 550                   | 125                       | 0                            |
| I            | 83001                    | 5.51                     | 1.55                                       | 50                    | 125                       | 53378.125                    |
| I            | 85004                    | 3.96                     | 1.55                                       | 112                   | 125                       | 85932                        |
| I            | 85032                    | 5.47                     | 1.55                                       | 43                    | 125                       | 45571.9375                   |
| I            | 82005                    | 4.98                     | 1.55                                       | 75                    | 125                       | 72365.625                    |
| I            | 85033                    | 5.48                     | 1.55                                       | 65                    | 125                       | 69013.75                     |
| I            | 85034                    | 5.14                     | 1.55                                       | 350                   | 125                       | 348556.25                    |
| I            | 82005                    | 4.98                     | 1.55                                       | 150                   | 125                       | 144731.25                    |
| I            | 85013                    | 6.16                     | 1.55                                       | 130                   | 125                       | 155155                       |
| I            | 87033                    | 5.56                     | 1.55                                       | 125                   | 125                       | 134656.25                    |
| I            | 86006                    | 5.01                     | 1.55                                       | 90                    | 125                       | 87361.875                    |
| I            | 85001                    | 4.38                     | 1.55                                       | 225                   | 125                       | 190940.625                   |
| H            | 83001                    | 4.54                     | 1.67                                       | 125                   | 125                       | 118465.625                   |
| H            | 85004                    | 3.96                     | 1.67                                       | 240                   | 125                       | 198396                       |
| H            | 85004                    | 3.96                     | 1.67                                       | 255                   | 125                       | 210795.75                    |
| H            | 85012                    | 3.22                     | 1.67                                       | 235                   | 125                       | 157961.125                   |
| H            | 85013                    | 4.37                     | 1.67                                       | 230                   | 125                       | 209814.625                   |
| H            | 86006                    | 5.89                     | 1.67                                       | 250                   | 125                       | 307384.375                   |
| H            | 85001                    | 2.15                     | 1.67                                       | 350                   | 125                       | 157084.375                   |
| H            | 87029                    | 3.29                     | 1.67                                       | 275                   | 125                       | 188866.5625                  |
| Ph           | 87029                    | 1.34                     | 1.78                                       | 320                   | 125                       | 95408                        |
| G            | 85001                    | 0.94                     | 1.8  | 200                   | 125                       | 42300                        |
| G            | 85004                    | 3.96                     | 1.8  | 550                   | 125                       | 490050                       |
| G            | 83001                    | 5.51                     | 1.8  | 90                    | 125                       | 111577.5                     |
| K/L          | 87031                    | 0.7                      | 1.79                                       | 10                    | 125                       | 1566.25                      |
| F            | 85020                    | 0                        | 1.74                                       | 210                   | 125                       | 0                            |
| F            | 83001                    | 4.79                     | 1.74                                       | 80                    | 125                       | 83346                        |
| F            | 85004                    | 2.35                     | 1.74                                       | 437.5                 | 125                       | 223617.1875                  |
| F            | 85013                    | 3.2                      | 1.74                                       | 125                   | 125                       | 87000                        |
| F            | 85019                    | 4.21                     | 1.74                                       | 260                   | 125                       | 238075.5                     |
| E            | 85020                    | 1.91                     | 1.56                                       | 205                   | 125                       | 76352.25                     |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3000 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| L            | 85012                    | 1.37                     | 1.67                                       | 127                   | 125                       | 36320.4125                   |
| K/L          | 85012                    | 1.49                     | 1.79                                       | 232                   | 125                       | 77345.9                      |
| K            | 85013                    | 0.98                     | 1.66                                       | 89                    | 125                       | 18098.15                     |
| K            | 85012                    | 1.22                     | 1.66                                       | 80                    | 125                       | 20252                        |
| K            | 85012                    | 1.74                     | 1.66                                       | 211                   | 125                       | 76181.55                     |
| J            | 85001                    | 0                        | 1.61                                       | 65                    | 125                       | 0                            |
| J            | 85013                    | 0                        | 1.61                                       | 150                   | 125                       | 0                            |
| J            | 86005                    | 0                        | 1.61                                       | 144                   | 125                       | 0                            |
| J            | 85012                    | 0                        | 1.61                                       | 60                    | 125                       | 0                            |
| J            | 85012                    | 0                        | 1.61                                       | 150                   | 125                       | 0                            |
| I            | 83001                    | 5.51                     | 1.55                                       | 130                   | 113                       | 125459.945                   |
| I            | 85031                    | 4.54                     | 1.55                                       | 32                    | 125                       | 28148                        |
| I            | 85032                    | 5.47                     | 1.55                                       | 80                    | 125                       | 84785                        |
| I            | 85030                    | 3.98                     | 1.55                                       | 240                   | 125                       | 185070                       |
| I            | 85032                    | 5.47                     | 1.55                                       | 28                    | 125                       | 29674.75                     |
| I            | 86005                    | 4.79                     | 1.55                                       | 67                    | 125                       | 62180.1875                   |
| I            | 87034                    | 4.78                     | 1.55                                       | 109                   | 125                       | 100947.625                   |
| I            | 85013                    | 6.16                     | 1.55                                       | 172                   | 125                       | 205282                       |
| I            | 85001                    | 4.38                     | 1.55                                       | 179                   | 125                       | 151903.875                   |
| H            | 85001                    | 2.15                     | 1.67                                       | 81                    | 125                       | 36353.8125                   |
| H            | 85013                    | 4.37                     | 1.67                                       | 221                   | 125                       | 201604.4875                  |
| H            | 86005                    | 2.94                     | 1.67                                       | 109                   | 125                       | 66896.025                    |
| H            | 85012                    | 3.22                     | 1.67                                       | 332                   | 125                       | 223162.1                     |
| H            | 83001                    | 4.54                     | 1.67                                       | 273                   | 125                       | 258728.925                   |
| H            | 83001                    | 4.54                     | 1.67                                       | 633                   | 125                       | 599909.925                   |
| PH           | 85001                    | 0                        | 1.78                                       | 185                   | 125                       | 0                            |
| PH           | 85013                    | 0.65                     | 1.78                                       | 275                   | 125                       | 39771.875                    |
| PH           | 85012                    | 0                        | 1.78                                       | 370                   | 125                       | 0                            |
| G            | 85001                    | 0.94                     | 1.8  | 185                   | 125                       | 39127.5                      |
| G            | 85013                    | 0                        | 1.8  | 260                   | 125                       | 0                            |
| G            | 83001                    | 4.9                      | 1.8  | 609                   | 125                       | 671422.5                     |
| GL           | 83001                    | 2.25                     | 1.8  | 370                   | 125                       | 187312.5                     |
| F            | 85013                    | 3.2                      | 1.74                                       | 264                   | 125                       | 183744                       |
| F            | 83001                    | 4.79                     | 1.74                                       | 585                   | 125                       | 609467.625                   |
| F            | 85020                    | 0                        | 1.74                                       | 440                   | 125                       | 0                            |
| E            | 85020                    | 1.91                     | 1.56                                       | 412                   | 125                       | 153449.4                     |
| E            | 83001                    | 1.32                     | 1.56                                       | 495                   | 125                       | 127413                       |
| D            | 85020                    | 4.74                     | 1.74                                       | 410                   | 125                       | 422689.5                     |
| C            | 85020                    | 1.19                     | 1.49                                       | 395                   | 125                       | 87546.8125                   |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3125 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| I            | 87034                    | 4.78                     | 1.55                                       | 63                    | 125                       | 58345.875                    |
| I            | 86005                    | 4.79                     | 1.55                                       | 54                    | 125                       | 50115.375                    |
| I            | 85016                    | 5.55                     | 1.55                                       | 102                   | 125                       | 109681.875                   |
| I            | 85031                    | 3.98                     | 1.55                                       | 91                    | 125                       | 70172.375                    |
| H            | 86005                    | 2.94                     | 1.67                                       | 277                   | 125                       | 170001.825                   |
| H            | 85016                    | 6.75                     | 1.67                                       | 108                   | 125                       | 152178.75                    |
| G            | 85016                    | 0.79                     | 1.8  | 98                    | 125                       | 17419.5                      |
| G            | 83001                    | 4.9                      | 1.8  | 73                    | 95                        | 61166.7                      |
| F            | 85016                    | 2.13                     | 1.74                                       | 95                    | 125                       | 44011.125                    |
| F            | 83001                    | 4.79                     | 1.74                                       | 291                   | 125                       | 303171.075                   |
| E            | 85016                    | 2.22                     | 1.56                                       | 100                   | 125                       | 43290                        |
| E            | 83001                    | 1.32                     | 1.56                                       | 403                   | 125                       | 103732.2                     |
| E            | 85020                    | 1.91                     | 1.56                                       | 141                   | 125                       | 52515.45                     |
| D            | 85016                    | 3.97                     | 1.74                                       | 100                   | 125                       | 86347.5                      |
| D            | 85020                    | 8.54                     | 1.74                                       | 82                    | 125                       | 152310.9                     |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 1474460.525

SEAM TOTALS:

I: 288315.5  
 H: 322180.575  
 G: 78586.2  
 F: 347182.2  
 E: 199537.65  
 D: 238658.4

1474460.525

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3375 N  
 RESOURCE TYPE : MEASURED

| SEAM NAME | DIAMOND DRILL HOLE | SEAM THICKNESS (m) | SPECIFIC GRAVITY (t/m <sup>3</sup> ) | SEAM LENGTH (m) | WIDTH INFLUENCE (m) | TOTAL TONNES SEAMS >=0.5m |
|-----------|--------------------|--------------------|--------------------------------------|-----------------|---------------------|---------------------------|
| K         | 85014              | 0                  | 1.66                                 |                 |                     | 0                         |
| J         | 85014              | 0                  | 1.61                                 |                 |                     | 0                         |
| J         | 85016              | 0                  | 1.61                                 |                 |                     | 0                         |
| I         | 85014              | 5.46               | 1.55                                 | 145             | 125                 | 153391.875                |
| I         | 87032              | 5.59               | 1.55                                 | 250             | 125                 | 270765.625                |
| I         | 86003              | 7.25               | 1.55                                 | 15              | 125                 | 21070.3125                |
| H         | 85014              | 2.09               | 1.67                                 | 150             | 125                 | 65443.125                 |
| H         | 85016              | 6.75               | 1.67                                 | 30              | 125                 | 42271.875                 |
| H         | 86003              | 3.35               | 1.67                                 | 240             | 125                 | 167835                    |
| G         | 85016              | 0.79               | 1.8                                  | 155             | 125                 | 27551.25                  |
| PH        | 85014              | 0                  | 1.78                                 | 150             |                     | 0                         |
| PH        | 85016              | 0                  | 1.78                                 | 155             |                     | 0                         |
| GL        | 85015              | 1.3                | 1.8                                  | 30              | 125                 | 8775                      |
| F/G       | 85015              | 0                  | 1.86                                 |                 |                     | 0                         |
| F         | 85015              | 2.73               | 1.74                                 | 500             | 125                 | 296887.5                  |
| F         | 85016              | 2.13               | 1.74                                 | 155             | 125                 | 71807.625                 |
| E         | 85015              | 0.95               | 1.56                                 | 525             | 125                 | 97256.25                  |
| E         | 85016              | 2.22               | 1.56                                 | 155             | 125                 | 67099.5                   |
| D         | 85016              | 2.41               | 1.74                                 | 155             | 125                 | 81247.125                 |
| C         | 85016              | 0                  | 1.49                                 | 155             | 0                   | 0                         |
| B         | 85016              | 0                  | 1.67                                 | 155             |                     | 0                         |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 1371402.0625

SEAM TOTALS:

|          |             |
|----------|-------------|
| K:       | 0           |
| J:       | 0           |
| I:       | 445227.8125 |
| H:       | 275550      |
| Ph:      | 0           |
| G:       | 27551.25    |
| G-lower: | 8775        |
| F/G:     | 0           |
| F:       | 368695.125  |
| E:       | 164355.75   |
| D:       | 81247.125   |

1371402.0625

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3625 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| I            | 85018                    | 2.61                     | 1.55                                       | 275                   | 125                       | 139064.0625                  |
| I            | 85021                    | 1.61                     | 1.55                                       | 62.5                  | 125                       | 19496.09375                  |
| H            | 85021                    | 5.55                     | 1.67                                       | 175                   | 125                       | 202748.4375                  |
| H            | 85018                    | 3.63                     | 1.67                                       | 260                   | 125                       | 197018.25                    |
| F            | 85018                    | 6.02                     | 1.74                                       | 262.5                 | 125                       | 343704.375                   |
| F            | 85021                    | 3.43                     | 1.74                                       | 200                   | 125                       | 149205                       |
| E            | 85021                    | 1.81                     | 1.56                                       | 200                   | 125                       | 70590                        |
| D            | 85018                    | 1.89                     | 1.74                                       | 275                   | 125                       | 113045.625                   |

0

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 1234871.8438

SEAM TOTALS:

I: 158560.15625  
 H: 399766.6875  
 F: 492909.375  
 E: 70590  
 D: 113045.625  
 -----  
 1234871.8438



LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3875 N  
 RESOURCE TYPE : MEASURED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| PH           | 85021                    | 0                        | 1.78                                       | 21                    | 80                        | 0                            |
| G            | 85021                    | 0                        | 1.8  | 21                    | 125                       | 0                            |
| F            | 85021                    | 3.43                     | 1.74                                       | 21                    | 125                       | 15666.525                    |
| E            | 85021                    | 1.81                     | 1.56                                       | 21                    | 125                       | 7411.95                      |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 23078.475

SEAM TOTALS:

|     |           |
|-----|-----------|
| Ph: | 0         |
| G:  | 0         |
| F:  | 15666.525 |
| E:  | 7411.95   |
|     | -----     |
|     | 23078.475 |

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1000 N  
 RESOURCE TYPE : INDICATED

| SEAM NAME | DIAMOND DRILL HOLE | SEAM THICKNESS (m) | SPECIFIC GRAVITY (t/m <sup>3</sup> ) | SEAM LENGTH (m) | WIDTH INFLUENCE (m) | TOTAL TONNES SEAMS >=0.5m |
|-----------|--------------------|--------------------|--------------------------------------|-----------------|---------------------|---------------------------|
| N         | 86037              | 0                  | 1.67                                 | 135             |                     | 0                         |
| N         | 85027              | 2.17               | 1.67                                 | 25              | 62                  | 5617.045                  |
| N         | 85027              | 2.17               | 1.67                                 | 35              | 30                  | 3805.095                  |
| N         | 85027              | 2.17               | 1.67                                 | 260             | 62                  | 58417.268                 |
| M         | 86037              | 4.7                | 1.76                                 | 140             | 62                  | 71800.96                  |
| M         | 85027              | 1.2                | 1.76                                 | 70              | 62                  | 9166.08                   |
| M         | 85027              | 1.2                | 1.76                                 | 60              | 30                  | 3801.6                    |
| M         | 85027              | 1.2                | 1.76                                 | 260             | 62                  | 34045.44                  |
| L         | 86037              | 2.34               | 1.67                                 | 170             | 62                  | 41188.212                 |
| L         | 85027              | 1.62               | 1.67                                 | 145             | 62                  | 24321.546                 |
| L         | 85027              | 1.62               | 1.67                                 | 50              | 30                  | 4058.1                    |
| L         | 85027              | 1.62               | 1.67                                 | 260             | 62                  | 43611.048                 |
| L         | 86035              | 3.35               | 1.67                                 | 280             | 62                  | 97120.52                  |
| K/L       | 86037              | 0.66               | 1.79                                 | 315             | 62                  | 23072.742                 |
| K         | 85027              | 1.08               | 1.66                                 | 260             | 62                  | 28899.936                 |
| K         | 86035              | 8.35               | 1.66                                 | 280             | 62                  | 240626.96                 |
| I         | 85027              | 5.03               | 1.55                                 | 260             | 62                  | 125679.58                 |
| I         | 86035              | 1.23               | 1.55                                 | 280             | 62                  | 33096.84                  |
| H         | 85027              | 2.25               | 1.67                                 | 260             | 62                  | 60570.9                   |
| H         | 86035              | 1.16               | 1.67                                 | 270             | 62                  | 32428.728                 |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 941328.6

SEAM TOTALS:

|      |            |
|------|------------|
| N:   | 67839.408  |
| M:   | 118814.08  |
| L:   | 210299.426 |
| K/L: | 23072.742  |
| K:   | 269526.896 |
| I:   | 158776.42  |
| H:   | 92999.628  |

941328.6

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1250 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| N            | 85027                    | 2.17                     | 1.67                                       | 23                    | 110                       | 9168.467                     |
| M            | 86033                    | 9.86                     | 1.76                                       | 345                   | 125                       | 748374                       |
| M            | 86022                    | 1.52                     | 1.76                                       | 15                    | 125                       | 5016                         |
| L            | 86035                    | 3.35                     | 1.67                                       | 100                   | 125                       | 69931.25                     |
| L            | 86033                    | 2.45                     | 1.67                                       | 275                   | 125                       | 140645.3125                  |
| L            | 85027                    | 1.62                     | 1.67                                       | 33                    | 125                       | 11159.775                    |
| L            | 86022                    | 2.39                     | 1.67                                       | 150                   | 125                       | 74836.875                    |
| K/L          | 86035                    | 1.42                     | 1.79                                       | 30                    | 125                       | 9531.75                      |
| K/L          | 86022                    | 4.3                      | 1.79                                       | 375                   | 125                       | 360796.875                   |
| K            | 86035                    | 8.35                     | 1.66                                       | 215                   | 125                       | 372514.375                   |
| K            | 86033                    | 5.05                     | 1.66                                       | 197                   | 125                       | 206431.375                   |
| K            | 86013                    | 4.76                     | 1.66                                       | 270                   | 125                       | 266679                       |
| K            | 85027                    | 1.08                     | 1.66                                       | 210                   | 125                       | 47061                        |
| K            | 86022                    | 1.92                     | 1.66                                       | 565                   | 125                       | 225096                       |
| J            | 86034                    | 0.75                     | 1.61                                       | 47                    | 125                       | 7094.0625                    |
| J            | 86013                    | 0.61                     | 1.61                                       | 500                   | 125                       | 61381.25                     |
| I            | 86035                    | 1.23                     | 1.55                                       | 300                   | 125                       | 71493.75                     |
| I            | 86034                    | 5.09                     | 1.55                                       | 47                    | 125                       | 46350.8125                   |
| I            | 86013                    | 6.98                     | 1.55                                       | 480                   | 125                       | 649140                       |
| I            | 85027                    | 5.03                     | 1.55                                       | 160                   | 125                       | 155930                       |
| I            | 86022                    | 1.14                     | 1.55                                       | 305                   | 125                       | 67366.875                    |
| I            | 86022                    | 4.54                     | 1.55                                       | 180                   | 125                       | 158332.5                     |
| H/I          | 86035                    | 0.77                     | 1.67                                       | 98                    | 125                       | 15752.275                    |
| H            | 86035                    | 1.16                     | 1.67                                       | 320                   | 125                       | 77488                        |
| H            | 85027                    | 2.25                     | 1.67                                       | 328                   | 125                       | 154057.5                     |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 4011629.0795

SEAM TOTALS:

N: 9168.467  
 M: 753390  
 L: 296573.2125  
 K/L: 370328.625  
 K: 1117781.75  
 J: 68475.3125

continued on next page

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1375 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| P            | 86025                    | 0.92                     | 1.67                                       | 115                   | 125                       | 22085.75                     |
| N            | 86025                    | 1.05                     | 1.67                                       | 20                    | 125                       | 4383.75                      |
| M            | 86033                    | 3.55                     | 1.76                                       | 60                    | 125                       | 46860                        |
| L            | 86022                    | 2.39                     | 1.67                                       | 30                    | 125                       | 14967.375                    |
| L            | 86015                    | 1.24                     | 1.67                                       | 55                    | 125                       | 14236.75                     |
| L            | 86033                    | 2.45                     | 1.67                                       | 55                    | 125                       | 28129.0625                   |
| L            | 86033                    | 2.45                     | 1.67                                       | 90                    | 125                       | 46029.375                    |
| L            | 86035                    | 1.42                     | 1.67                                       | 55                    | 125                       | 16303.375                    |
| K/L          | 86022                    | 4.3                      | 1.79                                       | 110                   | 125                       | 105833.75                    |
| K/L          | 86022                    | 4.3                      | 1.79                                       | 20                    | 125                       | 19242.5                      |
| K/L          | 86019                    | 4.43                     | 1.79                                       | 50                    | 125                       | 49560.625                    |
| K/L          | 86015                    | 0.5                      | 1.79                                       | 55                    | 100                       | 4922.5                       |
| K/L          | 86033                    | 2.11                     | 1.79                                       | 160                   | 100                       | 60430.4                      |
| K/L          | 86034                    | 3.84                     | 1.79                                       | 10                    | 100                       | 6873.6                       |
| K/L          | 86035                    | 1.42                     | 1.79                                       | 5                     | 100                       | 1270.9                       |
| K            | 86021                    | 1.15                     | 1.66                                       | 10                    | 125                       | 2386.25                      |
| K            | 86022                    | 1.92                     | 1.66                                       | 155                   | 125                       | 61752                        |
| K            | 86022                    | 1.92                     | 1.66                                       | 35                    | 125                       | 13944                        |
| K            | 86022                    | 1.92                     | 1.66                                       | 90                    | 125                       | 35856                        |
| K            | 86019                    | 4.43                     | 1.66                                       | 100                   | 125                       | 91922.5                      |
| K            | 86019                    | 4.43                     | 1.66                                       | 160                   | 125                       | 147076                       |
| K            | 86013                    | 4.76                     | 1.66                                       | 155                   | 125                       | 153093.5                     |
| K            | 86033                    | 5.03                     | 1.66                                       | 10                    | 125                       | 10437.25                     |
| K            | 86034                    | 6.5                      | 1.66                                       | 10                    | 125                       | 13487.5                      |
| K            | 86035                    | 8.35                     | 1.66                                       | 110                   | 125                       | 190588.75                    |
| K            | 86036                    | 1.86                     | 1.66                                       | 75                    | 125                       | 28946.25                     |
| J            | 86025                    | 0                        | 1.61                                       | 210                   |                           | 0                            |
| J            | 86021                    | 0                        | 1.61                                       | 5                     |                           | 0                            |
| J            | 86022                    | 0                        | 1.61                                       | 275                   |                           | 0                            |
| J            | 86022                    | 0                        | 1.61                                       | 140                   |                           | 0                            |
| J            | 86019                    | 0                        | 1.61                                       | 150                   |                           | 0                            |
| J            | 86019                    | 0                        | 1.61                                       | 160                   |                           | 0                            |
| J            | 86013                    | 0.61                     | 1.61                                       | 285                   | 125                       | 34987.3125                   |
| J            | 86034                    | 0.75                     | 1.61                                       | 145                   | 125                       | 21885.9375                   |
| J            | 86035                    | 0                        | 1.61                                       | 110                   |                           | 0                            |
| J            | 86036                    | 0.99                     | 1.61                                       | 290                   | 125                       | 57778.875                    |
| I            | 86025                    | 2.9                      | 1.55                                       | 210                   | 125                       | 117993.75                    |
| I            | 86025                    | 4.74                     | 1.55                                       | 110                   | 125                       | 101021.25                    |
| I            | 86021                    | 4.55                     | 1.55                                       | 5                     | 125                       | 4407.8125                    |
| I            | 86021                    | 4.6                      | 1.55                                       | 5                     | 125                       | 4456.25                      |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1500 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| P            | 86025                    | 0.92                     | 1.67                                       | 31                    | 65                        | 3095.846                     |
| P            | 86025                    | 0.92                     | 1.67                                       | 203                   | 125                       | 38986.15                     |
| O            | 86025                    | 1.85                     | 1.72                                       | 203                   | 125                       | 80743.25                     |
| N            | 86025                    | 1.05                     | 1.67                                       | 203                   | 125                       | 44495.0625                   |
| N            | 85027                    | 2.17                     | 1.67                                       | 22                    | 80                        | 6378.064                     |
| M            | 86033                    | 3.55                     | 1.76                                       | 171                   | 125                       | 133551                       |
| L            | 86015                    | 1.24                     | 1.67                                       | 356                   | 125                       | 92150.6                      |
| L            | 86033                    | 2.45                     | 1.67                                       | 339                   | 125                       | 173377.3125                  |
| K/L          | 86022                    | 4.3                      | 1.79                                       | 68                    | 125                       | 65426.5                      |
| K/L          | 86015                    | 0.5                      | 1.79                                       | 155                   | 125                       | 17340.625                    |
| K/L          | 86011                    | 1.7                      | 1.79                                       | 45                    | 125                       | 17116.875                    |
| K/L          | 86033                    | 2.11                     | 1.79                                       | 227                   | 125                       | 107169.5375                  |
| K/L          | 86034                    | 3.84                     | 1.79                                       | 37                    | 125                       | 31790.4                      |
| K            | 86021                    | 1.15                     | 1.66                                       | 216                   | 125                       | 51543                        |
| K            | 86022                    | 1.92                     | 1.66                                       | 38                    | 125                       | 15139.2                      |
| K            | 86019                    | 3.33                     | 1.66                                       | 243                   | 125                       | 167906.925                   |
| K            | 86015                    | 3.98                     | 1.66                                       | 228                   | 125                       | 188293.8                     |
| K            | 86013                    | 0.61                     | 1.66                                       | 57                    | 125                       | 7214.775                     |
| K            | 86033                    | 5.03                     | 1.66                                       | 138                   | 125                       | 144034.05                    |
| K            | 86034                    | 6.5                      | 1.66                                       | 50                    | 125                       | 67437.5                      |
| K            | 86036                    | 1.86                     | 1.66                                       | 13                    | 125                       | 5017.35                      |
| J            | 86025                    | 0                        | 1.61                                       | 221                   | 125                       | 0                            |
| J            | 86021                    | 0                        | 1.61                                       | 405                   | 125                       | 0                            |
| J            | 86019                    | 0                        | 1.61                                       | 266                   | 125                       | 0                            |
| J            | 86022                    | 0                        | 1.61                                       | 242                   | 125                       | 0                            |
| J            | 86019                    | 0                        | 1.61                                       | 254                   | 125                       | 0                            |
| J            | 86013                    | 0.61                     | 1.61                                       | 265                   | 125                       | 32532.0625                   |
| J            | 86034                    | 0.75                     | 1.61                                       | 110                   | 125                       | 16603.125                    |
| J            | 86036                    | 0.99                     | 1.61                                       | 63                    | 125                       | 12551.9625                   |
| I            | 86025                    | 2.9                      | 1.55                                       | 145                   | 125                       | 81471.875                    |
| I            | 86021                    | 4.55                     | 1.55                                       | 107                   | 125                       | 94327.1875                   |
| I            | 86025                    | 4.74                     | 1.55                                       | 179                   | 125                       | 164389.125                   |
| I            | 86021                    | 4.6                      | 1.55                                       | 362                   | 125                       | 322632.5                     |
| I            | 86022                    | 1.14                     | 1.55                                       | 232                   | 125                       | 51243                        |
| I            | 86019                    | 6.95                     | 1.55                                       | 80                    | 125                       | 107725                       |
| I            | 85026                    | 5.68                     | 1.55                                       | 165                   | 125                       | 181582.5                     |
| I            | 86013                    | 6.98                     | 1.55                                       | 265                   | 125                       | 358379.375                   |
| I            | 86034                    | 5.09                     | 1.55                                       | 110                   | 125                       | 108480.625                   |
| I            | 86036                    | 5.16                     | 1.55                                       | 25                    | 125                       | 24993.75                     |
| I            | 87004                    | 3.82                     | 1.55                                       | 210                   | 125                       | 155426.25                    |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1625 W

RESOURCE TYPE :INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| P            | 86025                    | 0.92                     | 1.67                                       | 146                   | 125                       | 28039.3                      |
| O            | 86025                    | 1.85                     | 1.72                                       | 148                   | 125                       | 58867                        |
| N            | 86025                    | 1.05                     | 1.67                                       | 170                   | 125                       | 37261.875                    |
| M            | 86033                    | 9.86                     | 1.76                                       | 88                    | 125                       | 190889.6                     |
| L            | 86011                    | 4.91                     | 1.67                                       | 112                   | 125                       | 114795.8                     |
| L            | 86015                    | 1.24                     | 1.67                                       | 321                   | 120.5                     | 80099.5794                   |
| K/L          | 86011                    | 1.7                      | 1.79                                       | 25                    | 125                       | 9509.375                     |
| K/L          | 86015                    | 0.5                      | 1.79                                       | 170                   | 125                       | 19018.75                     |
| K/L          | 86034                    | 3.84                     | 1.79                                       | 80                    | 125                       | 68736                        |
| K            | 86013                    | 4.76                     | 1.66                                       | 282                   | 125                       | 278531.4                     |
| K            | 86015                    | 3.98                     | 1.66                                       | 309                   | 125                       | 255187.65                    |
| K            | 86016                    | 2.62                     | 1.66                                       | 70                    | 34.5                      | 10503.318                    |
| K            | 86016                    | 2.62                     | 1.66                                       | 456                   | 125                       | 247904.4                     |
| K            | 86021                    | 1.15                     | 1.66                                       | 152                   | 125                       | 36271                        |
| K            | 86034                    | 6.5                      | 1.66                                       | 364                   | 125                       | 490945                       |
| K            | 86036                    | 1.86                     | 1.66                                       | 80                    | 125                       | 30876                        |
| J            | 86013                    | 0.61                     | 1.61                                       | 608                   | 125                       | 74639.6                      |
| J            | 86034                    | 0.75                     | 1.61                                       | 333                   | 125                       | 50262.1875                   |
| J            | 86036                    | 0.99                     | 1.61                                       | 251                   | 125                       | 50008.6125                   |
| I            | 85026                    | 5.68                     | 1.55                                       | 229                   | 125                       | 252014.5                     |
| I            | 86013                    | 6.98                     | 1.55                                       | 653                   | 125                       | 883100.875                   |
| I            | 86019                    | 6.95                     | 1.55                                       | 274                   | 125                       | 368958.125                   |
| I            | 86021                    | 4.6                      | 1.55                                       | 118                   | 125                       | 105167.5                     |
| I            | 86025                    | 2.9                      | 1.55                                       | 457                   | 125                       | 256776.875                   |
| I            | 86034                    | 5.09                     | 1.55                                       | 397                   | 125                       | 391516.4375                  |
| I            | 86036                    | 5.16                     | 1.55                                       | 70                    | 125                       | 69982.5                      |
| I            | 87004                    | 3.82                     | 1.55                                       | 101                   | 125                       | 74752.625                    |
| I            | 87006                    | 1.83                     | 1.55                                       | 240                   | 125                       | 85095                        |
| H            | 85025                    | 3.72                     | 1.67                                       | 115                   | 125                       | 89303.25                     |
| H            | 85026                    | 3.43                     | 1.67                                       | 293                   | 125                       | 209791.6625                  |
| H            | 85028                    | 4.08                     | 1.67                                       | 430                   | 125                       | 366231                       |
| H            | 86030                    | 2.98                     | 1.67                                       | 215                   | 125                       | 133746.125                   |
| H            | 87001                    | 5.43                     | 1.67                                       | 252                   | 125                       | 285645.15                    |
| H            | 87003                    | 3.55                     | 1.67                                       | 158                   | 125                       | 117087.875                   |
| H            | 87004                    | 1.9                      | 1.67                                       | 112                   | 125                       | 44422                        |
| H            | 87006                    | 1.28                     | 1.67                                       | 219                   | 125                       | 58516.8                      |
| PH           | 87004                    | 1.43                     | 1.78                                       | 361                   | 125                       | 114861.175                   |

seams >=0.5m

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1750 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 86025                    | 1.85                     | 1.72                                       | 180                   | 125                       | 71595                        |
| N            | 86025                    | 1.05                     | 1.67                                       | 180                   | 125                       | 39453.75                     |
| L            | 86011                    | 4.91                     | 1.67                                       | 58                    | 125                       | 59447.825                    |
| L            | 86014                    | 3.05                     | 1.67                                       | 185                   | 125                       | 117787.1875                  |
| L            | 86015                    | 1.24                     | 1.67                                       | 244                   | 125                       | 63159.4                      |
| K/L          | 86027                    | 5.8                      | 1.79                                       | 195                   | 125                       | 253061.25                    |
| K/L          | 86027                    | 5.8                      | 1.79                                       | 55                    | 106.5                     | 60812.565                    |
| K/L          | 87023                    | 1.55                     | 1.79                                       | 415                   | 125                       | 143927.1875                  |
| K            | 86014                    | 2.58                     | 1.66                                       | 392                   | 125                       | 209857.2                     |
| K            | 86015                    | 3.98                     | 1.66                                       | 481                   | 125                       | 397233.85                    |
| K            | 86016                    | 2.62                     | 1.66                                       | 50                    | 125                       | 27182.5                      |
| K            | 86016                    | 2.62                     | 1.66                                       | 15                    | 68.5                      | 4468.803                     |
| K            | 86021                    | 1.15                     | 1.66                                       | 245                   | 125                       | 58463.125                    |
| K            | 86027                    | 2.77                     | 1.66                                       | 208                   | 125                       | 119553.2                     |
| K            | 86034                    | 6.5                      | 1.66                                       | 80                    | 125                       | 107900                       |
| J            | 86010                    | 1.08                     | 1.61                                       | 350                   | 125                       | 76072.5                      |
| J            | 86030                    | 0.82                     | 1.61                                       | 190                   | 125                       | 31354.75                     |
| I            | 85022                    | 4.69                     | 1.55                                       | 42                    | 125                       | 38164.875                    |
| I            | 85025                    | 4.42                     | 1.55                                       | 248                   | 125                       | 212381                       |
| I            | 85026                    | 5.68                     | 1.55                                       | 148                   | 125                       | 162874                       |
| I            | 85028                    | 4.74                     | 1.55                                       | 503                   | 125                       | 461942.625                   |
| I            | 86009                    | 5.8                      | 1.55                                       | 312                   | 125                       | 350610                       |
| I            | 86010                    | 5.15                     | 1.55                                       | 370                   | 125                       | 369190.625                   |
| I            | 86021                    | 4.55                     | 1.55                                       | 80                    | 125                       | 70525                        |
| I            | 86021                    | 4.6                      | 1.55                                       | 84                    | 125                       | 74865                        |
| I            | 86025                    | 2.9                      | 1.55                                       | 113                   | 125                       | 63491.875                    |
| I            | 86030                    | 5.59                     | 1.55                                       | 197                   | 125                       | 213363.3125                  |
| I            | 87001                    | 2.09                     | 1.55                                       | 20                    | 125                       | 8098.75                      |
| I            | 87003                    | 5.52                     | 1.55                                       | 11                    | 125                       | 11764.5                      |
| I            | 87006                    | 1.83                     | 1.55                                       | 150                   | 125                       | 53184.375                    |
| I            | 87016                    | 4.92                     | 1.55                                       | 83                    | 125                       | 79119.75                     |
| H/I          | 87003                    | 1.8                      | 1.67                                       | 27                    | 125                       | 10145.25                     |
| H/I          | 87006                    | 2.25                     | 1.67                                       | 235                   | 125                       | 110376.5625                  |
| H            | 85022                    | 3.85                     | 1.67                                       | 132                   | 125                       | 106086.75                    |
| H            | 85025                    | 3.72                     | 1.67                                       | 215                   | 125                       | 166958.25                    |
| H            | 85026                    | 3.43                     | 1.67                                       | 158                   | 125                       | 113129.975                   |
| H            | 85028                    | 4.08                     | 1.67                                       | 478                   | 125                       | 407112.6                     |
| H            | 86009                    | 9.01                     | 1.67                                       | 323                   | 125                       | 607510.5125                  |
| H            | 86010                    | 3.91                     | 1.67                                       | 338                   | 125                       | 275879.825                   |
| H            | 86030                    | 2.98                     | 1.67                                       | 199                   | 125                       | 123792.925                   |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1875 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 86027                    | 2.98                     | 1.72                                       | 30                    | 125                       | 19221                        |
| O            | 86012                    | 1.02                     | 1.72                                       | 14                    | 125                       | 3070.2                       |
| O            | 86012                    | 1.46                     | 1.72                                       | 195                   | 125                       | 61210.5                      |
| N            | 86027                    | 1.81                     | 1.67                                       | 120                   | 125                       | 45340.5                      |
| N            | 86012                    | 1.42                     | 1.67                                       | 31                    | 75                        | 5513.505                     |
| N            | 86012                    | 1.42                     | 1.67                                       | 287                   | 125                       | 85073.975                    |
| N            | 86012                    | 1.42                     | 1.67                                       | 21                    | 125                       | 6224.925                     |
| L            | 86014                    | 3.05                     | 1.67                                       | 208                   | 125                       | 132431                       |
| L            | 86015                    | 1.24                     | 1.67                                       | 326                   | 125                       | 84385.1                      |
| L            | 86011                    | 4.91                     | 1.67                                       | 190                   | 125                       | 194742.875                   |
| K/L          | 87023                    | 1.55                     | 1.79                                       | 330                   | 125                       | 114448.125                   |
| K/L          | 87005                    | 4.43                     | 1.79                                       | 17                    | 125                       | 16850.6125                   |
| K            | 87005                    | 8.06                     | 1.66                                       | 120                   | 125                       | 200694                       |
| K            | 86009                    | 0                        | 1.66                                       | 577                   | 125                       | 0                            |
| K            | 86014                    | 2.58                     | 1.66                                       | 218                   | 125                       | 116706.3                     |
| K            | 86027                    | 2.77                     | 1.66                                       | 250                   | 125                       | 143693.75                    |
| J            | 86027                    | 0                        | 1.61                                       | 422                   | 125                       | 0                            |
| J            | 86021                    | 0                        | 1.61                                       | 125                   | 125                       | 0                            |
| J            | 85029                    | 0                        | 1.61                                       | 242                   | 125                       | 0                            |
| J            | 87016                    | 0                        | 1.61                                       | 98                    | 125                       | 0                            |
| J            | 86009                    | 0                        | 1.61                                       | 195                   | 125                       | 0                            |
| J            | 86010                    | 1.08                     | 1.61                                       | 66                    | 125                       | 14345.1                      |
| J            | 86030                    | 0.82                     | 1.61                                       | 57                    | 125                       | 9406.425                     |
| J            | 87005                    | 0                        | 1.61                                       | 217                   | 125                       | 0                            |
| I            | 86027                    | 0.95                     | 1.55                                       | 263                   | 125                       | 48408.4375                   |
| I            | 85028                    | 4.74                     | 1.55                                       | 401                   | 125                       | 368268.375                   |
| I            | 86018                    | 1.62                     | 1.55                                       | 42                    | 125                       | 13182.75                     |
| I            | 85025                    | 4.42                     | 1.55                                       | 20                    | 125                       | 17127.5                      |
| I            | 87016                    | 4.92                     | 1.55                                       | 197                   | 125                       | 187790.25                    |
| I            | 86009                    | 5.8                      | 1.55                                       | 227                   | 125                       | 255091.25                    |
| I            | 86010                    | 5.15                     | 1.55                                       | 71                    | 125                       | 70844.6875                   |
| I            | 86030                    | 5.59                     | 1.55                                       | 15                    | 125                       | 16245.9375                   |
| I            | 87001                    | 2.09                     | 1.55                                       | 12                    | 125                       | 4859.25                      |
| I            | 87003                    | 5.52                     | 1.55                                       | 5                     | 125                       | 5347.5                       |
| I            | 87006                    | 1.83                     | 1.55                                       | 312                   | 125                       | 110623.5                     |
| PH           | 85028                    | 0                        | 1.78                                       | 580                   | 125                       | 0                            |
| PH           | 85022                    | 0                        | 1.78                                       | 151                   | 125                       | 0                            |
| PH           | 86030                    | 0                        | 1.78                                       | 328                   | 125                       | 0                            |
| H/I          | 87006                    | 2.25                     | 1.67                                       | 313                   | 125                       | 147012.1875                  |
| H            | 85028                    | 4.08                     | 1.67                                       | 336                   | 125                       | 286171.2                     |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2000 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 86012                    | 1.46                     | 1.72                                       | 5                     | 125                       | 1569.5                       |
| N            | 86012                    | 1.42                     | 1.67                                       | 156                   | 125                       | 46242.3                      |
| L            | 86014                    | 3.05                     | 1.67                                       | 254                   | 125                       | 161718.625                   |
| K/L          | 86027                    | 5.8                      | 1.79                                       | 255                   | 125                       | 330926.25                    |
| K/L          | 86004                    | 3.76                     | 1.79                                       | 138                   | 125                       | 116099.4                     |
| K/L          | 87005                    | 4.43                     | 1.79                                       | 272                   | 125                       | 269609.8                     |
| K/L          | 87023                    | 1.55                     | 1.79                                       | 366                   | 125                       | 126933.375                   |
| K            | 86029                    | 2.96                     | 1.66                                       | 47                    | 125                       | 28867.4                      |
| K            | 86027                    | 2.77                     | 1.66                                       | 207                   | 125                       | 118978.425                   |
| K            | 87007                    | 6.01                     | 1.66                                       | 52                    | 125                       | 64847.9                      |
| K            | 84006                    | 2.88                     | 1.66                                       | 26                    | 90                        | 11187.072                    |
| K            | 86014                    | 2.58                     | 1.66                                       | 150                   | 125                       | 80302.5                      |
| K            | 86009                    | 0                        | 1.66                                       | 477                   | 125                       | 0                            |
| K            | 87005                    | 8.06                     | 1.66                                       | 60                    | 110                       | 88305.36                     |
| K            | 87005                    | 8.06                     | 1.66                                       | 424                   | 125                       | 709118.8                     |
| J            | 86027                    | 0                        | 1.61                                       | 513                   | 125                       | 0                            |
| J            | 87016                    | 0                        | 1.61                                       | 98                    | 125                       | 0                            |
| J            | 84006                    | 3.56                     | 1.61                                       | 425                   | 125                       | 304491.25                    |
| J            | 86009                    | 0                        | 1.61                                       | 160                   | 125                       | 0                            |
| J            | 86009                    | 0                        | 1.61                                       | 117                   | 125                       | 0                            |
| J            | 86007                    | 5.57                     | 1.61                                       | 19                    | 125                       | 21298.2875                   |
| J            | 86010                    | 1.08                     | 1.61                                       | 45                    | 125                       | 9780.75                      |
| J            | 86030                    | 0.82                     | 1.61                                       | 61                    | 125                       | 10066.525                    |
| J            | 87005                    | 0                        | 1.61                                       | 559                   | 125                       | 0                            |
| I            | 86031                    | 4.5                      | 1.55                                       | 90                    | 125                       | 78468.75                     |
| I            | 86029                    | 4.42                     | 1.55                                       | 34                    | 125                       | 29116.75                     |
| I            | 86027                    | 0.95                     | 1.55                                       | 345                   | 125                       | 63501.5625                   |
| I            | 87007                    | 2.23                     | 1.55                                       | 290                   | 125                       | 125298.125                   |
| I            | 86018                    | 1.62                     | 1.55                                       | 32                    | 125                       | 10044                        |
| I            | 86017                    | 5.16                     | 1.55                                       | 75                    | 125                       | 74981.25                     |
| I            | 84006                    | 6.67                     | 1.55                                       | 288                   | 125                       | 372186                       |
| I(O/T)       | 84006                    | 6.67                     | 1.55                                       | 142                   | 125                       | 183508.375                   |
| I            | 86009                    | 5.8                      | 1.55                                       | 161                   | 125                       | 180923.75                    |
| I            | 86007                    | 5.57                     | 1.55                                       | 19                    | 125                       | 20504.5625                   |
| I            | 86010                    | 5.15                     | 1.55                                       | 45                    | 125                       | 44901.5625                   |
| I            | 86030                    | 5.59                     | 1.55                                       | 61                    | 125                       | 66066.8125                   |
| I            | 87002                    | 7.97                     | 1.55                                       | 21                    | 125                       | 32427.9375                   |
| I            | 87005                    | 3.44                     | 1.55                                       | 332                   | 125                       | 221278                       |
| I(O/T)       | 87005                    | 3.44                     | 1.55                                       | 55                    | 125                       | 36657.5                      |
| H/I          | 87002                    | 0                        | 1.67                                       | 111                   | 125                       | 0                            |

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K/L: 843568.825  
K: 1101607.457  
J: 345636.8125  
I: 1539864.9375  
H/I: 0  
H: 1308125.6125  
Ph: 381852.275  
G: 341309.25  
F: 10705.35

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6082200.9445

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2125 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 86012                    | 1.46                     | 1.72                                       | 80                    | 125                       | 25112                        |
| O(O/T)       | 86012                    | 1.02                     | 1.72                                       | 58                    | 125                       | 12719.4                      |
| N            | 86012                    | 1.42                     | 1.67                                       | 307                   | 125                       | 91002.475                    |
| M            | 85023                    | 3.44                     | 1.76                                       | 117                   | 125                       | 88545.6                      |
| M(O/T)       | 85023                    | 3.44                     | 1.76                                       | 117                   | 125                       | 88545.6                      |
| M            | 85005                    | 2.93                     | 1.76                                       | 112                   | 125                       | 72195.2                      |
| M(O/T)       | 85005                    | 3.94                     | 1.76                                       | 61                    | 125                       | 52874.8                      |
| M            | 85010                    | 4.6                      | 1.76                                       | 341                   | 125                       | 345092                       |
| L            | 86014                    | 3.05                     | 1.67                                       | 411                   | 125                       | 261678.5625                  |
| L            | 85010                    | 1.81                     | 1.67                                       | 380                   | 125                       | 143578.25                    |
| K/L          | 86027                    | 5.8                      | 1.79                                       | 183                   | 120                       | 227988.72                    |
| K/L          | 86027                    | 5.8                      | 1.79                                       | 150                   | 60                        | 93438                        |
| K/L          | 87005                    | 4.43                     | 1.79                                       | 115                   | 125                       | 113989.4375                  |
| K            | 86029                    | 2.96                     | 1.66                                       | 152                   | 125                       | 93358.4                      |
| K            | 86029                    | 2.96                     | 1.66                                       | 101                   | 110                       | 54590.096                    |
| K            | 85023                    | 4.47                     | 1.66                                       | 231                   | 125                       | 214258.275                   |
| K            | 86014                    | 2.58                     | 1.66                                       | 276                   | 125                       | 147756.6                     |
| K            | 85010                    | 3.96                     | 1.66                                       | 238                   | 125                       | 195564.6                     |
| K            | 86004                    | 5.47                     | 1.66                                       | 173                   | 125                       | 196359.325                   |
| K            | 86009                    | 5.82                     | 1.66                                       | 137                   | 125                       | 165448.05                    |
| K            | 87005                    | 8.06                     | 1.66                                       | 191                   | 125                       | 319437.95                    |
| J            | 86027                    | 0                        | 1.61                                       | 397                   | 125                       | 0                            |
| J            | 84006                    | 3.56                     | 1.61                                       | 5                     | 90                        | 2579.22                      |
| J            | 84006                    | 3.56                     | 1.61                                       | 392                   | 125                       | 280848.4                     |
| J            | 86004                    | 0                        | 1.61                                       | 238                   | 125                       | 0                            |
| J            | 86009                    | 0                        | 1.61                                       | 51                    | 125                       | 0                            |
| J            | 86007                    | 0                        | 1.61                                       | 34                    | 125                       | 0                            |
| J            | 84007                    | 0                        | 1.61                                       | 110                   | 125                       | 0                            |
| J            | 87005                    | 0                        | 1.61                                       | 349                   | 125                       | 0                            |
| I            | 86031                    | 4.5                      | 1.55                                       | 300                   | 125                       | 261562.5                     |
| I            | 86029                    | 4.42                     | 1.55                                       | 147                   | 125                       | 125887.125                   |
| I            | 87007                    | 2.23                     | 1.55                                       | 117                   | 125                       | 50551.3125                   |
| I            | 86018                    | 1.62                     | 1.55                                       | 19                    | 125                       | 5963.625                     |
| I            | 85024                    | 6.45                     | 1.55                                       | 55                    | 125                       | 68732.8125                   |
| I            | 86017                    | 5.16                     | 1.55                                       | 21                    | 75                        | 12596.85                     |
| I(O/T)       | 84006                    | 5.04                     | 1.55                                       | 112                   | 125                       | 109368                       |
| I            | 84006                    | 6.67                     | 1.55                                       | 196                   | 125                       | 253293.25                    |
| I            | 86004                    | 5.28                     | 1.55                                       | 233                   | 125                       | 238359                       |
| I            | 86009                    | 5.8                      | 1.55                                       | 51                    | 125                       | 57311.25                     |
| I            | 86007                    | 5.57                     | 1.55                                       | 27                    | 125                       | 29138.0625                   |

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|       |              |
|-------|--------------|
| O:    | 37831.4      |
| N:    | 91002.475    |
| M:    | 647253.2     |
| L:    | 405256.8125  |
| K/L:  | 435416.1575  |
| K:    | 1386773.296  |
| J:    | 283427.62    |
| I:    | 1853332.2875 |
| H/I:  | 0            |
| H:    | 1795005.7625 |
| Ph:   | 824460.4     |
| G:    | 802930.5     |
| F:    | 115198.875   |
| ..... |              |
|       | 8677888.786  |

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2250 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 86012                    | 1.02                     | 1.72                                       | 83                    | 125                       | 18201.9                      |
| O            | 86012                    | 1.46                     | 1.72                                       | 72                    | 125                       | 22600.8                      |
| O            | 85005                    | 1.33                     | 1.72                                       | 94                    | 125                       | 26879.3                      |
| N            | 86012                    | 1.42                     | 1.67                                       | 134                   | 125                       | 39720.95                     |
| M            | 87028                    | 1.48                     | 1.76                                       | 170                   | 125                       | 55352                        |
| M            | 85010                    | 5.74                     | 1.76                                       | 114                   | 125                       | 143959.2                     |
| M            | 85005                    | 2.93                     | 1.76                                       | 137                   | 125                       | 88310.2                      |
| M            | 85023                    | 3.44                     | 1.76                                       | 231                   | 125                       | 174820.8                     |
| L            | 87028                    | 0.73                     | 1.67                                       | 161                   | 125                       | 24534.3875                   |
| L            | 85010                    | 1.81                     | 1.67                                       | 155                   | 125                       | 58564.8125                   |
| L            | 85005                    | 0.61                     | 1.67                                       | 124                   | 125                       | 15789.85                     |
| L            | 85023                    | 4.57                     | 1.67                                       | 225                   | 125                       | 214647.1875                  |
| K/L          | 87005                    | 4.43                     | 1.79                                       | 190                   | 125                       | 188330.375                   |
| K/L          | 86004                    | 2.04                     | 1.79                                       | 30                    | 125                       | 13693.5                      |
| K/L          | 86004                    | 3.76                     | 1.79                                       | 120                   | 125                       | 100956                       |
| K            | 87028                    | 2.25                     | 1.66                                       | 160                   | 125                       | 74700                        |
| K            | 87005                    | 8.06                     | 1.66                                       | 190                   | 125                       | 317765.5                     |
| K            | 86004                    | 5.47                     | 1.66                                       | 58                    | 125                       | 65831.45                     |
| K            | 85010                    | 3.96                     | 1.66                                       | 50                    | 125                       | 41085                        |
| K            | 85005                    | 3.73                     | 1.66                                       | 118                   | 125                       | 91329.05                     |
| K            | 85023                    | 4.47                     | 1.66                                       | 130                   | 125                       | 120578.25                    |
| J            | 84006                    | 3.56                     | 1.61                                       | 367                   | 125                       | 262937.15                    |
| I            | 87009                    | 4.79                     | 1.55                                       | 30                    | 125                       | 27841.875                    |
| I            | 87005                    | 3.44                     | 1.55                                       | 15                    | 125                       | 9997.5                       |
| I            | 87012                    | 1.51                     | 1.55                                       | 71                    | 125                       | 20771.9375                   |
| I            | 87008                    | 4.77                     | 1.55                                       | 35                    | 84                        | 21736.89                     |
| I            | 86032                    | 3.16                     | 1.55                                       | 37                    | 125                       | 22653.25                     |
| I            | 84007                    | 5.43                     | 1.55                                       | 85                    | 125                       | 89425.3125                   |
| I            | 86007                    | 5.57                     | 1.55                                       | 38                    | 125                       | 41009.125                    |
| I            | 85011                    | 1.75                     | 1.55                                       | 40                    | 125                       | 13562.5                      |
| I            | 86004                    | 5.28                     | 1.55                                       | 310                   | 125                       | 317130                       |
| I            | 84006                    | 6.67                     | 1.55                                       | 455                   | 125                       | 588002.1875                  |
| I            | 86029                    | 4.42                     | 1.55                                       | 136                   | 125                       | 116467                       |
| I            | 86031                    | 4.5                      | 1.55                                       | 120                   | 125                       | 104625                       |
| H            | 87026                    | 1.25                     | 1.67                                       | 210                   | 125                       | 54796.875                    |
| H            | 87027                    | 8.62                     | 1.67                                       | 185                   | 125                       | 332893.625                   |
| H            | 87005                    | 1.42                     | 1.67                                       | 15                    | 125                       | 4446.375                     |
| H            | 87012                    | 5.31                     | 1.67                                       | 193                   | 125                       | 213933.2625                  |
| H            | 87021                    | 3.82                     | 1.67                                       | 370                   | 125                       | 295047.25                    |
| H            | 86032                    | 4.92                     | 1.67                                       | 220                   | 125                       | 225951                       |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2375 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 85005                    | 1.33                     | 1.72                                       | 30                    | 125                       | 8578.5                       |
| N            | 87028                    | 0.88                     | 1.67                                       | 45                    | 125                       | 8266.5                       |
| M/N          | 87028                    | 0.88                     | 1.88                                       | 83                    | 125                       | 17164.4                      |
| M            | 87028                    | 1.48                     | 1.76                                       | 100                   | 125                       | 32560                        |
| M            | 85010                    | 5.74                     | 1.76                                       | 20                    | 125                       | 25256                        |
| M            | 85005                    | 3.94                     | 1.76                                       | 99                    | 125                       | 85813.2                      |
| L            | 87028                    | 0.73                     | 1.67                                       | 165                   | 125                       | 25143.9375                   |
| L            | 85010                    | 1.81                     | 1.67                                       | 125                   | 125                       | 47229.6875                   |
| L            | 85005                    | 0.61                     | 1.67                                       | 142                   | 125                       | 18081.925                    |
| K            | 87028                    | 2.25                     | 1.66                                       | 274                   | 125                       | 127923.75                    |
| K            | 87014                    | 4.76                     | 1.66                                       | 374                   | 125                       | 369399.8                     |
| K            | 86004                    | 5.47                     | 1.66                                       | 15                    | 125                       | 17025.375                    |
| K            | 85010                    | 3.96                     | 1.66                                       | 11                    | 125                       | 9038.7                       |
| K            | 85023                    | 4.47                     | 1.66                                       | 250                   | 125                       | 231881.25                    |
| J            | 84006                    | 3.56                     | 1.61                                       | 87                    | 125                       | 62331.15                     |
| I            | 87009                    | 4.79                     | 1.55                                       | 40                    | 125                       | 37122.5                      |
| I            | 87012                    | 1.51                     | 1.55                                       | 35                    | 125                       | 10239.6875                   |
| I            | 84007                    | 5.43                     | 1.55                                       | 38                    | 125                       | 39978.375                    |
| I            | 85011                    | 1.75                     | 1.55                                       | 30                    | 125                       | 10171.875                    |
| I            | 86004                    | 5.28                     | 1.55                                       | 150                   | 125                       | 153450                       |
| I            | 85017                    | 5.37                     | 1.55                                       | 80                    | 125                       | 83235                        |
| I            | 84006                    | 5.04                     | 1.55                                       | 90                    | 125                       | 87885                        |
| I            | 85009                    | 4.9                      | 1.55                                       | 245                   | 125                       | 232596.875                   |
| H            | 87026                    | 1.61                     | 1.67                                       | 130                   | 125                       | 43691.375                    |
| H            | 87026                    | 1.25                     | 1.67                                       | 279                   | 125                       | 72801.5625                   |
| H            | 87027                    | 8.62                     | 1.67                                       | 101                   | 125                       | 181741.925                   |
| H            | 87009                    | 2.77                     | 1.67                                       | 35                    | 125                       | 20238.3125                   |
| H            | 87012                    | 5.31                     | 1.67                                       | 205                   | 125                       | 227234.8125                  |
| H            | 84007                    | 3.98                     | 1.67                                       | 196                   | 125                       | 162841.7                     |
| H            | 86004                    | 7.1                      | 1.67                                       | 150                   | 125                       | 222318.75                    |
| H            | 85017                    | 4.67                     | 1.67                                       | 75                    | 125                       | 73114.6875                   |
| H            | 84006                    | 0.61                     | 1.67                                       | 754                   | 125                       | 96012.479                    |
| H            | 85006                    | 2.76                     | 1.67                                       | 50                    | 125                       | 28807.5                      |
| H            | 86031                    | 6.58                     | 1.67                                       | 30                    | 84                        | 27691.272                    |
| H            | 87011                    | 4.97                     | 1.67                                       | 65                    | 125                       | 67436.6875                   |
| H-1          | 87027                    | 1.31                     | 1.94                                       | 28                    | 125                       | 8894.9                       |
| PH           | 87026                    | 1.82                     | 1.78                                       | 405                   | 125                       | 164004.75                    |
| PH           | 87027                    | 0.97                     | 1.78                                       | 115                   | 125                       | 24819.875                    |
| PH           | 87009                    | 2.16                     | 1.78                                       | 150                   | 125                       | 72090                        |
| PH           | 84007                    | 2.98                     | 1.78                                       | 205                   | 125                       | 135925.25                    |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2500 N  
 RESOURCE TYPE :INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m3) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|-------------------------------|-----------------------|---------------------------|------------------------------|
| O            | 85005                    | 0.67                     | 1.72                          | 75                    | 125                       | 10803.75                     |
| O            | 85005                    | 1.33                     | 1.72                          | 25                    | 125                       | 7148.75                      |
| O            | 85005                    | 1.33                     | 1.72                          | 80                    | 125                       | 22876                        |
| O            | 85005                    | 1.33                     | 1.72                          | 60                    | 125                       | 17157                        |
| O            | 85005                    | 1.33                     | 1.72                          | 85                    | 125                       | 24305.75                     |
| O            | 85010                    | 0                        | 1.72                          | 40                    | 80                        | 0                            |
| O            | 87028                    | 1.49                     | 1.72                          | 150                   | 125                       | 48052.5                      |
| N            | 85003                    | 1.72                     | 1.67                          | 45                    | 125                       | 16157.25                     |
| N            | 85003                    | 1.44                     | 1.67                          | 10                    | 125                       | 3006                         |
| N            | 85005                    | 0                        | 1.67                          | 160                   | 125                       | 0                            |
| N            | 85005                    | 0                        | 1.67                          | 60                    | 125                       | 0                            |
| N            | 85005                    | 0                        | 1.67                          | 85                    | 125                       | 0                            |
| N            | 85010                    | 0                        | 1.67                          | 105                   | 125                       | 0                            |
| N            | 87028                    | 0.88                     | 1.67                          | 150                   | 125                       | 27555                        |
| M            | 85003                    | 5.3                      | 1.76                          | 230                   | 125                       | 268180                       |
| M            | 85005                    | 2.93                     | 1.76                          | 210                   | 125                       | 135366                       |
| M            | 85010                    | 4.6                      | 1.76                          | 220                   | 125                       | 222640                       |
| M            | 87028                    | 1.48                     | 1.76                          | 125                   | 125                       | 40700                        |
| M            | 87031                    | 2.08                     | 1.76                          | 115                   | 125                       | 52624                        |
| M/N          | 87028                    | 0.88                     | 1.88                          | 150                   | 125                       | 31020                        |
| L            | 85009                    | 4.46                     | 1.67                          | 220                   | 125                       | 204825.5                     |
| L            | 85005                    | 0.61                     | 1.67                          | 215                   | 125                       | 27377.5625                   |
| L            | 85010                    | 1.81                     | 1.67                          | 295                   | 125                       | 111462.0625                  |
| L            | 87028                    | 0.73                     | 1.67                          | 225                   | 125                       | 34287.1875                   |
| L            | 87031                    | 1.45                     | 1.67                          | 105                   | 125                       | 31782.1875                   |
| K            | 85009                    | 3.27                     | 1.66                          | 80                    | 125                       | 54282                        |
| K            | 85009                    | 2.81                     | 1.66                          | 90                    | 125                       | 52476.75                     |
| K            | 85005                    | 3.1                      | 1.66                          | 195                   | 125                       | 125433.75                    |
| K            | 85010                    | 3.96                     | 1.66                          | 295                   | 125                       | 242401.5                     |
| K            | 85011                    | 3.47                     | 1.66                          | 95                    | 125                       | 68402.375                    |
| K            | 87014                    | 1.87                     | 1.66                          | 45                    | 100                       | 13968.9                      |
| K            | 87028                    | 2.25                     | 1.66                          | 310                   | 125                       | 144731.25                    |
| K            | 87031                    | 4.17                     | 1.66                          | 85                    | 125                       | 73548.375                    |
| K/L          | 87028                    | 9.74                     | 1.79                          | 140                   | 125                       | 305105.5                     |
| K/L          | 87028                    | 9.74                     | 1.79                          | 125                   | 125                       | 272415.625                   |
| K/L          | 87031                    | 0.7                      | 1.79                          | 95                    | 125                       | 14879.375                    |
| I            | 85009                    | 4.9                      | 1.55                          | 15                    | 125                       | 14240.625                    |
| I            | 85009                    | 4.9                      | 1.55                          | 160                   | 125                       | 151900                       |
| I            | 85009                    | 4.9                      | 1.55                          | 150                   | 125                       | 142406.25                    |
| I            | 84008                    | 3.86                     | 1.55                          | 220                   | 125                       | 164532.5                     |

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|   |       |      |      |     |     |            |
|---|-------|------|------|-----|-----|------------|
| H | 84007 | 3.98 | 1.67 | 135 | 125 | 112161.375 |
| H | 87019 | 1.98 | 1.67 | 475 | 125 | 196329.375 |
| H | 87012 | 5.31 | 1.67 | 250 | 125 | 277115.625 |
| H | 87009 | 2.77 | 1.67 | 100 | 125 | 57823.75   |
| H | 87027 | 8.62 | 1.67 | 90  | 125 | 161948.25  |
| H | 87027 | 8.62 | 1.67 | 240 | 125 | 431862     |
| F | 85006 | 3.1  | 1.74 | 180 | 125 | 121365     |
| F | 85006 | 3.1  | 1.74 | 85  | 125 | 57311.25   |
| F | 85006 | 3.1  | 1.74 | 340 | 125 | 229245     |
| F | 85017 | 1.93 | 1.74 | 245 | 125 | 102844.875 |
| F | 84007 | 1.07 | 1.74 | 460 | 125 | 107053.5   |
| F | 87029 | 1.45 | 1.74 | 250 | 125 | 78843.75   |
| E | 85006 | 0.91 | 1.56 | 315 | 125 | 55896.75   |
| E | 85017 | 2.34 | 1.56 | 245 | 125 | 111793.5   |
| E | 84007 | 1    | 1.56 | 450 | 125 | 87750      |

.....  
seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 8317180.2175

SEAM TOTALS:

|      |             |
|------|-------------|
| O:   | 130343.75   |
| N:   | 46718.25    |
| M/N: | 31020       |
| M:   | 719510      |
| L:   | 409734.5    |
| K/L: | 592400.5    |
| K:   | 775244.9    |
| J:   | 0           |
| I:   | 877619.6875 |
| H/I: | 74465.3     |
| H:   | 2197274.11  |
| Ph:  | 606099.345  |
| G:   | 904646.25   |
| F:   | 696663.375  |
| E:   | 255440.25   |

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8317180.2175



LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2625 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 87028                    | 1.49                     | 1.72                                       | 242                   | 125                       | 77524.7                      |
| O            | 85005                    | 0.67                     | 1.72                                       | 100                   | 125                       | 14405                        |
| O            | 85005                    | 1.33                     | 1.72                                       | 127                   | 125                       | 36315.65                     |
| O            | 85005                    | 1.33                     | 1.72                                       | 25                    | 90                        | 5147.1                       |
| N            | 87028                    | 0.88                     | 1.67                                       | 275                   | 125                       | 50517.5                      |
| N            | 85003                    | 1.44                     | 1.67                                       | 94                    | 125                       | 28256.4                      |
| M            | 87031                    | 2.08                     | 1.76                                       | 117                   | 125                       | 53539.2                      |
| M            | 87028                    | 1.48                     | 1.76                                       | 290                   | 125                       | 94424                        |
| M            | 85010                    | 5.74                     | 1.76                                       | 30                    | 125                       | 37884                        |
| M            | 85005                    | 2.93                     | 1.76                                       | 130                   | 125                       | 83798                        |
| M            | 85003                    | 5.3                      | 1.76                                       | 189                   | 125                       | 220374                       |
| L            | 87031                    | 1.64                     | 1.67                                       | 120                   | 125                       | 41082                        |
| L            | 87028                    | 0.73                     | 1.67                                       | 330                   | 125                       | 50287.875                    |
| L            | 85009                    | 4.46                     | 1.67                                       | 384                   | 125                       | 357513.6                     |
| K/L          | 87031                    | 3.65                     | 1.79                                       | 120                   | 125                       | 98002.5                      |
| K/L          | 87028                    | 0.73                     | 1.79                                       | 375                   | 125                       | 61251.5625                   |
| K            | 87031                    | 4.17                     | 1.66                                       | 115                   | 125                       | 99506.625                    |
| K            | 87028                    | 2.25                     | 1.66                                       | 410                   | 125                       | 191418.75                    |
| K            | 87014                    | 4.76                     | 1.66                                       | 108                   | 125                       | 106671.6                     |
| K            | 85009                    | 2.81                     | 1.66                                       | 574                   | 125                       | 334685.05                    |
| K            | 84008                    | 3.93                     | 1.66                                       | 256                   | 125                       | 208761.6                     |
| I            | 87014                    | 3.04                     | 1.55                                       | 348                   | 125                       | 204972                       |
| I            | 86008                    | 4.86                     | 1.55                                       | 45                    | 96                        | 32542.56                     |
| I            | 86008                    | 4.86                     | 1.55                                       | 72                    | 125                       | 67797                        |
| I            | 85017                    | 5.37                     | 1.55                                       | 51                    | 125                       | 53062.3125                   |
| I            | 84008                    | 3.86                     | 1.55                                       | 187                   | 125                       | 139852.625                   |
| I            | 85009                    | 4.9                      | 1.55                                       | 220                   | 125                       | 208862.5                     |
| I            | 82005                    | 4.98                     | 1.55                                       | 33                    | 125                       | 31840.875                    |
| H/I          | 87014                    | 1.6                      | 1.67                                       | 40                    | 125                       | 13360                        |
| H            | 87029                    | 0.92                     | 1.67                                       | 380                   | 125                       | 72979                        |
| H            | 87012                    | 5.31                     | 1.67                                       | 367                   | 125                       | 406805.7375                  |
| H            | 87019                    | 5.2                      | 1.67                                       | 154                   | 125                       | 167167                       |
| H            | 86008                    | 5.89                     | 1.67                                       | 188                   | 125                       | 231153.05                    |
| H            | 85017                    | 4.67                     | 1.67                                       | 49                    | 125                       | 47768.2625                   |
| H            | 84008                    | 6.41                     | 1.67                                       | 181                   | 125                       | 242193.8375                  |
| H            | 86001                    | 2.84                     | 1.67                                       | 665                   | 125                       | 394245.25                    |
| PH           | 87029                    | 1.34                     | 1.78                                       | 430                   | 125                       | 128204.5                     |
| PH           | 86008                    | 4.68                     | 1.78                                       | 288                   | 125                       | 299894.4                     |
| PH           | 85017                    | 4.41                     | 1.78                                       | 209                   | 125                       | 205076.025                   |
| PH           | 87011                    | 0.51                     | 1.78                                       | 270                   | 106                       | 25981.236                    |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2750 N

RESOURCE TYPE :INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m3) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|-------------------------------|-----------------------|---------------------------|------------------------------|
| M            | 85003                    | 5.3                      | 1.76                          | 60                    | 125                       | 69960                        |
| M            | 85003                    | 5.3                      | 1.76                          | 15                    | 80                        | 11193.6                      |
| M            | 85003                    | 5.3                      | 1.76                          | 70                    | 125                       | 81620                        |
| M            | 87028                    | 1.48                     | 1.76                          | 225                   | 125                       | 73260                        |
| M            | 87031                    | 2.08                     | 1.76                          | 145                   | 125                       | 66352                        |
| L            | 87031                    | 1.45                     | 1.67                          | 150                   | 125                       | 45403.125                    |
| L            | 87028                    | 0.73                     | 1.67                          | 225                   | 125                       | 34287.1875                   |
| L            | 84008                    | 0                        | 0                             | 85                    | 0                         | 0                            |
| L            | 85012                    | 1.37                     | 1.67                          | 40                    | 125                       | 11439.5                      |
| L            | 85012                    | 1.37                     | 1.67                          | 60                    | 125                       | 17159.25                     |
| L            | 82005                    | 5.75                     | 1.67                          | 70                    | 125                       | 84021.875                    |
| K/L          | 87031                    | 0.7                      | 1.79                          | 142                   | 125                       | 22240.75                     |
| K/L          | 87028                    | 0                        | 0                             | 225                   | 0                         | 0                            |
| K            | 87031                    | 4.17                     | 1.66                          | 247                   | 125                       | 213722.925                   |
| K            | 87028                    | 2.25                     | 1.66                          | 220                   | 125                       | 102712.5                     |
| K            | 87017                    | 2.82                     | 1.66                          | 140                   | 125                       | 81921                        |
| K            | 84008                    | 3.93                     | 1.66                          | 150                   | 125                       | 122321.25                    |
| K            | 84008                    | 3.93                     | 1.66                          | 90                    | 125                       | 73392.75                     |
| K            | 85012                    | 1.74                     | 1.66                          | 110                   | 125                       | 39715.5                      |
| K            | 82005                    | 5.16                     | 1.66                          | 75                    | 125                       | 80302.5                      |
| I            | 87017                    | 2.26                     | 1.55                          | 95                    | 100                       | 33278.5                      |
| I            | 87017                    | 2.26                     | 1.55                          | 165                   | 125                       | 72249.375                    |
| I            | 85001                    | 4.38                     | 1.55                          | 475                   | 125                       | 403096.875                   |
| I            | 85017                    | 5.37                     | 1.55                          | 170                   | 125                       | 176874.375                   |
| I            | 84008                    | 3.86                     | 1.55                          | 145                   | 125                       | 108441.875                   |
| I            | 82005                    | 4.98                     | 1.55                          | 140                   | 125                       | 135082.5                     |
| H/I          | 87017                    | 1.11                     | 1.67                          | 165                   | 115                       | 35173.9575                   |
| H/I          | 87017                    | 1.11                     | 1.67                          | 145                   | 125                       | 33598.3125                   |
| H/I          | 84008                    | 0                        | 0                             | 115                   | 0                         | 0                            |
| PH           | 87029                    | 1.34                     | 1.78                          | 150                   | 125                       | 44722.5                      |
| PH           | 87029                    | 1.34                     | 1.78                          | 75                    | 125                       | 22361.25                     |
| PH           | 85001                    | 0                        | 0                             | 600                   | 0                         | 0                            |
| PH           | 85019                    | 0                        | 0                             | 40                    | 0                         | 0                            |
| PH           | 85017                    | 4.41                     | 1.78                          | 73                    | 125                       | 71629.425                    |
| H            | 87029                    | 3.29                     | 1.67                          | 160                   | 125                       | 109886                       |
| H            | 87019                    | 1.98                     | 1.67                          | 162                   | 125                       | 66958.65                     |
| H            | 86008                    | 5.89                     | 1.67                          | 25                    | 125                       | 30738.4375                   |
| H            | 85017                    | 4.67                     | 1.67                          | 225                   | 125                       | 219344.0625                  |
| H            | 84008                    | 6.41                     | 1.67                          | 90                    | 125                       | 120427.875                   |
| H            | 85012                    | 3.22                     | 1.67                          | 310                   | 125                       | 208374.25                    |

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|          |            |
|----------|------------|
| Ph:      | 138713.175 |
| G:       | 494797.5   |
| G-Lower: | 42790.95   |
| F/G:     | 13754.7    |
| F:       | 775235.25  |
| E:       | 428873.25  |
| D:       | 340213.5   |
| C:       | 95937.375  |

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5856322.2075

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2875 N  
 RESOURCE TYPE :INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m3) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|-------------------------------|-----------------------|---------------------------|------------------------------|
| M            | 87031                    | 2.08                     | 1.76                          | 60                    | 125                       | 27456                        |
| M            | 87031                    | 2.08                     | 1.76                          | 225                   | 125                       | 102960                       |
| M            | 85003                    | 5.3                      | 1.76                          | 300                   | 125                       | 349800                       |
| M            | 82005                    | 2.24                     | 1.76                          | 80                    | 125                       | 39424                        |
| M            | 82005                    | 2.24                     | 1.76                          | 95                    | 125                       | 46816                        |
| L            | 87031                    | 1.45                     | 1.67                          | 105                   | 125                       | 31782.1875                   |
| L            | 87031                    | 1.45                     | 1.67                          | 225                   | 125                       | 68104.6875                   |
| L            | 84008                    | 0                        | 1.67                          | 95                    | 125                       | 0                            |
| L            | 85012                    | 1.37                     | 1.67                          | 70                    | 125                       | 20019.125                    |
| L            | 85012                    | 1.37                     | 1.67                          | 15                    | 125                       | 4289.8125                    |
| L            | 82005                    | 5.75                     | 1.67                          | 15                    | 125                       | 18004.6875                   |
| K/L          | 87031                    | 0.7                      | 1.79                          | 215                   | 125                       | 33674.375                    |
| K/L          | 87031                    | 3.65                     | 1.79                          | 130                   | 125                       | 106169.375                   |
| K            | 82005                    | 5.16                     | 1.66                          | 25                    | 125                       | 26767.5                      |
| K            | 85012                    | 1.74                     | 1.66                          | 20                    | 125                       | 7221                         |
| K            | 85012                    | 1.74                     | 1.66                          | 35                    | 125                       | 12636.75                     |
| K            | 85013                    | 0.98                     | 1.66                          | 35                    | 125                       | 7117.25                      |
| K            | 87017                    | 2.82                     | 1.66                          | 40                    | 97                        | 18163.056                    |
| K            | 87017                    | 2.82                     | 1.66                          | 35                    | 30                        | 4915.26                      |
| K            | 87031                    | 4.17                     | 1.66                          | 165                   | 125                       | 142770.375                   |
| K            | 87031                    | 4.17                     | 1.66                          | 180                   | 125                       | 155749.5                     |
| I            | 82005                    | 4.98                     | 1.55                          | 175                   | 125                       | 168853.125                   |
| I            | 86005                    | 4.78                     | 1.55                          | 45                    | 125                       | 41675.625                    |
| I            | 85013                    | 6.16                     | 1.55                          | 130                   | 125                       | 155155                       |
| I            | 87033                    | 5.56                     | 1.55                          | 25                    | 125                       | 26931.25                     |
| H            | 85004                    | 3.96                     | 1.67                          | 300                   | 125                       | 247995                       |
| H            | 85004                    | 3.96                     | 1.67                          | 80                    | 125                       | 66132                        |
| H            | 85012                    | 3.22                     | 1.67                          | 145                   | 125                       | 97465.375                    |
| H            | 85012                    | 3.22                     | 1.67                          | 30                    | 125                       | 20165.25                     |
| H            | 85013                    | 4.37                     | 1.67                          | 37                    | 125                       | 33752.7875                   |
| H            | 85013                    | 4.37                     | 1.67                          | 30                    | 125                       | 27367.125                    |
| H            | 86006                    | 5.89                     | 1.67                          | 40                    | 100                       | 39345.2                      |
| H            | 86006                    | 5.89                     | 1.67                          | 80                    | 100                       | 78690.4                      |
| H            | 87029                    | 3.29                     | 1.67                          | 150                   | 125                       | 103018.125                   |
| Ph           | 87029                    | 1.34                     | 1.78                          | 155                   | 125                       | 46213.25                     |
| G            | 85001                    | 0.94                     | 1.8                           | 250                   | 125                       | 52875                        |
| G            | 85017                    | 1.01                     | 1.8                           | 100                   | 125                       | 22725                        |
| G            | 83001                    | 3.93                     | 1.8                           | 250                   | 125                       | 221062.5                     |
| F            | 85020                    | 0                        | 0                             | 135                   | 125                       | 0                            |
| F            | 85020                    | 0                        | 0                             | 125                   | 125                       | 0                            |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3000 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| M            | 87031                    | 2.08                     | 1.76                                       | 207                   | 125                       | 94723.2                      |
| M            | 87030                    | 2.23                     | 1.76                                       | 6                     | 125                       | 2943.6                       |
| M            | 82005                    | 2.24                     | 1.76                                       | 145                   | 125                       | 71456                        |
| L            | 87031                    | 1.45                     | 1.67                                       | 225                   | 125                       | 68104.6875                   |
| L            | 87030                    | 1.98                     | 1.67                                       | 7                     | 125                       | 2893.275                     |
| L            | 85012                    | 1.37                     | 1.67                                       | 97                    | 83                        | 18419.8829                   |
| L            | 85012                    | 1.37                     | 1.67                                       | 109                   | 125                       | 31172.6375                   |
| L            | 85012                    | 1.37                     | 1.67                                       | 98                    | 125                       | 28026.775                    |
| L            | 82005                    | 0                        | 1.67                                       | 65                    | 125                       | 0                            |
| K/L          | 87031                    | 0.7                      | 1.79                                       | 20                    | 125                       | 3132.5                       |
| K/L          | 87031                    | 3.65                     | 1.79                                       | 173                   | 125                       | 141286.9375                  |
| K/L          | 87030                    | 3.5                      | 1.79                                       | 7                     | 125                       | 5481.875                     |
| K/L          | 85012                    | 1.49                     | 1.79                                       | 133                   | 125                       | 44340.5375                   |
| K/L          | 85012                    | 1.49                     | 1.79                                       | 170                   | 125                       | 56675.875                    |
| K/L          | 85012                    | 1.49                     | 1.79                                       | 176                   | 125                       | 58676.2                      |
| K            | 87031                    | 4.17                     | 1.66                                       | 150                   | 125                       | 129791.25                    |
| K            | 87030                    | 3.26                     | 1.66                                       | 7                     | 125                       | 4735.15                      |
| K            | 85013                    | 0.98                     | 1.66                                       | 26                    | 125                       | 5287.1                       |
| K            | 85012                    | 1.22                     | 1.66                                       | 26                    | 125                       | 6581.9                       |
| K            | 85012                    | 1.74                     | 1.66                                       | 110                   | 125                       | 39715.5                      |
| K            | 82005                    | 5.16                     | 1.66                                       | 359                   | 125                       | 384381.3                     |
| J            | 85012                    | 0                        | 1.61                                       | 105                   | 125                       | 0                            |
| J            | 82005                    | 0                        | 1.61                                       | 471                   | 125                       | 0                            |
| I            | 85032                    | 5.47                     | 1.55                                       | 125                   | 125                       | 132476.5625                  |
| I            | 85032                    | 5.47                     | 1.55                                       | 124                   | 125                       | 131416.75                    |
| I            | 82005                    | 4.98                     | 1.55                                       | 172                   | 125                       | 165958.5                     |
| I            | 85016                    | 5.55                     | 1.55                                       | 43                    | 125                       | 46238.4375                   |
| I            | 86005                    | 4.79                     | 1.55                                       | 118                   | 125                       | 109511.375                   |
| I            | 86005                    | 4.79                     | 1.55                                       | 54                    | 125                       | 50115.375                    |
| I            | 85001                    | 4.38                     | 1.55                                       | 1.79                  | 125                       | 1519.03875                   |
| I            | 87030                    | 2.87                     | 1.55                                       | 9                     | 125                       | 5004.5625                    |
| H            | 87029                    | 0.92                     | 1.67                                       | 380                   | 125                       | 72979                        |
| H            | 85001                    | 2.15                     | 1.67                                       | 189                   | 125                       | 84825.5625                   |
| H            | 86006                    | 5.89                     | 1.67                                       | 39                    | 125                       | 47951.9625                   |
| H            | 85013                    | 4.37                     | 1.67                                       | 15                    | 125                       | 13683.5625                   |
| H            | 85012                    | 3.22                     | 1.67                                       | 125                   | 125                       | 84021.875                    |
| H            | 85004                    | 3.96                     | 1.67                                       | 220                   | 125                       | 181863                       |
| H            | 83001                    | 4.54                     | 1.67                                       | 239                   | 125                       | 226506.275                   |
| PH           | 87029                    | 1.34                     | 1.78                                       | 420                   | 125                       | 125223                       |
| PH           | 85001                    | 0                        | 1.78                                       | 210                   | 125                       | 0                            |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3125 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| M            | 87030                    | 2.23                     | 1.76                                       | 480                   | 125                       | 235488                       |
| L            | 87030                    | 1.98                     | 1.67                                       | 475                   | 125                       | 196329.375                   |
| L            | 85012                    | 1.37                     | 1.67                                       | 320                   | 125                       | 91516                        |
| K/L          | 87030                    | 3.5                      | 1.79                                       | 469                   | 125                       | 367285.625                   |
| K            | 87030                    | 3.26                     | 1.66                                       | 460                   | 125                       | 311167                       |
| K            | 85012                    | 3.64                     | 1.66                                       | 340                   | 125                       | 256802                       |
| I            | 87030                    | 2.87                     | 1.55                                       | 456                   | 125                       | 253564.5                     |
| I            | 86005                    | 4.79                     | 1.55                                       | 94                    | 125                       | 87237.875                    |
| I            | 85016                    | 5.55                     | 1.55                                       | 220                   | 125                       | 236568.75                    |
| I            | 85031                    | 3.98                     | 1.55                                       | 402                   | 125                       | 309992.25                    |
| I            | 85001                    | 4.38                     | 1.55                                       | 66                    | 125                       | 56009.25                     |
| H            | 85001                    | 2.15                     | 1.67                                       | 217                   | 115                       | 89600.9275                   |
| H            | 86005                    | 2.94                     | 1.67                                       | 63                    | 125                       | 38664.675                    |
| H            | 85016                    | 6.75                     | 1.67                                       | 218                   | 125                       | 307175.625                   |
| H            | 83001                    | 4.54                     | 1.67                                       | 582                   | 125                       | 551575.95                    |
| PH           | 87013                    | 0.65                     | 1.78                                       | 262                   | 125                       | 37891.75                     |
| G            | 85001                    | 0.94                     | 1.8  | 281                   | 125                       | 59431.5                      |
| G            | 85013                    | 0                        | 1.8  | 334                   | 125                       | 0                            |
| G            | 85016                    | 0.79                     | 1.8  | 368                   | 125                       | 65412                        |
| G            | 83001                    | 4.9                      | 1.8  | 872                   | 125                       | 961380                       |
| F            | 85013                    | 3.2                      | 1.74                                       | 345                   | 125                       | 240120                       |
| F            | 85016                    | 2.13                     | 1.74                                       | 378                   | 125                       | 175117.95                    |
| F            | 83001                    | 4.79                     | 1.74                                       | 448                   | 125                       | 466737.6                     |
| E            | 85016                    | 2.22                     | 1.56                                       | 432                   | 125                       | 187012.8                     |
| E            | 83001                    | 1.32                     | 1.56                                       | 258                   | 125                       | 66409.2                      |
| E            | 85020                    | 1.91                     | 1.56                                       | 217                   | 125                       | 80821.65                     |
| D            | 85016                    | 3.97                     | 1.74                                       | 436                   | 125                       | 376475.1                     |
| D            | 85020                    | 8.54                     | 1.74                                       | 414                   | 125                       | 768984.3                     |
| C            | 85020                    | 2.84                     | 1.49                                       | 193                   | 125                       | 102087.35                    |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 6976859.0025

SEAM TOTALS:

M: 235488

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3250 N  
 RESOURCE TYPE :INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| M            | 87030                    | 2.23                     | 1.76                                       | 40                    | 125                       | 19624                        |
| M            | 87030                    | 2.23                     | 1.76                                       | 140                   | 125                       | 68684                        |
| M            | 87030                    | 2.23                     | 1.76                                       | 150                   | 125                       | 73590                        |
| L            | 87030                    | 1.98                     | 1.67                                       | 60                    | 125                       | 24799.5                      |
| L            | 87030                    | 1.98                     | 1.67                                       | 115                   | 125                       | 47532.375                    |
| L            | 87030                    | 1.98                     | 1.67                                       | 150                   | 125                       | 61998.75                     |
| K/L          | 87030                    | 3.5                      | 1.79                                       | 170                   | 125                       | 133131.25                    |
| K/L          | 87030                    | 3.5                      | 1.79                                       | 180                   | 125                       | 140962.5                     |
| K/L          | 87030                    | 3.5                      | 1.79                                       | 60                    | 125                       | 46987.5                      |
| K/L          | 87030                    | 3.5                      | 1.79                                       | 150                   | 125                       | 117468.75                    |
| K            | 87030                    | 3.26                     | 1.66                                       | 175                   | 125                       | 118378.75                    |
| K            | 87030                    | 3.26                     | 1.66                                       | 260                   | 125                       | 175877                       |
| K            | 87030                    | 3.26                     | 1.66                                       | 340                   | 125                       | 229993                       |
| K            | 85012                    | 3.22                     | 1.66                                       | 12                    | 125                       | 8017.8                       |
| K            | 85014                    | 0                        | 1.66                                       | 280                   | 125                       | 0                            |
| K            | 85014                    | 0                        | 1.66                                       | 120                   | 125                       | 0                            |
| I            | 87030                    | 2.87                     | 1.55                                       | 35                    | 125                       | 19462.1875                   |
| I            | 87030                    | 2.87                     | 1.55                                       | 155                   | 125                       | 86189.6875                   |
| I            | 87030                    | 2.87                     | 1.55                                       | 180                   | 125                       | 100091.25                    |
| I            | 86005                    | 4.79                     | 1.55                                       | 32                    | 125                       | 29698                        |
| I            | 85016                    | 5.55                     | 1.55                                       | 15                    | 125                       | 16129.6875                   |
| I            | 85016                    | 5.55                     | 1.55                                       | 115                   | 125                       | 123660.9375                  |
| I            | 85014                    | 5.46                     | 1.55                                       | 100                   | 125                       | 105787.5                     |
| I            | 85031                    | 4.54                     | 1.55                                       | 450                   | 125                       | 395831.25                    |
| H            | 86005                    | 2.94                     | 1.67                                       | 135                   | 125                       | 82852.875                    |
| H            | 85016                    | 6.75                     | 1.67                                       | 9                     | 125                       | 12681.5625                   |
| H            | 85016                    | 6.75                     | 1.67                                       | 107                   | 125                       | 150769.6875                  |
| H            | 85014                    | 2.09                     | 1.67                                       | 110                   | 125                       | 47991.625                    |
| G            | 85016                    | 0.79                     | 1.8  | 160                   | 125                       | 28440                        |
| G            | 85016                    | 0.79                     | 1.8  | 165                   | 125                       | 29328.75                     |
| G            | 83001                    | 3.93                     | 1.8  | 425                   | 125                       | 375806.25                    |
| F            | 85016                    | 2.13                     | 1.74                                       | 160                   | 125                       | 74124                        |
| F            | 85016                    | 2.13                     | 1.74                                       | 160                   | 125                       | 74124                        |
| F            | 85015                    | 2.73                     | 1.74                                       | 75                    | 125                       | 44533.125                    |
| E            | 85016                    | 2.22                     | 1.56                                       | 150                   | 125                       | 64935                        |
| E            | 85016                    | 2.22                     | 1.56                                       | 170                   | 125                       | 73593                        |
| E            | 85015                    | 0.95                     | 1.56                                       | 100                   | 75                        | 11115                        |
| D            | 85016                    | 2.41                     | 1.74                                       | 150                   | 125                       | 78626.25                     |
| D            | 85016                    | 2.41                     | 1.74                                       | 160                   | 125                       | 83868                        |
| C            | 85020                    | 1.19                     | 1.49                                       | 100                   | 100                       | 17731                        |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3375 N  
 RESOURCE TYPE : INDICATED

| SEAM NAME | DIAMOND DRILL HOLE | SEAM THICKNESS (m) | SPECIFIC GRAVITY (t/m <sup>3</sup> ) | SEAM LENGTH (m) | WIDTH INFLUENCE (m) | TOTAL TONNES SEAMS >=0.5m |
|-----------|--------------------|--------------------|--------------------------------------|-----------------|---------------------|---------------------------|
| K         | 85014              | 0                  | 1.66                                 |                 |                     | 0                         |
| J         | 85014              | 0                  | 1.61                                 |                 |                     | 0                         |
| J         | 85016              | 0                  | 1.61                                 |                 |                     | 0                         |
| I         | 85014              | 5.46               | 1.55                                 | 515             | 125                 | 544805.625                |
| I         | 87032              | 5.59               | 1.55                                 | 15              | 125                 | 16245.9375                |
| H         | 85014              | 2.09               | 1.67                                 | 265             | 125                 | 115616.1875               |
| H         | 85016              | 6.75               | 1.67                                 | 35              | 125                 | 49317.1875                |
| H         | 86003              | 3.35               | 1.67                                 | 70              | 125                 | 48951.875                 |
| G         | 85016              | 0.79               | 1.8                                  | 270             | 125                 | 47992.5                   |
| PH        | 85014              | 0                  | 1.78                                 | 230             |                     | 0                         |
| PH        | 85016              | 0                  | 1.78                                 | 220             |                     | 0                         |
| F         | 85015              | 2.73               | 1.74                                 | 155             | 125                 | 92035.125                 |
| F         | 85016              | 2.13               | 1.74                                 | 370             | 125                 | 171411.75                 |
| E         | 85015              | 0.95               | 1.56                                 | 155             | 125                 | 28713.75                  |
| E         | 85016              | 2.22               | 1.56                                 | 370             | 125                 | 160173                    |
| D         | 85016              | 2.41               | 1.74                                 | 370             | 125                 | 193944.75                 |
| C         | 85016              | 0                  | 1.49                                 | 370             |                     | 0                         |
| B         | 85016              | 0                  | 1.67                                 | 370             |                     | 0                         |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 1469207.6875

SEAM TOTALS:

|     |             |
|-----|-------------|
| K:  | 0           |
| J:  | 0           |
| I:  | 561051.5625 |
| H:  | 213885.25   |
| Ph: | 0           |
| G:  | 47992.5     |
| F:  | 263446.875  |
| E:  | 188886.75   |
| D:  | 193944.75   |
| C:  | 0           |
| B:  | 0           |

1469207.6875



LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3625 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| I            | 85018                    | 2.61                     | 1.55                                       | 25                    | 125                       | 12642.1875                   |
| I            | 85014                    | 5.46                     | 1.55                                       | 250                   | 125                       | 264468.75                    |
| H            | 85018                    | 3.63                     | 1.67                                       | 20                    | 125                       | 15155.25                     |
| H            | 85014                    | 2.09                     | 1.67                                       | 250                   | 125                       | 109071.875                   |
| F            | 85015                    | 2.73                     | 1.74                                       | 150                   | 125                       | 89066.25                     |
| F            | 85018                    | 6.02                     | 1.74                                       | 150                   | 125                       | 196402.5                     |
| F            | 85021                    | 3.43                     | 1.74                                       | 150                   | 125                       | 111903.75                    |
| E            | 85015                    | 0.95                     | 1.56                                       | 350                   | 125                       | 64837.5                      |
| E            | 85021                    | 1.81                     | 1.56                                       | 150                   | 125                       | 52942.5                      |
| D            | 85018                    | 1.89                     | 1.74                                       | 150                   | 125                       | 61661.25                     |
| D            | 85018                    | 1.89                     | 1.74                                       | 150                   | 125                       | 61661.25                     |
|              |                          |                          |  |                       |                           | 0                            |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 1039813.0625

SEAM TOTALS:

I: 277110.9375  
 H: 124227.125  
 F: 397372.5  
 E: 117780  
 D: 123322.5

1039813.0625

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3875 N  
 RESOURCE TYPE : INDICATED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| PH           | 85018                    | 0                        | 1.78                                       | 15                    | 45                        | 0                            |
| PH           | 85021                    | 0                        | 1.78                                       | 67                    | 100                       | 0                            |
| PH           | 85021                    | 0                        | 1.78                                       | 149                   | 105                       | 0                            |
| G            | 85021                    | 0                        | 1.8  | 329                   | 135                       | 0                            |
| G            | 85018                    | 0                        | 1.8  | 63                    | 125                       | 0                            |
| G            | 85018                    | 0                        | 1.8  | 105                   | 80                        | 0                            |
| F            | 85021                    | 3.43                     | 1.74                                       | 378                   | 125                       | 281997.45                    |
| F            | 85018                    | 6.02                     | 1.74                                       | 260                   | 125                       | 340431                       |
| E            | 85021                    | 1.81                     | 1.56                                       | 378                   | 125                       | 133415.1                     |
| E            | 85018                    | 0                        | 1.56                                       | 260                   | 125                       | 0                            |
| D            | 85018                    | 1.89                     | 1.74                                       | 427                   | 125                       | 175529.025                   |
| C            | 85018                    | 0                        | 1.49                                       | 427                   | 125                       | 0                            |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 931372.575

SEAM TOTALS:

|       |            |
|-------|------------|
| Ph:   | 0          |
| G:    | 0          |
| F:    | 622428.45  |
| E:    | 133415.1   |
| D:    | 175529.025 |
| C:    | 0          |
| ----- |            |
|       | 931372.575 |

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1000 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| P            | 86025                    | 0.92                     | 1.67                                       | 65                    | 40                        | 3994.64                      |
| P            | 87022                    | 0                        | 1.67                                       |                       |                           | 0                            |
| O            | 86037                    | 2.5                      | 1.72                                       | 105                   | 50                        | 22575                        |
| O            | 86037                    | 2.5                      | 1.72                                       | 180                   | 62                        | 47988                        |
| O            | 86037                    | 2.5                      | 1.72                                       | 90                    | 30                        |                              |
| O            | 87022                    | 2.48                     | 1.72                                       | 1350                  | 62                        | 357030.72                    |
| N            | 86037                    | 0                        | 1.67                                       | 25                    |                           | 0                            |
| N            | 85027                    | 2.17                     | 1.67                                       | 190                   | 62                        | 42689.542                    |
| N            | 85027                    | 2.17                     | 1.67                                       | 95                    | 62                        | 21344.771                    |
| N            | 85027                    | 2.17                     | 1.67                                       | 210                   | 50                        | 38050.95                     |
| N            | 85027                    | 2.17                     | 1.67                                       | 505                   | 62                        | 113464.309                   |
| N            | 87022                    | 2.7                      | 1.67                                       | 1350                  | 62                        | 377403.3                     |
| M            | 86037                    | 4.7                      | 1.76                                       | 145                   | 62                        | 74365.28                     |
| M            | 86037                    | 4.7                      | 1.76                                       | 15                    | 62                        | 7692.96                      |
| M            | 86022                    | 1.52                     | 1.76                                       | 35                    | 62                        | 5805.184                     |
| M            | 85027                    | 1.2                      | 1.76                                       | 175                   | 62                        | 22915.2                      |
| M            | 85027                    | 1.2                      | 1.76                                       | 675                   | 62                        | 88387.2                      |
| M            | 87020                    | 3.61                     | 1.76                                       | 475                   | 62                        | 187113.52                    |
| M            | 86033                    | 3.55                     | 1.76                                       | 1090                  | 62                        | 422239.84                    |
| L            | 86037                    | 2.34                     | 1.67                                       | 135                   | 62                        | 32708.286                    |
| L            | 86037                    | 2.34                     | 1.67                                       | 50                    | 62                        | 12114.18                     |
| L            | 86022                    | 2.39                     | 1.67                                       | 30                    | 62                        | 7423.818                     |
| L            | 86022                    | 2.39                     | 1.67                                       | 35                    | 62                        | 8661.121                     |
| L            | 86022                    | 2.39                     | 1.67                                       | 35                    | 62                        | 8661.121                     |
| L            | 85027                    | 1.62                     | 1.67                                       | 175                   | 62                        | 29353.59                     |
| L            | 85027                    | 1.62                     | 1.67                                       | 765                   | 62                        | 128317.122                   |
| L            | 87020                    | 4.38                     | 1.67                                       | 475                   | 62                        | 215414.97                    |
| L            | 86033                    | 2.45                     | 1.67                                       | 715                   | 62                        | 181376.195                   |
| L            | 86035                    | 3.35                     | 1.67                                       | 95                    | 62                        | 32951.605                    |
| K/L          | 86037                    | 0.66                     | 1.79                                       | 365                   | 62                        | 26735.082                    |
| K/L          | 86022                    | 4.33                     | 1.79                                       | 70                    | 62                        | 33638.038                    |
| K/L          | 85027                    | 3.22                     | 1.79                                       | 275                   | 62                        | 98272.79                     |
| J            | 86013                    | 0.61                     | 1.61                                       | 900                   | 62                        | 54801.18                     |
| K            | 86022                    | 1.92                     | 1.66                                       | 675                   | 62                        | 133384.32                    |
| K            | 85027                    | 1.08                     | 1.66                                       | 1005                  | 62                        | 111709.368                   |
| K            | 86013                    | 4.76                     | 1.66                                       | 610                   | 62                        | 298838.512                   |
| K            | 86033                    | 5.03                     | 1.66                                       | 440                   | 62                        | 227782.544                   |
| K            | 86035                    | 8.35                     | 1.66                                       | 95                    | 62                        | 81641.29                     |
| I            | 86025                    | 2.9                      | 1.55                                       | 40                    | 62                        | 11147.6                      |
| I            | 86022                    | 1.14                     | 1.55                                       | 555                   | 62                        | 60802.47                     |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1125 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| P            | 86025                    | 0.92                     | 1.67                                       | 200                   | 125                       | 38410                        |
| O            | 87022                    | 2.48                     | 1.72                                       | 945                   | 125                       | 503874                       |
| O            | 86037                    | 2.5                      | 1.72                                       | 19                    | 104                       | 8496.8                       |
| O            | 86037                    | 2.5                      | 1.72                                       | 397                   | 125                       | 213387.5                     |
| N            | 87024                    | 1.91                     | 1.67                                       | 85                    | 90                        | 24401.205                    |
| N            | 87022                    | 2.7                      | 1.67                                       | 1320                  | 125                       | 743985                       |
| N            | 85027                    | 2.17                     | 1.67                                       | 545                   | 125                       | 246878.1875                  |
| M            | 86033                    | 9.86                     | 1.76                                       | 990                   | 125                       | 2147508                      |
| M            | 87020                    | 3.61                     | 1.76                                       | 182                   | 125                       | 144544.4                     |
| M            | 85027                    | 1.2                      | 1.76                                       | 570                   | 125                       | 150480                       |
| M            | 86022                    | 1.52                     | 1.76                                       | 85                    | 125                       | 28424                        |
| M            | 86037                    | 6.84                     | 1.76                                       | 187                   | 125                       | 281397.6                     |
| L            | 86033                    | 2.45                     | 1.67                                       | 330                   | 125                       | 168774.375                   |
| L            | 86015                    | 1.24                     | 1.67                                       | 415                   | 125                       | 107422.75                    |
| L            | 85027                    | 1.62                     | 1.67                                       | 580                   | 125                       | 196141.5                     |
| L            | 86022                    | 2.39                     | 1.67                                       | 174                   | 125                       | 86810.775                    |
| L            | 86037                    | 2.34                     | 1.67                                       | 187                   | 125                       | 91344.825                    |
| K/L          | 86022                    | 4.3                      | 1.79                                       | 240                   | 125                       | 230910                       |
| K/L          | 86037                    | 0.66                     | 1.79                                       | 220                   | 125                       | 32488.5                      |
| K            | 86033                    | 5.03                     | 1.66                                       | 72                    | 125                       | 75148.2                      |
| K            | 86013                    | 4.76                     | 1.66                                       | 690                   | 125                       | 681513                       |
| K            | 85027                    | 1.08                     | 1.66                                       | 565                   | 125                       | 126616.5                     |
| K            | 86022                    | 1.92                     | 1.66                                       | 947                   | 125                       | 377284.8                     |
| J            | 86013                    | 0.61                     | 1.61                                       | 478                   | 125                       | 58680.475                    |
| I            | 86035                    | 1.23                     | 1.55                                       | 150                   | 125                       | 35746.875                    |
| I            | 86013                    | 6.98                     | 1.55                                       | 986                   | 125                       | 1333441.75                   |
| I            | 85026                    | 5.68                     | 1.55                                       | 155                   | 125                       | 170577.5                     |
| I            | 85027                    | 5.03                     | 1.55                                       | 406                   | 125                       | 395672.375                   |
| I            | 86022                    | 1.14                     | 1.55                                       | 424                   | 125                       | 93651                        |
| I            | 86022                    | 4.54                     | 1.55                                       | 327                   | 125                       | 287637.375                   |
| I            | 86025                    | 2.9                      | 1.55                                       | 303                   | 125                       | 170248.125                   |
| I            | 86025                    | 4.74                     | 1.55                                       | 190                   | 125                       | 174491.25                    |
| H            | 86035                    | 1.16                     | 1.67                                       | 645                   | 125                       | 156186.75                    |
| H            | 86009                    | 9.01                     | 1.67                                       | 250                   | 125                       | 470209.375                   |
| H            | 85026                    | 3.43                     | 1.67                                       | 390                   | 125                       | 279244.875                   |
| H            | 85027                    | 2.25                     | 1.67                                       | 1562                  | 125                       | 733651.875                   |
| H            | 85028                    | 4.08                     | 1.67                                       | 365                   | 125                       | 310870.5                     |
| PH           | 87004                    | 1.43                     | 1.77                                       | 400                   | 125                       | 126555                       |
|              |                          |                          |  |                       |                           | 0                            |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1250 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| P            | 86025                    | 0.92                     | 1.67                                       | 245                   | 125                       | 47052.25                     |
| O            | 87022                    | 2.48                     | 1.72                                       | 390                   | 115                       | 191312.16                    |
| O            | 86012                    | 1.46                     | 1.72                                       | 410                   | 125                       | 128699                       |
| O            | 86025                    | 1.85                     | 1.72                                       | 110                   | 125                       | 43752.5                      |
| O            | 86037                    | 2.5                      | 1.72                                       | 110                   | 125                       | 59125                        |
| N            | 87022                    | 2.7                      | 1.67                                       | 255                   | 74                        | 85084.83                     |
| N            | 87022                    | 2.7                      | 1.67                                       | 575                   | 125                       | 324084.375                   |
| N            | 86012                    | 1.42                     | 1.67                                       | 285                   | 125                       | 84481.125                    |
| N            | 86025                    | 1.05                     | 1.67                                       | 168                   | 125                       | 36823.5                      |
| M            | 86033                    | 9.86                     | 1.76                                       | 764                   | 125                       | 1657268.8                    |
| M            | 85027                    | 1.2                      | 1.76                                       | 440                   | 125                       | 116160                       |
| M            | 86022                    | 1.52                     | 1.76                                       | 105                   | 125                       | 35112                        |
| M            | 86037                    | 6.84                     | 1.76                                       | 285                   | 125                       | 428868                       |
| L            | 86033                    | 2.45                     | 1.67                                       | 143                   | 125                       | 73135.5625                   |
| L            | 86015                    | 1.24                     | 1.67                                       | 580                   | 125                       | 150133                       |
| L            | 85027                    | 1.62                     | 1.67                                       | 380                   | 125                       | 128506.5                     |
| L            | 86022                    | 2.39                     | 1.67                                       | 146                   | 125                       | 72841.225                    |
| L            | 86037                    | 2.34                     | 1.67                                       | 330                   | 125                       | 161196.75                    |
| K/L          | 86022                    | 4.3                      | 1.79                                       | 158                   | 125                       | 152015.75                    |
| K/L          | 86037                    | 0.66                     | 1.79                                       | 348                   | 125                       | 51390.9                      |
| K            | 86035                    | 8.35                     | 1.66                                       | 18                    | 125                       | 31187.25                     |
| K            | 86013                    | 4.76                     | 1.66                                       | 330                   | 125                       | 325941                       |
| K            | 86015                    | 3.98                     | 1.66                                       | 215                   | 125                       | 177557.75                    |
| K            | 85027                    | 1.08                     | 1.66                                       | 490                   | 125                       | 109809                       |
| K            | 86022                    | 1.92                     | 1.66                                       | 410                   | 125                       | 163344                       |
| K            | 86021                    | 1.15                     | 1.66                                       | 160                   | 125                       | 38180                        |
| K            | 86027                    | 2.77                     | 1.66                                       | 140                   | 125                       | 80468.5                      |
| J            | 86034                    | 0.75                     | 1.61                                       | 65                    | 125                       | 9810.9375                    |
| J            | 86013                    | 0.61                     | 1.61                                       | 569                   | 125                       | 69851.8625                   |
| I            | 86035                    | 1.23                     | 1.55                                       | 34                    | 125                       | 8102.625                     |
| I            | 86034                    | 5.09                     | 1.55                                       | 65                    | 125                       | 64102.1875                   |
| I            | 86013                    | 6.98                     | 1.55                                       | 509                   | 125                       | 688358.875                   |
| I            | 85026                    | 5.68                     | 1.55                                       | 476                   | 125                       | 523838                       |
| I            | 85027                    | 5.03                     | 1.55                                       | 95                    | 125                       | 92583.4375                   |
| I            | 86022                    | 1.14                     | 1.55                                       | 133                   | 125                       | 29376.375                    |
| I            | 86022                    | 4.54                     | 1.55                                       | 130                   | 125                       | 114351.25                    |
| I            | 86025                    | 2.9                      | 1.55                                       | 470                   | 125                       | 264081.25                    |
| I            | 86025                    | 4.74                     | 1.55                                       | 270                   | 125                       | 247961.25                    |
| H            | 86035                    | 1.16                     | 1.67                                       | 515                   | 125                       | 124707.25                    |
| H            | 86009                    | 9.01                     | 1.67                                       | 420                   | 125                       | 789951.75                    |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1375 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| P            | 86025                    | 0.92                     | 1.67                                       | 300                   | 125                       | 57615                        |
| O            | 86025                    | 1.85                     | 1.72                                       | 327                   | 125                       | 130064.25                    |
| O            | 86012                    | 1.46                     | 1.72                                       | 250                   | 125                       | 78475                        |
| N            | 86025                    | 1.05                     | 1.67                                       | 280                   | 125                       | 61372.5                      |
| N            | 85027                    | 2.17                     | 1.67                                       | 130                   | 125                       | 58888.375                    |
| N            | 86012                    | 1.42                     | 1.67                                       | 310                   | 125                       | 91891.75                     |
| N            | 87022                    | 2.7                      | 1.67                                       | 40                    | 125                       | 22545                        |
| M            | 86037                    | 4.7                      | 1.76                                       | 245                   | 125                       | 253330                       |
| M            | 86019                    | 0.68                     | 1.76                                       | 300                   | 125                       | 44880                        |
| M            | 86033                    | 3.55                     | 1.76                                       | 300                   | 125                       | 234300                       |
| M            | 86033                    | 3.55                     | 1.76                                       | 130                   | 125                       | 101530                       |
| M            | 86022                    | 1.52                     | 1.76                                       | 130                   | 125                       | 43472                        |
| L            | 86037                    | 2.34                     | 1.67                                       | 205                   | 125                       | 100137.375                   |
| L            | 86022                    | 2.39                     | 1.67                                       | 250                   | 125                       | 124728.125                   |
| L            | 86019                    | 1.88                     | 1.67                                       | 200                   | 125                       | 78490                        |
| L            | 86014                    | 3.05                     | 1.67                                       | 150                   | 125                       | 95503.125                    |
| L            | 86015                    | 1.24                     | 1.67                                       | 595                   | 125                       | 154015.75                    |
| L            | 86033                    | 2.45                     | 1.67                                       | 10                    | 125                       | 5114.375                     |
| K/L          | 86037                    | 0.66                     | 1.79                                       | 190                   | 125                       | 28058.25                     |
| K/L          | 86022                    | 4.3                      | 1.79                                       | 280                   | 125                       | 269395                       |
| K/L          | 86015                    | 0.5                      | 1.79                                       | 135                   | 100                       | 12082.5                      |
| K/L          | 86033                    | 2.11                     | 1.79                                       | 10                    | 100                       | 3776.9                       |
| K            | 26027                    | 2.77                     | 1.66                                       | 190                   | 125                       | 109207.25                    |
| K            | 86021                    | 1.15                     | 1.66                                       | 330                   | 125                       | 78746.25                     |
| K            | 86019                    | 3.33                     | 1.66                                       | 375                   | 125                       | 259115.625                   |
| K            | 86014                    | 2.58                     | 1.66                                       | 150                   | 125                       | 80302.5                      |
| K            | 86015                    | 3.98                     | 1.66                                       | 360                   | 125                       | 297306                       |
| K            | 86013                    | 4.76                     | 1.66                                       | 75                    | 125                       | 74077.5                      |
| J            | 86025                    | 0                        | 1.61                                       | 300                   |                           | 0                            |
| J            | 86021                    | 0                        | 1.61                                       | 55                    |                           | 0                            |
| J            | 86019                    | 0                        | 1.61                                       | 500                   |                           | 0                            |
| J            | 86013                    | 0.61                     | 1.61                                       | 490                   | 125                       | 60153.625                    |
| I            | 86025                    | 2.9                      | 1.55                                       | 325                   | 125                       | 182609.375                   |
| I            | 86025                    | 4.74                     | 1.55                                       | 45                    | 125                       | 41326.875                    |
| I            | 86021                    | 4.55                     | 1.55                                       | 55                    | 125                       | 48485.9375                   |
| I            | 86021                    | 4.6                      | 1.55                                       | 50                    | 125                       | 44562.5                      |
| I            | 85026                    | 5.68                     | 1.55                                       | 450                   | 125                       | 495225                       |
| I            | 86013                    | 6.98                     | 1.55                                       | 400                   | 125                       | 540950                       |
| H            | 86029                    | 1.22                     | 1.67                                       | 10                    | 125                       | 2546.75                      |
| H            | 85028                    | 4.08                     | 1.67                                       | 1165                  | 125                       | 992230.5                     |

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LOST FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1500 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
|              |                          |                          |  |                       |                           | 0                            |
| P            | 86025                    | 0.92                     | 1.67                                       | 206                   | 125                       | 39562.3                      |
| O            | 86025                    | 1.85                     | 1.72                                       | 210                   | 125                       | 83527.5                      |
| O            | 86012                    | 1.46                     | 1.72                                       | 96                    | 125                       | 30134.4                      |
| N            | 86025                    | 1.05                     | 1.67                                       | 220                   | 125                       | 48221.25                     |
| N            | 86012                    | 1.42                     | 1.67                                       | 430                   | 125                       | 127462.75                    |
| M/N          | 86019                    | 1.17                     | 1.88                                       | 250                   | 125                       | 68737.5                      |
| M            | 86022                    | 1.52                     | 1.76                                       | 104                   | 125                       | 34777.6                      |
| M            | 86019                    | 0.68                     | 1.76                                       | 256                   | 125                       | 38297.6                      |
| M            | 85023                    | 3.44                     | 1.76                                       | 16                    | 125                       | 12108.8                      |
| M            | 86033                    | 3.55                     | 1.76                                       | 402                   | 125                       | 313962                       |
| L            | 86022                    | 2.39                     | 1.67                                       | 108                   | 125                       | 53882.55                     |
| L            | 86014                    | 3.05                     | 1.67                                       | 325                   | 125                       | 206923.4375                  |
| L            | 86015                    | 1.24                     | 1.67                                       | 268                   | 125                       | 69371.8                      |
| L            | 86035                    | 1.42                     | 1.67                                       | 180                   | 125                       | 53356.5                      |
| K/L          | 86027                    | 5.8                      | 1.79                                       | 304                   | 125                       | 394516                       |
| K/L          | 86022                    | 4.3                      | 1.79                                       | 145                   | 125                       | 139508.125                   |
| K/L          | 87023                    | 1.55                     | 1.79                                       | 512                   | 85                        | 120746.24                    |
| K            | 86027                    | 2.77                     | 1.66                                       | 267                   | 125                       | 153464.925                   |
| K            | 86021                    | 1.15                     | 1.66                                       | 47                    | 125                       | 11215.375                    |
| K            | 86019                    | 3.33                     | 1.66                                       | 167                   | 125                       | 115392.825                   |
| K            | 86014                    | 2.58                     | 1.66                                       | 366                   | 125                       | 195938.1                     |
| K            | 86015                    | 3.98                     | 1.66                                       | 271                   | 125                       | 223805.35                    |
| K            | 86036                    | 1.86                     | 1.66                                       | 253                   | 100                       | 78116.28                     |
| K            | 87005                    | 8.06                     | 1.66                                       | 335                   | 125                       | 560270.75                    |
| J            | 86025                    | 0                        | 1.61                                       | 235                   | 125                       | 0                            |
| J            | 86019                    | 0                        | 1.61                                       | 350                   | 125                       | 0                            |
| J            | 87016                    | 0                        | 1.61                                       | 172                   | 125                       | 0                            |
| J            | 86013                    | 0.61                     | 1.61                                       | 440                   | 125                       | 54015.5                      |
| J            | 86036                    | 0.99                     | 1.61                                       | 383                   | 125                       | 76307.9625                   |
| J            | 87005                    | 0                        | 1.61                                       | 335                   | 125                       | 0                            |
| I            | 86025                    | 2.9                      | 1.55                                       | 210                   | 125                       | 117993.75                    |
| I            | 85026                    | 5.68                     | 1.55                                       | 436                   | 125                       | 479818                       |
| I            | 86013                    | 6.98                     | 1.55                                       | 356                   | 125                       | 481445.5                     |
| I            | 87004                    | 3.82                     | 1.55                                       | 214                   | 125                       | 158386.75                    |
| I            | 87006                    | 1.83                     | 1.55                                       | 262                   | 125                       | 92895.375                    |
| H            | 86029                    | 1.22                     | 1.67                                       | 93                    | 125                       | 23684.775                    |
| H            | 85028                    | 4.08                     | 1.67                                       | 1455                  | 125                       | 1239223.5                    |
| H            | 85027                    | 2.25                     | 1.67                                       | 290                   | 125                       | 136209.375                   |
| H            | 85026                    | 3.43                     | 1.67                                       | 466                   | 125                       | 333661.825                   |
| H            | 86010                    | 3.91                     | 1.67                                       | 266                   | 125                       | 217112.525                   |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1625 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| P            | DDH86025                 | 0.92                     | 1.67                                       | 35                    | 110.5                     | 5942.027                     |
| O            | DDH86025                 | 1.85                     | 1.72                                       | 135                   | 125                       | 53696.25                     |
| N            | DDH86012                 | 1.42                     | 1.67                                       | 95                    | 125                       | 28160.375                    |
| N            | DDH86025                 | 1.05                     | 1.67                                       | 98                    | 125                       | 21480.375                    |
| M            | DDH85010                 | 5.74                     | 1.76                                       | 208                   | 125                       | 262662.4                     |
| M            | DDH85023                 | 3.44                     | 1.76                                       | 181                   | 125                       | 136980.8                     |
| M            | DDH86022                 | 1.52                     | 1.76                                       | 307                   | 125                       | 102660.8                     |
| M            | DDH86033                 | 9.86                     | 1.76                                       | 127                   | 125                       | 275488.4                     |
| L            | DDH86014                 | 3.05                     | 1.67                                       | 243                   | 125                       | 154715.0625                  |
| L            | DDH86015                 | 1.24                     | 1.67                                       | 160                   | 120.5                     | 39925.024                    |
| L            | DDH86022                 | 2.39                     | 1.67                                       | 282                   | 125                       | 140693.325                   |
| L            | DDH86035                 | 3.35                     | 1.67                                       | 49                    | 125                       | 34266.3125                   |
| L            | DDH86037                 | 2.34                     | 1.67                                       | 87                    | 125                       | 42497.325                    |
| K/L          | DDH86027                 | 5.8                      | 1.79                                       | 368                   | 125                       | 477572                       |
| K/L          | DDH86034                 | 3.84                     | 1.79                                       | 53                    | 125                       | 45537.6                      |
| K/L          | DDH87023                 | 1.55                     | 1.79                                       | 556                   | 125                       | 192827.75                    |
| K            | DDH86014                 | 2.58                     | 1.66                                       | 406                   | 125                       | 217352.1                     |
| K            | DDH86015                 | 3.98                     | 1.66                                       | 158                   | 125                       | 130484.3                     |
| K            | DDH86027                 | 2.77                     | 1.66                                       | 302                   | 125                       | 173582.05                    |
| K            | DDH86033                 | 5.03                     | 1.66                                       | 9                     | 125                       | 9393.525                     |
| K            | DDH87005                 | 8.06                     | 1.66                                       | 604                   | 125                       | 1010159.8                    |
| J            | DDH86013                 | 0.61                     | 1.61                                       | 202                   | 125                       | 24798.025                    |
| J            | DDH86034                 | 0.75                     | 1.61                                       | 9                     | 125                       | 1358.4375                    |
| J            | DDH86036                 | 0.99                     | 1.61                                       | 105                   | 125                       | 20919.9375                   |
| I            | DDH85026                 | 5.68                     | 1.55                                       | 446                   | 125                       | 490823                       |
| I            | DDH86009                 | 5.8                      | 1.55                                       | 228                   | 125                       | 256215                       |
| I            | DDH86013                 | 6.98                     | 1.55                                       | 198                   | 125                       | 267770.25                    |
| I            | DDH86025                 | 2.9                      | 1.55                                       | 141                   | 125                       | 79224.375                    |
| I            | DDH86034                 | 5.09                     | 1.55                                       | 7                     | 125                       | 6903.3125                    |
| I            | DDH87006                 | 1.83                     | 1.55                                       | 481                   | 125                       | 170544.5625                  |
| H            | DDH85025                 | 3.72                     | 1.67                                       | 19                    | 125                       | 14754.45                     |
| H            | DDH85026                 | 3.43                     | 1.67                                       | 523                   | 125                       | 374474.5375                  |
| H            | DDH85028                 | 4.08                     | 1.67                                       | 180                   | 125                       | 153306                       |
| H            | DDH86004                 | 7.1                      | 1.67                                       | 96                    | 125                       | 142284                       |
| H            | DDH86010                 | 3.91                     | 1.67                                       | 792                   | 125                       | 646440.3                     |
| H            | DDH86029                 | 1.22                     | 1.67                                       | 210                   | 125                       | 53481.75                     |
| H            | DDH86030                 | 2.98                     | 1.67                                       | 120                   | 125                       | 74649                        |
| H            | DDH86031                 | 6.58                     | 1.67                                       | 129                   | 125                       | 177191.175                   |
| H            | DDH87006                 | 1.28                     | 1.67                                       | 323                   | 125                       | 86305.6                      |
| H            | DDH87026                 | 1.25                     | 1.67                                       | 146                   | 125                       | 38096.875                    |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1750 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | DDH86025                 | 1.85                     | 1.72                                       | 11                    | 125                       | 4375.25                      |
| O            | DDH87028                 | 1.49                     | 1.72                                       | 140                   | 125                       | 44849                        |
| N            | DDH86012                 | 1.42                     | 1.67                                       | 284                   | 125                       | 84184.7                      |
| N            | DDH86025                 | 1.05                     | 1.67                                       | 80                    | 125                       | 17535                        |
| N            | DDH87028                 | 0.88                     | 1.67                                       | 290                   | 125                       | 53273                        |
| M            | DDH85010                 | 5.74                     | 1.76                                       | 263                   | 125                       | 332116.4                     |
| M            | DDH85023                 | 3.44                     | 1.76                                       | 190                   | 125                       | 143792                       |
| M            | DDH86022                 | 1.52                     | 1.76                                       | 395                   | 125                       | 132088                       |
| M            | DDH86033                 | 9.86                     | 1.76                                       | 85                    | 125                       | 184382                       |
| M            | DDH87028                 | 1.48                     | 1.76                                       | 325                   | 125                       | 105820                       |
| L            | DDH86014                 | 3.05                     | 1.67                                       | 155                   | 125                       | 98686.5625                   |
| L            | DDH86015                 | 1.24                     | 1.67                                       | 97                    | 125                       | 25108.45                     |
| L            | DDH86022                 | 2.39                     | 1.67                                       | 330                   | 125                       | 164641.125                   |
| L            | DDH86035                 | 3.35                     | 1.67                                       | 100                   | 125                       | 69931.25                     |
| L            | DDH87028                 | 0.73                     | 1.67                                       | 305                   | 125                       | 46478.1875                   |
| K/L          | DDH86027                 | 5.8                      | 1.79                                       | 145                   | 125                       | 188173.75                    |
| K            | DDH86013                 | 4.76                     | 1.66                                       | 12                    | 125                       | 11852.4                      |
| K            | DDH86014                 | 2.58                     | 1.66                                       | 18                    | 118.5                     | 9135.2124                    |
| K            | DDH86014                 | 2.58                     | 1.66                                       | 161                   | 125                       | 86191.35                     |
| K            | DDH86015                 | 3.98                     | 1.66                                       | 187                   | 125                       | 154433.95                    |
| K            | DDH86027                 | 2.77                     | 1.66                                       | 185                   | 125                       | 106333.375                   |
| K            | DDH86034                 | 6.5                      | 1.66                                       | 183                   | 125                       | 246821.25                    |
| K            | DDH87005                 | 8.06                     | 1.66                                       | 715                   | 125                       | 1195801.75                   |
| J            | DDH84006                 | 3.56                     | 1.61                                       | 127                   | 125                       | 90989.15                     |
| I            | DDH84006                 | 5.04                     | 1.55                                       | 7                     | 125                       | 6835.5                       |
| I            | DDH85026                 | 5.68                     | 1.55                                       | 470                   | 125                       | 517235                       |
| I            | DDH86009                 | 5.8                      | 1.55                                       | 427                   | 125                       | 479841.25                    |
| I            | DDH86025                 | 2.9                      | 1.55                                       | 210                   | 125                       | 117993.75                    |
| I            | DDH87006                 | 1.83                     | 1.55                                       | 500                   | 125                       | 177281.25                    |
| H/I          | DDH87006                 | 2.25                     | 1.67                                       | 230                   | 125                       | 108028.125                   |
| H            | DDH84006                 | 3.98                     | 1.67                                       | 7                     | 125                       | 5815.775                     |
| H            | DDH85026                 | 3.43                     | 1.67                                       | 395                   | 125                       | 282824.9375                  |
| H            | DDH85028                 | 4.08                     | 1.67                                       | 154                   | 125                       | 131161.8                     |
| H            | DDH86006                 | 5.89                     | 1.67                                       | 205                   | 125                       | 252055.1875                  |
| H            | DDH86009                 | 9.01                     | 1.67                                       | 427                   | 125                       | 803117.6125                  |
| H            | DDH86029                 | 1.22                     | 1.67                                       | 330                   | 125                       | 84042.75                     |
| H            | DDH86031                 | 6.58                     | 1.67                                       | 188                   | 125                       | 258232.1                     |
| H            | DDH87026                 | 1.25                     | 1.67                                       | 190                   | 125                       | 49578.125                    |
| PH           | DDH84007                 | 2.98                     | 1.78                                       | 103                   | 125                       | 68294.15                     |
| PH           | DDH86008                 | 4.68                     | 1.78                                       | 157                   | 125                       | 163484.1                     |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 1875 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| M            | 86022                    | 1.52                     | 1.76                                       | 290                   | 125                       | 96976                        |
| M            | 85023                    | 3.44                     | 1.76                                       | 192                   | 125                       | 145305.6                     |
| M            | 85010                    | 4.6                      | 1.76                                       | 306                   | 125                       | 309672                       |
| M            | 87028                    | 1.48                     | 1.76                                       | 51                    | 125                       | 16605.6                      |
| L            | 86022                    | 2.39                     | 1.67                                       | 115                   | 125                       | 57374.9375                   |
| L            | 86016                    | 2.29                     | 1.67                                       | 180                   | 125                       | 86046.75                     |
| L            | 86014                    | 3.05                     | 1.67                                       | 110                   | 125                       | 70035.625                    |
| L            | 86015                    | 1.24                     | 1.67                                       | 104                   | 125                       | 26920.4                      |
| L            | 86035                    | 3.35                     | 1.67                                       | 7                     | 125                       | 4895.1875                    |
| L            | 87028                    | 0.73                     | 1.67                                       | 262                   | 125                       | 39925.525                    |
| K            | 87005                    | 8.06                     | 1.66                                       | 720                   | 125                       | 1204164                      |
| K            | 86034                    | 6.5                      | 1.66                                       | 104                   | 125                       | 140270                       |
| K            | 86009                    | 0                        | 1.66                                       | 262                   | 125                       | 0                            |
| K            | 86014                    | 2.58                     | 1.66                                       | 87                    | 125                       | 46575.45                     |
| J            | 84006                    | 3.56                     | 1.61                                       | 501                   | 125                       | 358941.45                    |
| J            | 86009                    | 0                        | 1.61                                       | 267                   | 125                       | 0                            |
| J            | 86030                    | 0.82                     | 1.61                                       | 47                    | 125                       | 7756.175                     |
| J            | 86036                    | 0.99                     | 1.61                                       | 35                    | 125                       | 6973.3125                    |
| J            | 87005                    | 0                        | 1.61                                       | 757                   | 125                       | 0                            |
| I            | 86027                    | 0.95                     | 1.55                                       | 30                    | 125                       | 5521.875                     |
| I            | 87016                    | 4.92                     | 1.55                                       | 107                   | 125                       | 101997.75                    |
| I            | 84006                    | 6.67                     | 1.55                                       | 375                   | 125                       | 484617.1875                  |
| I            | 86009                    | 5.8                      | 1.55                                       | 260                   | 125                       | 292175                       |
| I            | 87006                    | 1.83                     | 1.55                                       | 200                   | 125                       | 70912.5                      |
| I            | 87009                    | 4.79                     | 1.55                                       | 207                   | 125                       | 192108.9375                  |
| I            | 84006                    | 5.04                     | 1.55                                       | 75                    | 125                       | 73237.5                      |
| PH           | 86031                    | 2.32                     | 1.78                                       | 50                    | 125                       | 25810                        |
| PH           | 86029                    | 0                        | 1.78                                       | 363                   | 125                       | 0                            |
| PH           | 85028                    | 0                        | 1.78                                       | 71                    | 125                       | 0                            |
| PH           | 85022                    | 0                        | 1.78                                       | 390                   | 125                       | 0                            |
| PH           | 84005                    | 0                        | 1.78                                       | 206                   | 125                       | 0                            |
| PH           | 85017                    | 0                        | 1.78                                       | 16                    | 125                       | 0                            |
| PH           | 86008                    | 4.68                     | 1.78                                       | 330                   | 125                       | 343629                       |
| PH           | 84007                    | 2.98                     | 1.78                                       | 236                   | 125                       | 156479.8                     |
| PH           | 86030                    | 0                        | 1.78                                       | 294                   | 125                       | 0                            |
| PH           | 87004                    | 1.43                     | 1.78                                       | 585                   | 125                       | 186132.375                   |
| PH           | 87009                    | 2.16                     | 1.78                                       | 325                   | 125                       | 156195                       |
| PH           | 87026                    | 0.85                     | 1.78                                       | 300                   | 125                       | 56737.5                      |
| H/I          | 87006                    | 2.25                     | 1.67                                       | 127                   | 125                       | 59650.3125                   |
| H/I          | 87026                    | 0                        | 1.67                                       | 248                   | 125                       | 0                            |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2000 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| M            | 86022                    | 1.52                     | 1.76                                       | 251                   | 125                       | 83934.4                      |
| M            | 85023                    | 3.44                     | 1.76                                       | 76                    | 125                       | 57516.8                      |
| M            | 85023                    | 3.44                     | 1.76                                       | 76                    | 125                       | 57516.8                      |
| M            | 85005                    | 2.93                     | 1.76                                       | 38                    | 125                       | 24494.8                      |
| M            | 85010                    | 4.6                      | 1.76                                       | 295                   | 125                       | 298540                       |
| M            | 87028                    | 1.48                     | 1.76                                       | 100                   | 110                       | 28652.8                      |
| M            | 85005                    | 3.94                     | 1.76                                       | 44                    | 125                       | 38139.2                      |
| L            | 86016                    | 2.29                     | 1.67                                       | 342                   | 125                       | 163488.825                   |
| L            | 86014                    | 3.05                     | 1.67                                       | 52                    | 125                       | 33107.75                     |
| L            | 85010                    | 1.81                     | 1.67                                       | 192                   | 125                       | 72544.8                      |
| L            | 86015                    | 1.24                     | 1.67                                       | 5                     | 125                       | 1294.25                      |
| L            | 86011                    | 4.91                     | 1.67                                       | 22                    | 95                        | 17137.373                    |
| L            | 87028                    | 0.73                     | 1.67                                       | 49                    | 80                        | 4778.872                     |
| L            | 87028                    | 0.73                     | 1.67                                       | 500                   | 125                       | 76193.75                     |
| K/L          | 86027                    | 5.8                      | 1.79                                       | 215                   | 125                       | 279016.25                    |
| K/L          | 86004                    | 3.76                     | 1.79                                       | 50                    | 125                       | 42065                        |
| K/L          | 87023                    | 1.55                     | 1.79                                       | 78                    | 80                        | 17312.88                     |
| K/L          | 87028                    | 0                        | 1.79                                       | 261                   | 125                       | 0                            |
| K            | 86029                    | 2.96                     | 1.66                                       | 190                   | 125                       | 116698                       |
| K            | 86014                    | 2.58                     | 1.66                                       | 46                    | 125                       | 24626.1                      |
| K            | 86009                    | 0                        | 1.66                                       | 237                   | 125                       | 0                            |
| K            | 87005                    | 8.06                     | 1.66                                       | 602                   | 125                       | 1006814.9                    |
| K            | 87028                    | 2.25                     | 1.66                                       | 30                    | 80                        | 8964                         |
| K            | 87028                    | 2.25                     | 1.66                                       | 363                   | 125                       | 169475.625                   |
| J            | 86027                    | 0                        | 1.61                                       | 30                    | 100                       | 0                            |
| J            | 86027                    | 0                        | 1.61                                       | 212                   | 125                       | 0                            |
| J            | 85029                    | 0                        | 1.61                                       | 20                    | 20                        | 0                            |
| J            | 85029                    | 0                        | 1.61                                       | 130                   | 125                       | 0                            |
| J            | 87016                    | 0                        | 1.61                                       | 29                    | 125                       | 0                            |
| J            | 84006                    | 3.56                     | 1.61                                       | 238                   | 125                       | 170515.1                     |
| J            | 86009                    | 0                        | 1.61                                       | 205                   | 125                       | 0                            |
| J            | 86030                    | 0.82                     | 1.61                                       | 40                    | 95                        | 5016.76                      |
| J            | 87005                    | 0                        | 1.61                                       | 40                    | 80                        | 0                            |
| J            | 87005                    | 0                        | 1.61                                       | 874                   | 125                       | 0                            |
| I            | 86031                    | 4.5                      | 1.55                                       | 105                   | 125                       | 91546.875                    |
| I            | 84006                    | 6.67                     | 1.55                                       | 243                   | 125                       | 314031.9375                  |
| I            | 86009                    | 5.8                      | 1.55                                       | 201                   | 125                       | 225873.75                    |
| I            | 87005                    | 3.44                     | 1.55                                       | 66                    | 125                       | 43989                        |
| I            | 87009                    | 4.79                     | 1.55                                       | 50                    | 100                       | 37122.5                      |
| I            | 87009                    | 4.79                     | 1.55                                       | 919                   | 125                       | 852889.4375                  |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2125 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| L            | 85010                    | 1.81                     | 1.67                                       | 17                    | 45                        | 2312.3655                    |
| K/L          | 86027                    | 5.8                      | 1.79                                       | 50                    | 105                       | 54505.5                      |
| K/L          | 86027                    | 5.8                      | 1.79                                       | 215                   | 125                       | 279016.25                    |
| K/L          | 87028                    | 0                        | 1.79                                       | 230                   | 125                       | 0                            |
| K            | 86029                    | 2.96                     | 1.66                                       | 158                   | 125                       | 97043.6                      |
| K            | 86009                    | 5.82                     | 1.66                                       | 163                   | 125                       | 196846.95                    |
| K            | 87028                    | 2.25                     | 1.66                                       | 313                   | 125                       | 146131.875                   |
| J            | 86027                    | 0                        | 1.61                                       | 466                   | 125                       | 0                            |
| J            | 84006                    | 3.56                     | 1.61                                       | 193                   | 125                       | 138274.85                    |
| J            | 86004                    | 0                        | 1.61                                       | 205                   | 125                       | 0                            |
| J            | 87005                    | 0                        | 1.61                                       | 521                   | 125                       | 0                            |
| I            | 84006                    | 6.67                     | 1.55                                       | 194                   | 125                       | 250708.625                   |
| I            | 86004                    | 5.28                     | 1.55                                       | 198                   | 125                       | 202554                       |
| I            | 87009                    | 4.79                     | 1.55                                       | 631                   | 125                       | 585607.4375                  |
| H            | 84006                    | 0.61                     | 1.67                                       | 194                   | 125                       | 24703.475                    |
| H            | 86004                    | 7.1                      | 1.67                                       | 198                   | 125                       | 293460.75                    |
| PH           | 84005                    | 0                        | 1.78                                       | 346                   | 125                       | 0                            |
| PH           | 85017                    | 0                        | 1.78                                       | 273                   | 125                       | 0                            |
| PH           | 84007                    | 2.98                     | 1.78                                       | 78                    | 125                       | 51717.9                      |
| PH           | 86030                    | 0                        | 1.78                                       | 566                   | 125                       | 0                            |
| PH           | 87009                    | 2.16                     | 1.78                                       | 256                   | 125                       | 123033.6                     |
| PH           | 87026                    | 0.85                     | 1.78                                       | 30                    | 125                       | 5673.75                      |
| G            | 87007                    | 2.71                     | 1.8  | 60                    | 125                       | 36585                        |
| G            | 85008                    | 1.69                     | 1.8  | 83                    | 125                       | 31560.75                     |
| G            | 84005                    | 0                        | 1.8  | 344                   | 125                       | 0                            |
| G            | 85017                    | 1.01                     | 1.8  | 466                   | 125                       | 105898.5                     |
| G            | 84007                    | 0                        | 1.8  | 933                   | 125                       | 0                            |
| G            | 87027                    | 0.71                     | 1.8  | 1145                  | 125                       | 182913.75                    |
| F            | 85006                    | 3.1                      | 1.74                                       | 1683                  | 125                       | 1134762.75                   |
| F            | 85017                    | 1.93                     | 1.74                                       | 625                   | 125                       | 262359.375                   |
| F            | 84007                    | 1.07                     | 1.74                                       | 1123                  | 125                       | 261350.175                   |
| F            | 87029                    | 1.45                     | 1.74                                       | 1210                  | 125                       | 381603.75                    |
|              |                          |                          |  |                       |                           | 0                            |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 4848624.978

continued on next page

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2250 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| L            | 87028                    | 0.73                     | 1.67                                       | 60                    | 125                       | 9143.25                      |
| L            | 85010                    | 1.81                     | 1.67                                       | 18                    | 125                       | 6801.075                     |
| K            | 86029                    | 2.96                     | 1.66                                       | 84                    | 70                        | 28891.968                    |
| K            | 87028                    | 2.25                     | 1.66                                       | 175                   | 125                       | 81703.125                    |
| K            | 87005                    | 8.06                     | 1.66                                       | 100                   | 125                       | 167245                       |
| J            | 84006                    | 3.56                     | 1.61                                       | 165                   | 125                       | 118214.25                    |
| I            | 87009                    | 4.79                     | 1.55                                       | 455                   | 125                       | 422268.4375                  |
| I            | 86004                    | 5.28                     | 1.55                                       | 165                   | 125                       | 168795                       |
| I            | 84006                    | 6.67                     | 1.55                                       | 165                   | 125                       | 213231.5625                  |
| H            | 87026                    | 1.25                     | 1.67                                       | 65                    | 125                       | 16960.9375                   |
| H            | 86004                    | 7.1                      | 1.67                                       | 173                   | 125                       | 256407.625                   |
| H            | 84006                    | 0.61                     | 1.67                                       | 165                   | 125                       | 21010.6875                   |
| PH           | 87026                    | 1.82                     | 1.78                                       | 72                    | 125                       | 29156.4                      |
| PH           | 87009                    | 2.16                     | 1.78                                       | 265                   | 125                       | 127359                       |
| PH           | 84007                    | 2.98                     | 1.78                                       | 115                   | 125                       | 76250.75                     |
| PH           | 86008                    | 4.68                     | 1.78                                       | 110                   | 125                       | 114543                       |
| G            | 87027                    | 0.71                     | 1.8  | 800                   | 125                       | 127800                       |
| G            | 85017                    | 3.8                      | 1.8  | 512                   | 125                       | 437760                       |
| G            | 84008                    | 3.28                     | 1.8  | 25                    | 125                       | 18450                        |
| G            | 85008                    | 1.69                     | 1.8  | 50                    | 102                       | 15514.2                      |
| G            | 85006                    | 6.1                      | 1.8  | 15                    | 125                       | 20587.5                      |
| G            | 87007                    | 4.76                     | 1.8  | 80                    | 125                       | 85680                        |
| G            | 86031                    | 9.85                     | 1.8  | 155                   | 125                       | 343518.75                    |
| F            | 87029                    | 1.45                     | 1.74                                       | 1260                  | 125                       | 397372.5                     |
| F            | 84007                    | 1.07                     | 1.74                                       | 930                   | 125                       | 216434.25                    |
| F            | 85017                    | 1.93                     | 1.74                                       | 435                   | 125                       | 182602.125                   |
| F            | 85006                    | 3.1                      | 1.74                                       | 1217                  | 125                       | 820562.25                    |
|              |                          |                          |  |                       |                           | 0                            |
|              |                          |                          |  |                       |                           | 0                            |
|              |                          |                          |  |                       |                           | 0                            |

seams >=0.5m:

TOTAL TONNES FOR THIS SECTION : 4524263.643

SEAM TOTALS:

L: 15944.325

continued on next page

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2375 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| L            | 86011                    | 4.91                     | 1.67                                       | 50                    | 125                       | 51248.125                    |
| K/L          | 86004                    | 2.04                     | 1.79                                       | 68                    | 125                       | 31038.6                      |
| K/L          | 86014                    | 0.97                     | 1.79                                       | 210                   | 125                       | 45577.875                    |
| J            | 84006                    | 3.56                     | 1.61                                       | 115                   | 125                       | 82391.75                     |
| I            | 87009                    | 4.79                     | 1.55                                       | 562                   | 125                       | 521571.125                   |
| I            | 85017                    | 5.37                     | 1.55                                       | 120                   | 125                       | 124852.5                     |
| I            | 84008                    | 3.86                     | 1.55                                       | 138                   | 125                       | 103206.75                    |
| I            | 84006                    | 5.04                     | 1.55                                       | 115                   | 125                       | 112297.5                     |
| H            | 87026                    | 1.25                     | 1.67                                       | 151                   | 125                       | 39401.5625                   |
| H            | 87012                    | 5.31                     | 1.67                                       | 10                    | 125                       | 11084.625                    |
| H            | 87019                    | 5.2                      | 1.67                                       | 325                   | 125                       | 352787.5                     |
| H            | 84007                    | 3.98                     | 1.67                                       | 35                    | 125                       | 29078.875                    |
| H            | 85017                    | 4.67                     | 1.67                                       | 128                   | 125                       | 124782.4                     |
| H            | 84008                    | 6.41                     | 1.67                                       | 138                   | 125                       | 184656.075                   |
| H            | 84006                    | 0.61                     | 1.67                                       | 112                   | 125                       | 14261.8                      |
| PH           | 87026                    | 1.82                     | 1.78                                       | 160                   | 125                       | 64792                        |
| PH           | 87009                    | 2.16                     | 1.78                                       | 335                   | 125                       | 161001                       |
| PH           | 84007                    | 2.98                     | 1.78                                       | 544                   | 125                       | 360699.2                     |
| G            | 87027                    | 0.71                     | 1.8  | 164                   | 125                       | 26199                        |
| G            | 87027                    | 0.63                     | 1.8  | 350                   | 125                       | 49612.5                      |
| G            | 85001                    | 0.94                     | 1.8  | 175                   | 125                       | 37012.5                      |
| G            | 85017                    | 3.8                      | 1.8  | 204                   | 125                       | 174420                       |
| G            | 84008                    | 3.28                     | 1.8  | 215                   | 125                       | 158670                       |
| G            | 87007                    | 4.76                     | 1.8  | 95                    | 125                       | 101745                       |
| G            | 86031                    | 9.85                     | 1.8  | 293                   | 125                       | 649361.25                    |
| GL           | 83001                    | 2.25                     | 1.8  | 534                   | 125                       | 270337.5                     |
| F            | 87029                    | 1.45                     | 1.74                                       | 1040                  | 125                       | 327990                       |
| F            | 84007                    | 1.07                     | 1.74                                       | 832                   | 125                       | 193627.2                     |
| F            | 85017                    | 1.93                     | 1.74                                       | 279                   | 125                       | 117117.225                   |
| F            | 85006                    | 3.1                      | 1.74                                       | 440                   | 125                       | 296670                       |
| E            | 84007                    | 1                        | 1.56                                       | 62                    | 125                       | 12090                        |
| E            | 84007                    | 3.79                     | 1.56                                       | 885                   | 125                       | 654059.25                    |
| E            | 85017                    | 3.93                     | 1.56                                       | 80                    | 125                       | 61308                        |
| E            | 85006                    | 0.91                     | 1.56                                       | 363                   | 125                       | 64414.35                     |
| E            | 85020                    | 1.91                     | 1.56                                       | 606                   | 125                       | 225704.7                     |
|              |                          |                          |  |                       |                           | 0                            |
|              |                          |                          |  |                       |                           | 0                            |

seams >=0.5m

continued on next page

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2500 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 87028                    | 1.49                     | 1.72                                       | 45                    | 125                       | 14415.75                     |
| N            | 87028                    | 0.88                     | 1.67                                       | 30                    | 125                       | 5511                         |
| M/N          | 87028                    | 0.88                     | 1.88                                       | 30                    | 125                       | 6204                         |
| I            | 85009                    | 4.9                      | 1.55                                       | 25                    | 125                       | 23734.375                    |
| I            | 84008                    | 3.86                     | 1.55                                       | 55                    | 125                       | 41133.125                    |
| I            | 87009                    | 4.79                     | 1.55                                       | 500                   | 125                       | 464031.25                    |
| I            | 87030                    | 2.87                     | 1.55                                       | 320                   | 125                       | 177940                       |
| J            | 85009                    | 0                        | 1.61                                       | 25                    |                           | 0                            |
| J            | 84008                    | 0                        | 1.61                                       | 55                    |                           | 0                            |
| J            | 87005                    | 0                        | 1.61                                       | 250                   |                           | 0                            |
| J            | 87030                    | 0                        | 1.61                                       | 525                   |                           | 0                            |
| H/I          | 87026                    | 0                        | 1.67                                       | 825                   |                           | 0                            |
| PH           | 84005                    | 0                        | 1.78                                       | 230                   |                           | 0                            |
| PH           | 85012                    | 0                        | 1.78                                       | 30                    |                           | 0                            |
| PH           | 85013                    | 0                        | 1.78                                       | 65                    |                           | 0                            |
| PH           | 85017                    | 0                        | 1.78                                       | 185                   |                           | 0                            |
| PH           | 84007                    | 2.98                     | 1.78                                       | 155                   | 125                       | 102772.75                    |
| PH           | 85001                    | 0                        | 1.78                                       | 600                   |                           | 0                            |
| PH           | 87009                    | 2.16                     | 1.78                                       | 295                   | 125                       | 141777                       |
| PH           | 87029                    | 1.34                     | 1.78                                       | 640                   | 125                       | 190816                       |
| G            | 86031                    | 5.78                     | 1.8  | 310                   | 125                       | 403155                       |
| G            | 86031                    | 5.78                     | 1.8  | 90                    | 125                       | 117045                       |
| G            | 85017                    | 1.01                     | 1.8  | 55                    | 125                       | 12498.75                     |
| G            | 84007                    | 0                        | 1.8  | 330                   |                           | 0                            |
| G            | 85001                    | 0.94                     | 1.8  | 525                   | 125                       | 111037.5                     |
| G            | 87027                    | 0.71                     | 1.8  | 330                   | 125                       | 52717.5                      |
| G            | 87029                    | 0                        | 1.8  | 640                   |                           | 0                            |
| H            | 84006                    | 0.61                     | 1.67                                       | 190                   | 125                       | 24194.125                    |
| H            | 84008                    | 6.41                     | 1.67                                       | 105                   | 125                       | 140499.1875                  |
| H            | 87029                    | 0.92                     | 1.67                                       | 640                   | 125                       | 122912                       |
| GL           | 83001                    | 2.25                     | 1.8  | 180                   | 125                       | 91125                        |
| F            | 85020                    | 0                        | 1.74                                       | 660                   | 125                       | 0                            |
| F            | 85017                    | 1.93                     | 1.74                                       | 160                   | 125                       | 67164                        |
| F            | 85019                    | 4.21                     | 1.74                                       | 20                    | 125                       | 18313.5                      |
| F            | 84007                    | 1.07                     | 1.74                                       | 855                   | 125                       | 198979.875                   |
| F            | 87029                    | 1.45                     | 1.56                                       | 1415                  | 125                       | 400091.25                    |
| E            | 85020                    | 1.91                     | 1.56                                       | 790                   | 125                       | 294235.5                     |
| E            | 85006                    | 0.91                     | 1.56                                       | 155                   | 125                       | 27504.75                     |
| E            | 85017                    | 2.34                     | 1.56                                       | 120                   | 125                       | 54756                        |
| E            | 85019                    | 0                        | 1.56                                       | 20                    | 125                       | 0                            |

continued on next page

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2625 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 87028                    | 1.49                     | 1.72                                       | 130                   | 125                       | 41645.5                      |
| N            | 87028                    | 0.88                     | 1.67                                       | 182                   | 125                       | 33433.4                      |
| M            | 85010                    | 5.74                     | 1.76                                       | 55                    | 125                       | 69454                        |
| M            | 85005                    | 2.93                     | 1.76                                       | 45                    | 125                       | 29007                        |
| L            | 85009                    | 4.46                     | 1.67                                       | 12                    | 125                       | 11172.3                      |
| K            | 85010                    | 3.96                     | 1.66                                       | 38                    | 125                       | 31224.6                      |
| K            | 85009                    | 2.81                     | 1.66                                       | 17                    | 125                       | 9912.275                     |
| K            | 84008                    | 3.93                     | 1.66                                       | 44                    | 125                       | 35880.9                      |
| K            | 85011                    | 4.19                     | 1.66                                       | 15                    | 125                       | 13041.375                    |
| I            | 87030                    | 2.87                     | 1.55                                       | 626                   | 125                       | 348095.125                   |
| I            | 87009                    | 4.79                     | 1.55                                       | 370                   | 125                       | 343383.125                   |
| I            | 84008                    | 3.86                     | 1.55                                       | 15                    | 125                       | 11218.125                    |
| I            | 85009                    | 4.9                      | 1.55                                       | 12                    | 125                       | 11392.5                      |
| H            | 87029                    | 0.92                     | 1.67                                       | 625                   | 125                       | 120031.25                    |
| H            | 84008                    | 6.41                     | 1.67                                       | 70                    | 125                       | 93666.125                    |
| H            | 85012                    | 3.22                     | 1.67                                       | 140                   | 125                       | 94104.5                      |
| H            | 85006                    | 2.76                     | 1.67                                       | 100                   | 125                       | 57615                        |
| PH           | 87029                    | 1.34                     | 1.78                                       | 630                   | 125                       | 187834.5                     |
| PH           | 87027                    | 0.97                     | 1.78                                       | 47                    | 125                       | 10143.775                    |
| PH           | 87009                    | 2.16                     | 1.78                                       | 330                   | 125                       | 158598                       |
| PH           | 85013                    | 0.65                     | 1.78                                       | 180                   | 125                       | 26032.5                      |
| G            | 87027                    | 0.71                     | 1.8  | 380                   | 125                       | 60705                        |
| G            | 85001                    | 0.94                     | 1.8  | 890                   | 125                       | 188235                       |
| G            | 85017                    | 3.8                      | 1.8  | 80                    | 125                       | 68400                        |
| G            | 86031                    | 9.85                     | 1.8  | 307                   | 125                       | 680388.75                    |
| G            | 86031                    | 9.85                     | 1.8  | 140                   | 106                       | 263113.2                     |
| GL           | 83001                    | 2.25                     | 1.8  | 15                    | 125                       | 7593.75                      |
| F            | 87029                    | 1.45                     | 1.74                                       | 1240                  | 125                       | 391065                       |
| F            | 84007                    | 1.07                     | 1.74                                       | 970                   | 125                       | 225743.25                    |
| F            | 85019                    | 4.74                     | 1.74                                       | 54                    | 125                       | 55671.3                      |
| F            | 85013                    | 3.2                      | 1.74                                       | 115                   | 125                       | 80040                        |
| F            | 85006                    | 3.1                      | 1.74                                       | 110                   | 125                       | 74167.5                      |
| F            | 85020                    | 2.49                     | 1.74                                       | 560                   | 125                       | 303282                       |
| E            | 84007                    | 1                        | 1.56                                       | 1080                  | 125                       | 210600                       |
| E            | 85017                    | 3.93                     | 1.56                                       | 63                    | 125                       | 48280.05                     |
| E            | 85006                    | 0.91                     | 1.56                                       | 107                   | 125                       | 18987.15                     |
| E            | 85020                    | 1.91                     | 1.56                                       | 920                   | 125                       | 342654                       |
| D            | 85020                    | 8.54                     | 1.74                                       | 1442                  | 125                       | 2678442.9                    |
| C            | 85020                    | 2.84                     | 1.49                                       | 1415                  | 125                       | 748464.25                    |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2750 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 87028                    | 1.49                     | 1.72                                       | 350                   | 125                       | 112122.5                     |
| O            | 85005                    | 1.33                     | 1.72                                       | 175                   | 125                       | 50041.25                     |
| N            | 87028                    | 0.88                     | 1.67                                       | 490                   | 125                       | 90013                        |
| N            | 85003                    | 1.72                     | 1.67                                       | 265                   | 125                       | 95148.25                     |
| N            | 85003                    | 1.44                     | 1.67                                       | 265                   | 72                        | 45883.584                    |
| M            | 87028                    | 1.48                     | 1.76                                       | 40                    | 125                       | 13024                        |
| M            | 87028                    | 1.48                     | 1.76                                       | 27                    | 125                       | 8791.2                       |
| L            | 87028                    | 0.73                     | 1.67                                       | 25                    | 125                       | 3809.6875                    |
| L            | 87028                    | 0.73                     | 1.67                                       | 105                   | 125                       | 16000.6875                   |
| L            | 87015                    | 4.84                     | 1.67                                       | 150                   | 125                       | 151552.5                     |
| K/L          | 87028                    | 0                        | 0  | 28                    | 0                         | 0                            |
| K/L          | 87028                    | 0                        | 0  | 150                   | 0                         | 0                            |
| K            | 87028                    | 2.25                     | 1.66                                       | 25                    | 125                       | 11671.875                    |
| K            | 87028                    | 2.25                     | 1.66                                       | 190                   | 125                       | 88706.25                     |
| K            | 87033                    | 3.32                     | 1.66                                       | 60                    | 125                       | 41334                        |
| K            | 87015                    | 1.92                     | 1.66                                       | 100                   | 125                       | 39840                        |
| I            | 87030                    | 2.87                     | 1.55                                       | 300                   | 125                       | 166818.75                    |
| I            | 87030                    | 2.87                     | 1.55                                       | 475                   | 125                       | 264129.6875                  |
| I            | 87009                    | 4.79                     | 1.55                                       | 200                   | 125                       | 185612.5                     |
| I            | 87017                    | 2.26                     | 1.55                                       | 43                    | 125                       | 18828.625                    |
| H/I          | 87026                    | 0                        | 0  | 910                   | 0                         | 0                            |
| PH           | 87029                    | 1.34                     | 1.78                                       | 575                   | 125                       | 171436.25                    |
| PH           | 87027                    | 0.97                     | 1.78                                       | 50                    | 125                       | 10791.25                     |
| PH           | 87009                    | 2.16                     | 1.78                                       | 135                   | 125                       | 64881                        |
| PH           | 85001                    | 0                        | 0  | 300                   | 0                         | 0                            |
| H            | 87029                    | 3.29                     | 1.67                                       | 580                   | 125                       | 398336.75                    |
| H            | 87012                    | 5.31                     | 1.67                                       | 280                   | 115                       | 285539.94                    |
| H            | 87019                    | 1.98                     | 1.67                                       | 100                   | 125                       | 41332.5                      |
| H            | 85004                    | 3.96                     | 1.67                                       | 33                    | 125                       | 27279.45                     |
| H            | 85004                    | 3.96                     | 1.67                                       | 60                    | 125                       | 49599                        |
| H            | 85004                    | 3.96                     | 1.67                                       | 30                    | 125                       | 24799.5                      |
| G            | 87027                    | 0.71                     | 1.8  | 245                   | 125                       | 39138.75                     |
| G            | 85001                    | 0.94                     | 1.8  | 325                   | 125                       | 68737.5                      |
| G            | 85017                    | 1.01                     | 1.8  | 110                   | 125                       | 24997.5                      |
| G            | 84008                    | 3.28                     | 1.8  | 35                    | 125                       | 25830                        |
| G            | 84008                    | 3.28                     | 1.8  | 123                   | 125                       | 90774                        |
| G            | 85004                    | 1.37                     | 1.8  | 30                    | 125                       | 9247.5                       |
| G            | 86031                    | 5.78                     | 1.8  | 295                   | 125                       | 383647.5                     |
| F            | 87029                    | 1.45                     | 1.74                                       | 560                   | 125                       | 176610                       |
| F            | 87029                    | 1.45                     | 1.74                                       | 600                   | 125                       | 189225                       |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 2875 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 87028                    | 1.49                     | 1.72                                       | 400                   | 125                       | 128140                       |
| O(UP)        | 85005                    | 1.33                     | 1.72                                       | 75                    | 100                       | 17157                        |
| O(OVT)       | 85005                    | 0.67                     | 1.72                                       | 30                    | 90                        | 3111.48                      |
| N            | 87028                    | 0.88                     | 1.67                                       | 575                   | 125                       | 105627.5                     |
| N(UP)        | 85003                    | 1.44                     | 1.67                                       | 200                   | 125                       | 60120                        |
| N(OVT)       | 85003                    | 1.72                     | 1.67                                       | 100                   | 125                       | 35905                        |
| M            | 87031                    | 2.08                     | 1.76                                       | 115                   | 125                       | 52624                        |
| M            | 87028                    | 1.48                     | 1.76                                       | 225                   | 125                       | 73260                        |
| L            | 87031                    | 1.45                     | 1.67                                       | 115                   | 125                       | 34809.0625                   |
| L            | 87028                    | 0.73                     | 1.67                                       | 300                   | 125                       | 45716.25                     |
| J            | 82005                    | 0                        | 0  |                       |                           | 0                            |
| L            | 87015                    | 4.84                     | 1.67                                       | 100                   | 125                       | 101035                       |
| K            | 87015                    | 1.92                     | 1.66                                       | 150                   | 125                       | 59760                        |
| K            | 87028                    | 2.25                     | 1.66                                       | 375                   | 125                       | 175078.125                   |
| K            | 87031                    | 4.17                     | 1.66                                       | 115                   | 125                       | 99506.625                    |
| I            | 87013                    | 4.77                     | 1.55                                       | 150                   | 125                       | 138628.125                   |
| I            | 82005                    | 4.98                     | 1.55                                       | 5                     | 125                       | 4824.375                     |
| I            | 87009                    | 4.79                     | 1.55                                       | 150                   | 125                       | 139209.375                   |
| I            | 87030                    | 2.87                     | 1.55                                       | 775                   | 125                       | 430948.4375                  |
| H            | 87013                    | 1.35                     | 1.67                                       | 125                   | 125                       | 35226.5625                   |
| H            | 87029                    | 3.29                     | 1.67                                       | 575                   | 125                       | 394902.8125                  |
| Ph           | 87029                    | 1.34                     | 1.78                                       | 607                   | 125                       | 180977.05                    |
| G            | 85017                    | 1.01                     | 1.8  | 225                   | 125                       | 51131.25                     |
| G            | 85004                    | 4.23                     | 1.8  | 100                   | 125                       | 95175                        |
| G            | 86031                    | 5.78                     | 1.8  | 130                   | 125                       | 169065                       |
| K/L          | 87028                    | 0                        | 0  | 325                   | 125                       | 0                            |
| K/L          | 87031                    | 0.7                      | 1.79                                       | 115                   | 125                       | 18011.875                    |
| F            | 85020                    | 0                        | 1.74                                       | 265                   | 125                       | 0                            |
| F            | 85004                    | 2.35                     | 1.74                                       | 40                    | 125                       | 20445                        |
| F            | 85016                    | 2.13                     | 1.74                                       | 35                    | 125                       | 16214.625                    |
| F            | 85013                    | 3.2                      | 1.74                                       | 110                   | 125                       | 76560                        |
| F            | 85019                    | 4.21                     | 1.74                                       | 500                   | 125                       | 457837.5                     |
| F            | 84007                    | 1.07                     | 1.74                                       | 40                    | 125                       | 9309                         |
| E            | 85020                    | 1.91                     | 1.56                                       | 450                   | 125                       | 167602.5                     |
| E            | 85020                    | 1.91                     | 1.56                                       | 150                   | 125                       | 55867.5                      |
| E            | 85004                    | 2.23                     | 1.56                                       | 15                    | 125                       | 6522.75                      |
| E            | 85016                    | 2.22                     | 1.56                                       | 365                   | 125                       | 158008.5                     |
| E            | 85017                    | 2.34                     | 1.56                                       | 250                   | 125                       | 114075                       |
| E            | 85019                    | 0                        | 1.56                                       | 550                   | 82                        | 0                            |
| E            | 84007                    | 1                        | 1.56                                       | 36                    | 125                       | 7020                         |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3000 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 87028                    | 1.49                     | 1.72                                       | 443                   | 125                       | 141915.05                    |
| N            | 87028                    | 0.88                     | 1.67                                       | 605                   | 125                       | 111138.5                     |
| M            | 87031                    | 2.08                     | 1.76                                       | 70                    | 125                       | 32032                        |
| M            | 87030                    | 2.23                     | 1.76                                       | 66                    | 125                       | 32379.6                      |
| M            | 87030                    | 2.23                     | 1.76                                       | 421                   | 125                       | 206542.6                     |
| L            | 87031                    | 1.45                     | 1.67                                       | 78                    | 125                       | 23609.625                    |
| L            | 87030                    | 1.98                     | 1.67                                       | 55                    | 125                       | 22732.875                    |
| L            | 87030                    | 1.98                     | 1.67                                       | 470                   | 125                       | 194262.75                    |
| K/L          | 87031                    | 3.65                     | 1.79                                       | 76                    | 125                       | 62068.25                     |
| K/L          | 87030                    | 3.5                      | 1.79                                       | 55                    | 125                       | 43071.875                    |
| K/L          | 87030                    | 3.5                      | 1.79                                       | 530                   | 125                       | 415056.25                    |
| K/L          | 85012                    | 1.49                     | 1.79                                       | 47                    | 125                       | 15669.2125                   |
| K            | 87031                    | 4.17                     | 1.66                                       | 114                   | 125                       | 98641.35                     |
| K            | 87030                    | 3.26                     | 1.66                                       | 645                   | 125                       | 436310.25                    |
| J            | 87030                    | 0                        | 1.61                                       | 955                   | 125                       | 0                            |
| I            | 87030                    | 2.87                     | 1.55                                       | 657                   | 125                       | 365333.0625                  |
| I            | 87030                    | 2.87                     | 1.55                                       | 290                   | 125                       | 161258.125                   |
| H/I          | 87009                    | 0                        | 1.67                                       | 70                    | 125                       | 0                            |
| H/I          | 87026                    | 0                        | 1.67                                       | 355                   | 125                       | 0                            |
| H            | 87029                    | 0.92                     | 1.67                                       | 690                   | 125                       | 132514.5                     |
| Ph           | 87029                    | 1.34                     | 1.78                                       | 683                   | 125                       | 203636.45                    |
| Ph           | 85019                    | 0                        | 1.78                                       | 27                    | 125                       | 0                            |
| Ph           | 85013                    | 0.65                     | 1.78                                       | 35                    | 86                        | 3482.57                      |
| Ph           | 87029                    | 1.34                     | 1.78                                       | 680                   | 125                       | 202742                       |
| G            | 85017                    | 1.01                     | 1.8  | 93                    | 125                       | 21134.25                     |
| G            | 85013                    | 0                        | 1.8  | 140                   | 125                       | 0                            |
| G            | 85016                    | 0.79                     | 1.8  | 145                   | 125                       | 25773.75                     |
| G            | 83001                    | 3.93                     | 1.8  | 74                    | 125                       | 65434.5                      |
| F            | 85019                    | 4.21                     | 1.74                                       | 555                   | 125                       | 508199.625                   |
| F            | 85019                    | 4.21                     | 1.74                                       | 27                    | 125                       | 24723.225                    |
| F            | 85013                    | 3.2                      | 1.74                                       | 28                    | 125                       | 19488                        |
| F            | 85016                    | 2.13                     | 1.74                                       | 150                   | 125                       | 69491.25                     |
| F            | 85004                    | 2.35                     | 1.74                                       | 65                    | 125                       | 33223.125                    |
| E            | 85020                    | 1.91                     | 1.56                                       | 279                   | 125                       | 103913.55                    |
| E            | 85020                    | 1.91                     | 1.56                                       | 85                    | 79                        | 20008.014                    |
| E            | 85004                    | 2.23                     | 1.56                                       | 38                    | 125                       | 16524.3                      |
| E            | 85016                    | 2.22                     | 1.56                                       | 400                   | 125                       | 173160                       |
| E            | 85017                    | 2.34                     | 1.56                                       | 142                   | 125                       | 64794.6                      |
| E            | 85019                    | 0                        | 1.56                                       | 750                   | 125                       | 0                            |
| D            | 85020                    | 4.74                     | 1.74                                       | 999                   | 125                       | 1029919.05                   |

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LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3125 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| O            | 87028                    | 1.49                     | 1.72                                       | 55                    | 125                       | 17619.25                     |
| N            | 87028                    | 0.88                     | 1.67                                       | 622                   | 125                       | 114261.4                     |
| M            | 82005                    | 2.24                     | 1.76                                       | 140                   | 125                       | 68992                        |
| M            | 87030                    | 2.23                     | 1.76                                       | 245                   | 125                       | 120197                       |
| L            | 87030                    | 1.98                     | 1.67                                       | 307                   | 125                       | 126890.775                   |
| K/L          | 87030                    | 3.5                      | 1.79                                       | 335                   | 125                       | 262346.875                   |
| K            | 87030                    | 3.26                     | 1.66                                       | 384                   | 125                       | 259756.8                     |
| K            | 85012                    | 3.64                     | 1.66                                       | 290                   | 125                       | 219037                       |
| I            | 87030                    | 2.87                     | 1.55                                       | 490                   | 125                       | 272470.625                   |
| I            | 85016                    | 5.55                     | 1.55                                       | 11                    | 125                       | 11828.4375                   |
| I            | 85030                    | 3.98                     | 1.55                                       | 23                    | 125                       | 17735.875                    |
| I            | 85001                    | 4.38                     | 1.55                                       | 22                    | 115                       | 17176.17                     |
| H            | 87029                    | 3.29                     | 1.67                                       | 1044                  | 125                       | 717006.15                    |
| H            | 85001                    | 2.15                     | 1.67                                       | 133                   | 125                       | 59692.0625                   |
| H            | 85016                    | 6.75                     | 1.67                                       | 64                    | 125                       | 90180                        |
| H            | 83001                    | 4.54                     | 1.67                                       | 68                    | 125                       | 64445.3                      |
| Ph           | 87029                    | 1.34                     | 1.78                                       | 1108                  | 125                       | 330350.2                     |
| G            | 87029                    | 0                        | 1.8  | 1226                  | 125                       | 0                            |
| G            | 85001                    | 0.94                     | 1.8  | 256                   | 125                       | 54144                        |
| G            | 85016                    | 0.79                     | 1.8  | 67                    | 125                       | 11909.25                     |
| G            | 83001                    | 4.9                      | 1.8  | 64                    | 125                       | 70560                        |
| G            | 83001                    | 4.9                      | 1.8  | 94                    | 100                       | 82908                        |
| F            | 85019                    | 4.74                     | 1.74                                       | 111                   | 85                        | 77816.106                    |
| F            | 85019                    | 4.74                     | 1.74                                       | 630                   | 125                       | 649498.5                     |
| F            | 85013                    | 3.2                      | 1.74                                       | 63                    | 66                        | 23151.744                    |
| F            | 85016                    | 2.13                     | 1.74                                       | 60                    | 125                       | 27796.5                      |
| F            | 83001                    | 4.79                     | 1.74                                       | 35                    | 125                       | 36463.875                    |
| E            | 85016                    | 2.22                     | 1.56                                       | 298                   | 125                       | 129004.2                     |
| E            | 85020                    | 1.91                     | 1.56                                       | 187                   | 125                       | 69648.15                     |
| D            | 85016                    | 3.97                     | 1.74                                       | 263                   | 125                       | 227093.925                   |
| D            | 85020                    | 8.54                     | 1.74                                       | 961                   | 125                       | 1785009.45                   |
| C            | 85019                    | 0.51                     | 1.49                                       | 1360                  | 125                       | 129183                       |
| C            | 85020                    | 2.84                     | 1.49                                       | 463                   | 125                       | 244903.85                    |

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seams >=0.5m

TOTAL TONNES FOR THIS SECTION :

6389076.47

continued on next page

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3250 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| I            | 87030                    | 2.87                     | 1.55                                       | 388                   | 70                        | 120821.26                    |
| I            | 87030                    | 2.87                     | 1.55                                       | 45                    | 125                       | 25022.8125                   |
| I            | 87030                    | 2.87                     | 1.55                                       | 12                    | 125                       | 6672.75                      |
| I            | 85014                    | 5.46                     | 1.55                                       | 25                    | 125                       | 26446.875                    |
| I            | 85014                    | 5.46                     | 1.55                                       | 40                    | 125                       | 42315                        |
| I            | 87015                    | 0                        | 0  | 55                    | 0                         | 0                            |
| H            | 87029                    | 3.29                     | 1.67                                       | 1100                  | 70                        | 423061.1                     |
| H            | 85001                    | 2.15                     | 1.67                                       | 50                    | 82                        | 14721.05                     |
| H            | 85014                    | 5.46                     | 1.67                                       | 80                    | 125                       | 91182                        |
| H            | 85014                    | 5.46                     | 1.67                                       | 85                    | 125                       | 96880.875                    |
| H            | 83001                    | 4.54                     | 1.67                                       | 400                   | 125                       | 379090                       |
| H            | 85015                    | 2.09                     | 1.67                                       | 40                    | 125                       | 17451.5                      |
| K            | 87030                    | 3.26                     | 1.66                                       | 40                    | 125                       | 27058                        |
| K            | 87030                    | 3.26                     | 1.66                                       | 275                   | 70                        | 104173.3                     |
| K            | 85012                    | 3.22                     | 1.66                                       | 20                    | 125                       | 13363                        |
| K            | 85014                    | 0                        | 0  | 25                    | 0                         | 0                            |
| K            | 85014                    | 0                        | 0  | 100                   | 0                         | 0                            |
| PH           | 87029                    | 1.34                     | 1.78                                       | 1100                  | 70                        | 183660.4                     |
| K/L          | 87030                    | 3.5                      | 1.79                                       | 25                    | 125                       | 19578.125                    |
| K/L          | 87030                    | 3.5                      | 1.79                                       | 250                   | 70                        | 109637.5                     |
| M            | 87030                    | 2.23                     | 1.76                                       | 145                   | 70                        | 39836.72                     |
| M            | 82005                    | 2.24                     | 1.76                                       | 100                   | 125                       | 49280                        |
| L            | 87030                    | 1.98                     | 1.67                                       | 200                   | 70                        | 46292.4                      |
| L            | 85012                    | 1.37                     | 1.67                                       | 350                   | 125                       | 100095.625                   |
| G            | 85001                    | 0.94                     | 1.8  | 300                   | 125                       | 63450                        |
| G            | 85016                    | 0.79                     | 1.8  | 30                    | 125                       | 5332.5                       |
| G            | 85016                    | 0.79                     | 1.8  | 65                    | 125                       | 11553.75                     |
| G            | 83001                    | 3.93                     | 1.8  | 115                   | 125                       | 101688.75                    |
| F            | 85013                    | 3.2                      | 1.74                                       | 135                   | 125                       | 93960                        |
| F            | 85019                    | 4.21                     | 1.74                                       | 600                   | 125                       | 549405                       |
| F            | 85016                    | 2.13                     | 1.74                                       | 30                    | 125                       | 13898.25                     |
| F            | 85016                    | 2.13                     | 1.74                                       | 20                    | 125                       | 9265.5                       |
| F            | 85015                    | 2.73                     | 1.74                                       | 40                    | 125                       | 23751                        |
| E            | 85016                    | 2.22                     | 1.56                                       | 250                   | 125                       | 108225                       |
| E            | 85016                    | 2.22                     | 1.56                                       | 20                    | 125                       | 8658                         |
| E            | 85015                    | 0.95                     | 1.56                                       | 35                    | 125                       | 6483.75                      |
| E            | 85015                    | 0.95                     | 1.56                                       | 75                    | 125                       | 13893.75                     |
| D            | 85016                    | 2.41                     | 1.74                                       | 255                   | 125                       | 133664.625                   |
| D            | 85016                    | 2.41                     | 1.74                                       | 25                    | 125                       | 13104.375                    |
| D            | 85020                    | 4.74                     | 1.74                                       | 200                   | 125                       | 206190                       |

continued on next page

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3375 N  
 RESOURCE TYPE : INFERRED

| SEAM NAME | DIAMOND DRILL HOLE | SEAM THICKNESS (m) | SPECIFIC GRAVITY (t/m <sup>3</sup> ) | SEAM LENGTH (m) | WIDTH INFLUENCE (m) | TOTAL TONNES SEAMS >=0.5m |
|-----------|--------------------|--------------------|--------------------------------------|-----------------|---------------------|---------------------------|
| M         | 82005              | 2.24               | 1.76                                 | 15              | 110                 | 6504.96                   |
| L         | 85012              | 1.37               | 1.67                                 | 175             | 125                 | 50047.8125                |
| H         | 85014              | 2.09               | 1.67                                 | 290             | 125                 | 126523.375                |
| G         | 83001              | 3.93               | 1.8                                  | 475             | 125                 | 420018.75                 |
| G         | 85018              | 0                  | 1.8                                  | 180             |                     | 0                         |
| G         | 85016              | 0.79               | 1.8                                  | 235             | 125                 | 41771.25                  |
| PH        | 85014              | 0                  | 1.78                                 | 190             |                     | 0                         |
| PH        | 85016              | 0                  | 1.78                                 | 70              |                     | 0                         |
| F         | 85015              | 2.73               | 1.74                                 | 25              | 125                 | 14844.375                 |
| F         | 85016              | 2.13               | 1.74                                 | 265             | 125                 | 122767.875                |
| F         | 85013              | 3.2                | 1.74                                 | 40              | 125                 | 27840                     |
| E         | 85015              | 0.95               | 1.56                                 | 25              | 125                 | 4631.25                   |
| E         | 85016              | 2.22               | 1.56                                 | 300             | 125                 | 129870                    |
| E         | 85016              | 2.22               | 1.56                                 | 55              | 125                 | 23809.5                   |
| E         | 85019              | 0                  | 1.56                                 |                 |                     | 0                         |
| D         | 85020              | 4.74               | 1.74                                 | 370             | 125                 | 381451.5                  |
| D         | 85020              | 4.74               | 1.74                                 | 90              | 80                  | 59382.72                  |
| D         | 85018              | 1.89               | 1.74                                 | 325             | 125                 | 133599.375                |
| D         | 85016              | 2.41               | 1.74                                 | 40              | 125                 | 20967                     |
| D         | 85016              | 2.41               | 1.74                                 | 340             | 125                 | 178219.5                  |
| D         | 85019              | 0                  | 1.74                                 | 325             |                     | 0                         |
| C         | 85020              | 1.19               | 1.49                                 | 680             | 125                 | 150713.5                  |
| C         | 85018              | 0                  | 1.49                                 | 115             |                     | 0                         |
| C         | 85016              | 0                  | 1.49                                 | 420             |                     | 0                         |
| C         | 85019              | 0                  | 1.49                                 | 695             |                     | 0                         |
| B         | 85016              | 0                  | 1.67                                 | 1635            |                     | 0                         |
|           |                    |                    |                                      |                 |                     | 0                         |
|           |                    |                    |                                      |                 |                     | 0                         |
|           |                    |                    |                                      |                 |                     | 0                         |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 1892962.7425

SEAM TOTALS:

M: 6504.96  
 L: 50047.8125

continued on next page

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3500 N  
 RESOURCE TYPE :INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| L            | 85012                    | 1.37                     | 1.67                                       | 150                   | 125                       | 42898.125                    |
| H            | 85014                    | 2.09                     | 1.67                                       | 303                   | 125                       | 132195.1125                  |
| G            | 85021                    | 0                        | 1.8  | 7                     | 125                       | 0                            |
| G            | 85018                    | 0                        | 1.8  | 470                   | 125                       | 0                            |
| F            | 85021                    | 3.43                     | 1.74                                       | 35                    | 125                       | 26110.875                    |
| F            | 85021                    | 3.43                     | 1.74                                       | 244                   | 82                        | 119411.7456                  |
| E            | 85021                    | 1.81                     | 1.56                                       | 403                   | 125                       | 142238.85                    |
| D            | 85016                    | 3.97                     | 1.74                                       | 552                   | 125                       | 476638.2                     |
| D            | 85018                    | 1.89                     | 1.74                                       | 704                   | 125                       | 289396.8                     |
| C            | 85019                    | 0.51                     | 1.49                                       | 89                    | 125                       | 8453.8875                    |
| C            | 85016                    | 0                        | 1.49                                       | 556                   | 125                       | 0                            |
| C            | 85018                    | 0                        | 1.49                                       | 395                   | 125                       | 0                            |
| C            | 85020                    | 2.84                     | 1.49                                       | 264                   | 82                        | 91605.6768                   |
| B            | 85016                    | 0                        | 1.67                                       | 1753                  | 125                       | 0                            |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 1328949.2724

SEAM TOTALS:

|    |             |
|----|-------------|
| L: | 42898.125   |
| H: | 132195.1125 |
| G: | 0           |
| F: | 145522.6206 |
| E: | 142238.85   |
| D: | 766035      |
| C: | 100059.5643 |
| B: | 0           |

1328949.2724

LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 3750 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| H            | 85018                    | 3.63                     | 1.67                                       | 70                    | 125                       | 53043.375                    |
| F            | 85021                    | 3.43                     | 1.74                                       | 99                    | 125                       | 73856.475                    |
| F            | 85018                    | 6.02                     | 1.74                                       | 210                   | 125                       | 274963.5                     |
| F            | 85015                    | 2.73                     | 1.74                                       | 103                   | 125                       | 61158.825                    |
| E            | 85021                    | 1.81                     | 1.56                                       | 174                   | 125                       | 61413.3                      |
| E            | 85015                    | 0.95                     | 1.56                                       | 235                   | 125                       | 43533.75                     |
| D            | 85018                    | 1.89                     | 1.74                                       | 900                   | 125                       | 369967.5                     |

0

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 937936.725

SEAM TOTALS:

|    |            |
|----|------------|
| H: | 53043.375  |
| F: | 409978.8   |
| E: | 104947.05  |
| D: | 369967.5   |
|    | -----      |
|    | 937936.725 |



LOST-FOX AREA : RESOURCE CALCULATIONS - April 1988

SECTION : 4000 N  
 RESOURCE TYPE : INFERRED

| SEAM<br>NAME | DIAMOND<br>DRILL<br>HOLE | SEAM<br>THICKNESS<br>(m) | SPECIFIC<br>GRAVITY<br>(t/m <sup>3</sup> ) | SEAM<br>LENGTH<br>(m) | WIDTH<br>INFLUENCE<br>(m) | TOTAL TONNES<br>SEAMS >=0.5m |
|--------------|--------------------------|--------------------------|--|-----------------------|---------------------------|------------------------------|
| F            | 85018                    | 6.02                     | 1.74                                       | 20                    | 70                        | 14664.72                     |
| F            | 85021                    | 3.43                     | 1.74                                       | 140                   | 75                        | 62666.1                      |
| E            | 85018                    | 0                        | 1.56                                       | 125                   |                           | 0                            |
| E            | 85021                    | 1.81                     | 1.56                                       | 135                   | 110                       | 41930.46                     |
| E            | 85021                    | 1.81                     | 1.56                                       | 105                   | 110                       | 32612.58                     |
| D            | 85018                    | 1.89                     | 1.74                                       | 910                   | 62                        | 185542.812                   |
| C            | 85018                    | 0                        | 1.49                                       | 1010                  |                           | 0                            |
| B            |                          | 0                        | 1.67                                       |                       |                           | 0                            |

seams >=0.5m

TOTAL TONNES FOR THIS SECTION : 337416.672

SEAM TOTALS:

F: 77330.82  
 E: 74543.04  
 D: 185542.812  
 -----  
 337416.672

MT. KLAPPAN PROPERTY : SPECULATIVE RESOURCE CALCUALTIONS

March 1988

AREA : MT. KLAPPAN ANTHRACITE PROPERTY  
RESOURCE TYPE : SPECULATIVE

| AREA<br>NAME | PLANIMETERED<br>AREA<br>(M <sup>2</sup> ) | SPECIFIC<br>GRAVITY<br>(TN/M <sup>3</sup> ) | SEAM<br>THICKNESS<br>(M) | TOTAL<br>TONNES |
|--------------|---|---|--------------------------|-----------------|
| SUMMIT       | 80,800,000                                | 1.67  | 10.30                    | 1,389,840,800   |
| NASS         | 115,390,000                               | 1.67  | 10.30                    | 1,984,823,390   |
| LOST-FOX     | 41,000,000                                | 1.67  | 10.30                    | 705,241,000     |
| HOBBIT       | 39,175,000                                | 1.67  | 10.30                    | 673,849,175     |
| TOTALS       | 276,365,000                               | 1.67  | 10.30                    | 4,753,754,365   |

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TOTAL SPECULATIVE TONNAGE  
OF THE ENTIRE MT. KLAPPAN  
RESOURCE AREA = 4,753,754,365 TONNES

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SEAM : A                      RESOURCE SUMMARY

----- Category -----

| Section | MEASURED | INDICATED | INFERRED | TOTAL TONNES |
|---------|----------|-----------|----------|--------------|
| 4000    |          |           |          | 0            |
| 3875    |          |           |          | 0            |
| 3750    |          |           |          | 0            |
| 3625    |          |           |          | 0            |
| 3500    |          |           |          | 0            |
| 3375    |          |           |          | 0            |
| 3250    |          |           |          | 0            |
| 3125    |          |           |          | 0            |
| 3000    |          |           |          | 0            |
| 2875    |          |           |          | 0            |
| 2750    |          |           |          | 0            |
| 2625    |          |           |          | 0            |
| 2500    |          |           |          | 0            |
| 2375    |          |           |          | 0            |
| 2250    |          |           |          | 0            |
| 2125    |          |           |          | 0            |
| 1875    |          |           |          | 0            |
| 1750    |          |           |          | 0            |
| 1625    |          |           |          | 0            |
| 1500    |          |           |          | 0            |
| 1373    |          |           |          | 0            |
| 1250    |          |           |          | 0            |
| 1125    |          |           |          | 0            |
| 1000    |          |           |          | 0            |

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TOTAL TONNES :                      0                      0                      0                      0

MEASURED      INDICATED      INFERRED      TOTAL TONNES

SEAM : C                      RESOURCE SUMMARY

----- Category -----

| Section        | MEASURED    | INDICATED   | INFERRED     | TOTAL TONNES |
|----------------|-------------|-------------|--------------|--------------|
| 4000           |             |             |              | 0            |
| 3875           |             |             |              | 0            |
| 3750           |             |             |              | 0            |
| 3625           |             |             |              | 0            |
| 3500           |             |             | 100059.5643  | 100059.5643  |
| 3375           |             |             | 150713.5     | 150713.5     |
| 3250           |             | 17731       | 342569.2525  | 360300.2525  |
| 3125           |             | 102087.35   | 374086.85    | 476174.2     |
| 3000           | 87546.8125  | 101953.25   | 162903.5625  | 352403.625   |
| 2875           | 79156.25    | 98312.0625  | 277046.875   | 454515.1875  |
| 2750           | 24696.75    | 95937.375   | 399105.8125  | 519739.9375  |
| 2625           |             |             | 748464.25    | 748464.25    |
| 2500           |             |             |              | 0            |
| 2375           |             |             |              | 0            |
| 2250           |             |             |              | 0            |
| 2125           |             |             |              | 0            |
| 2000           |             |             |              | 0            |
| 1875           |             |             |              | 0            |
| 1750           |             |             |              | 0            |
| 1625           |             |             |              | 0            |
| 1500           |             |             |              | 0            |
| 1375           |             |             |              | 0            |
| 1250           |             |             |              | 0            |
| 1125           |             |             |              | 0            |
| 1000           |             |             |              | 0            |
| -----          |             |             |              |              |
| TOTAL TONNES : | 191399.8125 | 416021.0375 | 2554949.6668 | 3162370.5168 |
|                | MEASURED    | INDICATED   | INFERRED     | TOTAL TONNES |

SEAM : E                      RESOURCE SUMMARY

| Section        | ----- Category ----- |             |             | TOTAL TONNES |
|----------------|----------------------|-------------|-------------|--------------|
|                | MEASURED             | INDICATED   | INFERRED    |              |
| 4000           |                      | 40998.672   | 74543.04    | 115541.712   |
| 3875           | 7411.95              | 133415.1    | 48022.65    | 188849.7     |
| 3750           | 93884.7              | 54707.25    | 104947.05   | 253539       |
| 3625           | 70590                | 117780      | 97500       | 285870       |
| 3500           | 22415.25             | 189056.4    | 142238.85   | 353710.5     |
| 3375           | 164355.75            | 188886.75   | 158310.75   | 511553.25    |
| 3250           | 203375.25            | 149643      | 137260.5    | 490278.75    |
| 3125           | 199537.65            | 334243.65   | 198652.35   | 732433.65    |
| 3000           | 280862.4             | 182270.4    | 378400.464  | 841533.264   |
| 2875           | 229973.25            | 229261.5    | 509096.25   | 968331       |
| 2750           | 151524.75            | 428873.25   | 505196.25   | 1085594.25   |
| 2625           | 274833               | 218897.25   | 620521.2    | 1114251.45   |
| 2500           | 122694               | 255440.25   | 562721.25   | 940855.5     |
| 2375           | 161109               | 454034.1    | 1017576.3   | 1632719.4    |
| 2250           |                      |             |             | 0            |
| 2125           |                      |             |             | 0            |
| 2000           |                      |             |             | 0            |
| 1875           |                      |             |             | 0            |
| 1750           |                      |             |             | 0            |
| 1625           |                      |             |             | 0            |
| 1500           |                      |             |             | 0            |
| 1375           |                      |             |             | 0            |
| 1250           |                      |             |             | 0            |
| 1125           |                      |             |             | 0            |
| 1000           |                      |             |             | 0            |
| -----          |                      |             |             |              |
| TOTAL TONNES : | 1982566.95           | 2977507.572 | 4554986.904 | 9515061.426  |
|                | MEASURED             | INDICATED   | INFERRED    | TOTAL TONNES |

SEAM : F/G      RESOURCE SUMMARY

----- Category -----

| Section | MEASURED | INDICATED | INFERRED | TOTAL TONNES |
|---------|----------|-----------|----------|--------------|
| 4000    |          |           |          | 0            |
| 3875    |          |           |          | 0            |
| 3750    |          |           |          | 0            |
| 3625    |          |           |          | 0            |
| 3500    |          |           |          | 0            |
| 3375    |          |           |          | 0            |
| 3250    |          |           |          | 0            |
| 3125    |          |           |          | 0            |
| 3000    |          |           |          | 0            |
| 2875    |          |           |          | 0            |
| 2750    | 31066.65 | 13754.7   | 0        | 44821.35     |
| 2625    |          |           |          | 0            |
| 2500    |          |           |          | 0            |
| 2375    |          |           |          | 0            |
| 2250    |          |           |          | 0            |
| 2125    |          |           |          | 0            |
| 2000    |          |           |          | 0            |
| 1875    |          |           |          | 0            |
| 1750    |          |           |          | 0            |
| 1625    |          |           |          | 0            |
| 1500    |          |           |          | 0            |
| 1375    |          |           |          | 0            |
| 1250    |          |           |          | 0            |
| 1125    |          |           |          | 0            |
| 1000    |          |           |          | 0            |

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|                |          |           |          |              |
|----------------|----------|-----------|----------|--------------|
| TOTAL TONNES : | 31066.65 | 13754.7   | 0        | 44821.35     |
|                | MEASURED | INDICATED | INFERRED | TOTAL TONNES |

SEAM : G

## RESOURCE SUMMARY

| ----- Category ----- |            |            |            |              |
|----------------------|------------|------------|------------|--------------|
| Section              | MEASURED   | INDICATED  | INFERRED   | TOTAL TONNES |
| 4000                 | 0          | 0          | 0          | 0            |
| 3875                 | 0          | 0          | 0          | 0            |
| 3750                 | 0          | 0          | 0          | 0            |
| 3625                 | 0          | 0          | 0          | 0            |
| 3500                 | 0          | 0          | 0          | 0            |
| 3375                 | 27551.25   | 47992.5    | 461790     | 537333.75    |
| 3250                 | 57768.75   | 433575     | 182025     | 673368.75    |
| 3125                 | 78586.2    | 1086223.5  | 219521.25  | 1384330.95   |
| 3000                 | 710550     | 672270.75  | 112342.5   | 1495163.25   |
| 2875                 | 643927.5   | 296662.5   | 315371.25  | 1255961.25   |
| 2750                 | 309631.5   | 494797.5   | 642372.75  | 1446801.75   |
| 2625                 | 696964.5   | 1135669.95 | 1260841.95 | 3093476.4    |
| 2500                 | 235507.5   | 904646.25  | 696453.75  | 1836607.5    |
| 2375                 | 695594.25  | 1417717.53 | 1197020.25 | 3310332.03   |
| 2250                 | 737014.5   | 1649535.75 | 1049310.45 | 3435860.7    |
| 2125                 | 149998.5   | 802930.5   | 356958     | 1309887      |
| 2000                 | 97560      | 341309.25  | 763852.5   | 1202721.75   |
| 1875                 | 0          | 172559.25  | 491022     | 663581.25    |
| 1750                 | 0          | 0          | 230010.75  | 230010.75    |
| 1625                 | 0          | 0          | 585843.75  | 585843.75    |
| 1500                 | 0          | 0          | 619650     | 619650       |
| 1375                 | 0          | 0          | 359752.5   | 359752.5     |
| 1250                 | 0          | 0          | 294525     | 294525       |
| 1125                 | 0          | 0          | 0          | 0            |
| 1000                 | 0          | 0          | 0          | 0            |
| -----                |            |            |            |              |
| TOTAL TONNES :       | 4440654.45 | 9455890.23 | 9838663.65 | 23735208.33  |
|                      | MEASURED   | INDICATED  | INFERRED   | TOTAL TONNES |

SEAM : H-1            RESOURCE SUMMARY

| ----- Category ----- |           |           |          |              |
|----------------------|-----------|-----------|----------|--------------|
| Section              | MEASURED  | INDICATED | INFERRED | TOTAL TONNES |
| 4000                 |           |           |          | 0            |
| 3875                 |           |           |          | 0            |
| 3750                 |           |           |          | 0            |
| 3625                 |           |           |          | 0            |
| 3500                 |           |           |          | 0            |
| 3375                 |           |           |          | 0            |
| 3250                 |           |           |          | 0            |
| 3125                 |           |           |          | 0            |
| 3000                 |           |           |          | 0            |
| 2875                 |           |           |          | 0            |
| 2750                 |           |           |          | 0            |
| 2625                 |           |           |          | 0            |
| 2500                 |           |           |          | 0            |
| 2375                 | 66394.075 | 8894.9    | 0        | 75288.975    |
| 2250                 |           |           |          | 0            |
| 2125                 |           |           |          | 0            |
| 2000                 |           |           |          | 0            |
| 1875                 |           |           |          | 0            |
| 1750                 |           |           |          | 0            |
| 1625                 |           |           |          | 0            |
| 1500                 |           |           |          | 0            |
| 1375                 |           |           |          | 0            |
| 1250                 |           |           |          | 0            |
| 1125                 |           |           |          | 0            |
| 1000                 |           |           |          | 0            |
| -----                |           |           |          |              |
| TOTAL TONNES :       | 66394.075 | 8894.9    | 0        | 75288.975    |
|                      | MEASURED  | INDICATED | INFERRED | TOTAL TONNES |



SEAM : H

## RESOURCE SUMMARY

| Section        | Category     |              |              | TOTAL TONNES |
|----------------|--------------|--------------|--------------|--------------|
|                | MEASURED     | INDICATED    | INFERRED     |              |
| 4000           |              |              | 0            | 0            |
| 3875           |              |              | 0            | 0            |
| 3750           | 302412.618   | 356412.6525  | 53043.375    | 711868.6455  |
| 3625           | 399766.6875  | 124227.125   | 47991.625    | 571985.4375  |
| 3500           | 292665.4125  | 61529.0625   | 132195.1125  | 486389.5875  |
| 3375           | 275550       | 213885.25    | 126523.375   | 615958.625   |
| 3250           | 479081.25    | 294295.75    | 1022386.525  | 1795763.525  |
| 3125           | 322180.575   | 987017.1775  | 931323.5125  | 2240521.265  |
| 3000           | 1386655.275  | 711831.2375  | 132514.5     | 2231001.0125 |
| 2875           | 1548768.4375 | 713931.2625  | 430129.375   | 2692829.075  |
| 2750           | 1041255.4375 | 1297185.025  | 826887.14    | 3165327.6025 |
| 2625           | 1223249.95   | 1562312.1375 | 365416.875   | 3150978.9625 |
| 2500           | 1059823.75   | 2197274.11   | 287605.3125  | 3544703.1725 |
| 2375           | 1905885.4125 | 1223931.0595 | 756052.8375  | 3885869.3095 |
| 2250           | 1690480.379  | 2118237.4355 | 294379.25    | 4103097.0645 |
| 2125           | 1869919.875  | 1795005.7625 | 318164.225   | 3983089.8625 |
| 2000           | 2089725.275  | 1308125.6125 | 840266.7625  | 4238117.65   |
| 1875           | 1851721.05   | 1225640.1375 | 819600.5125  | 3896961.7    |
| 1750           | 846566.8375  | 1893817.575  | 1866828.2875 | 4607212.7    |
| 1625           | 362957.8     | 1304743.8625 | 1760983.6875 | 3428685.35   |
| 1500           | 412991       | 420612.4625  | 3372650.5875 | 4206254.05   |
| 1375           | 61059.375    | 547154.625   | 2879560.125  | 3487774.125  |
| 1250           | 230981.875   | 231545.5     | 2490671.4    | 2953198.775  |
| 1125           | 119329.85    | 256382.575   | 1950163.375  | 2325875.8    |
| 1000           |              | 92999.628    | 486824.372   | 579824       |
| -----          |              |              |              |              |
| TOTAL TONNES : | 19773028.122 | 20938097.026 | 22192162.15  | 62903287.297 |
|                | MEASURED     | INDICATED    | INFERRED     | TOTAL TONNES |

SEAM : I                      RESOURCE SUMMARY

| Section        | Category     |              |              | TOTAL TONNES |
|----------------|--------------|--------------|--------------|--------------|
|                | MEASURED     | INDICATED    | INFERRED     |              |
| 4000           |              |              |              | 0            |
| 3875           |              |              |              | 0            |
| 3750           | 91586.844    | 98231.25     | 0            | 189818.094   |
| 3625           | 158560.15625 | 277110.9375  | 52893.75     | 488564.84375 |
| 3500           | 540500.5     | 380071.625   | 0            | 920572.125   |
| 3375           | 445227.8125  | 561051.5625  | 0            | 1006279.375  |
| 3250           | 496833.125   | 876850.5     | 221278.6975  | 1594962.3225 |
| 3125           | 288315.5     | 943372.625   | 319211.1075  | 1550899.2325 |
| 3000           | 973451.3825  | 642240.60125 | 526591.1875  | 2142283.1713 |
| 2875           | 1387662.6875 | 392615       | 713610.3125  | 2493888      |
| 2750           | 1346012.25   | 929023.5     | 635389.5625  | 2910425.3125 |
| 2625           | 1106692.25   | 738929.8725  | 714088.875   | 2559710.9975 |
| 2500           | 733256.5625  | 877619.6875  | 706838.75    | 2317715      |
| 2375           | 1307295.1875 | 654679.3125  | 861927.875   | 2823902.375  |
| 2250           | 1687761.985  | 1373222.5775 | 804295       | 3865279.5625 |
| 2125           | 1934187.96   | 1853332.2875 | 1038870.0625 | 4826390.31   |
| 2000           | 2127206.4375 | 1539864.9375 | 1565453.5    | 5232524.875  |
| 1875           | 1829085.25   | 1097789.4375 | 1220570.75   | 4147445.4375 |
| 1750           | 1286589.125  | 2169575.6875 | 1299186.75   | 4755351.5625 |
| 1625           | 1526021.5    | 2487364.4375 | 1271480.5    | 5284866.4375 |
| 1500           | 2289038.0625 | 1650651.1875 | 1330539.375  | 5270228.625  |
| 1375           | 1218532.5    | 1359175.625  | 1353159.6875 | 3930867.8125 |
| 1250           | 537189.3125  | 1148613.9375 | 2032755.25   | 3718558.5    |
| 1125           | 187114.0625  | 552520.75    | 2661466.25   | 3401101.0625 |
| 1000           |              | 158776.42    | 1364937.13   | 1523713.55   |
| -----          |              |              |              |              |
| TOTAL TONNES : | 23498120.453 | 22762683.759 | 20694544.373 | 66955348.584 |
|                | MEASURED     | INDICATED    | INFERRED     | TOTAL TONNES |

SEAM : K

## RESOURCE SUMMARY

| Section        | ----- Category ----- |              |               | TOTAL TONNES |
|----------------|----------------------|--------------|---------------|--------------|
|                | MEASURED             | INDICATED    | INFERRED      |              |
| 4000           |                      |              |               | 0            |
| 3875           |                      |              |               | 0            |
| 3750           |                      |              |               | 0            |
| 3625           |                      |              |               | 0            |
| 3500           |                      |              |               | 0            |
| 3375           |                      |              |               | 0            |
| 3250           | 54116                | 532266.55    | 144594.3      | 730976.85    |
| 3125           | 0                    | 567969       | 478793.8      | 1046762.8    |
| 3000           | 114531.7             | 570492.2     | 534951.6      | 1219975.5    |
| 2875           | 703860.75            | 375340.691   | 334344.75     | 1413546.191  |
| 2750           | 1125573.375          | 714088.425   | 181552.125    | 2021213.925  |
| 2625           | 544183.275           | 941043.625   | 90059.15      | 1575286.05   |
| 2500           | 674063.75            | 775244.9     | 0             | 1449308.65   |
| 2375           | 914222.175           | 755268.875   | 0             | 1669491.05   |
| 2250           | 1003171.2            | 711289.25    | 277840.093    | 1992300.543  |
| 2125           | 845982.812           | 1386773.296  | 440022.425    | 2672778.533  |
| 2000           | 473457.315           | 1101607.457  | 1326578.625   | 2901643.397  |
| 1875           | 192053.7             | 461094.05    | 1391009.45    | 2044157.2    |
| 1750           | 228347.525           | 924658.678   | 1810569.2874  | 2963575.4904 |
| 1625           | 487303.375           | 1350218.768  | 1540971.775   | 3378493.918  |
| 1500           | 743633.105           | 646586.6     | 1338203.605   | 2728423.31   |
| 1375           | 1168110.875          | 749490       | 898755.125    | 2816356      |
| 1250           | 864534.225           | 1117781.75   | 926487.5      | 2908803.475  |
| 1125           | 420766.425           | 1035333.7    | 1260562.5     | 2716662.625  |
| 1000           | 0                    | 269526.896   | 853356.034    | 1122882.93   |
| -----          |                      |              |               |              |
| TOTAL TONNES : | 10557911.582         | 14986074.711 | 13828652.1444 | 39372638.437 |
|                | MEASURED             | INDICATED    | INFERRED      | TOTAL TONNES |

SEAM : L                      RESOURCE SUMMARY

| Section        | ----- Category ----- |              |              | TOTAL TONNES  |
|----------------|----------------------|--------------|--------------|---------------|
|                | MEASURED             | INDICATED    | INFERRED     |               |
| 4000           |                      |              |              | 0             |
| 3875           |                      |              |              | 0             |
| 3750           |                      |              |              | 0             |
| 3625           |                      |              | 10295.55     | 10295.55      |
| 3500           |                      |              | 42898.125    | 42898.125     |
| 3375           |                      |              | 50047.8125   | 50047.8125    |
| 3250           | 107464.5             | 134330.625   | 146388.025   | 388183.15     |
| 3125           | 0                    | 287845.375   | 126890.775   | 414736.15     |
| 3000           | 36320.4125           | 148617.2579  | 240605.25    | 425542.9204   |
| 2875           | 447820.9375          | 142200.5     | 181560.3125  | 771581.75     |
| 2750           | 613265.75            | 192310.9375  | 171362.875   | 976939.5625   |
| 2625           | 83441.55             | 448883.475   | 11172.3      | 543497.325    |
| 2500           | 202612.75            | 409734.5     | 0            | 612347.25     |
| 2375           | 358194.125           | 90455.55     | 51248.125    | 499897.8      |
| 2250           | 270830.1625          | 313536.2375  | 15944.325    | 600310.725    |
| 2125           | 41384.6875           | 405256.8125  | 2312.3655    | 448953.8655   |
| 2000           | 92956.375            | 161718.625   | 368545.62    | 623220.62     |
| 1875           | 71309                | 411558.975   | 285198.425   | 768066.4      |
| 1750           | 261114.9375          | 240394.4125  | 404845.575   | 906354.925    |
| 1625           | 346096.8621          | 194895.3794  | 412097.049   | 953089.2905   |
| 1500           | 79667.35             | 265527.9125  | 383534.2875  | 728729.55     |
| 1375           | 350700               | 119665.9375  | 557988.75    | 1028354.6875  |
| 1250           | 470526.675           | 296573.2125  | 585813.0375  | 1352912.925   |
| 1125           | 208478.625           | 721865.85    | 650494.225   | 1580838.7     |
| 1000           |                      | 210299.426   | 656982.008   | 867281.434    |
| -----          |                      |              |              |               |
| TOTAL TONNES : | 4042184.699          | 5195671.0008 | 5356224.8175 | 14594080.5179 |
|                | MEASURED             | INDICATED    | INFERRED     | TOTAL TONNES  |

SEAM : M/N      RESOURCE SUMMARY

----- Category -----

| Section        | MEASURED   | INDICATED | INFERRED | TOTAL TONNES |
|----------------|------------|-----------|----------|--------------|
| 4000           |            |           |          | 0            |
| 3875           |            |           |          | 0            |
| 3750           |            |           |          | 0            |
| 3625           |            |           |          | 0            |
| 3500           |            |           |          | 0            |
| 3375           |            |           |          | 0            |
| 3250           |            |           |          | 0            |
| 3125           |            |           |          | 0            |
| 3000           |            |           |          | 0            |
| 2875           |            |           |          | 0            |
| 2750           |            |           |          | 0            |
| 2625           |            |           |          | 0            |
| 2500           | 46530      | 31020     | 6204     | 83754        |
| 2375           | 28952      | 17164.4   |          | 46116.4      |
| 2250           |            |           |          | 0            |
| 2125           |            |           |          | 0            |
| 2000           |            |           |          | 0            |
| 1875           |            |           |          | 0            |
| 1750           |            |           |          | 0            |
| 1625           |            |           |          | 0            |
| 1500           | 21754.044  | 0         | 68737.5  | 90491.544    |
| 1375           | 10448.1    |           |          | 10448.1      |
| 1250           | 47293.75   |           |          | 47293.75     |
| 1125           |            |           |          | 0            |
| 1000           |            |           |          | 0            |
| -----          |            |           |          |              |
| TOTAL TONNES : | 154977.894 | 48184.4   | 74941.5  | 278103.794   |
|                | MEASURED   | INDICATED | INFERRED | TOTAL TONNES |

SEAM : 0

## RESOURCE SUMMARY

| ----- Category ----- |            |           |            |              |
|----------------------|------------|-----------|------------|--------------|
| Section              | MEASURED   | INDICATED | INFERRED   | TOTAL TONNES |
| 4000                 |            |           |            | 0            |
| 3875                 |            |           |            | 0            |
| 3750                 |            |           |            | 0            |
| 3625                 |            |           |            | 0            |
| 3500                 |            |           |            | 0            |
| 3375                 |            |           |            | 0            |
| 3250                 |            |           | 48436.92   | 48436.92     |
| 3125                 |            |           | 17619.25   | 17619.25     |
| 3000                 |            |           | 141915.05  | 141915.05    |
| 2875                 |            |           | 148408.48  | 148408.48    |
| 2750                 |            |           | 162163.75  | 162163.75    |
| 2625                 | 36840.25   | 133392.45 | 41645.5    | 211878.2     |
| 2500                 | 98362.5    | 130343.75 | 14415.75   | 243122       |
| 2375                 | 68318.4    | 8578.5    |            | 76896.9      |
| 2250                 | 15727.25   | 67682     |            | 83409.25     |
| 2125                 | 80027.3    | 37831.4   |            | 117858.7     |
| 2000                 | 83109.884  | 1569.5    |            | 84679.384    |
| 1875                 | 120451.6   | 83501.7   |            | 203953.3     |
| 1750                 | 51707.5    | 71595     | 49224.25   | 172526.75    |
| 1625                 | 91482.5    | 58867     | 53696.25   | 204045.75    |
| 1500                 | 37786.25   | 80743.25  | 113661.9   | 232191.4     |
| 1375                 |            |           | 208539.25  | 208539.25    |
| 1250                 |            |           | 422888.66  | 422888.66    |
| 1125                 |            |           | 725758.3   | 725758.3     |
| 1000                 |            |           | 427593.72  | 427593.72    |
| -----                |            |           |            |              |
| TOTAL TONNES :       | 683813.434 | 674104.55 | 2575967.03 | 3933885.014  |
|                      | MEASURED   | INDICATED | INFERRED   | TOTAL TONNES |