

OPEN FILE

GULF CANADA RESOURCES INC.

COAL DIVISION

GOODRICH GEOLOGICAL REPORT

1981

APPENDIX B PART 1

DDH 80-37 to DDH 80-40

DDH 80-37

GCRI - COAL DIVISION -- DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH80037

HISTORY

 DY MO YR DY MO YR
 START DATE: 07/11/80 END DATE: 12/11/80 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: G. HOFFMAN SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

 PROVINCE: B.C. ELEVATION: 1307.19
 UTM ZONE: 10 NORTH: 6144199.02 EAST: 546336.51
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: ____ . EAST: ____ . LSD: ____ SEC: ____ TWP: ____ RGE: ____ MER: ____
 NTS-BC NORTH: ____ . EAST: ____ . QUAD: ____ UNIT: ____ BLK: ____ ST: ____ MUS: ____ MS: ____

DIMENSIONS AND ORIENTATION

LENGTH: 385.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: ____ . SIZE HEIGHT: ____ .
 ROOF STRIKE: ____ DIP: ____ FLOOR STRIKE: ____ DIP: ____

DRILL HOLE STATUS

CASING DEPTH: 7.07 CEMENTED: ____ PLUGGED: ____ PEIZOMETERS INSTALLED: ____
 AQUIFER DEPTHS: ____ . ____ . LOST CIRCULATION DEPTHS: ____ . ____ .

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : _____ | --- | --- | X | --- | 125A |
| NEUTRON | X | 1:100 | : _____ | --- | --- | X | --- | 125A |
| DENSITY | X | 1:100 | : _____ | --- | --- | X | --- | 457AS |
| CALIPER | X | 1:100 | : _____ | --- | --- | X | --- | 785 |
| FE-SHORT | X | : | 1:40 | --- | --- | X | --- | 7 |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | --- | 7 |
| DIRECTIONAL | X | : | : _____ | --- | --- | X | --- | _____ |
| DIPMETER | --- | : | : _____ | --- | --- | --- | --- | _____ |

*** COAL DIVISION ***

DATA SOURCE: D80-37

INTERVAL OF INTERPOLATION 10 UNIT(S)

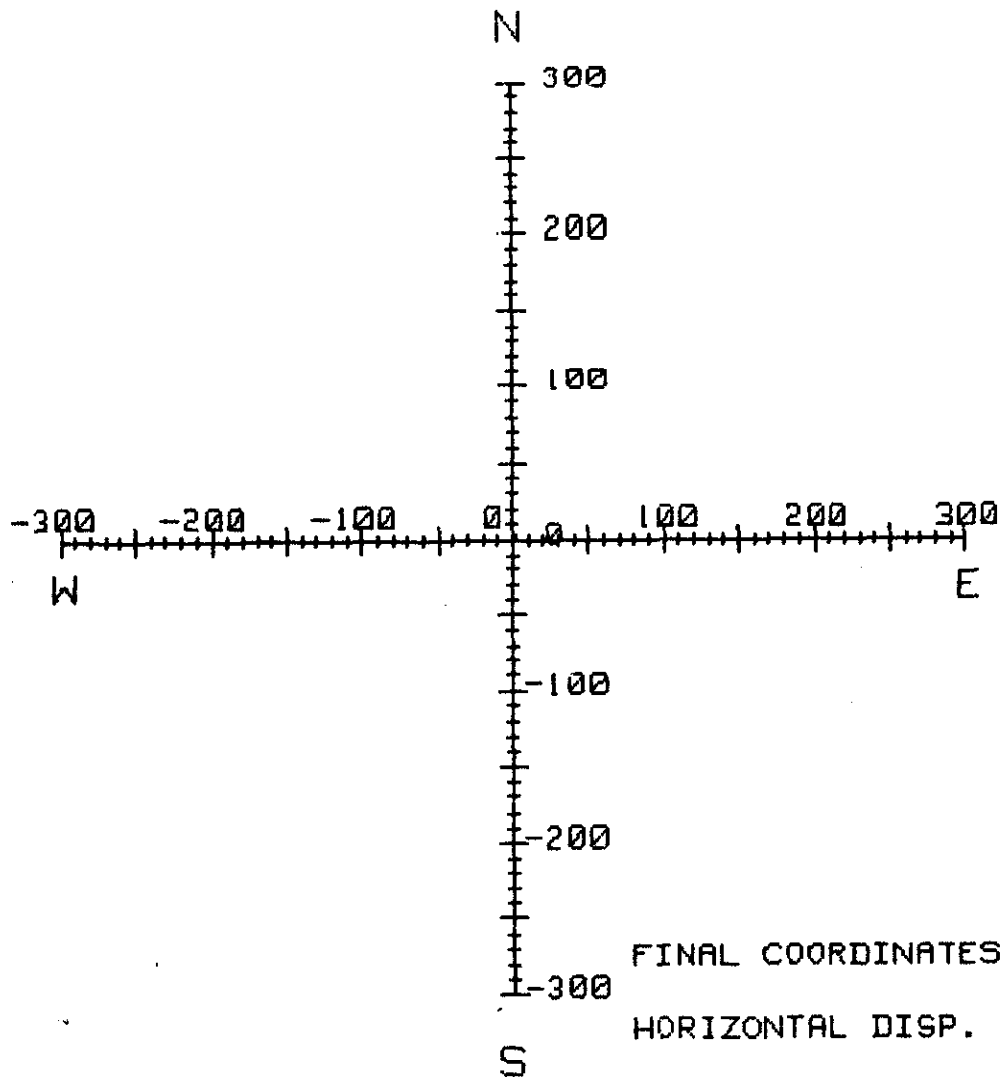
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

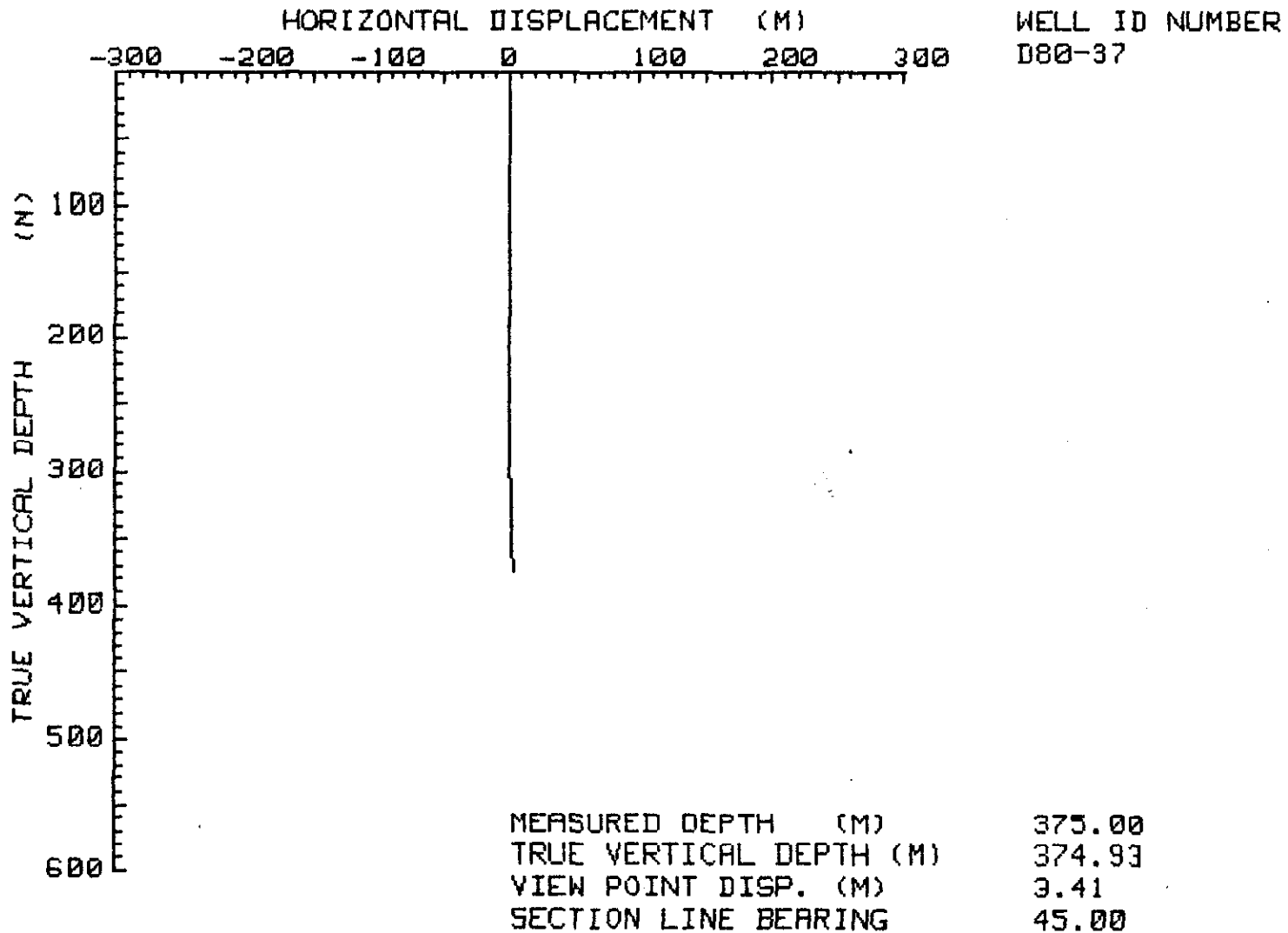
| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 0.00 | .26 | 122.60 |
| 15.00 | .30 | 122.60 |
| 30.00 | .40 | 127.80 |
| 30.00 | .40 | 127.80 |
| 45.00 | .30 | 148.10 |
| 60.00 | .20 | 123.00 |
| 75.00 | .10 | 323.30 |
| 90.00 | .20 | 123.30 |
| 105.00 | .20 | 118.40 |
| 120.00 | .10 | 37.20 |
| 135.00 | .20 | 37.20 |
| 150.00 | .20 | 29.80 |
| 165.00 | .20 | 73.80 |
| 180.00 | .20 | 95.50 |
| 195.00 | .20 | 9.60 |
| 210.00 | .20 | 227.90 |
| 225.00 | .20 | 25.10 |
| 240.00 | .40 | 359.80 |
| 255.00 | .80 | 349.70 |
| 270.00 | 1.00 | 10.40 |
| 270.00 | 1.00 | 10.40 |
| 285.00 | 1.20 | 17.70 |
| 300.00 | 1.70 | 14.80 |
| 315.00 | 2.06 | 13.80 |
| 330.00 | 1.20 | 350.50 |
| 345.00 | 2.60 | 15.40 |
| 360.00 | 2.60 | 9.10 |
| 375.00 | 2.60 | .90 |

PLAN VIEW

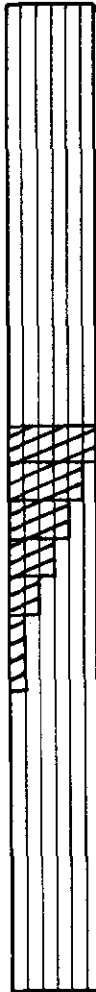
WELL ID NUMBER
D80-37



DISPLACEMENT



SEAM
COMP.



COAL
SEAM
LOG




LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone

- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff
- coal
- coal-boney, stoney, coal and bands/rock - designated 'CS'
- rock } coal lithotype uncertain
- coal } MISSING CORE
- rock } CORE
- rock
- coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

| | | |
|---|---------|---|
| GULF CANADA RESOURCES INC. | |  |
| Coal Division | | |
| CALGARY | ALBERTA | |
| LEGEND FOR COAL SEAM DATA SHEETS | | |
| PREPARED BY: V. O. | | SCALE 1:40 |
| APPROVED BY: | | DATE: JAN. 82 DRAWING No. |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-207 (12-80)

Coal/Coal-Rock (True Thick)
1.10 / 1.64

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-80-37 SEAM

SEAM INTERVAL 58.11 - 60.07 m

DENSITY SCALE 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80

RESISTIVITY SCALE

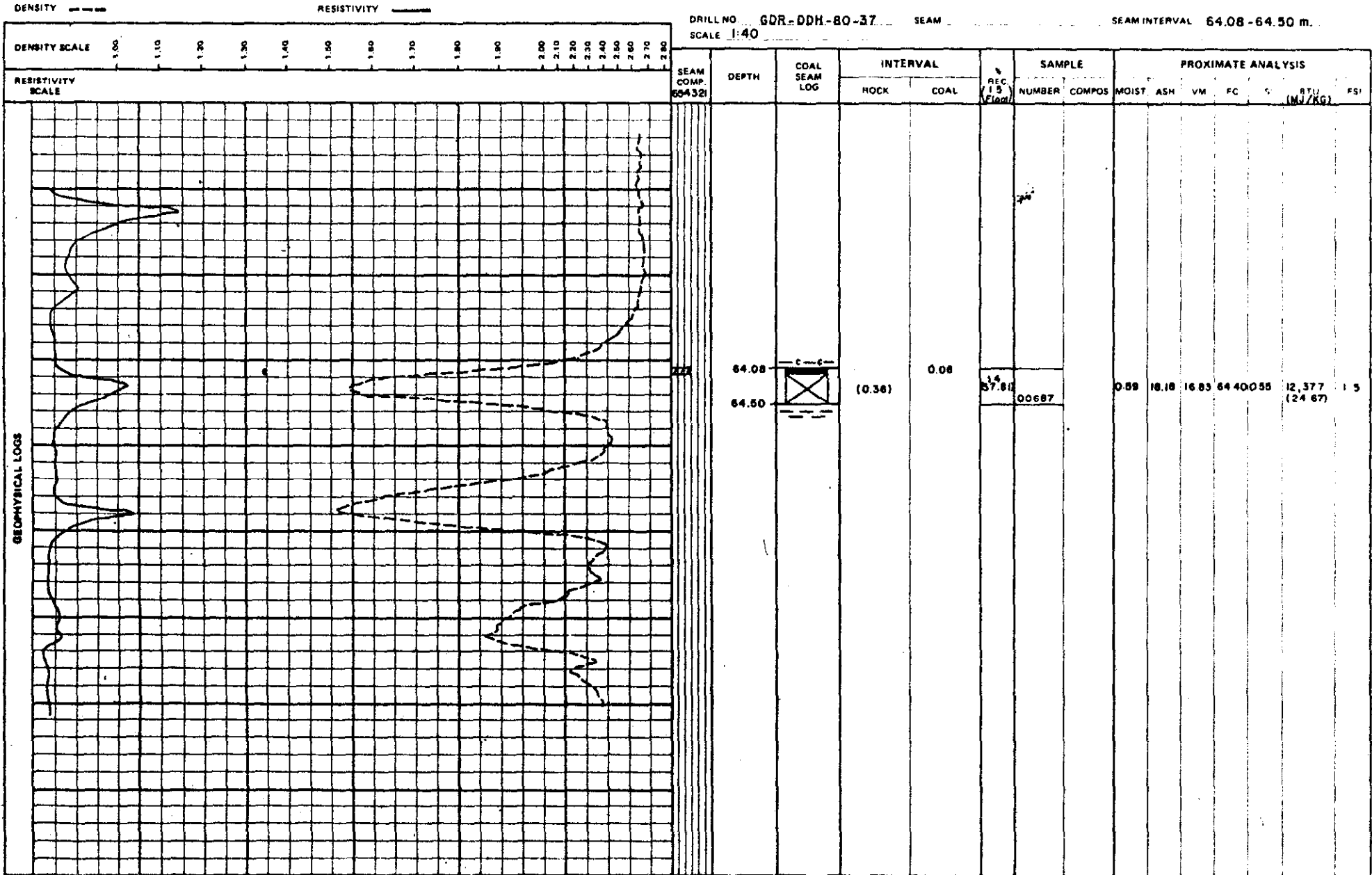
SEAM COMP 53432

SCALE 1:40

| GEOLOGICAL LOGS | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. (T ₅ Floor) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | |
|-----------------|-------|---------------|----------|--------|-------------------------------|--------|---------|--------------------|-------|-------|------|---------|-------------|---------|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST. | ASH | VM | FC | S | BTU (MJ/KG) | FBI |
| | 58.11 | | 0.02 | 0.10 | 100 | -00684 | 0.89 | 3.83 | 19.88 | 75.70 | 1.18 | 14,776 | 2.0 | |
| | 58.27 | | (0.06) | (0.14) | 78.71 | | | | | | | | | (29.56) |
| | | | 0.44 | 0.02 | 53 | 00685 | 0.48 | 10.62 | 20.52 | 66.38 | 1.08 | 13,786 | 7.0 | |
| | | | (0.35) | | (3.00) | | | | | | | (27.57) | | |
| | 59.44 | | | (0.35) | 100 | 00686 | 1.15 | 2.73 | 20.26 | 75.86 | 0.87 | 14,812 | 2.0 | |
| | 60.07 | | 0.83 | 93.04 | (29.62) | | | | | | | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION



COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P. 267 (12-80)

DENSITY

RESISTIVITY

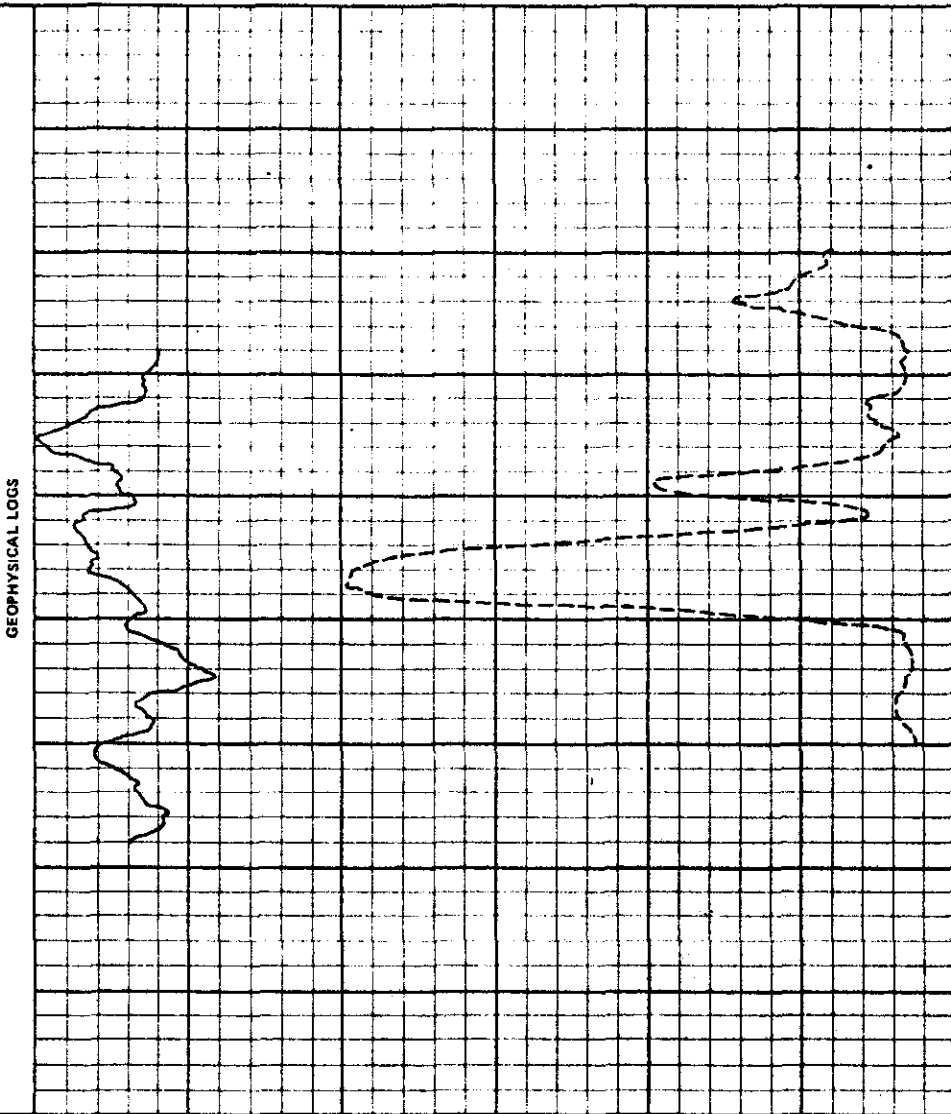
DRILL NO GDR-DDH-80-37
SCALE 1:40

SEAM

SEAM INTERVAL 211.35-211.88 m.

DENSITY SCALE 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80

RESISTIVITY SCALE



GEOPHYSICAL LOGS

SEAM COMP.

DEPTH

COAL SEAM LOG

INTERVAL

% REC. (Flat)

SAMPLE NUMBER COMPOS

PROXIMATE ANALYSIS

| ROCK | COAL | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI | |
|------|----------------|-------|------|-------|-------|-------|-------------|--------------------|----|
| | 0.10 (0.43) | | | | | | | | |
| | 19 34.95 | 00689 | 0.37 | 12.38 | 16.32 | 70.93 | 0.64 | 13,353 (26,711) | 10 |

211.35
211.88



COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

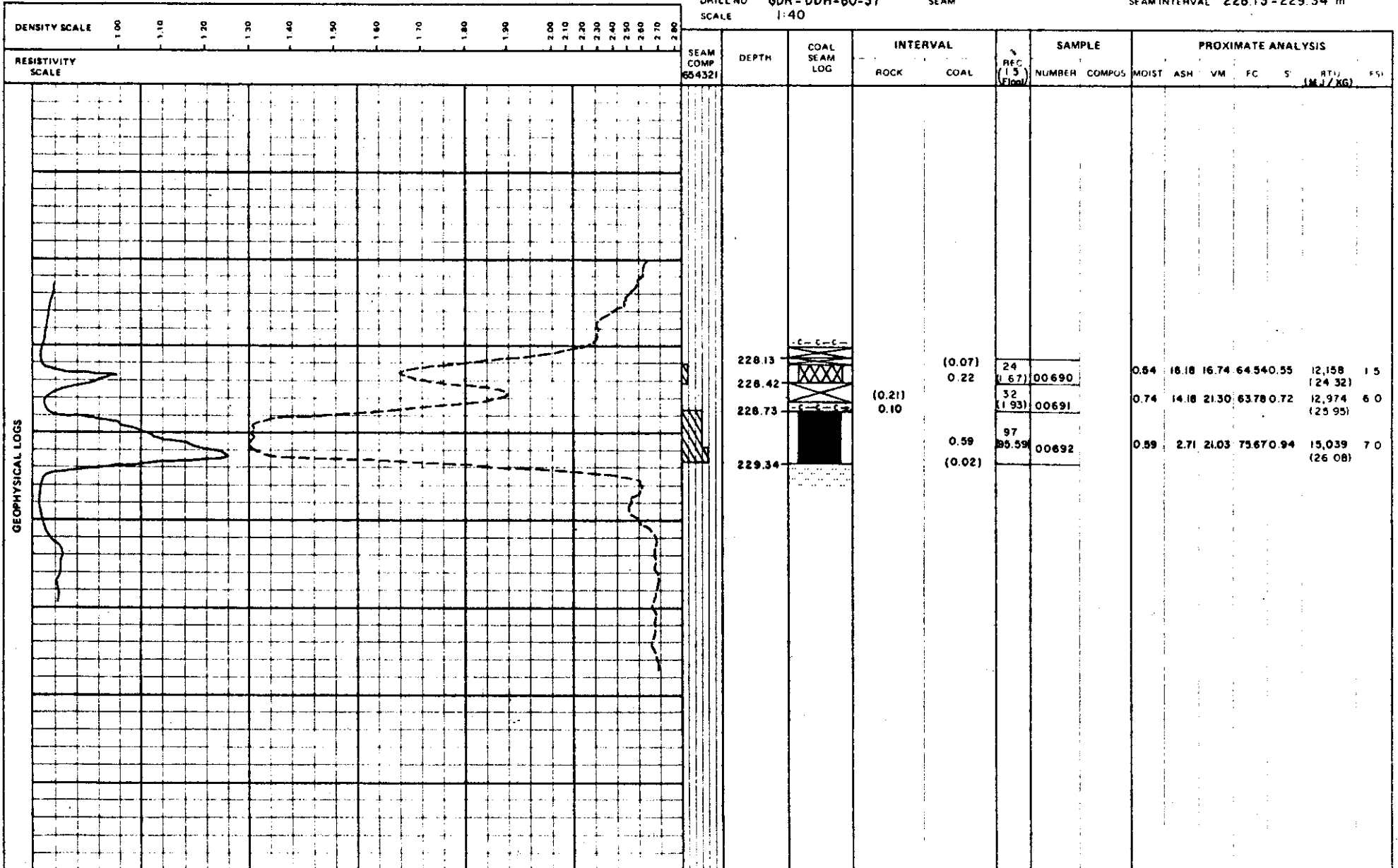
P. 207 (12 HQ)

Coal / Coal + Rock (True Thk(m))
0.64 / 1.14
SEAM INTERVAL 228.13 - 229.34 m

DENSITY --- RESISTIVITY ---

DRILL NO GDR-DDH-80-37 SEAM
SCALE 1:40

SEAM INTERVAL 228.13 - 229.34 m



GEOPHYSICAL LOGS

SEAM COMP 654321

DEPTH

COAL SEAM LOG

INTERVAL
ROCK COAL

REC (1.5 Floor)

SAMPLE
NUMBER COMPOS

PROXIMATE ANALYSIS
MOIST ASH VM FC S RTU (M J / XG) FSI

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P. 26 (112 80)

Coal / Coal + Rock (True Thk (m))

0.77 / 1.11

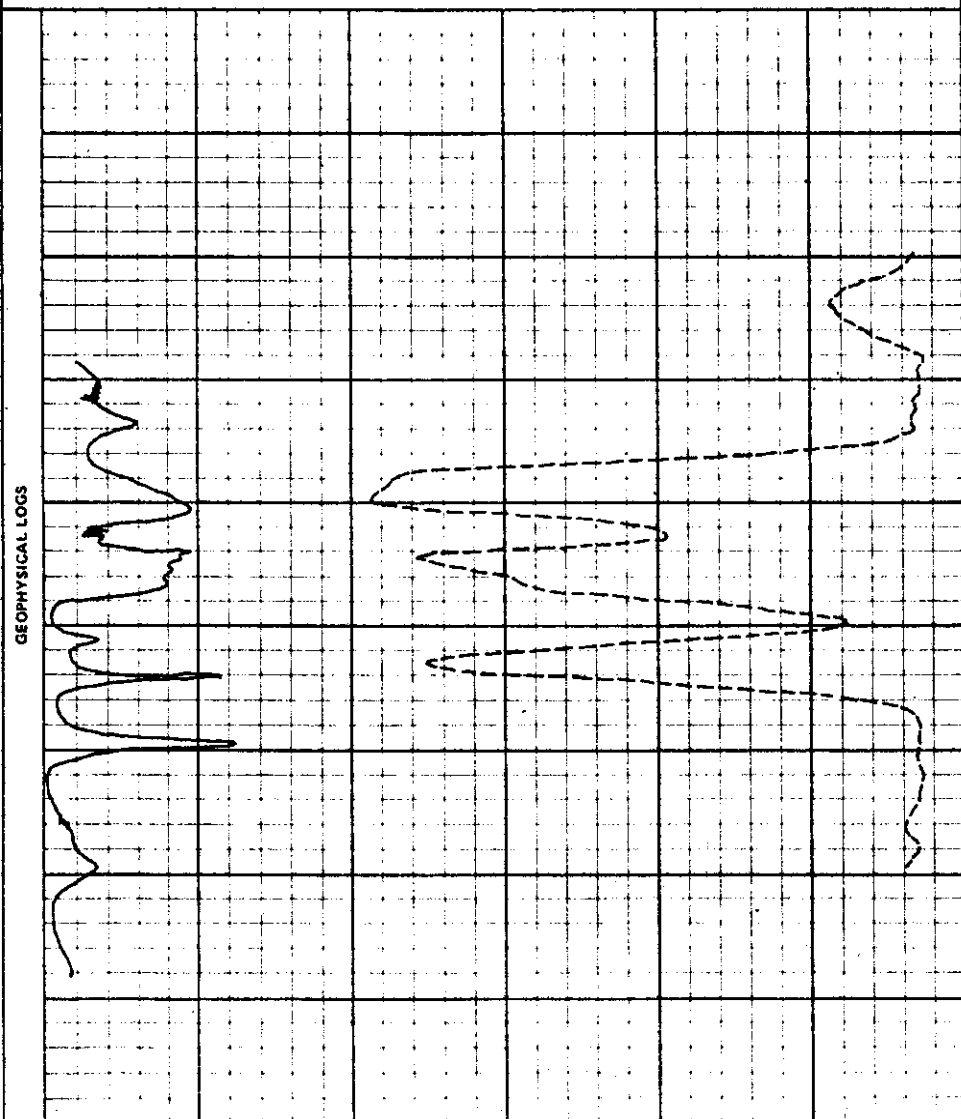
SEAM INTERVAL 260.39 - 260.77 m

DRILL NO GDR-DDH-80-37 SEAM

SCALE 1:40

DENSITY ----- RESISTIVITY -----

| | | | | | | | | | | | | | | | | | | | |
|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| DENSITY SCALE | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | 2.00 | 2.10 | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 |
| RESISTIVITY SCALE | | | | | | | | | | | | | | | | | | | |



| SEAM COMP 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | REC (1.5) (Feet) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | | | | |
|---------------------|--------|---------------|----------|----------------|---------------------|--------|--------|--------------------|-------|-------|------|-------------------|-------------|----|--|--|--|--|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FS | | | | | | |
| | 260.39 | | | | | | | | | | | | | | | | | | | |
| | 260.77 | | (0.11) | 0.31 (0.07) | 82 (9775) | 00693 | 039 | 6.29 | 18.64 | 74.68 | 0.83 | 14,457 (28.91) | 1.5 | | | | | | | |
| | 261.13 | | 0.26 | | 69 (858) | 00694 | 087 | 9.57 | 21.23 | 68.33 | 0.80 | 13,659 (27.32) | 5.0 | | | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P 28/112 801

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-80-37 SEAM
SCALE: 1:40

SEAM INTERVAL 313.55-314.52 m.

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | | SEAM COMP 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. (15 Floor) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | | | | | | | | |
|---------------|-------------------|------|------|------|------|------|------|------|------|------|------|------------------|--------|---------------|----------|--------|-------------------|--------|------|--------------------|------|------|-------|-------|------|--------|--------|-------|-----|----|----|---|---------|-----|--|--|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | 2.00 | | | | 2.10 | 2.20 | | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | NUMBER | COMPOS | MOIST | ASH | VM | FC | S | (BT/KG) | PSI | | |
| | | | | | | | | | | | | | 313.55 | | | | | | 71 | 00895 | 0.72 | 2.91 | 18.46 | 77.91 | 0.77 | 15.032 | 1.5 | | | | | | | | | |
| | | | | | | | | | | | | | 314.52 | | 0.70 | (0.28) | | | | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-00)

Coal/Coal-Rock (True Thk (m))
0.92/1.63
SEAM INTERVAL 377.39 - 379.08 m.

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-80-37 SEAM
SCALE 1:40

| DENSITY SCALE | RESISTIVITY SCALE | SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. (1.5) (Foot) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | |
|---------------|-------------------|-------------------|--------|---------------|----------|----------------|---------------------|--------|--------|--------------------|-------|-------|------|--------|-------------|---------|--|--|
| | | | | | ROCK | COAL | | NUMBER | COMPOS | MOIST | ASH | VM | FC | S | BTJ (MJ/KG) | FSI | | |
| | | | 377.39 | | | | 90 | | | | | | | | | | | |
| | | | 377.69 | | (0.74) | 0.27 (0.03) | 65.02 | 00696 | 0.45 | 8.74 | 17.81 | 73.00 | 0.72 | 14,076 | 15 | (28.15) | | |
| | | | 378.43 | | | 10.10 | | | | | | | | | | | | |
| | | | 379.08 | | | 0.55 | 85 (91.30) | 00697 | 0.30 | 6.70 | 17.55 | 75.45 | 0.73 | 14,433 | 15 | (28.87) | | |

GEOPHYSICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

SIMPLE SAMPLE SUMMARY

PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED | | MISSING | |
|----------------|------|--------------|---------------|-------------|-------------|----------------|-----------|------|---------|------|
| | | | | | | | COAL | ROCK | COAL | ROCK |
| DDH80057 | | 684 | 58.11 | 58.27 | 0.16 | 100.00 | 0.14 | 0.02 | 0.00 | 0.00 |
| | | 685 | 58.27 | 59.44 | 0.62 | 52.99 | 0.02 | 0.60 | 0.49 | 0.02 |
| | | 686 | 59.44 | 60.07 | 0.63 | 100.00 | 0.63 | 0.00 | 0.00 | 0.00 |
| | | 687 | 64.08 | 64.50 | 0.06 | 14.29 | 0.06 | 0.00 | 0.36 | 0.00 |
| | | 688 | 69.05 | 90.08 | 0.16 | 15.53 | 0.16 | 0.00 | 0.67 | 0.00 |
| | | 689 | 211.55 | 211.88 | 0.10 | 18.87 | 0.10 | 0.00 | 0.43 | 0.00 |
| | | 690 | 228.13 | 228.42 | 0.22 | 75.86 | 0.22 | 0.00 | 0.07 | 0.00 |
| | | 691 | 228.42 | 228.75 | 0.10 | 32.26 | 0.00 | 0.10 | 0.00 | 0.21 |
| | | 692 | 228.75 | 229.34 | 0.59 | 96.72 | 0.59 | 0.00 | 0.02 | 0.00 |
| | | 693 | 260.39 | 260.77 | 0.31 | 81.58 | 0.31 | 0.00 | 0.07 | 0.00 |
| | | 694 | 260.77 | 261.13 | 0.25 | 69.44 | 0.00 | 0.25 | 0.00 | 0.11 |
| | | 695 | 313.55 | 314.52 | 0.70 | 72.16 | 0.70 | 0.00 | 0.27 | 0.00 |
| | | 696 | 377.39 | 377.69 | 0.27 | 90.00 | 0.27 | 0.00 | 0.03 | 0.00 |
| | | 697 | 378.43 | 379.05 | 0.55 | 34.62 | 0.55 | 0.00 | 0.10 | 0.00 |

18/JAN/82

GULF CANADA RESOURCES INC. - COAL DIVISION
HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE -

NAME OF STANDARD -

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|
|-------------|------|-----------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|

DDH86037

685
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XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH INTERVAL | SAMP. SEAM | LITHOLOGY | DESCRIPTION |
|------|------------|----------------|------------|-----------|--|
| | TO | THICK. | ID ID | | |
| * 40 | 7.07 | 8.19 | 1.12 | SILTSTONE | SSY.GY.XBDG CALCITE VEINS PARALLEL TO BEDDING; OCCASIONAL BED OF DKGY MUDSTONE; TOP 13CM BRKN AND ROUNDED BY DRILL. |
| * 35 | 8.19 | 9.41 | 1.22 | SILTSTONE | SSY.GY.XBDG SAME AS ABOVE. |
| * 40 | 9.41 | 11.24 | 1.83 | SILTSTONE | BIOTR MINOR BIOTRB; PYRITE NODULES AND SLICKENSIDE ON BEDDING PLANES. |
| 40 | 11.24 | 12.14 | 0.90 | SILTSTONE | SAME AS ABOVE. |
| * 40 | 12.14 | 13.60 | 1.46 | SILTSTONE | AS ABOVE. |
| * 40 | 13.60 | 14.22 | 0.62 | MUDSTONE | CARB.DK.GY CALCITE VEINS PARALLEL TO BEDDING; JOINTS WITH SLICKENSIDES AND CALCITE PARALLEL TO CORE AXIS. |
| 36 | 14.22 | 14.80 | 0.58 | MUDSTONE | AS ABOVE. |
| 33 | 14.80 | 15.22 | 0.42 | MUDSTONE | AS ABOVE. |
| 31 | 15.22 | 15.43 | 0.21 | MUDSTONE | AS ABOVE. |
| * 30 | 15.43 | 15.59 | 0.16 | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 35 | 15.59 | 16.67 | 1.08 | | | SILTSTONE | SSY.GY.BIOTR |
| * 40 | 16.67 | 17.28 | 0.61 | | | SANDSTONE | SLTY.MG.LT.GY |
| 38 | 17.28 | 18.25 | 0.97 | | | SANDSTONE | SLTY.LT.GY AS ABOVE. |
| * 35 | 18.25 | 19.88 | 1.63 | | | SANDSTONE | CG.LT.GY.MAS THIN BEDS OF MUDST. CLASTS AND COALY IN CLUSIONS. |
| 38 | 19.88 | 20.14 | 0.26 | | | SANDSTONE | CG.LT.GY.MAS AS ABOVE. |
| * 40 | 20.14 | 20.74 | 0.60 | | | SANDSTONE | CG.LT.GY AS ABOVE. |
| 42 | 20.74 | 21.27 | 0.53 | | | MUDSTONE | DK.GY |
| * 45 | 21.27 | 22.38 | 1.11 | | | SILTSTONE | GY.BIOTR CALCITE VEINS ALONG BEDDING PLANES; SLI CKENSIDES ON BEDDING PLANES; MINOR BIOT RB. |
| * 45 | 22.38 | 23.01 | 0.63 | | | SILTSTONE | GY.BIOTR AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 30 | 23.01 | 24.85 | 1.84 | | | SILTSTONE | GY.BIOTR AS ABOVE. |
| 36 | 24.85 | 25.97 | 1.12 | | | SILTSTONE | GY.BIOTR AS ABOVE. |
| * 40 | 25.97 | 26.81 | 0.84 | | | SILTSTONE | GY.BIOTR AS ABOVE. |
| 38 | 26.81 | 27.29 | 0.48 | | | MUDSTONE | DK.GY |
| 38 | 27.29 | 27.33 | 0.04 | | | COAL | C-1.BRKN |
| 37 | 27.33 | 27.64 | 0.31 | | | MUDSTONE | DK.GY |
| * 35 | 27.64 | 28.92 | 1.28 | | | SILTSTONE | LT.GY.BIOTR |
| 35 | 28.92 | 29.80 | 0.88 | | | MUDSTONE | DK.GY CALCITE ALONG BEDDING. |
| 35 | 29.80 | 30.39 | 0.59 | | | MUDSTONE | SLICKENSIDES ON JOINT PARALLEL TO CORE AXIS. |
| * 35 | 30.39 | 31.10 | 0.71 | | | SILTSTONE | GY.BIOTR |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 37 | 31.10 | 32.09 | 0.99 | | | MUDSTONE | SLTY.DK.GY SMALL CALCITE VEINS ALONG BEDDING. |
| 38 | 32.09 | 32.27 | 0.18 | | | MUDSTONE | SLTY.DK.GY AS ABOVE. |
| 38 | 32.27 | 32.84 | 0.57 | | | MUDSTONE | SLTY.DK.GY AS ABOVE. |
| 39 | 32.84 | 32.90 | 0.06 | | | COAL | BRKN STONEY. |
| 39 | 32.90 | 32.92 | 0.02 | | | COAL | C-4.BRKN |
| 39 | 32.92 | 32.98 | 0.06 | | | COAL | C-4 UNBROKEN. |
| 39 | 32.98 | 32.99 | 0.01 | | | COAL | C-4 UNBROKEN; CLYST LENSES. |
| 39 | 32.99 | 33.17 | 0.18 | | | COAL | C-4 UNBROKEN. |
| 40 | 33.17 | 33.22 | 0.05 | | | COAL | C-3 UNBROKEN. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 40 | 33.22 | 33.54 | 0.32 | | | MUDSTONE | DK.GY MINOR CALCITE AND SLICKENSIDES ALONG BEDDING. |
| 38 | 33.54 | 33.59 | 0.05 | | | COAL | BRKN STONEY; SLICKENSIDED. |
| 37 | 33.59 | 33.62 | 0.03 | | | COAL | C-3.BRKN SHRD. |
| 37 | 33.62 | 33.65 | 0.03 | | | COAL | C-4.BRKN SHRD. |
| 36 | 33.65 | 33.75 | 0.10 | | | COAL | C-5 PULVERIZED. |
| 34 | 33.75 | 33.91 | 0.16 | | | MUDSTONE | DK.GY SLICKENSIDES ALONG BEDDING. |
| 33 | 33.91 | 33.94 | 0.03 | | | COAL | C-4.BRKN SHRD. |
| 31 | 33.94 | 34.25 | 0.31 | | | MUDSTONE | DK.GY SLICKENSIDES ON BEDDING. |
| 28 | 34.25 | 34.39 | 0.14 | | | MUDSTONE | BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 25 | 34.39 | 34.66 | 0.27 | | | MUDSTONE | SLTY COALY INCLUSIONS. |
| * 35 | 34.66 | 35.36 | 0.70 | | | MUDSTONE | BRKN ABUNDANT SLICKENSIDE AND COALY INCLUSIONS. |
| 39 | 35.36 | 35.63 | 0.27 | | | MUDSTONE | AS ABOVE. |
| 43 | 35.63 | 36.22 | 0.59 | | | MUDSTONE | SLTY.LAM UNBROKEN; COALY LAMINATIONS; CALCITE VE INLETS AND SLICKENSIDES ALONG BEDDING P LANES; SLTY NEAR BASE. |
| * 50 | 36.22 | 37.11 | 0.89 | | | MUDSTONE | SLTY.GY.BIOTR WITH THIN SLTST BEDS; CALCITE VEINLETS ALONG BEDDING; SLICKENSIDES LESS COMMON . |
| 48 | 37.11 | 37.41 | 0.30 | | | MUDSTONE | GY.BIOTR AS ABOVE. |
| 45 | 37.41 | 38.38 | 0.97 | | | CORELOSS | RUCK. |
| * 40 | 38.38 | 40.04 | 1.66 | | | CORELOSS | RUCK. |
| 43 | 40.04 | 40.06 | 0.02 | | | COAL | C-4 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 45 | 40.06 | 40.76 | 0.70 | | | MUDSTONE | WITH THIN SLTST BEDS; CALCITE VEINLETS ALONG BEDDING PLANES; SLICKENSIDES LESS COMMON. |
| 44 | 40.76 | 41.07 | 0.31 | | | MUDSTONE | SLTY.GY AS ABOVE. |
| 43 | 41.07 | 41.10 | 0.03 | | | MUDSTONE | DK.GY WITH ABUNDANT CALCITE. |
| 43 | 41.10 | 41.19 | 0.09 | | | COAL | STONEY WITH ABUNDANT CALCITE. |
| 43 | 41.19 | 41.28 | 0.09 | | | CORELOSS | COAL. |
| 43 | 41.28 | 41.41 | 0.13 | | | COAL | C-4.BRKN SHRD. |
| 43 | 41.41 | 41.48 | 0.07 | | | COAL | C-3.BRKN SHRD. |
| 42 | 41.48 | 41.68 | 0.20 | | | CORELOSS | COAL. |
| 42 | 41.68 | 41.74 | 0.06 | | | COAL | C-4 UNBROKEN. |
| * 40 | 41.74 | 43.45 | 1.71 | | | MUDSTONE | SLTY.GY.LAM.BIOTR COALY LAMINATIONS; MINOR CALCITE VEINLE TS AND SLICKENSIDES ALONG BEDDING PLANE S. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GLR BLOCK: XX DATA SOURCE: DDH60037

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|-------------------|----------------|----------|---------|-----------|--|
| | 43 | 43.45 | 43.78 | 0.33 | | CORELOSS | ROCK. |
| * | 45 | 43.78 | 44.71 | 0.93 | | MUDSTONE | SLTY.GY.LAM.BIOTR COALY LAMINATIONS; MINOR CALCITE VEINLETS AND SLICKENSIDES ALONG BEDDING PLANE S. |
| * | 40 | 44.71 | 46.53 | 1.82 | | MUDSTONE | SLTY.GY.LAM.BIOTR AS ABOVE. |
| * | 40 | 46.53 | 49.29 | 2.76 | | MUDSTONE | SLTY.GY.LAM.BIOTR AS ABOVE.. |
| * | 45 | 49.29 | 50.58 | 1.29 | | MUDSTONE | SLTY.GY.LAM.BIOTR AS ABOVE. |
| | 44 | 50.58 | 51.14 | 0.56 | | MUDSTONE | SLTY.GY.LAM.BIOTR AS ABOVE. |
| | 43 | 51.14 | 51.97 | 0.83 | | MUDSTONE | DK.GY MINOR SILT AT TOP ONLY. |
| | 42 | 51.97 | 52.54 | 0.57 | | MUDSTONE | DK.GY AS ABOVE. |
| | 42 | 52.54 | 53.18 | 0.64 | | CORELOSS | ROCK. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 41 | 53.18 | 53.28 | 0.10 | | | MUDSTONE | CARB.DK.GY VERY CARB WITH BRIGHT COAL INCLUSIONS; CALCITE VEINED AT TOP. |
| 41 | 53.28 | 53.32 | 0.04 | | | COAL | C-4 PULVERIZED. |
| 41 | 53.32 | 53.60 | 0.28 | | | MUDSTONE | CARB.DK.GY.BRKN VERY CARB WITH BRIGHT COAL INCLUSIONS; CALCITE VEINED AT TOP; SHRD. |
| 41 | 53.60 | 53.68 | 0.08 | | | MUDSTONE | CARB.DK.GY AS ABOVE. |
| 41 | 53.68 | 53.82 | 0.14 | | | MUDSTONE | CARB.DK.GY AS ABOVE; UNBROKEN(NOT PULVERIZED). |
| 40 | 53.82 | 53.85 | 0.03 | | | COAL | C-1 |
| 40 | 53.85 | 54.05 | 0.20 | | | MUDSTONE | CARB.DK.GY VERY CARB WITH BRIGHT COAL INCLUSIONS; CALCITE VEINS AT TOP. |
| 40 | 54.05 | 54.07 | 0.02 | | | COAL | C-3.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 40 | 54.07 | 54.37 | 0.30 | | | MUDSTONE | CARB.DK.GY VERY CARB WITH BRIGHT COAL INCLUSIONS; CALCITE VEINS AT TOP. |
| 39 | 54.37 | 54.85 | 0.48 | | | SILTSTONE | GY.BIOTR MINOR CALCITE AND SLICKENSIDES PARALLEL TO BEDDING. |
| * 35 | 54.85 | 57.05 | 2.20 | | | SILTSTONE | GY.BIOTR AS ABOVE. |
| 35 | 57.05 | 57.48 | 0.43 | | | SILTSTONE | GY.BIOTR AS ABOVE. |
| 35 | 57.48 | 58.11 | 0.63 | | | SILTSTONE | GY.BIOTR AS ABOVE. |
| 35 | 58.11 | 58.16 | 0.05 | 00684 | | COAL | C-5 UNBROKEN. |
| 35 | 58.16 | 58.21 | 0.05 | 00684 | | COAL | C-6.BRKN SHRD. |
| 35 | 58.21 | 58.23 | 0.02 | 00684 | | MUDSTONE | DK.GY |
| 35 | 58.23 | 58.27 | 0.04 | 00684 | | COAL | C-3 UNBROKEN. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|------------------------|
| | 35 | 58.27 | 58.41 | 0.14 | 00685 | CORELOSS | COAL. |
| | 35 | 58.41 | 58.47 | 0.06 | 00685 | CORELOSS | ROCK |
| | 35 | 58.47 | 58.63 | 0.16 | 00685 | MUDSTONE | DR.GY SLICKENSIDES. |
| | 35 | 58.63 | 58.65 | 0.02 | 00685 | COAL | C-4.BRKN SHRD. |
| * | 35 | 58.65 | 59.09 | 0.44 | 00685 | SILTSTONE | GY |
| | 37 | 59.09 | 59.44 | 0.35 | 00685 | CORELOSS | COAL. |
| | 38 | 59.44 | 59.53 | 0.09 | 00686 | COAL | C-4.SHRD |
| | 39 | 59.53 | 59.64 | 0.11 | 00686 | COAL | C-2 |
| | 39 | 59.64 | 59.67 | 0.03 | 00686 | COAL | C-3 |
| | 40 | 59.67 | 59.84 | 0.17 | 00686 | COAL | C-4 |
| | 40 | 59.84 | 59.90 | 0.06 | 00686 | COAL | C-4 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 41 | 59.90 | 59.98 | 0.08 | 00666 | COAL | C-4 PULVERIZED. |
| | 41 | 59.98 | 60.07 | 0.09 | 00666 | COAL | C-4 |
| | 42 | 60.07 | 60.27 | 0.20 | | MUDSTONE | DK.GY COALY INCLUSIONS |
| | 43 | 60.27 | 60.60 | 0.33 | | SILTSTONE | GY.BIOTR COALY INCLUSIONS; MINOR CALCITE VEINLET S. |
| | 44 | 60.60 | 60.61 | 0.01 | | CORELOSS | ROCK. |
| * | 50 | 60.61 | 62.77 | 2.16 | | SILTSTONE | SAME AS SLTST ABOVE. |
| | 49 | 62.77 | 63.32 | 0.55 | | SILTSTONE | AS ABOVE. |
| | 48 | 63.32 | 64.00 | 0.68 | | SILTSTONE | AS ABOVE. |
| | 48 | 64.00 | 64.08 | 0.08 | | MUDSTONE | DK.GY COALY |
| | 48 | 64.08 | 64.14 | 0.06 | 00687 | COAL | C-4.BRKN SHRD. |
| | 48 | 64.14 | 64.50 | 0.36 | 00687 | CORELOSS | COAL |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 13

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| | 47 | 64.50 | 65.40 | 0.90 | | MUDSTONE | DK.GY.SHRD SLICKENSIDES ON JOINTS PARALLEL TO CORE AXIS AND ON BEDDING. |
| | 46 | 65.40 | 65.95 | 0.55 | | CORELOSS | |
| | 46 | 65.95 | 66.74 | 0.79 | | COAL | C-4 SLICKENSIDES ON BEDDING ONLY; COALY INC LUSIONS TOWARDS BASE. |
| | 45 | 66.74 | 66.78 | 0.04 | | COAL | C-3.BRKN |
| * | 45 | 66.78 | 67.85 | 1.07 | | MUDSTONE | DK.GY CALCITE AND COALY INCLUSIONS AND SLICKE NSIDES ALONG BEDDING PLANES. |
| | 47 | 67.85 | 67.94 | 0.09 | | MUDSTONE | AS ABOVE; PULVERIZED. |
| | 49 | 67.94 | 68.92 | 0.98 | | CORELOSS | ROCK. |
| | 52 | 68.92 | 69.00 | 0.08 | | MUDSTONE | UNBROKEN. |
| | 53 | 69.00 | 69.68 | 0.68 | | MUDSTONE | DK.GY SAME AS MUDST. ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GLR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|---------------|----------|---------|-----------|--|
| * 55 | 69.68 | 69.94 | 0.26 | | | MUDSTONE | DK.GY AS ABOVE. |
| 54 | 69.94 | 70.41 | 0.47 | | | MUDSTONE | DK.GY LOCAL SLTY ZONES. |
| 52 | 70.41 | 71.76 | 1.35 | | | MUDSTONE | DK.GY AS ABOVE. |
| 49 | 71.76 | 72.42 | 0.66 | | | SILTSTONE | GY.BIOTR MINOR CALCITE AND SLICKENSIDES ON BEDDING. |
| * 45 | 72.42 | 75.08 | 2.66 | | | SILTSTONE | GY.BIOTR AS ABOVE. |
| * 45 | 75.08 | 77.54 | 2.46 | | | SILTSTONE | GY.BIOTR AS ABOVE. |
| 43 | 77.54 | 77.72 | 0.18 | | | SILTSTONE | GY.BIOTR AS ABOVE. |
| 43 | 77.72 | 78.24 | 0.52 | | | CORELOSS | ROCK. |
| 42 | 78.24 | 79.37 | 1.13 | | | MUDSTONE | DK.GY |
| 40 | 79.37 | 80.90 | 1.53 | | | MUDSTONE | SSY.DK.GY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH60037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 39 | 80.90 | 81.18 | 0.28 | | MUDSTONE | SSY.DK.GY |
| | 39 | 81.18 | 81.36 | 0.18 | | CORELOSS | ROCK. |
| | 38 | 81.36 | 82.41 | 1.05 | | MUDSTONE | CARB CALCITE VEINLETS ALONG BEDDING; CARB TO WARDS BASE. |
| | 37 | 82.41 | 82.46 | 0.05 | | COAL | C-4.BRKN SHRD. |
| | 37 | 82.46 | 82.82 | 0.36 | | CORELOSS | COAL |
| | 37 | 82.82 | 83.12 | 0.30 | | CORELOSS | ROCK. |
| | 36 | 83.12 | 83.19 | 0.07 | | COAL | C-2.BRKN |
| | 36 | 83.19 | 83.22 | 0.03 | | COAL | BRKN BRIGHT BANDED. |
| | 36 | 83.22 | 83.86 | 0.64 | | CORELOSS | COAL |
| | 35 | 83.86 | 84.03 | 0.17 | | MUDSTONE | CARB.DK.GY SLTY NEAR BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GLR BLOCK: XX DATA SOURCE: DDH60037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 35 | 84.03 | 84.49 | 0.46 | | | SILTSTONE | GY.BIUTR MINOR CALCITE VEINLETS AND SLICKENSIDES . |
| 40 | 84.49 | 84.77 | 0.28 | | | CORELOSS | ROCK. |
| * 55 | 84.77 | 86.49 | 1.72 | | | SILTSTONE | GY.BIUTR MINOR CALCITE VEINLETS AND SLICKENSIDES . |
| 46 | 86.49 | 87.39 | 0.90 | | | SILTSTONE | AS ABOVE. |
| * 40 | 87.39 | 88.34 | 0.95 | | | SILTSTONE | AS ABOVE. |
| 45 | 88.34 | 89.05 | 0.71 | | | MUDSTONE | SLTY.DK.GY.BIUTR CARB NEAR BASE. |
| 47 | 89.05 | 89.12 | 0.07 | 00688 | | COAL | C-3.BRKN SHRD |
| 48 | 89.12 | 89.21 | 0.09 | 00688 | | COAL | C-3.SHRD UNBROKEN. |
| 51 | 89.21 | 90.08 | 0.87 | 00688 | | CORELOSS | COAL |
| 54 | 90.08 | 90.20 | 0.12 | | | MUDSTONE | DK.GY ABUNDANT COALY INCLUSIONS; SLICKENSIDES ON BEDDING PLANES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| | 56 | 90.20 | 90.81 | 0.61 | | MUDSTONE | BRKN |
| | 58 | 90.81 | 90.82 | 0.01 | | MUDSTONE | AS ABOVE, |
| * | 60 | 90.82 | 91.54 | 0.72 | | SILTSTONE | GY.BIOTR |
| | 56 | 91.54 | 92.46 | 0.92 | | SANDSTONE | MG.LT.GY ABUNDANT IRREGULAR CALCITE FILLED FRACT URES. |
| | 52 | 92.46 | 93.46 | 1.00 | | CORELOSS | RUCK |
| | 48 | 93.46 | 94.31 | 0.85 | | SANDSTONE | SAME AS SS ABOVE. |
| | 46 | 94.31 | 94.44 | 0.13 | | MUDSTONE | DK.GY COALY. |
| | 45 | 94.44 | 94.53 | 0.09 | | SILTSTONE | GY.BIOTR |
| | 43 | 94.53 | 95.15 | 0.62 | | SILTSTONE | GY.BIOTR |
| * | 40 | 95.15 | 96.06 | 0.91 | | SANDSTONE | MG.LT.GY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 38 | 96.06 | 96.91 | 0.85 | | SANDSTONE | MUDST INCLUSIONS AT BASE. |
| | 37 | 96.91 | 96.93 | 0.02 | | COAL | C-5.BRKN |
| | 37 | 96.93 | 97.23 | 0.30 | | CORELOSS | COAL |
| | 37 | 97.23 | 97.33 | 0.10 | | MUDSTONE | DK.GY OCCASIONAL CALCITE VEINLETS ALONG BEDDING, |
| | 34 | 97.33 | 99.39 | 2.06 | | MUDSTONE | AS ABOVE. |
| | 31 | 99.39 | 100.25 | 0.86 | | CORELOSS | ROCK. |
| | 30 | 100.25 | 100.95 | 0.70 | | MUDSTONE | AS ABOVE. |
| | 27 | 100.95 | 102.56 | 1.61 | | MUDSTONE | DK.GY OCCASIONAL CALCITE VEINLETS ALONG BEDDING. |
| * | 25 | 102.56 | 103.17 | 0.61 | | MUDSTONE | SLTY.DK.GY AS ABOVE. |
| | 27 | 103.17 | 103.52 | 0.35 | | MUDSTONE | SLTY AS ABOVE. |
| | 29 | 103.52 | 104.45 | 0.93 | | SILTSTONE | GY.BIOTR |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH INTERVAL ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|-------------------|----------------|----------|---------|-----------|---|
| | 32 | 104.45 | 104.95 | 0.50 | | CORELOSS | ROCK. |
| * | 35 | 104.95 | 106.12 | 1.17 | | MUDSTONE | DK.GY SLTY ZONES AND LOCAL CARB ZONES. |
| | 38 | 106.12 | 106.62 | 0.50 | | MUDSTONE | DK.GY AS ABOVE. |
| | 40 | 106.62 | 106.76 | 0.14 | | SILTSTONE | GY.BIOTR MINOR CALCITE VEINLETS. |
| * | 45 | 106.76 | 109.24 | 2.48 | | SILTSTONE | GY.BIOTR AS ABOVE. |
| * | 35 | 109.24 | 112.00 | 2.76 | | SILTSTONE | AS ABOVE; PYRITE ON JOINT PLANES. |
| * | 40 | 112.00 | 112.22 | 0.22 | | SILTSTONE | AS ABOVE. |
| | 35 | 112.22 | 114.76 | 2.54 | | SILTSTONE | AS ABOVE. |
| * | 30 | 114.76 | 115.19 | 0.43 | | SILTSTONE | AS ABOVE. |
| | 37 | 115.19 | 117.41 | 2.22 | | SILTSTONE | AS ABOVE. |
| * | 45 | 117.41 | 118.28 | 0.87 | | SILTSTONE | AS ABOVE. |
| | 34 | 118.28 | 119.96 | 1.68 | | SILTSTONE | AS ABOVE. |
| * | 20 | 119.96 | 121.36 | 1.40 | | SILTSTONE | BEDDING IRREGULAR; BCA VARIABLE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 22 | 121.36 | 122.73 | 1.37 | | SILTSTONE | AS ABOVE. |
| * | 25 | 122.73 | 124.45 | 1.72 | | SILTSTONE | AS ABOVE. |
| * | 30 | 124.45 | 125.45 | 1.00 | | SILTSTONE | AS ABOVE. |
| | 30 | 125.45 | 127.45 | 2.00 | | SILTSTONE | AS ABOVE. |
| * | 30 | 127.45 | 128.24 | 0.79 | | SILTSTONE | AS ABOVE. |
| * | 20 | 128.24 | 130.54 | 2.30 | | MUDSTONE | SLTY.GY GRADATIONAL WITH UNIT ABOVE. |
| | 20 | 130.54 | 130.84 | 0.30 | | MUDSTONE | SLTY.GY AS ABOVE. |
| * | 20 | 130.84 | 133.51 | 2.67 | | MUDSTONE | SLTY.GY AS ABOVE. |
| * | 30 | 133.51 | 136.26 | 2.75 | | MUDSTONE | CARB INCLUSIONS TOWARDS BASE CARB. |
| | 33 | 136.26 | 136.47 | 0.21 | | MUDSTONE | COALY. |
| | 33 | 136.47 | 136.68 | 0.21 | | MUDSTONE | SLTY SLTY AT BASE. |
| | 33 | 136.68 | 136.88 | 0.20 | | CORELOSS | ROCK. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 21

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 35 | 136.88 | 138.85 | 1.97 | | SANDSTONE | SLTY.LT.GY |
| | 37 | 138.85 | 139.25 | 0.40 | | MUDSTONE | CARB.DK.GY COALY INCLUSIONS.; MINOR CALCITE VEINLE TS. |
| | 38 | 139.25 | 139.44 | 0.19 | | MUDSTONE | CARB.DK.GY AS ABOVE. |
| * | 40 | 139.44 | 141.90 | 2.46 | | MUDSTONE | SCATTERED SLICKENSIDES. |
| | 44 | 141.90 | 141.97 | 0.07 | | MUDSTONE | BRKN SLICKENSIDES. |
| | 45 | 141.97 | 142.47 | 0.50 | | CORELUSS | ROCK. |
| | 47 | 142.47 | 142.65 | 0.18 | | MUDSTONE | UNBROKEN. |
| * | 50 | 142.65 | 144.50 | 1.85 | | SILTSTONE | GY GRADATIONAL INTO SSSY BEDS AT BASE. |
| | 52 | 144.50 | 144.75 | 0.25 | | MUDSTONE | CARB.DK.GY CARB AT TOP. |
| | 53 | 144.75 | 145.25 | 0.50 | | CORELUSS | ROCK |
| * | 55 | 145.25 | 146.38 | 1.13 | | SILTSTONE | GY.BIUTR BECOMING LESS SSSY TOWARDS BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 55 | 146.38 | 146.41 | 0.03 | | COAL | C-3.SHRD |
| | 55 | 146.41 | 146.49 | 0.08 | | COAL | C-4.SHRD BRKN. |
| | 55 | 146.49 | 146.53 | 0.04 | | COAL | C-3.SHRD |
| | 55 | 146.53 | 147.68 | 1.15 | | SILTSTONE | GY.BIOTR COALY INCLUSIONS AT TOP. |
| * | 55 | 147.68 | 150.30 | 2.62 | | SILTSTONE | GY.BIOTR AS ABOVE. |
| | 55 | 150.30 | 150.92 | 0.62 | | SILTSTONE | GY.BIOTR AS ABOVE. |
| * | 55 | 150.92 | 153.06 | 2.14 | | MUDSTONE | SLTY SLTY AT TOP; GRADATIONAL WITH SLTST ABO VE. |
| | 51 | 153.06 | 153.54 | 0.48 | | MUDSTONE | AS ABOVE. |
| | 49 | 153.54 | 154.05 | 0.51 | | SILTSTONE | GY.BIOTR |
| * | 45 | 154.05 | 155.78 | 1.73 | | SILTSTONE | SSY SSY TOWARDS BASE. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 40 | 155.78 | 156.10 | 0.32 | | | SILTSTONE | SSY AS ABOVE. |
| 40 | 156.10 | 156.55 | 0.45 | | | MUDSTONE | SLTY.DK.GY SLTY AT TOP. |
| 40 | 156.55 | 157.35 | 0.80 | | | CORELOSS | ROCK. |
| 40 | 157.35 | 157.49 | 0.14 | | | MUDSTONE | CARB.BRKN SLICKENSIDES. |
| 40 | 157.49 | 157.74 | 0.25 | | | MUDSTONE | SCATTERED SLICKENSIDES. |
| * 40 | 157.74 | 159.18 | 1.44 | | | MUDSTONE | SCATTERED SLICKENSIDES. |
| 38 | 159.18 | 159.67 | 0.49 | | | MUDSTONE | CALCITE VEINS; SLICKENSIDES; SHRD AND B RKN AT BASE |
| 36 | 159.67 | 160.67 | 1.00 | | | CORELOSS | ROCK. |
| 35 | 160.67 | 160.75 | 0.08 | | | SANDSTONE | FG.GY COALY INCLUSIONS. |
| * 35 | 160.75 | 160.87 | 0.12 | | | SANDSTONE | FG.GY AS ABOVE. |
| 35 | 160.87 | 161.68 | 0.81 | | | MUDSTONE | SLTY.DK.GY.BRKN SLICKENSIDES. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 24

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 34 | 161.08 | 162.76 | 1.68 | | | CORELOSS | ROCK. |
| 34 | 162.76 | 163.00 | 0.24 | | | MUDSTONE | SLTY.DK.GY.BRKN SLICKENSIDES |
| 34 | 163.00 | 165.37 | 2.37 | | | MUDSTONE | SLTY.DK.GY LESS BRKN. |
| 33 | 165.37 | 165.57 | 0.20 | | | CORELOSS | ROCK. |
| 33 | 165.57 | 166.05 | 0.48 | | | MUDSTONE | SLTY.DK.GY LESS BRKN. |
| 33 | 166.05 | 166.15 | 0.10 | | | MUDSTONE | AS ABOVE. |
| 33 | 166.15 | 166.19 | 0.04 | | | COAL | C-5.BRKN |
| 33 | 166.19 | 166.56 | 0.37 | | | MUDSTONE | LESS BRKN.; ABUNDANT CALCITE; START OF F AULT ZONE. |
| 33 | 166.56 | 167.08 | 0.52 | | | CORELOSS | |
| 32 | 167.08 | 167.17 | 0.09 | | | COAL | C-3.SHRD BRKN. |
| 32 | 167.17 | 167.35 | 0.18 | | | MUDSTONE | DK.GY WITH CALCITE. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 25

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 32 | 167.35 | 167.38 | 0.03 | | | COAL | C-5.SHRD BRKN. |
| 32 | 167.38 | 167.58 | 0.20 | | | CORELOSS | ROCK. |
| 32 | 167.58 | 167.66 | 0.08 | | | SILTSTONE | GY WITH CALCITE. |
| 32 | 167.66 | 167.72 | 0.06 | | | MUDSTONE | CARB.SHRD |
| 32 | 167.72 | 168.83 | 1.11 | | | BRECCIA | GY BRECCIA, SLTST.; FRACTURES FILLED WITH CALCITE. |
| 32 | 168.83 | 169.30 | 0.47 | | | SANDSTONE | FG.GY ABUNDANT IRREGULAR CALCITE FILLED FRACT URES. |
| 31 | 169.30 | 171.38 | 2.08 | | | SANDSTONE | FG.GY AS ABOVE. |
| 31 | 171.38 | 172.09 | 0.71 | | | SANDSTONE | FG.GY AS ABOVE. |
| * 30 | 172.09 | 174.08 | 1.99 | | | SILTSTONE | GY.BIOTR CALCITE FILLED FRACTURES LESS COMMON TH AN ABOVE. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 30 | 174.08 | 174.98 | 0.90 | | | SILTSTONE | GY.BIOTR AS ABOVE. |
| * 30 | 174.98 | 176.61 | 1.63 | | | SILTSTONE | CURE SOMEWHAT BRKN WITH SLICKENSIDES. |
| 30 | 176.61 | 176.90 | 0.29 | | | SILTSTONE | SSY |
| 30 | 176.90 | 178.87 | 1.97 | | | SILTSTONE | SSY.VBRKN SSY AT BASE; ABUNDANT SLICKENSIDES. |
| 30 | 178.87 | 179.62 | 0.75 | | | SANDSTONE | FG.GY ABUNDANT IRREGULAR CALCITE FILLED FRACTURES; UNBROKEN. |
| 30 | 179.62 | 180.46 | 0.84 | | | SILTSTONE | CARB.GY.BRKN CARB AT TOP; ABUNDANT SLICKENSIDES. |
| 30 | 180.46 | 180.66 | 0.20 | | | SILTSTONE | AS ABOVE. |
| 30 | 180.66 | 181.58 | 0.92 | | | BRECCIA | GY BRECCIA, SLTST;CEMENTED WITH CALCITE; ABUNDANT SLICKENSIDES; CORE SOMEWHAT BRKN. |
| 30 | 181.58 | 181.98 | 0.40 | | | CORELOSS | ROCK. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 27

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 30 | 181.98 | 182.58 | 0.60 | | | BRECCIA | GY BRECCIA, SLTST; CEMENTED WITH CALCITE; ABUNDANT SLICKENSIDES; CORE SOMEWHAT BR KN. |
| 30 | 182.58 | 184.67 | 2.09 | | | BRECCIA | GY BRECCIA, SLTST; LESS STRONGLY BRECCIATE D. |
| 30 | 184.67 | 185.00 | 0.33 | | | BRECCIA | BRECCIA, SLTST; CORE VERY BRKN AND SHRD . |
| 30 | 185.00 | 185.25 | 0.25 | | | BRECCIA | GY BRECCIA, SLTST; STRONGLY BRECCIATED; EN D OF FAULT ZONE. |
| * 30 | 185.25 | 187.36 | 2.11 | | | SILTSTONE | GY.BIDTR PYRITE NODULES IN UPPER PORTION; CALCIT E VEINS COMMON; MINOR CALCITE CEMENTED BRECCIA. |
| * 65 | 187.36 | 188.14 | 0.78 | | | SILTSTONE | AS ABOVE. |
| 67 | 188.14 | 189.95 | 1.81 | | | MUDSTONE | DK.GY COALY INCLUSIONS; MINOR CALCITE VEINLET S ALONG BEDDING. |
| * 70 | 189.95 | 192.47 | 2.52 | | | MUDSTONE | SLTY SLTY ZONES; MINOR SLICKENSIDES. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 28

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 70 | 192.47 | 195.38 | 2.91 | | | MUDSTONE | SLTY MINOR PYRITE. |
| 58 | 195.38 | 195.46 | 0.08 | | | MUDSTONE | SLTY AS ABOVE. |
| * 55 | 195.46 | 196.20 | 0.74 | | | MUDSTONE | SLTY AS ABOVE. |
| 60 | 196.20 | 198.14 | 1.94 | | | SILTSTONE | GY.BIOTR MINOR CLCITE VEINLETS ALONG BEDDING. |
| * 65 | 198.14 | 198.63 | 0.49 | | | SILTSTONE | GY AS ABOVE. |
| * 65 | 198.63 | 200.80 | 2.17 | | | SILTSTONE | GY AS ABOVE. |
| 64 | 200.80 | 201.01 | 0.21 | | | CORELOSS | ROCK. |
| 64 | 201.01 | 201.57 | 0.56 | | | SILTSTONE | BRKN |
| 63 | 201.57 | 201.97 | 0.40 | | | CORELOSS | ROCK. |
| 62 | 201.97 | 203.91 | 1.94 | | | SILTSTONE | BRKN |
| 61 | 203.91 | 204.61 | 0.70 | | | SILTSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 29

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 60 | 204.61 | 206.03 | 1.42 | | | SILTSTONE | AS ABOVE. |
| 63 | 206.03 | 206.16 | 0.13 | | | SILTSTONE | AS ABOVE. |
| 65 | 206.16 | 206.94 | 0.78 | | | MUDSTONE | SLTY.DK.GY SLTY AT TOP; GRADATIONAL TO UNIT ABOVE; MINOR COALY INCLUSIONS. |
| * 70 | 206.94 | 208.66 | 1.72 | | | MUDSTONE | SLTY SLTY TOWARDS BASE; COALY AT TOP. |
| 62 | 208.66 | 208.70 | 0.04 | | | MUDSTONE | SLTY |
| 61 | 208.70 | 208.92 | 0.22 | | | CORELOSS | ROCK |
| 58 | 208.92 | 209.38 | 0.46 | | | SILTSTONE | GY.BIOTR BIOTRB WITH SSY ZONES. |
| * 50 | 209.38 | 210.80 | 1.42 | | | MUDSTONE | DK.GY |
| 58 | 210.80 | 210.98 | 0.18 | | | CORELOSS | COAL. |
| 60 | 210.98 | 211.35 | 0.37 | | | CORELOSS | ROCK. |
| 63 | 211.35 | 211.45 | 0.10 | 00689 | | COAL | C-4 SOMEWHAT BRKN. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 30

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| <u>BGA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---------------------------------|
| 65 | 211.45 | 211.88 | 0.43 | 00689 | | CORELOSS | COAL |
| * 70 | 211.88 | 212.41 | 0.53 | | | MUDSTONE | SLTY.DK.GY.BIOTR SLTY ZONES. |
| 70 | 212.41 | 212.79 | 0.38 | | | CORELOSS | ROCK |
| 69 | 212.79 | 213.08 | 0.29 | | | MUDSTONE | SLTY.DK.GY.BIOTR SLTY ZONES. |
| 69 | 213.08 | 213.41 | 0.33 | | | MUDSTONE | SLTY VERY SLTY. |
| 68 | 213.41 | 214.52 | 1.11 | | | MUDSTONE | NOT SLTY. |
| 67 | 214.52 | 215.53 | 1.01 | | | SILTSTONE | GY.BIOTR |
| 67 | 215.53 | 215.78 | 0.25 | | | CORELOSS | ROCK. |
| 66 | 215.78 | 216.46 | 0.68 | | | SILTSTONE | GY.BIOTR |
| * 65 | 216.46 | 218.51 | 2.05 | | | SILTSTONE | COALY INCLUSIONS; PYRITE BLEBS. |
| 67 | 218.51 | 218.61 | 0.10 | | | CORELOSS | ROCK. |
| 68 | 218.61 | 219.51 | 0.90 | | | SILTSTONE | GY.BIOTR |

* DENOTES MEASURED BGA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 31

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|-------------------|
| * 70 | 219.51 | 221.42 | 1.91 | | | SILTSTONE | GY.BIOTR |
| 68 | 221.42 | 221.59 | 0.17 | | | CORELOSS | ROCK |
| * 66 | 221.59 | 222.90 | 1.31 | | | SILTSTONE | GY.BIOTR |
| 68 | 222.90 | 224.30 | 1.40 | | | SILTSTONE | GY.BIOTR |
| 68 | 224.30 | 224.31 | 0.01 | | | CORELOSS | ROCK. |
| 69 | 224.31 | 225.95 | 1.64 | | | SILTSTONE | GY.BIOTR |
| 70 | 225.95 | 225.99 | 0.04 | | | SILTSTONE | GY.BIOTR |
| 71 | 225.99 | 227.51 | 1.52 | | | CORELOSS | ROCK. |
| 72 | 227.51 | 228.01 | 0.50 | | | MUDSTONE | CARB |
| 73 | 228.01 | 228.13 | 0.12 | | | CORELOSS | ROCK. |
| 73 | 228.13 | 228.20 | 0.07 | 00690 | | CORELOSS | COAL |
| 73 | 228.20 | 228.42 | 0.22 | 00690 | | COAL | STONEY; UNBROKEN. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 32

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|-------------------|
| 73 | 228.42 | 228.63 | 0.21 | 00691 | | CORELOSS | ROCK |
| 74 | 228.63 | 228.73 | 0.10 | 00691 | | MUDSTONE | CARB UNBROKEN. |
| 74 | 228.73 | 228.89 | 0.16 | 00692 | | COAL | C-4 UNBROKEN. |
| 74 | 228.89 | 228.97 | 0.08 | 00692 | | COAL | C-4.BRKN |
| 74 | 228.97 | 229.05 | 0.08 | 00692 | | COAL | C-4 UNBROKEN. |
| 74 | 229.05 | 229.09 | 0.04 | 00692 | | COAL | C-4 |
| 74 | 229.09 | 229.16 | 0.07 | 00692 | | COAL | C-4 UNBROKEN |
| 74 | 229.16 | 229.20 | 0.04 | 00692 | | COAL | C-3 UNBROKEN |
| 74 | 229.20 | 229.32 | 0.12 | 00692 | | COAL | C-4.VBRKN |
| 74 | 229.32 | 229.34 | 0.02 | 00692 | | CORELOSS | COAL |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 33

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 75 | 229.34 | 230.47 | 1.13 | | | SILTSTONE | CARB.GY.BIOTR CARB AT TOP. |
| 73 | 230.47 | 231.51 | 1.04 | | | SILTSTONE | CARB.GY.BIOTR AS ABOVE. |
| * 70 | 231.51 | 232.73 | 1.22 | | | SILTSTONE | CARB.GY.BIOTR AS ABOVE. |
| 69 | 232.73 | 232.86 | 0.13 | | | MUDSTONE | DK.GY.BRKN COALY; POSSIBLE COAL LOSS AT TOP. |
| 68 | 232.86 | 233.89 | 1.03 | | | CORELOSS | COAL. |
| 66 | 233.89 | 233.93 | 0.04 | | | COAL | C-4 UNBROKEN. |
| 66 | 233.93 | 234.07 | 0.14 | | | MUDSTONE | AS MUDSTONE PREVIOUS. |
| 66 | 234.07 | 234.43 | 0.36 | | | SILTSTONE | GY.BIOTR |
| 65 | 234.43 | 235.12 | 0.69 | | | MUDSTONE | DK.GY COALY INCLUSIONS; PLANT FOSSILS; UNBROK EN. |
| 63 | 235.12 | 236.53 | 1.41 | | | CORELOSS | ROCK. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 34

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| * 60 | 236.53 | 237.82 | 1.29 | | | MUDSTONE | DK.GY AS MUDSTONE PREVIOUS. |
| 60 | 237.82 | 238.22 | 0.40 | | | CORELOSS | ROCK. |
| 60 | 238.22 | 239.49 | 1.27 | | | MUDSTONE | DK.GY AS MUDST PREVIOUS. |
| 60 | 239.49 | 239.74 | 0.25 | | | MUDSTONE | DK.GY AS MUDST ABOVE. |
| 60 | 239.74 | 239.82 | 0.08 | | | COAL | STONEY; BROKEN. |
| 60 | 239.82 | 240.47 | 0.65 | | | MUDSTONE | AS ABOVE. |
| 60 | 240.47 | 240.90 | 0.43 | | | MUDSTONE | M.GY.BIOTR WITH INTERBEDS OF SILTSTONE. |
| 60 | 240.90 | 242.63 | 1.73 | | | MUDSTONE | GY.BIOTR AS ABOVE. |
| * 60 | 242.63 | 243.53 | 0.90 | | | MUDSTONE | GY.BIOTR WITH INTERBEDS OF SLTST. |
| * 70 | 243.53 | 244.30 | 0.77 | | | MUDSTONE | GY.BIOTR AS ABOVE. |
| 68 | 244.30 | 245.10 | 0.80 | | | SANDSTONE | LT.GY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 35

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 67 | 245.10 | 245.75 | 0.65 | | SILTSTONE | GY.BIOTR |
| | 66 | 245.75 | 246.37 | 0.62 | | SILTSTONE | AS ABOVE. |
| | 63 | 246.37 | 248.85 | 2.48 | | SILTSTONE | GY.BIOTR |
| * | 60 | 248.85 | 249.19 | 0.34 | | SILTSTONE | GY.BIOTR |
| * | 60 | 249.19 | 251.90 | 2.71 | | SILTSTONE | GY.BIOTR |
| | 65 | 251.90 | 251.96 | 0.06 | | SILTSTONE | GY.BIOTR |
| | 70 | 251.96 | 254.74 | 2.78 | | SILTSTONE | GY.BIOTR |
| | 75 | 254.74 | 254.93 | 0.19 | | SILTSTONE | GY.BIOTR |
| * | 80 | 254.93 | 257.50 | 2.57 | | SILTSTONE | GY.BIOTR GRADATIONAL TO MUDST BELOW; LESS SLTY AT BASE. |
| | 76 | 257.50 | 257.70 | 0.20 | | CORELOSS | ROCK. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH6C037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 78 | 257.70 | 258.44 | 0.74 | | | MUDSTONE | DK.GY COALY INCLUSIONS; PLANT FOSSILS. |
| 77 | 258.44 | 259.09 | 0.65 | | | MUDSTONE | SLTY AT BASE. |
| 76 | 259.09 | 259.66 | 0.57 | | | SANDSTONE | FG.LT.GY MUDST CLAST AT BASE. |
| 76 | 259.66 | 260.05 | 0.39 | | | CORELOSS | COAL. |
| 75 | 260.05 | 260.39 | 0.34 | | | CORELOSS | ROCK. |
| 75 | 260.39 | 260.62 | 0.23 | 00693 | | COAL | C-3.BRKN |
| 75 | 260.62 | 260.70 | 0.08 | 00693 | | COAL | C-4.BRKN |
| 75 | 260.70 | 260.77 | 0.07 | 00693 | | CORELOSS | COAL |
| 75 | 260.77 | 260.88 | 0.11 | 00694 | | CORELOSS | ROCK. |
| 74 | 260.88 | 261.13 | 0.25 | 00694 | | MUDSTONE | DK.GY COALY. |
| 74 | 261.13 | 261.17 | 0.04 | | | COAL | C-3.BRKN |
| 74 | 261.17 | 261.45 | 0.28 | | | ROCKLOSS | |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GCR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---------------------------|
| 74 | 261.45 | 261.62 | 0.17 | | | MUDSTONE | DK.GY COALY INCLUSIONS |
| 73 | 261.62 | 262.52 | 0.90 | | | MUDSTONE | SLTY |
| 72 | 262.52 | 263.59 | 1.07 | | | MUDSTONE | NOT SLTY |
| 71 | 263.59 | 264.09 | 0.50 | | | ROCK LOSS | |
| 71 | 264.09 | 264.80 | 0.71 | | | MUDSTONE | DK.GY AS ABOVE MUDST |
| * 70 | 264.80 | 265.00 | 0.20 | | | SILTSTONE | GY.BIOTR |
| 68 | 265.00 | 265.47 | 0.47 | | | SILTSTONE | GY.BIOTR |
| 66 | 265.47 | 265.74 | 0.27 | | | ROCK LOSS | |
| 64 | 265.74 | 266.10 | 0.36 | | | SILTSTONE | COALY |
| * 60 | 266.10 | 267.10 | 1.00 | | | SILTSTONE | NOT COALY |
| 63 | 267.10 | 267.99 | 0.89 | | | SILTSTONE | COALY AT TOP |
| 64 | 267.99 | 268.17 | 0.18 | | | MUDSTONE | DK.GY COALY INCLUSIONS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 38

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--------------------------------|
| | 65 | 268.17 | 268.62 | 0.45 | | MUDSTONE | DK.GY AS ABOVE |
| | 66 | 268.62 | 268.66 | 0.04 | | COAL | STONEY , UNBRKN |
| | 66 | 268.66 | 268.68 | 0.02 | | COAL | C-3 UNBRKN |
| | 66 | 268.68 | 268.73 | 0.05 | | COAL | C-4 UNBRKN |
| | 66 | 268.73 | 268.78 | 0.05 | | COAL | C-2 UNBRKN |
| | 66 | 268.78 | 268.81 | 0.03 | | COAL | STONEY;UNBRKN |
| | 66 | 268.81 | 268.84 | 0.03 | | COAL | C-1.BRKN |
| | 67 | 268.84 | 269.79 | 0.95 | | MUDSTONE | DK.GY COALY AT BASE |
| | 69 | 269.79 | 269.83 | 0.04 | | COAL | C-1.BRKN POSSIBLE CORE LOSS |
| | 69 | 269.83 | 269.90 | 0.07 | | MUDSTONE | BRKN STONEY ; ROUNDED |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 39

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 70 | 269.90 | 270.61 | 0.71 | | | SILTSTONE | GY.BIOTR |
| 67 | 270.61 | 270.68 | 0.07 | | | MUDSTONE | BRKN COALY, SKS AND PULVERIZED |
| * 60 | 270.68 | 272.87 | 2.19 | | | SILTSTONE | SSY.GY.BIOTR BEDS(MODIFIER) |
| 64 | 272.87 | 273.20 | 0.33 | | | SILTSTONE | SSY.GY.BIOTR AS ABOVE |
| * 70 | 273.20 | 276.03 | 2.83 | | | SILTSTONE | SSY.GY.BIOTR AS ABOVE |
| * 75 | 276.03 | 277.94 | 1.91 | | | SILTSTONE | SSY.GY.BIOTR AS ABOVE |
| 74 | 277.94 | 278.56 | 0.62 | | | MUDSTONE | CARB.DK.GY VERY(MODIFIFER); COALY INCLUSIONS |
| 73 | 278.56 | 278.72 | 0.16 | | | SANDSTONE | FG.LT.GY |
| 73 | 278.72 | 278.92 | 0.20 | | | ROCKLOSS | |
| 73 | 278.92 | 279.29 | 0.37 | | | SANDSTONE | MEDIUM GRAINED AT BASE. |
| 72 | 279.29 | 280.23 | 0.94 | | | SANDSTONE | MG |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 40

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|----------------------|
| 71 | 280.23 | 280.25 | 0.02 | | | COAL | C-1 |
| 71 | 280.25 | 280.32 | 0.07 | | | SANDSTONE | AS ABOVE. |
| 71 | 280.32 | 281.03 | 0.71 | | | MUDSTONE | DK.GY COALY. |
| * 70 | 281.03 | 281.76 | 0.73 | | | SILTSTONE | GY.BIUTR |
| 70 | 281.76 | 281.94 | 0.18 | | | SILTSTONE | SSY |
| * 70 | 281.94 | 284.57 | 2.63 | | | SILTSTONE | AS ABOVE. |
| 67 | 284.57 | 284.91 | 0.34 | | | SILTSTONE | AS ABOVE. |
| 64 | 284.91 | 287.31 | 2.40 | | | SILTSTONE | AS ABOVE. |
| 61 | 287.31 | 287.89 | 0.58 | | | SILTSTONE | AS ABOVE. |
| * 60 | 287.89 | 288.53 | 0.64 | | | MUDSTONE | CARB SLTY AT TOP. |
| 61 | 288.53 | 288.66 | 0.13 | | | MUDSTONE | BRKN COALY. |
| 62 | 288.66 | 288.96 | 0.30 | | | CORE LOSS | ROCK. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 41

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 62 | 288.96 | 288.99 | 0.03 | | | COAL | C-6 |
| 64 | 288.99 | 290.30 | 1.31 | | | SILTSTONE | GY.BIOTR OCCASIONAL INTERBEDDED CARBONACEOUS MUD STONE. |
| 66 | 290.30 | 290.94 | 0.64 | | | SILTSTONE | AS ABOVE. |
| * 70 | 290.94 | 293.09 | 2.15 | | | SILTSTONE | AS ABOVE. |
| 70 | 293.09 | 293.95 | 0.86 | | | SILTSTONE | AS ABOVE. |
| * 70 | 293.95 | 295.94 | 1.99 | | | SILTSTONE | AS ABOVE. |
| 69 | 295.94 | 296.48 | 0.54 | | | CORELOSS | COAL. |
| 68 | 296.48 | 296.98 | 0.50 | | | CORELOSS | ROCK. |
| 68 | 296.98 | 297.43 | 0.45 | | | SILTSTONE | AS ABOVE. |
| 66 | 297.43 | 299.80 | 2.37 | | | SILTSTONE | AS ABOVE. |
| 64 | 299.80 | 300.49 | 0.69 | | | SILTSTONE | SSY |
| * 63 | 300.49 | 302.50 | 2.01 | | | SILTSTONE | AS ABOVE. |
| 71 | 302.50 | 302.83 | 0.33 | | | CORELOSS | ROCK. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 42

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 75 | 302.83 | 303.77 | 0.94 | | | SILTSTONE | AS ABOVE. |
| 75 | 303.77 | 305.57 | 1.80 | | | SILTSTONE | AS ABOVE. |
| 75 | 305.57 | 306.90 | 1.33 | | | SILTSTONE | AS ABOVE. |
| * 75 | 306.90 | 308.34 | 1.44 | | | SILTSTONE | AS ABOVE. |
| 72 | 308.34 | 309.88 | 1.54 | | | SILTSTONE | AS ABOVE. |
| * 70 | 309.88 | 311.10 | 1.22 | | | SILTSTONE | AS ABOVE. |
| 73 | 311.10 | 311.82 | 0.72 | | | SILTSTONE | AS ABOVE. |
| * 75 | 311.82 | 312.44 | 0.62 | | | SILTSTONE | SSY |
| 74 | 312.44 | 313.55 | 1.11 | | | SILTSTONE | SSY AT BASE FINING UPWARD TO MUDSTONE. |
| 72 | 313.55 | 313.83 | 0.28 | 00695 | | COAL | C-5 UNBRKN |
| 72 | 313.83 | 313.87 | 0.04 | 00695 | | COAL | C-4.BRKN |
| 72 | 313.87 | 314.04 | 0.17 | 00695 | | COAL | C-4.BRKN |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 43

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH EBDM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 72 | 314.04 | 314.09 | 0.05 | 00695 | | COAL | C-2 UNBRKN. |
| 72 | 314.09 | 314.14 | 0.05 | 00695 | | COAL | C-2.BRKN |
| 72 | 314.14 | 314.17 | 0.03 | 00695 | | COAL | C-3 UNBRKN |
| 72 | 314.17 | 314.25 | 0.08 | 00695 | | COAL | C-4 SHRD AND BRKN; INTERMIXED WITH MUDSTONE |
| 71 | 314.25 | 314.52 | 0.27 | 00695 | | CORELOSS | |
| 71 | 314.52 | 314.60 | 0.08 | | | MUDSTONE | CARB |
| * 70 | 314.60 | 315.67 | 1.07 | | | SILTSTONE | GY.BIOTR MINOR PYRITE. |
| 70 | 315.67 | 315.92 | 0.25 | | | SILTSTONE | COALY; UNBRKN. |
| 70 | 315.92 | 316.63 | 0.71 | | | SILTSTONE | COALY. |
| 70 | 316.63 | 318.08 | 1.45 | | | SILTSTONE | |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 44

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|---------------|----------|---------|-----------|----------------------------------|
| | 70 | 318.08 | 318.94 | 0.86 | | MUDSTONE | SLTY.DK.GY MINOR PYRITE. |
| * | 70 | 318.94 | 319.42 | 0.48 | | MUDSTONE | AS ABOVE. |
| | 70 | 319.42 | 320.33 | 0.91 | | MUDSTONE | SSY AT BASE. |
| | 70 | 320.33 | 320.84 | 0.51 | | MUDSTONE | COALY; BRKN AT TOP. |
| * | 70 | 320.84 | 321.98 | 1.14 | | MUDSTONE | VERY SLTY. |
| | 70 | 321.98 | 322.18 | 0.20 | | CORELOSS | ROCK. |
| | 70 | 322.18 | 322.43 | 0.25 | | MUDSTONE | SLTY |
| | 70 | 322.43 | 325.02 | 2.59 | | MUDSTONE | AS ABOVE. |
| | 70 | 325.02 | 325.19 | 0.17 | | MUDSTONE | AS ABOVE. |
| * | 70 | 325.19 | 328.02 | 2.83 | | MUDSTONE | VERY SLTY. |
| | 66 | 328.02 | 328.11 | 0.09 | | SANDSTONE | FG.LT.GY.BIOTR |
| * | 65 | 328.11 | 328.68 | 0.77 | | SANDSTONE | AS ABOVE. |
| | 65 | 328.68 | 329.21 | 0.53 | | MUDSTONE | CARB.DK.GY.BRKN SLICKENSIDES. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 45

PROJECT: GUR BLOCK: XX DATA SOURCE: DDHB0037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 65 | 329.21 | 329.29 | 0.08 | | | COAL | BRKN STONEY. |
| 65 | 329.29 | 329.37 | 0.08 | | | MUDSTONE | AS ABOVE. |
| 65 | 329.37 | 330.46 | 1.09 | | | SANDSTONE | FG.LT.GY.BIOTR |
| 65 | 330.46 | 331.11 | 0.65 | | | CORELUS S | RUCK |
| 65 | 331.11 | 331.28 | 0.17 | | | SANDSTONE | |
| 65 | 331.28 | 331.97 | 0.69 | | | MUDSTONE | DK.GY SLTY INTERBEDS AT TOP. |
| 65 | 331.97 | 332.00 | 0.03 | | | COAL | STONEY |
| 65 | 332.00 | 332.02 | 0.02 | | | COAL | C-1 |
| * 65 | 332.02 | 333.98 | 1.96 | | | SILTSTONE | GY.BIOTR ABUNDANT FG SS BEDS, UPPER PORTION. |
| * 65 | 333.98 | 336.84 | 2.86 | | | SILTSTONE | AS ABOVE. |
| 65 | 336.84 | 337.14 | 0.30 | | | SILTSTONE | AS ABOVE. |
| 65 | 337.14 | 338.75 | 1.61 | | | SILTSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 46

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|---------------|----------|---------|-----------|--------------------------------|
| | 65 | 338.75 | 339.37 | 0.62 | | MUDSTONE | DK.GY.BRKN COALY INCLUSIONS |
| | 65 | 339.37 | 339.87 | 0.50 | | CORELOSS | ROCK. |
| | 65 | 339.87 | 340.00 | 0.13 | | COAL | C-4 BRKN AND PULVERIZED. |
| | 65 | 340.00 | 340.13 | 0.13 | | MUDSTONE | AS ABOVE. |
| | 65 | 340.13 | 340.41 | 0.28 | | MUDSTONE | SLTY |
| * | 65 | 340.41 | 342.59 | 2.18 | | SANDSTONE | FG.LT.GY |
| | 63 | 342.59 | 343.26 | 0.67 | | SANDSTONE | MG |
| | 62 | 343.26 | 343.69 | 0.43 | | SANDSTONE | FG |
| | 61 | 343.69 | 344.59 | 0.90 | | SANDSTONE | SLTY |
| * | 60 | 344.59 | 345.32 | 0.73 | | SANDSTONE | MG |
| | 62 | 345.32 | 345.57 | 0.25 | | CORELOSS | ROCK. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 47

PROJECT: GOR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 63 | 345.57 | 345.72 | 0.15 | | | SANDSTONE | MG SLTY CLASTS AT BASE; COALY INCLUSIONS. |
| 64 | 345.72 | 346.27 | 0.55 | | | MUDSTONE | SLTY |
| 66 | 346.27 | 346.96 | 0.69 | | | MUDSTONE | AS ABOVE. |
| * 70 | 346.96 | 348.36 | 1.40 | | | MUDSTONE | VERY SLTY. |
| 69 | 348.36 | 349.29 | 0.93 | | | MUDSTONE | AS ABOVE |
| 68 | 349.29 | 351.09 | 1.80 | | | MUDSTONE | LESS SLTY, SOME COALY INCLUSIONS. |
| 66 | 351.09 | 352.30 | 1.21 | | | MUDSTONE | THIN SLTY INTERBEDS. |
| * 65 | 352.30 | 353.93 | 1.63 | | | MUDSTONE | AS ABOVE. |
| 65 | 353.93 | 354.19 | 0.26 | | | MUDSTONE | AS ABOVE. |
| 65 | 354.19 | 355.28 | 1.09 | | | SANDSTONE | FG.LT.GY WITH SLTY INTERBEDS. |
| * 65 | 355.28 | 356.72 | 1.44 | | | SANDSTONE | AS ABOVE. |
| 68 | 356.72 | 358.20 | 1.48 | | | SANDSTONE | AS ABOVE. |
| * 70 | 358.20 | 359.49 | 1.29 | | | SANDSTONE | ABUNDANT PYRITE IN TOP 10 CM. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 48

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|-----------------------------|
| | 68 | 359.49 | 359.86 | 0.37 | | SANDSTONE | AS ABOVE. |
| * | 65 | 359.86 | 361.24 | 1.38 | | MUDSTONE | SLTY.BIOTR MINOR PYRITE. |
| | 66 | 361.24 | 362.36 | 1.12 | | MUDSTONE | AS ABOVE. |
| | 68 | 362.36 | 364.28 | 1.92 | | MUDSTONE | AS ABOVE. |
| | 69 | 364.28 | 364.58 | 0.30 | | CORELOSS | ROCK. |
| * | 70 | 364.58 | 365.43 | 0.85 | | MUDSTONE | AS ABOVE. |
| * | 60 | 365.43 | 367.31 | 1.88 | | MUDSTONE | AS ABOVE. |
| | 63 | 367.31 | 368.17 | 0.86 | | SILTSTONE | GY.BIOTR MINOR PYRITE. |
| | 67 | 368.17 | 370.23 | 2.06 | | SILTSTONE | SSY |
| * | 70 | 370.23 | 370.96 | 0.73 | | SILTSTONE | AS ABOVE. |
| | 73 | 370.96 | 373.29 | 2.33 | | SILTSTONE | AS ABOVE. |
| * | 75 | 373.29 | 373.81 | 0.52 | | SILTSTONE | AS ABOVE. |
| * | 70 | 373.81 | 374.64 | 0.83 | | SILTSTONE | SSY |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 49

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 70 374.64 | 375.09 | 0.45 | | | MUDSTONE | DK.GY COALY; CENTER STRONGLY BRKN AND SHRD. |
| | 70 375.09 | 375.39 | 0.30 | | | CORELOSS | ROCK |
| | 70 375.39 | 375.63 | 0.24 | | | SANDSTONE | FG.LT.GY |
| | 70 375.63 | 376.34 | 0.71 | | | SANDSTONE | MG |
| * | 70 376.34 | 376.72 | 0.38 | | | SANDSTONE | AS ABOVE. |
| | 71 376.72 | 377.39 | 0.67 | | | MUDSTONE | DK.GY COALY; STRONGLY BRKN AT TOP. |
| | 71 377.39 | 377.48 | 0.09 | 00696 | | COAL | C-2 |
| | 71 377.48 | 377.52 | 0.04 | 00696 | | COAL | C-5 |
| | 71 377.52 | 377.66 | 0.14 | 00696 | | COAL | C-4 UNBRKN. |
| | 72 377.66 | 377.69 | 0.03 | 00696 | | CORELOSS | COAL |
| | 72 377.69 | 378.43 | 0.74 | | | CORELOSS | ROCK |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 50

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 73 | 378.43 | 378.53 | 0.10 | 00697 | | CORELOSS | COAL. |
| 73 | 378.53 | 378.62 | 0.09 | 00697 | | COAL | C-4.BRKN |
| 73 | 378.62 | 378.82 | 0.20 | 00697 | | COAL | C-4 UNBRKN |
| 73 | 378.82 | 378.88 | 0.06 | 00697 | | COAL | C-4.BRKN |
| 73 | 378.88 | 379.02 | 0.14 | 00697 | | COAL | C-4 UNBRKN |
| 73 | 379.02 | 379.03 | 0.01 | 00697 | | COAL | C-1 UNBRKN |
| 74 | 379.03 | 379.08 | 0.05 | 00697 | | COAL | C-4.BRKN |
| 74 | 379.08 | 379.90 | 0.82 | | | SILTSTONE | GY.BIOTR |
| * 75 | 379.90 | 380.30 | 0.40 | | | SILTSTONE | SSY |
| 72 | 380.30 | 382.94 | 2.64 | | | SANDSTONE | MG.LT.GY.MAS.XBDG OCCASIONAL SILTSTONE CLASTS. |

* DENOTES MEASURED BCA

XXXXX

82701/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 51

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80037

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|------------------------|
| * 70 | 382.94 | 383.23 | 0.29 | | | SANDSTONE | CG |
| * 70 | 383.23 | 384.60 | 1.37 | | | SANDSTONE | AS ABOVE; END OF HOLE. |

* DENOTES MEASURED BCA

DDH 80-38

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH80038

HISTORY

START DATE: 10/11/80 END DATE: 22/11/80 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: J. LOADER SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1223.10
 UTM ZONE: 10 NORTH: 6140420.31 EAST: 549218.35
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: . EAST: . LSD: ___ SEC: ___ TWP: ___ RGE: ___ MER: ___
 NTS-BC NORTH: . EAST: . QUAD: ___ UNIT: ___ BLK: ___ ST: ___ MUS: ___ MS: ___

DIMENSIONS AND ORIENTATION

LENGTH: 465.20 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: . SIZE HEIGHT: .
 ROOF STRIKE: ___ DIP: ___ FLOOR STRIKE: ___ DIP: ___

DRILL HOLE STATUS

CASING DEPTH: 26.96 CEMENTED: ___ PLUGGED: ___ PEIZOMETERS INSTALLED: ___
 AQUIFER DEPTHS: LOST CIRCULATION DEPTHS:

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | --- | --- | X | --- | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | X | --- | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | X | --- | 457AS |
| CALIPER | X | 1:100 | : | --- | --- | X | --- | 785 |
| FE-SHORT | X | : | 1:40 | --- | --- | X | --- | 7 |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | --- | 7 |
| DIRECTIONAL | X | : | : | --- | --- | X | --- | --- |
| DIPMETER | --- | : | : | --- | --- | --- | --- | --- |

*** COAL DIVISION ***

DATA SOURCE: D80-38

INTERVAL OF INTERPOLATION 10 UNIT(S)

VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 0.00 | 1.50 | 340.40 |
| 30.00 | 1.50 | 340.40 |
| 45.00 | 1.50 | 352.90 |
| 60.00 | 1.90 | 6.40 |
| 75.00 | 2.10 | 1.90 |
| 90.00 | 2.10 | .40 |
| 105.00 | 2.30 | 12.20 |
| 120.00 | 2.30 | 350.10 |
| 135.00 | 2.30 | 347.60 |
| 150.00 | 2.30 | 342.30 |
| 150.00 | 2.30 | 342.30 |
| 165.00 | 2.90 | 346.30 |
| 180.00 | 2.66 | 355.60 |
| 195.00 | 2.60 | 11.20 |
| 210.00 | 2.20 | 7.30 |
| 225.00 | 2.40 | 345.30 |
| 240.00 | 2.40 | 341.40 |
| 240.00 | 2.40 | 341.10 |
| 255.00 | 2.30 | 353.50 |
| 270.00 | 3.00 | 358.20 |
| 285.00 | 3.00 | 359.50 |
| 300.00 | 3.00 | 357.20 |

*** COAL DIVISION ***

DATA SOURCE: D80-38

INTERVAL OF INTERPOLATION 10 UNIT(S)

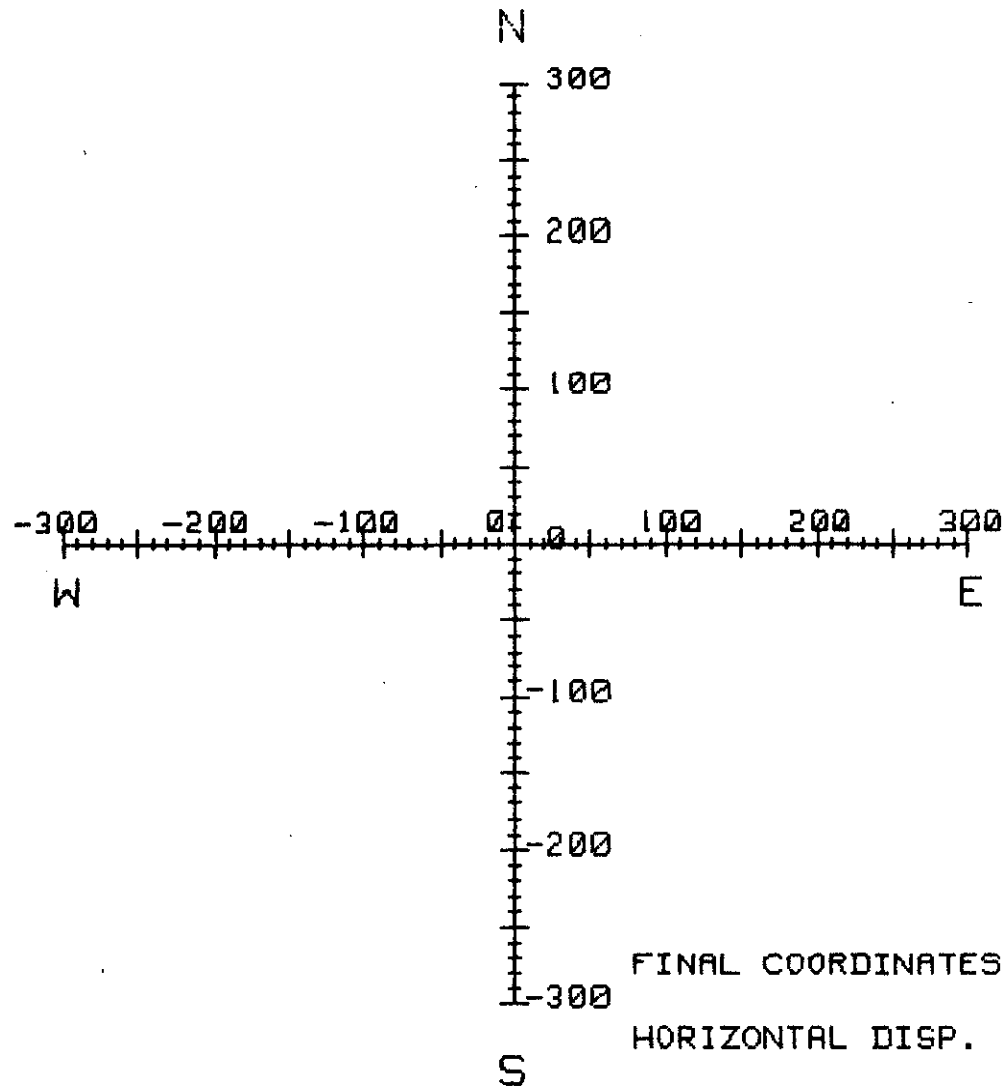
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

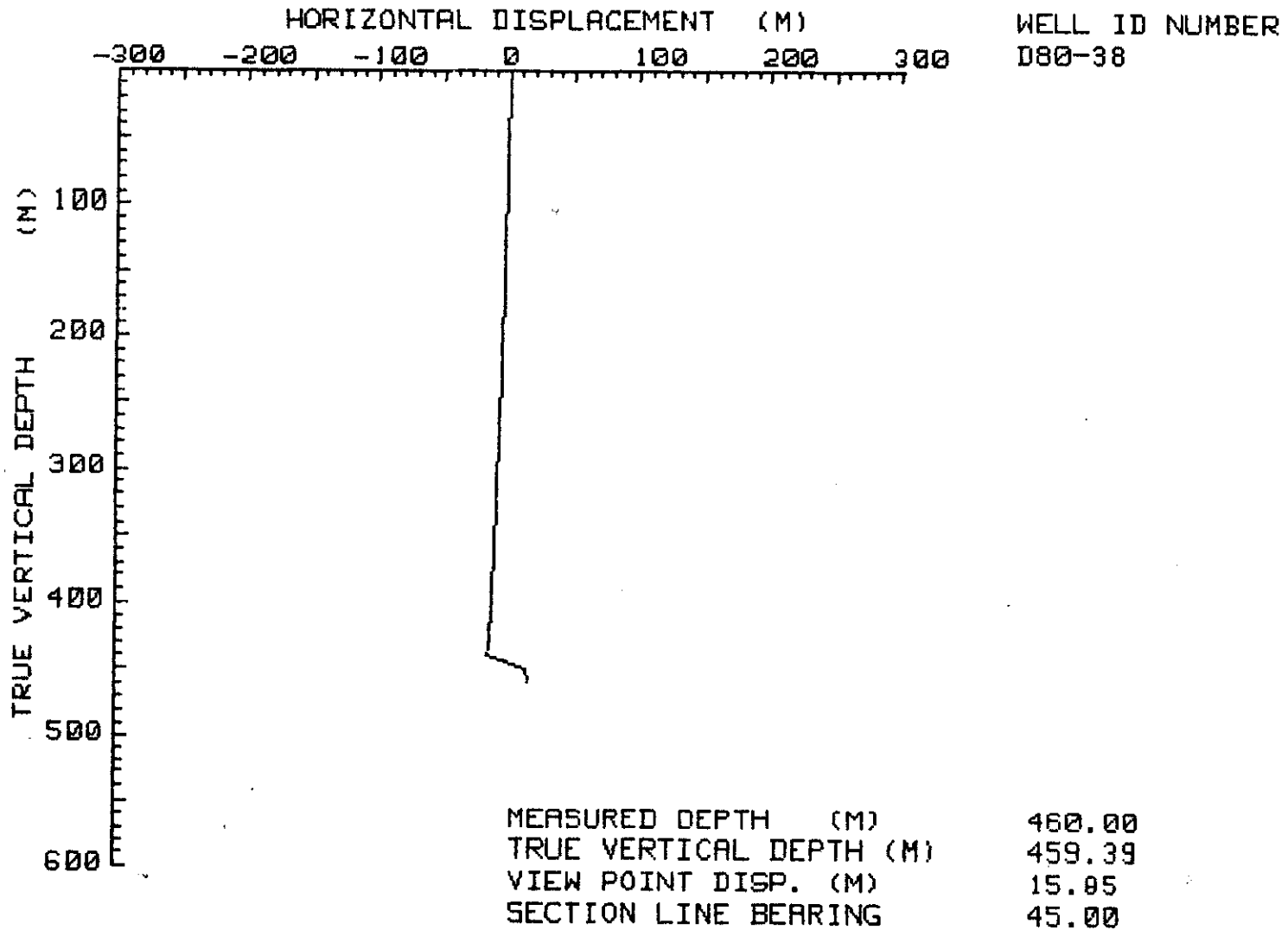
| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 300.00 | 3.00 | 357.20 |
| 315.00 | 3.00 | 19.60 |
| 330.00 | 3.40 | 347.80 |
| 345.00 | 3.60 | 355.30 |
| 360.00 | 3.60 | 14.50 |
| 375.00 | 3.80 | 9.80 |
| 390.00 | 4.20 | 2.50 |
| 405.00 | 4.00 | 11.30 |
| 420.00 | 4.00 | 11.70 |
| 435.00 | 4.40 | 12.80 |
| 450.00 | 4.70 | 4.20 |
| 460.00 | 5.30 | 7.20 |

PLAN VIEW

WELL ID NUMBER
D80-38



DISPLACEMENT



SEAM
COMP.

COAL
SEAM
LOG

LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone



- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff
- coal
- coal-boney, stoney, coal and bands/rock - designated "C6"
- rock > coal lithotype uncertain
- coal } MISSING CORE
- rock }
- rock
- coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA



LEGEND FOR COAL
SEAM DATA SHEETS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P. 267 (12.80)
Coal/Coal + Rock (True Thk (m))
3.87 / 4.30

DENSITY ----- RESISTIVITY -----

DRILL NO. GDR-ODH-80-38 SEAM)

SEAM INTERVAL 208.73 - 214.66m

SCALE 1:40

| DENSITY SCALE 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80 | RESISTIVITY SCALE | SEAM COMP. 854321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. / 1.5 (Feet) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------------|-------------------|-------|---------------|----------|------|---------------------|--------|---------|--------------------|-----|----|----|--------|-------------|-------------|---------|-------|--|--|--|--|------|-------|-------|-------|-------|----------------|----------------|-----|--|--|
| | | | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ/Kg) | FSI | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 208.73 | | (0.68) | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 0.28 (0.12) | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 0.24 | 23 | | | | | | | 0.92 | 3.70 | 25.20 | 70.18 | 0.31 | 14,269 (28.54) | 1.0 | | |
| | | | | | | | | | | | | | | | | (0.73) | (95.41) | 00672 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 211.97 | | (0.41) | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | (0.74) | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 0.15 | 06 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | (1.80) | (7.55) | 00673 | | | | | | 0.51 | 12.92 | 24.04 | 62.53 | 0.25 | 12,781 (25.56) | 1.0 | | | |
| | | | | | | | | | | | | | | 214.66 | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

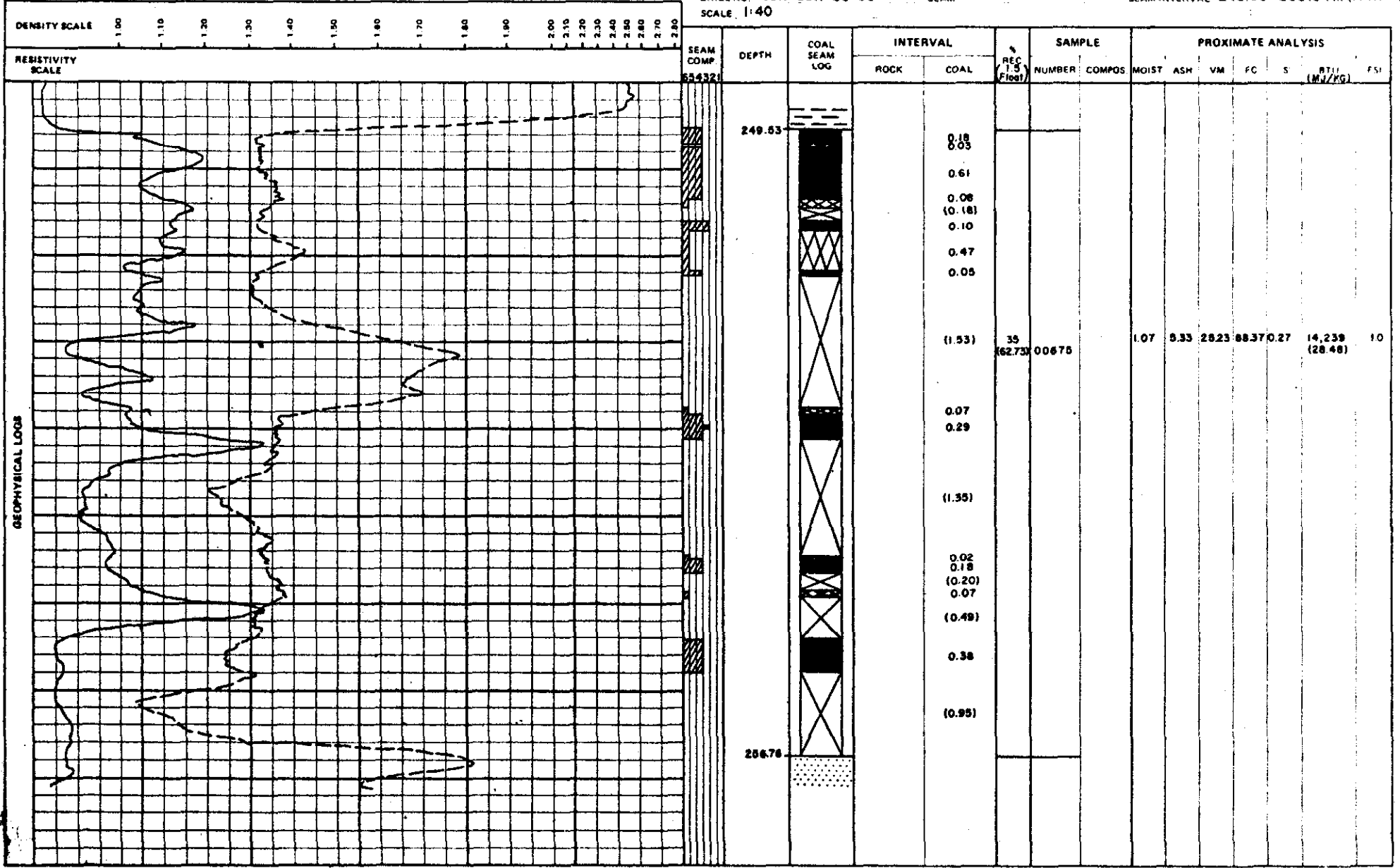
P. 26 / (12 80)

Coal / Coal + Rock (True Thk (m))
6.67 / 7.43

SEAM INTERVAL 249.53 - 260.04 m (PART A)

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-80-38 SEAM *lr*
SCALE 1:40



COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

DENSITY

RESISTIVITY

DRILL NO. GDR-DDH-80-38

SEAM *lv*

SEAM INTERVAL 249.53 - 260.04 m. (PART B)

SCALE 1:40

| RESISTIVITY SCALE | DENSITY SCALE | | | | | | | | | | SEAM COMP | DEPTH | COAL SEAM LOG | INTERVAL | | % REC (15 (100)) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | | | | | | | | |
|-------------------|---------------|------|------|------|------|------|------|------|------|------|-----------|--------|---------------|----------|------|------------------|--------|------|--------------------|------|------|------|------|------|------|--------|--------|-------|-----|----|----|---|-------------|----|--|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | | | | 2.00 | 2.10 | | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | NUMBER | COMPOS | MOIST | ASH | VM | FC | S | BTJ (Mg/Kg) | TS | |
| | | | | | | | | | | | | 256.76 | X | 0.18 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | X | 0.10 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | X | 0.45 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | X | 0.65 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | X | 0.05 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | X | 0.68 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | X | 0.05 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | X | 0.08 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | X | 0.43 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | X | 0.02 | | | | | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

654321

100 (13.46)

92 (67.86)

(0.16)

(0.02)

00676

00677

0.93 14.23 24.25 60.59 0.27 12,948 (2590) 2.3

0.86 7.18 28.66 63.30 0.31 14,118 (2824) 6.0

COAL SEAM DATA SHEET

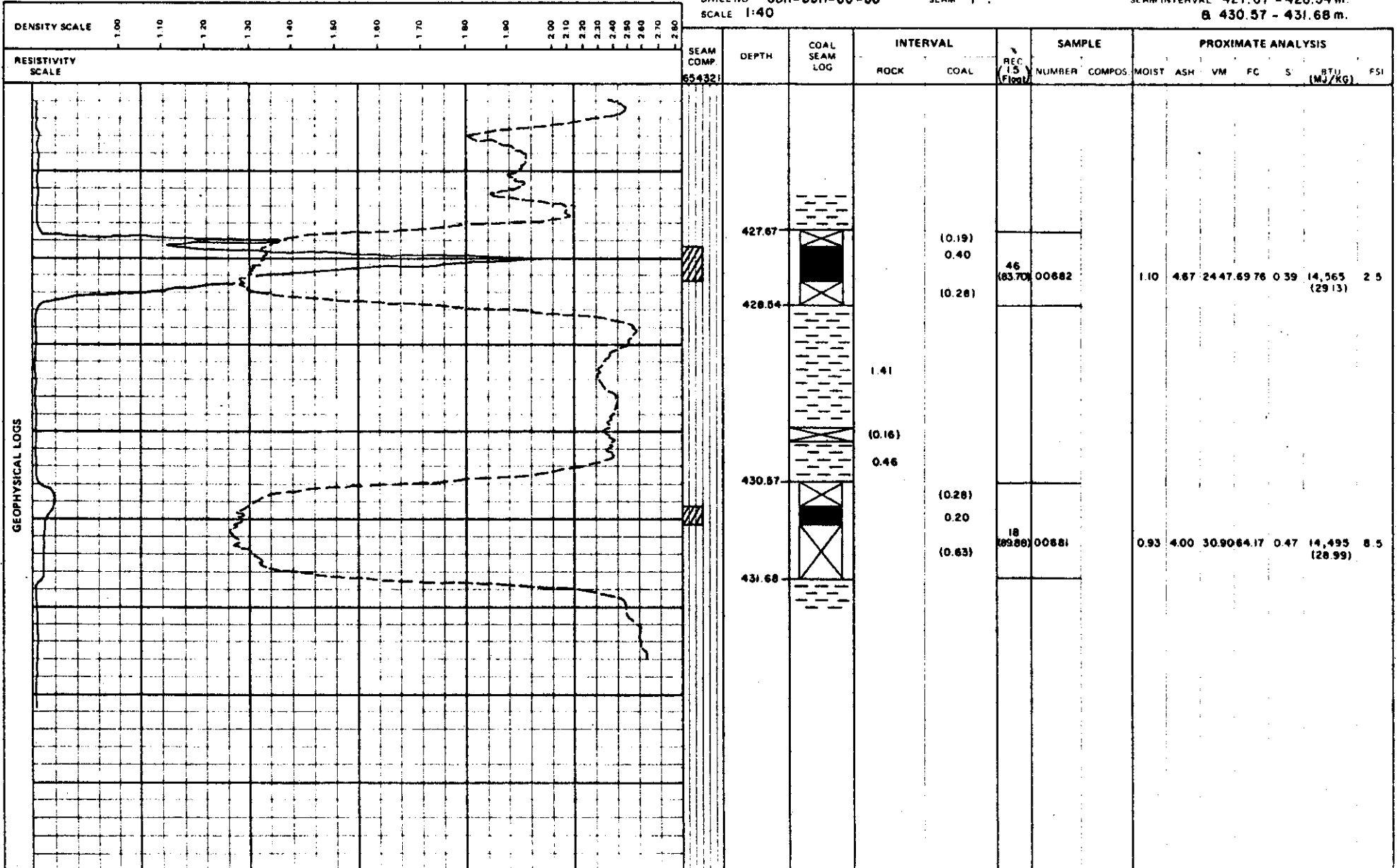
GULF CANADA RESOURCES INC.
COAL DIVISION

P 267 (12.80)

DENSITY RESISTIVITY

DRILL NO GDR-DDH-80-38 SEAM 4?
SCALE 1:40

Coal/Coal + Rock (True Thk (m))
0.78/0.78 ; 1.01/1.01
SEAM INTERVAL 427.67 - 428.54 m.
B 430.57 - 431.68 m.



GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

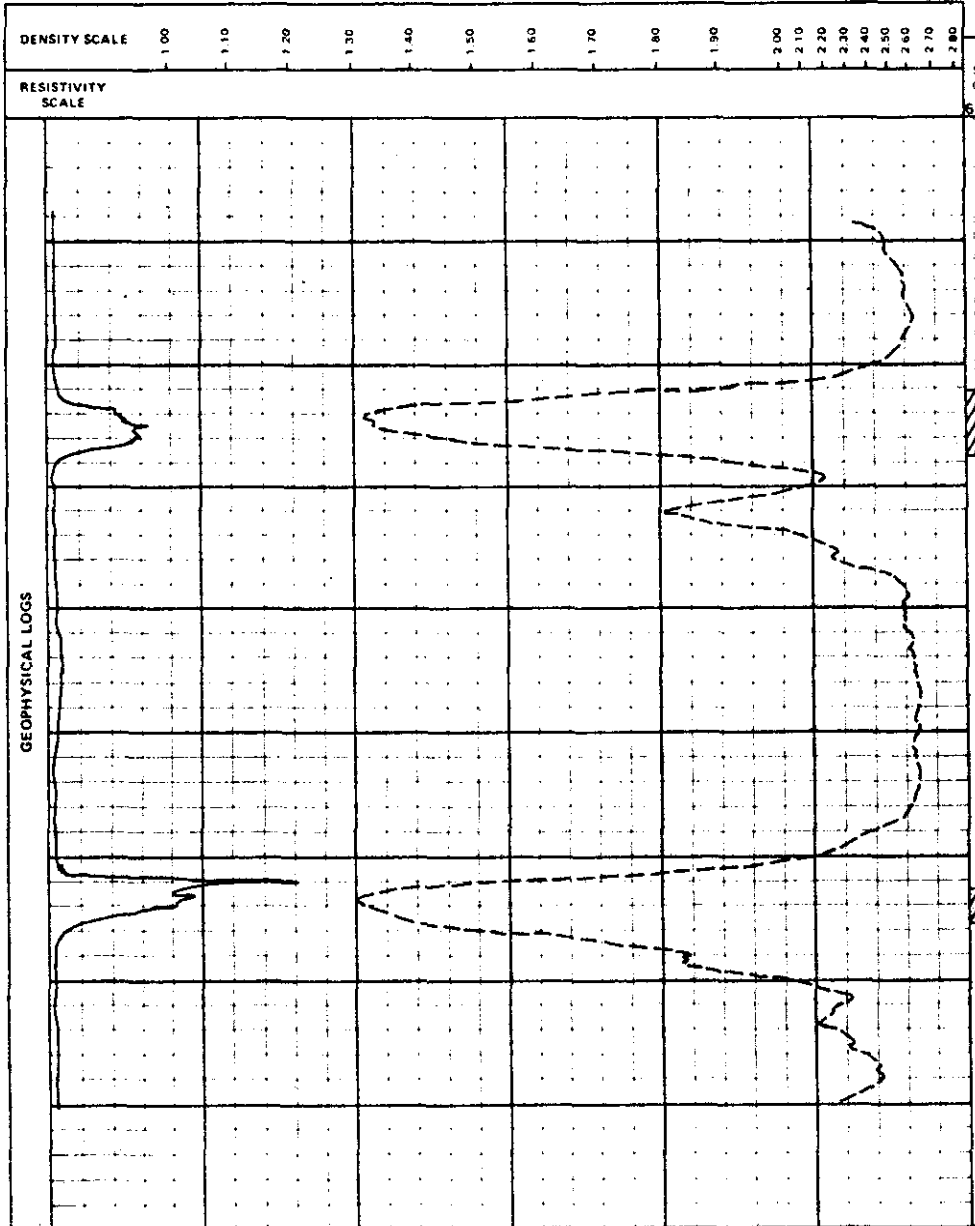
GULF CANADA RESOURCES INC
COAL DIVISION

P. 267 (12/80)

DENSITY RESISTIVITY

DRILL NO GDR-DDH-80-38 SEAM _____
SCALE 1:40

SEAM INTERVAL 433.23 - 433.74 B
437.13 - 437.71 m



GEOPHYSICAL LOGS

| SEAM COMP 654321 | DEPTH | COAL SLAM LOG | INTERVAL | | S. REC. (15) (Feet) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | |
|---------------------|--------|---------------|----------|----------------|---------------------|--------|--------|--------------------|------|-------|-------|-------|-------------|----------------|-----|
| | | | ROCK | COAL | | NUMBER | COMPOS | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FC | |
| | 433.23 | | | 0.51 | 100 (88.61) | 00680 | | | 0.78 | 7.89 | 28.80 | 62.53 | 0.59 | 14,096 (28.19) | 8.0 |
| | 433.74 | | 0.80 | | | | | | | | | | | | |
| | | | (2.99) | | | | | | | | | | | | |
| | 437.13 | | | (0.16) 0.27 | 47 (79.33) | 00679 | | | 0.75 | 11.84 | 28.68 | 58.73 | 0.62 | 13,696 (27.39) | 8.5 |
| | 437.71 | | | (0.15) | | | | | | | | | | | |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

SIMPLE SAMPLE SUMMARY

PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|----------------|------|--------------|---------------|-------------|-------------|----------------|-------------------|-------------------|-----------------|-----------------|
| DDH80058 | | 672 | 208.73 | 211.97 | 0.75 | 23.15 | 0.75 | 0.00 | 2.49 | 0.00 |
| | | 673 | 211.97 | 214.60 | 0.15 | 5.58 | 0.00 | 0.15 | 2.54 | 0.00 |
| | | 674 | 223.45 | 225.15 | 0.51 | 30.00 | 0.42 | 0.09 | 1.19 | 0.00 |
| | | 675 | 249.53 | 256.70 | 2.53 | 34.99 | 2.53 | 0.00 | 4.70 | 0.00 |
| | | 676 | 256.76 | 257.76 | 1.00 | 100.00 | 0.27 | 0.73 | 0.00 | 0.00 |
| | | 677 | 257.76 | 260.04 | 2.10 | 92.11 | 1.92 | 0.18 | 0.02 | 0.10 |
| | | 678 | 267.40 | 270.12 | 1.12 | 41.18 | 1.12 | 0.00 | 1.60 | 0.00 |
| | | 679 | 437.13 | 437.71 | 0.27 | 40.55 | 0.27 | 0.00 | 0.31 | 0.00 |
| | | 680 | 433.23 | 433.74 | 0.51 | 100.00 | 0.51 | 0.00 | 0.00 | 0.00 |
| | | 681 | 430.57 | 431.08 | 0.20 | 18.02 | 0.20 | 0.00 | 0.91 | 0.00 |
| | | 682 | 427.67 | 428.54 | 0.40 | 45.90 | 0.40 | 0.00 | 0.47 | 0.00 |

PROJ - GDR

ANALYSIS BASIS TYPE -

NAME OF STANDARD -

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|
|-------------|------|-----------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|

UDH80038

- 672
- 673
- 674
- 675
- 676
- 677
- 678
- 679
- 680
- 681
- 682

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH60038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|------------|---|
| 65 | 24.60 | 25.30 | 0.70 | | | OVERBURDEN | NO CORE, ROUNDED PEBBLES AND BRUKEN PIECES OF MUDSTONE, SS SLTST. |
| 65 | 25.30 | 26.36 | 1.06 | | | CORE LOSS | |
| 65 | 26.36 | 26.96 | 0.60 | | | OVERBURDEN | AS OVERBURDEN ABOVE |
| 65 | 26.96 | 27.99 | 1.03 | | | MUDSTONE | DK. GY. MAS VERY MINOR PYRITE FLECKS, MINOR PLANT FRAGMENTS AND SHELL PIECES. |
| 65 | 27.99 | 28.35 | 0.36 | | | MUDSTONE | BRKN |
| 65 | 28.35 | 28.58 | 0.23 | | | MUDSTONE | VBKKN |
| 65 | 28.58 | 30.35 | 1.77 | | | MUDSTONE | BRKN ROCK BRUKEN BADLY IN SOME PLACES, BROWN WEATHER ZONES ALONG WITH ROCK FRACTURES |
| 65 | 30.35 | 30.99 | 0.64 | | | MUDSTONE | ROCK MORE MASSIVE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| <u>ECA</u> | <u>DEPTH FROM</u> | <u>DEPTH INTERVAL ID</u> | <u>THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|--------------------------|---------------|-----------------|----------------|------------------|---|
| 65 | 30.99 | 32.73 | 1.74 | | | MUDSTONE | DK.GY.WRMBU BIOTRB; OCCASIONAL FINE GRAIN SILTY ZONES, DISSEMINATED PYRITE FLECKS AND INCLUSIONS, BIOTURBATED PARTIALLY, HIGHLY FRACTURED WITH WEATHERED SURFACES; SOME IRON STAINING ALONG FRACTURES. |
| 65 | 32.73 | 33.74 | 1.01 | | | MUDSTONE | |
| 65 | 33.74 | 34.54 | 0.80 | | | MUDSTONE | VBRKN CORE BADLY BROKEN. |
| 65 | 34.54 | 36.36 | 1.82 | | | MUDSTONE | |
| 65 | 36.36 | 37.13 | 0.77 | | | MUDSTONE | SLD |
| 65 | 37.13 | 39.06 | 1.93 | | | MUDSTONE | SLD |
| 65 | 39.06 | 40.28 | 1.22 | | | MUDSTONE | VBRKN CORE BADLY BROKEN |
| 65 | 40.28 | 41.75 | 1.47 | | | MUDSTONE | SLD |

* DENOTES MEASURED ECA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|-------------------|----------------|----------|---------|-----------|--|
| 65 | 41.75 | 43.16 | 1.41 | | | MUDSTONE | SLD |
| 65 | 43.16 | 44.46 | 1.30 | | | MUDSTONE | BRKN IRON STAINING ALONG FRACTURES, CORE MOSTLY BRUKEN. |
| 65 | 44.46 | 46.26 | 1.80 | | | MUDSTONE | SLTY.DK.GY.WRMBU.SLD BIOTURB; OCCASIONALLY SLTY, DISSEMINATED PYRITE FLECKS AND SOME BLEBS, WEATHERED SURFACES ALONG FRACTURES; CORE MAINLY INTACT. |
| 65 | 46.26 | 47.26 | 1.00 | | | MUDSTONE | BECOMING SSY NEAR BOTTOM, SOME ARGILLACEOUS CLASTS, CALCITE FILLED FRACTURE ZONES, POSSIBLY IRON RICH. |
| 65 | 47.26 | 48.25 | 0.99 | | | FE ST | WRMBU.BRKN EXTREMELY HARD CORE, SOME CALCITE FILLING IN FRACTURE ZONES; IRON STAINING ALONG FRACTURES, SOME FINE GRAINED SS-INTERBEDS, SOME PYRITE INCLUSIONS |
| 65 | 48.25 | 49.37 | 1.12 | | | MUDSTONE | DK.GY.WRMBU.VBRKN SOME SLTY AND FINE GRAINED SS INTERBEDS, DISSEMINATED PYRITE FLECKS AND BLEBS. |
| 65 | 49.37 | 49.63 | 0.26 | | | CORE LOSS | |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH EBQM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 65 | 49.63 | 50.22 | 0.59 | | | MUDSTONE | VBRKN FRACTURES ALONG BDG PLANES. |
| 67 | 50.22 | 52.42 | 2.20 | | | MUDSTONE | BRKN FRACTURES ALONG CORE AXIS AND PARALLEL TO BDG. |
| 69 | 52.42 | 52.77 | 0.35 | | | MUDSTONE | BRKN SOME ARGILLACEOUS CLASTS, OCCASIONAL MU D FILLED FRACTURES. |
| 71 | 52.77 | 55.41 | 2.64 | | | MUDSTONE | BRKN OCCASIONAL MUD FILLED FRACTURES. |
| 76 | 55.41 | 58.19 | 2.78 | | | MUDSTONE | MUD FILLED FRACTURES NEAR BOTTOM. |
| 78 | 58.19 | 58.55 | 0.36 | | | MUDSTONE | |
| * 80 | 58.55 | 60.72 | 2.17 | | | MUDSTONE | SOME SLTY ZONES WITH ARGILLACEOUS CLAST S, FRACTURES PARALLEL TO BDG, PYRITE IN CLUSIONS |
| 80 | 60.72 | 60.97 | 0.25 | | | MUDSTONE | |
| 80 | 60.97 | 63.80 | 2.83 | | | MUDSTONE | DK.GY.VBRKN CORE BADLY BROKEN NEAR BOTTOM.CORE DKG -BL. |

* DENOTES MEASURED BCA

XXXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH60038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 80 | 63.80 | 64.04 | 0.24 | | | MUDSTONE | SLTY.DK.GY.WRMBU.BRKN OCCASIONALLY SLTY, PYRITE FLECKS AND BL EBS, CORE FRACTURES ALONG BEDDING. |
| 79 | 64.04 | 65.87 | 1.83 | | | MUDSTONE | BRKN |
| 79 | 65.87 | 66.37 | 0.50 | | | MUDSTONE | BRKN CORE BROKEN AT TOP. |
| 78 | 66.37 | 68.86 | 2.49 | | | MUDSTONE | BRKN |
| 77 | 68.86 | 69.04 | 0.18 | | | MUDSTONE | INCREASING PYRITE |
| 77 | 69.04 | 71.74 | 2.70 | | | MUDSTONE | DK.GY.BRKN CORE COLOR=DKGY-BL, CORE BROKEN WITH ZU NES OF INTENSE FRACTURING. |
| 76 | 71.74 | 71.91 | 0.17 | | | CORE LOSS | |
| * 75 | 71.91 | 74.83 | 2.92 | | | MUDSTONE | BRKN CORE BROKEN BUT INTACT, FRACTURING PARA LLEL TO BEDDING, 2CM WIDE CALCITE FILLE D FRACTURE NEAR BOTTOM. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH INTERVAL TO | THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|-------------------|--------|----------|---------|-----------|--|
| 73 | 74.83 | 74.96 | 0.13 | | | MUDSTONE | DK.GY.BRKN CORE BROKEN BUT MOSTLY INTACT.CORE COLOR = UKGY-BL |
| 71 | 74.96 | 77.48 | 2.52 | | | MUDSTONE | SLD CORE MOSTLY INTACT WITH ZONE OF PULVERIZATION. |
| 69 | 77.48 | 77.59 | 0.11 | | | CORE LOSS | |
| 69 | 77.59 | 78.01 | 0.42 | | | MUDSTONE | |
| 67 | 78.01 | 80.43 | 2.42 | | | MUDSTONE | CONTAINS SOME ARGILLACEOUS CLASTS. |
| 65 | 80.43 | 80.99 | 0.56 | | | MUDSTONE | BRKN CORE INTACT BUT BROKEN. |
| 64 | 80.99 | 82.05 | 1.06 | | | MUDSTONE | |
| 63 | 82.05 | 82.59 | 0.54 | | | CORE LOSS | |
| 62 | 82.59 | 82.79 | 0.20 | | | MUDSTONE | AS MUDSTONE ABOVE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 62 | 82.79 | 83.46 | 0.67 | | | SILTSTONE | GY.WRMBU FG WITH INTERBEDDED MUDS AND FG SS, EXTREMELY BIOTRB WITH ARGILLACEOUS CLASTS THROUGHOUT, COALY INCLUSIONS, SOME SMALL STRESS CRACKS WITH SLICKENSIDES; SOME CALCITE INTERFILLING, SSSY RIP-UPCLASTS |
| * 60 | 83.46 | 85.50 | 2.04 | | | SILTSTONE | GY SOME COALY INCLUSIONS, FRACTURES ALONG BDG WITH CALCITE INFILLING; SOME XBDG; LISTRIC SURFACE ALONG FRACTURE. SED STRUCTURE = XBDG |
| 28 | 85.50 | 85.70 | 0.20 | | | FE ST | FG.GY.BIOTR.BRKN EXTREMELY HARD, SOME FINE GRAINED SS IN TERBEUS, BIOTRB NEAR TOP. |
| 21 | 85.70 | 86.05 | 0.35 | | | FE ST | SANDY AT TOP |
| * 12 | 86.05 | 86.31 | 0.26 | | | FE ST | SSY.SLD CALCITE INFILLING ALONG FRACTURE, FRACTURES ALONG BEDDING, LISTRIC SURFACES. |
| * 58 | 86.31 | 86.86 | 0.55 | | | MUDSTONE | SLTY.DK.GY.WRMBU SOME SSSY INTERBEDS, PYRITE FLECKS AND BELBS, BECOMES SSSY TOWARDS BOTTOM. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 65 | 86.86 | 86.89 | 0.03 | | SANDSTONE | LT.GY.SLD SOME CARB, AND ARGILLACEOUS INCLUSIONS, MODERATE FRACTURING WITH CALCITE INFIL LING. SED STRUTURES = XBDG.. |
| * | 70 | 86.89 | 87.34 | 0.45 | | SANDSTONE | |
| * | 66 | 87.34 | 88.78 | 1.44 | | MUDSTONE | DK.GY.WRMBU.BRKN BANDED WITH HEAVY SLTY BEDS, IRREGULAR BEDS WITH SOME ZONES OF BIOTRB, SOME AR GILLACEOUS CLASTS, FRACTURES PARALLEL T U BOG.CORE BROKEN BUT INTACT. |
| * | 70 | 88.78 | 89.87 | 1.09 | | MUDSTONE | DK.GY.WRMBU.BRKN CORE BROKEN BUT INTACT. |
| * | 77 | 89.87 | 91.56 | 1.69 | | MUDSTONE | |
| * | 70 | 91.56 | 92.83 | 1.27 | | MUDSTONE | |
| | 70 | 92.83 | 94.45 | 1.62 | | MUDSTONE | WRMBU INCREASING BIOTRB AND WRMBUR NEAR BOTTO M. |
| | 70 | 94.45 | 94.68 | 0.23 | | MUDSTONE | WRMBU SOME PYRITE BLEBS |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 70 | 94.68 | 95.26 | 0.58 | | | SILTSTONE | GY SOME CALCITE FRACTURING, RIPUP CLASTS N EAK TOP, ZONES OF BIOTRB WITH WRMBUR. S ED STRUCTURES = XBDG... |
| 72 | 95.26 | 95.98 | 0.72 | | | MUDSTONE | BIOTR.BRKN AS ABOVE MUDSTONE. |
| * 75 | 95.98 | 97.16 | 1.18 | | | MUDSTONE | BIOTR DISSEMINATED PYRITE FLECKS AND INCLUSIO NS, SOME FINE GRAINED SS INTERBEDS. |
| * 70 | 97.16 | 98.98 | 1.82 | | | MUDSTONE | DK.GY.WRMBU.BRKN WITH FINE GRAINED SLTY AND SSY INTERBED S, BANDED, DISSEMINATED PYRITE FLECKS A ND INCLUSIONS, BIOTRB IN PART, CORE BRO KEN BUT INTACT. |
| 70 | 98.98 | 99.99 | 1.01 | | | MUDSTONE | BRKN |
| * 70 | 99.99 | 102.06 | 2.07 | | | MUDSTONE | BRKN |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTERVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|--------------------|-------------|------------|-----------|---|
| * 75 | 102.06 | 102.74 | 0.68 | | | MUDSTONE | |
| 74 | 102.74 | 103.46 | 0.72 | | | MUDSTONE | BIUTR |
| 72 | 103.46 | 104.69 | 1.23 | | | MUDSTONE | |
| 70 | 104.69 | 105.51 | 0.82 | | | MUDSTONE | VBRKN SLICKENSIDES IN FRACTURE ZONE. |
| 69 | 105.51 | 105.80 | 0.29 | | | CORE LOSS | |
| 68 | 105.80 | 107.47 | 1.67 | | | MUDSTONE | VBRKN CORE BADLY BROKEN WITH SLICKENSIDES IN FRACTURE ZONE. |
| 66 | 107.47 | 107.97 | 0.50 | | | SILTSTONE | DK.GY COALY AND CARB. INCLUSIONS, ARGILLACEOU S AND CHERT CLASTS THROUGHOUT. CORE COL OR LKGY-BN.. |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 11

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 65 | 107.97 | 108.14 | 0.17 | | SILTSTONE | |
| * | 65 | 108.14 | 108.40 | 0.26 | | MUDSTONE | DK.GY.VBRKN SLTY COALY AND CARB. STRINGERS, THIN CALCITE FILLED FRACTURES WITH SLICKENSIDE SURFACES; WEATHERED SLTST UNIT NEAR BOTTOM, CORE BRKN AND PULVERIZED. |
| | 61 | 108.40 | 110.91 | 2.51 | | MUDSTONE | BIOTR CALCITE AND COALY INFILLING ALONG FRACTURES, COALY INCLUSIONS, LISTRIC FRACTURE SURFACES; BECOMES SSSY TO BOTTOM, FRACTURES PARALLEL TO BDG PLANE. |
| | 57 | 110.91 | 111.50 | 0.59 | | CORE LOSS | |
| | 56 | 111.50 | 111.60 | 0.10 | | MUDSTONE | BRKN SOME SANDY INTERBEDS, COALY INCLUSIONS, COALY AND CALCITE FRACTURE INFILLING, LISTRIC FRACTURE SURFACES, CORE BROKEN AND PULVERIZED IN FRACTURE ZONES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|-------------------|----------------|----------|---------|-----------|---|
| * 52 | 111.60 | 113.95 | 2.35 | | | MUDSTONE | BRKN SOME SANDY INTERBEDS, COALY INCLUSIONS, COALY AND CALCITE FRACTURE INFILLING, LISTRIC FRACTURE SURFACES; CORE BROKEN AND PULVERIZED IN FRACTURE ZONES. |
| * 35 | 113.95 | 115.85 | 1.90 | | | MUDSTONE | BRKN CORE BROKEN AND PULVERIZED ALONG FRACTURES. |
| * 20 | 115.85 | 116.57 | 0.72 | | | SILTSTONE | LT.GY SOME CARB.LAMINAE ALONG BDG PLANES, SOME SSY CLASTS, COAL INCLUSIONS, SOME XBD G, FRACTURES ALONG CORE AXIS, THIN CALC ITE INFILLING. |
| 25 | 116.57 | 117.05 | 0.48 | | | SILTSTONE | DK.GY SOME FG SSY INTERBEDS, COALY AND CALCIT E INFILLED FRACTURES PARALLEL TO BDG PL ANE. |
| * 37 | 117.05 | 119.16 | 2.11 | | | SILTSTONE | SSY UNITS THROUGHOUT, LARGE COAL FILLED FRACTURES, 4CM WIDE CALCITE FRACTURE W ITH RIP UP CLASTS, SSSY AT BOTTOM. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 13

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 65 | 119.16 | 119.89 | 0.73 | | | SANDSTONE | FG.GY.BIOTR.BRKN WRMBUR. SOME SLTY INTERBEDS, MODERATE FRACTURES WITH CALCITE INFILLING, LISTRIC FRACTURE SURFACES, SOME COALY INCLUSIONS AND FLECKS |
| 60 | 119.89 | 121.85 | 1.96 | | | SANDSTONE | AS ABOVE.. |
| 55 | 121.85 | 122.85 | 1.00 | | | SANDSTONE | SOME ARGILLACEOUS CLASTS IN BIOTRB, EXTENSIVELY FRACTURED WITH CALCITE INFILLING AND LISTRIC SURFACES. |
| 53 | 122.85 | 122.96 | 0.11 | | | SILTSTONE | BRKN |
| 52 | 122.96 | 123.58 | 0.62 | | | SILTSTONE | DK.GY VERY HARD, CARB. AND LISTRIC SURFACES A LONG MINUTE FRACTURES. |
| 49 | 123.58 | 124.46 | 0.88 | | | SANDSTONE | BRKN AS ABOVE, HIGHLY FRACTURED WITH COALY AND CALCITE INFILLING, LISTRIC SURFACES ALONG FRACTURES. |
| 45 | 124.46 | 125.95 | 1.49 | | | SANDSTONE | BRKN BECOMES SLTY TO BOTTOM. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 14

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH EBCM | DEPTH TO | INTRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 41 | 125.95 | 127.07 | 1.12 | | | SILTSTONE | GY.BIOTR WITH FG SANDSTONE INTERBEDS, HIGHLY FRACTURED WITH CARB AND CALCITE INFILLING, SOME RIP-UP CLASTS AND LISTRIC FRACTURE SURFACES. |
| 36 | 127.07 | 128.95 | 1.88 | | | SILTSTONE | BRKN BECUMES SSSY AT BOTTOM. |
| 31 | 128.95 | 129.80 | 0.85 | | | SILTSTONE | SANDY AT TOP. |
| 26 | 129.80 | 131.99 | 2.19 | | | SILTSTONE | BIOTR VERY LITTLE FRACTURING, VERY LITTLE CALCITE INFILLING, EXTREMELY BIOTRB WITH SOME CARB LAMINATIONS ALONG BEDDING. |
| 21 | 131.99 | 132.55 | 0.56 | | | SILTSTONE | SOME CALCITE FILLED FRACTURING WITH LISTRIC SURFACES. |
| 18 | 132.55 | 133.79 | 1.24 | | | SANDSTONE | FG.GY COALY INCLUSIONS AND LAMINATIONS ALONG BEDDING, INTENSIVE CALCITE FRACTURING WITH LISTRIC SURFACES. |
| * 15 | 133.79 | 134.25 | 0.46 | | | SANDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH8038

| BCA | DEPTH FROM | DEPTH INTERVAL TO | THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|-------------------|--------|----------|---------|-----------|--|
| 18 | 134.25 | 135.17 | 0.92 | | | SILTSTONE | GY.WRMBU.BRKN WITH FG SANDSTONE INTERBEDS, COALY INCLUSIONS, MODERATE CALCITE FILLED FRACTURING WITH LISTRIC SURFACES, BIOTRB WITH SANDY CLASTS. |
| * 25 | 135.17 | 136.86 | 1.69 | | | SILTSTONE | BECOMES SANDY AT BOTTOM |
| * 25 | 136.86 | 137.80 | 0.94 | | | SILTSTONE | BIOTR INCREASING AMOUNTS OF SANDY INTERBEDS (5%), LESS FRACTURING, EXTREMELY BIOTRB |
| * 53 | 137.80 | 139.82 | 2.02 | | | SILTSTONE | BIOTR.SLD BEDDING IS WRMBUR. |
| 47 | 139.82 | 140.48 | 0.66 | | | SILTSTONE | BRKN SOME FRACTURES. |
| 45 | 140.48 | 140.80 | 0.32 | | | CORELOSS | |
| * 40 | 140.80 | 143.11 | 2.31 | | | SILTSTONE | BIOTR BEDDING IS WRMBUR, DECREASING AMOUNTS OF SANDSTONE INTERBEDS, SOME CALCITE FILLED FRACTURES. |
| 49 | 143.11 | 143.50 | 0.39 | | | SILTSTONE | BRKN |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80036

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 60 | 143.50 | 146.23 | 2.73 | | | SILTSTONE | BRKN INTENSIVE CALCITE FILLED FRACTURING WITH LISTRIC SURFACES, COALY INCLUSIONS AND SOME COALY FRACTURE INFILLING. |
| 59 | 146.23 | 146.25 | 0.02 | | | SILTSTONE | AS ABOVE.. |
| 59 | 146.25 | 146.35 | 0.10 | | | CORE LOSS | |
| 59 | 146.35 | 146.15 | 1.80 | | | SILTSTONE | BRKN SOME SANDY UNITS WITH CARB LAMINATIONS ALONG BEDDING, COALY INCLUSIONS, MODERATE CALCITE FILLED FRACTURING. |
| 58 | 148.15 | 146.89 | 0.74 | | | MUDSTONE | SLTY.DK.GY.BRKN PARTLY CARB, COALY INCLUSIONS, SOME CALCITE AND COALY FILLED FRACTURES WITH LISTRIC SURFACES. |
| 58 | 148.89 | 149.29 | 0.40 | | | MUDSTONE | AS ABOVE.. |
| 57 | 149.29 | 151.57 | 2.28 | | | MUDSTONE | AS ABOVE.. |
| 57 | 151.57 | 152.32 | 0.75 | | | MUDSTONE | AS ABOVE.. |
| 56 | 152.32 | 154.12 | 1.80 | | | MUDSTONE | VBKKN CALCITE VEINLETS, SOME ARGILLACEOUS CLASTS, MODERATE FRACTURING WITH CALCITE FILLING AND LISTRIC SURFACES. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 17

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80058

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 55 154.12 | 154.59 | 0.47 | | | CORE LOSS | |
| | 55 154.59 | 156.44 | 1.85 | | | MUDSTONE | VBRKN |
| | 54 156.44 | 156.66 | 0.22 | | | CORE LOSS | |
| | 54 156.66 | 157.35 | 0.69 | | | MUDSTONE | DK.GY PYRITE DISSEMINATED FLECKS AND BLEBS. |
| | 53 157.35 | 159.18 | 1.83 | | | MUDSTONE | DK.GY VERY LITTLE CALCITE FILLED FRACTURING; DISSEMINATED PYRITE FLECKS AND INCLUSIONS, LISTRIC SURFACES ALONG FRACTURES. |
| | 53 159.18 | 159.83 | 0.65 | | | MUDSTONE | AS ABOVE.. |
| | 52 159.83 | 162.11 | 2.28 | | | MUDSTONE | BRKN FRACTURES PARALLEL TO CORE AXIS, CORE PULVERIZED AT DEPTH MARKER. |
| | 51 162.11 | 162.32 | 0.21 | | | CORE LOSS | |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH8C038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 51 162.32 | 162.62 | 0.30 | | | MUDSTONE | AS ABOVE.. |
| | 51 162.62 | 163.94 | 1.32 | | | MUDSTONE | BRKN INTENSIVE CALCITE FILLED FRACTURING AND STRESS CRACKS WITH LISTRIC FRACTURE SU RFACES;CORE BROKEN AND PULVERIZED. |
| | 51 163.94 | 164.14 | 0.20 | | | CORE LOSS | |
| | 50 164.14 | 164.70 | 0.56 | | | MUDSTONE | VBRKN CORE PULVERIZED AT MARKER BLOCK(543), B RECCIATED WITH SANDSTONE AND ARGILLACEU US CLASTS, SOME PYRITE, INTENSIVE CALCI TE FILLED FRACTURES. |
| | 50 164.70 | 165.09 | 0.39 | | | SANDSTONE | FG.GY.VBRKN HIGHLY FRACTURED WITH CALCITE INFILLING S, LISTRIC FRACTURED SUFACES,SOME SLTY BEDS, CORE BADLY BRUKEN AND PULVERIZED. |
| * | 50 165.09 | 165.31 | 0.22 | | | SANDSTONE | BRKN CORE BROKEN AND PULVERIZED, BECOMING SL TY AT BOTTOM. |
| | 50 165.31 | 165.39 | 0.08 | | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GLR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH INTRVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|---------------------|-------------------|----------|------------|-----------|--|
| * 50 | 165.39 | 167.74 | 2.35 | | | SILTSTONE | DK.GY.BIOTR.BRKN WRMBUR, BANDED WITH LT-GY SANDSTONE INT ERBEDS, SOME CARB AND CALCITE FILLED FR ACCTURES, LISTRIC FRACTURE SURFACES;DIS SEMINATED PYRITE FLECKS AND BLEBS, IRRE GULAR BANDED AND BIOTRB, CORE VBRKN AT TOP. |
| 55 | 167.74 | 168.28 | 0.54 | | | SILTSTONE | BIOTR WRMBUR.. |
| 60 | 168.28 | 170.47 | 2.19 | | | SILTSTONE | SOME ZONES OF INTENSE CALCITE FILLED FR ACTURING, IRREGULAR BANDING |
| * 65 | 170.47 | 171.21 | 0.74 | | | SILTSTONE | LISTRIC SUFACES ALONG FRACTURES, SANDY AT TOP. |
| * 55 | 171.21 | 173.24 | 2.03 | | | SILTSTONE | BIOTR IRREGULARLY BANDED, COALY INCLUSIONS, A RGILLACEOUS CLASTS AT TOP. |
| * 55 | 173.24 | 174.20 | 0.96 | | | MUDSTONE | DK.GY.BIOTR.SLD FG SLTY INTERBEDS, IRREGULAR BANDING, D ISSEMINATED PYRITE FLECKS AND BLEBS, SO ME CALCITE FILLED FRACTURES WITH LISTRI C SURFACES. |
| 56 | 174.20 | 176.04 | 1.84 | | | MUDSTONE | AS ABOVE.. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 20

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH8038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 56 176.04 | 176.40 | 0.36 | | | MUDSTONE | AS ABOVE.. |
| | 57 176.40 | 178.76 | 2.36 | | | MUDSTONE | BIOTURBATED. |
| | 58 178.76 | 179.52 | 0.76 | | | MUDSTONE | AS ABOVE.. |
| | 58 179.52 | 181.18 | 1.66 | | | MUDSTONE | SLTY.BRKN CORE BROKEN AND PULVERIZED. |
| | 59 181.18 | 181.35 | 0.17 | | | CORE LOSS | |
| | 59 181.35 | 182.07 | 0.72 | | | MUDSTONE | AS ABOVE.. |
| | 59 182.07 | 183.77 | 1.70 | | | FE ST | VFG.VBRKN VERY HARD, POSSIBLE CORE LOSS |
| * | 60 183.77 | 184.60 | 0.83 | | | MUDSTONE | AS ABOVE.. |
| | 50 184.60 | 185.00 | 0.40 | | | GREYWACKE | GY MUDST MATRIX WITH SLTY ARGILLACEOUS GRA NULES, SOME ARGILLACEOUS CLASTS AND DAR K CHERT PEBBLES, SOME FRACTURES WITH CA LCITE INFILLING AND LISTRIC SUFACES. |
| | 45 185.00 | 185.25 | 0.25 | | | MUDSTONE | |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 21

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FBUM | DEPTH TD | INTRVAL THICK. | SAMP. TD | SEAM TD | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 40 | 185.25 | 185.69 | 0.44 | | | SILTSTONE | DK.GY.SLD CARB PLANT DEBRIS, COALY INCLUSIONS ALONG FRACTURES, OCCASIONAL PYRITE FLECKS; SOME CALCITE INFILL FRACTURING WITH LIS TRIC SURFACES;MUDDY AT TOP, GRADATIONAL LY BECOMING MORE SLTY. |
| * 60 | 185.69 | 187.68 | 1.99 | | | SILTSTONE | BIOTR WRMBUR, PARTLY BIOTRB. |
| 59 | 187.68 | 188.35 | 0.67 | | | SILTSTONE | AS ABOVE.. |
| 59 | 188.35 | 190.59 | 2.24 | | | SILTSTONE | OCCASIONALLY XBDD FG SANDSTONE INTERBED S;OCCASIONAL SMOKEY QUARTZ CRYSTALS ALONG FRACTURE OPENINGS. |
| 58 | 190.59 | 191.04 | 0.45 | | | SILTSTONE | INCREASED CARB PLANT FRAGMENTS, BECOMING MORE SANDY, BIOTRB WITH OCCASIONAL AR GILLACEOUS CLASTS, OCCASIONAL WRMBUR. |
| 58 | 191.04 | 193.23 | 2.19 | | | SILTSTONE | COAL AND CALCITE LAMINAE ALONG FRACTURE ZONES, SANDSTONES IRREGULARLY BEDDED WITH SOME XBDD. |
| 57 | 193.23 | 193.83 | 0.60 | | | SILTSTONE | BECOMING SANDY AT BOTTOM. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

PAGE 22

PROJECT: GDR BLOCK: XX DATA SOURCE: DDM80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 57 | 193.83 | 196.41 | 2.58 | | | SANDSTONE | FG.GY CARB AND COALY PLANT FRAGMENTS, MODERAT ELY FRACTURED WITH COALY AND CALCITE IN FILLINGS, PARTIALLY XBD WITH SOME BIOTR B AND RIP UP CLASTS, FRACTURES PARALLEL TO BEDDING. |
| 56 | 196.41 | 196.62 | 0.21 | | | SILTSTONE | AS ABOVE.. |
| 55 | 196.62 | 199.38 | 2.76 | | | SILTSTONE | BRKN INCREASED BIOTRB WITH RIP UP CLASTS, SU ME COALY INCLUSIONS. |
| 55 | 199.38 | 199.54 | 0.16 | | | SILTSTONE | AS ABOVE.. |
| 55 | 199.54 | 200.79 | 1.25 | | | SANDSTONE | AS ABOVE.. |
| * 54 | 200.79 | 202.04 | 1.25 | | | SILTSTONE | DK.GY.BIOTR WITH FG SANDSTONE INTERBEDS, CARB INCLU SIONS,CALCITE FILLED FRACTURES PARALLEL TO BEDDING. |
| * 48 | 202.04 | 202.65 | 0.61 | | | SILTSTONE | CONTAINS 0.10 FRACTURE ZONE WITH CALCIT E INFILLING,BRECCIATED SLTST CLASTS, SU ME COAL INCLUSIONS,UNIT BECUMING SANDY AT BOTTOM. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 23

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH8003B

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 49 | 202.65 | 204.86 | 2.21 | | SILTSTONE | BIOTR EXTREMELY BIOTRB WITH ZONES OF CALCITE AND COALY FILLED STRESS CRACKS. |
| * | 50 | 204.86 | 205.22 | 0.36 | | SILTSTONE | CARB.DK.GY SOME SANDY INTERBEDS, COALY AND CALCITE LAMINATIONS ALONG FRACTURE ZONES, FRACTURES PARALLEL TO BEDDING WITH LISTRIC SURFACES. |
| | 50 | 205.22 | 205.77 | 0.55 | | SILTSTONE | CARB.DK.GY WITH COALY AND CARB PLANT FRAGMENTS, COALY INCLUSIONS, FRACTURES PARALLEL TO BEDDING WITH COALY AND CALCITE INFILLING • LISTRIC FRACTURE SURFACES, DISSEMINATED PYRITE FLECKS AND INCLUSIONS IN FRACTURES. |
| | 49 | 205.77 | 207.51 | 1.74 | | SILTSTONE | BRKN |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH60038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 48 | 207.51 | 207.97 | 0.46 | | CORE LOSS | |
| | 48 | 207.97 | 208.73 | 0.76 | | SILTSTONE | AS ABOVE.. |
| | 47 | 208.73 | 209.41 | 0.68 | 00672 | 1 | COAL LOSS |
| | 47 | 209.41 | 209.50 | 0.09 | 00672 | 1 | COAL BRKN DULL LUSTROUS, OCCASIONAL BRIGHT BANDS. |
| | 47 | 209.50 | 209.57 | 0.07 | 00672 | 1 | COAL BRKN DULL LUSTROUS. |
| | 47 | 209.57 | 209.63 | 0.06 | 00672 | 1 | COAL C-3.SLD CORE INTACT WITH REGROUND ENDS(DOES NOT MATCH CORE ON EITHER SIDE). |
| | 47 | 209.63 | 209.69 | 0.06 | 00672 | 1 | COAL DULL LUSTROUS, BANDED WITH OCCASIONAL BRIGHT BANDS, LUSTRIC SURFACES ALONG FRACTURES;CORE DOES NOT MATCH. |
| | 47 | 209.69 | 209.81 | 0.12 | 00672 | 1 | COAL LOSS |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 25

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 47 | 209.81 | 209.96 | 0.15 | 00672 | 1 | COAL | VBRKN DULL LUSTROUS, OCCASIONAL BRIGHT BANDS, EXTERMELY SHEARED IN ZONES WITH SLICKE N SIDES, CORE BADLY BROKEN WITH ROUNDED NUGGETS. |
| 46 | 209.96 | 210.05 | 0.09 | 00672 | 1 | COAL | C-3.BRKN DULL LUSTROUS WITH BRIGHT BANDS, SHEARE D WITH SLICKENSIDE SURFACES;CORE BROKEN WITH ROUNDED NUGGETS. |
| 46 | 210.05 | 210.78 | 0.73 | 00672 | 1 | COAL LOSS | |
| 46 | 210.78 | 210.85 | 0.07 | 00672 | 1 | COAL | BRKN DULL LUSTROUS, OCCASIONAL BRIGHT BANDS, SOME SHEARING AND SLICKENSIDES; CORE B ROKEN WITH ROUNDED NUGGETS. |
| 46 | 210.85 | 211.01 | 0.16 | 00672 | 1 | COAL | C-3.BRKN CORE BROKEN WITH SOME ROUNDED NUGGETS, SHEARED, SLICKENSIDED SURFACES. |
| 46 | 211.01 | 211.56 | 0.55 | 00672 | 1 | COAL LOSS | |
| 45 | 211.56 | 211.97 | 0.41 | 00672 | 1 | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 26

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 45 | 211.97 | 212.71 | 0.74 | 00673 | ↑ | COAL LOSS |
| | 45 | 212.71 | 212.74 | 0.03 | 00673 | ↑ | SILTSTONE CARB.DK.GY.VBRKN COALY FLECKS THROUGHOUT, COALY MATERIAL ALONG FRACTURE SURFACES; SLICKENSIDES, CORE BADLY BROKEN AND CHEWED UP, TUBE DID NOT LOCK. |
| | 44 | 212.74 | 212.86 | 0.12 | 00673 | ↑ | COAL AS ABOVE.. |
| | 44 | 212.86 | 214.66 | 1.80 | 00673 | ↑ | COAL LOSS |
| | 43 | 214.66 | 215.62 | 0.96 | | | SANDSTONE FG.GY.XBDG XBD AND DISTURBED, HIGHLY FRACTURED WIT H CALCITE INFILLING, LISTRIC FRACTURE S URFACES, BECOMING SILTY TO BOTTOM. |
| * | 42 | 215.62 | 216.97 | 1.35 | | | SILTSTONE GY.BRKN SOME FG SANDSTONE INTERBEDS, MODERATELY FRACTURED WITH ZONES OF INTENSE CALCIT E FILLED FRACTURING, LISTRIC SURFACES A LONG FRACTURES; CORE BROKEN AND MISMATCH ED. |
| | 41 | 216.97 | 217.03 | 0.06 | | | SILTSTONE LT-DK.GY POSSIBLE CORE LOSS AT BOTTOM, GROUND CO RE FRAGMENTS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| <u>ECA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 40 | 217.03 | 218.28 | 1.25 | | | SILTSTONE | BIOTR.SLD WRMBUR, ROUNDED TOP, COAL INCLUSIONS WITH ARGILLACEOUS CLASTS, COAL INTACT, SOME CARB FRAGMENTS. |
| 37 | 218.28 | 220.05 | 1.77 | | | SILTSTONE | VBRKN MORE SANDSTONE TOWARDS BOTTOM |
| 34 | 220.05 | 220.79 | 0.74 | | | SANDSTONE | FG.LT-DK.GY.VBRKN INTERBEDDED WITH FG SLTST, SOME CARB PLANT FRAGMENTS, FRACTURED WITH CALCITE AND COALY INFILLINGS, LISTRIC FRACTURE SURFACES, ZONES OF INTENSE FRACTURING. |
| * 32 | 220.79 | 223.21 | 2.42 | | | SANDSTONE | ZONES OF EXTREME BRECCIATION, COALY WISPS ALONG BEDDING, COALY INCLUSIONS, LOCALIZED WARPING OF BEDDING ALIGNED WITH CORE AXIS, SANDSTONE BECOMING MG AT BOTTOM |
| 29 | 223.21 | 223.45 | 0.24 | | | SANDSTONE | MG AS ABOVE |
| 28 | 223.45 | 224.49 | 1.04 | 00674 | 1 | COAL LOSS | |
| 27 | 224.49 | 224.58 | 0.09 | 00674 | 1 | TUFF | EXTREMELY SHEARED WITH CARBONACEOUS MATERIAL THROUGHOUT. |

* DENOTES MEASURED ECA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

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PROJECT: GCR BLOCK: XX DATA SOURCE: DDH60038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 27 | 224.58 | 225.00 | 0.42 | 00674 | 1 | COAL | VBRKN DULL LUSTROUS, HIGHLY SHEARED, SLICKENED SURFACES, PULVERIZED |
| 26 | 225.00 | 225.15 | 0.15 | 00674 | 1 | COAL LOSS | |
| 26 | 225.15 | 225.49 | 0.34 | | | SANDSTONE | AS ABOVE. |
| 25 | 225.49 | 225.86 | 0.37 | | | CORE LOSS | |
| 23 | 225.86 | 227.11 | 1.25 | | | SANDSTONE | EXTREMELY FRACTURED, SOME OIL STAINING ALONG FRACTURE, COALY INFILLING ALONG FRACTURE. |
| 22 | 227.11 | 227.24 | 0.13 | | | SANDSTONE | AS ABOVE. |
| 22 | 227.24 | 227.83 | 0.59 | | | SANDSTONE | OIL STAINING ALONG OPEN FRACTURE, EXTREMELY BRECCIATED WITH SLTST, RIP-UP CLASTS INTRODUCED NEAR BOTTOM, POSSIBLE FAULT ZONE. |
| 20 | 227.83 | 229.40 | 1.57 | | | SILTSTONE | GY. BIOTR WRMBUR, INTERBEDDED MUDS AND FG SS, MOD FRACTURED WITH CALCITE INCLUSIONS, LITRIC SURFACES ALONG FRACTURES, EXTREMELY BIOTRB, |
| 18 | 229.40 | 229.86 | 0.46 | | | SILTSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 15 | 229.86 | 232.35 | 2.49 | | | SILTSTONE | VBRKN SANDY AT BOTTOM WITH COALY LAMINATIONS. |
| 15 | 232.35 | 232.48 | 0.13 | | | CORE LOSS | |
| * 15 | 232.48 | 235.23 | 2.75 | | | SANDSTONE | MG.GY SALT, PEPPER, FG-MG, INTERBEDDED WITH F G SLTST, CARB AND COALY INCLUSIONS WITH SOME CARB BEDDING LAMINATIONS, MOD FRAC TURED WITH CALCITE INFILLINGS, LISTRIC SURFACE ALONG FRACTURES, BEDDING TENDS TO WA . |
| * 14 | 235.23 | 235.56 | 0.33 | | | SANDSTONE | AS ABOVE |
| * 14 | 235.56 | 238.01 | 2.45 | | | SANDSTONE | BRKN OIL STAINING ALONG FRACTURES, CORE VBRKN AT BOTTOM, COALY INCLUSIONS. |
| 13 | 238.01 | 238.71 | 0.70 | | | SANDSTONE | VBRKN CORE VBRKN AT BOTTOM, COALY INCLUSIONS |
| 13 | 238.71 | 238.82 | 0.11 | | | CORE LOSS | |
| * 13 | 238.82 | 240.75 | 1.93 | | | SANDSTONE | OIL STAINING ALONG FRACTURES, SS RIP-UP CLASTS IN SLTST, BEDDING CONTINUES TO W ARP ALONG CORE AXIS, |
| * 66 | 240.75 | 241.82 | 1.07 | | | SANDSTONE | ARGILLACEOUS RIP UP CLASTS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GJR BLOCK: XX DATA SOURCE: DDH60038

| BCA | DEPTH FBOM | DEPTH TO | INTRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 48 | 241.82 | 242.17 | 0.35 | | | SANDSTONE | AS ABOVE |
| 52 | 242.17 | 243.18 | 1.01 | | | SILTSTONE | GY.BIOTR.VBRKN FG WITH MUDS AND FG SS INTERBEDS, FRACTURES PARALLEL TO BEDDING WITH CALCITE INFILLING AND LISTRIC SURFACES, SANDY BEDS DISPLAY SOME XBDG, MAINLY BIOTRB |
| 55 | 243.18 | 243.28 | 0.10 | | | CORE LOSS | |
| * 60 | 243.28 | 244.92 | 1.64 | | | SILTSTONE | SLD OIL STAINING IN SOME FRACTURES, COALY INCLUSIONS. |
| * 55 | 244.92 | 245.80 | 0.88 | | | MUDSTONE | DK.GY.VBRKN SOME SILTY INTERBEDS, CARB PLANT FRAGMENTS THROUGHOUT, COALY INCLUSIONS, ZONES OF COALY AND CALCITE LAMINAE, COAL FILLED FRACTURES WITH LISTRIC SURFACES. |
| 51 | 245.80 | 245.92 | 0.12 | | | MUDSTONE | VBRKN CORE VBRKN AND PULVERIZED IN PLACES. |
| 49 | 245.92 | 246.52 | 0.60 | | | CORE LOSS | |
| * 38 | 246.52 | 248.75 | 2.23 | | | MUDSTONE | SOME OIL STAINING ALONG FRACTURES. |

* DENGTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH EFLM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 40 | 248.75 | 248.88 | 0.13 | | | MUDSTONE | LARGE COALY INCLUSIONS, |
| 40 | 248.88 | 249.53 | 0.65 | | | MUDSTONE | SLTY. DK. GY. BIOTR CARB PLANT FRAGMENTS ALONG BEDDING PLAN ES, SOME COALY INCLUSIONS, LISTRIC FRAC TURE SURFACES, VERY LITTLE CALCITE ASSO CIATED WITH FRACTURES. |
| 41 | 249.53 | 249.71 | 0.18 | 00675 | 1 | COAL | VBRKN HIGHLY SHEARED WITH SLICKENSIDE SURFACE S |
| 41 | 249.71 | 249.74 | 0.03 | 00675 | 1 | COAL | VBRKN STONEY, DULL LUSTROUS, ARGILLACEOUS PEL LETS, SHEARED WITH SLICKENSIDE,. |
| 41 | 249.74 | 250.35 | 0.61 | 00675 | 1 | COAL | VBRKN DULL LUSTROUS, OCCASIONAL BRIGHT BANDS, HIGHLY SHEARED WITH SLICKENSIDES, CORE VBRKN AND PULVERIZED. |
| 41 | 250.35 | 250.43 | 0.08 | 00675 | 1 | COAL | STONEY, DULL LUSTROUS WITH OCCASIONAL B RIGHT BANDS. |
| 42 | 250.43 | 250.61 | 0.18 | 00675 | 1 | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDK BLOCK: XX DATA SOURCE: UDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 42 | 250.61 | 250.66 | 0.05 | 00675 | 1 | COAL C-3.VBRKN HIGHLY SHEARED WITH SLICKENSIDES, CORE VBRKN AND PULVERIZED. |
| | 42 | 250.66 | 250.71 | 0.05 | 00675 | 1 | COAL C-3 AS ABOVE |
| | 42 | 250.71 | 251.18 | 0.47 | 00675 | 1 | COAL VBRKN STONEY, DULL LUSTROUS, SHEARED WITH SLI CKENSIDES, CORE VBRKN AND PULVERIZED, O CCASIONAL BRIGHT BANDS. |
| | 42 | 251.18 | 251.23 | 0.05 | 00675 | 1 | COAL BRKN DULL LUSTROUS; WITH OCCASIONAL BRIGHT B ANDS AND STRINGERS; SHRD IN PART WITH S LICKENSIDES. |
| | 43 | 251.23 | 252.76 | 1.53 | 00675 | 1 | COAL LOSS |
| | 44 | 252.76 | 252.83 | 0.07 | 00675 | 1 | COAL STONEY, DULL LUSTROUS WITH FINE BRIGHT INCLUSIONS. |
| | 44 | 252.83 | 252.96 | 0.13 | 00675 | 1 | COAL VBRKN DULL LUSTROUS, OCCASIONAL BRIGHT BANDS, BADLY SHEARED WITH SLICKENSIDES, SOME C ALCITE SURFACES, CORE PULVERIZED AND POW DERED. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 44 | 252.96 | 252.98 | 0.02 | 00675 | 1 | COAL C-3.VBRKN DULL LUSTROUS WITH FINE BRIGHT STRINGER S, CORE PULVERIZED AND BRKN. |
| | 44 | 252.98 | 253.12 | 0.14 | 00675 | 1 | COAL VBRKN DULL LUSTROUS, OCCASIONAL BRIGHT BANDS, HIGHLY SHEARED WITH SLICKENSIDES, SOME CALCITE ALONG SHEARED SURFACES, CORE V BRKN AND PULVERIZED. |
| | 45 | 253.12 | 254.47 | 1.35 | 00675 | 1 | COAL LOSS |
| | 45 | 254.47 | 254.49 | 0.02 | 00675 | 1 | COAL BRKN STONEY, DULL WITH DULL LUSTROUS BANDS, SLICKENSIDES. |
| | 45 | 254.49 | 254.67 | 0.18 | 00675 | 1 | COAL VBRKN DULL LUSTROUS, OCCASIONAL BRIGHT BANDS, HIGHLY SHEARED, SLICKENSIDES, CORE VBR KN AND PULVERIZED. |
| | 46 | 254.67 | 254.87 | 0.20 | 00675 | 1 | COAL LOSS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH INTERVAL | THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------------|--------|----------|---------|-----------|---|
| 46 | 254.87 | 254.94 | 0.07 | 00675 | 1 | COAL | C-6.VBRKN DULL TO DULL LUSTROUS, CORE VBRKN AND P ULVERIZED. |
| 46 | 254.94 | 255.43 | 0.49 | 00675 | 1 | COAL LOSS | |
| 46 | 255.43 | 255.66 | 0.23 | 00675 | 1 | COAL | VBRKN DULL LUSTROUS, OCCASIONAL FINE BRIGHT S TRINGER, HIGHLY SHEARED SLICKENSIDES, C ORE PULVERIZED AND POWDERED. |
| 46 | 255.66 | 255.81 | 0.15 | 00675 | 1 | COAL | AS ABOVE |
| 47 | 255.81 | 256.76 | 0.95 | 00675 | 1 | COAL LOSS | |
| 48 | 256.76 | 256.94 | 0.18 | 00676 | | SANDSTONE | TUFFACEOUS, COALY STRINGERS AND INCLUSI ONS THROUGHOUT, HIGHLY SHEARED WITH POL ISHED SURFACES, STONEY, DULL LUSTROUS. |
| 48 | 256.94 | 257.17 | 0.23 | 00676 | 1 | COAL | STONEY, DULL LUSTROUS, OCCASIONAL FINE BRIGHT STRINGERS, OCCASIONAL QUARTZ STR INGERS, CONTORTED. |
| 48 | 257.17 | 257.27 | 0.10 | 00676 | 1 | SANDSTONE | BRKN TUFF, AS ABOVE, COALY STRINGERS AND INC LUSIONS, HIGHLY SHEARED WITH POLISHED S URFACES, CORE BRKN WITH ROUNDED FRAGMEN TS, POSSIBLY REGROUND. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDM80038

| BCA | DEPTH FROM | DEPTH INTERVAL | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------------|----------------|----------|---------|-----------|--|
| 48 | 257.27 | 257.31 | 0.04 | 00676 | 1 | COAL | BRKN STONEY, DULL LUSTROUS, OCCASIONAL FINE BRIGHT STRINGERS, HIGHLY SHEARED WITH SLICKENSIDES, CORE BRKN WITH REGROUND FRAGMENTS. |
| 48 | 257.31 | 257.40 | 0.09 | 00676 | 1 | MUDSTONE | FINE COALY INCLUSIONS THROUGHOUT, HIGHLY SHEARED AND CONTORTED, POLISHED SURFACES, SOME CALCITE ON SURFACES. |
| 48 | 257.40 | 257.63 | 0.23 | 00676 | 1 | SANDSTONE | TUFF AS ABOVE |
| 48 | 257.63 | 257.76 | 0.13 | 00676 | 1 | SANDSTONE | TUFF AS ABOVE |
| 48 | 257.76 | 257.99 | 0.23 | 00677 | 1 | COAL | VBRKN STONEY, DULL TO DULL LUSTROUS, OCCASIONAL FINE BRIGHT BANDS. |
| 49 | 257.99 | 258.15 | 0.16 | 00677 | 1 | COAL | VBRKN STONEY, DULL LUSTROUS, OCCASIONAL BRIGHT BANDS, CORE VBRKN TO PULVERIZED |
| 49 | 258.15 | 258.23 | 0.08 | 00677 | 1 | COAL | PWRD OCCASIONAL DIRT BANDS, HIGHLY SHEARED AND BRKN, SLICKENSIDES, CONCHOIDAL FRACTURES ON BRIGHT BANDS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 49 | 258.23 | 258.32 | 0.09 | 00677 | 1 | COAL | PWRD DULL LUSTROUS, CORE PULVERIZED AND PWRD |
| 49 | 258.32 | 258.41 | 0.09 | 00677 | 1 | COAL | STONEY; DULL LUSTROUS; OCCASIONAL BRIGHT BANDS. |
| 49 | 258.41 | 258.46 | 0.05 | 00677 | 1 | SANDSTONE | TUFF AS ABOVE |
| 49 | 258.46 | 258.51 | 0.05 | 00677 | 1 | COAL | C-3.BRKN STONEY, SHEARED AND BRKN. |
| 49 | 258.51 | 258.63 | 0.12 | 00677 | 1 | COAL | VBRKN DULL LUSTROUS, OCCASIONAL BRIGHT BANDS, HIGHLY SHEARED, SLICKENSIDES AND CORE PULVERIZED. |
| 49 | 258.63 | 258.66 | 0.03 | 00677 | 1 | COAL | C-3 HIGHLY SHEARED AND SLICKENSIDES. |
| 49 | 258.66 | 258.74 | 0.08 | 00677 | 1 | COAL | BRKN DULL LUSTROUS, OCCASIONAL BRIGHT STRINGERS, CORE BRKN AND PULVERIZED. |
| 49 | 258.74 | 258.90 | 0.16 | 00677 | 1 | COAL | DULL LUSTROUS AS ABOVE, OCCASIONAL DIRT BAND, HIGHLY SHEARED, SLICKENSIDES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 37

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 258.90 | 258.95 | 0.05 | 00677 | 1 | COAL | C-3 HIGHLY SHEARED, SLICKENSIDES, SOME CALC ITE ALONG SHEARED SURFACES. |
| | 258.95 | 259.07 | 0.12 | 00677 | 1 | COAL | BRKN DULL LUSTROUS, OCCASIONAL DIRT BANDS |
| | 259.07 | 259.14 | 0.07 | 00677 | 1 | COAL | C-3.BRKN SHEARED BRKN AND PULVERIZED. |
| | 259.14 | 259.19 | 0.05 | 00677 | 1 | SANDSTONE | TUFF AS ABOVE. |
| | 259.19 | 259.24 | 0.05 | 00677 | 1 | COAL | BRKN OCCASIONAL DIRT BAND; DULL LUSTROUS, 20 PERCENT BRIGHT BANDS. |
| | 259.24 | 259.30 | 0.06 | 00677 | 1 | COAL | BRKN STONEY, DULL LUSTROUS, OCCASIONAL BRIGHT BANDS AND INCLUSIONS. |
| | 259.30 | 259.35 | 0.05 | 00677 | 1 | COAL | C-3.BRKN STONEY. |
| | 259.35 | 259.43 | 0.08 | 00677 | 1 | SANDSTONE | TUFF AS ABOVE. |
| | 259.43 | 259.59 | 0.16 | 00677 | 1 | ROCK LUSS | |
| | 259.59 | 259.78 | 0.19 | 00677 | 1 | COAL | C-3.VBRKN STONEY, AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 38

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 50 259.78 | 259.91 | 0.13 | 00677 | 1 | COAL | VBRKN DULL LUSTROUS, OCCASIONAL BRIGHT BANDS, CORE VBRKN AND PULVERIZED. |
| | 50 259.91 | 260.02 | 0.11 | 00677 | 1 | COAL | STONEY, DULL LUSTROUS, OCCASIONAL BRIGHT BANDS. |
| | 50 260.02 | 260.04 | 0.02 | 00677 | 1 | COAL LOSS | |
| | 51 260.04 | 260.11 | 0.07 | | | SANDSTONE | TUFF AS ABOVE |
| | 51 260.11 | 260.67 | 0.56 | | | MUDSTONE | DK.GY.PWRD COALY INCLUSIONS, CARB PLANT FRAGMENTS, FRACTURES WITH LISTRIC SURFACES, CORE PULVERIZED AND POWDERED IN PARTS. |
| | 51 260.67 | 260.97 | 0.30 | | | CORE LOSS | |
| | 52 260.97 | 262.68 | 1.71 | | | MUDSTONE | AS ABOVE, OCCASIONAL CALCITE FILLED FRACTURES, PERPENDICULAR TO BEDDING, SOME SANDSTONE TUFF ZONES ALONG FRACTURES. |
| | 53 262.68 | 263.06 | 0.38 | | | MUDSTONE | BRKN AS ABOVE, CORE VBRKN WITH PWRD ZONES. |
| | 53 263.06 | 263.36 | 0.30 | | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 54 | 263.36 | 263.44 | 0.08 | | | MUDSTONE | AS ABOVE. |
| 54 | 263.44 | 263.50 | 0.06 | | | COAL | VBRKN STONEY, DULL LUSTROUS, CORE SHEARED AND BRKN, |
| 54 | 263.50 | 263.54 | 0.04 | | | COAL | C-2 SOME FINE DIRT LAMINAE. |
| 54 | 263.54 | 263.56 | 0.02 | | | COAL | C-3.VBRKN LITRIC FRACTURED SURFACES. |
| 54 | 263.56 | 263.76 | 0.20 | | | CORE LOSS | |
| 55 | 263.76 | 265.41 | 1.65 | | | MUDSTONE | VBRKN AS ABOVE, SOME LARGE COALY INCLUSIONS, CORE VBRKN WITH ZONES OF PULVERIZED AND PWRD. |
| 56 | 265.41 | 265.81 | 0.40 | | | CORE LOSS | |
| 56 | 265.81 | 265.91 | 0.10 | | | MUDSTONE | PWRD AS ABOVE, |
| 56 | 265.91 | 266.00 | 0.09 | | | CORE LOSS | |
| 57 | 266.00 | 267.05 | 1.05 | | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: GDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 57 | 267.05 | 267.40 | 0.35 | | | MUDSTONE | VBRKN COALY(40%)BANDS,HIGHLY SHEARED WITH LIS TRIC SURFACES, CONTORTED, CORE VBRKN AN D PULVERIZED,PWRD. |
| 57 | 267.40 | 267.56 | 0.16 | 00678 | | COAL | C-6 DULL TO DULL LUSTROUS, OCCASIONAL FINE BRIGHT BANDS. |
| 58 | 267.56 | 267.70 | 0.14 | 00678 | 1 | COAL LOSS | |
| 58 | 267.70 | 267.88 | 0.18 | 00678 | 1 | COAL | C-6.VBRKN DULL LUSTROUS, OCCASIONAL BRIGHT BANDS. |
| 58 | 267.88 | 268.31 | 0.43 | 00678 | 1 | COAL LOSS | |
| 58 | 268.31 | 268.56 | 0.25 | 00678 | 1 | COAL | C-6.VBRKN AS ABOVE, SOME BRIGHT BANDS, CORE VBRKN AND PULVERIZED. |
| 58 | 268.56 | 268.66 | 0.10 | 00678 | 1 | COAL | C-6 AS ABOVE. |
| 59 | 268.66 | 268.92 | 0.26 | 00678 | 1 | COAL | VBRKN DULL LUSTROUS, OCCASIONAL DULL BAND, CO RE VBRKN;PULVERIZED AND PWRD. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 59 | 268.92 | 268.96 | 0.04 | 00678 | 1 | COAL | C-6.VBRKN CORE VBRKN AND PULVERIZED. |
| 59 | 268.96 | 269.00 | 0.04 | 00678 | 1 | COAL | VBRKN DULL LUSTROUS, CORE VBRKN AND PULVERIZED. |
| 59 | 269.00 | 269.09 | 0.09 | 00678 | 1 | COAL | C-3.VBRKN SOME SHEARED SLICKENSIDES, CORE VBRKN AND PULVERIZED. |
| 59 | 269.09 | 270.12 | 1.03 | 00678 | 1 | COAL LUSS | |
| 60 | 270.12 | 270.28 | 0.16 | | | MUDSTONE | VBRKN COALY INCLUSIONS AND LAMINATIONS, SLICKENSIDES ALONG FRACTURES. |
| 60 | 270.28 | 270.39 | 0.11 | | | CORELUSS | |
| 61 | 270.39 | 271.86 | 1.47 | | | MUDSTONE | DK.GY SOME SLTY INTERBEDS, ABUNDANT CARB PLANT FRAGMENTS ALONG BEDDING PLANES, SOME COALY INCLUSIONS, LISTRIC SURFACES ALONG FRACTURES, BECOMING LESS CARB TO BOTTOM POSS STONEY COAL AT BOTTOM 0.17CM VDIRTY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80036

| BCA | DEPTH EBQM | DEPTH ID | INTVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|------------------|-------------|------------|-------------|---|
| 62 | 271.86 | 271.95 | 0.09 | | | CORE LOSS | |
| 62 | 271.95 | 272.33 | 0.38 | | | MUDSTONE | DK.GY.SLD OCCASIONAL COALY INCLUSIONS, HOMOGENOUS |
| 62 | 272.33 | 272.40 | 0.07 | | | MUDSTONE | CARB HIGHLY CARB. |
| 62 | 272.40 | 272.65 | 0.25 | | | COAL & ROCK | 50/50 COAL AND ROCK, SOME COAL BANDS. |
| 62 | 272.65 | 272.91 | 0.26 | | | ROCKLOSS | |
| 63 | 272.91 | 273.06 | 0.15 | | | MUDSTONE | AS ABOVE, CARB AND COALY INCLUSIONS. |
| 64 | 273.06 | 274.92 | 1.86 | | | SANDSTONE | FG.GY.BRKN CARB AND COALY PLANT FRAGMENTS, SOME CO ALY INCLUSIONS AND FLECKS, GRADING TO C LEANER SAND AT BOTTOM, MOD FRACTURED WI TH CALCITE FILLINGS. |
| 64 | 274.92 | 274.94 | 0.02 | | | SANDSTONE | AS ABOVE. |
| 64 | 274.94 | 274.96 | 0.02 | | | SANDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 65 | 274.96 | 276.22 | 1.26 | | | SANDSTONE | MG.DK.GY.SLD CARB INTERBEDS AND LAMINATIONS, SALT AND PEPPER APPEARANCE, SOME CROSS BEDDING WITH TOP UPRIGHT, FRACTURED WITH CALCITE INFILLINGS AND LISTRIC SURFACES, OCCASIONAL COALY INCLUSIONS. |
| * 65 | 276.22 | 276.68 | 0.46 | | | SANDSTONE | DK.GY SHARP CONTACT WITH OCCASIONAL RIP-UP CLASTS. |
| 68 | 276.68 | 277.65 | 0.97 | | | MUDSTONE | DK.GY SLTY WITH OCCASIONAL FG SLTST INTERBEDS, CARB PLANT FRAGMENTS AND COALY INCLUSIONS, OCCASIONAL SMALL CALCITE INFILLED FRACTURE, LISTRIC FRACTURE SURFACES, DISSEMINATED PYRITE FLECKS THROUGHOUT. |
| 72 | 277.65 | 278.70 | 1.05 | | | MUDSTONE | AS ABOVE. |
| * 78 | 278.70 | 280.43 | 1.73 | | | MUDSTONE | DK.GY BECOMING MORE SLTY AND SANDY AT BOTTOM. |
| 77 | 280.43 | 280.46 | 0.03 | | | MUDSTONE | DK.GY OCCASIONALLY SLTY, SOME DISSEMINATED PYRITE FLECKS; CARB INCLUSIONS AND LAMINAE, LISTRIC SURFACES ALONG FRACTURES WITH CALCITE FILLING. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 44

PROJECT: GLR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|------------|--|
| 77 | 280.46 | 280.76 | 0.30 | | | CORE LUSS. | |
| 76 | 280.76 | 282.00 | 1.24 | | | MUDSTONE | BIOTR.VBRKN WRMBUR. |
| 75 | 282.00 | 283.42 | 1.42 | | | MUDSTONE | BIOTR.BRKN |
| 74 | 283.42 | 284.16 | 0.74 | | | MUDSTONE | BIOTR.BRKN WRMBUR. |
| 73 | 284.16 | 285.59 | 1.43 | | | MUDSTONE | BIOTR WRMBUR, . BECOMING SLTY NEAR BOTTOM. |
| 72 | 285.59 | 286.24 | 0.65 | | | SANDSTONE | MG.GY FG-MG, SOME CARB AND COALY INCLUSIONS, SLTY AT TOP, OCCASIONAL CALCITE FILLED FRACTURES WITH LISTRIC SURFACES, MAJOR BIOTRB. |
| 71 | 286.24 | 287.30 | 1.06 | | | SANDSTONE | BIOTR EXTREMELY BIOTRB, SOME SLTY MUDST INTER BEDS NEAR BOTTOM, SOME ARGILLACEOUS CLA STS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 45

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | DEPTH INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------------|----------|---------|-----------|---|
| * 70 | 287.30 | 288.75 | 1.45 | | | SANDSTONE | INCREASED AMOUNT OF CALCITE FILLED FRACTURING WITH POSS FAULT ZONE IN MIDDLE, FAULT ZONE CONTAINS RIP-UP CLASTS AND LARGE CRYSTALLINE QUARTZ AND CALCITE, POSS CORE LOSS, ARGILLAGEOUS PELLETS LOW UNIT |
| 70 | 288.75 | 288.99 | 0.24 | | | SANDSTONE | MG.GY FRACTURED WITH CALCITE INFILLINGS AND LENTIC SURFACES, OCCASIONAL SMALL CHERT CLASTS AND GRITS, OIL STAINING ALONG FRACTURES. |
| * 70 | 288.99 | 289.76 | 0.77 | | | SANDSTONE | GRADATIONAL BOUNDARY, CLEAN. |
| 66 | 289.76 | 290.34 | 0.58 | | | SANDSTONE | FG.DK.GY.VBRKN FG INTERBEDDED SLTST, CORE VBRKN AND FRACTURED AT BOTTOM, WITH EXTENSIVE CALCITE INFILLING, POSS FAULT ZONE AND CORE LOSS |
| 63 | 290.34 | 290.54 | 0.20 | | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: UDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 58 290.54 | 291.92 | 1.38 | | | SANDSTONE | ZONES OF COARSER SANDS, SOME PELLET SIZED CLASTS, EXTENSIVE XBDG WITH TOP UPRIGHT, OCCASIONAL CALCITE FILLED FRACTURES WITH OIL STAINING, COALY INCLUSIONS. |
| | 49 291.92 | 293.69 | 1.77 | | | SANDSTONE | ZONES OF INTENSIVE FRACTURING WITH CALCITE INFILLING, SOME BRECCIATION. |
| * | 40 293.69 | 294.69 | 1.00 | | | SANDSTONE | AS ABOVE. |
| | 41 294.69 | 294.85 | 0.16 | | | CORE LOSS | |
| * | 43 294.85 | 297.63 | 2.78 | | | SANDSTONE | BIOTR WRMBUR, ROUNDED CORE CHUNKS AT TOP, HIGHLY BIOTRB, ZONES OF INTENSIVE FRACTURING WITH RIP-UP CLASTS AND CALCITE INFILLING THROUGHOUT, SOME COARSE GRAINED QUARTZ CALCITE ALONG FRACTURES WITH OIL STAINS. |
| | 49 297.63 | 297.74 | 0.11 | | | SANDSTONE | BECOMING SLTY TOWARDS BOTTOM. |
| * | 55 297.74 | 300.23 | 2.49 | | | SILTSTONE | DK.GY.BIOTR FG WITH FINE TO MEDIUM GRAINED SS INTERBEDS AND ZONES; SOME COALY INCLUSIONS AND INFILLINGS; PELLET SIZED GRITS IN SS UNITS; ZONES OF INTENSE CALCITE FILLED FRACTURING AT BOTTOM; POSSIBLE FAULT; EREC. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH8003E

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 48 | 300.23 | 300.39 | 0.16 | | SILTSTONE | MORE SSSY WITH COALY INCLUSIONS. |
| | 47 | 300.39 | 300.56 | 0.17 | | SILTSTONE | WITH GRADATIONAL CONTACT. |
| * | 40 | 300.56 | 303.01 | 2.45 | | MUDSTONE | SLTY.DK.GY.BRKN WITH SLTST AND FG SS ZONES AND INTERBED S: OCCASIONAL CALCITE FILLED FRACTURES WITH LISTRIC SURFACES AND SOME RIP UP C LASTS; MAINLY BIOTRB WITH WRMBUR; SOME CARB AND COALY INCLUSIONS. |
| | 43 | 303.01 | 303.47 | 0.46 | | MUDSTONE | BIOTR MORE SLTY; WRMBUR. |
| | 45 | 303.47 | 305.66 | 2.19 | | MUDSTONE | BRKN WITH SS INTERBEDS; CARB PLANT DEBRIS IN MUDST UNITS; COALY AND CALCITE LAMINAE ALONG FRACTURES; LISTRIC FRACTURE SURFA CES; SS UNITS FRACTURE PARALLEL TO BEDD ING; SOME CALCITE INFILLING. |
| | 47 | 305.66 | 305.69 | 0.03 | | MUDSTONE | AS ABOVE. |
| | 48 | 305.69 | 306.15 | 0.46 | | SILTSTONE | DK.GY DKGY WITH FG SS INTERBEDS; OCCASIONALLY MUDDY; CARB PLANT FRAGMENTS; CALCITE F ILLED FRACTURES; UNIT MOSTLY BIOTRB; EX TENSIVE CALCITE FILLED FRACTURE ZONE WI TH RIP UP CLASTS AT BOTTOM. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH60038

| BCA | DEPTH FROM | DEPTH TO | INTVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|------------------|----------|------------|-----------|--|
| * 50 | 306.15 | 308.36 | 2.21 | | | SILTSTONE | BIOTR.BRKN AS ABOVE; WRMBUR. |
| * 50 | 308.36 | 309.26 | 0.90 | | | SILTSTONE | BIOTR AS ABOVE. |
| * 45 | 309.26 | 311.09 | 1.83 | | | SILTSTONE | BIOTR AS ABOVE; MORE MUDDY; WRMBUR; SOME COAL Y INCLUSIONS. |
| * 50 | 311.09 | 312.34 | 1.25 | | | SILTSTONE | WRMBU.BRKN TOP UPRIGHT; AS ABOVE |
| 52 | 312.34 | 313.75 | 1.41 | | | SILTSTONE | AS ABOVE, BECOMES MUDDY TO BOTTOM |
| 54 | 313.75 | 315.04 | 1.29 | | | SILTSTONE | AS ABOVE; CORE BADLY BRKN AT TOP; COALY AND CARB FRAG THROUGHOUT; SOME COALY I NCLUSIONS; INCREASING AMOUNTS OF CALCT- FILLED FRACTURES TO BOTTOM |
| * 55 | 315.04 | 315.65 | 0.61 | | | SILTSTONE | MORE MUDDY |
| 55 | 315.65 | 316.38 | 0.53 | | | SANDSTONE | FG.LT.GY.BIOTR FG TO VFG; WITH ARGILLACEOUS ZONES AND CLASTS |
| 55 | 316.38 | 316.76 | 0.38 | | | SANDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 49

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 55 | 316.76 | 316.11 | 1.35 | | | SILTSTONE | DK.GY.BIOTR OCCASIONAL MUDDY AND SSY INTERBEDS; SOME CALCT-FILLED FRACTURES WITH LISTRIC SURFACES; CARB PLANT FRAG AND COALY INCLUSIONS; SOME ZONES OF FINE CALCT AND COALY LAM |
| 48 | 316.11 | 319.08 | 0.97 | | | SILTSTONE | AS ABOVE |
| * 40 | 319.08 | 320.48 | 1.40 | | | SILTSTONE | VBRKN AS ABOVE ; BRKN ALONG COALY INFILLED FRACTURES AT BOTTOM |
| 40 | 320.48 | 320.72 | 0.24 | | | CORE LOSS | |
| * 40 | 320.72 | 321.87 | 1.15 | | | MUDSTONE | SLTY.DK.GY.BRKN DK GY TO BLK; SLTY AND FG SSY ZONES; COALY INCLUSIONS; SOME FRACTURES WITH COAL AND CALCT INFILLINGS; LISTRIC FRACTURE SURFACES |
| * 50 | 321.87 | 323.58 | 1.71 | | | MUDSTONE | BIOTR AS ABOVE; BADLY FRACTURED AND DISTURBED ; BAND OF STONEY COAL AT BOTTOM |
| 52 | 323.58 | 323.92 | 0.34 | | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 50

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 54 323.92 | 324.71 | 0.79 | | | MUDSTONE | AS ABOVE; COUPLE OF TUFF SS CHUNKS FOUND AT MARKER BLOCK; MUDST BECOMES SLTY TOWARDS BOTTOM ; CARB PLANT FRAG THROUGHOUT |
| | 56 324.71 | 326.33 | 1.62 | | | MUDSTONE | SLTY.DK.GY.BRKN CARB PLANT FRAG; BRIGHT COALY BANDS AND INCLUSIONS; FINE COALY STRINGERS THROUGHOUT; FRACTURES WITH SKS AND LISTRIC SURFACES; CORE PULVERIZED ALONG COALY IN FILLING |
| | 59 326.33 | 326.73 | 0.40 | | | CORE LOSS | |
| | 60 326.73 | 327.61 | 0.88 | | | MUDSTONE | BRKN AS ABOVE; OCCASIONAL ARGILLACEOUS CLASTS; ZONE OF CLACITE FILLED FRACTURES NEAR BASE WITH LISTRIC SURFACES; REGROUND IN PLACES |
| | 61 327.61 | 327.91 | 0.30 | | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XY DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|-------------------|----------------|----------|---------|-----------|--|
| * 64 | 327.91 | 330.03 | 2.12 | | | MUDSTONE | AS ABOVE; COALY INCLUSIONS; SOME FINE C ALCITE AND COALY STRINGERS ALONG BEDDING PLANES THROUGHOUT |
| 61 | 330.03 | 330.21 | 0.18 | | | MUDSTONE | AS ABOVE |
| 60 | 330.21 | 330.35 | 0.14 | | 2 | COAL | BRKN DULL LUSTREGUS ; OCCASIONAL BRIGHT BANDS ; SHEARED AND SKS |
| 60 | 330.35 | 330.52 | 0.17 | | | MUDSTONE | AS ABOVE |
| 59 | 330.52 | 330.94 | 0.42 | | | CORE LOSS | |
| * 55 | 330.94 | 333.23 | 2.29 | | | MUDSTONE | CARB. DK. GY. VBRKN DK GY TO BLK; OCCASIONAL SLTY INTERBEDS ; COALY INCLUSIONS; SOME FRACTURES WITH LISTRIC SURFACES; FRACTURES PARALLEL TO BEDDING; SULPHUR POWDER ALONG FRACTURES |
| 55 | 333.23 | 333.43 | 0.20 | | | CORE LOSS | |
| 55 | 333.43 | 335.03 | 2.40 | | | MUDSTONE | BRKN AS ABOVE ; CORE BADLY BRKN AT BOTTOM |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 52

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 55 | 335.83 | 336.50 | 0.67 | | | MUDSTONE | SSY AS ABOVE SSY AT BOTTOM |
| 54 | 336.50 | 337.95 | 1.45 | | | SANDSTONE | FG.LT.GY.BIOTR SOME ARGILLACEOUS CLASTS; WORM BURROWS; COALY INCLUSIONS AND FLECKS |
| * 53 | 337.95 | 338.47 | 0.52 | | | MUDSTONE | CARB.BLK COALY INCLUSIONS; CARBONACEOUS PLANT FR AG |
| * 55 | 338.47 | 341.27 | 2.80 | | | MUDSTONE | SLTY.DK.GY.SLD SOME SLTY INTERBEDS; COALY INCLUSIONS; FRACTURES WITH COAL AND CALCT LAM; OIL STAINING ON FRACTURE WITH SMOKEY QUARTZ CRYSTALS |
| 55 | 341.27 | 341.50 | 0.23 | | | MUDSTONE | AS ABOVE |
| 55 | 341.50 | 342.49 | 0.99 | | | MUDSTONE | BIOTR SINGLE FRACTURE WITH SMOKEY QUARTZ CRYSTALS, LISTRIC SURFACES; GRADING TO SS AT BOTTOM |
| * 55 | 342.49 | 344.02 | 1.53 | | | SANDSTONE | FG.M.GY.WRMBU SOME ARGILLACEOUS AND CARB INCLUSIONS; SOME FRACTURES WITH LISTRIC SURFACES; V ERY LITTLE CALCT VEINING |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 53

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 55 | 344.02 | 344.45 | 0.43 | | SANDSTONE | FG.M.GY.BIOTR SOME COALY INCLUSIONS |
| * | 55 | 344.45 | 346.65 | 2.20 | | SANDSTONE | BIOTR AS ABOVE; FRACTURES CONTAINING CALCIT AN D SMOKEY QUARTZ WITH OIL STAINS; LISTRI C FRACTURES SURFACES; WITH ARGILLACEOUS ZONES; OCCASIONAL COALY INCLUSIONS; BE COMING COARSER GRAINED AT BOTTOM |
| | 58 | 346.65 | 347.48 | 0.83 | 00000 | SANDSTONE | FG.BIOTR M GY SALT AND PEPPER TEXTURE; FG TO MG; OCCASIONAL ARGILLACEOUS ZONES |
| * | 60 | 347.48 | 349.27 | 1.79 | | SANDSTONE | AS ABOVE; WITH A FEW CALCITE FILLED FRA CTURES; WITH REGULAR BANDED ARGILLITE; SOME BIOTR; CLY INCLUSIONS AND WISPS; SAND BECOMING COARSER TO BOTTOM |
| * | 50 | 349.27 | 350.48 | 1.21 | | SANDSTONE | AS ABOVE; INCREASED AMOUNT OF CLY STRIN GERS AND INCLUSIONS; BEDDING DISTURBED ; LISTRIC SURFACES ALONG FRACTURES ; CO RE BADLY BRKN |
| * | 55 | 350.48 | 351.74 | 1.26 | | SANDSTONL | AS ABOVE; CARB MATERIAL ALONG BEDDING; SOME ARGILLACEOUS CLASTS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 54

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 55 | 351.74 | 352.28 | 0.54 | | SANDSTONE | MG AS ABOVE; SOME COALY PELLETS NEAR BOTTO M |
| * | 55 | 352.28 | 353.67 | 1.39 | | SILTSTONE | DK.GY.WRMBU COLOR:BRN; SEDSTR:BIOTRB; SHARP CONTACT ; SOME COALY INCLUSIONS AND OCCASIONAL FRACTURES WITH CALCT INFILLING; SMOKEY QUARTZ CRYSTALS AND OIL STAINING SOME S ULPHUR POWDER AND SKS |
| * | 55 | 353.67 | 354.51 | 0.84 | | SILTSTONE | AS ABOVE; FINE CALCT AND COALY LAM ZONE WITH SKS |
| | 58 | 354.51 | 356.73 | 2.22 | | SILTSTONE | DK.GY.WRMBU SED STRU:BIOTRB; SOME FG SSY INTERBEDS |
| | 61 | 356.73 | 357.21 | 0.48 | | SILTSTONE | AS ABOVE |
| | 62 | 357.21 | 357.40 | 0.19 | | SILTSTONE | AS ABOVE; BECOMES SSY AT BOTTOM |
| * | 65 | 357.40 | 359.75 | 2.35 | | SANDSTONE | FG.GY WITH SLTY INTERBEDS CARB PLANT FRAG ALD NG BEDDING PLANES; SOME FINE XBDG; ZONE S OF BIOTRB |
| | 64 | 359.75 | 359.97 | 0.22 | | SANDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 55

PROJECT: CLR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 63 | 359.97 | 362.58 | 2.61 | | | SANDSTONE | AS ABOVE; FRACTURES WITH LISTRIC SURFACES |
| 62 | 362.58 | 362.66 | 0.08 | | | SANDSTONE | AS ABOVE |
| 61 | 362.66 | 363.06 | 0.40 | | | SANDSTONE | AS ABOVE; BECOMES COARSER TO BOTTOM. |
| * 60 | 363.06 | 365.46 | 2.40 | | | SANDSTONE | CG.GY S & P; MG TO CG; FINE XBDG; ZONES OF GRITS AND CHERT CLASTS; SOME ARGILLACEOUS CLASTS; COALY WISPS AND INCLUSIONS THROUGHOUT LOWER PORTIONS; SOME CALCT INFILLING AND OIL STAINING |
| 58 | 365.46 | 365.73 | 0.27 | | | MUDSTONE | SLTY.DK.GY OCCASIONAL SLTY ; CARB PLANT FRAGMENTS ; COAL AND CALCT LAM AT TOP |
| 56 | 365.73 | 366.91 | 1.18 | | | MUDSTONE | BIOTR AS ABOVE; OCCASIONAL CALCITE FILLED FRACTURES WITH LISTRIC SURFACES ; PYRITE BLEBS ON FRACTURE FACE |
| 55 | 366.91 | 367.54 | 0.63 | | | SILTSTONE | GY CARB AND COALY BLEBS; CORE INTACT WITH OCCASIONAL REGROUND ENDS |
| 54 | 367.54 | 367.80 | 0.26 | | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|---------------|----------|---------|-----------|---|
| | 53 367.80 | 368.42 | 0.62 | | | SILTSTONE | AS ABOVE; BECOMES MUDDIER TO BOTTOM |
| | 51 368.42 | 369.97 | 1.55 | | | SILTSTONE | DK.GY.BIOTR WITH MUDDY INTERBEDS AND ZONES CARB PLANT FRAG; SOME FRACTURING WITH LISTRIC SURFACES; SOME COALY FLECKS AND INCLUSIONS, BECOMES INCREASINGLY MUDDY TO BOTTOM; CORE MAINLY INTACT |
| | 49 369.97 | 370.96 | 0.99 | | | MUDSTONE | DK.GY.BIOTR SLTY IN PARTS; CARB AND COALY INCLUSIONS AND FRAG THROUGHOUT; FINE COAL AND CALC LAM ALONG FRACTURES WITH LISTRIC SURFACES. ABUNT CARB PLANT DEBRIS; CORE BRKN WITH OCCASIONAL REGROUND ENDS |
| | 48 370.96 | 371.07 | 0.11 | | | CORE LOSS | |
| | 47 371.07 | 372.92 | 1.85 | | | MUDSTONE | BIOTR AS ABOVE; SEPTARIAN NODULE; CORE BRKN WITH OCCASIONAL REGROUND ENDS; |
| | 45 372.92 | 373.12 | 0.20 | | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BGA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|------------|--|
| 44 | 373.12 | 373.89 | 0.77 | | | MUDSTONE | AS ABOVE; INCREASED COAL FRACTURES NEAR BOTTOM; WITH LISTRIC SURFACES; OCCASIONAL RESIN BLEBS IN COAL |
| 43 | 373.89 | 374.23 | 0.34 | | | MUDSTONE | AS ABOVE; SOME HARD ZONES POSSIBLY IRON RICH |
| 43 | 374.23 | 374.34 | 0.11 | | | MUDST&COAL | CORE PULVERIZED AND POWDERED |
| 42 | 374.34 | 374.44 | 0.10 | | | CORE LOSS | |
| 42 | 374.44 | 374.66 | 0.22 | | | MUDSTONE | AS ABOVE |
| 40 | 374.66 | 376.52 | 1.86 | | | MUDSTONE | DK.GY COLOR:BRN;SLTY IN PARTS; COALY AND CARB PLANT FRAGCOALY INCLUSIONS AND COALY FLECKS THROUGHOUT; FINE COAL AND CALC LAM(FRACTURE FILLING);FRACTURES WITH LISTRIC SURFACES |
| 38 | 376.52 | 377.86 | 1.34 | | | MUDSTONE | DK.GY.BIOTR COLOR:BL;CARB PL FRAG; C INCLUS & C FLECKS THROUGHOUT; TUFF INTBS W SOME MUDST CLASTS; FRACS W LISTRIC SURF; @ 0.77, 1.07 FE-RICH EXTREMELY HD ZN W BRN CALC T ALONG LISTRIC FRAC SURF; SOME 1 CM WRMBUR. |

* DENOTES MEASURED BGA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 36 | 377.86 | 378.04 | 0.18 | | | CORE LOSS | |
| * 35 | 378.04 | 379.35 | 1.31 | | | MUDSTONE | AS ABOVE; AT 0.85 TUFF ZN W ROUNDED MUD CLASTS; LARGE BURROWS ABOVE MIGHT BE POSSIBLE PLANT ROOT SYSTEM |
| 37 | 379.35 | 380.66 | 1.51 | | | MUDSTONE | AS ABOVE; CORE MAINLY INTACT WITH OCCASIONAL REGROUND ENDS |
| 40 | 380.86 | 382.05 | 1.19 | | | MUDSTONE | BITTR AS ABOVE; COALY FLECKS THROUGHOUT WITH OCCASIONAL COALY INCLUSIONS; CORE IS BRKN |
| 41 | 382.05 | 382.14 | 0.09 | | | CORE LOSS | |
| 43 | 382.14 | 383.99 | 1.85 | | | MUDSTONE | AS ABOVE; CORE BRKN OCCASIONAL SLTY ZONES |
| 45 | 383.99 | 384.85 | 0.86 | | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 59

PROJECT: GLR BLOCK: XX DATA SOURCE: DDH6003B

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 47 | 384.85 | 386.54 | 1.69 | | | MUDSTONE | AS ABOVE; LARGE (APPROX 4 CM THICK) COAL BAND AT BUTTOM CORE IS BRKN WITH ROUND ED FRAG IN COAL SEAM |
| 49 | 386.54 | 386.70 | 0.16 | | | MUDSTONE | AS ABOVE; WITH LARGE SLTY INTERBEDS |
| 49 | 386.70 | 387.29 | 0.59 | | | MUDSTONE | AS ABOVE; SLTY AT TOP; CORE IS BRKN AND PULVERIZED IN ZONES; FRAC WITH LISTRIC SURFACES AND SOME CALCT INFILLING |
| 50 | 387.29 | 387.60 | 0.31 | | | CORE LOSS | |
| 53 | 387.60 | 389.92 | 2.32 | | | MUDSTONE | BIOTR AS ABOVE; OCCASIONALLY SLTY INTERBEDS S OME FE RICH ZNS; C-FILLED FRAC W LISTRIC SURF; BECOMING SLTY TO BUTTOM ; CORE BRKN AND REGROUND |
| 55 | 389.92 | 390.04 | 0.12 | | | CORE LOSS | |
| 55 | 390.04 | 390.28 | 0.24 | | | SILTSTONE | GY. BIOTR WITH INTERBEDDED MUD AND FG SS |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 60

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 57 | 390.28 | 392.38 | 2.10 | | | SILTSTONE | AS ABV; OCCASIONAL COALY INCLUS; FINE X BDG IN SSY INTBS; OCCASIONAL FRAC W COA LY AND CALCT INFILLING LISTRIC FRAC SUR F; GRADING TO MUDST AT BOTTOM; SOME FINE CALCT FILLED FRAC PERPENDICULAR TO BED DING |
| 52 | 392.38 | 392.66 | 0.28 | | | MUDSTONE | DK.GY SLTY IN PARTS |
| 51 | 392.60 | 393.08 | 0.42 | | | MUDSTONE | BIOTR AS ABOVE; CARB AND COALY MATERIAL ALONG FINE FRAC; CALCT FILLED IN PART |
| * 45 | 393.08 | 395.42 | 2.34 | | | MUDSTONE | BIOTR AS ABOVE; CROSS-LAM SLTST; OCCASIONAL F INE CALCT AND COALY FRAC FILLED LAM ; S OME COALY INCLUSIONS; LISTRIC FRAC SURF ACES |
| 52 | 395.42 | 395.61 | 0.19 | | | CORE LOSS | |
| 53 | 395.61 | 395.79 | 0.18 | | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 61

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 54 | 395.79 | 396.02 | 0.25 | | | SILTSTONE | DK.GY SOME FN GR SS INTBDS (CROSS LAM) SOME C GALY INCLUSIONS CORE INTACT |
| 50 | 396.02 | 397.24 | 1.22 | | | SILTSTONE | AS ABOVE; SOME FN-CALCT FILLED FRAC; OI L STAINING; LISTRIC FRAC SURF ; SOME QU ARTZ CRYSTALS; SOME SMOKEY QUARTZ |
| * 44 | 397.24 | 398.62 | 1.38 | | | MUDSTONE | DK.GY CARB AND COALY FRAG; OCCASIONAL PYRITE BLEBS; OCCASIONAL BRN FE-STONE NODULE; SOME ARGILLACEOUS CLASTS |
| 45 | 398.62 | 398.83 | 0.21 | | | MUDSTONE | AS ABOVE |
| 46 | 398.83 | 399.95 | 1.12 | | | MUDSTONE | AS ABOVE; BECOMING HIGHLY SHRD AND BRKN AND PULVERIZED AT BOTTOM POSSIBLE FAUL T ZONE; LISTRIC SURF ALONG FRAC SOME PU LVERZIED CALCT ALONG FRAC |
| 46 | 399.95 | 400.14 | 0.19 | | | CORE LUSS | |
| * 47 | 400.14 | 401.21 | 1.07 | | | MUDSTONE | AS ABOVE; COALY INCLUSIONS; ABUNT COALY AND CARB PLANT FRAG; FE-STAINING ALONG FRAC ; OCCASIONAL COALY INCLUSIONS |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 62

PROJECT: GUK BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH INTERVAL | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------------|----------------|----------|---------|-----------|--|
| 47 | 401.21 | 401.49 | 0.28 | | | MUDSTONE | SLTY AS ABOVE; SLTY IN PARTS |
| 48 | 401.49 | 403.77 | 2.28 | | | MUDSTONE | AS ABOVE |
| 48 | 403.77 | 404.55 | 0.78 | | | MUDSTONE | AS ABOVE; SLTY IN PARTS; SOME COALY INCLUSIONS AND PLANT FRAG |
| 48 | 404.55 | 406.39 | 1.84 | | | MUDSTONE | DK.GY COLOR:BRN; CARB PLANT FRAG; COALY INCLUSIONS AND FLECKS THROUGHOUT CORE PARTLY BRKN WITH SOME REGROUND ENDS |
| 49 | 406.39 | 406.55 | 0.16 | | | CORE LOSS | |
| 49 | 406.55 | 407.65 | 1.10 | | | MUDSTONE | AS MUDST ABOVE |
| 49 | 407.65 | 407.75 | 0.10 | | | CORE LOSS | |
| 49 | 407.75 | 409.02 | 1.27 | | | MUDSTONE | AS ABOVE; CORE BADLY BRKN PULVERIZED WITH ZONE OF ROUNDED FRAG AND REGROUND ENDS |
| 50 | 409.02 | 409.17 | 0.15 | | | CORE LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 63

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 50 | 409.17 | 411.70 | 2.53 | | | MUDSTONE | AS ABV; C INCLUS; THK C BANDS THROUGHOUT; ABDNT CARB PL MATERIAL; FN LAM CALCT AND C FRAC ZN; FE-STONE ZN 0.10-0.38; CORE BRKN W SOME REGROUND ENDS AND ZNS OF PULVERIZED BRKN ROCK |
| 52 | 411.70 | 411.87 | 0.17 | | | CORE LOSS | |
| 54 | 411.87 | 414.43 | 2.56 | | | MUDSTONE | BIOTR AS ABV; SLTY ZNS AND INTBDS; FRAC W LIS TRIC SURF; BECOMING SILTIER TO BOTTOM |
| 57 | 414.43 | 414.85 | 0.42 | | | MUDSTONE | SLTY.DK.GY COLOR:BRN; SLTY ZNS; COALY INCLUS; CARB MATERIAL |
| 57 | 414.85 | 414.97 | 0.12 | | | MUDSTONE | AS ABOVE; GRADING TO SLTST |
| * 58 | 414.97 | 415.71 | 0.74 | | | SILTSTONE | GY CALC; FN CALCT FILLED FRAC WITH SMOKEY QUARTZ CRYSTALS; COLOR: BRN |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 64

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 56 | 415.71 | 416.12 | 0.41 | | SILTSTONE | AS ABV; W MUDDY INTBDS THROUGHOUT; FRAC W FINE CALCT AND COAL LAM; LISTRIC SUR F; CARB PLANT MATERIAL COALY FLECKS;NON -CALC |
| * | 53 | 416.12 | 416.90 | 0.78 | | SILTSTONE | AS ABOVE; TOP UPRIGHT; IRREGULARLY BAND ED WITH MUDDY ZONES |
| | 52 | 416.90 | 417.18 | 0.28 | | MUDSTONE | DK.GY COLOR:BRN CARB PLANT MATERIALS AND COAL Y INCLUSIONS; FINE CALCITE FILLED FRAC; NON-CALC |
| | 52 | 417.18 | 417.93 | 0.75 | | MUDSTONE | AS ABOVE; SLTY ZONES WITH LISTRIC SURFA CES |
| | 51 | 417.93 | 418.10 | 0.17 | | CORE LOSS | |
| * | 50 | 418.10 | 419.83 | 1.73 | | MUDSTONE | DK.GY.BIOTR AS ABV; DK GY W IRREGULAR BEDDED SLTY Z NS THROUGHOUT; CARB PLANT FRAG AND COAL Y ZNS ALONG FRAC |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 65

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| * | 419.83 | 420.82 | 0.99 | | | SILTSTONE | GY.BIOTR MUDDY AT TOP W IRREGULAR BEDDED MUDST T HROUGHOUT COALY INCLUS AND FRAC INFILLI NGS FN CALCT INFILLED FRAC W LISTRIC SU RF; X-BEDDING IN SLTST; SHOW TOP TO BE UPRIGHT; MUDDY TO BOTTOM;SMOKEY QTZ ALO NG FR |
| 59 | 420.82 | 420.97 | 0.15 | | | MUDSTONE | DK.GY.BIOTR COLGR:BL; SLTY ZNS & INTBUS; CARB PLANT FRAG; COALY INCLUS THROUGHOUT; FRAC W CALCT & COALY INFILLING ; LISTRIC SURF |
| 60 | 420.97 | 422.57 | 1.60 | | | MUDSTONE | AS ABOVE; SLTY ZNS AT BOTTOM |
| 61 | 422.57 | 423.99 | 1.42 | | | MUDSTONE | AS ABOVE |
| 61 | 423.99 | 424.18 | 0.19 | | | CORE LOSS | |
| 62 | 424.18 | 425.53 | 1.35 | | | MUDSTONE | AS ABOVE |
| 62 | 425.53 | 425.77 | 0.24 | | | MUDSTONE | AS ABOVE |
| 62 | 425.77 | 425.86 | 0.09 | | | COAL | STONEY; DULL LUSTROUS AND BRIGHT FINE S TRINGERS THROUGHOUT. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 66

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| 62 | 425.86 | 426.72 | 0.86 | | | MUDSTONE | AS ABV; SOME LARGE COALY INCLUSIONS THRU OUT CORE BADLY BRKN AND PULVERIZED AND BECOMING SLTY AT BOTTOM; LISTRIC SU RFACES SLONG FRACTURES; COAL HIGHLY SHR D AND BRKN |
| 63 | 426.72 | 426.92 | 0.20 | | | CORE LOSS | |
| 63 | 426.92 | 427.67 | 0.75 | | | MUDSTONE | AS MUDST ABOVE; CORE IS VBRKN AND POWDE RED; SOME SLTY ZONES ; LISTRIC FRACTURE SURFACES |
| 63 | 427.67 | 427.86 | 0.19 | 00682 | | COAL LOSS | |
| 63 | 427.86 | 428.16 | 0.30 | 00682 | | COAL | DULL LUSTROUS; BRIGHT BANDS; HIGHLY SHR D BRKN CORE PULVERIZED PWRD |
| 64 | 428.16 | 428.26 | 0.10 | 00682 | | COAL | AS ABOVE |
| 64 | 428.26 | 428.54 | 0.28 | 00682 | | COAL LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 67

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BLA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 64 | 428.54 | 429.95 | 1.41 | | | MUDST | DK.GY COLOR:BRN; IRREGULAR BANDED SLTST INTBD S CARB PLANT FRAG; COALY INCLUS THROUGH OUT; PYRITE ALONG FRAC SURF; CORE MAINL Y INTACT |
| 65 | 429.95 | 430.11 | 0.16 | | | CORE LOSS | |
| 65 | 430.11 | 430.57 | 0.46 | | | MUDSTONE | AS ABOVE; CORE BRKN LISTRIC SURFACE ALD NG FRACTURES |
| 65 | 430.57 | 430.85 | 0.28 | 00681 | | COAL LOSS | |
| 65 | 430.85 | 431.05 | 0.20 | 00681 | | COAL | DULL LUSTROUS; BRIGHT BANDS; EXTREMELY SHRD AND PWRD; SKS; POSSIBLE CORE LOSS |
| 65 | 431.05 | 431.68 | 0.63 | 00681 | | COAL LOSS | |
| 66 | 431.68 | 432.01 | 0.33 | | | MUDSTONE | SLTY CARB PLANT FRAG & COALY MATERIAL THROUG HOUT; ZNS OF FN COALY & CALCT LAM THROU GHOUT; LISTRIC SURF; PWRD CALCT ALONG F RACTURES; BECOMING SILTIER AT BOTTOM |

* DENOTES MEASURED BCA

X4XXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 68

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 66 | 432.01 | 432.07 | 0.06 | | | CORE LOSS | |
| 66 | 432.07 | 433.23 | 1.16 | | | MUDSTONE | AS ABOVE; SLTY AT TOP ; FINE DISSEMINATED PYRITE FLECKS THROUGHOUT |
| 67 | 433.23 | 433.74 | 0.51 | 00680 | | COAL | DULL LUSTROUS; BRIGHT BAND; EXTREMELY SHRD, PULVERIZED AND PWRD; SKS |
| * 67 | 433.74 | 434.54 | 0.80 | | | MUDSTONE | AS MUDST ABV; EXTREMELY CONTORTED & SHRD W CALCT-FILLED FRAC & SKS SURF; POSSIBLE FAULT ZONE AT 0.30 WHERE SHRING IS AT ITS WORSE; SOME SLTY INTBDS AT BUTTOM. |
| 64 | 434.54 | 437.13 | 2.59 | | | ROCK LOSS | |
| 61 | 437.13 | 437.29 | 0.16 | 00679 | | COAL LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 69

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 61 | 437.29 | 437.38 | 0.09 | 00679 | | COAL | C-3.BRKN CONTORTED AND SHRD; SOME SKS |
| 61 | 437.38 | 437.50 | 0.12 | 00679 | | COAL | BRKN DULL LUSTROUS ; SHRD W SKS |
| 61 | 437.50 | 437.56 | 0.06 | 00679 | | COAL | DULL LUSTROUS; OCCASIONAL BRIGHT BANDS; CORE PULVERIZED AND POWDERED |
| 60 | 437.56 | 437.71 | 0.15 | 00679 | | COAL LOSS | |
| 60 | 437.71 | 437.99 | 0.28 | | | MUDSTONE | AS MUDST ABOVE |
| | 437.99 | 439.92 | 1.93 | | | MUDSTONE | GY.BIOTR AS ABV; W M GY INTBD SLTST THROUGHOUT; IRREGULAR &CONTORTED BANDING; CARB PLAN T FRAG & COALY INCLUS; ABDNT PYR FLECKS & BLEBS THROUGHOUT W CALCT ALONG FRACT SURF W LISTRIC SURF CALCT & SMOKEY QUA RTZ C |
| 53 | 439.92 | 442.59 | 2.67 | | | MUDSTONE | DK.GY CARB PLANT FRAG & COALY INCLUS THROUGH UT; SLTY INPART; PYR FLECKS & BLEBS AL NG FRACT SURF; LISTRIC FRACT SURF; FN DIS M PYR THROUGHOUT; FN CALCT FILLED FRACT ZNS W SM SMOKEY QTZ CRYSTALS |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 70

PROJECT: GLR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH ELEM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 50 | 442.59 | 442.97 | 0.38 | | MUDSTONE | AS ABOVE |
| * | 48 | 442.97 | 445.15 | 2.18 | | MUDSTONE | AS ABV; LESS CARB & LESS FRAC AT BOTTOM ; NON-SLTY AT BOTTOM |
| * | 48 | 445.15 | 445.93 | 0.78 | | MUDSTONE | DK.GY.BIOTR COALY INCLUS & SOME FN CALCT FILLED STR ESS CRACKS; ZNS OF FN COALY & CALCT LAM ; LT GY BANDS; TOP UPRIGHT; FN DISM PYR FLECKS THROUGHOUT; ZNS OF CARB PLANT F RAG |
| | 48 | 445.93 | 447.89 | 1.96 | | MUDSTONE | AS ABOVE; LISTRIC FRAC SURF |
| | 48 | 447.89 | 448.86 | 0.97 | | MUDSTONE | VBRKN AS ABV; HIGHLY FRAC W C & CALCT LAM ALD NG FRAC; LISTRIC FRAC SURF; W PULVERIZE D ZNS ; POSSIBLE FAULTZONE |
| | 48 | 448.86 | 450.40 | 1.54 | | MUDSTONE | AS ABOVE; BADLY FRAC ONLY AT TOP |
| | 48 | 450.40 | 451.88 | 1.48 | | MUDSTONE | AS ABOVE |
| | 48 | 451.88 | 453.26 | 1.38 | | MUDSTONE | BRKN AS ABV; SLTY AT TOP |
| | 48 | 453.26 | 454.78 | 1.52 | | MUDSTONE | BRKN AS ABV; INCREASING AMOUNTS OF COALY MAT ERIAL AND INCLUSIONS. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 71

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 48 | 454.78 | 455.86 | 1.08 | | | MUDSTONE | VBRKN AS ABV; INTRBD W C INCLUS; W REGROUND F RAC SURF AND SKS |
| 48 | 455.86 | 457.17 | 1.31 | | | MUDSTONE | AS ABV; CORE BRKN ALONG C INCLUS; PYR A LONG FRAC SURF; SKS AND LISTRIC SURF |
| 48 | 457.17 | 458.39 | 1.22 | | | MUDSTONE | AS ABOVE |
| 48 | 458.39 | 460.04 | 1.65 | | | SILTSTONE | BWN NON-CALC; SOME PLANT FRAG AND C INCLUS THROUGHOUT CALC PWRD ALONG SOME FRAC ; MOTTLED; LISTRIC FRAC SURF |
| 48 | 460.04 | 461.21 | 1.17 | | | SILTSTONE | AS ABV; EXTREMELY HARD; FINE-GRAINED SS INTERBEDDED NEAR BOTTOM |
| 48 | 461.21 | 462.66 | 1.45 | | | SILTSTONE | BIOTR AS ABOVE; W GRAD BOUNDARY AT BOTTOM; VF N PYR FLECKS THROUGHOUT; FRAC WITH C & CALCT INFILLING & LISTRIC SURF |
| 48 | 462.66 | 463.18 | 0.52 | | | SANDSTONE | GY.BIOTR MOTTLED; VFG PYR THROUGHOUT; FN CALC IN FILLED STRESS CRACKS; FN LAM C & CALCT ALONG FRAC SURF; FRAC HAVE LISTRIC SURF |
| 48 | 463.18 | 464.03 | 0.85 | | | SANDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 72

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80038

| BCA | DEPTH FROM | DEPTH TO | INTRVAL | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|---------|----------|---------|-----------|-------------|
| 48 | 464.03 | 466.21 | 2.18 | | | SANDSTONE | CALC |

DDH 80-39

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH80039

HISTORY

START DATE: 13/11/80 END DATE: 20/11/80 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: G. SEVE SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1345.10
 UTM ZONE: 10 NORTH: 6142463.15 EAST: 547816.38
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: . EAST: . LSD: SEC: TWP: RGE: MER:
 NTS-BC NORTH: . EAST: . QUAD: UNIT: BLK: ST: MUS: MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 477.30 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: . SIZE HEIGHT: .
 ROOF STRIKE: DIP: FLOOR STRIKE: DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 3.67 CEMENTED: PLUGGED: PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: LOST CIRCULATION DEPTHS:

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|------------|---------------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : _____ | -- | -- | X | -- | 125A |
| NEUTRON | X | 1:100 | : _____ | -- | -- | X | -- | 125A |
| DENSITY | X | 1:100 | 1:40 _____ | -- | -- | X | -- | 457AS |
| CALIPER | X | 1:100 | : _____ | -- | -- | X | -- | 785 |
| FE-SHORT | X | : | 1:40 _____ | -- | -- | X | -- | 7 |
| FE-LONG | X | 1:100 | 1:40 _____ | -- | -- | X | -- | 7 |
| DIRECTIONAL | X | : | : _____ | -- | -- | X | -- | _____ |
| DIPMETER | -- | : _____ | : _____ | -- | -- | -- | -- | _____ |

*** COAL DIVISION ***

DATA SOURCE: D80-39

INTERVAL OF INTERPOLATION 10 UNIT(S)

VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 0.00 | 2.70 | 40.50 |
| 105.00 | 2.70 | 40.50 |
| 120.00 | 2.70 | 29.90 |
| 135.00 | 3.30 | 20.30 |
| 150.00 | 3.55 | 18.20 |
| 165.00 | 4.80 | 16.60 |
| 165.00 | 4.80 | 16.60 |
| 180.00 | 4.80 | 28.50 |
| 195.00 | 4.70 | 38.70 |
| 210.00 | 5.00 | 31.90 |
| 225.00 | 5.14 | 14.10 |
| 240.00 | 5.35 | 26.60 |
| 255.00 | 5.80 | 27.00 |

*** COAL DIVISION ***

DATA SOURCE: D80-39

INTERVAL OF INTERPOLATION 10 UNIT(S)

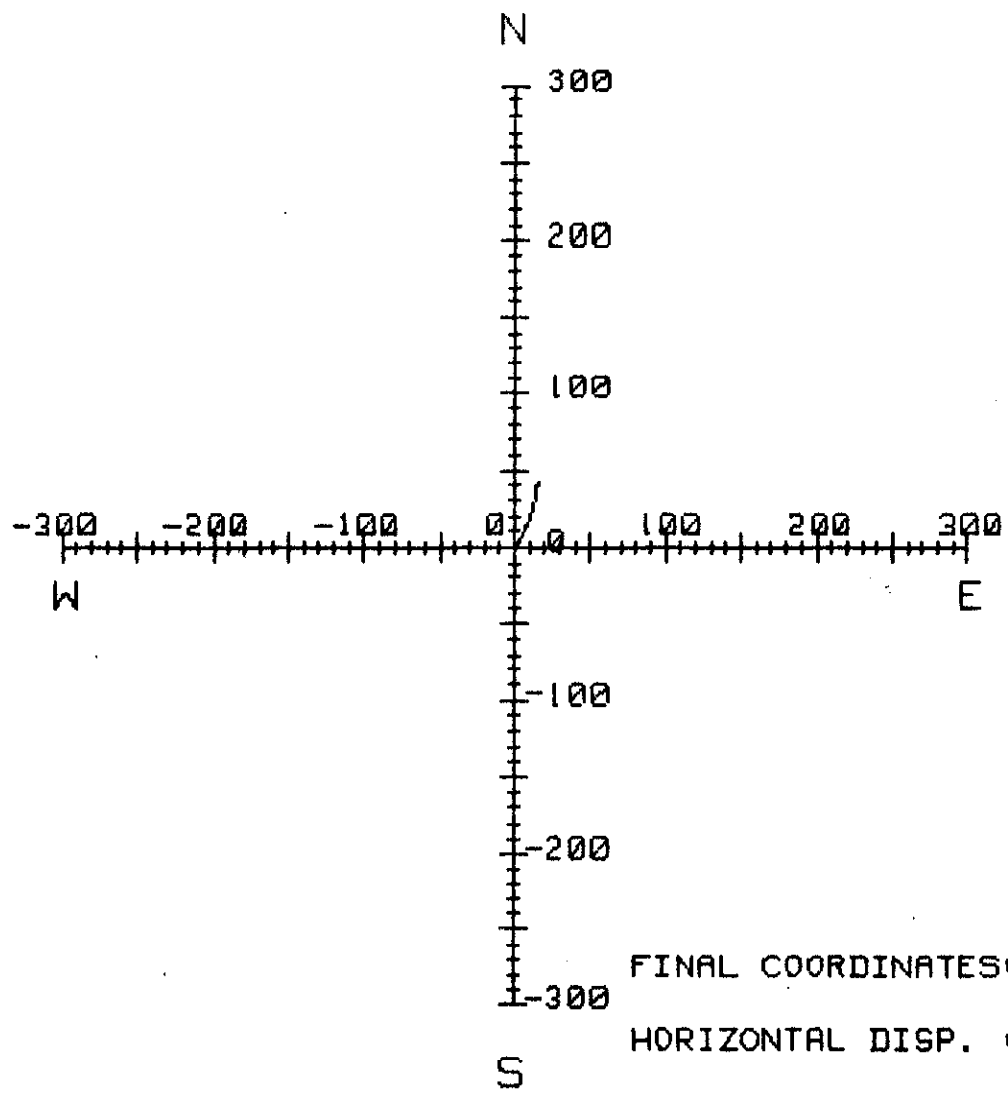
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 270.00 | 5.70 | 27.60 |
| 285.00 | 6.70 | 29.50 |
| 300.00 | 7.02 | 23.60 |
| 315.00 | 7.40 | 23.70 |
| 330.00 | 7.60 | 353.50 |
| 330.00 | 7.60 | 14.10 |
| 345.00 | 7.80 | 15.00 |
| 360.00 | 7.80 | 13.00 |
| 375.00 | 7.90 | 14.90 |
| 390.00 | 8.00 | 11.80 |
| 405.00 | 7.80 | 9.10 |
| 420.00 | 8.10 | 8.00 |
| 435.00 | 8.75 | 8.30 |
| 450.00 | 9.10 | 8.50 |
| 465.00 | 9.60 | 8.30 |
| 475.00 | 9.58 | 10.70 |

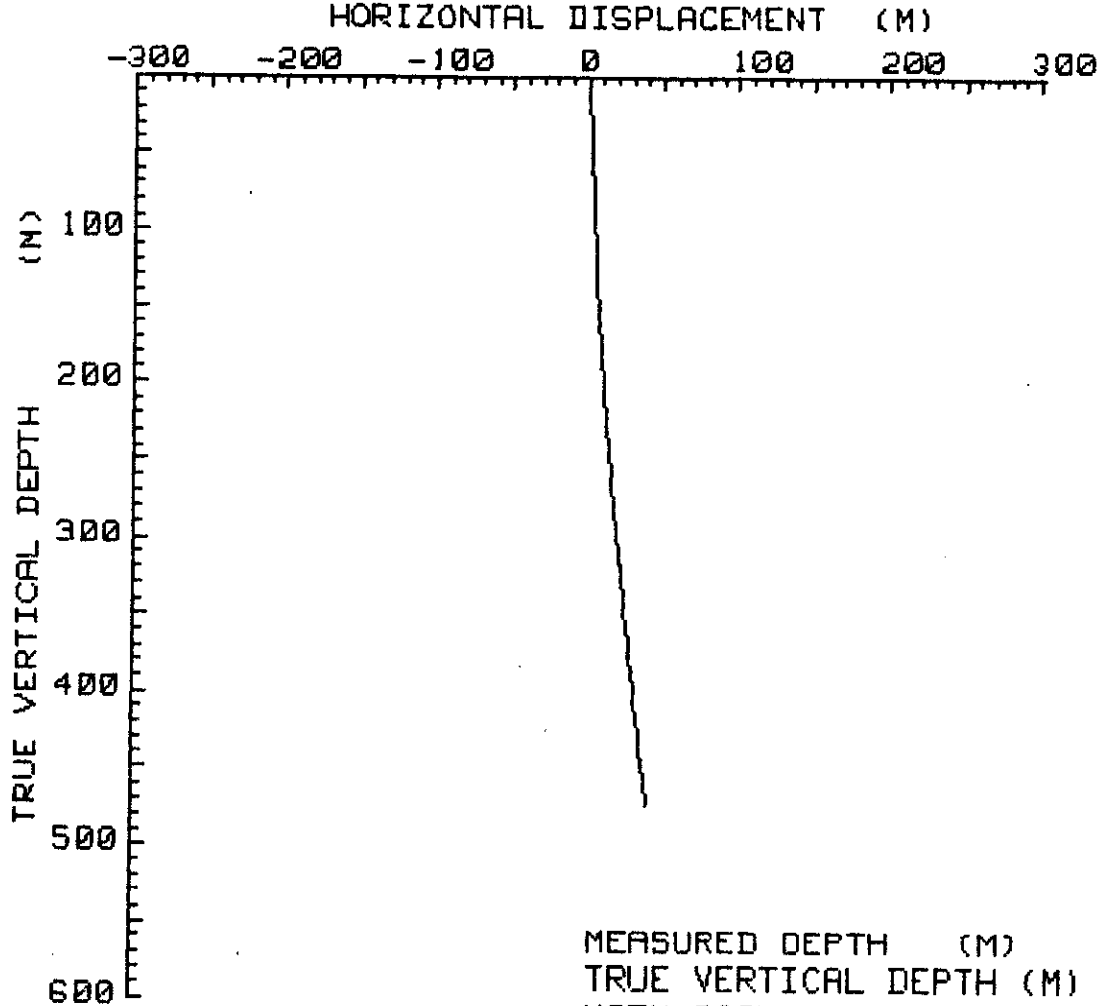
PLAN VIEW

WELL ID NUMBER
D80-39



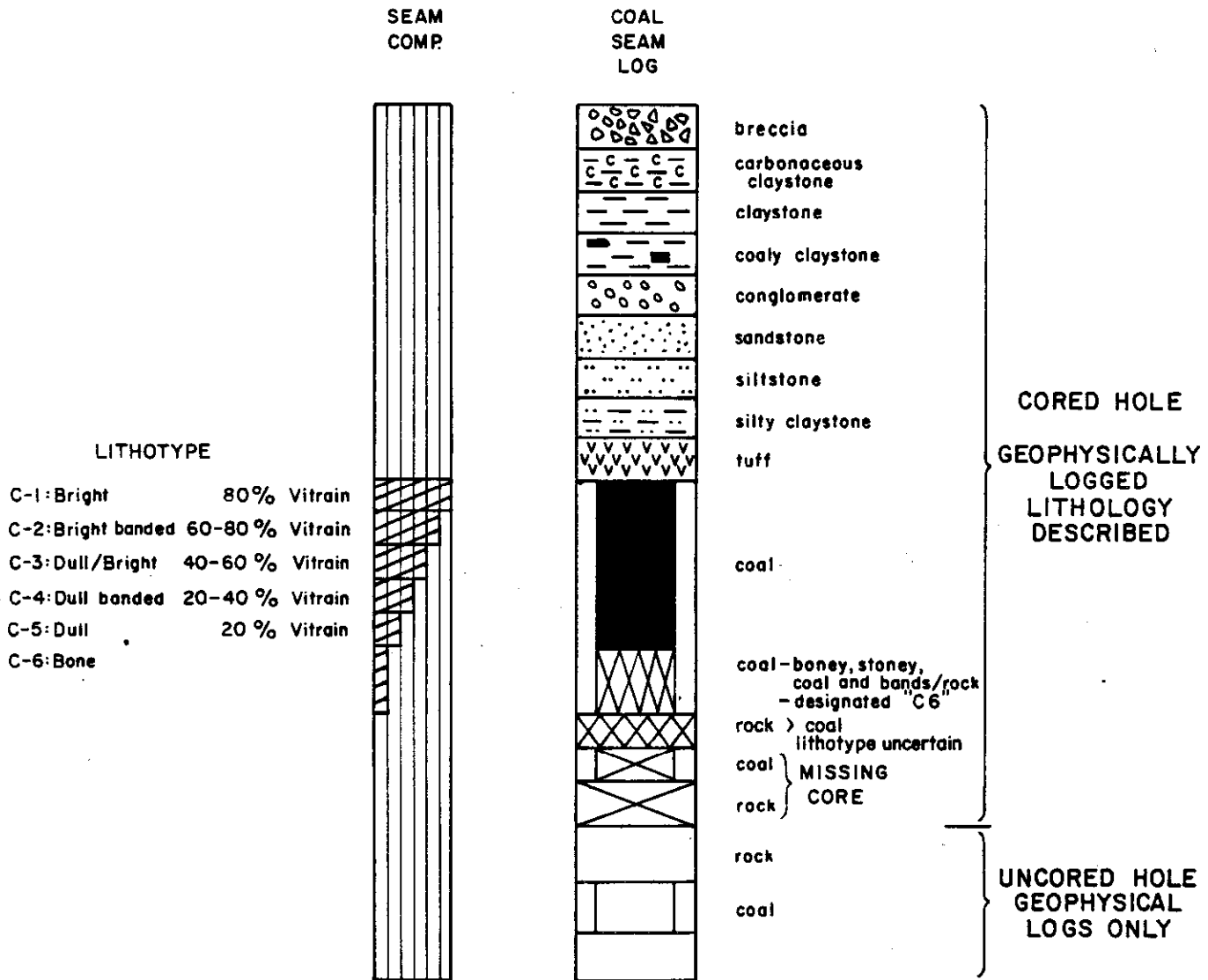
FINAL COORDINATES (M) N 42.43
E 15.33
HORIZONTAL DISP. (M) 48.84

DISPLACEMENT



WELL ID NUMBER
D80-39

| | |
|-------------------------|--------|
| MEASURED DEPTH (M) | 475.00 |
| TRUE VERTICAL DEPTH (M) | 472.39 |
| VIEW POINT DISP. (M) | 40.04 |
| SECTION LINE BEARING | 45.00 |



| | | |
|---|---------------|-------------|
| GULF CANADA RESOURCES INC. | | |
| Coal Division | | |
| CALGARY | ALBERTA | |
| LEGEND FOR COAL SEAM DATA SHEETS | | |
| PREPARED BY: V.O. | SCALE 1:40 | |
| APPROVED BY: | DATE: JAN. 82 | DRAWING No. |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

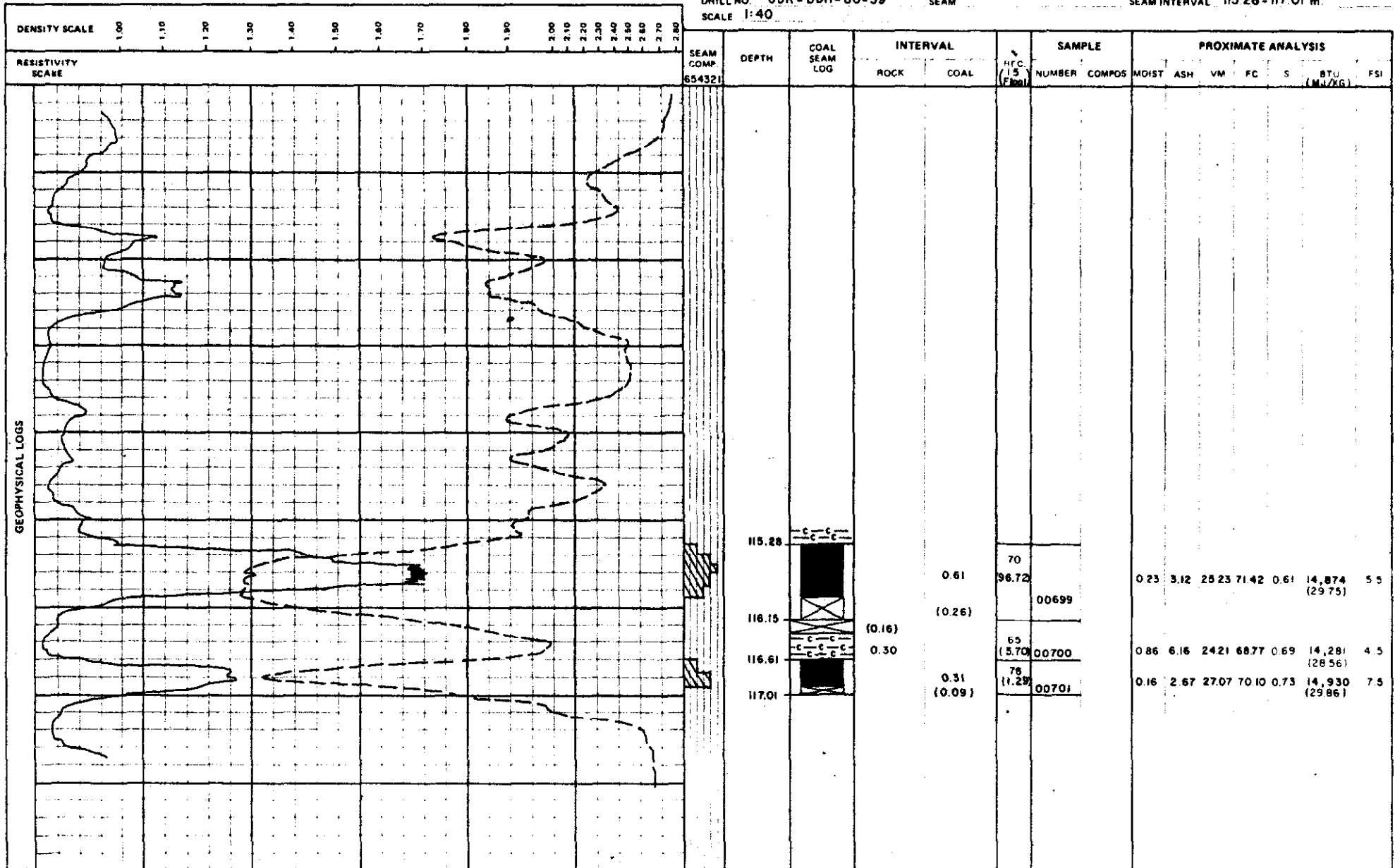
P-267 (12-80)
Coal / Coal + Rock (True Thk (m))
0.94/1.28
SEAM INTERVAL 115.28 - 117.01 m.

DENSITY

RESISTIVITY

DRILL NO. GDR-DDH-80-39 SEAM
SCALE 1:40

SEAM INTERVAL 115.28 - 117.01 m.



GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12/80)
Coal / Coal + Rock (True Thk) in
1.43/1.89

DENSITY

RESISTIVITY

DRILL NO. GDR-DDH-80-39 SEAM
SCALE 1:40

SEAM INTERVAL 180.79 - 183.39 m

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. (15 F) (100) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | | | |
|---------------|-------------------|------|------|------|------|------|------|------|------|------|-------------------|--------|---------------|----------|-----------|---------------------|--------|------|--------------------|-------|-------|-------|----------------|----------------|------|--------|--------|-------|-----|----|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | | | | 2.00 | 2.10 | | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | NUMBER | COMPOS | MOIST | ASH | VM |
| | | | | | | | | | | | | 180.79 | | (0.10) | | 76 (8997) | | | 0.78 | 4.93 | 20.42 | 73.87 | 0.61 | 14,505 (29.01) | 1.0 | | | | | |
| | | | | | | | | | | | 181.20 | | (0.18) | 0.31 | 72 (4.20) | 00702 | | 0.47 | 5.45 | 22.03 | 72.05 | 0.58 | 14,425 (28.85) | 3.5 | | | | | | |
| | | | | | | | | | | | 181.83 | | 0.45 | | 61 (9670) | 00703 | | 0.65 | 3.44 | 19.60 | 76.31 | 0.44 | 14,772 (29.54) | 1.0 | | | | | | |
| | | | | | | | | | | | 183.39 | | (0.61) | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-207 (12-00)

DENSITY

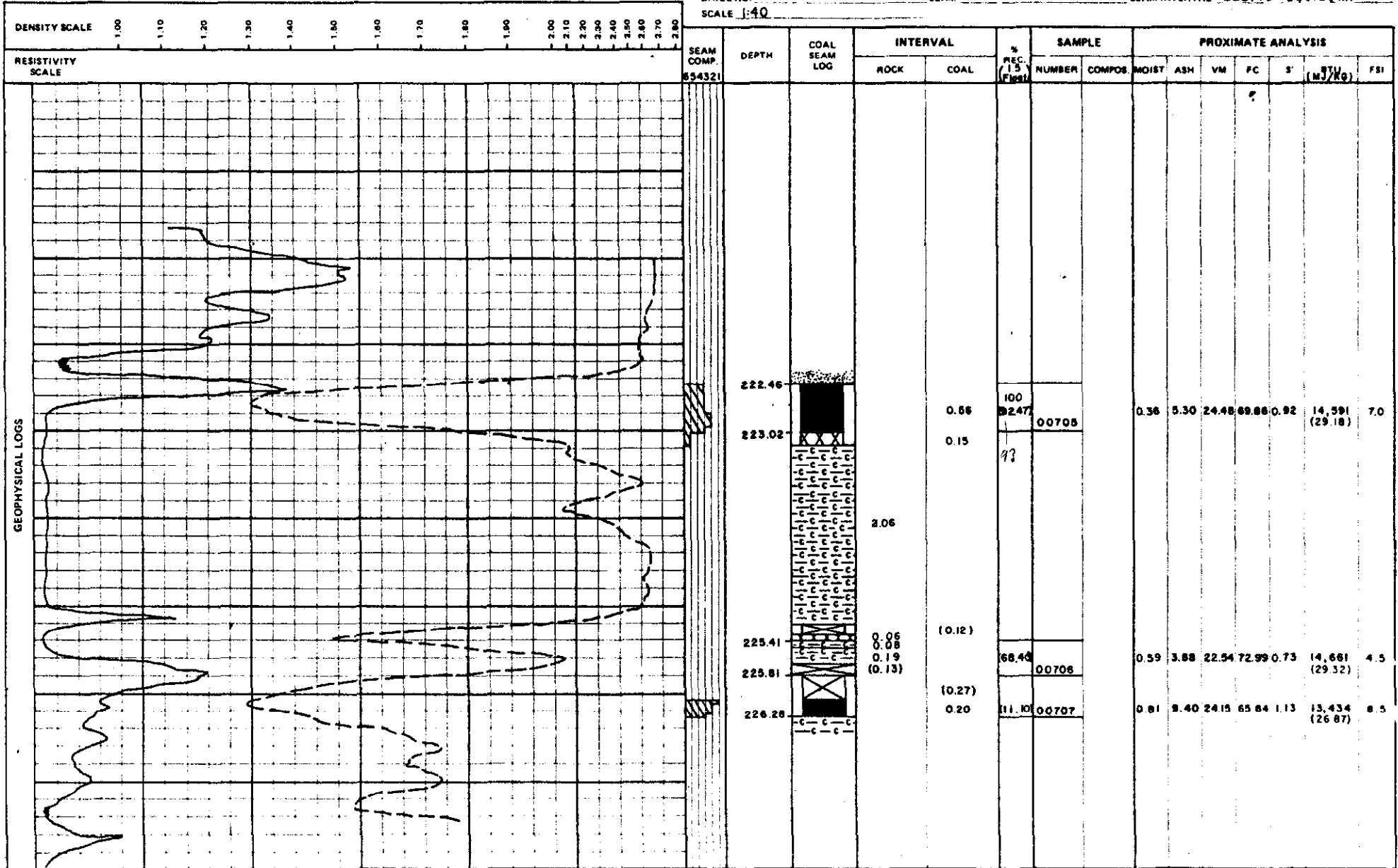
RESISTIVITY

DRILL NO. GDR-DDH-80-39

SEAM

SEAM INTERVAL 222.46 - 226.28 m.

SCALE 1:40



COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P. 257 (12/80)
Coal / Coal + Rock (True Thk(m))
0.57/0.57
SEAM INTERVAL 367.02 - 367.72 m.

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-80-39 SEAM
SCALE 1:40

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | | SEAM COMP | DEPTH | COAL SEAM LOG | INTERVAL | | % REC (15 FRG) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|-------------------|------|------|------|------|------|------|------|------|------|------|-----------|--------|---------------|----------|------|----------------|--------|-------|--------------------|------|------|------|------|------|--------|--------|-------|--------|--------|-----|---|------------|-----|--|--|--|--|--|--|--|--|--|--|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | 2.00 | | | | 2.10 | 2.20 | | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | NUMBER | COMPOS | MOIST | ASH | VM | FC | S | BTU (M)/KG | FSI | | | | | | | | | | |
| | | | | | | | | | | | | | 554321 | 367.02 | | 0.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 367.72 | | | (0.55) | 2841 | 00708 | | | | | 0.80 | 8.20 | 20.62 | 70.38 | 0.60 | 14,160 | (2832) | 3.0 | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

SIMPLE SAMPLE SUMMARY

PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECK | MISSING COAL | RECK |
|----------------|------|--------------|---------------|-------------|-------------|----------------|-------------------|------|-----------------|------|
| ULH80039 | | 698 | 28.29 | 29.43 | 0.58 | 50.88 | 0.58 | 0.00 | 0.58 | 0.00 |
| | | 699 | 115.28 | 116.15 | 0.61 | 70.11 | 0.61 | 0.00 | 0.26 | 0.00 |
| | | 700 | 116.15 | 116.61 | 0.50 | 65.22 | 0.00 | 0.30 | 0.00 | 0.16 |
| | | 701 | 116.61 | 117.01 | 0.31 | 77.50 | 0.31 | 0.00 | 0.09 | 0.00 |
| | | 702 | 160.79 | 161.20 | 0.31 | 75.61 | 0.31 | 0.00 | 0.10 | 0.00 |
| | | 703 | 161.20 | 161.83 | 0.45 | 71.43 | 0.00 | 0.45 | 0.00 | 0.16 |
| | | 704 | 161.83 | 163.39 | 0.95 | 60.90 | 0.95 | 0.00 | 0.61 | 0.00 |
| | | 705 | 222.46 | 223.02 | 0.56 | 100.00 | 0.56 | 0.00 | 0.00 | 0.00 |
| | | 706 | 225.41 | 225.81 | 0.27 | 67.50 | 0.00 | 0.27 | 0.00 | 0.13 |
| | | 707 | 225.81 | 226.28 | 0.20 | 42.55 | 0.20 | 0.00 | 0.27 | 0.00 |
| | | 708 | 367.02 | 367.72 | 0.15 | 21.43 | 0.15 | 0.00 | 0.55 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE -

NAME OF STANDARD -

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|
|-------------|------|-----------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|

DDH60039

698
699
700
701
702
703
704
705
706
707
708

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 40 | 3.67 | 4.88 | 1.21 | | SILTSTONE | GY.VBRKN IRON STAINING ALONG MOST BRKN SURFACES; OCCASIONALLY SSY. |
| | 40 | 4.88 | 5.04 | 0.16 | | CORELOSS | ROCK. |
| | 40 | 5.04 | 6.32 | 1.28 | | SILTSTONE | VBRKN SOME COAL LAMINATIONS. |
| | 40 | 6.32 | 7.55 | 1.23 | | SILTSTONR | BRKN |
| * | 40 | 7.55 | 7.85 | 0.30 | | SILTSTONE | AS ABOVE. |
| | 38 | 7.85 | 9.07 | 1.22 | | MUDSTONE | GY.BRKN OCCASIONALLY SLTY; CARB PARTINGS; IRON STAINING ALONG FRACTURES. |
| | 34 | 9.07 | 10.38 | 1.31 | | MUDSTONE | GY.BRKN INTERLAMINATED SANDS AND SLTST; CARB PA RTINGS; IRON STAINING ALONG FRACTURES. |
| * | 30 | 10.38 | 11.76 | 1.38 | | MUDSTONE | AS ABOVE; GRADES TO SSY SLTST AT BASE. |
| * | 35 | 11.76 | 13.58 | 1.82 | | SILTSTONE | SSY.GY SSY INTERVALS AND NUMEROUS SSY INTERLAM INATIONS; CARB PARTINGS; ARGILLACEOUS I NTERVALS. |

* DENOTES MEASURED BCA

XXXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH INTERVAL TO | THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|-------------------|--------|----------|---------|-----------|---|
| | 32 | 13.58 | 14.30 | 0.72 | | SILTSTONE | GY ARGILLACEOUS AND SSSY INTERVALS AND LAMINATIONS. |
| | 28 | 14.30 | 16.74 | 2.44 | | MUDSTONE | CARB.DK.GY.VBRKN NUMEROUS COAL STRINGERS AND LAMINATIONS ; SLICKENSIDES; POWDER AND PIECES AT BASE. |
| | 25 | 16.74 | 16.87 | 0.13 | | MUDSTONE | CARB.DK.GY PELLETOID; PELLETS ARE GENERALLY 1 MM IN SIZE AND GIVE THE MUDSTONE A ROUGH APPEARANCE; NUMEROUS COAL STRINGERS. |
| | 25 | 16.87 | 16.96 | 0.09 | | COAL | C-6.VBRKN BRIGHT COAL STRINGERS. |
| | 23 | 16.96 | 17.82 | 0.86 | | MUDSTONE | CARB.DK.GY.VBRKN ABUNDANT COAL STRINGERS; NUMEROUS LISTRIC SURFACES AND SLICKENSIDES; IN PLACES POWDER AND PIECES; PROBABLE FAULT ZONE |
| | 22 | 17.82 | 18.52 | 0.70 | | MUDSTONE | CARB.DK.GY SLIGHTLY CARB; NUMEROUS SLICKENSIDE AND LISTRIC SURFACES; ABUNDANT RANDOM CALCITE VEINING; PROBABLE FAULT ZONE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 20 | 18.52 | 19.06 | 0.54 | | | MUDSTONE | DK.GY.BRKN LISTRIC SURFACES; SLIGHTLY BRKN. |
| * 30 | 19.06 | 20.10 | 1.04 | | | MUDSTONE | M-DK.GY.BRKN SLTY LAMINATIONS; CARB LAMINATIONS; SLI CKENSIDES. |
| 29 | 20.10 | 20.55 | 0.45 | | | MUDSTONE | AS ABOVE. |
| 29 | 20.55 | 20.69 | 0.14 | | | MUDSTONE | GY RUBBLE BRECCIA: ANGULAR TO SUB-ROUNDED MUDST CLASTS IN CALCITE MATRIX; VUGGY C ALCITE VEINING; PROBABLE FAULT. |
| 28 | 20.69 | 21.42 | 0.73 | | | MUDSTONE | GY FINE CALCITE VEINING AT TOP NEAR BRECCI A; WITH LARGER VUGGY CALCITE VEINS; CAL CITE VEINING DECREASES TOWARDS BASE AND BECOMES VBRKN; SMALL 2 TO 4 MM SIZED PI ECES TOWARDS MARKER; PROBABLE FAULT. |
| 26 | 21.42 | 22.67 | 1.25 | | | MUDSTONE | DK.GY CARB PLANT REMAINS; SLIGHTLY BRKN; VUGG Y CALCITE VEINS AND SMALL RUBBLE BRECCI A AT BASE; NUMEROUS SLICKENSIDES. |
| 25 | 22.67 | 23.95 | 1.28 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GLR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|--------------|---|
| 23 | 23.95 | 25.01 | 1.06 | | | MUDSTONE | DK.GY CARB PLANT REMAINS; NUMEROUS COAL LAMINATIONS; HEAVILY FRACTURED IN PLACES. |
| 22 | 25.01 | 25.07 | 0.06 | | | COAL | C-2.VBRKN |
| 22 | 25.07 | 25.57 | 0.50 | | | MUDSTONE | DK.GY CARB PLANT REMAINS; NUMEROUS COAL LAMINATIONS; HEAVILY FRACTURED IN PLACES. |
| 21 | 25.57 | 26.49 | 0.92 | | | MUDSTONE | AS ABOVE. |
| 19 | 26.49 | 27.95 | 1.46 | | | MUDSTONE | BIOTR SILT LAMINAE; NUMEROUS BIOTRB. |
| 18 | 27.95 | 28.09 | 0.14 | | | MUDSTONE | CARB.DK.GY.VSHRD NUMEROUS COAL LAMINATIONS; NUMEROUS SLICKENSIDE AND LISTRIC SURFACES. |
| 18 | 28.09 | 28.29 | 0.20 | | | COAL & BANDS | VBRKN STONEY; POWDER AND PIECES. |
| 17 | 28.29 | 28.85 | 0.56 | 00696 | | CORELOSS | COAL |
| 17 | 28.85 | 28.90 | 0.05 | 00698 | | COAL | C-4 |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 17 | 28.90 | 28.92 | 0.02 | 00698 | | COAL | C-3 |
| 17 | 28.92 | 28.98 | 0.06 | 00698 | | COAL | C-4 PYRITE SMEARS. |
| 17 | 28.98 | 29.04 | 0.06 | 00698 | | COAL | C-4.SHRD POWDER AND PIECES; PYRITE SMEARS. |
| 16 | 29.04 | 29.20 | 0.16 | 00698 | | COAL | MIXED PIECES OF DULL AND BRIGHT AND BRIGHT BANDED; POWDER AND PIECES. |
| 16 | 29.20 | 29.26 | 0.06 | 00698 | | COAL | C-4.SHRD PYRITE SMEARS. |
| 16 | 29.26 | 29.32 | 0.06 | 00698 | | COAL | C-3 PYRITE SMEARS. |
| 16 | 29.32 | 29.37 | 0.05 | 00698 | | COAL | C-3 PYRITE SMEARS. |
| 16 | 29.37 | 29.43 | 0.06 | 00698 | | COAL | C-4.SHRD PYRITE SMEARS. |
| 16 | 29.43 | 29.49 | 0.06 | | | MUDSTONE | CARB.DK.GY.VBRKN |

* DENOTES MEASURED ECA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GCR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH INTERVAL TO THICK. | SAMP. SEAM ID ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-----------------------------|---------------------|-----------|---|
| * 15 | 29.49 | 30.64 | 1.15 | MUDSTONE | CARB.DK.GY VERY CARB; ABUNDANT BRIGHT COAL LAMINATIONS UP TO 0.03 WIDE. |
| 16 | 30.64 | 30.70 | 0.06 | COAL | C-2 |
| 16 | 30.70 | 31.34 | 0.64 | MUDSTONE | CARB.DK.GY.VBRKN VERY CARB; ABUNDANT BRIGHT COAL LAMINATIONS UP TO 0.03 M WIDE. |
| 17 | 31.34 | 31.68 | 0.34 | MUDSTONE | CARB.DK.GY VERY CARB; NUMEROUS BRIGHT COAL STRINGERS. |
| 18 | 31.68 | 32.16 | 0.48 | MUDSTONE | AS ABOVE. |
| 18 | 32.16 | 32.66 | 0.50 | MUDSTONE | AS ABOVE. |
| 19 | 32.66 | 33.11 | 0.45 | MUDSTONE | CARB.DK.GY VERY CARB; NUMEROUS BRIGHT COAL LAMINATIONS. |
| * 20 | 33.11 | 34.35 | 1.24 | MUDSTONE | DK.GY.BRKN CARB PLANT REMAINS; VERY FAINTLY LAMINATED; SLICKENSIDES; COAL STRINGERS; HEAVILY BRKN AT MARKER. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH INTVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|-----------------|----------------|----------|---------|-----------|---|
| 21 | 34.35 | 34.73 | 0.38 | | | CORELOSS | ROCK. |
| 21 | 34.73 | 34.93 | 0.20 | | | MUDSTONE | CARB.DK.GY VERY CARB; NUMEROUS COAL STRINGERS. |
| * 22 | 34.93 | 36.28 | 1.35 | | | MUDSTONE | CARB.DK.GY VERY CARB; COAL STRINGERS; CORE BRKN NEAR BASE; NUMEROUS PLANT FRAGMENTS. |
| 23 | 36.28 | 36.66 | 0.38 | | | MUDSTONE | GY MUDDY; CARB PLANT FRAGMENTS; CORE POWDER NEAR BASE. |
| 23 | 36.66 | 36.86 | 0.20 | | | CORELOSS | ROCK. |
| 24 | 36.86 | 37.85 | 0.99 | | | SILTSTONE | AS SLTST ABOVE. |
| 25 | 37.85 | 38.11 | 0.26 | | | SILTSTONE | AS ABOVE;; BECOMES SSSY TOWARDS BASE. |
| * 25 | 38.11 | 38.61 | 0.50 | | | SANDSTONE | VFG.GY SLTY IN PARTS; MINOR CALCITE VEINS; MINOR CARB PLANT FRAGMENTS. |
| 31 | 38.61 | 39.64 | 1.03 | | | MUDSTONE | GY CORE HIGHLY CRUMBLD; PROBABLE CORELOSS ; MINOR SLICKENSIDES; CARB IN PART. |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH INTRVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|---------------------|-------------------|----------|------------|-----------|---|
| | 38 | 39.64 | 40.53 | 0.89 | | MUDSTONE | CARB.M-DK.GY COAL BANDS IN PART; CARB PLANT FRAGMENT S; CORE BLOCKY AT BASE. |
| * | 46 | 40.53 | 41.59 | 1.06 | | MUDSTONE | CARB.DK.GY VERY CARB; COAL STRINGERS THROUGHOUT SL ICKENSIDES; CORE BRKN IN PART. |
| * | 31 | 41.59 | 42.07 | 0.48 | | MUDSTONE | GY CARB PLANT FRAGMENTS. |
| | 27 | 42.07 | 42.47 | 0.40 | | CORELOSS | |
| | 24 | 42.47 | 42.55 | 0.08 | | COAL | C-2 |
| * | 20 | 42.55 | 43.30 | 0.75 | | SILTSTONE | M-DK.GY CALCITE VEINS THROUGHOUT; MINOR CARB PL ANT FRAGMENTS, MUDDY AT TOP |
| | 23 | 43.30 | 43.70 | 0.40 | | MUDSTONE | SLTY.M-DK.GY CARB PLANT FRAGMENTS. |
| | 25 | 43.70 | 44.30 | 0.60 | | SANDSTONE | VFG.M-DK.GY MINOR CALCITE VEINS; SLTY IN PART; TOPS UP. |
| | 28 | 44.30 | 44.90 | 0.60 | | SILTSTONE | M-DK.GY BECOMES SSSY AT BASE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| | 30 | 44.90 | 45.50 | 0.60 | | SANDSTONE | VFG.M-DK.GY VERY CARB TOWARDS BASE; SLICKENSIDES AND CALCITE VEINS AT BASE. |
| | 32 | 45.50 | 45.88 | 0.38 | | MUDSTONE | DK.GY MINOR CALCITE VEINING. |
| | 35 | 45.88 | 46.46 | 0.58 | | SANDSTONE | VFG.GY SLTY BANDS THROUGHOUT; MINOR CALCITE VE INING. |
| * | 37 | 46.46 | 46.92 | 0.46 | | SANDSTONE | TOPS UP. |
| | 37 | 46.92 | 47.33 | 0.41 | | SILTSTONE | SSY.M-DK.GY CARB PYRITE ABUNDANT; CORE BLOCKY; ABUN DANT CALCITE VEINING; PROBABLE FAULTS. |
| | 36 | 47.33 | 47.79 | 0.46 | | SILTSTONE | AS ABOVE. |
| * | 36 | 47.79 | 48.92 | 1.13 | | SANDSTONE | CARB.FG.M-DK.GY SS INTERBEDDED WITH SLTST; STYLOLITIC C ALCITE VEINING; SLIGHTLY CARB. |
| | 41 | 48.92 | 49.23 | 0.31 | | SILTSTONE | CARB.DK.GY |
| | 43 | 49.23 | 49.31 | 0.08 | | SILTSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| * 46 | 49.31 | 50.12 | 0.81 | | | SANDSTONE | VFG.GY |
| 46 | 50.12 | 50.48 | 0.36 | | | MUDSTONE | DK.GY CARB PLANT FRAGMENTS; STYLOLITIC CALCIT E VEINING. |
| 45 | 50.48 | 51.96 | 1.48 | | | MUDSTONE | COAL BANDS IN PART. |
| 44 | 51.96 | 53.08 | 1.12 | | | MUDSTONE | BRKN BECOMES SLTY TOWARDS BASE; SLICKS. |
| 44 | 53.08 | 53.18 | 0.10 | | | CORELOSS | ROCK. |
| 44 | 53.18 | 53.54 | 0.36 | | | MUDSTONE | LT.GY |
| * 43 | 53.54 | 54.67 | 1.13 | | | MUDSTONE | M-DK.GY |
| 43 | 54.67 | 55.37 | 0.70 | | | MUDSTONE | DK.GY BECOMES INCREASINGLY CARB; BLOCKY AT BA SE. |
| * 43 | 55.37 | 56.72 | 1.35 | | | MUDSTONE | DK.GY TU BL; VERY CARB TO COALY; CORE SHATTER ED. |
| 44 | 56.72 | 56.82 | 0.10 | | | CORELOSS | ROCK. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 11

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FBUM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 44 | 56.82 | 57.48 | 0.66 | | | MUDSTONE | SLTY.M-DK.GY CARB AT TOP; CARB PLANT FRAGMENTS THROU GHOUT. |
| 45 | 57.48 | 59.77 | 2.29 | | | SILTSTONE | M-DK.GY MINOR CARB PLANT FRAGMENTS. |
| 46 | 59.77 | 60.20 | 0.43 | | | SILTSTONE | MAS |
| 47 | 60.20 | 62.84 | 2.64 | | | SILTSTONE | MUDDY IN PART; MODERATE TO HEAVY CALCIT E VEINING. |
| 48 | 62.84 | 62.96 | 0.12 | | | SILTSTONE | AS ABOVE. |
| 49 | 62.96 | 65.60 | 2.64 | | | SILTSTONE | CARB AS ABOVE; SSSY IN PART BECOMES MUDDY TOW ARDS BASE; CARB AND SLICKENSIDES AT BAS E. |
| 50 | 65.60 | 65.68 | 0.08 | | | SILTSTONE | DK.GY MUDDY; SLICKS; NUMEROUS CALCITE VEINS. |
| 50 | 65.68 | 65.88 | 0.20 | | | CORELOSS | ROCK. |
| 51 | 65.88 | 66.29 | 0.41 | | | SILTSTONE | DK.GY MODERATE CALCITE VEINING; SSSY IN PART. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| * 51 | 66.29 | 66.74 | 0.45 | | | SANDSTONE | VFG.GY BECOMES SLTY TOWARDS BASE; MINOR CALCITE VEINING. |
| 50 | 66.74 | 66.92 | 0.18 | | | MUDSTONE | DK.GY SLICKS; CORE BLOCKY; MODERATE CALCITE VEINING; BECOMING SLTY TOWARDS BASE |
| 49 | 66.92 | 68.33 | 1.41 | | | SILTSTONE | GY SSY IN PARTS; MODERATE CALCITE VEINING. |
| * 47 | 68.33 | 68.70 | 0.37 | | | SILTSTONE | AS ABOVE. |
| 47 | 68.70 | 68.93 | 0.23 | | | CORELOSS | ROCK. |
| 47 | 68.93 | 69.20 | 0.27 | | | SILTSTONE | DK.GY BECOMES MUDDY TOWARDS BASE. |
| * 48 | 69.20 | 70.05 | 0.85 | | | MUDSTONE | DK.GY BECOMES SLTY TOWARDS BASE. |
| 48 | 70.05 | 71.36 | 1.31 | | | SILTSTONE | M-DK.GY SSY PARTS; MINOR CALCITE VEINING. |
| 47 | 71.36 | 71.69 | 0.33 | | | SILTSTONE | BECOMES INCREASINGLY SSY TOWARDS BASE. |
| 47 | 71.69 | 72.03 | 0.34 | | | SANDSTONE | VFG.GY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

PAGE 13

PROJECT: GCR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 47 | 72.03 | 74.21 | 2.18 | | | SANDSTONE | XBDG BECOMES COARSER GRAINED TOWARDS BASE; C ALCITE VEINS; TOPS UP; MUDST CLASTS NEA R BASE. |
| * 40 | 74.21 | 75.11 | 0.90 | | | SANDSTONE | MG AS ABOVE; MINOR MUDST LAMINATIONS; SLIG HTLY CARB TOWARDS BASE. |
| 41 | 75.11 | 75.27 | 0.16 | | | CORELOSS | ROCK. |
| 44 | 75.27 | 77.15 | 1.88 | | | SANDSTONE | CARB SLIGHTLY CARB; MUDST BANDS. |
| 48 | 77.15 | 77.93 | 0.78 | | | SANDSTONE | DK.GY MINOR CAOL STRINGERS. |
| * 49 | 77.93 | 78.15 | 0.22 | | | SANDSTONE | CARB.GY VCG TU GRITS; COAL STRINGERS THROUGHOUT . |
| 44 | 78.15 | 79.89 | 1.74 | | | SANDSTONE | AS ABOVE. |
| 35 | 79.89 | 81.31 | 1.42 | | | SANDSTONE | MUDST CLASTS INCREASING TOWARDS BASE. |
| 30 | 81.31 | 81.84 | 0.53 | | | SANDSTONE | AS ABOVE. |
| * 26 | 81.84 | 82.70 | 0.86 | | | MUDSTONE | DK.GY ABRUPT CONTACT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 35 | 82.70 | 82.94 | 0.24 | | SILTSTONE | CARB.DK.GY SSY TOWARDS BASE. |
| * | 49 | 82.94 | 84.46 | 1.52 | | SANDSTONE | GY BECOMING COARSE TOWARDS BASE; COAL LAMI NATIONS TOWARDS BASE, MUUST CLASTS |
| | 45 | 84.46 | 85.48 | 1.02 | | SANDSTONE | CARB CG TO GRIT; VERY CARB. |
| | 40 | 85.48 | 87.40 | 1.92 | | SANDSTONE | MODERATE CALCITE VEINING. |
| * | 35 | 87.40 | 88.15 | 0.75 | | SANDSTONE | CARB.VFG.M-DK.GY.LAM MINOR COAL STRINGERS. |
| | 34 | 88.15 | 88.43 | 0.28 | | SANDSTONE | AS ABOVE. |
| | 34 | 88.43 | 88.81 | 0.38 | | SANDSTONE | LT-M.GY MG TO CG; MINOR MUUST CLASTS. |
| | 33 | 88.81 | 89.68 | 0.87 | | MUDSTONE | DK.GY SLICKS; MINOR CALCITE VEINING. |
| | 33 | 89.68 | 90.08 | 0.40 | | CORELOSS | ROCK. |
| | 32 | 90.08 | 90.21 | 0.13 | | MUDSTONE | AS ABOVE. |
| | 32 | 90.21 | 90.26 | 0.05 | | COAL | C-1 MUDST BANDS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: UDH80039

| BCA | DEPTH FROM | DEPTH INTRVAL ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|---------------------|-------------------|----------|------------|-----------|--|
| | 32 | 90.26 | 90.53 | 0.27 | | MUDSTONE | CARB. DK. GY COAL LAMINATIONS; MODERATE CALCITE VEIN ING. |
| | 31 | 90.53 | 91.45 | 0.92 | | MUDSTONE | DK. GY MINOR CARB PLANT FRAGMENTS. |
| * | 30 | 91.45 | 93.20 | 1.75 | | SILTSTONE | M-DK. GY SSY AND CARB IN PARTS. |
| | 33 | 93.20 | 93.32 | 0.12 | | MUDSTONE | CARB. DK. GY CORE BLOCKY. |
| | 39 | 93.32 | 96.09 | 2.77 | | MUDSTONE | DK. GY SLIGHTLY CARB NEAR TOP. |
| | 44 | 96.09 | 96.23 | 0.14 | | MUDSTONE | AS ABOVE. |
| * | 49 | 96.23 | 98.85 | 2.62 | | MUDSTONE | BECOMES INCREASINGLY CARB TOWARDS BASE; SLICKENSIDES; CORE BECOMES BRKN TOWARD S BASE; SLTY IN PARTS; STYLOLITIC CALCI TE VEINING TOWARDS BASE. |
| | 46 | 98.85 | 99.28 | 0.43 | | MUDSTONE | DK. GY CORE BLOCKY; MINOR COAL STRINGERS. |
| * | 43 | 99.28 | 101.60 | 2.32 | | MUDSTONE | DK. GY BANDED; CARB AT TOP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 16

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 42 | 101.60 | 102.32 | 0.72 | | MUDSTONE | AS ABOVE. |
| * | 42 | 102.32 | 104.39 | 2.07 | | MUDSTONE | COAL BANDS IN PART. |
| | 43 | 104.39 | 105.34 | 0.95 | | MUDSTONE | AS ABOVE. |
| | 44 | 105.34 | 106.05 | 0.71 | | MUDSTONE | AS ABOVE. |
| | 45 | 106.05 | 106.08 | 0.03 | | COAL | C-1 |
| * | 45 | 106.08 | 106.99 | 0.91 | | MUDSTONE | DK.GY STYLOLITIC CALCITE VEINING TOWARDS BASE . |
| | 41 | 106.99 | 108.21 | 1.22 | | MUDSTONE | BECOMES SLTY TOWARDS BASE. |
| * | 38 | 108.21 | 108.31 | 0.10 | | SILTSTONE | M-DK.GY BECOMING INCREASINGLY SSSY TOWARDS BASE; MINOR CARB PLANT FRAGMENTS. |
| | 40 | 108.31 | 109.20 | 0.89 | | SILTSTONE | M-DK.GY BECOMING INCREASINGLY SSSY TOWARDS BASE; MINOR CARB PLANT FRAGMENTS. |
| | 42 | 109.20 | 109.68 | 0.48 | | SANDSTONE | CARB.M-DK.GY.LAM FG TO MG. |
| | 43 | 109.68 | 109.94 | 0.26 | | SANDSTONE | INCREASINGLY CARB TOWARDS BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|------------------|-------------|------------|--------------|--|
| | 45 109.94 | 111.06 | 1.12 | | | MUDSTONE | DK.GY VERY CARB; BECOMING COALY TOWARDS BASE. |
| | 47 111.06 | 111.16 | 0.10 | | | COAL | STONEY; SHATTERED. |
| | 48 111.16 | 111.26 | 0.10 | | | MUDSTONE | GY BLKY; COALY; CORE BLUCKY. |
| | 48 111.26 | 111.43 | 0.17 | | | CORELOSS | ROCK. |
| | 49 111.43 | 111.89 | 0.46 | | | MUDSTONE | DK.GY TO BLK, COALY; COAL BANDS THROUGHOUT. |
| | 50 111.89 | 111.94 | 0.05 | | | COAL | C-3 |
| | 50 111.94 | 112.01 | 0.07 | | | COAL | STONEY |
| | 51 112.01 | 112.35 | 0.34 | | | MUDSTONE | DK.GY TO BLK; COALY. |
| | 52 112.35 | 112.51 | 0.16 | | | COAL & BANDS | VBRKN |
| | 52 112.51 | 112.54 | 0.03 | | | MUDSTONE | DK.GY COALY. |
| | 52 112.54 | 112.58 | 0.04 | | | COAL | C-3.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 18

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| <u>BGA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 52 | 112.58 | 112.65 | 0.07 | | | MUDSTONE | DK.GY COALY. |
| 53 | 112.65 | 112.71 | 0.06 | | | COAL | C-3.VBRKN |
| * 53 | 112.71 | 112.93 | 0.22 | | | MUDSTONE | CARB.DK.GY SLTY IN PARTS; (COAL AND BANDS, DKGY, CORE BLOCKY, INTERVAL NOT KNOWN) |
| 53 | 112.93 | 113.03 | 0.10 | | | SILTSTONE | DK.GY COALY; CORE SHATTERED. |
| 52 | 113.03 | 113.30 | 0.27 | | | SILTSTONE | DK.GY ABUNDANT CARB PLANT FRAGMENTS. |
| 52 | 113.30 | 113.50 | 0.20 | | | SILTSTONE | CORE SHATTERED. |
| 51 | 113.50 | 114.31 | 0.81 | | | MUDSTONE | COAL BANDS THROUGHOUT(0.01 MAXIMUM THICKNESS). |
| 50 | 114.31 | 114.37 | 0.06 | | | COAL | C-1 |
| 50 | 114.37 | 114.88 | 0.51 | | | MUDSTONE | CARB.DK.GY VERY CARB; COAL BANDS THROUGHOUT. |
| 49 | 114.88 | 115.28 | 0.40 | | | MUDSTONE | GRADES TO CARB MUDST AT BASE. |

* DENOTES MEASURED ECA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 19

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 49 | 115.28 | 115.40 | 0.12 | 00699 | | COAL | C-5 |
| 49 | 115.40 | 115.51 | 0.11 | 00699 | | COAL | C-3 |
| 48 | 115.51 | 115.60 | 0.09 | 00699 | | COAL | C-2 CORE SHATTERED. |
| 48 | 115.60 | 115.75 | 0.15 | 00699 | | COAL | C-3 |
| 48 | 115.75 | 115.89 | 0.14 | 00699 | | COAL | C-4.PWRD |
| 48 | 115.89 | 116.15 | 0.26 | 00699 | | CORELOSS | COAL. |
| 47 | 116.15 | 116.31 | 0.16 | 00700 | | CORELOSS | ROCK. |
| 47 | 116.31 | 116.61 | 0.30 | 00700 | | MUDSTONE | CARB.DK.GY |
| 47 | 116.61 | 116.68 | 0.07 | 00701 | | COAL | C-5 |
| 47 | 116.68 | 116.75 | 0.07 | 00701 | | COAL | SHRD DULL LUSTROUS; SHRD WITH TINY ROCK CLAS TS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH EBUM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|--|
| | 46 | 116.75 | 116.92 | 0.17 | 00701 | COAL | C-3.VBRKN |
| | 46 | 116.92 | 117.01 | 0.09 | 00701 | CORELOSS | COAL |
| * | 46 | 117.01 | 117.13 | 0.12 | | PELLETSTONE | BRN MUDDY PELLETS IN CARB COALY MATRIX. |
| | 46 | 117.13 | 117.16 | 0.03 | | CORELOSS | ROCK. |
| | 46 | 117.16 | 117.24 | 0.08 | | COAL | VSHRD STONEY; BRKN AT BASE. |
| | 46 | 117.24 | 117.26 | 0.02 | | COAL | VBRKN STONEY. |
| | 46 | 117.26 | 117.69 | 0.43 | | SILTSTONE | CARB.DK.GY BECOMING SSY. |
| | 47 | 117.69 | 117.96 | 0.27 | | SANDSTONE | VFG.GY |
| | 47 | 117.96 | 118.07 | 0.11 | | SANDSTONE | AS ABOVE. |
| * | 47 | 118.07 | 118.64 | 0.57 | | SILTSTONE | GY.LAM BECOMING DARKER NEAR BASE. |
| | 47 | 118.64 | 118.77 | 0.13 | | MUDSTONE | CARB.DK.GY CALCITE VEINS ABUNDANT; VERY DKGY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 47 | 118.77 | 119.36 | 0.59 | | | SANDSTONE | SLTY.VFG.M-DK.GY.LAM.BIOTR MINUR BIOTRB; TOPS UP. |
| 46 | 119.36 | 120.44 | 1.08 | | | SILTSTONE | DK.GY MUDDY; COAL LAMINATIONS IN BANDS; STYLO LITIC CALCITE VEINS AT TOP. |
| 46 | 120.44 | 120.60 | 0.16 | | | SANDSTONE | VFG.GY.LAM |
| 46 | 120.60 | 120.72 | 0.12 | | | SANDSTONE | AS ABOVE. |
| 46 | 120.72 | 121.60 | 0.88 | | | SILTSTONE | CARB.DK.GY SSY IN PART BECOMING MUDDY TOWARDS BASE ; SLIGHTLY CARB. |
| 45 | 121.60 | 121.91 | 0.31 | | | MUDSTONE | CARB.DK.GY COAL LAMINATIONS. |
| 45 | 121.91 | 122.29 | 0.38 | | | SANDSTONE | M-DK.GY INTERBEDDED WITH MUDST; CARB PLANT FRAG MENTS. |
| 45 | 122.29 | 122.82 | 0.53 | | | SANDSTONE | AS ABOVE. |
| 45 | 122.82 | 123.17 | 0.35 | | | MUDSTONE | CARB.DK.GY STYLOLITIC CALCITE VEINS THROUGHOUT; BE COMING SSY TOWARDS BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH INTERVAL | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------------|----------------|----------|---------|-----------|---|
| | 45 | 123.17 | 123.26 | 0.09 | | SANDSTONE | VFG.DK.GY |
| | 45 | 123.26 | 123.55 | 0.29 | | SANDSTONE | BECOMES SLTY TOWARDS BASE. |
| | 44 | 123.55 | 124.19 | 0.64 | | MUDSTONE | DK.GY BECOMING BL TOWARDS BASE. |
| | 44 | 124.19 | 124.73 | 0.54 | | MUDSTONE | BLK COAL BANDS AND LAMINATIONS THROUGHOUT; SLICKS; MODERATE CALCITE VEINING NEAR T OP. |
| | 44 | 124.73 | 124.78 | 0.05 | | MUDSTONE | AS ABOVE. |
| | 44 | 124.78 | 125.33 | 0.55 | | CORELOSS | COAL. |
| | 44 | 125.33 | 125.36 | 0.03 | | COAL | C-5.BRKN |
| | 44 | 125.36 | 125.47 | 0.11 | | COAL | C-3 |
| | 44 | 125.47 | 125.66 | 0.19 | | MUDSTONE | COALY; SLICKS. |
| | 44 | 125.66 | 125.73 | 0.07 | | MUDSTONE | BRKN COALY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 23

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 43 | 125.73 | 126.32 | 0.59 | | MUDSTONE | GY.BRKN COAL STRINGERS THROUGHOUT. |
| * | 43 | 126.32 | 127.82 | 1.50 | | MUDSTONE | DK.GY AS ABOVE; MINOR COAL BANDS IN PARTS; CO RE BLOCKY; BECOMES SLTY TOWARDS BASE. |
| | 43 | 127.82 | 128.82 | 1.00 | | SILTSTONE | CARB.GY SLIGHTLY CARB. |
| | 42 | 128.82 | 129.26 | 0.44 | | CORELOSS | ROCK. |
| | 42 | 129.26 | 129.43 | 0.17 | | SILTSTONE | AS ABOVE. |
| | 42 | 129.43 | 131.21 | 1.78 | | SILTSTONE | MINOR CARB PLANT FRAGMENTS; SSSY IN PART ; BECOMES MUDDY TOWARDS BASE. |
| | 42 | 131.21 | 131.33 | 0.12 | | MUDSTONE | SLTY.DK.GY |
| | 42 | 131.33 | 131.87 | 0.54 | | MUDSTONE | BECOMES CARB TOWARDS BASE. |
| | 41 | 131.87 | 132.60 | 0.73 | | MUDSTONE | M-DK.GY VERY CARB; PELLETED; ABUNDANT COAL BAND S AND STRINGERS. |
| | 41 | 132.60 | 132.89 | 0.29 | | SILTSTONE | CARB.GY VERY CARB; SLICKS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 24

PROJECT: GUR BLOCK: XX DATA SOURCE: DUH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 41 | 132.89 | 133.43 | 0.54 | | | SANDSTONE | VFG.LT-M.GY.LAM BECOMING SLTY TOWARDS BASE; CARB PLANT FRAGMENTS. |
| 41 | 133.43 | 133.94 | 0.51 | | | MUDSTONE | DK.GY COAL STRINGERS IN PART. |
| 40 | 133.94 | 134.26 | 0.32 | | | MUDSTONE | AS ABOVE. |
| * 40 | 134.26 | 135.77 | 1.51 | | | MUDSTONE | MINOR SLICKS. |
| 42 | 135.77 | 136.09 | 0.32 | | | MUDSTONE | AS ABOVE. |
| 42 | 136.09 | 136.11 | 0.02 | | | COAL | C-1 |
| 43 | 136.11 | 136.67 | 0.56 | | | MUDSTONE | AS ABOVE. |
| 44 | 136.67 | 137.47 | 0.80 | | | MUDSTONE | BRKN AS ABOVE; CORE BRKN AT BASE. |
| * 47 | 137.47 | 139.30 | 1.83 | | | MUDSTONE | BRKN BRKN AT TOP; LAMINATED IN PARTS; BRKN A T BOTTOM. |
| 46 | 139.30 | 139.50 | 0.20 | | | CORELOSS | ROCK. |
| 46 | 139.50 | 140.75 | 1.25 | | | MUDSTONE | NOT LAMINATED. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 25

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH INTKVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|------------------|----------------|----------|---------|-----------|---|
| * 45 | 140.75 | 142.21 | 1.46 | | | MUDSTONE | AS ABOVE; LAMINATED IN PART; CARB PLANT FRAGMENTS. |
| 44 | 142.21 | 143.23 | 1.02 | | | MUDSTONE | AS ABOVE. |
| 44 | 143.23 | 143.91 | 0.68 | | | MUDSTONE | AS ABOVE. |
| 43 | 143.91 | 144.25 | 0.34 | | | MUDSTONE | BLK. BRKN COALY. |
| * 43 | 144.25 | 144.95 | 0.70 | | | SILTSTONE | SSY. LT-M. GY |
| 42 | 144.95 | 146.26 | 1.31 | | | SANDSTONE | VFG. LT-M. GY SLTY IN PART; TOPS UP; MUDDY IN PART. |
| 41 | 146.26 | 146.79 | 0.53 | | | SILTSTONE | LT. GY BECOMING SSY TOWARDS BASE. |
| * 41 | 146.79 | 147.36 | 0.57 | | | SANDSTONE | VFG. GY |
| 42 | 147.36 | 147.53 | 0.17 | | | MUDSTONE | DK. GY MINOR CALCITE VEINING. |
| 43 | 147.53 | 147.75 | 0.22 | | | SILTSTONE | M-DK. GY INTERBEDDED WITH MUDST; CARB PLANT FRAGMENTS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 47 | 147.75 | 149.42 | 1.67 | | | SILTSTONE | AS ABOVE; SSY IN PART. |
| 48 | 149.42 | 151.19 | 1.77 | | | MUDSTONE | DK.GY BECOMING SLTY TOWARDS BASE; SLIGHTLY CARB. |
| * 48 | 151.19 | 152.20 | 1.01 | | | MUDSTONE | AS ABOVE; INCREASINGLY CARB TOWARDS BASE; SLTY AT TOP; SLICKS. |
| 47 | 152.20 | 152.50 | 0.30 | | | COAL | SHATTERED; MINOR MUDST BANDS; SLICKS. |
| 46 | 152.50 | 152.60 | 0.10 | | | CORELOSS | COAL. |
| 46 | 152.60 | 153.20 | 0.60 | | | MUDSTONE | DK.GY CALCITE VEINS AT TOP; CARB PLANT FRAGMENTS. |
| 45 | 153.20 | 153.41 | 0.21 | | | CORELOSS | ROCK. |
| 44 | 153.41 | 154.15 | 0.74 | | | MUDSTONE | AS ABOVE. |
| 42 | 154.15 | 155.14 | 0.99 | | | MUDSTONE | CARB AS ABOVE; BECOMES VERY CARB; INCREASING COAL BANDS AND STRINGERS TOWARDS BASE. |
| 40 | 155.14 | 156.55 | 1.41 | | | MUDSTONE | DK.GY ABUNDANT CARB PLANT FRAGMENTS. |
| 38 | 156.55 | 156.93 | 0.38 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INIRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| | 38 156.93 | 156.96 | 0.03 | | | MUDSTONE | AS ABOVE; BECOMING SLTY TOWARDS BASE. |
| * 37 | 156.96 | 157.62 | 0.66 | | | SILTSTONE | M-DK.GY BECOMING MUDDY TOWARDS BASE; SSY IN PART. |
| | 38 157.62 | 158.09 | 0.47 | | | MUDSTONE | DK.GY |
| | 40 158.09 | 158.56 | 0.47 | | | SILTSTONE | DK.GY INTERBEDDED WITH MUDST. |
| | 40 158.56 | 158.76 | 0.20 | | | CORELOSS | |
| * 42 | 158.76 | 159.80 | 1.04 | | | SILTSTONE | AS SLTST ABOVE; SSY IN PART. |
| * 44 | 159.80 | 161.82 | 2.02 | | | SANDSTONE | VFG.M-DK.GY SLTY IN PART; INTERBEDDED WITH MUDST; C ARB PLANT FRAGMENTS; MINOR COAL LAMINATIONS. |
| | 45 161.82 | 162.54 | 0.72 | | | SILTSTONE | DK.GY MUDDY TOWARDS BASE. |
| | 45 162.54 | 162.79 | 0.25 | | | MUDSTONE | CARB.DK.GY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| * 46 | 162.79 | 164.46 | 1.67 | | | MUDSTONE | CARB.DK.GY AS ABOVE; BECOMES SLTY TOWARDS BASE. |
| 45 | 164.46 | 165.39 | 0.93 | | | SILTSTONE | GY |
| 44 | 165.39 | 165.82 | 0.43 | | | MUDSTONE | DK.GY CARB PLANT FRAGMENTS. |
| 44 | 165.82 | 165.92 | 0.10 | | | CORELOSS | ROCK. |
| * 43 | 165.92 | 168.27 | 2.35 | | | MUDSTONE | AS ABOVE; LAMINATED IN PART. |
| 46 | 168.27 | 168.94 | 0.67 | | | SILTSTONE | CARB.DK.GY MUDDY AT TOP; SLIGHTLY CARB. |
| * 48 | 168.94 | 171.02 | 2.08 | | | MUDSTONE | DK.GY CARB PLANT FRAGMENTS THROUGHOUT; SLTY I N PART. |
| 49 | 171.02 | 171.72 | 0.70 | | | SILTSTONE | M-DK.GY MUDDY AT TOP; CARB PLANT FRAGMENTS. |
| 49 | 171.72 | 171.99 | 0.27 | | | CORELOSS | ROCK. |
| * 50 | 171.99 | 173.36 | 1.37 | | | SANDSTONE | VFG.GY INTERBEDDED WITH SLTST. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 50 | 173.36 | 174.05 | 0.69 | | SILTSTONE | M-DK.GY CARB PLANT FRAGMENTS; MODERATE CALCITE VEINING NEAR BASE. |
| | 49 | 174.05 | 175.01 | 0.96 | | MUDSTONE | CARB.DK.GY SLTY IN PART. |
| | 49 | 175.01 | 175.17 | 0.16 | | CORELOSS | ROCK. |
| | 49 | 175.17 | 176.78 | 1.61 | | MUDSTONE | LAM AS ABOVE; MINOR CALCITE VEINING; SLTY TOWARDS BASE. |
| | 48 | 176.78 | 178.17 | 1.39 | | SILTSTONE | M-DK.GY.LAM MUDDY IN PART; MINOR SS STRINGERS; CARB PLANT FRAGMENTS. |
| | 48 | 178.17 | 179.62 | 1.45 | | SILTSTONE | AS ABOVE. |
| | 47 | 179.62 | 180.53 | 0.91 | | MUDSTONE | M-DK.GY BECOMES VERY CARB TOWARDS BASE. |
| | 47 | 180.53 | 180.79 | 0.26 | | MUDSTONE | AS ABOVE; BECOMING VERY COALY; SLICKS; BLOCKY. |
| | 47 | 180.79 | 180.89 | 0.10 | 00702 | CORELOSS | COAL. |
| | 47 | 180.89 | 181.07 | 0.18 | 00702 | COAL | C-4.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--------------------------------------|
| 47 | 181.07 | 181.14 | 0.07 | 00702 | | COAL | BRKN DULL LUSTROUS. |
| 47 | 181.14 | 181.20 | 0.06 | 00702 | | COAL | C-5.VBRKN |
| 47 | 181.20 | 181.38 | 0.18 | 00703 | | CORELOSS | ROCK. |
| 47 | 181.38 | 181.49 | 0.11 | 00703 | | MUDSTONE | CARB.DK.GY TO BLK. |
| 47 | 181.49 | 181.83 | 0.34 | 00703 | | MUDSTONE | CARB AS ABOVE; CORE BLOCKY. |
| 47 | 181.83 | 182.07 | 0.24 | 00704 | | COAL | C-4.SHRD CORE BLOCKY. |
| 46 | 182.07 | 182.26 | 0.19 | 00704 | | COAL | C-4 PULVERIZED. |
| 46 | 182.26 | 182.38 | 0.12 | 00704 | | COAL | C-4.BRKN SHRD. |
| 46 | 182.38 | 182.78 | 0.40 | 00704 | | COAL | BRKN DULL LUSTROUS; SHRD IN PART. |
| 46 | 182.78 | 183.39 | 0.61 | 00704 | | CORELOSS | COAL. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FBUM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|------------|---|
| * 46 | 183.39 | 183.54 | 0.15 | | | MUDSTONE | BLK COALY. |
| 47 | 183.54 | 184.04 | 0.50 | | | MUDSTONE | DK.GY.VBRKN TO BLK; COAL LAMINATIONS; CORE VBRKN IN PART. |
| 48 | 184.04 | 184.89 | 0.85 | | | CORELUSS | ROCK. |
| 50 | 184.89 | 186.18 | 1.29 | | | MUDSTONE | CARB.DK.GY MINOR COAL STRINGERS. |
| * 53 | 186.18 | 187.90 | 1.72 | | | MUDSTONE | DK.GY BECOMING SLTY TOWARDS BASE; SLIGHTLY CA RB. |
| * 47 | 187.90 | 188.92 | 1.02 | | | SILTSTONE | M-DK.GY SSY IN PARTS. |
| 42 | 188.92 | 189.65 | 0.73 | | | SILTSTONE | AS ABOVE; BECOMING SSY TOWARDS BASE; MI NOR CALCITE VEINING. |
| * 37 | 189.65 | 190.89 | 1.24 | | | SANDSTONWE | |
| 40 | 190.89 | 191.59 | 0.70 | | | SANDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: UDM80039

| BCA | DEPTH FROM | DEPTH TO | INRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|------|------------|----------|---------------|----------|---------|-----------|---|
| * 45 | 191.59 | 193.90 | 2.31 | | | SANDSTONE | AS ABOVE; MINOR CALCITE VEINING; MINOR MUDST CLASTS; CARB IN PART; BECOMING CO ARSER GRAINED. |
| * 51 | 193.90 | 194.30 | 0.40 | | | SANDSTONE | AS ABOVE; COAL BAND. |
| * 50 | 194.30 | 195.55 | 1.25 | | | SANDSTONE | AS ABOVE; BECOMING MORE SLTY; VERY CARB AT BASE. |
| 51 | 195.55 | 195.74 | 0.19 | | | MUDSTONE | DK.GY TO BLK; COAL THROUGHOUT; COALY. |
| 51 | 195.74 | 196.92 | 1.18 | | | SANDSTONE | SLTY.VFG.GY |
| 52 | 196.92 | 197.10 | 0.18 | | | MUDSTONE | M-DK.GY BLOCKY; AS ABOVE; BECOMING SSSY TOWARDS BASE. |
| 52 | 197.10 | 197.69 | 0.59 | | | SANDSTONE | VFG.GY SLTY IN PART. |
| 52 | 197.69 | 197.88 | 0.19 | | | MUDTONE | DK.GY |
| * 53 | 197.88 | 198.88 | 1.00 | | | SANDSTONE | SLTY.VFG.GY.BIOTR MUDDY TOWARDS BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 53 | 198.88 | 199.08 | 0.20 | | | MUDSTONE | DK.GY |
| 53 | 199.08 | 199.18 | 0.10 | | | MUDSTONE | AS ABOVE. |
| 53 | 199.18 | 199.97 | 0.79 | | | CORELOSS | ROCK. |
| 53 | 199.97 | 201.06 | 1.09 | | | SILTSTONE | GY SSY IN PART. |
| 54 | 201.06 | 202.61 | 1.55 | | | SANDSTONE | FG.GY.LAM.BIDTR CARB PLANT FRAGMENTS; BECOMES SLTY TOWA RDS BASE; MINOR BIOTRB; TOPS UP. |
| 54 | 202.61 | 202.88 | 0.27 | | | SILTSTONE | M-DK.GY SLICKS. |
| 54 | 202.88 | 203.30 | 0.42 | | | MUDSTONE | CARB.DK.GY SLIGHTLY CARB. |
| 54 | 203.30 | 203.94 | 0.64 | | | SILTSTONE | GY |
| * 54 | 203.94 | 205.37 | 1.43 | | | MUDSTONE | DK.GY SLTY IN PARTS; MINOR CACLITE VEINING. |
| 49 | 205.37 | 206.01 | 0.64 | | | MUDSTONE | AS ABOVE; MINOR COAL LAMINATIONS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 43 | 206.01 | 208.17 | 2.16 | | | SILTSTONE | M-DK.GY.LAM MUDDY; MINOR CALCITE VEINING. |
| 45 | 208.17 | 209.03 | 0.86 | | | SANDSTONE | FG.GY SLIGHTLY CARB. |
| * 46 | 209.03 | 210.92 | 1.89 | | | SANDSTONE | AS ABOVE. |
| * 54 | 210.92 | 212.08 | 1.16 | | | SANDSTONE | AS ABOVE. |
| * 51 | 212.08 | 213.61 | 1.53 | | | SNADSTONE | CARB.FG.LT-M.GY COAL LAMINATIONS THROUGHOUT. |
| 53 | 213.61 | 214.30 | 0.69 | | | SANDSTONE | AS ABOVE; GRITTY IN PART. |
| 54 | 214.30 | 214.58 | 0.28 | | | SANDSTONE | AS ABOVE; MUD CALSTS THROUGHOUT; ANGULAR AND MUDST INTERBEDS. |
| 55 | 214.58 | 215.13 | 0.55 | | | SILTSTONE | M-DK.GY MINOR CARB PLANT FRAGMENTS. |
| 57 | 215.13 | 216.20 | 1.07 | | | SILTSTONE | AS ABOVE; BECOMES MUDDY TOWARDS BASE. |
| * 59 | 216.20 | 216.93 | 0.73 | | | MUDSTONE | SLTY.GY |
| 58 | 216.93 | 218.08 | 1.15 | | | SNADSTONE | FG.LT.GY SALT AND PEPPER. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|--------------|---------------------------------------|
| * 56 | 218.08 | 218.97 | 0.89 | | | SANDSTONE | AS ABOVE; CARB PLANT FRAGMENTS. |
| * 47 | 218.97 | 221.05 | 2.08 | | | SANDSTONE | AS ABOVE. |
| 46 | 221.05 | 221.75 | 0.70 | | | SANDSTONE | AS ABOVE. |
| 46 | 221.75 | 222.46 | 0.71 | | | SANDSTONE | AS ABOVE; BECOMING INCREASINGLY CARB. |
| 45 | 222.46 | 222.73 | 0.27 | 00705 | | COAL | VBRKN DULL LUSTROUS. |
| 45 | 222.73 | 222.80 | 0.07 | 00705 | | COAL | C-4.VBRKN |
| 45 | 222.80 | 222.95 | 0.15 | 00705 | | COAL | C-3 |
| 45 | 222.95 | 223.02 | 0.07 | 00705 | | COAL | BRKN DULL LUSTROUS; SHRD. |
| 45 | 223.02 | 223.06 | 0.04 | | | COAL & BANDS | |
| 45 | 223.06 | 223.10 | 0.04 | | | COAL | PULVERIZED. |
| 45 | 223.10 | 223.17 | 0.07 | | | COAL | STONEY. |
| 45 | 223.17 | 223.54 | 0.37 | | | MUDSTONE | BRKN COALY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 44 | 223.54 | 223.86 | 0.32 | | | MUDSTONE | CARB.DK.GY |
| 44 | 223.86 | 224.01 | 0.15 | | | MUDSTONE | MINOR CALCITE VEINS; SLICKS. |
| * 44 | 224.01 | 224.86 | 0.85 | | | MUDSTONE | BRKN AS ABOVE; MINOR CARB PARTINGS; HEAVY CALCITE VEINING AT BASE. |
| 44 | 224.86 | 225.23 | 0.37 | | | MUDSTONE | CARB.GY.BRKN SLICKS. |
| 44 | 225.23 | 225.35 | 0.12 | | | CORELOSS | COAL. |
| 44 | 225.35 | 225.41 | 0.06 | | | STONEY | SHRD |
| 44 | 225.41 | 225.49 | 0.08 | 00706 | | MUDSTONE | CARB.DK.GY |
| 43 | 225.49 | 225.68 | 0.19 | 00706 | | MUDSTONE | BLK CUALY; BLOCKY. |
| 43 | 225.68 | 225.81 | 0.13 | 00706 | | CORELOSS | ROCK. |
| 43 | 225.81 | 226.08 | 0.27 | 00707 | | CURELOSS | COAL. |
| 43 | 226.08 | 226.12 | 0.04 | 00707 | | COAL | C-2 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 43 | 226.12 | 226.23 | 0.11 | 00707 | | COAL | C-3 |
| 43 | 226.23 | 226.28 | 0.05 | 00707 | | COAL | C-3 |
| 43 | 226.28 | 226.35 | 0.07 | | | MUDSTONE | CARB.GY BROWNISH GREY. |
| 43 | 226.35 | 226.71 | 0.36 | | | SILTSTONE | DK.GY COALY. |
| 43 | 226.71 | 227.11 | 0.40 | | | CORELOSS | ROCK. |
| 43 | 227.11 | 227.33 | 0.22 | | | CORELOSS | COAL. |
| 42 | 227.33 | 227.72 | 0.39 | | | CORELOSS | ROCK |
| 42 | 227.72 | 227.95 | 0.23 | | | CORELOSS | COAL. |
| * 42 | 227.95 | 229.09 | 1.14 | | | MUDSTONE | DK.GY CARB PLANT FRAGMENTS; SLTY IN PARTS. |
| 45 | 229.09 | 229.72 | 0.63 | | | SILTSTONE | M-DK.GY CARB PLANT FRAGMENTS; MUDDY BANDS. |
| 48 | 229.72 | 230.59 | 0.87 | | | MUDSTONE | DK.GY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: UDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 51 | 230.59 | 231.22 | 0.63 | | MUDSTONE | DK.GY CARB IN PART. |
| * | 55 | 231.22 | 232.70 | 1.48 | | MUDSTONE | M-DK.GY INTERBEDDED WITH SLST; TOPS UP; MINOR C ALCITE VEINING. |
| | 51 | 232.70 | 233.40 | 0.70 | | MUDSTONE | AS ABOVE; INCREASINGLY CARB TOWARDS BAS E. |
| * | 45 | 233.40 | 235.74 | 2.34 | | MUDSTONE | SSY AS ABOVE; INTERBEDDED WITH SLTST. |
| | 48 | 235.74 | 236.10 | 0.36 | | MUDSTONE | AS ABOVE; MINOR CARB PLANT FRAGMENTS. |
| * | 50 | 236.10 | 238.34 | 2.24 | | MUDSTONE | DK.GY BECOMING SLTY TOWARDS BASE; CARB PLANT FRAGMENTS THROUGHOUT. |
| | 50 | 238.34 | 238.84 | 0.50 | | SILTSTONE | SSY.LT-M.GY CARB PLANT FRAGMENTS. |
| * | 50 | 238.84 | 239.86 | 1.02 | | SILTSTONE | GY INTERBEDDED WITH MUDST; BECOMING MUDDY TOWARDS BASE; MINOR COAL PARTINGS THROU GHOUT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 50 | 239.86 | 240.49 | 0.63 | | | MUDSTONE | M-DK.GY INCREASINGLY CARB TOWARDS BASE; MINOR C ALCITE VEINING. |
| 51 | 240.49 | 240.63 | 0.14 | | | COAL | |
| 51 | 240.63 | 240.75 | 0.12 | | | COAL | C-3.VBRKN |
| 51 | 240.75 | 240.83 | 0.08 | | | COAL | C-5 |
| 51 | 240.83 | 240.85 | 0.02 | | | MUDSTONE | COALY. |
| 51 | 240.85 | 240.95 | 0.10 | | | MUDSTONE | COALY; CORE SHATTERED. |
| 51 | 240.95 | 241.08 | 0.13 | | | MUDSTONE | CARB.VSHRD COAL BANDS. |
| 51 | 241.08 | 241.26 | 0.18 | | | COAL | SHRD COAL POWDER; UNDISTINGUISHABLE FEATURES . |
| 51 | 241.26 | 241.51 | 0.25 | | | MUDSTONE | DK.GY COAL LAMINATIONS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 51 | 241.51 | 241.99 | 0.48 | | MUDSTONE | DK.GY MINOR CARB PLANT FRAGMENTS. |
| * | 52 | 241.99 | 244.24 | 2.25 | | SILTSTONE | M-DK.GY INTERBEDDED WITH MUDST; MINOR CALCITE V EINS; MINOR CARB PLANT FRAGMENTS. |
| | 50 | 244.24 | 244.99 | 0.75 | | SILTSTONE | INTERBEDDED WITH MUDST; AS ABOVE. |
| * | 49 | 244.99 | 246.93 | 1.94 | | SILTSTONE | LT-M.GY INTERBEDDED WITH SS. |
| * | 50 | 246.93 | 247.67 | 0.74 | | SILTSTONE | LT-M.GY INTERBEDDED WITH SS; MINOR CALCITE VEIN S. |
| | 52 | 247.67 | 248.08 | 0.41 | | MUDSTONE | DK.GY CARB PLANT FRAGMENTS. |
| | 54 | 248.08 | 249.62 | 1.54 | | MUDSTONE | AS ABOVE; COAL AND CALCITE BANDS NEAR T OP. |
| * | 58 | 249.62 | 250.91 | 1.29 | | SILTSTONE | DK.GY INTERBEDDED WITH MUDST; MINOR CALCITE V EINING. |
| | 60 | 250.91 | 251.07 | 0.16 | | MUDSTONE | DK.GY.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 61 | 251.07 | 252.30 | 1.23 | | | SILTSTONE | AS ABOVE; COAL BANDS IN PART; MINOR CALCITE VEINING. |
| 56 | 252.30 | 254.03 | 1.73 | | | MUDSTONE | AS ABOVE; CARB PLANT FRAGMENTS. |
| 51 | 254.03 | 254.48 | 0.45 | | | MUDSTONE | AS ABOVE. |
| * 50 | 254.48 | 254.84 | 0.36 | | | SILTSTONE | LT-M.GY.LAM |
| 50 | 254.84 | 255.30 | 0.46 | | | SILTSTONE | AS ABOVE; BECOMING MUDDY TOWARDS BASE. |
| 51 | 255.30 | 256.57 | 1.27 | | | MUDSTONE | M-DK.GY CARB PLANT FRAGMENTS. |
| 52 | 256.57 | 256.89 | 0.32 | | | SILTSTONE | M-DK.GY INTERBEDDED WITH MUDST. |
| 52 | 256.89 | 257.61 | 0.72 | | | MUDSTONE | DK.GY TO BL; INCREASINGLY CARB TOWARDS BASE. |
| * 53 | 257.61 | 259.58 | 1.97 | | | MUDSTONE | AS ABOVE; COALY BANDS AT TOP; CARB PLANT FRAGMENTS THROUGHOUT; MINOR CALCITE VEINING. - |
| 54 | 259.58 | 260.02 | 0.44 | | | SILTSTONE | GY MINOR CARB PLANT FRAGMENTS. |
| 54 | 260.02 | 260.40 | 0.38 | | | SILTSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 55 | 260.40 | 262.68 | 2.28 | | | SILTSTONE | MUDDY; MINOR CALCITE VEINS. |
| 48 | 262.68 | 262.88 | 0.20 | | | SANDSTONE | VFG.LT.GY MINOR CALCITE VEINING. |
| 47 | 262.88 | 263.16 | 0.28 | | | SILTSTONE | M-DK.GY INTERBEDDED WITH SS; TOPS UP; MINOR CAL CITE VEINING. |
| * 40 | 263.16 | 265.16 | 2.00 | | | SILTSTONE | INTERBEDDED WITH MUDST; BECOMES CARB TO WARDS BASE. |
| 45 | 265.16 | 265.86 | 0.70 | | | MUDSTONE | COAL LAMINATIONS. |
| 47 | 265.86 | 266.11 | 0.25 | | | MUDSTONE | DK.GY AS ABOVE. |
| * 50 | 266.11 | 267.21 | 1.10 | | | MUDSTONE | AS ABOVE. |
| 51 | 267.21 | 268.14 | 0.93 | | | SILTSTONE | M-DK.GY CARB PLANT FRAGMENTS. |
| 51 | 268.14 | 268.27 | 0.13 | | | SANDSTONE | FG.LT.GY |
| * 51 | 268.27 | 268.63 | 0.36 | | | SILTSTONE | GY.LAM |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 50 | 268.63 | 268.85 | 0.22 | | SILTSTONE | GY.LAM MUDDY. |
| | 49 | 268.85 | 269.12 | 0.27 | | MUDSTONE | DK.GY ABUNDANT CARB PLANT FRAGMENTS; MODERATE CALCITE VEINING. |
| * | 47 | 269.12 | 270.03 | 0.91 | | MUDSTONE | AS ABOVE; INCREASINGLY CARB SLICKS. |
| | 46 | 270.03 | 271.33 | 1.30 | | MUDSTONE | CARB.DK.GY TO BLK; VERY CARB; COAL BANDS; CORE BLO CKY IN PART; SLICKS; MODERATE CALCITE V EINING. |
| | 45 | 271.33 | 272.03 | 0.70 | | MUDSTONE | AS ABOVE; CORE BLOCKY TO CRUMBLY; SLICK S. |
| | 44 | 272.03 | 272.37 | 0.34 | | CORELOSS | ROCK. |
| | 44 | 272.37 | 273.19 | 0.82 | | MUDSTONE | AS ABOVE; BECOMES SLTY TOWARDS BASE; SL ICKS. |
| * | 43 | 273.19 | 274.35 | 1.16 | | SILTSTONE | M-DK.GY INTERBEDDED WITH MUDSTONE. |
| | 40 | 274.35 | 275.08 | 0.73 | | MUDSTONE | CARB.DK.GY TO BLK; VERY CARB; COAL BANDS AND LAMIN ATIONS THROUGHOUT; SLICKS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|--------------|--|
| * 36 | 275.08 | 276.88 | 1.80 | | | MUDSTONE | AS ABOVE. |
| 38 | 276.88 | 278.31 | 1.43 | | | MUDSTONE | AS ABOVE; CORE BLOCKY IN PART. |
| 40 | 278.31 | 278.93 | 0.62 | | | CORELOSS | ROCK. |
| 41 | 278.93 | 279.08 | 0.15 | | | MUDSTONE | AS ABOVE. |
| 41 | 279.08 | 279.29 | 0.21 | | | COAL & BANDS | |
| 42 | 279.29 | 280.31 | 1.02 | | | MUDSTONE | CARB.DK.GY TO BLK; VERY CARB; COAL BANDS NEAR TOP; SLICKS. |
| 43 | 280.31 | 280.60 | 0.29 | | | MUDSTONE | AS ABOVE. |
| 44 | 280.60 | 281.36 | 0.76 | | | SILTSTONE | CARB.LT-M.GY.LAM MINOR COALBANDS; BECOMES MUDDY TOWARDS BASE. |
| 45 | 281.36 | 281.68 | 0.32 | | | CORELOSS | ROCK. |
| 46 | 281.68 | 283.16 | 1.48 | | | MUDSTONE | CARB.DK.GY TO BLK; VERY CARB; NUMEROUS COAL BANDS AND LAMINATIONS; SLICKS; MINOR CALCITE VEINING IN PARTS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 48 | 283.16 | 284.41 | 1.25 | | | MUDSTONE | CARB.M-DK.GY BECOMES SLTY TOWARDS BASE; SLIGHTLY CARB. |
| 48 | 284.41 | 285.90 | 1.49 | | | MUDSTONE | SLTY AS ABOVE; SLTY THROUGHOUT SLICKS; BECOMING SSY TOWARDS BASE. |
| 47 | 285.90 | 286.50 | 0.60 | | | SANDSTONE | FG.LT-M.GY MODERATE CALCITE VEINING. |
| * 47 | 286.50 | 287.46 | 0.96 | | | SILTSTONE | GY INTERBEDDED WITH VFG SS; CALCITE VEINING MODERATE TO HEAVY. |
| 48 | 287.46 | 288.58 | 1.12 | | | MUDSTONE | DK.GY MODERATE CALCITE VEINING; MODERATE CARB PLANT FRAGMENTS TOWARDS BASE; SLICKS NEAR BASE. |
| * 49 | 288.58 | 290.53 | 1.95 | | | MUDSTONE | AS ABOVE; CALCITE VEINING MINOR; ABUNDANT CARB PLANT FRAGMENTS THROUGHOUT. |
| 49 | 290.53 | 291.47 | 0.94 | | | MUDSTONE | DK.GY TO BLK; BECOMING INCREASINGLY CARB; SLICKS; MODERATE CALCITE VEINING; COAL LAMINATIONS IN BANDS TOWARDS BASE. |
| 49 | 291.47 | 292.14 | 0.67 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|--------------|---|
| 50 | 292.14 | 292.22 | 0.08 | | | COAL & BANDS | VBRKN |
| 50 | 292.22 | 292.46 | 0.24 | | | CORELOSS | ROCK |
| 50 | 292.46 | 292.51 | 0.05 | | | COAL | SHRD DULL LUSTROUS; MINOR DIRT BANDS. |
| 50 | 292.51 | 292.71 | 0.20 | | | MUDSTONE | CARB.DK.GY TO BLK; COAL BANDS THROUGHOUT. |
| 50 | 292.71 | 292.90 | 0.19 | | | CORELOSS | |
| 50 | 292.90 | 293.07 | 0.17 | | | COAL & BANDS | CORE PULVERIZED. |
| 50 | 293.07 | 293.17 | 0.10 | | | MUDSTONE | CARB.DK.GY TO BLK; COAL BANDS. |
| 50 | 293.17 | 293.53 | 0.36 | | | MUDSTONE | CARB.DK.GY.BRKN TO BLK; VERY CARB; COAL BANDS THROUGHOUT; SLICKS. |
| 50 | 293.53 | 293.73 | 0.20 | | | CORELOSS | ROCK. |
| 50 | 293.73 | 293.87 | 0.14 | | | COAL | DULL LUSTROUS. |
| 50 | 293.87 | 294.06 | 0.19 | | | COAL | C-5 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 50 | 294.06 | 294.84 | 0.78 | | | MUDSTONE | CARB. DK. GY SLICKS BECOME SLTY TOWARDS BASE; CARB PLANT FRAGMENTS THROUGHOUT. |
| 45 | 294.84 | 295.18 | 0.34 | | | MUDSTONE | AS ABOVE; CALCITE VEINING; CORE BLOCKY. |
| * 41 | 295.18 | 295.84 | 0.66 | | | SILTSTONE | CARB. GY INTERBEDDED WITH SS; TOPS UP; SLIGHTLY CARB. |
| 41 | 295.84 | 296.42 | 0.58 | | | MUDSTONE | DK. GY CARB PLANT FRAGMENTS. |
| * 41 | 296.42 | 297.52 | 1.10 | | | SILTSTONE | M-DK. GY MUDDY IN PART; SLICKS; MINOR CALCITE VEINING. |
| * 40 | 297.52 | 299.43 | 1.91 | | | SILTSTONE | AS ABOVE; TOPS UP. |
| 36 | 299.43 | 300.14 | 0.71 | | | MUDSTONE | DK. GY SLTY IN PART. |
| * 31 | 300.14 | 302.46 | 2.32 | | | MUDSTONE | M-DK. GY INTERBEDDED WITH SLTST; MINOR CALCITE VEINING; SLICKS. |
| 36 | 302.46 | 302.78 | 0.32 | | | SILTSTONE | GY. LAM MINOR CALCITE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| * 41 | 302.78 | 305.49 | 2.71 | | | SILTSTONE | AS ABOVE; MINOR CARB PARTINGS; TOPS UP; SSY IN PART. |
| 44 | 305.49 | 305.77 | 0.28 | | | SILTSTONE | GY INTERBEDDED WITH SS. |
| * 45 | 305.77 | 306.81 | 1.04 | | | SILTSTONE | CARB INTERBEDDED WITH SS- AS ABOVE; SLIGHTLY CARB. |
| 46 | 306.81 | 307.36 | 0.55 | | | MUDSTONE | CARB.BRKN |
| 46 | 307.36 | 308.09 | 0.73 | | | CORELOSS | ROCK. |
| 47 | 308.09 | 308.57 | 0.48 | | | SILTSTONE | M-DK.GY INTERBEDDED WITH MUDST; CORE CRUMBLY. |
| 47 | 308.57 | 308.82 | 0.25 | | | MUDSTONE | CORE SHATTERED; ABUNDANT CALCITE. |
| 47 | 308.82 | 309.46 | 0.64 | | | CORELOSS | ROCK. |
| 48 | 309.46 | 311.77 | 2.31 | | | MUDSTONE | M-DK.GY INTERBEDDED WITH SLTST; CALCITE VEINING EXTREMELY ABUNDANT; CARB SLICKS; FAULT ZONE PROBABLE; SSY IN PART; CORE BLOCK Y IN PART. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GLR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH INTERVAL | SAMP. SEAM | LITHOLOGY | DESCRIPTION |
|-----|------------|----------------|------------|-----------|--|
| | TO | TO | TO | | |
| 49 | 311.77 | 311.68 | 0.11 | MUDSTONE | CARB.M-DK.GY VERY CARB; SLICKS; MINOR CALCITE VEINING; MINOR COAL LAMINATIONS AND BANDS. |
| 49 | 311.88 | 311.98 | 0.10 | MUDSTONE | DK.GY TO BLK; COALY; UNCONSOLIDATED; CRUMBLES IN FINGERS. |
| 49 | 311.98 | 312.49 | 0.51 | MUDSTONE | DK.GY TO BLK; MINOR CALCITE VEINING; MINOR COAL LAMINATIONS; SLICKS. |
| 50 | 312.49 | 314.31 | 1.82 | MUDSTONE | AS ABOVE; COAL BANDS AND LAMINATIONS IN CREASE TOWARDS BASE. |
| 51 | 314.31 | 314.92 | 0.61 | MUDSTONE | AS ABOVE. |
| 52 | 314.92 | 316.02 | 1.10 | MUDSTONE | AS ABOVE. |
| 52 | 316.02 | 316.13 | 0.11 | COAL | C-2 |
| 52 | 316.13 | 316.20 | 0.07 | COAL | STONEY. |
| 52 | 316.20 | 316.24 | 0.04 | MUDSTONE | CARB |
| 52 | 316.24 | 316.27 | 0.03 | COAL | C-2 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|---------------|----------|---------|--------------|--|
| 53 | 316.27 | 316.90 | 0.63 | | | MUDSTONE | DK.GY CORE BLOCKY; NEAR BASE; SLTY IN PART; M INGR COAL LAMINATIONS. |
| 53 | 316.90 | 317.55 | 0.65 | | | MUDSTONE | AS ABOVE; INCREASING COAL BANDS AND LAM NINATIONS NEAR BASE. |
| 53 | 317.55 | 317.58 | 0.03 | | | COAL & BANDS | |
| 54 | 317.58 | 317.74 | 0.16 | | | MUDSTONE | BLK COAL LAMINATIONS IN BANDS. |
| 54 | 317.74 | 317.85 | 0.11 | | | COAL | STONEY. |
| 54 | 317.85 | 317.88 | 0.03 | | | COAL | C-3 |
| 54 | 317.88 | 317.98 | 0.10 | | | COAL | |
| 54 | 317.98 | 318.31 | 0.33 | | | MUDSTONE | CARB.DK.GY SLTY AT BASE; MINOR CALCITE VEINING. DK GY TO BLK IN COLOR. |
| 54 | 318.31 | 319.44 | 1.13 | | | SILTSTONE | GY.BRKN CORE BLOCKY; BECOMING MUDDY TOWARDS BAS E. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH INTRVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|------------------|----------------|----------|---------|-----------|---|
| 55 | 319.44 | 320.57 | 1.13 | | | MUDSTONE | DK.GY MODERATE CALCITE VEINING; CARB; MINOR S LICKENSIDES. |
| 56 | 320.57 | 320.79 | 0.22 | | | CORELOSS | ROCK. |
| 56 | 320.79 | 321.34 | 0.55 | | | CORELOSS | ROCK. |
| 57 | 321.34 | 321.96 | 0.62 | | | MUDSTONE | AS MUDST ABOVE; SLTY IN PART. |
| * 57 | 321.96 | 322.55 | 0.59 | | | SANDSTONE | FG.GY MINOR CALCITE VEINS; VFG-FG. |
| 57 | 322.55 | 322.88 | 0.33 | | | MUDSTONE | CARB.DK.GY COAL STRINGERS THROUGHOUT. |
| 58 | 322.88 | 323.82 | 0.94 | | | MUDSTONE | DK.GY SLIGHTLY CARB. |
| 59 | 323.82 | 324.00 | 0.18 | | | MUDSTONE | AS ABOVE; BECOMING SLTY TOWARDS BASE. |
| 59 | 324.00 | 324.39 | 0.39 | | | SANDSTONE | FG.GY |
| 60 | 324.39 | 325.62 | 1.23 | | | MUDSTONE | DK.GY.BRKN CORE BRKN IN PARTS; CARB PLANT FRAGMENT S NEAR BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: UDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 60 | 325.62 | 326.41 | 0.79 | | | MUDSTONE | DK.GY MINOR CARB PLANT FRAGMENTS. |
| 61 | 326.41 | 326.66 | 0.25 | | | SILTSTONE | M-DK.GY |
| 61 | 326.66 | 327.00 | 0.34 | | | MUDSTONE | DK.GY MINOR COAL LAMINATIONS. |
| 62 | 327.00 | 328.40 | 1.40 | | | MUDSTONE | CARB.DK.GY TO BLK; VERY CARB; COAL STRINGERS AND BANDS. |
| 63 | 328.40 | 328.82 | 0.42 | | | MUDSTONE | CARB.DK.GY TO BLK; COAL LAMINATIONS. |
| 63 | 328.82 | 329.15 | 0.33 | | | CORELOSS | COAL. |
| 63 | 329.15 | 329.24 | 0.09 | | | COAL | PULVERIZED. |
| 64 | 329.24 | 329.74 | 0.50 | | | MUDSTONE | CARB.DK.GY TO BLK; COAL LAMINATIONS AND STRINGERS. |
| 64 | 329.74 | 330.11 | 0.37 | | | CORELOSS | COAL |
| 64 | 330.11 | 330.16 | 0.05 | | | COAL | C-2 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 53

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|--------------|---|
| 64 | 330.16 | 330.27 | 0.11 | | | COAL & BANDS | BANDS ARE MUDSTONE, DKGY TO BLK, CARB S LICKS, COAL IN BANDS. |
| 65 | 330.27 | 331.46 | 1.19 | | | MUDSTONE | CARB.GY.BRKN MINOR CALCITE VEINING; BRKN AT BASE. |
| 66 | 331.46 | 331.69 | 0.23 | | | CORELOSS | ROCK. |
| 67 | 331.69 | 333.32 | 1.63 | | | MUDSTONE | DK.GY TO BLK; CARB COAL BANDS AT TOP. |
| 67 | 333.32 | 333.56 | 0.24 | | | MUDSTONE | CARB.BLK COAL BANDS. |
| 68 | 333.56 | 333.59 | 0.03 | | | COAL | STONEY. |
| 68 | 333.59 | 333.82 | 0.23 | | | MUDSTONE | COALY. |
| 68 | 333.82 | 333.89 | 0.07 | | | MUDSTONE | CARB.SHRD |
| 68 | 333.89 | 334.03 | 0.14 | | | MUDSTONE | BLK.SHRD COAL STRINGERS. |
| 68 | 334.03 | 334.43 | 0.40 | | | CORELOSS | ROCK. |
| 68 | 334.43 | 334.54 | 0.11 | | | COAL | C-6 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 54

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 68 | 334.54 | 334.56 | 0.02 | | | MUDSTONE | CARB |
| 68 | 334.56 | 334.66 | 0.10 | | | COAL | C-6 |
| 69 | 334.66 | 334.96 | 0.30 | | | MUDSTONE | CARB.BLK MINOR COAL STRINGERS. |
| 69 | 334.96 | 335.72 | 0.76 | | | MUDSTONE | SLTY.M-DK.GY |
| * 70 | 335.72 | 336.79 | 1.07 | | | SILTSTONE | M-DK.GY |
| 73 | 336.79 | 337.46 | 0.67 | | | MUDSTONE | CARB.M-DK.GY SLIGHTLY CARB. |
| 74 | 337.46 | 337.84 | 0.38 | | | SILTSTONE | M-DK.GY |
| * 78 | 337.84 | 339.90 | 2.06 | | | SILTSTONE | AS ABOVE; SSY IN PARTS. |
| 69 | 339.90 | 340.72 | 0.82 | | | SILTSTONE | M-DK.GY INTERBEDDED WITH MUDST ; MODERATE CALCI TE VEINING. |
| * 60 | 340.72 | 342.90 | 2.18 | | | SILTSTONE | INTERBEDDED WITH MUDST; SAME AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 58 | 342.90 | 343.38 | 0.48 | | | SANDSTONE | FG.GY INTERBEDDED WITH SLTST; MODERATE CALCITE VEINING. |
| 58 | 343.38 | 344.08 | 0.70 | | | SILTSTONE | CARB.M-DK.GY INTERBEDDED WITH MUDST; MINOR COAL STRINGERS; TOPS UP; MODERATE CALCITE VEINING. |
| * 57 | 344.08 | 344.72 | 0.64 | | | SANDSTONE | FG.GY BECOMING SLTY TOWARDS BASE. |
| 60 | 344.72 | 345.48 | 0.76 | | | SILTSTONE | M-DK.GY BECOMES MUDDY TOWARDS BASE; MODERATE CALCITE VEINING. |
| 63 | 345.48 | 345.88 | 0.40 | | | MUDSTONE | DK.GY CARB PLANT FRAGMENTS; SLICKS. |
| 64 | 345.88 | 346.01 | 0.13 | | | CORELOSS | ROCK. |
| 65 | 346.01 | 346.28 | 0.27 | | | SILTSTONE | CARB.M-DK.GY SSY IN PART. |
| * 71 | 346.28 | 348.92 | 2.64 | | | SILTSTONE | BIOTR AS ABOVE; BECOMING MUDDY TOWARDS BASE; MINOR BIOTRB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 72 348.92 | 349.00 | 0.08 | | | MUDSTONE | SLTY.DK.GY |
| | 73 349.00 | 350.35 | 1.35 | | | MUDSTONE | CARB.DK.GY SLIGHTLY CARB; MINOR CALCITE VEINING. |
| * | 74 350.35 | 351.88 | 1.53 | | | SANDSTONE | SLTY.FG.M-DK.GY SLIGHTLY SLTY; MUDDY TOWARDS BASE. |
| * | 80 351.88 | 354.69 | 2.81 | | | MUDSTONE | M-DK.GY INTERBEDDED WITH SLTST; MINOR CALCITE VEINING; MINOR CARB PLANT FRAGMENTS. |
| | 83 354.69 | 354.84 | 0.15 | | | MUDSTONE | AS ABOVE. |
| | 83 354.84 | 355.01 | 0.17 | | | SANDSTONE | SLTY.VFG.GY TOPS UP; SLIGHTLY CARB. |
| * | 84 355.01 | 355.74 | 0.73 | | | SILTSTONE | SLTY.M-DK.GY SLTY IN PARTS; BECOMES MUDDY TOWARDS BASE. |
| | 81 355.74 | 357.39 | 1.65 | | | MUDSTONE | DK.GY TG BLK; CARB PLANT FRAGMENTS; MINOR COAL PARTINGS. |
| | 78 357.39 | 357.56 | 0.17 | | | CORELOSS | COAL |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH ERDM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 78 | 357.56 | 357.59 | 0.03 | | COAL | DULL LUSTROUS. |
| | 76 | 357.59 | 357.68 | 0.09 | | COAL | VBRKN AS ABOVE; SHRD. |
| | 77 | 357.68 | 357.72 | 0.04 | | COAL | STONEY. |
| | 77 | 357.72 | 357.78 | 0.06 | | COAL | SHRD DULL LUSTROUS. |
| | 77 | 357.78 | 357.89 | 0.11 | | CORELOSS | COAL. |
| | 76 | 357.89 | 358.13 | 0.24 | | MUDSTONE | BLK CORE BLOCKY; NUMEROUS COAL INCLUSIONS A ND BANDS; SLICKS. |
| | 76 | 358.13 | 358.30 | 0.17 | | CORELOSS | COAL. |
| | 75 | 358.30 | 358.54 | 0.24 | | MUDSTONE | AS MUDST ABOVE. |
| | 72 | 358.54 | 360.35 | 1.81 | | CORELOSS | ROCK. |
| | 69 | 360.35 | 360.65 | 0.30 | | CORELOSS | COAL. |
| | 68 | 360.65 | 361.45 | 0.80 | | SILTSTONE | CARB.DK.GY MUDDY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 66 361.45 | 362.15 | 0.70 | | | MUDSTONE | DK.GY TO BLK; SLICKS; MINOR CALCITE TOWARDS B ASE. |
| | 64 362.15 | 362.89 | 0.74 | | | MUDSTONE | DK.GY ABUNDANT CARB PLANT FRAGMENTS; MODERATE CALCITE VEINING. |
| | 61 362.89 | 363.78 | 0.89 | | | SILTSTONE | M-DK.GY.MAS CALCITE VEINING; CARB PLANT FRAGMENTS. |
| | 59 363.78 | 364.56 | 0.78 | | | MUDSTONE | DK.GY CARB PLANT FRAGMENTS; MINOR COAL INCLUS IONS. |
| | 57 364.56 | 364.94 | 0.38 | | | CORELDSS | COAL. |
| | 56 364.94 | 365.71 | 0.77 | | | MUDSTONE | AS MUDST ABOVE. |
| * | 53 365.71 | 366.71 | 1.00 | | | SILTSTONE | M-DK.GY MODERATE CALCITE VEINING; CARB PLANT FR AGMENTS. |
| | 54 366.71 | 367.02 | 0.31 | | | MUDSTONE | BLK COALY. |
| | 54 367.02 | 367.17 | 0.15 | G0708 | | COAL | VBRKN DULL LUSTROUS; SLIGHTLY SHRD. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 55 367.17 | 367.72 | 0.55 | 00708 | | CORELOSS | COAL. |
| | 55 367.72 | 368.22 | 0.50 | | | CORELOSS | ROCK. |
| | 56 368.22 | 368.32 | 0.10 | | | MUDSTONE | CARB.BLK VERY CARB; COAL INCLUSIONS. |
| | 56 368.32 | 368.34 | 0.02 | | | COAL | C-1 |
| | 56 368.34 | 368.58 | 0.24 | | | CORELOSS | COAL AND CARB MUDST. |
| * | 57 368.58 | 370.18 | 1.60 | | | MUDSTONE | BLK COAL BANDS AT TOP; CALCITE MODERATE; BE COMES SLTY TOWARDS BASE. |
| | 57 370.18 | 370.86 | 0.68 | | | SILTSTONE | GY.LAM.BIOTR MINOR BIOTRB; MUDDY; ABUNDANT PYRITE ON FRACTURE PLANES. |
| | 57 370.86 | 371.06 | 0.20 | | | SILTSTONE | AS ABOVE. |
| * | 57 371.06 | 373.06 | 2.00 | | | MUDSTONE | CARB.DK.GY TO BLK; MINOR CALCITE VEINING; SLICKS; COAL LAMINATIONS AND BANDS; BECOMES SLT Y TOWARDS BASE. |
| | 59 373.06 | 373.32 | 0.26 | | | SILTSTONE | SSY.GY ABUNDANT CARB PLANT FRAGMENTS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 59 373.32 | 373.42 | 0.10 | | | SILTSTONE | AS ABOVE. |
| | 60 373.42 | 373.72 | 0.30 | | | SILTSTONE | AS ABOVE. |
| | 61 373.72 | 374.41 | 0.69 | | | MUDSTONE | DK.GY TO BLK; COAL LAMINATIONS AND INCLUSIONS . |
| | 62 374.41 | 374.51 | 0.10 | | | COAL | DULL LUSTROUS (PROBABLE); CORE PULVERIZE D. |
| | 62 374.51 | 375.41 | 0.90 | | | MUDSTONE | BLK COALY. |
| | 63 375.41 | 375.53 | 0.12 | | | MUDSTONE | CARB.DK.GY |
| | 64 375.53 | 375.86 | 0.33 | | | SILTSTONE | CARB.DK.GY |
| * | 65 375.86 | 376.71 | 0.85 | | | MUDSTONE | DK.GY TO BLK; COAL LAMINATIONS AND INCLUSIONS ; HEAVY CALCITE VEINING AT TOP. |
| * | 51 376.71 | 378.11 | 1.40 | | | MUDSTONE | DK.GY TO BLK; AS ABOVE; CORE BLOCKY IN PART. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | IN IRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|--------------------|-------------|------------|-----------|---|
| 55 | 378.11 | 379.35 | 1.24 | | | SILTSTONE | M-DK.GY.BIOTR INTERBEDDED WITH DKGY MUDST; MINOR CARB PLANT FRAGMENTS THROUGHOUT; MINOR BIOT RB. |
| 57 | 379.35 | 379.52 | 0.17 | | | MUDSTONE | CARB.DK.GY SLIGHTLY CARB. |
| 58 | 379.52 | 380.22 | 0.70 | | | MUDSTONE | AS ABOVE; ABUNDANT CARB PLANT FRAGMENTS THROUGHOUT; MINOR CALCITE VEINING; MIN OR COAL INCLUSIONS. |
| * 61 | 380.22 | 381.86 | 1.64 | | | SILTSTONE | CARB.GY INTERBEDDED WITH DKGY MUDST ; SLIGHTLY CARB; MODERATE CALCITE VEINING; SSSY IN PART. |
| 60 | 381.86 | 382.27 | 0.41 | | | SILTSTONE | AS ABOVE. |
| 60 | 382.27 | 382.42 | 0.15 | | | MUDSTONE | CARB.DK.GY TO BLK; VERY CARB; COAL INCLUSIONS AND BANDS; SLICKENSIDES; MINOR CALCITE VEIN ING. |
| 59 | 382.42 | 382.46 | 0.04 | | | COAL | SHRD DULL LUSTROUS; CORE VBRKN. |
| 59 | 382.46 | 382.95 | 0.49 | | | CORELOSS | COAL. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 59 | 382.95 | 382.98 | 0.03 | | | MUDSTONE | BLK.SHRD COALY. |
| 59 | 382.98 | 383.33 | 0.35 | | | CORELOSS | ROCK. |
| 58 | 383.33 | 383.54 | 0.21 | | | CORELOSS | COAL. |
| 58 | 383.54 | 383.57 | 0.03 | | | COAL | C-3 |
| 58 | 383.57 | 383.81 | 0.24 | | | CORELOSS | ROCK. |
| 58 | 383.81 | 384.22 | 0.41 | | | CORELOSS | COAL. |
| 57 | 384.22 | 384.57 | 0.35 | | | MUDSTONE | BLK COALY; CORE BLOCKY. |
| 57 | 384.57 | 384.80 | 0.23 | | | MUDSTONE | DK.GY.VSHRD TO BLK; COAL LAMINATIONS AND INCLUSIONS ; VSHRD AT BASE. |
| 57 | 384.80 | 384.96 | 0.16 | | | MUDSTONE | BLK.SHRD COALY; CORE PULVERIZED. |
| * 56 | 384.96 | 386.00 | 1.04 | | | MUDSTONE | DK.GY TO BLK; NUMEROUS COAL BANDS AND INCLUSIONS THROUGHOUT; CORE BLOCKY IN PART. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUK BLOCK: X1 DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 55 | 386.00 | 386.63 | 0.63 | | | SILTSTONE | DK.GY SLIGHTLY CARB AT TOP. |
| 54 | 386.63 | 387.47 | 0.84 | | | SANDSTONE | SLTY.GY COAL LAMINATIONS TOWARDS BASE. |
| * 52 | 387.47 | 388.62 | 1.15 | | | MUDSTONE | CARB.DK.GY TO BLK; BECOMES INCREASINGLY CARB; COAL LAMINATIONS AND INCLUSIONS; CALCITE VEI NS MODERATE TO HEAVY; SOME SHEARING. |
| 52 | 388.62 | 389.33 | 0.71 | | | MUDSTONE | DK.GY CARB PLANT FRAGMENTS THROUGHOUT; BECOME S SLTY TOWARDS BASE. |
| 52 | 389.33 | 389.51 | 0.18 | | | SILTSTONE | SSY.GY |
| 53 | 389.51 | 390.82 | 1.31 | | | SILTSTONE | DK.GY INTERBEDDED WITH MUDST. |
| 53 | 390.82 | 391.63 | 0.81 | | | SANDSTONE | VFG.GY CALCITE VEINING MODERATE TO HEAVY. |
| * 53 | 391.63 | 392.07 | 0.44 | | | SILTSTONE | M-DK.GY INTERBEDDED WITH MUDST; SLIGHTLY CARB; CALCITE VEINING MODERATE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GTR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 48 | 392.07 | 393.34 | 1.27 | | | SILTSTONE | AS ABOVE; CARB IN PART. |
| 49 | 393.34 | 393.54 | 0.20 | | | MUDSTONE | CARB.DK.GY.SHRD TO BLK; MINOR CALCITE VEINING. |
| 49 | 393.54 | 393.81 | 0.27 | | | MUDSTONE | BLK.VBRKN COAL LAMINATIONS AND BANDS; VSHRD. |
| 49 | 393.81 | 393.85 | 0.04 | | | COAL | STONEY. |
| 50 | 393.85 | 394.32 | 0.47 | | | CORELOSS | COAL. |
| 50 | 394.32 | 394.46 | 0.14 | | | CORELOSS | ROCK. |
| 50 | 394.46 | 394.72 | 0.26 | | | MUDSTONE | CARB.BLK.VBRKN VERY CARB; SHRD. |
| 51 | 394.72 | 394.75 | 0.03 | | | COAL | DULL LUSTROUS. |
| 51 | 394.75 | 395.72 | 0.97 | | | CORELOSS | COAL. |
| 52 | 395.72 | 395.81 | 0.09 | | | CORELOSS | MUDST. |
| 53 | 395.81 | 396.68 | 0.87 | | | MUDSTONE | DK.GY.SHRD TO BLK; BECOMES SLTY TOWARDS BASE; COAL LAMINATIONS AND BANDS DECREASE TOWARDS BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDM80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 54 396.68 | 397.70 | 1.02 | | | SILTSTONE | M-DK.GY INTERBEDDED WITH SS; CARB PLANT FRAGMENTS ABUNDANT. |
| | 55 397.70 | 397.90 | 0.20 | | | MUDSTONE | DK.GY ABUNDANT CARB PLANT FRAGMENTS. |
| | 56 397.90 | 399.79 | 1.89 | | | MUDSTONE | AS ABOVE; MINOR SLICKS. |
| | 57 399.79 | 400.33 | 0.54 | | | SILTSTONE | M-DK.GY |
| | 58 400.33 | 401.13 | 0.80 | | | SILTSTONE | AS ABOVE; INTERBEDDED WITH MUDST. |
| * | 60 401.13 | 403.06 | 1.93 | | | SILTSTONE | AS ABOVE; MINOR CALCITE VEINING; TOPS UP. |
| | 63 403.06 | 403.75 | 0.69 | | | MUDSTONE | DK.GY BECOMING SLTY TOWARDS BASE; MINOR COAL INCLUSIONS; SLICKS. |
| | 64 403.75 | 404.11 | 0.36 | | | SILTSTONE | M-DK.GY MUDDY. |
| * | 66 404.11 | 405.15 | 1.04 | | | SILTSTONE | M-DK.GY INTERBEDDED WITH MUDST. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 63 | 405.15 | 405.81 | 0.66 | | | MUDSTONE | DK.GY TU BLK; MODERATE CALCITE VEINING; ABUNDANT CARB PLANT FRAGMENTS |
| 60 | 405.81 | 407.11 | 1.30 | | | MUDSTONE | AS ABOVE. |
| * 56 | 407.11 | 408.61 | 1.50 | | | MUDSTONE | AS ABOVE. |
| 56 | 408.61 | 409.29 | 0.68 | | | MUDSTONE | AS ABOVE; BECOMES SLTY TOWARDS BASE. |
| 56 | 409.29 | 410.01 | 0.72 | | | SILTSTONE | CARB.GY SLIGHTLY CARB. |
| * 56 | 410.01 | 410.70 | 0.69 | | | SILTSTONE | BIOTR MINOR BIOTRB; AS ABOVE. |
| 60 | 410.70 | 411.43 | 0.73 | | | MUDSTONE | DK.GY TU BLK; BECOMES INCREASINGLY CARB TOWARDS BASE; COAL BANDS AND LAMINATIONS AT BASE. |
| 64 | 411.43 | 411.86 | 0.43 | | | MUDSTONE | AS ABOVE; BECOMES SLTY TOWARDS BASE. |
| * 69 | 411.86 | 413.06 | 1.20 | | | SANDSTONE | MG.GY FG TO MG; SILT LAMINATIONS; CARB PLANT FRAGMENTS. |
| 72 | 413.06 | 414.15 | 1.09 | | | SANDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | IN INTERVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-----------------------|----------|------------|-----------|---|
| * 76 | 414.15 | 416.11 | 1.96 | | | SANDSTONE | AS ABOVE. |
| 71 | 416.11 | 416.25 | 0.14 | | | SANDSTONE | AS ABOVE. |
| 69 | 416.25 | 416.89 | 0.64 | | | MUDSTONE | DK.GY ABRUPT CONTACT WITH SS. |
| * 61 | 416.89 | 419.22 | 2.33 | | | SILTSTONE | M-DK.GY INTERBEDDED WITH MUDST; ABUNDANT PLANT FRAGMENTS IN PART. |
| 64 | 419.22 | 419.41 | 0.19 | | | SILTSTONE | AS ABOVE. |
| 65 | 419.41 | 419.47 | 0.06 | | | COAL | DULL LUSTROUS. |
| 65 | 419.47 | 419.65 | 0.18 | | | SILTSTONE | DK.GY COAL LAMINATIONS. |
| * 67 | 419.65 | 421.17 | 1.52 | | | SILTSTONE | DK.GY SLIGHTLY CARB; MODERATE CALCITE VEINING . |
| 60 | 421.17 | 422.03 | 0.86 | | | MUDSTONE | CARB.DK.GY TO BLK; VERY CARB; ABUNDANT COAL LAMINA TIONS. |
| 56 | 422.03 | 422.40 | 0.37 | | | SILTSTONE | DK.GY COAL BANDS; MINOR SLICKS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| * 48 | 422.40 | 424.95 | 2.55 | | | SILTSTONE | M-DK.GY INTERBEDDED WITH MUDST; MODERATE CALCIT E VEINING; MINOR COAL LAMINATIO S TOWARD S BASE. |
| 52 | 424.95 | 425.22 | 0.27 | | | SILTSTONE | INTERBEDDED WITH MUDST; AS ABOVE. |
| 54 | 425.22 | 426.06 | 0.84 | | | SILTSTONE | INTERBEDDED WITH MUDST; AS ABOVE. |
| 56 | 426.06 | 426.52 | 0.46 | | | SANDSTONE | VFG.LT-M.GY MINOR CALCITE VEINING. |
| 58 | 426.52 | 427.13 | 0.61 | | | SILTSTONE | M-DK.GY INTERBEDDED WITH MUDST; |
| * 60 | 427.13 | 428.09 | 0.96 | | | SANDSTONE | FG.LT-M.GY SLTST LAMINATIONS. |
| 65 | 428.09 | 429.04 | 0.95 | | | MUDSTONE | DK.GY SLIGHTLY CARB. |
| * 69 | 429.04 | 429.40 | 0.36 | | | SANDSTONE | VFG.GY |
| * 65 | 429.40 | 430.09 | 0.69 | | | MUDSTONE | DK.GY BECOMES SLTY TOWARDS BASE; MINOR COAL L AMINATIONS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|-------------------|----------------|----------|---------|-----------|---|
| 65 | 430.09 | 430.37 | 0.28 | | | SANDSTONE | VFG.GY.LAM BECOMES SLTY TOWARDS BASE. |
| 65 | 430.37 | 430.97 | 0.60 | | | MUDSTONE | DK.GY MINOR COAL LAMINATIONS IN PART. |
| 65 | 430.97 | 431.10 | 0.13 | | | MUDSTONE | AS ABOVE. |
| 64 | 431.10 | 433.41 | 2.31 | | | MUDSTONE | AS ABOVE; MINOR CARB PLANT FRAGMENTS TH ROUGHOUT. |
| 64 | 433.41 | 433.85 | 0.44 | | | SILTSTONE | M-DK.GY SLIGHTLY CARB; MUDDY; BECOMING SSSY TOWA RDS BASE. |
| 63 | 433.85 | 434.15 | 0.30 | | | SANDSTONE | MG.GY MG TO FG |
| 63 | 434.15 | 436.66 | 2.51 | | | SANDSTONE | CG.GY COARSENING DOWNWARDS; COAL LAMINATIONS AND INCLUSIONS TOWARDS BASE. |
| 62 | 436.66 | 437.15 | 0.49 | | | SANDSTONE | AS ABOVE. |
| 62 | 437.15 | 437.27 | 0.12 | | | SANDSTONE | AS ABOVE. |
| * 62 | 437.27 | 437.94 | 0.67 | | | SANDSTONE | AS ABOVE; NON CARB; MINOR CALCITE VEINI NG. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 64 | 437.94 | 439.28 | 1.34 | | | SANDSTONE | CG.GY COAL INCLUSIONS; MODERATE TO HEAVY CALC ITE VEINING; MINOR MUD CLASTS TOWARDS B ASE. |
| * 65 | 439.28 | 439.91 | 0.63 | | | SANDSTONE | AS ABOVE; MUDST LAMINATIONS AND CLASTS INCREASING; PYRITE ON CALCITE VEINS. |
| 62 | 439.91 | 440.33 | 0.42 | | | SANDSTONE | CG.GY MG TO CG |
| * 57 | 440.33 | 441.98 | 1.65 | | | SANDSTONE | AS ABOVE; MINOR MUDST RIP UP CLASTS INC REASING TOWARDS BASE; COAL LAMINATIONS A ND INCLUSIONS; MINOR TO MODERAT CALCITE VEINING. |
| 54 | 441.98 | 442.75 | 0.77 | | | SANDSTONE | AS ABOVE; ABUNDANT COAL LAMINATIONS AND INCLUSIONS. |
| * 53 | 442.75 | 443.32 | 0.57 | | | SILTSTONE | DK.GY INTERBEDDED WITH MUDST; SLICKS; MINOR C OAL INCLUSIONS. |
| 54 | 443.32 | 443.41 | 0.09 | | | ROCKLOSS | |
| * 56 | 443.41 | 444.85 | 1.44 | | | SILTSTONE | BRKN INTERBEDDED WITH MUDST; AS ABOVE; CORE BRKN AT TOP; SSSY IN PART. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GLR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 50 | 444.85 | 446.07 | 1.22 | | SANDSTONE | MG.M-DK.GY MODERATE CALCITE VEINING AT TOP. |
| * | 44 | 446.07 | 447.60 | 1.53 | | SILTSTONE | CARB.M-DK.GY INTERBEDDED WITH SS; SLIGHTLY CARB. |
| | 58 | 447.60 | 449.02 | 1.42 | | SANDSTONE | MG.LT-M.GY MINOR MUD INCLUSIONS. |
| * | 67 | 449.02 | 449.59 | 0.57 | | SANDSTONE | AS ABOVE. |
| | 66 | 449.59 | 449.82 | 0.23 | | SILTSTONE | M-DK.GY INTERBEDDED WITH MUDST. |
| | 65 | 449.82 | 450.43 | 0.61 | | SANDSTONE | MG.M-DK.GY COAL INCLUSIONS MINOR; MODERATE CALCITE VEINING NEAR BASE. |
| | 64 | 450.43 | 450.72 | 0.29 | | SANDSTONE | AS ABOVE. |
| | 63 | 450.72 | 450.99 | 0.27 | | CORELOSS | ROCK. |
| | 61 | 450.99 | 451.79 | 0.80 | | MUDSTONE | INTERBEDDED WITH SLTST. |
| | 60 | 451.79 | 452.13 | 0.34 | | MUDSTONE | AS ABOVE. |
| | 59 | 452.13 | 452.29 | 0.16 | | MUDSTONE | CARB.DK.GY.SHRD TO BLK; CORE CRUSHED. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH EBDM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 58 | 452.29 | 453.24 | 0.95 | | CORELOSS | ROCK. |
| | 55 | 453.24 | 454.22 | 0.98 | | SANDSTONE | CARB.CG.DK.GY.VBRKN VERY CARB; CORE VBRKN IN PART. |
| * | 52 | 454.22 | 455.38 | 1.16 | | SANDSTONE | LT-M.GY AS ABOVE; COAL LAMINATIONS NEAR TOP; ABU NDANT MUDST CLASTS NEAR BASE. |
| * | 53 | 455.38 | 457.38 | 2.00 | | SANDSTONE | AS ABOVE; MODERATE MUDSTONE CLASTS NEAR TOP; CORE BLOCKY IN PART; MODERATE CAL CITE VEINING. |
| | 47 | 457.38 | 457.87 | 0.49 | | SANDSTONE | MG.LT-M.GY.LAM MODERATE CALCITE VEINING. |
| | 45 | 457.87 | 458.05 | 0.18 | | SANDSTONE | AS ABOVE; HEAVY CALCITE VEINING. |
| * | 39 | 458.05 | 460.47 | 2.42 | | SANDSTONE | MG.LT-M.GY MUDST CLASTS MODERATE DECREASING TOWARD S BASE; MODERATE CALCITE VEINING; SLIGH TLY CARB. |
| | 34 | 460.47 | 461.33 | 0.86 | | SANDSTONE | AS ABOVE; BECOMING FG NEAR BASE. |
| | 30 | 461.33 | 463.21 | 1.88 | | SANDSTONE | VFG.M-DK.GY.LAM INTERBEDDED WITH SLTST. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 25 | 463.21 | 464.26 | 1.05 | | | SANDSTONE | VFG.GY.LAM MINOR CALCITE VEINING; BECOMING SLTY TO WARDS BASE. |
| 28 | 464.26 | 464.58 | 0.32 | | | SILTSTONE | SSY.GY HEAVY CALCITE VEINING. |
| 30 | 464.58 | 464.99 | 0.41 | | | SANDSTONE | CARB.MG.GY VERY CARB; CORE BLOCKY AT TOP. |
| 32 | 464.99 | 465.65 | 0.66 | | | SANDSTONE | VFG.LT-M.GY INTERBEDDED WITH SLTST. |
| 38 | 465.65 | 467.35 | 1.70 | | | SANDSTONE | AS ABOVE; SLIGHTLY CARB. |
| * 44 | 467.35 | 468.29 | 0.94 | | | SILTSTONE | CARB.GY SLIGHTLY CARB; SLICKS. |
| * 49 | 468.29 | 469.62 | 1.33 | | | SILTSTONE | AS ABOVE; SSY IN PART. |
| 50 | 469.62 | 470.19 | 0.57 | | | SANDSTONE | CG.LT-M.GY COAL INCLUSIONS AND LAMINATIONS THROUGH OUT. |
| 50 | 470.19 | 470.91 | 0.72 | | | SANDSTONE | MG.LT-M.GY BECOMING SLTY TOWARDS BASE. |
| 51 | 470.91 | 471.57 | 0.66 | | | SANDSTONE | FG.LT-M.GY SLTY IN PART. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80039

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 51 | 471.57 | 471.65 | 0.08 | | MUDSTONE | DK.GY SS MOTTINGS. |
| * | 52 | 471.65 | 473.22 | 1.57 | | SANDSTONE | MG.GY COAL LAMINATIONS THROUGHOUT; MODERATE C ALCITE VEINING. |
| | 52 | 473.22 | 473.58 | 0.36 | | SANDSTONE | AS ABOVE. |
| * | 53 | 473.58 | 476.13 | 2.55 | | SANDSTONE | LG.LT-M.GY MODERATE TO HEAVY CALCITE VEINING; COAL LAMINATIONS THROUGHOUT. 477.29 - END U F HOLE. |

* DENOTES MEASURED BCA

DDH 80-40

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH80040

HISTORY

DY MO YR DY MO YR
 START DATE: 15/11/80 END DATE: 20/11/80 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: C. WILLIAMS SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1303.35
 UTM ZONE: 10 NORTH: 6144859.05 EAST: 545734.23
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: . EAST: . LSD: ___ SEC: ___ TWP: ___ RCB: ___ MER: ___
 NTS-BC NORTH: . EAST: . QUAD: ___ UNIT: ___ BLK: ___ ST: ___ MUS: ___ MS: ___

DIMENSIONS AND ORIENTATION

LENGTH: 344.40 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: . SIZE HEIGHT: .
 ROOF STRIKE: ___ DIP: ___ FLOOR STRIKE: ___ DIP: ___

DRILL HOLE STATUS

CASING DEPTH: 20.42 CEMENTED: ___ PLUGGED: ___ PEIZOMETERS INSTALLED: ___
 AQUIFER DEPTHS: . . LOST CIRCULATION DEPTHS: . .

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|------------|------------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : _____ | --- | --- | X | --- | 125A |
| NEUTRON | X | 1:100 | : _____ | --- | --- | X | --- | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | X | --- | 457AS |
| CALIPER | X | 1:100 | : _____ | --- | --- | X | --- | 785 |
| FE-SHORT | X | : | 1:40 | --- | --- | X | --- | 7 |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | --- | 7 |
| DIRECTIONAL | X | : | : _____ | --- | --- | X | --- | _____ |
| DIPMETER | --- | : _____ | : _____ | --- | --- | --- | --- | _____ |

*** COAL DIVISION ***

DATA SOURCE: D80-40

INTERVAL OF INTERPOLATION 10 UNIT(S)

VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 0.00 | 1.00 | 154.40 |
| 15.00 | .80 | 200.20 |
| 15.00 | .80 | 200.20 |
| 15.00 | .80 | 200.20 |
| 30.00 | .80 | 176.20 |
| 45.00 | .80 | 153.40 |
| 60.00 | .60 | 108.20 |
| 75.00 | .90 | 208.50 |
| 90.00 | .90 | 199.80 |
| 105.00 | 1.00 | 178.10 |
| 120.00 | 1.10 | 159.50 |
| 135.00 | 1.10 | 160.50 |
| 150.00 | 1.32 | 123.10 |
| 165.00 | 1.40 | 110.80 |
| 180.00 | 1.50 | 98.00 |
| 195.00 | 1.50 | 89.00 |
| 195.00 | 1.50 | 89.00 |
| 195.00 | 1.50 | 89.00 |
| 210.00 | 1.60 | 82.80 |
| 225.00 | 1.80 | 47.40 |
| 240.00 | 1.90 | 52.70 |

*** COAL DIVISION ***

DATA SOURCE: D80-40

INTERVAL OF INTERPOLATION 10 UNIT(S)

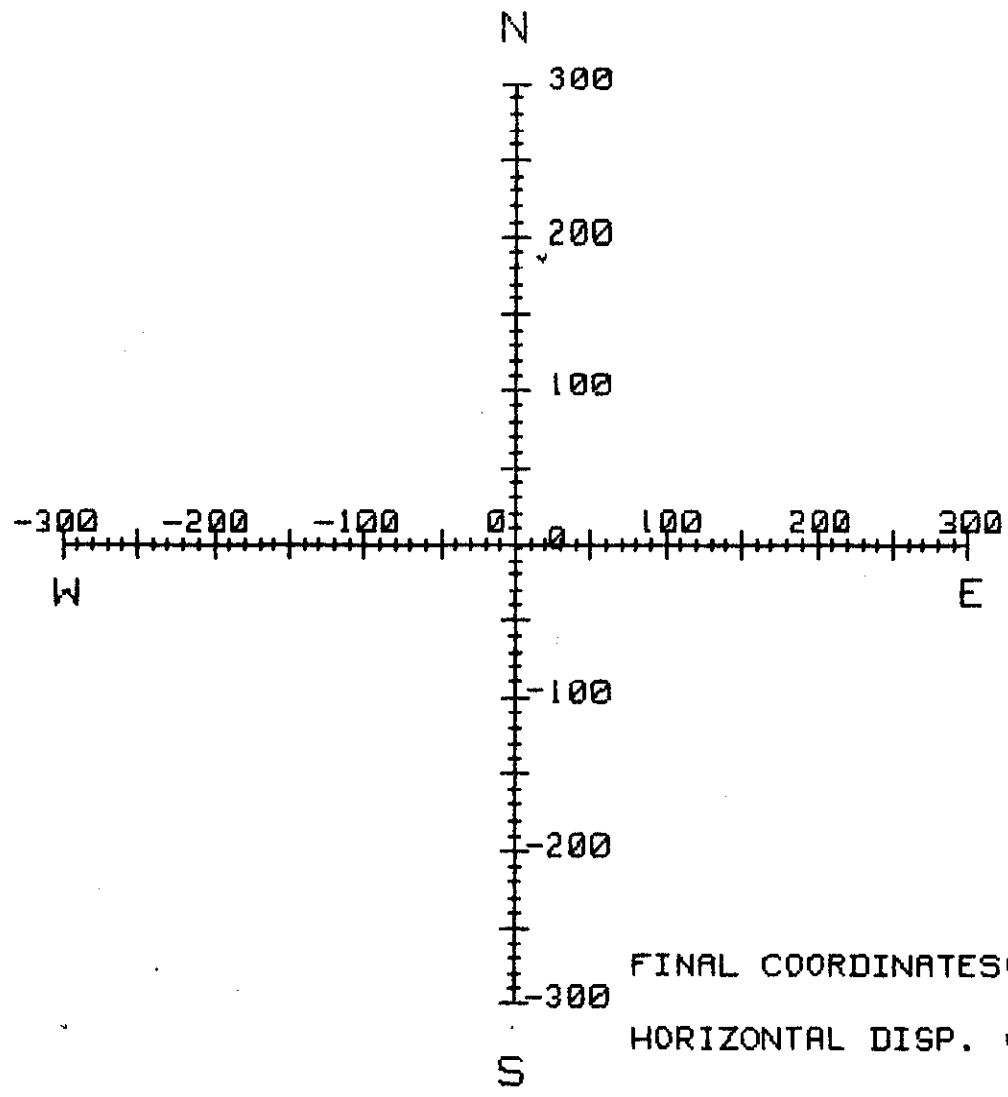
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 255.00 | 1.90 | 45.10 |
| 270.00 | 2.10 | 86.30 |
| 285.00 | 2.20 | 66.10 |
| 300.00 | 2.30 | 47.30 |
| 315.00 | 2.20 | 359.00 |
| 330.00 | 2.20 | 32.50 |
| 343.10 | 2.30 | 35.00 |

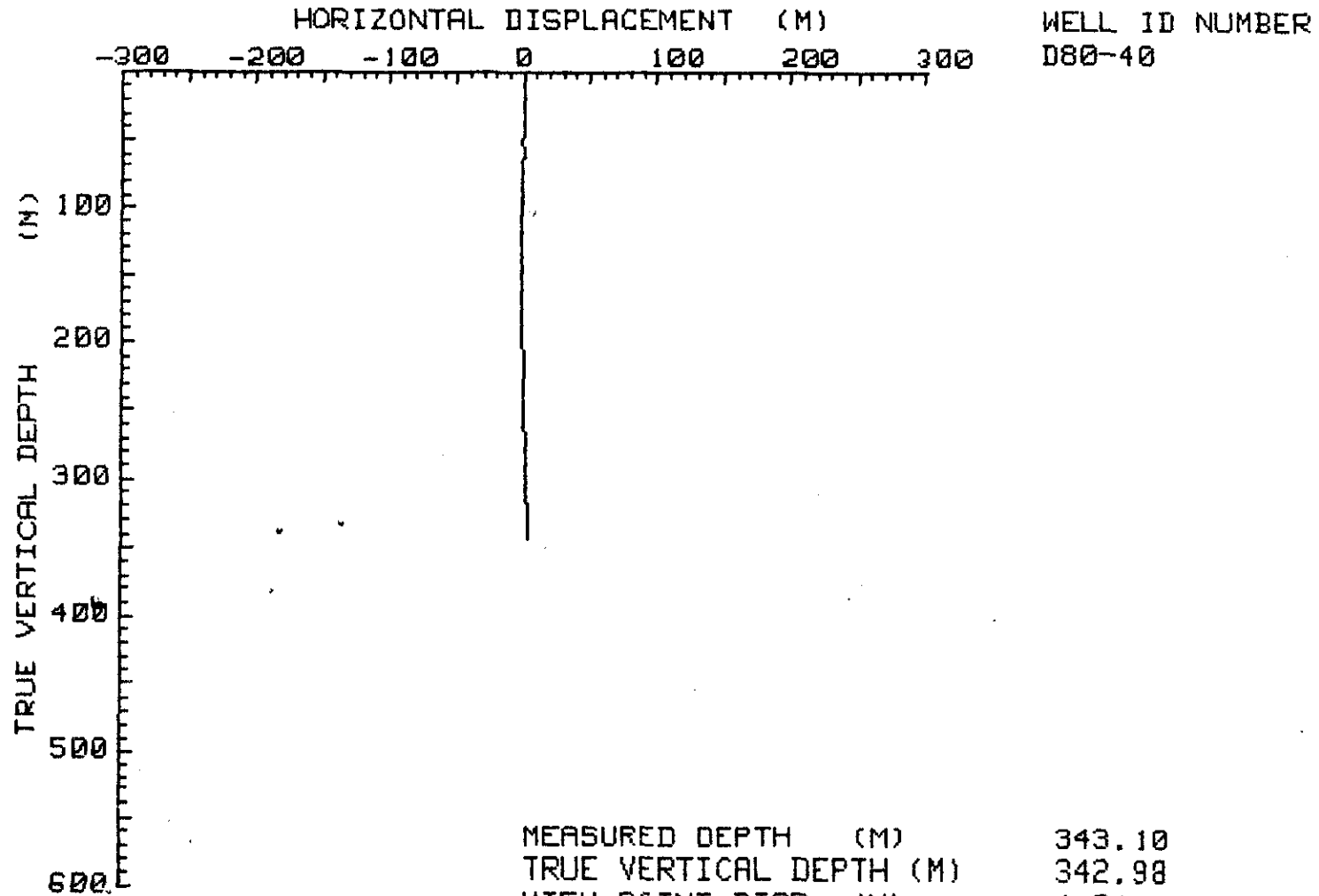
PLAN VIEW

WELL ID NUMBER
D80-40



FINAL COORDINATES(M) N .59
E 5.13
HORIZONTAL DISP. (M) 4.04

DISPLACEMENT



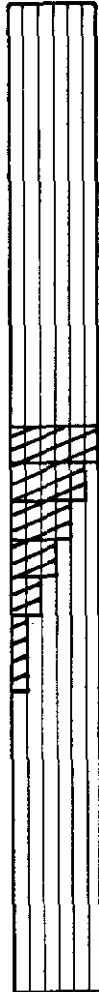
| | |
|-------------------------|--------|
| MEASURED DEPTH (M) | 343.10 |
| TRUE VERTICAL DEPTH (M) | 342.98 |
| VIEW POINT DISP. (M) | 4.04 |
| SECTION LINE BEARING | 45.00 |

SEAM
COMP.

COAL
SEAM
LOG

LITHOTYPE


- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone



- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff
- coal
- coal-boney, stoney, coal and bands/rock - designated C6
- rock > coal lithotype uncertain
- MISSING CORE
- rock
- coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

| | | |
|---|---------|---|
| GULF CANADA RESOURCES INC. | |  |
| Coal Division | | |
| CALGARY | ALBERTA | |
| LEGEND FOR COAL SEAM DATA SHEETS | | |
| PREPARED BY: V. O. | | SCALE 1:40 |
| APPROVED BY: | | DATE: JAN. 82 DRAWING No. |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

Coal/Coal+Rock (True Thk(m))
102 /153
SEAM INTERVAL 27.78 - 29.57 m

DENSITY RESISTIVITY

DRILL NO GDR-DDH-80-40 SEAM
SCALE 1:40

| DENSITY SCALE | RESISTIVITY SCALE | SEAM COMP 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | REC (1.5 /Foot) | SAMPLE NUMBER COMPOS | PROXIMATE ANALYSIS | | | | | | |
|---------------|-------------------|---------------------|-------|---------------|----------|--------|-----------------------|-------------------------|--------------------|------|-------|-------|------|-------------------|-----|
| | | | | | ROCK | COAL | | | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | F51 |
| 10 | 100 | | 27.78 | | | 0.88 | 100 92.56 | 00709 | 0.71 | 4.31 | 19.24 | 75.74 | 0.89 | 14,741 (29.48) | 3.0 |
| 110 | 100 | | 28.66 | | 0.47 | | 80 (1.63) | 00710 | 0.66 | 8.81 | 19.83 | 70.71 | 0.90 | 14,056 (28.11) | 4.5 |
| 120 | 100 | | 29.25 | | (0.12) | | 53 (79.60) | 00711 | 0.74 | 4.87 | 18.56 | 75.81 | 0.71 | 14,518 (29.04) | 1.5 |
| 130 | 100 | | 29.57 | | | 0.20 | 100 (2.19) | 00712 | 0.49 | 9.28 | 20.92 | 69.31 | 1.14 | 13,979 (27.96) | 6.5 |
| 140 | 100 | | 30.82 | | 1.25 | | 50 (77.76) | 00713 | 0.39 | 6.91 | 22.11 | 71.59 | 1.08 | 14,548 (29.10) | 9.0 |
| 150 | 100 | | 31.26 | | | (0.22) | | | | | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P 25/112 801
Coal/Coal+Rock (True Thk(m))
0.96/1.17

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-80-40 SEAM _____
SCALE 1:40

SEAM INTERVAL 39.25 - 40.85 m.

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC / 15 (Feet) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | | |
|---------------|-------------------|------|------|------|------|------|------|------|------|------|------------|-------|---------------|-------------|-------------|-------------------|--------|------|--------------------|-------|-------|------|----------------|------|------|--------|--------|-------|-----|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | | | | 2.00 | 2.10 | | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | NUMBER | COMPOS | MOIST | ASH |
| | | | | | | | | | | | | 39.25 | | 0.01 | 0.40 | 94 (90.31) | 00714 | 0.41 | 4.68 | 17.74 | 7.717 | 0.72 | 14,613 (29.23) | 1.5 | | | | | |
| | | | | | | | | | | | | 40.04 | | 0.12 (0.18) | 0.26 (0.13) | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 40.85 | | | (0.54) | 15 (0.36) | 00715 | 0.62 | 8.22 | 19.80 | 74.88 | 0.92 | 14,552 (29.10) | 5.0 | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P. 267112 R01

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-80-40 SEAM
SCALE 1:40

SEAM INTERVAL 69.92 - 70.25 m.

| DENSITY SCALE RESISTIVITY SCALE | SEAM COMP 654321 | | DEPTH | COAL SEAM LOG | INTERVAL | | SAMPLE NUMBER | PROXIMATE ANALYSIS | | | | | | | | | | | | |
|------------------------------------|---|---------------------------------|-------|---------------|----------|------|------------------|--------------------|------|------|-------|-------|----------------|--------|----|---------|--|--|--|--|
| | DENSITY SCALE 1.00, 1.10, 1.20, 1.30, 1.40, 1.50, 1.60, 1.70, 1.80, 1.90, 2.00, 2.10, 2.20, 2.30, 2.40, 2.50, 2.60, 2.70, 2.80 | RESISTIVITY SCALE 100, 15.05 | | | ROCK | COAL | | MOIST | ASH | VM | FC | S | BTD (MJ/KG) | FSI | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | 69.92 | | | | 100 | | | | | | | | | | | | | |
| | | | 70.25 | | | 0.33 | 43.05 | 00720 | 0.45 | 5.41 | 21.97 | 72.17 | 1.06 | 14,729 | 90 | (29.46) | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P. 267 (12/80)
Coal / Coal + Rock (True Thk (m))
1.66 / 1.88

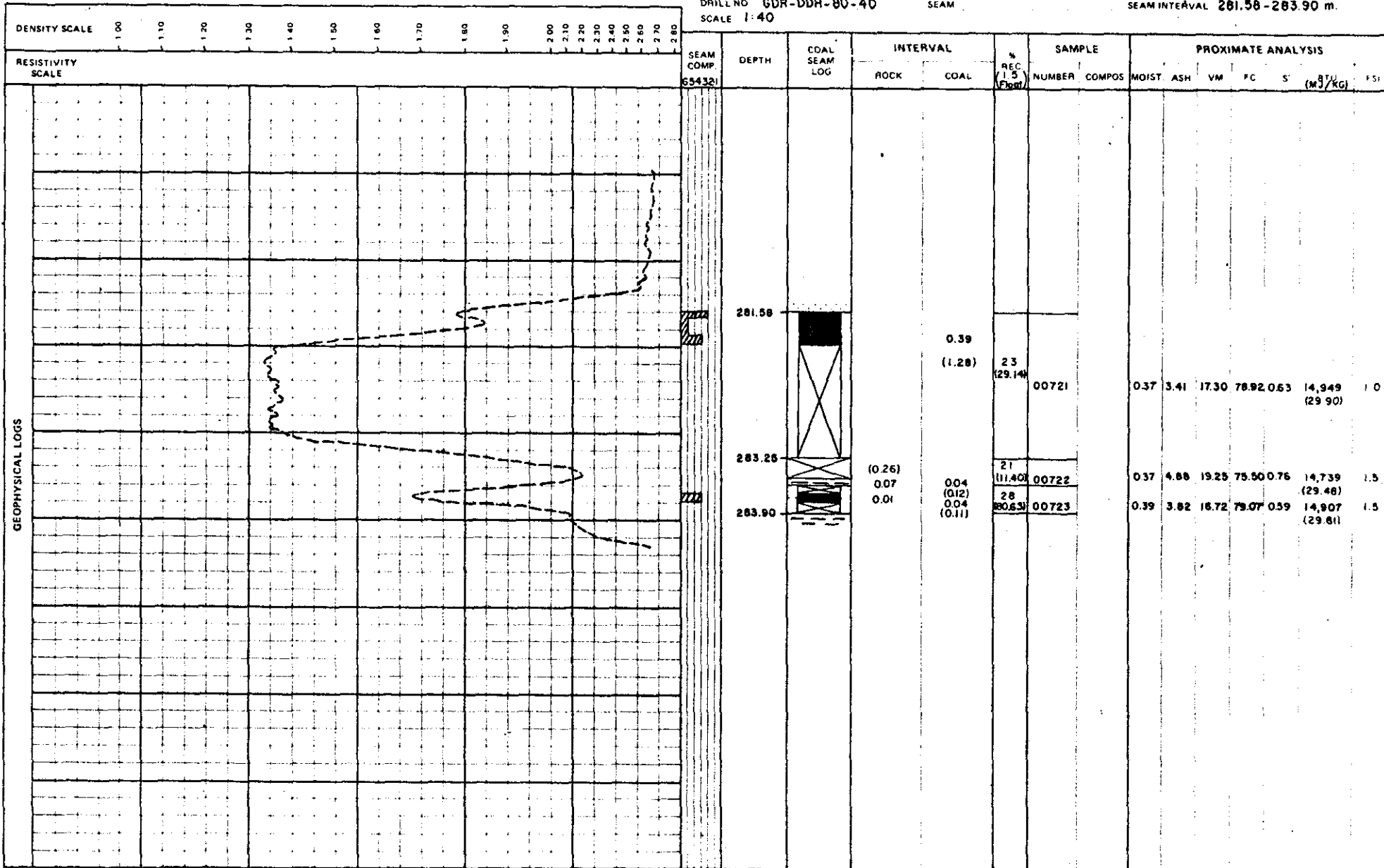
DENSITY -----

RESISTIVITY -----

DRILL NO GDR-DDH-80-40
SCALE 1:40

SEAM

SEAM INTERVAL 281.58 - 283.90 m.



COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

Coal / Coal+Rock (True Thk(m))
1.16 / 1.25

DENSITY ---

RESISTIVITY ---

DRILL NO. GDR-DDH-80-40
SCALE 1:40

SEAM

SEAM INTERVAL 290.32 - 291.79m

| DENSITY SCALE | RESISTIVITY SCALE | SEAM COMP 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC (1.5) (Floor) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | |
|---------------|-------------------|---------------------|--------|---------------|------------------------|------------------------|---------------------|--------|--------|--------------------|-------|-------|-------|------|-------------------|-----|--|--|--|
| | | | | | ROCK | COAL | | NUMBER | COMPOS | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI | | | |
| 1.0 | 1.0 | | 290.32 | | 0.02 (0.02) 0.06 | 0.10 0.11 (0.08) | | 00724 | | | | | | | | | | | |
| | | | | | | 1.08 | 93 63.07 | | | 0.41 | 10.28 | 16.00 | 73.31 | 0.47 | 13,745 (27.49) | 1.5 | | | |
| | | | 291.79 | | | | 97 (0.63) | 00725 | | 0.66 | 10.84 | 17.42 | 71.08 | 0.55 | 13,611 (27.22) | 1.0 | | | |
| | | | | | | 0.07 0.44 | | | | | | | | | | | | | |
| | | | 293.85 | | | 0.22 0.02 | 37.43 100 | 00726 | | 0.27 | 16.36 | 15.24 | 68.13 | 0.50 | 12,619 (25.24) | 1.0 | | | |
| | | | | | | 0.62 (0.27) | 70 (2.15) | 00727 | | 0.34 | 13.80 | 15.65 | 70.21 | 0.56 | 13,179 (26.36) | 1.0 | | | |
| | | | | | | | 88 83.44 | 00728 | | 0.49 | 6.71 | 16.61 | 73.99 | 0.48 | 13,949 (27.90) | 1.0 | | | |
| | | | 296.03 | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION
 16/JAN/62 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|----------------|--------------|--------------|
| 00H80040 | | 709 | 27.78 | 28.66 | 0.38 | 100.00 | 0.38 | 0.00 | 0.00 | 0.00 |
| | | 710 | 28.66 | 29.25 | 0.47 | 79.66 | 0.00 | 0.47 | 0.00 | 0.12 |
| | | 711 | 29.25 | 29.57 | 0.20 | 62.50 | 0.20 | 0.00 | 0.12 | 0.00 |
| | | 712 | 29.57 | 30.82 | 1.25 | 100.00 | 1.25 | 0.00 | 0.00 | 0.00 |
| | | 713 | 30.82 | 31.25 | 0.22 | 50.00 | 0.22 | 0.00 | 0.22 | 0.00 |
| | | 714 | 39.25 | 40.04 | 0.36 | 33.54 | 0.35 | 0.01 | 0.15 | 0.00 |
| | | 715 | 40.04 | 40.55 | 0.12 | 14.81 | 0.00 | 0.12 | 0.34 | 0.15 |
| | | 716 | 54.71 | 54.95 | 0.09 | 40.91 | 0.07 | 0.02 | 0.13 | 0.00 |
| | | 717 | 56.81 | 57.50 | 0.47 | 65.12 | 0.35 | 0.12 | 0.22 | 0.00 |
| | | 718 | 57.50 | 58.62 | 1.00 | 89.29 | 0.00 | 1.00 | 0.00 | 0.12 |
| | | 719 | 58.62 | 58.82 | 0.10 | 50.00 | 0.10 | 0.00 | 0.10 | 0.00 |
| | | 720 | 69.92 | 70.25 | 0.35 | 100.00 | 0.35 | 0.00 | 0.00 | 0.00 |
| | | 721 | 281.53 | 283.51 | 0.39 | 20.21 | 0.39 | 0.00 | 1.26 | 0.26 |
| | | 722 | 283.51 | 283.59 | 0.06 | 100.00 | 0.00 | 0.06 | 0.00 | 0.00 |
| | | 723 | 283.59 | 283.90 | 0.08 | 25.81 | 0.08 | 0.00 | 0.23 | 0.00 |
| | | 724 | 290.32 | 291.79 | 1.37 | 93.20 | 1.29 | 0.08 | 0.68 | 0.02 |
| | | 725 | 291.79 | 294.07 | 2.21 | 96.93 | 0.00 | 2.21 | 0.00 | 0.07 |
| | | 726 | 294.07 | 294.37 | 0.30 | 100.00 | 0.28 | 0.02 | 0.10 | 0.00 |
| | | 727 | 294.37 | 295.26 | 0.62 | 69.66 | 0.00 | 0.62 | 0.00 | 0.27 |
| | | 728 | 295.26 | 296.03 | 0.60 | 66.31 | 0.07 | 0.01 | 0.09 | 0.00 |
| | | 729 | 329.92 | 330.62 | 0.39 | 64.29 | 0.48 | 0.11 | 0.11 | 0.00 |
| | | 730 | 330.62 | 330.84 | 0.20 | 90.91 | 0.00 | 0.20 | 0.00 | 0.02 |
| | | 731 | 330.84 | 331.17 | 0.15 | 45.45 | 0.15 | 0.00 | 0.15 | 0.00 |
| | | 732 | 331.17 | 332.28 | 0.76 | 68.47 | 0.00 | 0.76 | 0.26 | 0.07 |
| | | 733 | 332.28 | 333.13 | 0.65 | 100.00 | 0.65 | 0.00 | 0.00 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE -

NAME OF STANDARD -

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|
|-------------|------|-----------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|

DDH80040

- 709
- 710
- 711
- 712
- 713
- 714
- 715
- 716
- 717
- 718
- 719
- 720
- 721
- 722
- 723
- 724
- 725
- 726
- 727
- 728
- 729
- 730
- 731
- 732
- 733

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH INTKVAL TO | INTKVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|---------------------|-------------------|----------|------------|-----------|---|
| 56 | 20.42 | 20.64 | 0.22 | | | SANDSTONE | MG.LT-M.GY.VBRKN SALT AND PEPPER APPEARANCE. |
| * 56 | 20.64 | 23.04 | 2.40 | | | SILTSTONE | LT-DK.GY.BIOTR.BRKN VERY MUDDY, WITH SSSY AND MUDDY INTERBED S; IRREGULAR XBDG; HORSETAIL CALCITE BE DDING; A FEW COALY LAMINATIONS. |
| 55 | 23.04 | 23.42 | 0.38 | | | SILTSTONE | POSSIBLE CORELOSS AT BOTTOM. |
| * 55 | 23.42 | 23.62 | 0.20 | | | SILTSTONE | |
| 59 | 23.62 | 24.97 | 1.35 | | | SILTSTONE | |
| 65 | 24.97 | 25.68 | 0.71 | | | SILTSTONE | HORSETAIL CALCITE VEINING FOR 2 CM AT T OP; TOP IS UP; MUDDIER; AT 0.49 POSSIBL E CORELOSS. |
| * 70 | 25.68 | 26.53 | 0.85 | | | SILTSTONE | 0.54 AND 0.70 POSSIBLE CORELOSS- PIECES DO NOT FIT |
| * 60 | 26.53 | 27.78 | 1.25 | | | SILTSTONE | SILT INCREASING; 0.39 "GREEN- BAND" PRE SENT 0.5 CMTHICK; PYRITIZED; PLANT FUSS IL AT 0.42; POSSIBLE CORELOSS AT 0.90. |
| 59 | 27.78 | 27.85 | 0.07 | 00709 | | COAL | C-5.BRKN |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 59 | 27.85 | 27.88 | 0.03 | 00709 | | COAL | C-2.VBRKN VBRKN TO POWDERY. |
| 59 | 27.88 | 28.03 | 0.15 | 00709 | | COAL | C-5.VBRKN POWDERY TO VBRKN. |
| 59 | 28.03 | 28.09 | 0.06 | 00709 | | COAL | VBRKN DULL LUSTROUS; VBRKN TO POWDERY. |
| 59 | 28.09 | 28.22 | 0.13 | 00709 | | COAL | DULL LUSTROUS. |
| 59 | 28.22 | 28.43 | 0.21 | 00709 | | COAL | |
| 59 | 28.43 | 28.66 | 0.23 | 00709 | | COAL | SHRD BRKN AND POWDERY DIRT BAND AT 0.22. |
| 58 | 28.66 | 29.08 | 0.42 | 00710 | | MUDSTONE | CARB.DK.GY SILT LAMINATIONS FROM 0.10 TO 0.30. |
| 58 | 29.08 | 29.13 | 0.05 | 00710 | | MUDSTONE | VBRKN VBRKN TO POWDERY. |
| 58 | 29.13 | 29.25 | 0.12 | 00710 | | CORELOSS | ROCK. |
| 58 | 29.25 | 29.37 | 0.12 | 00711 | | CORELOSS | COAL. |
| 58 | 29.37 | 29.45 | 0.08 | 00711 | | COAL | DULL LUSTROUS; VBRKN WITH BRKN ROCK FRA GMENTS. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH INTERVAL | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------------|----------------|----------|---------|-----------|--|
| | 58 | 29.45 | 29.57 | 0.12 | 00711 | COAL | VBRKN DULL LUSTROUS. |
| | 57 | 29.57 | 30.72 | 1.15 | 00712 | MUDSTONE | BRKN FEW SLTY LAMINATIONS; PLANT FOSSILS. |
| | 57 | 30.72 | 30.82 | 0.10 | 00712 | MUDSTONE | CARB.DK.GY COALY LAMINATIONS; LISTRIC SURFACES. |
| | 57 | 30.82 | 30.92 | 0.10 | 00713 | COAL | C-2.VBRKN VBRKN TO POWDERY. |
| | 57 | 30.92 | 31.04 | 0.12 | 00713 | COAL | C-2.VBRKN POWDERY TO VBRKN. |
| | 56 | 31.04 | 31.26 | 0.22 | 00713 | CORELOSS | COAL. |
| | 56 | 31.26 | 31.34 | 0.08 | | MUDSTONE | CARB.DK.GY |
| * | 56 | 31.34 | 31.91 | 0.57 | | MUDSTONE | SLTY.LT-M.GY SOME HORSETAIL CALCITE VEINING. |
| | 55 | 31.91 | 32.35 | 0.44 | | SILTSTONE | LT-M.GY MUDDY AND SSY LAMINATIONS AND INTERBEDS ; IRREGULAR FINE XBDG. |
| | 54 | 32.35 | 33.27 | 0.92 | | SILTSTONE | WITH COALY LAMINATIONS., |

* DENOTES MEASURED BCA

XXXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - URILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 52 | 33.27 | 35.17 | 1.90 | | SILTSTONE | CALCITE HORSETAIL VEINING AT 0.83, 1.21, 1.50. |
| * | 50 | 35.17 | 35.66 | 0.49 | | SILTSTONE | BIOTR PYRITE SMEARS. |
| * | 45 | 35.66 | 36.95 | 1.29 | | SILTSTONE | FG.LT.GY FROM 1.02 TO END OF MEASUREMENT A SS LT GY. |
| | 46 | 36.95 | 37.83 | 0.88 | | MUDSTONE | LT-DK.GY.VBRKN SLTY LAMINATIONS; COALY LAMINATIONS AND INCLUSIONSABUNDANT PLANT FOSSILS; MIND R CALCITE VEINING. |
| | 46 | 37.83 | 38.08 | 0.25 | | CORELOSS | ROCK. |
| | 46 | 38.08 | 38.42 | 0.34 | | MUDSTONE | VBRKN |
| | 46 | 38.42 | 38.67 | 0.25 | | CORELOSS | ROCK. |
| | 46 | 38.67 | 39.01 | 0.34 | | MUDSTONE | CARB.VBRKN VERY CARB. |
| | 46 | 39.01 | 39.25 | 0.24 | | CORELOSS | ROCK. |
| | 46 | 39.25 | 39.32 | 0.07 | 00714 | COAL | C-5.PWRD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GIK BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 46 | 39.32 | 39.49 | 0.17 | 00714 | COAL | DULL LUSTROUS. |
| | 47 | 39.49 | 39.65 | 0.16 | 00714 | COAL | C-5.VBRKN VBRKN TO POWDERY. |
| | 47 | 39.65 | 39.66 | 0.01 | 00714 | MUDSTONE | CARB.DK.GY VERY CARB. |
| | 47 | 39.66 | 39.91 | 0.25 | 00714 | COAL | C-4.DK.GY.VBRKN VERY CARB. VBRKN TO POWDERY. |
| | 47 | 39.91 | 40.04 | 0.13 | 00714 | CORELOSS | COAL. |
| | 47 | 40.04 | 40.16 | 0.12 | 00715 | MUDSTONE | SLTY.DK.GY CARB. |
| | 47 | 40.16 | 40.31 | 0.15 | 00715 | CORELOSS | ROCK. |
| | 47 | 40.31 | 40.85 | 0.54 | 00715 | CORELOSS | COAL. |
| | 47 | 40.85 | 41.74 | 0.89 | | SILTSTONE | LT-DK.GY.BIOTR INTERBEDDED AND INTERLAMINATIONS WITH M UDST; FINE XDBG; COALY LAMINATIONS; SPO RATIC HORSETAIL CALCITE VEINING. |
| * | 48 | 41.74 | 43.82 | 2.08 | | SILTSTONE | BIOTR A FEW FG SS INTERBEDS; PYRITE SMEARS ON FRACTURE SURFACES; A FEW PLANT REMAINS ; TOP IS UP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GOR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 53 | 43.82 | 44.53 | 0.71 | | SILTSTONE | AS ABOVE. |
| | 59 | 44.53 | 46.75 | 2.22 | | SILTSTONE | AS ABOVE. |
| | 63 | 46.75 | 46.79 | 0.04 | | CLAY | LIGHT TAN. |
| * | 64 | 46.79 | 47.21 | 0.42 | | SILTSTONE | CARB PLANT FRAGMENTS. |
| * | 68 | 47.21 | 49.53 | 2.32 | | MUDSTONE | LT-DK.GY.BIDTR SLTY LAMINATIONS; MINOR COALY LAMINATIONS; MINOR HORSETAIL CALCITE VEINING; CARB PLANT FRAGMENTS. |
| | 61 | 49.53 | 49.75 | 0.22 | | MUDSTONE | AS ABOVE. |
| | 58 | 49.75 | 50.61 | 0.86 | | MUDSTONE | AT 1.1 POSSIBLE CORELOSS- PIECES DO NOT FIT FROM 0.90 TO 1.1; SAND INTERVAL ,F G. |
| | 54 | 50.61 | 51.12 | 0.51 | | MUDSTONE | VBRKN A FEW COALY LAMINATIONS AND PLANT FOSSILS. |
| | 53 | 51.12 | 51.26 | 0.14 | | MUDSTONE | DK.GY COALY LAMINATIONS. |
| | 52 | 51.26 | 51.36 | 0.10 | | SANDSTONE | VFG.LT-M.GY VFG TO MG; SLTY LAMINATIONS; SMALL SCALE IRREGULAR XBDG; TOP IS UP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80040

| BGA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-------------|--|
| * 50 | 51.36 | 51.97 | 0.61 | | | SANDSTONE | AS ABOVE. |
| 52 | 51.97 | 52.62 | 0.65 | | | CORELOSS | COAL. |
| 53 | 52.62 | 53.12 | 0.50 | | | MUDSTONE | SLTY.LT-M.GY COALY LAMINATIONS AND SS; VBRKN PLANT F OSSILS. |
| 54 | 53.12 | 53.14 | 0.02 | | | CORELOSS | ROCK. |
| 55 | 53.14 | 53.77 | 0.63 | | | CORELOSS | COAL. |
| 57 | 53.77 | 54.71 | 0.94 | | | MUDSTONE | AS ABOVE. |
| 58 | 54.71 | 54.76 | 0.05 | 00716 | | COAL & ROCK | VBRKN VBRKN AND POWDERY. MODIFIER: C-3. |
| 58 | 54.76 | 54.78 | 0.02 | 00716 | | MUDSTONE | CARB.DK.GY COALY LAMINATIONS. |
| 58 | 54.78 | 54.80 | 0.02 | 00716 | | COAL | C-2 |
| 58 | 54.80 | 54.93 | 0.13 | 00716 | | CORELOSS | COAL. |
| 61 | 54.93 | 56.61 | 1.88 | | | CORELOSS | ROCK. |
| 64 | 56.61 | 56.93 | 0.12 | 00717 | | MUDSTONE | DK.GY.VBRKN VERY CARB WITH COALY LAMINATIONS. |

* DENOTES MEASURED BGA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 64 56.93 | 56.95 | 0.02 | 00717 | | COAL | C-4.VBRKN |
| | 64 56.95 | 56.98 | 0.03 | 00717 | | COAL | DULL LUSTROUS. |
| | 64 56.98 | 57.18 | 0.20 | 00717 | | COAL | SHRD DULL LUSTROUS. |
| | 65 57.18 | 57.28 | 0.10 | 00717 | | COAL | C-2.SHRD |
| | 65 57.28 | 57.50 | 0.22 | 00717 | | CORELOSS | COAL. |
| | 66 57.50 | 57.62 | 0.12 | 00718 | | CORELOSS | ROCK. |
| | 66 57.62 | 57.66 | 0.04 | 00718 | | MUDSTONE | CARB.DK.GY VERY CARB. |
| | 67 57.66 | 58.62 | 0.96 | 00718 | | MUDSTONE | VBRKN AS ABOVE; POSSIBLE CORELOSS; ABUNDANT CU ALY LAMINATIONS; ABUNDANT PLANT FOSSILS . |
| | 69 58.62 | 58.72 | 0.10 | 00719 | | COAL | C-4 |
| | 69 58.72 | 58.82 | 0.10 | 00719 | | CORELOSS | COAL. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XY DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 69 | 58.82 | 59.16 | 0.34 | | MUDSTONE | VBRKN AS ABOVE. |
| | 70 | 59.16 | 59.36 | 0.20 | | CORELOSS | ROCK. |
| | 70 | 59.36 | 59.43 | 0.07 | | CLAY | LIGHT TAN. |
| * | 71 | 59.43 | 59.76 | 0.33 | | MUDSTONE | DK.GY ABUNDANT COALY LAMINATIONS AND INCLUDED NS; ABUNDANT PLANT FOSSILS. |
| | 69 | 59.76 | 60.24 | 0.48 | | MUDSTONE | AS ABOVE. |
| | 65 | 60.24 | 61.18 | 0.94 | | MUDSTONE | AS ABOVE; SILTIER TOWARDS BASE. |
| * | 59 | 61.18 | 62.82 | 1.64 | | SILTSTONE | CARB.BIOTR.BRKN INTERBEDD AND INTERLAMINATED WITH MUDST AND FG SS; VERY FINE XBDG; POSSIBLE CORELOSS TOWARDS END OF MEASUREMENT; CARB PLANT FOSSILS. |
| | 61 | 62.82 | 62.85 | 0.03 | | SILTSTONE | AS ABOVE. |
| | 63 | 62.85 | 64.19 | 1.34 | | MUDSTONE | M-DK.GY.VBRKN MINOR HORSETAIL CALCITE VEINING. |
| | 65 | 64.19 | 64.39 | 0.20 | | CORELOSS | ROCK. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DUH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 66 | 64.39 | 64.71 | 0.32 | | | MUDSTONE | VBRKN AS ABOVE; COALY FRAGMENTS IN BUTTOM OF TRAY; COALYPLANT FOSSILS. |
| 66 | 64.71 | 65.02 | 0.31 | | | MUDSTONE | AS ABOVE. |
| 67 | 65.02 | 65.26 | 0.24 | | | CORELOSS | ROCK. |
| * 68 | 65.26 | 65.77 | 0.51 | | | MUDSTONE | AS ABOVE. |
| 61 | 65.77 | 67.13 | 1.36 | | | MUDSTONE | LT-DK.GY.BIOTR AND SLTST INTERBEDDED; MINOR HORSETAIL CALCITE VEINING; COALY LAMINATIONS; COA LY PLANT FRAGMENTS. |
| 55 | 67.13 | 67.58 | 0.45 | | | CORELOSS | COAL. |
| 52 | 67.58 | 67.74 | 0.16 | | | MUDSTONE | DK.GY.VBRKN ABUNDANT COALY LAMINATIONS AND INCLUSIO NS. |
| 52 | 67.74 | 67.76 | 0.02 | | | MUDSTONE | AS ABOVE. |
| 51 | 67.76 | 68.02 | 0.26 | | | MUDSTONE | AS ABOVE. |
| * 48 | 68.02 | 68.48 | 0.46 | | | SANDSTONE | INTERBEDDED AND INTERLAMINATED WITH SS AND MUDST; COALY PLANT FOSSILS. |
| 50 | 68.48 | 68.81 | 0.33 | | | SANDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 11

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTERVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|-----------------|----------|---------|-----------|--|
| 51 | 68.81 | 69.15 | 0.34 | | | CORELOSS | COAL. |
| 53 | 69.15 | 69.92 | 0.77 | | | MUDSTONE | VBRKN A FEW SLTY INTERBEDS; VBRKN TO POWDERY, WITH ROCK FRAGMENTS. |
| 55 | 69.92 | 70.04 | 0.12 | 00720 | | COAL | DULL LUSTROUS; VBRKN TO POWDERY, WITH R OCK FRAGMENTS. |
| 56 | 70.04 | 70.25 | 0.21 | 00720 | | COAL | C-3 |
| 57 | 70.25 | 70.40 | 0.15 | | | CORELOSS | ROCK. |
| * 60 | 70.40 | 71.80 | 1.40 | | | SILTSTONE | LT-OK.GY.BIOTR INTERLAMINATED AND INTERBEDDED WITH MUD ST AND FG SS; COALY INCLUSIONS AND LAMI NATIONS. |
| * 62 | 71.80 | 74.51 | 2.71 | | | SILTSTONE | BIOTR AS ABOVE. |
| 60 | 74.51 | 74.82 | 0.31 | | | SILTSTONE | AS ABOVE. |
| 58 | 74.82 | 76.89 | 2.07 | | | SILTSTONE | BIOTR.VBRKN |
| 56 | 76.89 | 77.19 | 0.30 | | | CORELOSS | ROCK. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH60040

| BCA | DEPTH FROM | DEPTH INTERVAL | THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------------|--------|----------|---------|-----------|---|
| * 55 | 77.19 | 77.62 | 0.63 | | | SILTSTONE | BIOTR AS ABOVE. |
| 56 | 77.62 | 79.52 | 1.70 | | | SILTSTONE | AS ABOVE. |
| 56 | 79.52 | 79.92 | 0.40 | | | MUDSTONE | SLTY.DK.GY SLIGHTLY SLTY. |
| 56 | 79.92 | 80.96 | 1.04 | | | MUDSTONE | AT 0.33 CALCITE FILLED NODULE |
| 57 | 80.96 | 82.50 | 1.54 | | | MUDSTONE | AS ABOVE. |
| 58 | 82.50 | 82.83 | 0.33 | | | CORELOSS | ROCK. |
| 58 | 82.83 | 83.60 | 0.97 | | | MUDSTONE | AS ABOVE; WITH COAL LAMINATION AND INCLUSIONS; COALY PLANT FOSSILS, BECOMING MORE CARB. |
| 58 | 83.60 | 85.10 | 1.30 | | | MUDSTONE | AS ABOVE; THE LAST 0.09 M HAS ABUNDANT COALY LAMINATIONS. |
| 59 | 85.10 | 85.33 | 0.23 | | | MUDSTONE | VBRKN AS ABOVE; POWDERY; BRIGHT COAL IN TRAY. |
| 59 | 85.33 | 85.41 | 0.08 | | | SILTSTONE | BIOTR.BRKN INTERBEDDED WITH MUDST AND FG SS; PYRITE SMEARS; BRKN AND POWDERY. |
| 59 | 85.41 | 86.21 | 0.80 | | | CORELOSS | ROCK. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 13

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH INTERVAL TO | THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|-------------------|--------|----------|---------|-----------|--|
| * 60 | 86.21 | 88.79 | 2.58 | | | SILTSTONE | AS ABOVE; MOTTLED APPEARANCE; ABUNDANT MICA FLECKS; COALY PLANT FOSSILS; BECOMING MORE ARGILLACEOUS. |
| 60 | 88.79 | 89.13 | 0.34 | | | SILTSTONE | BIOTR AS ABOVE. |
| * 60 | 89.13 | 90.17 | 1.04 | | | SANDSTONE | FG.LT.GY.BIOTR FG TO MG; FEW MUDDY AND SILT LAMINATIONS; PYRITE SMEARS ON FRACTURE SURFACE AT END OF MEASUREMENT. |
| 61 | 90.17 | 90.31 | 0.14 | | | SANDSTONE | AS ABOVE; SHARP CONTACT WITH LOWER MUDST. |
| 63 | 90.31 | 91.41 | 1.10 | | | MUDSTONE | M-DK.GY SLTY LAMINATIONS AT TOP MEASUREMENT AND BASE OF UNIT. |
| 64 | 91.41 | 91.61 | 0.20 | | | CORELOSS | ROCK. |
| 65 | 91.61 | 91.75 | 0.14 | | | MUDSTONE | AS ABOVE. |
| * 66 | 91.75 | 92.66 | 0.91 | | | SANDSTONE | MG.BIOTR FG TO MG; FEW SLTY AND ARGILLACEOUS LAMINATIONS. |
| 61 | 92.66 | 93.21 | 0.55 | | | MUDSTONE | M-DK.GY SLTY AT TOP FROM 0.00 TO 0.25. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 14

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 93.21 | 94.10 | 0.89 | | | MUDSTONE | VBRKN POSSIBLE CORELOSS; FEW COALY INCLUSIONS |
| | 94.10 | 94.30 | 0.20 | | | CORELOSS | ROCK. |
| | 94.30 | 94.32 | 0.02 | | | SILTSTONE | LT-M.GY.BIOTR ARGILLACEOUS. |
| * | 94.32 | 95.22 | 0.90 | | | SILTSTONE | AS ABOVE; BECOMING MORE ARGILLACEOUS. |
| | 95.22 | 95.40 | 0.18 | | | MUDSTONE | SLTY.M-DK.GY COALY INCLUSIONS AND LAMINATIONS. |
| | 95.40 | 95.50 | 0.10 | | | COAL | C-4.BRKN BRKN TO POWDERY WITH ROCK FRAGMENTS IN TRAY. |
| | 95.50 | 95.78 | 0.28 | | | MUDSTONE | CARB.DK.GY VERY CARB; COALY LAMINATIONS AND INCLUSIONS; PLANT FOSSILS VBRKN. |
| | 95.78 | 96.18 | 0.40 | | | MUDSTONE | VBRKN |
| * | 96.18 | 97.21 | 1.03 | | | SANDSTONE | FG.LT.GY.BIOTR INTERLAMINATED AND INTERBEDDED WITH SILTS AND MUDST; FINE SCALE XBDG. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 48 | 97.21 | 97.52 | 0.31 | | SANDSTONE | AS ABOVE. |
| | 49 | 97.52 | 98.82 | 1.30 | | MUDSTONE | M-DK.GY A FEW SILT LAMINATIONS; MINOR HORSETAIL CALCITE VEINING; COALY LAMINATIONS AND INCLUSIONS FROM 1.00 TO 1.30; PLANT FO SSILS. |
| | 51 | 98.82 | 99.59 | 0.77 | | MUDSTONE | AS ABOVE; INCREASING IN SLTY LAMINATION S. |
| | 52 | 99.59 | 99.63 | 0.04 | | COAL | C-1.VBRKN |
| | 52 | 99.63 | 99.78 | 0.15 | | CORELOSS | ROCK. |
| | 52 | 99.78 | 99.96 | 0.18 | | MUDSTONE | LT-M.GY INTERLAMINATED AND INTERBEDDED WITH SLT ST AND VFG SS. |
| * | 54 | 99.96 | 102.00 | 2.04 | | MUDSTONE | AS ABOVE. |
| | 65 | 102.00 | 102.71 | 0.71 | | SANDSTONE | CARB.FG.LT.GY VFG TO FG WITH SLTY LAMINATIONS; FINE S CALE XBDG; TWO BIOTURBATIONS; TOP APPEA RS TO BE UP; ABUNDANT MICROFLECKS. |
| * | 68 | 102.71 | 102.89 | 0.18 | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED ECA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 16

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 68 | 102.89 | 103.19 | 0.30 | | CORELOSS | ROCK. |
| | 66 | 103.19 | 105.31 | 2.12 | | MUDSTONE | LT-DK.GY PYRITE FLECKS; CARB PLANT REMAINS; IRON STONE BEDDING AT 1.04. |
| | 64 | 105.31 | 105.68 | 0.37 | | CORELOSS | COAL. |
| | 64 | 105.68 | 105.85 | 0.17 | | CORELOSS | ROCK. |
| | 64 | 105.85 | 106.15 | 0.30 | | SILTSTONE | LT-DK.GY INTERLAMINATED AND INTERBEDDED WITH MUD STONE; FEW COALY LAMINATIONS; MINOR HORS ETAIL CALCITE VEINING; MINOR BIOTRB; PY RITE BLEBS AT 0.06. |
| * | 62 | 106.15 | 108.68 | 2.53 | | SILTSTONE | BIOTR AS ABOVE. |
| | 66 | 108.68 | 108.96 | 0.28 | | SILTSTONE | AS ABOVE. |
| * | 68 | 108.96 | 109.78 | 0.82 | | SILTSTONE | AS ABOVE; MEDIUM SS INTERBED FROM 0.29 TO 0.39; BECOMING MUDDIER TOWARDS BOTTO M. |
| | 63 | 109.78 | 110.55 | 0.77 | | MUDSTONE | M-DK.GY ABUNDANT CARB PLANT FOSSILS; COALY LAMI NATIONS LAST 4 CM. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 17

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|-------------------|----------------|----------|---------|-----------|---|
| 60 | 110.55 | 110.57 | 0.02 | | | COAL | C-4.VBRKN |
| 60 | 110.57 | 110.60 | 0.03 | | | COAL | C-2.VBRKN |
| 59 | 110.60 | 110.81 | 0.21 | | | COAL | VBRKN DULL LUSTROUS; SHRD. |
| 58 | 110.81 | 110.87 | 0.06 | | | COAL | C-4.VBRKN |
| 57 | 110.87 | 111.02 | 0.15 | | | CORELOSS | COAL. |
| 57 | 111.02 | 111.13 | 0.11 | | | MUDSTONE | M-DK.GY ABUNDANT CARB PLANT FRAGMENTS; BECOMES SLTY TOWARDS BASE; COALY INCLUSIONS. |
| 56 | 111.13 | 111.31 | 0.18 | | | CORELOSS | RUCK. |
| 54 | 111.31 | 111.73 | 0.42 | | | SANDSTONE | SLTY.VFG.LT.GY ARGILLACEOUS LAMINATIONS. |
| * 52 | 111.73 | 111.80 | 0.07 | | | SANDSTONE | AS ABOVE. |
| 55 | 111.80 | 112.24 | 0.44 | | | SANDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BLA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 70 | 112.24 | 114.22 | 1.98 | | | SILTSTONE | GY.VBRKN VERY ARGILLACEOUS; MINOR HORSETAIL CALC ITE VEINS; SOME COALY LAMINATIONS; AT 0 .40 POSSIBLE CORELOSS. |
| 67 | 114.22 | 114.37 | 0.15 | | | CORELOSS | ROCK. |
| 67 | 114.37 | 114.62 | 0.25 | | | SANDSTONE | LT-M.GY VFG TO FG; INTERLAMINATED WITH SILTS AN D MUDS; MICACEOUS. |
| 66 | 114.62 | 114.78 | 0.16 | | | SANDSTONE | AS ABOVE. |
| 65 | 114.78 | 115.31 | 0.53 | | | SANDSTONE | AS ABOVE. |
| * 62 | 115.31 | 117.13 | 1.82 | | | SILTSTONE | M-DK.GY INTERBEDDED WITH MUDST AND VFG SS; POSS IBLE CORELOSS AT 0.08, 0.90, 1.35.;PIEC ES DON'T MATCH; VERY CARB FROM 1.70 TO 1.82; VERY MICACEOUS AND ARGILLACEOUS I NTERVALS. |
| 53 | 117.13 | 117.30 | 0.17 | | | CORELOSS | ROCK. |
| * 50 | 117.30 | 117.83 | 0.53 | | | SILTSTONE | AS ABOVE. |
| 55 | 117.83 | 119.89 | 2.06 | | | SILTSTONE | AS ABOVE; ABUNDANT CARB PLANT FOSSILS; VERY MICACEOUS. |

* DENOTES MEASURED ECA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|---------------|----------|---------|-----------|---|
| | 60 | 119.89 | 120.71 | 0.82 | | SILTSTONE | AS ABOVE; VERY ARGILLACEOUS. |
| | 63 | 120.71 | 121.34 | 0.63 | | SILTSTONE | AS ABOVE; POSSIBLE CORELOSS AT 0.45 (PIECES DON'T MATCH). |
| * | 67 | 121.34 | 122.66 | 1.32 | | SILTSTONE | AS ABOVE; LAMINATIONS BECOMING MORE ABUNDANT, PREDOMINANTLY VERY FINE GRAINED SANDS AND MUDS. |
| | 67 | 122.66 | 122.74 | 0.08 | | ROCKLOSS | |
| | 68 | 122.74 | 123.76 | 1.02 | | SILTSTONE | BIOTR AS ABOVE; TOP IS UP. |
| * | 68 | 123.76 | 124.56 | 0.80 | | SILTSTONE | AS ABOVE; ABUNDANT PLANT FOSSIL. |
| | 68 | 124.56 | 125.48 | 0.92 | | MUDSTONE | DK.GY SS INTERBED FROM 0.51 TO 0.64; POSSIBLE CORE LOSS AT 0.67 (PIECES DO NOT MATCH). |
| | 68 | 125.48 | 125.54 | 0.06 | | CORE LOSS | ROCK. |
| | 68 | 125.54 | 125.66 | 0.12 | | MUDSTONE | AS ABOVE; POSSIBLE CORE LOSS AT BOTTOM. |
| | 68 | 125.66 | 125.81 | 0.15 | | CORE LOSS | ROCK. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GLR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH INTERVAL | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------------|----------------|----------|---------|-----------|---|
| 68 | 125.81 | 126.26 | 0.45 | | | MUDSTONE | AS ABOVE; FEW PLANT FOSSILS. |
| 69 | 126.26 | 126.31 | 0.05 | | | CORE LOSS | COAL. |
| 69 | 126.31 | 126.47 | 0.16 | | | COAL | C-4 VERY BADLY BROKEN. |
| 69 | 126.47 | 126.57 | 0.10 | | | MUDSTONE | CARB. DK. GY VERY CARB; COALY INCLUSIONS; COALY PLANT FRAGMENTS. |
| 69 | 126.57 | 126.85 | 0.28 | | | MUDSTONE | LT. GY AS ABOVE. |
| 69 | 126.85 | 127.92 | 1.07 | | | MUDSTONE | AS ABOVE; BECOMING SILTIER TOWARDS BASE |
| 69 | 127.92 | 128.06 | 0.14 | | | CORE LOSS | ROCK. |
| 69 | 128.06 | 128.33 | 0.27 | | | CORE LOSS | COAL. |
| 69 | 128.33 | 128.47 | 0.14 | | | COAL | DULL LUSTROUS; BROKEN. |
| 69 | 128.47 | 128.55 | 0.08 | | | COAL | AS ABOVE. |
| 69 | 128.55 | 128.81 | 0.26 | | | MUDSTONE | DK. GY FEW SLTY AND COALY LAMINATIONS; COALY INCLUSIONS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 69 | 128.81 | 128.89 | 0.08 | | | MUDSTONE | AS ABOVE; POSSIBLE CORE LOSS AT BOTTOM. |
| 69 | 128.89 | 129.83 | 0.94 | | | SANDSTONE | FG. LT-DK.GY VERY ARGILLACEOUS NEAR TOP. |
| 69 | 129.83 | 129.94 | 0.11 | | | SANDSTONE | AS ABOVE. |
| 70 | 129.94 | 131.39 | 1.45 | | | MUDSTONE | LT.GY SLTST - VERY FINE GRAINED; SS INTERBEDD ED. |
| * 70 | 131.39 | 132.85 | 1.46 | | | MUDSTONE | SLTST - AS ABOVE; INTER-LAMINATED FINE SAND AND MUD AT LAST 3CM. |
| 69 | 132.85 | 134.19 | 1.34 | | | MUDSTONE | 0.00 - 0.10 - INTERLAMINATED SAND AND M UD; DISSEMINATED PYRITE THROUGHOUT; POS SIBLE CORE LOSS NEAR BOTTOM; VERY BADLY BROKEN. |
| 69 | 134.19 | 135.31 | 1.12 | | | SILTSTONE | LT.GY.BIOTR INTERPHASED WITH FINE GRAINED SS; MUTTL ED APPEARANCE. |
| 68 | 135.31 | 135.77 | 0.46 | | | MUDSTONE | DK.GY FEW CUALY LAMINATIONS AND INCLUSIONS; P OSSIBLE IRONSTONE AT BOTTOM. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 68 | 135.77 | 136.86 | 1.09 | | | MUDSTONE | AS ABOVE; AT 0.50 TO 0.58 - IRONSTONE B AND; POSSIBLE CORE LOSS AT 0.50; IRONSTONE BAND; POSSIBLE GASTROPOD. |
| 67 | 136.86 | 137.06 | 0.20 | | | MUDSTONE | AS ABOVE. |
| 67 | 137.06 | 137.24 | 0.18 | | | COAL | C-4 VERY BADLY BROKEN; POWDERY AND SHEARED. |
| 67 | 137.24 | 137.26 | 0.02 | | | COAL | C-3 BROKEN. |
| 67 | 137.26 | 137.34 | 0.08 | | | MUDSTONE | DK.GY ABUNDANT COALY LAMINATIONS AND INCLUSIONS. |
| 67 | 137.34 | 138.60 | 1.26 | | | SILTSTONE | LT.GY LT TO DK GY; POSSIBLE CORE LOSS AT 0.21 ; SANDY FROM 0.35 TO 0.70. |
| 67 | 138.60 | 138.80 | 0.20 | | | CORE LOSS | ROCK. |
| 66 | 138.80 | 139.63 | 0.83 | | | SILTSTONE | AS ABOVE. |
| 65 | 139.63 | 141.85 | 2.22 | | | SILTSTONE | AS ABOVE; BECOMING MORE SSSY TOWARDS BASE. |
| 65 | 141.85 | 142.50 | 0.65 | | | SILTSTONE | AS ABOVE; VERY SSSY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTKVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 64 | 142.50 | 143.85 | 1.35 | | | MUDSTONE | SLTY.DK.GY GY TO DKGY; VERY CRUMBLY BROKEN LAST 0. 20CM. |
| 64 | 143.85 | 144.00 | 0.15 | | | CORE LOSS | ROCK. |
| 64 | 144.00 | 144.90 | 0.90 | | | SILTSTONE | LT.GY LTGY TO GY; VERY FINE SS INTERLAMINATED . |
| 63 | 144.90 | 145.32 | 0.42 | | | MUDSTONE | SLTY.DK.GY GY TO DKGY; SOME CARB MATERIAL; 0.26 - 0.34 BROKEN. |
| * 63 | 145.32 | 145.67 | 0.35 | | | CORE LOSS | |
| * 63 | 145.67 | 147.91 | 2.24 | | | CORE LOSS | AS ABOVE; COALY LAMINATIONS; 1.60 - 1.6 6, 2.21 - 2.24. |
| 65 | 147.91 | 148.13 | 0.22 | | | MUDSTONE | AS ABOVE |
| 65 | 148.13 | 148.33 | 0.20 | | | SANDSTONE | FG.LT.GY VERY FINE TO FINE GRAINED; TOP IS UP; M INOR BIOTURBATION; SOME SITY LAMINATION S; |
| 65 | 148.33 | 148.53 | 0.20 | | | CORE LOSS | ROCK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 24

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| | 66 | 148.53 | 150.35 | 1.82 | | SANDSTONE | AS ABOVE |
| * | 68 | 150.35 | 150.95 | 0.60 | | SANDSTONE | AS ABOVE |
| | 68 | 150.95 | 151.28 | 0.33 | | MUDSTONE | UK.GY |
| | 68 | 151.28 | 151.48 | 0.20 | | CORE LOSS | ROCK |
| | 68 | 151.48 | 151.63 | 0.15 | | MUDSTONE | AS ABOVE; FOSSIL BI VALVES(ABUNDANT);VERY BADLY BROKEN. |
| | 68 | 151.63 | 151.93 | 0.30 | | CORE LOSS | ROCK |
| * | 68 | 151.93 | 153.68 | 1.75 | | MUDSTONE | AS ABOVE; SILTY INTERBEDS INCREASING IN NUMBER TOWARDS BASE |
| | 67 | 153.68 | 154.14 | 0.46 | | MUDSTONE | SLTY AS ABOVE |
| | 67 | 154.14 | 154.29 | 0.15 | | MUDSTONE | AS ABOVE; VERY BADLY BROKEN; POSSIBLE CORE LOSS |
| | 67 | 154.29 | 154.57 | 0.28 | | MUDSTONE | AS ABOVE |
| * | 66 | 154.57 | 156.68 | 2.11 | | SILTSTONE | LT-M.GY.BIOTR INTERLAMINATED WITH MUDSTONE; TOP IS UP ; SOME BIOTURB |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 25

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 66 | 156.68 | 156.98 | 0.30 | | SILTSTONE | AS ABOVE |
| | 66 | 156.98 | 159.45 | 2.47 | | SILTSTONE | LT-M.GY INTERBEDDED WITH SLTY MUDST & VERY FINE GRAINED SS; BECOMING MORE ARGILLACEOUS AT BASE |
| | 65 | 159.45 | 159.70 | 0.25 | | CORE LOSS | ROCK |
| | 65 | 159.70 | 159.94 | 0.24 | | MUDSTONE | DK.GY CARB. LAMINATIONS & INCLUSIONS |
| | 65 | 159.94 | 160.02 | 0.08 | | CORE LOSS | ROCK |
| | 65 | 160.02 | 160.16 | 0.14 | | MUDSTONE | AS ABOVE |
| * | 65 | 160.16 | 162.68 | 2.52 | | SANDSTONE | LT-M.GY VERY FINE TO MEDIUM GRAIN ; SILT AND MU DST INTERBEDS, PYRITE SMEARS, CARB. MUD ST FROM 0.81 TO 1.02 |
| | 65 | 162.68 | 162.71 | 0.03 | | SANDSTONE | AS ABOVE; POSSIBLE CORE LOSS AT FOOTAGE BASE |
| | 65 | 162.71 | 162.81 | 0.10 | | CORE LOSS | ROCK |
| | 65 | 162.81 | 163.01 | 0.20 | | CORE LOSS | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 26

PROJECT: GDR BLOCK: XX DATA SOURCE: UDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 66 163.01 | 163.76 | 0.75 | | | MUDSTONE | SLTY.DK.GY MINOR CALCITE HORSETAIL VEINING, POSSIBLE CORE LOSS AT 0.75, VERY SLTY, ABUNDANT PLANT FOSSILS |
| | 66 163.76 | 163.96 | 0.20 | | | CORE LOSS | ROCK |
| * | 66 163.96 | 165.86 | 1.90 | | | SILTSTONE | GY SS INTERBEDS FROM 0.74 TO 1.11 |
| | 66 165.86 | 166.53 | 0.67 | | | MUDSTONE | CARB.DK.GY COALY INCLUSIONS AND LAMINATIONS, VERY CARB. |
| | 66 166.53 | 166.64 | 0.11 | | | MUDSTONE | AS ABOVE; BADLY BROKEN |
| | 66 166.64 | 166.94 | 0.30 | | | CORE LOSS | ROCK |
| | 66 166.94 | 167.12 | 0.18 | | | COAL | C-5 VERY BADLY SHEARED |
| | 66 167.12 | 167.30 | 0.18 | | | MUDSTONE | CARB.DK.GY COALY LAMINATIONS AND INCLUSIONS; VERY CARB.; BECOMING SLTY; BADLY BROKEN |
| | 67 167.30 | 168.81 | 1.51 | | | SANDSTONE | CG.LT-M.GY VERY FINE TO MEDIUM GRAINED; ARGILLACEOUS; TOP IS UP |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 27

PROJECT: GDR BLOCK: XX DATA SOURCE: UDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 67 | 168.81 | 168.91 | 0.10 | | | SANDSTONE | AS ABOVE |
| * 67 | 168.91 | 171.09 | 2.18 | | | SANDSTONE | AS ABOVE; MUDST INTERBED FROM 0.05 TO 0.43; BECOMING MORE ARGILLACEOUS |
| 65 | 171.09 | 171.34 | 0.25 | | | MUDSTONE | DK.GY CARB. PLANT REMAINS; FISSILE. |
| 65 | 171.34 | 171.69 | 0.35 | | | MUDSTONE | AS ABOVE |
| 64 | 171.69 | 172.17 | 0.48 | | | MUDSTONE | AS ABOVE |
| 63 | 172.17 | 174.06 | 1.89 | | | SANDSTONE | MG.LT-M.GY VERY FINE TO MEDIUM GRAINED; SOME SLTY LAMINATIONS; MUDST. COALY INTERBED FROM 0.28 TO 0.46 CARB. PLANT REMAINS |
| 61 | 174.06 | 174.75 | 0.69 | | | SANDSTONE | AS ABOVE; VERY ARGILLACEOUS |
| 60 | 174.75 | 175.05 | 0.30 | | | CORE LOSS | ROCK |
| * 59 | 175.05 | 176.94 | 1.89 | | | SANDSTONE | AS ABOVE; POSSIBLE CORE LOSS AT FOOTAGE BLOCK |
| 58 | 176.94 | 177.14 | 0.20 | | | CORE LOSS | ROCK |
| 58 | 177.14 | 177.25 | 0.11 | | | SANDSTONE | AS SS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 28

PROJECT: GDR BLOCK: XX DATA SOURCE: UDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 58 | 177.25 | 178.49 | 1.24 | | SANDSTONE | CG MEDIUM TO COARSE GRAINED |
| | 57 | 178.49 | 179.08 | 0.59 | | SANDSTONE | AS ABOVE |
| * | 57 | 179.08 | 179.74 | 0.66 | | MUDSTONE | CARB.DK.GY VERY FISSILE BECOMING SILTIER AT BASE |
| | 57 | 179.74 | 181.10 | 1.36 | | SILTSTONE | LT-M.GY INTERBEDDED WITH FINE SANDS AND MUDST; FINE SCALE XBDG; TOP IS UP FROM 1.21 TO 1.36; MUDST VERY BADLY BRUKEN; POSSIBL E CORE LOSS |
| | 57 | 181.10 | 181.50 | 0.40 | | CORE LOSS | ROCK |
| | 57 | 181.50 | 182.90 | 1.40 | | SILTSTONE | AS ABOVE; FROM 0.30 TO 0.36 MUDST INTER BED |
| | 58 | 182.90 | 183.49 | 0.59 | | SILTSTONE | AS ABOVE |
| | 58 | 183.49 | 183.59 | 0.10 | | CORE LUSS | ROCK |
| | 58 | 183.59 | 184.55 | 0.96 | | MUDSTONE | SLTY.DK.GY COALY INCLUSIONS; BADLY BRUKEN; CARB. P LANT REMAINS; PYRITE SMEARS |
| | 58 | 184.55 | 184.74 | 0.19 | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 29

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 58 | 184.74 | 185.73 | 0.99 | | | SILTSTONE | LT-M.GY INTERBEDDED AND INTERLAMINATED WITH FINE SANDS AND MUD; POSSIBLE CORE LOSS AT 0.30 BROKEN COALY INCLUSIONS |
| 56 | 185.73 | 186.03 | 0.30 | | | CORE LOSS | ROCK |
| * 52 | 186.03 | 187.60 | 1.57 | | | SILTSTONE | AS SLTST ABOVE; MUDST INTERVAL FROM 0.50 TO 0.70; SS INTERVAL 1.06 TO 1.36 |
| 52 | 187.60 | 188.20 | 0.60 | | | SILTSTONE | VERY ARGILLACEOUS; COALY PLANT REMAINS |
| 52 | 188.20 | 188.76 | 0.56 | | | SANDSTONE | MG.LT-M.GY SLTY LAMINATIONS AND INTERBEDS |
| 53 | 188.76 | 190.52 | 1.76 | | | SANDSTONE | AS ABOVE; SALT AND PEPPERY; A VERY FEW SLTY LAMINATIONS |
| 53 | 190.52 | 191.57 | 1.05 | | | SANDSTONE | AS ABOVE |
| 53 | 191.57 | 193.27 | 1.70 | | | SANDSTONE | VCG AS ABOVE; MEDIUM TO VERY COARSE GRAINED AT BASE OF UNIT; GRAINS SUBANGULAR TO SUBROUNDED; SALT AND PEPPER; POSSIBLE CORELOSS AT MARKER; EXTREMELY ABRUPT LITHOLOGY CONTACT AT MARKER. |
| 53 | 193.27 | 193.57 | 0.30 | | | CORE LOSS | ROCK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 30

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 53 | 193.57 | 194.67 | 1.10 | | SILTSTONE | LT-M.GY.BIOTR AND MUDST. AND SS.; INTERBEDDED AND INTERLAMINATED |
| | 54 | 194.67 | 196.51 | 1.84 | | SILTSTONE | AND MUDST AND SS; AS ABOVE |
| * | 54 | 196.51 | 197.46 | 0.95 | | SILTSTONE | AND MUDST AND SS; AS ABOVE; COALY PLANT REMAINS |
| | 53 | 197.46 | 198.01 | 0.55 | | SILTSTONE | AND MUDST AND SS; AS ABOVE |
| | 53 | 198.01 | 198.45 | 0.44 | | SANDSTONE | MG.LT-M.GY FINE TO MEDIUM GRAINED; INTERLAMINATED WITH SLTST; COALY LAMINATIONS AND INCLUSIONS |
| | 53 | 198.45 | 198.49 | 0.04 | | MUDSTONE | CARB.DK.GY VERY CARB.; VERY BADLY BROKEN |
| | 53 | 198.49 | 198.69 | 0.20 | | CORE LOSS | ROCK |
| | 52 | 198.69 | 198.71 | 0.02 | | COAL | C-1 VERY BADLY BROKEN |
| | 52 | 198.71 | 198.81 | 0.10 | | CORE LOSS | COAL |
| | 52 | 198.81 | 198.83 | 0.02 | | COAL | C-6 BROKEN, ROCK FRAGMENTS IN TRAY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 31

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 52 | 198.83 | 198.85 | 0.02 | | | COAL | STONEY, A FEW VITRAIN BANDS; VERY BADLY BROKEN |
| * 52 | 198.85 | 199.53 | 0.68 | | | MUDSTONE | SLTY COALY INCLUSIONS, COALY PLANT REMAINS |
| 53 | 199.53 | 200.40 | 0.87 | | | MUDSTONE | AS ABOVE |
| 54 | 200.40 | 201.00 | 0.60 | | | MUDSTONE | AS ABOVE |
| 54 | 201.00 | 201.10 | 0.10 | | | CORE LOSS | ROCK |
| 54 | 201.10 | 201.11 | 0.01 | | | COAL | C-6 BADLY BROKEN |
| 54 | 201.11 | 201.13 | 0.02 | | | COAL | DULL LUSTROUS; VERY BADLY BROKEN |
| 54 | 201.13 | 201.15 | 0.02 | | | MUDSTONE | CARB. DK. GY VERY CARB.; VERY BADLY BROKEN |
| 54 | 201.15 | 201.25 | 0.10 | | | CORE LOSS | ROCK |
| 55 | 201.25 | 201.34 | 0.09 | | | COAL | DULL LUSTROUS; VERY BADLY BROKEN |
| 55 | 201.34 | 201.41 | 0.07 | | | CORE LOSS | COAL |
| 55 | 201.41 | 201.46 | 0.05 | | | MUDSTONE | WITH BRIGHT COALY STRINGERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH60040

| BCA | DEPTH FROM | DEPTH INTVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|-----------------|----------------|----------|---------|-----------|---|
| * 55 | 201.46 | 201.91 | 0.45 | | | MUDSTONE | M-DK.GY SLTY CARB PLANT REMAINS |
| 56 | 201.91 | 202.01 | 0.10 | | | CORE LOSS | ROCK |
| 56 | 202.01 | 202.38 | 0.37 | | | SANDSTONE | MG.LT-M.GY FINE TO MEDIUM GRAIN; INTERLAMINATED WITH GY SLTST |
| 57 | 202.38 | 202.58 | 0.20 | | | CORE LOSS | ROCK |
| 58 | 202.58 | 202.88 | 0.30 | | | SANDSTONE | VCG.LT.GY SALT & PEPPERY; FINE TO LARGE SCALE XBD G; CLAY BALLS; CONGLOMERATE BANDS CONSISTING OF WHITE AND BLACK CHERT PEBBLES-1CM IN DIAMETER; COALY INCLUSIONS. |
| 59 | 202.88 | 203.51 | 0.63 | | | SANDSTONE | AS ABOVE |
| 62 | 203.51 | 204.74 | 1.23 | | | SANDSTONE | AS ABOVE |
| 64 | 204.74 | 204.99 | 0.25 | | | CORELOSS | |
| * 66 | 204.99 | 206.44 | 1.45 | | | SANDSTONE | AS ABOVE |
| * 45 | 206.44 | 207.99 | 1.55 | | | SANDSTONE | CG AS ABOVE; FEW COALY LAMINATIONS FROM 0.20 TO 0.27; CLAY BALLS AT 0.80 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

PAGE 33

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 46 | 207.99 | 209.15 | 1.16 | | | SANDSTONE | AS ABOVE; AS ABOVE; POSSIBLE CORE LOSS AT END OF MEASUREMENT; 0.96 TO 1.00 CARB LAMINATIONS; MICACEOUS |
| 47 | 209.15 | 210.15 | 1.00 | | | SANDSTONE | |
| 48 | 210.15 | 211.67 | 1.52 | | | SANDSTONE | AS ABOVE; POSSIBLE CORE LOSS; PIECES DO NOT MATCH; BADLY BROKEN |
| 49 | 211.67 | 212.72 | 1.05 | | | CORE LOSS | ROCK |
| 50 | 212.72 | 213.18 | 0.46 | | | SANDSTONE | AS ABOVE; PIECES DON'T MATCH |
| 51 | 213.18 | 215.38 | 2.20 | | | SANDSTONE | CG AS ABOVE; PIECES DON'T MATCH AT 0.19 |
| 52 | 215.38 | 216.18 | 0.80 | | | CORE LOSS | ROCK |
| * 53 | 216.18 | 217.98 | 1.80 | | | SANDSTONE | VCG AS ABOVE; XBDG TOP IS UP; AT 0.90 A PEBBLE BAND WITH WHITE, BLACK AND SOME GN CHERTS AT 1.25 CM; SAND IS 3 CM THK; FR OM 0.90 TO 1.80 ABUNDANT COALY INCLUSIONS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 55 | 217.98 | 218.84 | 0.66 | | | SANDSTONE | CG AS ABOVE; FEW PEBBLES FROM 0.18 TO 0.2 AND 0.26 TO 0.29 CONSISTS OF BLK CHERT PEBBLES .5 TO 1 CM IN SIZE; FROM 0.40 T O 0.43 VERY COARSE TO PEBBLES (BLKCHERT S); COALY INCLUSIONS |
| 58 | 218.84 | 221.00 | 2.16 | | | SANDSTONE | AS ABOVE; PIECES DON'T MATCH AT 1.00; C OALY LAM. AT 1.00 TO 1.05; PIECES DON'T MATCH AT 1.55, 1.80; COALY LAM. FROM 1. 8 TO 1.93 (VERY GRITTY IN THIS AREA); B ROKEN |
| * 60 | 221.00 | 221.51 | 0.51 | | | SANDSTONE | AS ABOVE; 0.35 TO 0.43 CARB LAM. FRACTU RING ALONG BDG PLANES; FRACTURE SURFACE S ARE MICACEOUS |
| 59 | 221.51 | 222.92 | 1.41 | | | SANDSTONE | AS ABOVE; FROM 0.00 TO 0.70 VCG SAND; F ROM 0.70 TO 1.41 COURSE TO GRANULAR SS WITH WH AND BL. CHERT PEBBLES ROUNDED V ARYING IN SIZE FROM 4MM TO 2.5CM; SANDS AND GRANULES ARE SUBANGULAR; ABNT COALY INCL. |
| 59 | 222.92 | 223.36 | 0.44 | | | MUDSTONE | DK.GY COALY INCLUSIONS, CARB PLANT FOSSILS; B ROKEN; BECOMING SLTY TOWARDS BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 35

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 58 | 223.36 | 223.89 | 0.53 | | | SILTSTONE | LT.GY.BIOTR WITH SSY AND MUDDY INTERBEDS; FINE SCAL E INTERBEDS |
| 58 | 223.89 | 224.04 | 0.15 | | | CORE LOSS | ROCK |
| * 58 | 224.04 | 224.37 | 0.33 | | | SILTSTONE | AS ABOVE; MICACEOUS |
| 57 | 224.37 | 224.46 | 0.09 | | | SILTSTONE | AS ABOVE |
| 55 | 224.46 | 226.06 | 1.60 | | | MUDSTONE | SLTY.DK.GY COALY INCLUSIONS, VERY BADLY BROKEN, FU SSILS |
| 52 | 226.06 | 226.31 | 0.25 | | | CORE LOSS | ROCK |
| * 50 | 226.31 | 227.05 | 0.74 | | | SILTSTONE | LT.GY INTERBEDDED WITH MUDST AND VFG SAND. |
| 51 | 227.05 | 227.18 | 0.13 | | | SILTSTONE | AS ABOVE |
| 52 | 227.18 | 227.60 | 0.42 | | | MUDSTONE | DK.GY SHELL FRAGMENTS, BROKEN TOWARDS END OF MEASUREMNT |
| 53 | 227.60 | 227.85 | 0.25 | | | CORE LOSS | ROCK |
| 53 | 227.85 | 227.91 | 0.06 | | | COAL | C-6 |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 36

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 53 | 227.91 | 227.97 | 0.06 | | COAL | C-4 |
| | 53 | 227.97 | 227.99 | 0.02 | | COAL | C-1 |
| * | 56 | 227.99 | 230.10 | 2.11 | | SANDSTONE | MG.LT.GY SALT & PEPPERY; VERY ARGILLACEOUS AT TO P; COALY INCLUSIONS |
| | 57 | 230.10 | 230.50 | 0.40 | | SANDSTONE | AS ABOVE |
| | 57 | 230.50 | 231.62 | 1.12 | | MUDSTONE | DK.GY VERY FOSSILIFEROUS CARB PLANT REMAINS; SLTST INTERBED FROM 0.17 TO 0.32 |
| | 58 | 231.62 | 232.97 | 1.35 | | SANDSTONE | FG.LT.GY.XBDG MG INTERBEDS; MICACEOUS COALY PLANT FOS SILS |
| * | 59 | 232.97 | 235.87 | 2.90 | | SANDSTONE | AS ABOVE |
| | 63 | 235.87 | 236.01 | 0.14 | | SANDSTONE | AS ABOVE; AT 0.06 PIECES DON'T FIT; RIP -UP CLASTS |
| | 66 | 236.01 | 237.80 | 1.79 | | CORE LOSS | ROCK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 37

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 72 | 237.80 | 240.40 | 2.60 | | | SANDSTONE | TOP IS UP; RIP-UP CLASTS; POSSIBLE CORE LOSS AT 1.04; FROM 1.04 TO 1.23 MICACEOUS |
| 71 | 240.40 | 240.68 | 0.28 | | | SANDSTONE | AS ABOVE; BECOMING COARSER |
| 69 | 240.68 | 243.18 | 2.50 | | | SANDSTONE | AS ABOVE; RIP-UP CLASTS FROM 0.20 TO 0.40; FROM 1.30 TO 1.60; FROM 2.20 TO 2.40 |
| 68 | 243.18 | 243.48 | 0.30 | | | MUDSTONE | SLTY.DK.GY |
| * 67 | 243.48 | 245.92 | 2.44 | | | SILTSTONE | DK.GY VERY ARGILLACEOUS; FG SS INTERBEDS; SS INTERBEDS FROM .40 TO .91; 1.60 TO 2.00, ABUNDANT COALY INCLUSIONS FROM 2.30 TO 2.42, PLANT FOSSILS |
| 67 | 245.92 | 246.55 | 0.63 | | | SILTSTONE | AS ABOVE; MOTTLED |
| 66 | 246.55 | 248.64 | 2.09 | | | SILTSTONE | AS ABOVE; CORE BADLY BROKEN FROM 1.22 TO 1.37 |
| * 66 | 248.64 | 249.18 | 0.54 | | | SILTSTONE | AS ABOVE; VERY ARGILLACEOUS TOWARDS BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 38

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 66 | 249.18 | 249.81 | 0.63 | | | SILTSTONE | AS ABOVE |
| 66 | 249.81 | 251.42 | 1.61 | | | SANDSTONE | MG.LT.GY MINOR SLTY LAM |
| 66 | 251.42 | 252.08 | 0.66 | | | SANDSTONE | AS ABOVE |
| 66 | 252.08 | 252.26 | 0.18 | | | SANDSTONE | AS ABOVE |
| 66 | 252.26 | 252.66 | 0.42 | | | CORE LOSS | COAL |
| 66 | 252.68 | 254.54 | 1.86 | | | MUDSTONE | SLTY.DK.GY FEW SLTY LAM; MICACEOUS; LAST 15 CM OF MEASUREMENT CONTAINS FINELY DISSEMINATE D PYRITE, VERY ARGILLACEOUS |
| 66 | 254.54 | 254.84 | 0.30 | | | CORE LOSS | ROCK |
| * 66 | 254.84 | 254.97 | 0.13 | | | SANDSTONE | MG |
| 66 | 254.97 | 255.08 | 0.11 | | | MUDSTONE | DK.GY POSSIBLE CORE LOSS AT 0.03 |
| 66 | 255.08 | 255.90 | 0.82 | | | MUDSTONE | SLTY |
| 65 | 255.90 | 257.65 | 1.75 | | | SANDSTONE | MG.LT.GY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 39

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 64 | 257.65 | 258.15 | 0.50 | | | SANDSTONE | AS ABOVE |
| 64 | 258.15 | 260.02 | 1.87 | | | SANDSTONE | AS ABOVE |
| 63 | 260.02 | 260.19 | 0.17 | | | MUDSTONE | CARB. DK. GY. VBRKN ABUNDANT COALY INCLUSIONS; VERY BADLY BROKEN |
| 63 | 260.19 | 260.39 | 0.20 | | | CORE LOSS | ROCK |
| 63 | 260.39 | 260.51 | 0.12 | | | SANDSTONE | VFG. GY CARB. MUDST INTERBEDS |
| 63 | 260.51 | 261.17 | 0.66 | | | SANDSTONE | MUDST INTERBED FROM 0.10 TO 0.19 |
| 62 | 261.17 | 263.22 | 2.05 | | | SANDSTONE | CARB. MUDST INTERBED FROM 1.21 TO 1.38 |
| 61 | 263.22 | 264.25 | 1.03 | | | SANDSTONE | CG ABUNDANT RIP-UP CLASTS AT END OF MEASUREMENT |
| 61 | 264.25 | 265.83 | 1.58 | | | MUDSTONE | SLTY. DK. GY COALY INCLUSIONS; A FEW SLTY LAM |
| 60 | 265.83 | 265.85 | 0.02 | | | COAL | DULL LUSTROUS |
| 60 | 265.85 | 266.00 | 0.15 | | | COAL | C-6 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 60 | 266.00 | 266.12 | 0.12 | | | MUDSTONE | CARB VERY CARB; SEVERAL CLAY BANDS(1CM THICK) ABUNDANT COALY LAM |
| 60 | 266.12 | 266.14 | 0.02 | | | COAL | C-1 |
| 60 | 266.14 | 266.18 | 0.04 | | | COAL | C-4 |
| 60 | 266.18 | 266.21 | 0.03 | | | COAL | C-4 VERY BADLY BROKEN |
| 60 | 266.21 | 266.31 | 0.10 | | | COAL | C-1 VERY BADLY BROKEN TO POWDERY |
| 60 | 266.31 | 266.36 | 0.05 | | | COAL | |
| 60 | 266.36 | 266.42 | 0.06 | | | COAL | C-4 |
| 60 | 266.42 | 266.63 | 0.21 | | | CORELOSS | ROCK |
| 59 | 266.63 | 267.37 | 0.74 | | | MUDSTONE | CARB.DK.GY.VBRKN ABUNDANT COALY INCLUSION; VERY BADLY BROKEN, VERY FOSSILIFEROUS, VERY CARB. SLTY TOWARDS AS BASE, BROKEN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 59 | 267.37 | 267.69 | 0.32 | | MUDSTONE | AS ABOVE |
| * | 59 | 267.69 | 267.99 | 0.30 | | SILTSTONE | LT.GY INTERLAMINATED WITH MUDST |
| | 59 | 267.99 | 268.19 | 0.20 | | CORELOSS | ROCK |
| | 59 | 268.19 | 268.68 | 0.49 | | MUDSTONE | SLTY.DK.GY ABUNDANT PLANT FOSSILS |
| | 59 | 268.68 | 268.77 | 0.09 | | COAL | C-2 VERY BADLY BROKEN WITH FRAGMENTS IN TRAY |
| | 59 | 268.77 | 268.87 | 0.10 | | COAL | STONE, BADLY BROKEN |
| | 59 | 268.87 | 268.91 | 0.04 | | COAL | C-6 |
| | 59 | 268.91 | 269.14 | 0.23 | | MUDSTONE | SLTY.DK.GY MICACEOUS |
| | 59 | 269.14 | 270.40 | 1.26 | | SANDSTONE | GY ARGILLACEOUS, A FEW MUDDY BANDS |
| * | 59 | 270.40 | 270.52 | 0.12 | | SANDSTONE | DISSEMINATED PYRITE |
| | 59 | 270.52 | 271.55 | 1.03 | | MUDSTONE | CARB.DK.GY VERY CARB |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 42

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH ELEM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 59 | 271.55 | 272.49 | 0.94 | | MUDSTONE | AS ABOVE; BECOMING SLTY TOWARDS BASE |
| | 59 | 272.49 | 272.94 | 0.45 | | CORELOSS | ROCK |
| | 60 | 272.94 | 273.40 | 0.46 | | SANDSTONE | VFG ARGILLACEOUS, VERY FINE XBDG |
| | 60 | 273.40 | 274.64 | 1.24 | | SANDSTONE | SLTY AS ABOVE; VERY SLTY |
| * | 60 | 274.64 | 276.53 | 1.89 | | SANDSTONE | AS ABOVE; OCCASIONAL MUDST INTERBED |
| | 59 | 276.53 | 277.43 | 0.90 | | SANDSTONE | AS ABOVE |
| | 58 | 277.43 | 279.55 | 2.12 | | SANDSTONE | BIUTR TOP IS UP; ARGILLACEOUS BROKEN |
| | 57 | 279.55 | 280.21 | 0.66 | | SANDSTONE | AS ABOVE |
| * | 56 | 280.21 | 281.58 | 1.37 | | SANDSTONE | AS ABOVE |
| | 55 | 281.58 | 281.66 | 0.08 | 00721 | COAL | C-5 VERY BADLY BROKEN; BADLY SHEARED; ALSO C-6 |
| | 55 | 281.66 | 281.86 | 0.20 | 00721 | COAL | C-6 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 43

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 55 | 281.86 | 281.97 | 0.11 | 00721 | COAL | DULL LUSTROUS; SHEARED |
| | 54 | 281.97 | 283.25 | 1.28 | 00721 | CORELOSS | COAL |
| | 54 | 283.25 | 283.51 | 0.26 | 00722 | CORELOSS | ROCK |
| | 53 | 283.51 | 283.58 | 0.07 | 00722 | MUDSTONE | CARB. DK. GY COALY INCLUSIONS AND LAM; VERY BADLY BROKEN |
| | 53 | 283.58 | 283.70 | 0.12 | 00723 | CORELOSS | COAL |
| | 53 | 283.70 | 283.74 | 0.04 | 00723 | COAL | DULL LUSTROUS |
| | 53 | 283.74 | 283.75 | 0.01 | 00723 | MUDSTONE | DK. GY |
| | 53 | 283.75 | 283.79 | 0.04 | 00723 | COAL | DULL LUSTROUS |
| | 53 | 283.79 | 283.90 | 0.11 | 00723 | CORELOSS | COAL |
| | 53 | 283.90 | 284.12 | 0.22 | | MUDSTONE | DK. GY BADLY BROKEN |
| | 53 | 284.12 | 284.39 | 0.27 | | SILTSTONE | DK. GY VERY FINE SAND AND MUDST INTERBEDS AND LAM; VERY BADLY BROKEN |
| * | 52 | 284.39 | 285.39 | 1.00 | | SILTSTONE | AS ABOVE; CARB INTERBED 0.63 TO 0.84 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 44

PROJECT: GLR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 53 | 285.39 | 285.56 | 0.17 | | CORELOSS | ROCK |
| | 55 | 285.56 | 287.22 | 1.66 | | SILTSTONE | AS ABOVE; CARB MUDST 0.97 TO 1.23; POSSIBLE CORELOSS AT 1.60; PIECES DON'T MATCH |
| | 57 | 287.22 | 287.32 | 0.10 | | CORELOSS | ROCK |
| | 58 | 287.32 | 288.61 | 1.29 | | SILTSTONE | FG AS ABOVE; ARGILLACEOUS; MINOR BIOTURB; SS INTERBED 0.90 TO 1.08 |
| * | 60 | 288.61 | 289.11 | 0.50 | | SILTSTONE | AS ABOVE; FG SS INTERBED FROM 0.29 TO 0.50; TOP IS UP |
| | 59 | 289.11 | 290.05 | 0.94 | | MUDSTONE | UK.GY FEW SLTY LAM AT TOP; BADLY BROKEN; CARB PLANT FOSSILS TOWARDS END OF MEASUREMENT; POSSIBLE CORE LOSS AT END OF BOX; EXHIBITS FISSILITY |
| | 59 | 290.05 | 290.16 | 0.11 | | CORELOSS | ROCK |
| | 59 | 290.16 | 290.32 | 0.16 | | MUDSTONE | AS ABOVE |
| | 59 | 290.32 | 290.36 | 0.04 | 00724 | COAL | STONEY; BROKEN |
| | 59 | 290.36 | 290.42 | 0.06 | 00724 | COAL | C-5 LUSTROUS; BADLY BROKEN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDHB0040

| BCA | DEPTH EBDM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 59 | 290.42 | 290.44 | 0.02 | 00724 | | MUDSTONE | CARB.DK.GY VERY CARB; BROKEN |
| 58 | 290.44 | 290.48 | 0.04 | 00724 | | COAL | C-5 BADLY BROKEN |
| 58 | 290.48 | 290.53 | 0.05 | 00724 | | COAL | DULL LUSTROUS; A FEW BRIGHT BANDS |
| 58 | 290.53 | 290.55 | 0.02 | 00724 | | COAL | C-5 LUSTROUS BROKEN |
| 58 | 290.55 | 290.63 | 0.08 | 00724 | | CORELOSS | COAL |
| 58 | 290.63 | 290.65 | 0.02 | 00724 | | CORELOSS | COAL |
| 58 | 290.65 | 290.71 | 0.06 | 00724 | | MUDSTONE | CARB.DK.GY VERY CARB; (ALMOST STONEY) |
| 58 | 290.71 | 290.81 | 0.10 | 00724 | | COAL | DULL LUSTROUS; A FEW BRIGHT BANDS |
| 58 | 290.81 | 290.84 | 0.03 | 00724 | | COAL | DULL LUSTROUS; OCCASIONAL ASHBED |
| 58 | 290.84 | 290.88 | 0.04 | 00724 | | COAL | C-5 LUSTROUS; BROKEN TO POWDERY |
| 58 | 290.88 | 290.89 | 0.01 | 00724 | | COAL | C-6 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 58 | 290.89 | 290.93 | 0.04 | 00724 | | COAL | C-5 ODD BRIGHT BAND |
| 58 | 290.93 | 290.99 | 0.06 | 00724 | | COAL | C-2 |
| 58 | 290.99 | 291.03 | 0.04 | 00724 | | COAL | C-4 |
| 58 | 291.03 | 291.07 | 0.04 | 00724 | | COAL | C-4 |
| 58 | 291.07 | 291.12 | 0.05 | 00724 | | COAL | DULL LUSTROUS |
| 58 | 291.12 | 291.34 | 0.22 | 00724 | | COAL | DULL LUSTROUS ; ODD BRIGHT BAND |
| 58 | 291.34 | 291.46 | 0.12 | 00724 | | COAL | DULL LUSTROUS; VERY BADLY BROKEN; SOME POWDERY |
| 57 | 291.46 | 291.54 | 0.08 | 00724 | | COAL | DULL LUSTROUS; VERY BADLY BROKEN TO POWDERY |
| 57 | 291.54 | 291.61 | 0.07 | 00724 | | COAL | DULL LUSTROUS; BROKEN |
| 57 | 291.61 | 291.79 | 0.18 | 00724 | | COAL | STONEY WITH SOME C2; IMM IN WIDTH |
| 57 | 291.79 | 292.79 | 1.00 | 00725 | | MUDSTONE | SLTY.DK.GY VERY CARB. COALY PLANT FRAGMENTS; SLIGHTLY SLTY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 47

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 56 | 292.79 | 293.34 | 0.55 | 00725 | | MUDSTONE | POSSIBLE CORE LOSS AT 0.43 FISSILE |
| 56 | 293.34 | 293.41 | 0.07 | 00725 | | CORELOSS | ROCK |
| 56 | 293.41 | 293.85 | 0.44 | 00725 | | SANDSTONE | CG.LT.GY COARSE AT TOP MEASUREMENT |
| 57 | 293.85 | 294.07 | 0.22 | 00725 | | MUDSTONE | DK.GY POSSIBLE CORE LOSS AT END OF UNIT; TEN COALY INCLUSIONS WITHIN; ABUNDANT PLANT FOSSILS; A FEW C2 |
| 57 | 294.07 | 294.19 | 0.12 | 00726 | | COAL | DULL LUSTROUS; 1 CM DIRT BAND 3CM FROM TOP |
| 57 | 294.19 | 294.21 | 0.02 | 00726 | | MUDSTONE | CARB.DK.GY POSSIBLE CORE LOSS AT END OF MEASUREMENT |
| 57 | 294.21 | 294.30 | 0.09 | 00726 | | COAL | DULL LUSTROUS; BADLY BROKEN |
| 57 | 294.30 | 294.37 | 0.07 | 00726 | | COAL | DULL LUSTROUS; INTERLAMINATED WITH VFG SS; BROKEN |
| 57 | 294.37 | 294.39 | 0.02 | 00727 | | SANDSTONE | MG.LT.GY VERY SILICEOUS; ABUNDANT COALY INCLUSIONS; BADLY BROKEN; THE ODD CALCAREOUS FL ECKS; FRACTURES THROUGH THE GRAINS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH EQUV. | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|----------------|-------------|-------------------|-------------|------------|-----------|--|
| 57 | 294.39 | 294.99 | 0.60 | 00727 | | SANDSTONE | AS ABOVE. |
| 57 | 294.99 | 295.26 | 0.27 | 00727 | | CORELOSS | ROCK |
| 57 | 295.26 | 295.35 | 0.09 | 00728 | | CORELOSS | COAL |
| 58 | 295.35 | 295.40 | 0.05 | 00728 | | COAL | C-4 VERY BADLY BROKEN |
| 58 | 295.40 | 295.47 | 0.07 | 00728 | | COAL | DULL LUSTROUS; VERY BADLY BROKEN |
| 58 | 295.47 | 295.49 | 0.02 | 00728 | | COAL | C-3 A 1MM DIRT BED |
| 58 | 295.49 | 295.50 | 0.01 | 00728 | | MUDSTONE | DK.GY VERY BADLY BROKEN |
| 58 | 295.50 | 295.53 | 0.05 | 00728 | | COAL | DULL LUSTROUS WITH ODD BRIGHT BAND; BRO KEN |
| 58 | 295.53 | 295.59 | 0.04 | 00728 | | COAL | DULL LUSTROUS; BROKEN |
| 58 | 295.59 | 295.66 | 0.07 | 00728 | | COAL | C-4 |
| 58 | 295.66 | 295.71 | 0.05 | 00728 | | COAL | C-6 C6 LUSTROUS; 2MM DIRT BAND; THE ODD C2 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 49

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 58 | 295.71 | 295.80 | 0.09 | 00728 | | COAL | C-6 C6 LUSTROUS |
| 58 | 295.80 | 295.86 | 0.06 | 00728 | | COAL | C-5 SLIGHTLY LUSTROUS; BADLY BROKEN |
| 58 | 295.86 | 296.03 | 0.17 | 00728 | | COAL | DULL LUSTROUS; VERY BADLY BROKEN |
| 59 | 296.03 | 297.63 | 1.60 | | | MUDSTONE | DK.GY COALY LAM AND INCLUSIONS; SLIGHTLY SLTY ; POSSIBLE CORELOSS |
| 59 | 297.63 | 298.47 | 0.84 | | | MUDSTONE | AS ABOVE; CLAY BAND AT 0.04; A FEW CARB PLANT FUSSILS |
| * 60 | 298.47 | 299.65 | 1.18 | | | MUDSTONE | ABUNDANT COALY INCLUSIONS, SLTY INTERVA L FROM 0.20 TO 0.32, POSSIBLE CORE LOSS AT 0.95, VERY CARB; BROKEN, COALY LAM. AT END OF MEASUREMENT; CARB PLANT REMA INS THROUGHOUT. |
| 58 | 299.65 | 300.75 | 1.10 | | | SANDSTONE | VFG.LT.GY VERY SILICEOUS, MUNDANE APPEARANCE. |
| 57 | 300.75 | 301.15 | 0.40 | | | SANDSTONE | AS ABOVE. |

* DENOTES MEASURED ECA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 50

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH60040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 56 | 301.15 | 302.91 | 1.76 | | SANDSTONE | AS ABOVE; 0.00 TO 0.29CM ARGILLACEOUS SILT INTERBED; FROM 0.29 TO 0.51 NUMEROUS COALY LAM; 0.51 TO 1.76 MG-CG; TOP IS UP; POSSIBLE CORE LOSS AT END OF MEASUREMENT. |
| | 54 | 302.91 | 303.41 | 0.50 | | CORE LOSS | ROCK. |
| | 54 | 303.41 | 303.45 | 0.04 | | COAL | C-6 |
| | 54 | 303.45 | 303.63 | 0.18 | | MUDSTONE | CARB.DK.GY VERY CARB; FEW SLTY LAM. |
| | 53 | 303.63 | 303.87 | 0.24 | | SILTSTONE | AS ABOVE. |
| | 53 | 303.87 | 304.00 | 0.13 | | MUDSTONE | CARB.DK.GY VERY BADLY SHEARED WITH ABUNDANT LISTRIC SURFACES. |
| | 53 | 304.00 | 304.02 | 0.02 | | COAL | C-6 |
| | 53 | 304.02 | 304.12 | 0.10 | | CORE LOSS | COAL. |
| | 53 | 304.12 | 304.16 | 0.04 | | MUDSTONE | CARB.DK.GY VERY CARB. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 51

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH INTERVAL ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|-------------------|----------------|----------|---------|-----------|--|
| 53 | 304.16 | 304.25 | 0.09 | | | COAL | C-6 |
| 53 | 304.25 | 304.35 | 0.10 | | | MUDSTONE | CARB.DK.GY VERY CARB. |
| 53 | 304.35 | 304.40 | 0.05 | | | MUDSTONE | CARB AS ABOVE; VERY BADLY SHEARED. |
| 52 | 304.40 | 304.86 | 0.46 | | | CORE LOSS | ROCK. |
| 52 | 304.86 | 304.90 | 0.04 | | | COAL | C-6 |
| 52 | 304.90 | 304.94 | 0.04 | | | CORE LOSS | COAL |
| 52 | 304.94 | 304.96 | 0.02 | | | COAL | DULL LUSTROUS, BADLY BROKEN. |
| 52 | 304.96 | 304.98 | 0.02 | | | COAL | C-6 |
| 52 | 304.98 | 305.08 | 0.10 | | | COAL | DULL LUSTROUS. |
| 51 | 305.08 | 305.66 | 0.58 | | | MUDSTONE | CARB.DK.GY 0.19 POSSIBLE CORE LOSS, PIECES DON'T MATCH; BECOMING SSY TOWARDS BASE; ABUNDANT PLANT FOSSILS. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 52

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|-------------------|----------------|----------|---------|-----------|--|
| * 50 | 305.66 | 306.86 | 1.20 | | | SANDSTONE | VCG.LT.GY FEW COALY INCLUSIONS; XBDG - TOP IS UP; VERY SILICIOUS; SOME PYRITE ON FRACTURE D SURFACES; POSSIBLE CORE LOSS AT 1.06; PIECES DON'T MATCH AT END OF MEASUREME NT. |
| 51 | 306.86 | 306.96 | 0.10 | | | CORELOSS | ROCK. |
| 52 | 306.96 | 307.68 | 0.72 | | | SANDSTONE | AS ABOVE; FINE XBDG. |
| * 55 | 307.68 | 309.19 | 1.51 | | | SANDSTONE | VCG AS ABOVE; HIGH POROSITY AND PERMEABILIT Y; BADLY FACTURED BUT WITH NO CALCITE V EINING AND ABUNDANT SMOKY QUARTZ CRYSTA LS IN FRACTURED SURFACES AND BETWEEN GR AINS; NOTICE HIGH GAMMA KICK. |
| 58 | 309.19 | 309.72 | 0.53 | | | SILTSTONE | M.GY CARB WITH ARGILLACEOUS INTERBEDS. |
| 58 | 309.72 | 309.82 | 0.10 | | | SILTSTONE | AS ABOVE. |
| 62 | 309.82 | 312.50 | 2.68 | | | MUDSTONE | DK.GY INTERBEDDED WITH FG SANDS FROM 0.10 TO 0.44; 0.68 TO 0.85; VERY CARB FROM 0.85 TO 1.13; 1.60 TO 1.65; 2.20 TO 2.24; S SY INTERBEDS FROM 2.20 TO 2.25; PLANT F OSSILS; COALY INCLUSIONS. |

* DENOTES MEASURED BCA

XXXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 53

PROJECT: GCR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|-------------------|----------------|----------|---------|-----------|--|
| | 66 | 312.50 | 312.70 | 0.20 | | CORE LOSS | ROCK. |
| | 66 | 312.70 | 312.86 | 0.16 | | MUDSTONE | AS ABOVE. |
| * | 70 | 312.86 | 315.50 | 2.64 | | SANDSTONE | FG.M.GY.BIOTR VERY ARGILLACEOUS; A FEW SILT INTERBEDS , FROM 0.84 TO 1.27, A FEW CARB MUDST I NTERBED, MICACEOUS, BROKEN. |
| | 67 | 315.50 | 315.88 | 0.38 | | SANDSTONE | SLTY AS ABOVE. |
| | 64 | 315.88 | 318.07 | 2.19 | | MUDSTONE | M.GY CARB FROM 0.30 TO 1.90; BADLY BROKEN, C OALY INTERVALS, PLANT FRAGMENTS, SHEARE D, LISTRIC SURFACES, SLTY AT BASE. |
| | 62 | 318.07 | 318.32 | 0.25 | | CORE LOSS | ROCK. |
| | 62 | 318.32 | 318.42 | 0.10 | | SILTSTONE | GY INTERBEDDED WITH SS. |
| * | 61 | 318.42 | 318.85 | 0.43 | | SILTSTONE | AS ABOVE; ARGILLACEOUS. |
| | 61 | 318.85 | 319.13 | 0.28 | | MUDSTONE | CARB.DK.GY VERY CARB; VERY BADLY BROKEN. |
| | 61 | 319.13 | 319.28 | 0.15 | | CORELOSS | ROCK. |

* DENOTES MEASURED BCA

XXXXX

82701/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 54

PROJECT: GIR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 61 | 319.26 | 321.31 | 2.05 | | | SANDSTONE | FG.M.GY.BIOTR INTERLAMINATED WITH SILTS. |
| 61 | 321.31 | 321.88 | 0.57 | | | SANDSTONE | AS ABOVE. |
| 61 | 321.88 | 323.98 | 2.10 | | | SANDSTONE | AS ABOVE. |
| 61 | 323.98 | 324.02 | 0.04 | | | COAL | DULL LUSTROUS, BADLY BROKEN. |
| 61 | 324.02 | 324.04 | 0.02 | | | CORE LOSS | COAL. |
| 61 | 324.04 | 324.06 | 0.02 | | | COAL | STONEY. |
| 61 | 324.06 | 324.10 | 0.04 | | | CORE LOSS | COAL. |
| 61 | 324.10 | 324.12 | 0.02 | | | COAL | C-5 |
| 61 | 324.12 | 324.70 | 0.58 | | | CORE LOSS | ROCK. |
| 61 | 324.70 | 324.81 | 0.11 | | | MUDSTONE | AS ABOVE. |
| 61 | 324.81 | 325.31 | 0.50 | | | SANDSTONE | M.GY INTERBEDDED WITH SLTST AND MUDST. |
| 61 | 325.31 | 327.08 | 1.77 | | | SANDSTONE | AS ABOVE. |
| 61 | 327.08 | 327.16 | 0.08 | | | COAL | C-6 |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 55

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH FROM | DEPTH INTVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|--------------------|-------------------|----------|------------|-----------|---|
| 61 | 327.16 | 327.18 | 0.02 | | | MUDSTONE | CARB. DK. GY |
| 61 | 327.18 | 327.43 | 0.25 | | | CORE LOSS | ROCK. |
| 61 | 327.43 | 328.45 | 1.02 | | | SILTSTONE | GY INTERBEDDED WITH SS, CARB, MUDST. 0.00 TO 0.18, SSY FROM 0.58 TO 0.67. |
| 61 | 328.45 | 329.92 | 1.47 | | | SILTSTONE | SS INTERBEDDED FROM 0.43 TO 0.58, 0.79 TO 1.00; MUDST INTERBEDS FROM 0.58 TO 0 .79; AT 1.50 PYRITE BLEB 1CM DIAMETER; VERY CARB FROM 1.45 TO 1.59, BROKEN. |
| 61 | 329.92 | 330.13 | 0.21 | 00729 | | COAL | C-6 BROKEN, VITRAIN BANDS; VERY CARB; BROKE N. |
| 61 | 330.13 | 330.19 | 0.06 | 00729 | | MUDSTONE | DK. GY. BRKN VERY CARB. |
| 61 | 330.19 | 330.30 | 0.11 | 00729 | | COAL | C-5. VBRKN LUSTROUS, A FEW BRIGHT BANDS. |
| 61 | 330.30 | 330.35 | 0.05 | 00729 | | MUDSTONE | DK. GY VERY BADLY BROKEN. |
| 61 | 330.35 | 330.51 | 0.16 | 00729 | | COAL | DULL LUSTROUS; VERY BADLY BROKEN. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 56

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH60040

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 61 | 330.51 | 330.62 | 0.11 | 00729 | | CORE LOSS | COAL. |
| 61 | 330.62 | 330.64 | 0.02 | 00730 | | CORE LOSS | ROCK. |
| 61 | 330.64 | 330.84 | 0.20 | 00730 | | MUDSTONE | CARB.DK.GY VERY CARB; VERY BADLY BROKEN. |
| 61 | 330.84 | 330.99 | 0.15 | 00731 | | COAL | DULL LUSTROUS, VERY BADLY BROKEN TO POW DERY. |
| 61 | 330.99 | 331.17 | 0.18 | 00731 | | CORE LOSS | COAL. |
| 61 | 331.17 | 331.46 | 0.29 | 00732 | | MUDSTONE | CARB.DK.GY VERY CARB; BROKEN. |
| 61 | 331.46 | 331.53 | 0.07 | 00732 | | CORE LOSS | ROCK. |
| 61 | 331.53 | 331.72 | 0.19 | 00732 | | CORE LOSS | COAL. |
| 61 | 331.72 | 332.19 | 0.47 | 00732 | | MUDSTONE | SLTY LAM. AT THE BASE; BROKEN. |
| 61 | 332.19 | 332.28 | 0.09 | 00732 | | CORE LOSS | COAL. |
| 61 | 332.28 | 332.57 | 0.29 | 00733 | | COAL | DULL LUSTROUS WITH SOME C2 |
| 61 | 332.57 | 332.62 | 0.05 | 00733 | | COAL | C-4 BADLY BROKEN. |
| 61 | 332.62 | 332.76 | 0.14 | 00733 | | COAL | DULL LUSTROUS. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 57

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80040

| BCA | DEPTH EBDM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SIAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 61 | 332.76 | 332.86 | 0.10 | 00733 | | COAL | DULL LUSTROUS, POWDERY AND BROKEN. |
| 61 | 332.86 | 332.88 | 0.02 | 00733 | | COAL | DULL LUSTROUS. |
| 61 | 332.88 | 332.93 | 0.05 | 00733 | | COAL | DULL LUSTROUS, POWDERY AND BROKEN. |
| 61 | 332.93 | 333.13 | 0.20 | 00733 | | COAL | DULL LUSTROUS, BROKEN TO POWDERY. |
| 61 | 333.13 | 333.23 | 0.10 | | | MUDSTONE | CARB.DK.GY VERY CARB; BROKEN. |
| 61 | 333.23 | 334.35 | 1.12 | | | SILTSTONE | GY ARENACEOUS, BROKEN. |
| * 61 | 334.35 | 335.71 | 1.36 | | | SANDSTONE | VCG.M.GY CONTAINS SEVERAL WH, BLK CHERT PEBBLE B ANDS, SUBROUNDED TO ANGULAR, COALY INCL USIONS, RIP UP CLASTS; BROKEN. |
| 61 | 335.71 | 337.28 | 1.57 | | | SANDSTONE | COALY WISPS FROM 1.45 TO END OF MEASURE MENT, RIP UP CLASTS. |
| 61 | 337.28 | 338.39 | 1.11 | | | SANDSTONE | AS ABOVE; RIP UP CLASTS OF 0.00 TO 0.10 ; FROM 0.28 TO 0.37. |
| 61 | 338.39 | 340.02 | 1.63 | | | SANDSTONE | AS ABOVE. |
| 61 | 340.02 | 341.22 | 1.20 | | | SANDSTONE | AS ABOVE; PEBBLE BAND AT 0.10, 0.78, 1. 07 TO 1.11, BECOMING GRITTIER. |

* DENOTES MEASURED BCA

XXXXX

82701/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 58

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80040

| <u>BCA</u> | <u>DEPTH</u> <u>FRM</u> | <u>DEPTH</u> <u>TO</u> | <u>INTRVAL</u> <u>THICK.</u> | <u>SAMP.</u> <u>ID</u> | <u>SEAM</u> <u>ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|----------------------------|---------------------------|---------------------------------|---------------------------|--------------------------|------------------|--|
| 61 | 341.22 | 343.09 | 1.87 | | | SANDSTONE | PEBBLE BAND AT 0.24 TO 0.50, 0.77 TO 0.96, 1.05 TO 1.41, PEBBLE BANDS ARE VERY GRITTY, ANOTHER PEBBLE BAND AT 1.5. |

* DENOTES MEASURED BCA

OPEN FILE

GULF CANADA RESOURCES INC.

COAL DIVISION

GOODRICH GEOLOGICAL REPORT

1981

APPENDIX B PART 2

DDH 80-41 to DDH 80-44

DDH 80-41

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: _____ DATA SOURCE: DDH80041

HISTORY

START DATE: 24/11/80 END DATE: 29/11/80 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: L. KLATZEL SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1349.94
 UTM ZONE: 10 NORTH: 6143277.80 EAST: 546323.44
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 272.10 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 12.19 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ . _____ . _____ LOST CIRCULATION DEPTHS: _____ . _____ . _____

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : _____ | --- | --- | --- | X | 125A |
| NEUTRON | X | 1:100 | : _____ | --- | --- | --- | X | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | X | --- | 457AS |
| CALIPER | X | 1:100 | : _____ | --- | --- | X | --- | 785 |
| FE-SHORT | X | : _____ | 1:40 | --- | --- | X | --- | 7 |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | --- | 7 |
| DIRECTIONAL | X | : _____ | : _____ | --- | --- | X | --- | _____ |
| DIPMETER | --- | : _____ | : _____ | --- | --- | --- | --- | _____ |

*** COAL DIVISION ***

INTERVAL OF INTERPOLATION 10 UNIT(S)

DATA SOURCE: D80-41

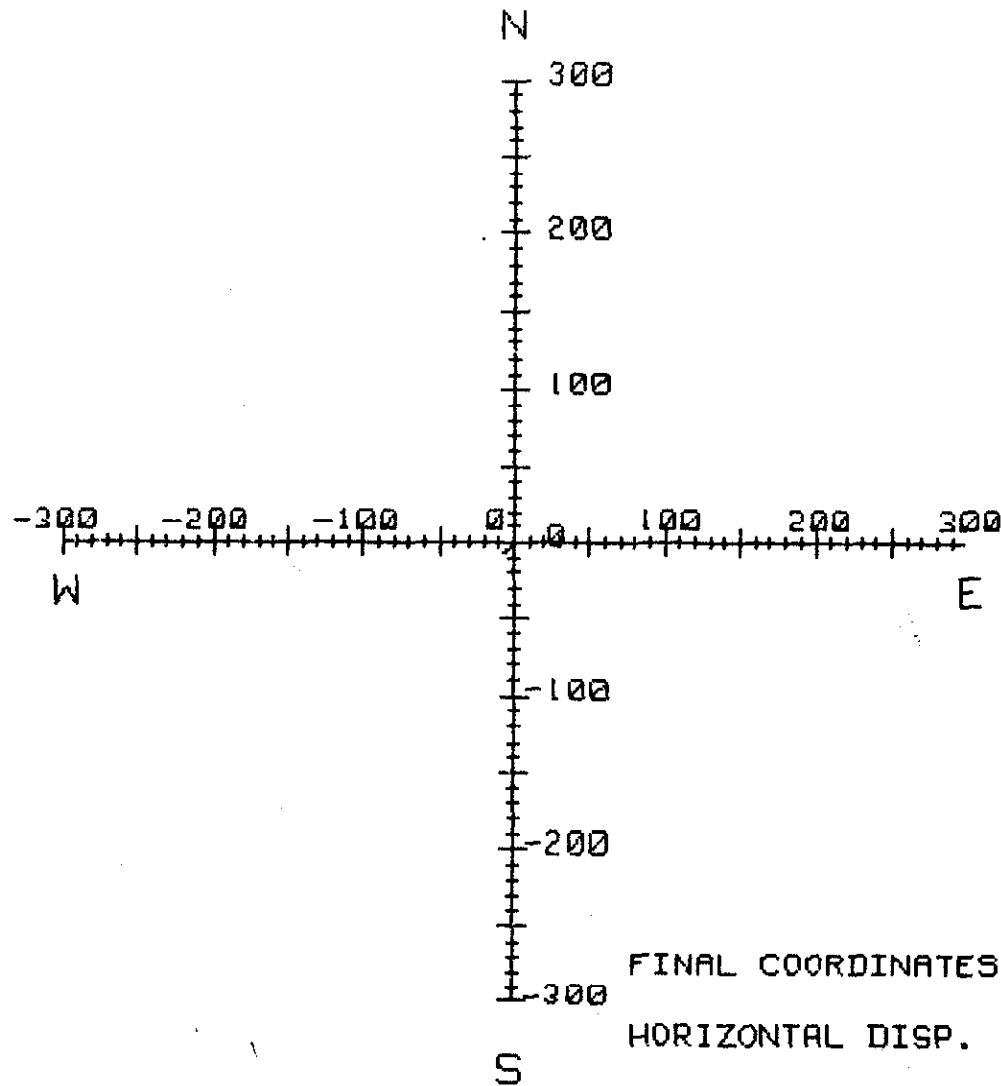
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

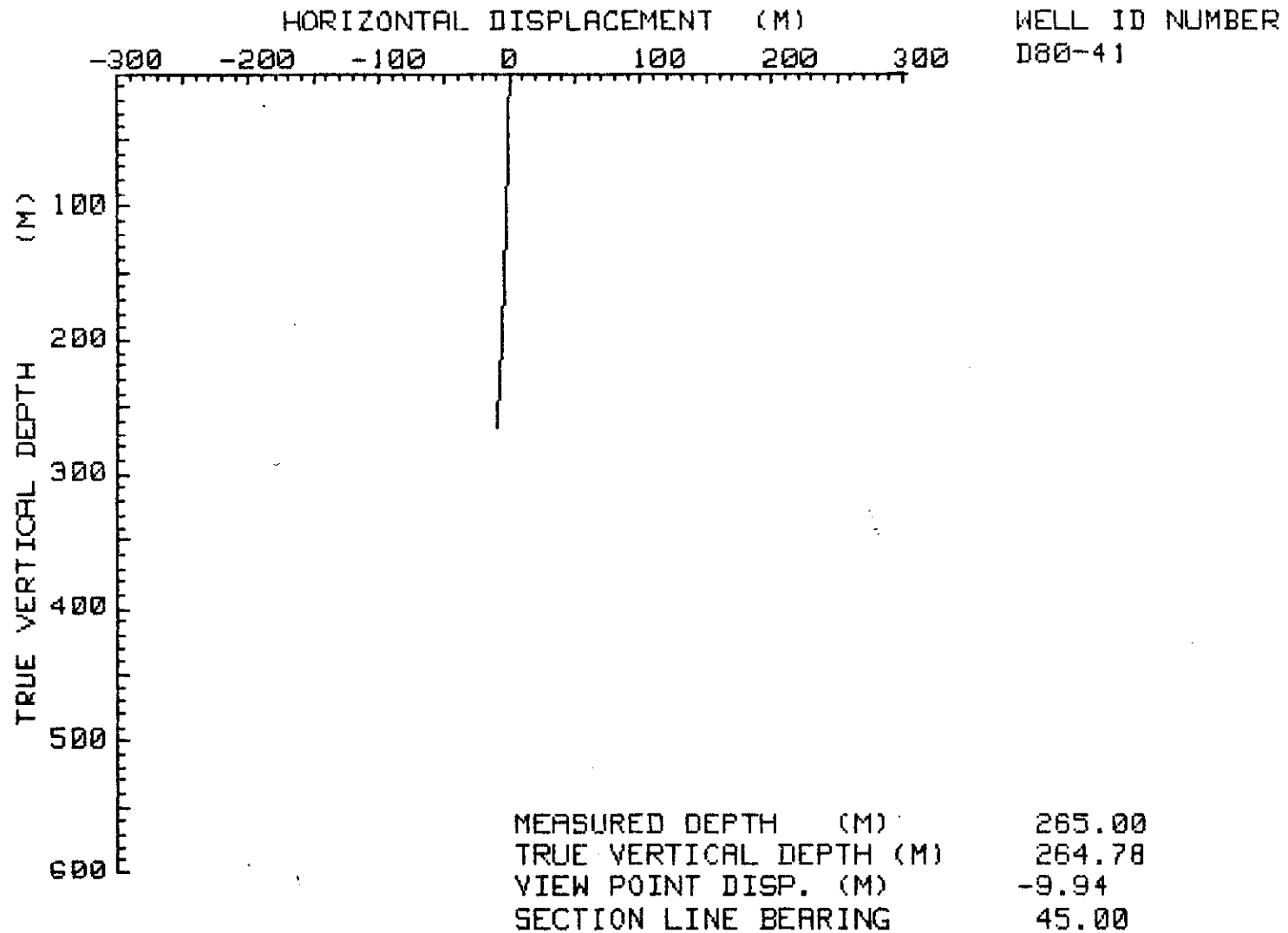
| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 0.00 | 1.20 | 215.90 |
| 15.00 | 1.20 | 215.90 |
| 30.00 | 1.20 | 210.40 |
| 45.00 | 1.50 | 207.50 |
| 60.00 | 1.50 | 201.90 |
| 75.00 | 1.70 | 204.30 |
| 90.00 | 2.10 | 216.60 |
| 105.00 | 2.30 | 194.70 |
| 120.00 | 2.60 | 219.60 |
| 135.00 | 2.60 | 217.10 |
| 150.00 | 2.60 | 220.60 |
| 150.00 | 2.60 | 220.60 |
| 165.00 | 2.40 | 222.30 |
| 195.00 | 2.80 | 267.10 |
| 210.00 | 3.00 | 233.70 |
| 225.00 | 3.20 | 210.70 |
| 240.00 | 3.00 | 209.60 |
| 255.00 | 2.62 | 214.20 |
| 265.00 | 3.00 | 226.10 |

PLAN VIEW

WELL ID NUMBER
D80-41



DISPLACEMENT



COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

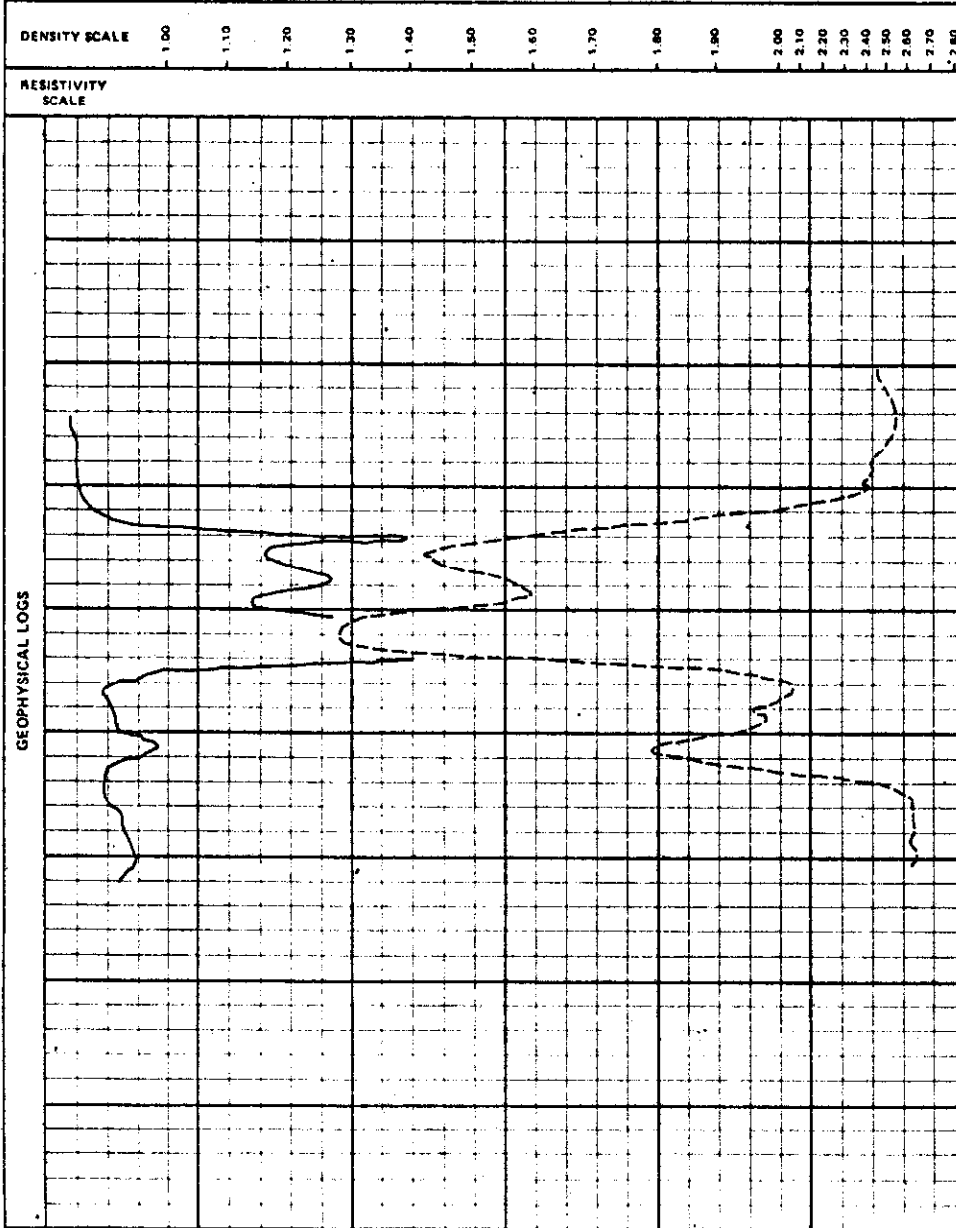
P-267 (12-80)

Coal / Coal + Rock (True Thk(m))
0.77 / 1.13

DENSITY ----- RESISTIVITY -----

DRILL NO. GDR-DDH-80-41 SEAM
SCALE 1:40

SEAM INTERVAL 73.29 - 75.25 m



GEOPHYSICAL LOG

| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | |
|-------------------|-------|---------------|----------------|------------------------|------------|--------|--------------------|-------|-------|-------|------|--------|------------|---------|--|--|
| | | | ROCK | COAL | % REC. 1.5 | NUMBER | COMPOS | MOIST | ASH | VM | FC | S | BTU (M/KG) | FSI | | |
| | 73.27 | | | (0.07) 0.19 0.04 | 52 | 00760 | | | | | | | | | | |
| | 74.40 | | | 0.36 | 46 | 00761 | 0.60 | 354 | 27.62 | 68.24 | 0.95 | 14,927 | 90 | (29.86) | | |
| | 75.25 | | 0.39 (0.25) | 10.21 | | | 0.65 | 7.65 | 25.95 | 65.75 | 1.21 | 14,146 | 90 | (28.29) | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

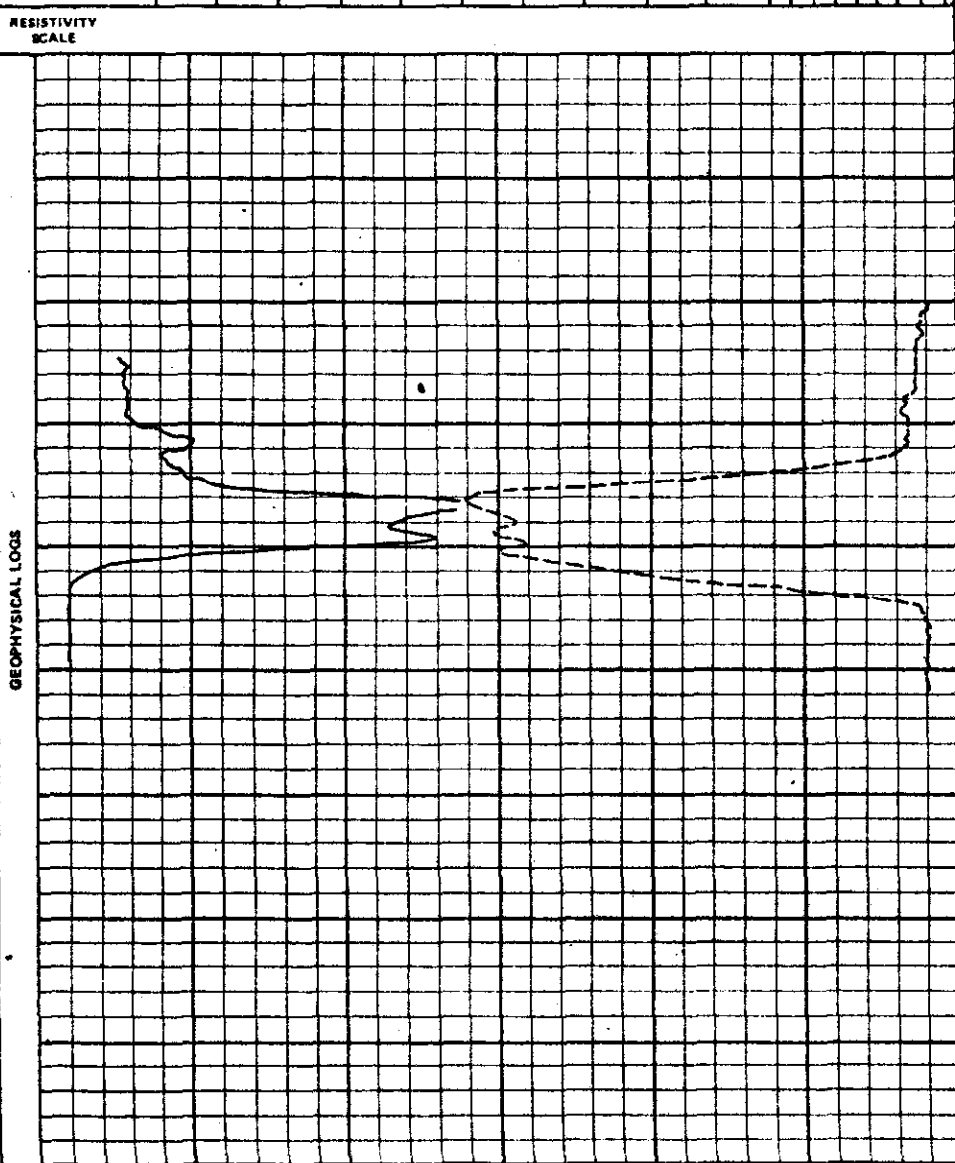
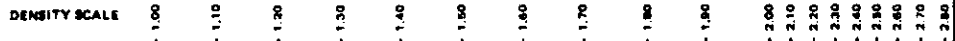
DENSITY

RESISTIVITY

DRILL NO. GDR-DDH-80-41
SCALE 1:40

SEAM _____

SEAM INTERVAL 138.44 - 139.28 m



GEOPHYSICAL LOGS

| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | |
|------------|--------|---------------|----------|--------|-------|--------|-----------|--------------------|-----|----|----|---|-----|-----|--|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS | MOIST | ASH | VM | FC | S | BTU | FSI | | | |
| | 138.44 | | | (0.84) | | | | | | | | | | | | | |
| | 139.28 | | | | | | NO SAMPLE | | | | | | | | | | |

COAL SEAM DATA SHEET

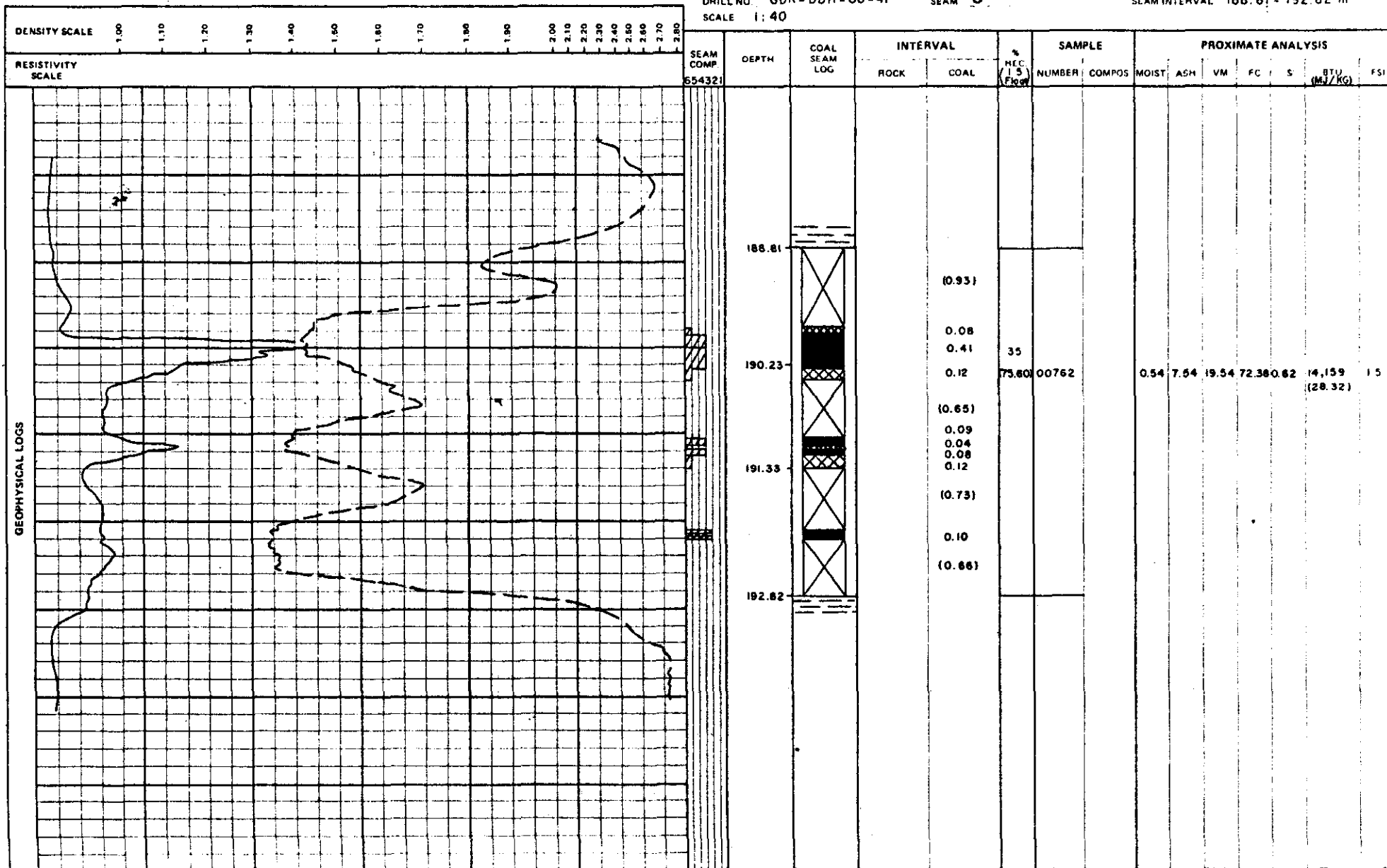
GULF CANADA RESOURCES INC.
COAL DIVISION

P. 20 / 112 R01
Coal / Coal + Rock (True Thk(m))
1.17 / 1.17

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-80-41 SEAM 3
SCALE 1:40

SEAM INTERVAL 188.81 - 192.82 m



GOAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

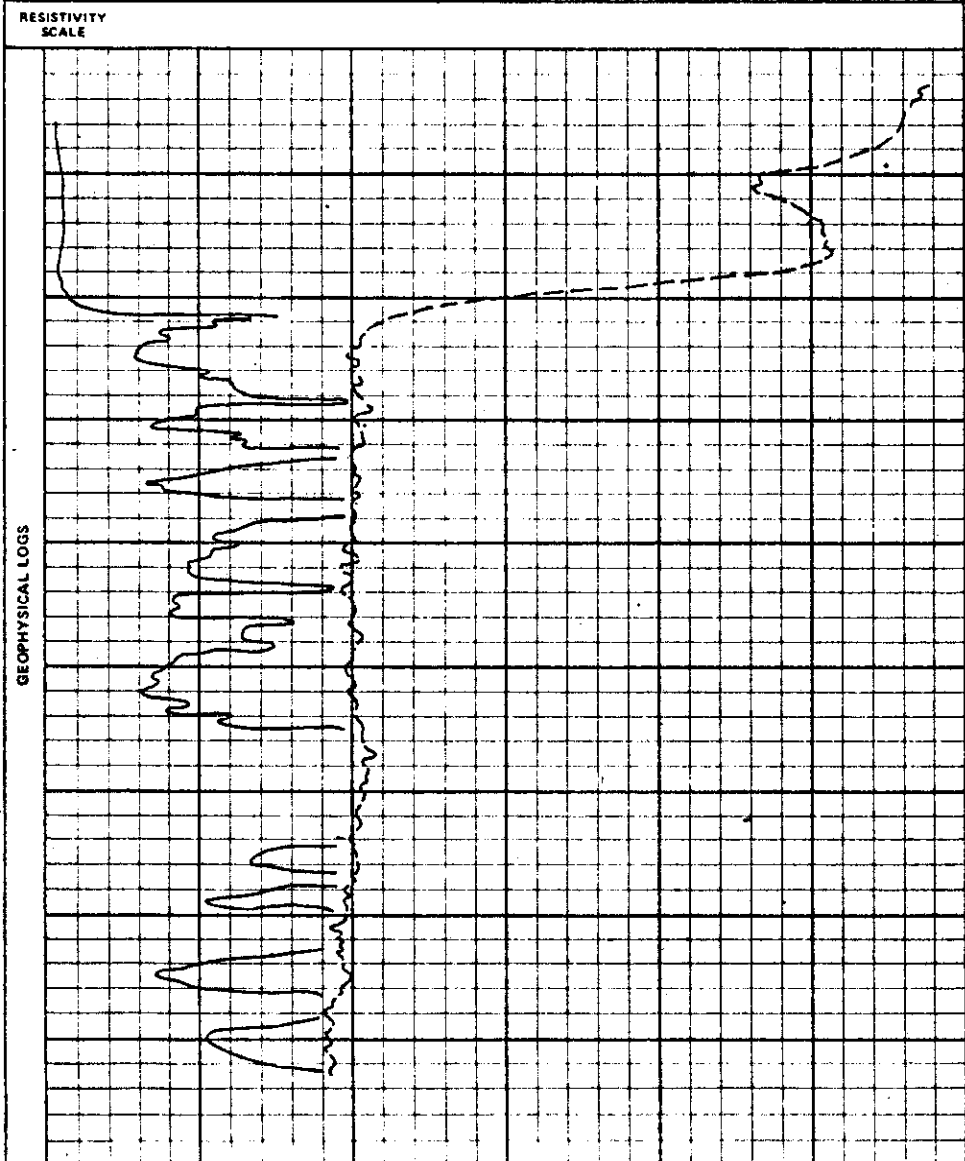
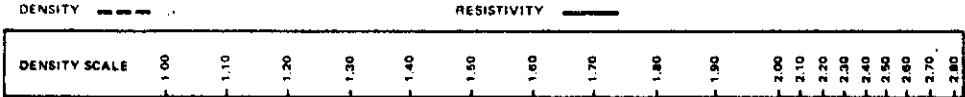
P. 267 (12/90)

Coal / Coal + Rock (True Thk(m))
4.90 / 5.60

SEAM INTERVAL 199.92 - 218.46 m

DRILL NO. GDR - DDH - 80 - 41
SCALE 1:40

SEAM 3



| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC (1.5 Foot) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | |
|------------|--------|---------------|----------|--|------------------|--------|---------|--------------------|------|-------|-------|------|-------------|-----|---------|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ)/KG | FSI | | |
| 65432 | 199.92 | | | (0.51) | | | | | | | | | | | | |
| | | | 0.03 | 0.15 0.22 0.06 0.04 0.10 0.04 0.07 0.13 | | | | | | | | | | | | |
| | 202.09 | | | 0.04 | 88 | 84.77 | 00763 | | | | | | | | | |
| | | | | 1.03 | | | | 0.92 | 2.34 | 21.42 | 75.32 | 0.35 | 14,864 | 1.5 | (29.73) | |
| | 203.16 | | | 0.04 0.11 0.10 | | | | | | | | | | | | |
| | | | | 1.84 | | | | | | | | | | | | |
| | 205.5 | | | 0.23 | | | | | | | | | | | | |
| | | | | (0.30) | | | | | | | | | | | | |
| | | | | 0.60 | | | | | | | | | | | | |
| | 206.38 | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | ROCK | MISSING COAL | ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|------|--------------|------|
| DDH80041 | | 760 | 73.27 | 74.40 | 0.59 | 52.21 | 0.59 | 0.00 | 0.54 | 0.00 |
| | | 761 | 74.40 | 75.25 | 0.39 | 45.88 | 0.00 | 0.39 | 0.21 | 0.25 |
| | | 762 | 188.81 | 192.82 | 1.04 | 25.94 | 1.04 | 0.00 | 2.97 | 0.00 |
| | | 763 | 199.92 | 207.84 | 7.07 | 89.27 | 7.04 | 0.03 | 0.25 | 0.00 |
| | | 764 | 207.84 | 209.02 | 0.57 | 48.51 | 0.00 | 0.57 | 0.00 | 0.81 |
| | | 765 | 209.02 | 216.21 | 7.06 | 97.58 | 7.06 | 0.00 | 0.19 | 0.00 |
| | | 766 | 216.27 | 219.09 | 0.47 | 13.74 | 0.47 | 0.00 | 1.05 | 1.90 |
| | | 767 | 232.33 | 233.41 | 0.59 | 54.63 | 0.59 | 0.00 | 0.49 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE -

NAME OF STANDARD -

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|
|-------------|------|-----------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|

DDH80041

760
761
762
763
764
765
766
767

XXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: UCH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 35 | 12.19 | 14.36 | 2.17 | | | SILTSTONE | GY VERY FAINT LAMINATIONS |
| 41 | 14.36 | 14.81 | 0.45 | | | SILTSTONE | GY AS ABOVE |
| * 45 | 14.81 | 16.04 | 1.23 | | | SILTSTONE | GY AS ABOVE, SANDY LAMINATIONS AT BASE |
| * 40 | 16.04 | 17.31 | 1.27 | | | SANDSTONE | SLTY.MG.GY ABUNDANT SILTY LAMINATIONS. |
| 42 | 17.31 | 17.58 | 0.27 | | | SILTSTONE | GY FEATURELESS. |
| 42 | 17.58 | 17.76 | 0.18 | | | SILTSTONE | GY AS ABOVE |
| 43 | 17.76 | 17.91 | 0.15 | | | SANDSTONE | MG.DK.GY MEDIUM GRAINED WITH LARGE SILTSTONE RIP UP CLASTS. |
| * 45 | 17.91 | 19.74 | 1.83 | | | SILTSTONE | GY FAINT LAMINATIONS MUDSTONE RIP UP CLAST S AND ARGILLACEOUS LAMINAE AT BASE |
| 50 | 19.74 | 20.40 | 0.66 | | | SILTSTONE | SSY.GY SANDY AT TOP WITH MUDST, CLASTS GRADES TO SILTSTONE AT BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH INTKVAL TO | INTKVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|------------------|----------------|----------|---------|-----------|---|
| | 51 | 20.40 | 20.58 | 0.16 | | SANDSTONE | SLTY.GY SILTY AND SANDY LAMINAE. |
| | 52 | 20.58 | 20.75 | 0.17 | | CORELOSS | |
| | 53 | 20.75 | 21.03 | 0.28 | | SANDSTONE | SLTY.GY AS ABOVE |
| * | 55 | 21.03 | 21.79 | 0.76 | | SANDSTONE | MG.GY FG. FINE TO MEDIUM GRAINED SILTY LAMINAE, CRACKLE BRECCIA DEVELOPMENT AT TOP WITH VUGGY CALCITE INFILL. |
| | 53 | 21.79 | 22.22 | 0.43 | | SANDSTONE | MG.GY FG. AS ABOVE WITH ABUNDANT MUDSTONE RIP UP CLASTS AND NUMEROUS WISPY COAL STRINGERS. |
| * | 50 | 22.22 | 23.13 | 0.91 | | SANDSTONE | MG.GY FG. AS ABOVE, SPARCE WISPY COAL STRINGERS, GRADES TO SILTSTONE AT BASE. |
| | 50 | 23.13 | 23.63 | 0.50 | | SANDSTONE | LT.GY GRADATIONAL FROM SILTSTONE AT TOP WITH NUMEROUS SILTY LAMINAE, BECOMES MEDIUM GRAINED WITH SPARCE SILTY LAMINAE. |
| | 50 | 23.63 | 24.42 | 0.79 | | SANDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 50 | 24.42 | 25.72 | 1.30 | | | MUDSTONE | DK.GY CARBONACEOUS PLANT REMAINS, COAL STRINGERS SILTY LAMINAE. |
| * 35 | 25.72 | 26.55 | 0.83 | | | SILTSTONE | GY ARGILLACEOUS AND SANDY LAMINAE, CARBONACEOUS PARTINGS. |
| * 40 | 26.55 | 27.76 | 1.21 | | | SILTSTONE | AS ABOVE, GRADES TO MUDSTONE IN PLACES WITH COAL STRINGERS. |
| * 35 | 27.76 | 27.89 | 0.13 | | | TUFF | GY GRADED LIGHTER COLORED MICAS AT TOP GRADES TO DENSER DARKER GRAINS AT BASE, VERY SOFT AND DENSE, RAZUR SHARP CONTACTS AT TOP AND BOTTOM |
| * 45 | 27.89 | 28.31 | 0.42 | | | MUDSTONE | GY DARKGY-BROWNGY. CARBONACEOUS PLANT REMAINS. |
| 40 | 28.31 | 29.65 | 1.34 | | | MUDSTONE | AS ABOVE, COAL STRINGERS. |
| * 35 | 29.65 | 30.15 | 0.50 | | | SILTSTONE | GY ARGILLACEOUS LAMINATIONS, GRADES TO MUDSTONE AT BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|------------|--|
| 36 | 30.15 | 30.97 | 0.82 | | | MUDSTONE | DK.GY CARBONACEOUS PLANT REMAINS, COAL STRINGERS. |
| 37 | 30.97 | 32.61 | 1.64 | | | MUDSTONE | DK.GY AS ABOVE, HEAVILY BROKEN IN PLACES, SLICKENSIDES. |
| 38 | 32.61 | 32.70 | 0.09 | | | CORELOSS | |
| 38 | 32.70 | 33.12 | 0.42 | | | MUDSTONE | GY DARKGY BROWNGY. VERY CARBONACEOUS WITH NUMEROUS CARBONACEOUS PLANT REMAINS AND COAL STRINGERS, SLICKENSIDES. |
| 39 | 33.12 | 33.40 | 0.28 | | | CARB.MUDST | CARB.GY DARKGY BROWN; VERY (MODIFIER); COAL PODS UP TO 0.02M THICK. |
| * 40 | 33.40 | 35.22 | 1.82 | | | MUDSTONE | CARB.DK.GY VERY CARB; ABUNDANT COAL LAMINATIONS; COAL POWDER IN TRAY; BROKEN IN PLACES. |
| 40 | 35.22 | 35.63 | 0.41 | | | CORELOSS | |
| 40 | 35.63 | 35.75 | 0.12 | | | COAL | STONEY; HEAVILY BROKEN; MIXED WITH SOME COAL AND BANDS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 40 | 35.75 | 36.31 | 0.56 | | CORELOSS | |
| | 40 | 36.31 | 36.39 | 0.08 | | MUDSTONE | BRKN AS ABOVE. |
| | 40 | 36.39 | 36.81 | 0.42 | | MUDSTONE | CARB.GY DARKGY TO DARKBROWN. VERY CARB; COAL LAMINATIONS UP TO 0.02 M THICK; BRKN. |
| | 40 | 36.81 | 37.91 | 1.10 | | MUDSTONE | CARB.DK.GY VERY CARB IN PLACES; GRADATIONAL TO CARBONACEOUS MUDSTONE; BRKN; POWDERY AND PIECES IN PLACES. |
| | 40 | 37.91 | 38.21 | 0.30 | | CORELOSS | |
| | 40 | 38.21 | 39.33 | 1.12 | | MUDSTONE | AS MUDST. ABOVE, DECREASINGLY CARBONACEOUS TOWARDS BASE |
| * | 40 | 39.33 | 40.85 | 1.52 | | MUDSTONE | DK.GY |
| | 37 | 40.85 | 40.96 | 0.11 | | MUDSTONE | GY BROWNGY. HEAVILY BROKEN AND SHEARED, MIXED WITH BROKEN PIECES OF COAL. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 37 | 40.96 | 41.22 | 0.26 | | CORELOSS | |
| | 36 | 41.22 | 41.56 | 0.34 | | MUDSTONE | DK.GY SPARCE COAL STRINGERS BROKEN AT MARKER. |
| | 35 | 41.56 | 41.74 | 0.18 | | CORELOSS | |
| | 34 | 41.74 | 42.12 | 0.38 | | MUDSTONE | AS MUDST ABOVE |
| * | 30 | 42.12 | 44.53 | 2.41 | | MUDSTONE | AS ABOVE, COAL STRINGERS IN MIDDLE SECTION, BROKEN |
| | 33 | 44.53 | 44.82 | 0.29 | | CORELOSS | |
| | 36 | 44.82 | 46.93 | 2.11 | | MUDSTONE | GY DARKBROWN GY. CARBONACEOUS PLANT REMAINS, COAL STRINGERS AND PODS UP TO 0.00M THICK, BIOTURBATIONS, NOT LAMINATIONS; VBRKN IN PLACES. |
| * | 40 | 46.93 | 47.58 | 0.65 | | MUDSTONE | DK.GY CARBONACEOUS PLANT REMAINS, WELL LAMINATED COAL STRINGERS, BROKEN ESPECIALLY AT MARKER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH INTERVAL | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------------|----------------|----------|---------|-----------|---|
| | 40 | 47.58 | 47.74 | 0.16 | | CORELOSS | |
| * | 40 | 47.74 | 49.56 | 1.82 | | MUDSTONE | AS ABOVE; SLICKENSIDES. |
| * | 40 | 49.56 | 50.93 | 1.37 | | MUDSTONE | AS ABOVE, BROKEN |
| | 43 | 50.93 | 51.00 | 0.07 | | CORELOSS | |
| * | 45 | 51.00 | 52.20 | 1.20 | | MUDSTONE | UK.GY AS ABOVE, FAINTLY LAMINATED, GRADATIONA L TO CARBUNACEOUS MUDSTONE IN PLACES |
| | 44 | 52.20 | 53.98 | 1.78 | | MUDSTONE | GY.BIOTR RARE COAL STRINGERS, LAMINATED |
| | 44 | 53.98 | 54.92 | 0.94 | | MUDSTONE | AS ABOVE, SLICKENSIDES. |
| | 43 | 54.92 | 56.99 | 2.07 | | MUDSTONE | UK.GY.BIOTR SILT, F GRAINED SS INTEBEDS;CALCAREOUS; SOME COAL LAMINAE ALONG BEDDING;CARB PL ANT FRAGMENTS; CALCITE FILLED FRACTURIN G; SOME QUARTZ CRYSTALS; LISTRIC FRACTU RES;SOME PYRITE FLECKS; CROSS LAMINATIO NS. |
| | 42 | 56.99 | 57.50 | 0.51 | | MUDSTONE | AS ABOVE, SOME SMALL COALY INCLUSIONS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: X1 DATA SOURCE: DDH80041

| BCA | DEPTH FBUM | DEPTH IN | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 41 | 57.50 | 59.94 | 2.44 | | | MUDSTONE | AS ABOVE, CORE BADLY BROKEN. |
| 41 | 59.94 | 60.04 | 0.10 | | | CORELOSS | |
| 41 | 60.04 | 60.30 | 0.26 | | | MUDSTONE | AS MUDST ABOVE. |
| * 40 | 60.30 | 63.06 | 2.76 | | | MUDSTONE | AS ABOVE SEVERAL LARGE COALY INCLUSIONS TUPS UP. |
| 40 | 63.06 | 63.15 | 0.09 | | | MUDSTONE | AS ABOVE |
| * 40 | 63.15 | 65.60 | 2.45 | | | MUDSTONE | AS ABOVE; SOME FINE CALCITE FILLED STRES S CRACKS; CORE BADLY BROKEN IN PART WITH HIGHLY SHEARED COALY INCLUSIONS. |
| 38 | 65.60 | 65.92 | 0.32 | | | CORELOSS | |
| 37 | 65.92 | 66.20 | 0.28 | | | MUDSTONE | AS MUDST ABOVE. |
| * 35 | 66.20 | 68.64 | 2.44 | | | MUDSTONE | AS ABOVE; SILTY AT TOP; SOME PYRITE ALONG FRACTURES. |
| 35 | 68.64 | 71.25 | 2.61 | | | MUDSTONE | BRKN AS ABOVE; CORE BRKN WITH REGROUND ENDS B ECOMING MUDDIER TO BOTTOM. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GIR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 35 | 71.25 | 71.50 | 0.25 | | | CORELOSS | |
| 35 | 71.50 | 72.29 | 0.79 | | | MUDSTONE | DK.GY AS MUDST. ABOVE COALY INCLUSIONS; LISTRIC FRACTURE SURFACES; CARBONACEOUS IN PART; LESS SILTY. |
| 35 | 72.29 | 73.16 | 0.87 | | | MUDSTONE | DK.GY AS ABOVE |
| 35 | 73.16 | 73.27 | 0.11 | | | CORELOSS | |
| 35 | 73.27 | 73.34 | 0.07 | 00760 | | COAL LOSS | |
| 35 | 73.34 | 73.53 | 0.19 | 00760 | | COAL | C-6 OCCASIONAL MUDDY ZONES; CORE BROKEN WITH SLICKENSIDE SURFACES. |
| 35 | 73.53 | 73.57 | 0.04 | 00760 | | COAL | C-3 HIGHLY SHEARED WITH SLICKENSIDES; CORE PWRD. |
| 35 | 73.57 | 74.04 | 0.47 | 00760 | | CORELOSS | |
| 35 | 74.04 | 74.14 | 0.10 | 00760 | | COAL | C-5 C5-LUSTROUS; OCCASIONAL BRIGHT BANDS; CORE BROKEN; LISTRIC SURFACES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GLR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 35 | 74.14 | 74.19 | 0.05 | 00760 | | COAL | C-1 HIGHLY SHEARED, SLICKENSIDES; CORE PWRD . |
| 35 | 74.19 | 74.26 | 0.07 | 00760 | | COAL | C-3.VSHRD SLICKENSIDES; PWRD. |
| 35 | 74.26 | 74.40 | 0.14 | 00760 | | COAL | C-5 C5 LUSTROUS; SOME BRIGHT BANDS; HIGHLY SHEARED; SLICKENSIDES; CORE PWRD. |
| 35 | 74.40 | 74.65 | 0.25 | 00761 | | MUDSTONE | AS ABOVE MUDST |
| 35 | 74.65 | 74.79 | 0.14 | 00761 | | MUDSTONE | AS ABOVE. |
| 35 | 74.79 | 75.04 | 0.25 | 00761 | | ROCKLOSS | |
| 35 | 75.04 | 75.25 | 0.21 | 00761 | | COALLOSS | |
| * 35 | 75.25 | 77.73 | 2.48 | | | MUDSTONE | AS ABOVE; MUDST BECOMING SILTIER TO BOTT OM WITH SOME FINE COAL AND CALCITE LAMI NAE AT BOTTOM. |
| 36 | 77.73 | 78.32 | 0.59 | | | MUDSTONE | DK.GY CARB WITH COALY INCLUSIONS THROUGHOUT, SOME FINE CALCITE AND COALY LAMINAE, LI STRIC FRACTURE SURFACES, CORE BROKEN, A BUNDANT CARB PLANT FRAGMENTS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH EBDM | DEPTH TD | INTRVAL THICK. | SAMP. TD | SEAM TD | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 37 | 78.32 | 79.75 | 1.43 | | MUDSTONE | DK.GY AS ABOVE; CORE BADLY BROKEN; SHEARED; SLICKENSIDES ; POWDERED IN PART. |
| | 38 | 79.75 | 80.14 | 0.39 | | CORELOSS | |
| | 38 | 80.14 | 80.29 | 0.15 | | COAL | C-5 C5-LUSTROUS WITH OCCASIONAL BRIGHT BANDS; SOME DIRTY ZONES; CORE BADLY SHEARED ; SLICKENSIDES; PWRD. |
| | 39 | 80.29 | 80.68 | 0.39 | | CORELOSS | |
| | 39 | 80.68 | 80.74 | 0.06 | | MUDSTONE | AS MUDST ABOVE; PWRD. |
| | 39 | 80.74 | 80.94 | 0.20 | | CORELOSS | |
| * | 40 | 80.94 | 83.42 | 2.48 | | MUDSTONE | DK.GY AS ABOVE; CORE BADLY BROKEN WITH LISTRIC FRACTURE SURFACES; ABUNDANT CARB PLANT FRAGMENTS; SOME PYRITE REPLACEMENT IN COAL INCLUSIONS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 40 | 83.42 | 83.58 | 0.16 | | | CORELOSS | |
| 40 | 83.58 | 83.99 | 0.41 | | | MUDSTONE | DK.GY AS ABOVE, CORE BADLY BROKEN AND SHEARED |
| 40 | 83.99 | 84.61 | 0.62 | | | MUDSTONE | AS ABOVE |
| 40 | 84.61 | 85.93 | 1.32 | | | MUDSTONE | AS ABOVE |
| * 40 | 85.93 | 87.65 | 1.72 | | | MUDSTONE | AS ABOVE , OCCASIONALLY SILTY WITH SOME SILTY INTERBEDS. |
| 43 | 87.65 | 88.67 | 1.02 | | | MUDSTONE | AS ABOVE, BECOMING SILTIER TO BOTTOM. |
| * 45 | 88.67 | 89.91 | 1.24 | | | MUDSTONE | AS ABOVE, BECOMING SILTIER TO BOTTOM; AS ABOVE; OCCASIONAL SLTY ZONES; COALY IN CLUSIONS WITH PYRITE; CORE VBRKN. |
| 43 | 89.91 | 90.25 | 0.34 | | | CORELOSS | |
| 41 | 90.25 | 91.63 | 1.38 | | | MUDSTONE | DK.GY AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FBUM | DEPTH IU | INTRVAL THICK. | SAMP. IU | SEAM IU | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 37 | 91.63 | 93.75 | 2.12 | | MUDSTONE | DK.GY AS ABOVE, OCCASIONAL THIN CALCITE LAMINAE AND STRESS CRACKS. |
| | 34 | 93.75 | 94.13 | 0.38 | | MUDSTONE | AS ABOVE. |
| * | 30 | 94.13 | 96.73 | 2.60 | | MUDSTONE | DK.GY AS ABOVE; OCCASIONAL SILTY ZONES; SOME COALY INCLUSIONS; DARK GRAY TO BLACK. |
| * | 43 | 96.73 | 99.24 | 2.51 | | MUDSTONE | DK.GY AS ABOVE; BECOMING SILTY TO BOTTOM; SOME OIL STAINED FRACTURES; GRADES TO SILTSTONE AT BOTTOM; DARK GRAY TO BLACK. |
| | 40 | 99.24 | 99.81 | 0.57 | | SILTSTONE | DK.GY WITH MUDSTONE AND FINE GRAINED SANDSTONE CROSS-LAMINATIONS AND INTERBEDS; CARBONACEOUS PLANT FRAGMENT; SMALL COALY INCLUSIONS THROUGHOUT; SOME CALCITE AND COALY FINE LAMINATIONS; CORE INTACT. |
| | 37 | 99.81 | 102.02 | 2.21 | | SILTSTONE | AS ABOVE; BECOMING SANDIER AT BOTTOM; CORE INTACT; ENDS DON'T MATCH. |
| | 34 | 102.02 | 102.84 | 0.82 | | SILTSTONE | AS ABOVE; MISMATCHED PIECES. |
| * | 31 | 102.84 | 104.74 | 1.90 | | SILTSTONE | AS ABOVE; BECOMING MUDDIER; SOME REGROUND ENDS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH60041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 40 | 104.74 | 104.84 | 0.10 | | | CORE LOSS | |
| * 37 | 104.84 | 105.91 | 1.07 | | | SILTSTONE | AS ABOVE. |
| * 42 | 105.91 | 107.51 | 1.60 | | | SILTSTONE | AS ABOVE; SOME LISTRIC FRACTURE SURFACE S; BECOMING SANDY AT BOTTOM. |
| 44 | 107.51 | 108.96 | 1.45 | | | SILTSTONE | AS ABOVE; SANDY AT TOP; FINE CALCITE IN FILLINGS AT BOTTOM; LISTRIC FRACTURE SURFACES. |
| * 45 | 108.96 | 110.38 | 1.42 | | | SILTSTONE | BIOTR AS ABOVE; SOME CONTORTED BEDDING; TOPS UP; SOME PYRITE ALONG FRACTURES. |
| * 45 | 110.38 | 111.95 | 1.57 | | | SILTSTONE | AS ABOVE; SOME COALY INCLUSIONS; FINE DISSEMINATED PYRITE THROUGHOUT; PYRITE CRYSTALS ALONG FRACTURE SURFACES. |
| * 30 | 111.95 | 113.08 | 1.13 | | | SILTSTONE | AS ABOVE; MUDDY TO BOTTOM. |
| * 35 | 113.08 | 113.92 | 0.84 | | | SILTSTONE | AS ABOVE; WITH LARGE MUDDY INTERVALS; CORE BADLY BROKEN; MISMATCHED; REGROUND ENDS. |
| 34 | 113.92 | 114.28 | 0.36 | | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 34 | 114.28 | 115.14 | 0.86 | | SILTSTONE | AS ABOVE; CALCAREOUS REGROUND ENDS. |
| | 33 | 115.14 | 116.10 | 0.96 | | SILTSTONE | AS ABOVE; BECOMING SANDIER AT BOTTOM WITH SOME ROUNDED ARGILLACEOUS CLASTS. |
| | 32 | 116.10 | 118.22 | 2.12 | | SILTSTONE | AS ABOVE. |
| | 31 | 118.22 | 118.88 | 0.66 | | MUDSTONE | DK.GY OCCASIONALLY SILTY; SOME CARBONACEOUS PLANT FRAGMENTS AND COALY INCLUSIONS; SOME FINE DISSEMINATED PYRITE FLECKS. |
| | 30 | 118.88 | 121.00 | 2.12 | | MUDSTONE | DK.GY AS ABOVE. |
| | 28 | 121.00 | 121.74 | 0.74 | | MUDSTONE | DK.GY AS ABOVE. |
| * | 27 | 121.74 | 124.09 | 2.35 | | MUDSTONE | DK.GY AS ABOVE; SOME FINE CALCITE AND COALY LAMINAE THROUGHOUT; OCCASIONALLY COALY INCLUSIONS; CORE BADLY BROKEN IN PART. |
| | 24 | 124.09 | 124.25 | 0.16 | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 23 | 124.25 | 124.49 | 0.24 | | MUDSTONE | DK.GY AS MUDST ABOVE; LARGE COALY INCLUSION AT BOTTOM. |
| * | 20 | 124.49 | 127.14 | 2.65 | | MUDSTONE | DK.GY AS ABOVE; BECOMING SILTY NEAR BOTTOM; L ISTRIC FRACTURE SURFACES. |
| * | 26 | 127.14 | 130.04 | 2.90 | | MUDSTONE | DK.GY AS ABOVE; SOME FINE CALCITE FILLED FRACTURES; BECOMING SILTYER TO BOTTOM. |
| * | 30 | 130.04 | 130.18 | 0.14 | | MUDSTONE | SLTY.DK.GY.BIOTR AS ABOVE; QUITE SILTY. |
| * | 25 | 130.18 | 131.16 | 0.98 | | MUDSTONE | SLTY.DK.GY.BIOTR AS ABOVE; BECOMING INCREASINGLY SILTY T U BOTTOM; TUPS UP. |
| | 24 | 131.16 | 132.73 | 1.57 | | SILTSTONE | DK.GY INTERBEDDED WITH MUDSTONES AND FINE GRA INED SANDSTONES; CALCAREOUS; SOME FINE CALCITE FILLED FRACTURES; OCCASIONALLY COALY INCLUSIONS; CORE MAINLY INTACT. |
| * | 24 | 132.73 | 133.21 | 0.48 | | SILTSTONE | DK.GY.BIOTR AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 17

PROJECT: GDR BLOCK: XC DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 24 | 133.21 | 135.17 | 1.96 | | SILTSTONE | DK.GY.BIOTR AS ABOVE; BECOMING MUDDIER TO BOTTOM. |
| | 25 | 135.17 | 135.51 | 0.34 | | MUDSTONE | CARB.DK.GY CARBONACEOUS IN PART; LISTRIC FRACTURE SURFACES; CARBONACEOUS PLANT FRAGMENTS; COALY INCLUSIONS; DARK GRAY TO BLACK. |
| | 25 | 135.51 | 136.24 | 0.73 | | MUDSTONE | SLTY.DK.GY.BIOTR AS ABOVE; SILTY IN PART; DARK GRAY TO BLACK. |
| | 25 | 136.24 | 138.16 | 1.92 | | MUDSTONE | DK.GY AS ABOVE; SOME LISTRIC FRACTURE SURFACE S; LARGE BROKEN COALY INCLUSIONS AT BOTTOM; DARK GRAY TO BLACK. |
| | 26 | 138.16 | 138.44 | 0.28 | | CORE LOSS | |
| | 26 | 138.44 | 139.28 | 0.84 | | COAL LOSS | |
| | 26 | 139.28 | 139.53 | 0.25 | | MUDSTONE | DK.GY AS ABOVE; MUDST; LISTRIC FRACTURE SURFACES; CALCITE FILLED; DARK GRAY TO BLACK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 18

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 26 | 139.53 | 142.02 | 2.49 | | MUDSTONE | SLTY.DK.GY AS ABOVE; CORE BROKEN IN PART WITH LISTRIC SURFACES; OCCASIONAL SILTY ZONES; SOME COALY INCLUSIONS; DARK GRAY TO BLACK. |
| * | 27 | 142.02 | 143.84 | 1.82 | | MUDSTONE | SLTY.DK.GY.BIOTR AS ABOVE; BECOMING SILTY AT BOTTOM; SOME LISTRIC FRACTURE SURFACES; FINE CALCITE FILLED FRACTURES (SOME); DARK GRAY TO BLACK. |
| | 28 | 143.84 | 144.83 | 0.99 | | SILTSTONE | GY.BIOTR WITH INTERBEDDED FINE GRAINED SANDSTONES; SOME FINE CALCITE-FILLED FRACTURES; SOME PYRITE FLECKS AND BLEBS; NON-CALCAR EDUS; SOME COALY INCLUSIONS. |
| | 28 | 144.83 | 145.38 | 0.55 | | SILTSTONE | GY.BIOTR AS ABOVE; MOTTLED APPEARANCE; CORE BROKEN WITH MISMATCHED ENDS. |
| | 28 | 145.38 | 145.48 | 0.10 | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GLR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 29 | 145.48 | 147.51 | 2.03 | | | MUDSTONE | SLTY.DK.GY OCCASIONALLY SILTY; CARBONACEOUS PLANT FRAGMENTS; SOME SMALL COALY INCLUSIONS; NON-CALCAREOUS; OCCASIONAL SILTY INTERBEDS WITH SOME SANDY CLASTS; COREBROKEN IN PART WITH SOME REGROUND ENDS. |
| 24 | 147.51 | 148.47 | 0.96 | | | MUDSTONE | SLTY.DK.GY AS ABOVE. |
| * 20 | 148.47 | 150.36 | 1.89 | | | MUDSTONE | DK.GY.BIOTR AS ABOVE; OCCASIONAL LISTRIC FRACTURE SURFACES. |
| * 20 | 150.36 | 151.62 | 1.26 | | | MUDSTONE | SLTY.DK.GY AS ABOVE; BECOMING SILTY TO BOTTOM. |
| 20 | 151.62 | 153.09 | 1.47 | | | MUDSTONE | SLTY.DK.GY AS ABOVE; INCREASINGLY MORE SILTY TO BOTTOM. |
| 19 | 153.09 | 154.54 | 1.45 | | | SILTSTONE | DK.GY.BIOTR INTERBEDDED WITH MUDS; OCCASIONAL SANDY UNITS; CARBONACEOUS IN PART WITH FINE DISSEMINATED PYRITE FLECKS AND SMALL COALY INCLUSIONS; MOTTLED APPEARANCE. |
| 19 | 154.54 | 155.97 | 1.43 | | | SILTSTONE | DK.GY.BIOTR AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH60041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 18 | 155.97 | 157.51 | 1.54 | | | SILTSTONE | DK.GY AS ABOVE; MUDDY ZONE AT 0.20 WITH EXTRE MELY ABNT ARGILLACEOUS ANGULAR RIP UP C LASTS; SOME CALCITE FILLED FRACTURE WIT H LISTRIC SURFACES; SOME COALY INCLUSIO NS AT BOTTOM; AT 0.80 BROKEN CORE POSSI BLE. |
| * 18 | 157.51 | 158.44 | 0.93 | | | SILTSTONE | DK.GY.LAM AS ABOVE; SOME CROSS LAMINATIONS OF FIN E SANDSTONE. |
| * 25 | 158.44 | 159.17 | 0.73 | | | SILTSTONL | DK.GY.LAM AS ABOVE; SANDY CROSS-LAMINATIONS; PYRI TE CRYSTALS ON FRACTURES. |
| * 21 | 159.17 | 161.19 | 2.02 | | | SILTSTONE | SSY.DK.GY.BIOTR AS ABOVE; SANDY AT TOP; BECOMING MUDDIE R AT BOTTOM; CONTORTED BEDDING. |
| * 20 | 161.19 | 163.53 | 2.34 | | | SANDSTONE | FG.GY.LAM.BIOTR SOME CARBONACEOUS LAMINATIONS; INTERBED DED WITH SILTS AND MUDSTONES; IRREGULAR BEDDED; SOME CALCITE FILLED FRACTURES WITH LISTRIC SURFACES; OCCASIONAL QUARTZ AND PYRITE ALONG FRACTURE SURFACES; CO RE MISMATCHED. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 25 | 163.53 | 163.95 | 0.42 | | | SANDSTONE | FG.GY.LAM.BIOTR AS ABOVE. |
| * 20 | 163.95 | 166.52 | 2.57 | | | SANDSTONE | FG.GY.LAM.BIOTR TOPS UPRIGHT. |
| * 20 | 166.52 | 166.76 | 0.24 | | | SANDSTONE | FG.GY.LAM.BIOTR AS ABOVE; CORE BADLY MISMATCHED. |
| 19 | 166.76 | 169.50 | 2.74 | | | SANDSTONE | FG.GY.LAM.BIOTR CORE BROKEN; MISMATCHED ENDS; AS ABOVE. |
| 19 | 169.50 | 169.60 | 0.10 | | | CORE LOSS | |
| * 18 | 169.60 | 172.31 | 2.71 | | | SANDSTONE | FG.GY.LAM.BIOTR AS ABOVE SS. |
| * 25 | 172.31 | 172.61 | 0.30 | | | SANDSTONE | FG.GY.LAM.BIOTR AS ABOVE. |
| 22 | 172.61 | 175.12 | 2.51 | | | SANDSTONE | GY.LAM.BIOTR AS ABOVE; INCREASING AMOUNTS OF MUDSTONE AND SILTSTONE INTERBEDS BECOMING MUDDIER AT BOTTOM. |
| 18 | 175.12 | 175.64 | 0.52 | | | SANDSTONE | GY.LAM.BIOTR AS ABOVE; ABUNDANT INTERBEDDED MUDSTONE . |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 15 | 175.64 | 177.66 | 2.02 | | | SANDSTONE | GY.LAM.BIOTR AS ABOVE; GRADING TO CLEAN SANDSTONE AT BOTTOM; MISMATCHED ENDS. |
| * 18 | 177.66 | 177.91 | 0.25 | | | SILTSTONE | FG.LAM.BIOTR INTERBEDDED WITH FINE GRAINED SANDSTONE S AND MUDSTONES. |
| 20 | 177.91 | 178.63 | 0.72 | | | SILTSTONE | LAM.BIOTR AS ABOVE; SOME SMALL COALY INCLUSIONS A ND COAL LAMINAE; SOME SMALL CALCITE FIL LED FRACTURES WITH LISTRIC SURFACES. |
| * 27 | 178.63 | 180.76 | 2.13 | | | SILTSTONE | LAM.BIOTR AS ABOVE; TOPS UP. |
| * 18 | 180.76 | 181.60 | 0.84 | | | SILTSTONE | LAM.BIOTR AS ABOVE. |
| * 20 | 181.60 | 183.44 | 1.84 | | | SILTSTONE | LAM.BIOTR AS ABOVE; OCCASIONAL MUDDY ZONES; LISTR IC FRACTURE SURFACES WITH COAL LAMINAE. |
| * 19 | 183.44 | 183.79 | 0.35 | | | SILTSTONE | LAM.BIOTR AS ABV; BECOMING EXTREMELY MUDDY AT BOT TUM; CALCITE FILLED FRACTURES; LISTRIC SURFACES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 23

PROJECT: GLK BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH EBCM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 20 | 183.79 | 184.43 | 0.64 | | | MUDSTONE | SLTY.DK.GY OCCASIONAL SILTY ZONES; FINE COALY STRINGS; SOME LARGER COALY INCLUSIONS; CALCAREOUS CORE VERY BADLY BROKEN; PULVERIZED; POWDERED IN PART; CARBONACEOUS PLANT FRAGMENTS; LISTRIC FRACTURE SURFACE S. |
| 22 | 184.43 | 186.11 | 1.68 | | | MUDSTONE | SLTY.DK.GY AS ABOVE; DARK GRAY TO BLACK. |
| * 25 | 186.11 | 187.41 | 1.30 | | | MUDSTONE | SLTY.DK.GY AS ABOVE; BECOMING DARKER TO BLACK; INCREASING AMOUNTS OF CARBONACEOUS MATERIAL AND COALY INCLUSIONS; LISTRIC FRACTURE SURFACES; CORE BROKEN; WARP ACROSS CORE AT 0.44. |
| 21 | 187.41 | 187.56 | 0.15 | | | CORE LOSS | |
| * 18 | 187.56 | 188.81 | 1.25 | | | MUDSTONE | DK.GY AS ABOVE; CORE EXTREMELY BROKEN WITH ABUNDANT LISTRIC FRACTURE SURFACES; ABUNDANT LARGE COALY INCLUSIONS; DARK GRAY TO BLACK. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 24

PROJECT: GLK BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 17 | 188.81 | 189.74 | 0.93 | 00762 | | COAL LOSS | |
| 17 | 189.74 | 189.82 | 0.08 | 00762 | | COAL | STONEY. |
| 17 | 189.82 | 189.96 | 0.16 | 00762 | | COAL | C-5 C5 LUSTROUS; OCCASIONAL BRIGHT BANDS HIGHLY SHEARED, SLICKENSIDE; LISTRIC SURFACES. |
| 17 | 189.98 | 190.06 | 0.08 | 00762 | | COAL | C-5 C5 LUSTROUS. |
| 17 | 190.06 | 190.16 | 0.10 | 00762 | | COAL | C-5 C5 LUSTROUS. |
| 17 | 190.16 | 190.23 | 0.07 | 00762 | | COAL | C-5 C5 LUSTROUS. |
| 17 | 190.23 | 190.33 | 0.10 | 00762 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT BANDS. |
| 17 | 190.33 | 190.35 | 0.02 | 00762 | | COAL | STONEY. |
| 17 | 190.35 | 191.00 | 0.65 | 00762 | | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 25

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 17 | 191.00 | 191.03 | 0.03 | 00762 | | COAL | C-5 C5 LUSTROUS. |
| 17 | 191.03 | 191.06 | 0.03 | 00762 | | COAL | C-5 OCCASIONAL STRINGERS; CORE PULVERIZED; HIGHLY SHEARED. |
| 17 | 191.06 | 191.09 | 0.03 | 00762 | | COAL | C-5 C5 LUSTROUS; HIGHLY SHEARED; SLICKENSIDES. |
| 17 | 191.09 | 191.13 | 0.04 | 00762 | | COAL | C-6 SHEARED WITH SLICKENSIDES; OCCASIONAL BRIGHT BANDS. |
| 17 | 191.13 | 191.21 | 0.08 | 00762 | | COAL | C-5 C5 LUSTROUS. |
| 17 | 191.21 | 191.23 | 0.02 | 00762 | | COAL | STONEY. |
| 17 | 191.23 | 191.29 | 0.06 | 00762 | | COAL | STONEY. |
| 16 | 191.29 | 191.33 | 0.04 | 00762 | | COAL | STONEY; CORE POWDERED; HIGHLY SHEARED. |
| 16 | 191.33 | 192.06 | 0.73 | 00762 | | COAL LUSS | |
| 16 | 192.06 | 192.11 | 0.05 | 00762 | | COAL | C-5 WITH SOME BRIGHT BANDS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 26

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 16 | 192.11 | 192.14 | 0.03 | 00762 | | COAL | C-5 LUSTROUS; SHEARED; BADLY BROKEN. |
| 16 | 192.14 | 192.16 | 0.02 | 00762 | | COAL | C-3 SHEARED; BADLY BROKEN. |
| 16 | 192.16 | 192.82 | 0.66 | 00762 | | COAL LOSS | |
| 15 | 192.82 | 194.12 | 1.30 | | | MUDSTONE | SLTY.DK.GY OCCASIONALLY SILTY; SOME COALY INCLUSIONS; WITH SOME MEDIUM GREY SILTSTONE; CORE BADLY BROKEN; BECOMING SANDY TO BOTTOM; DARK GREY TO GREY. |
| * 15 | 194.12 | 194.59 | 0.47 | | | SANDSTONE | FG.GY SOME CARBONACEOUS MATERIALS; CORE BROKEN; MISMATCHED INTERBEDDED MUDS AND SILTSTONES. |
| * 27 | 194.59 | 195.99 | 1.40 | | | SANDSTONE | FG.GY AS ABOVE; BECOMING MUDDIER TO BOTTOM. |
| * 28 | 195.99 | 196.90 | 0.91 | | | MUDSTONE | SLTY.DK.GY OCCASIONAL SILTY ZONES AND INTERBEDS; CARBONACEOUS PLANT FRAGMENTS; SOME SMALL COALY INCLUSIONS; NON-CALCAREOUS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 27

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 23 | 196.90 | 199.42 | 2.52 | | MUDSTONE | SLTY.DK.GY.BIOTR CONTORTED AND BIOTURBATED; SOME COALY I NCLUSIONS AT BOTTOM. |
| * | 18 | 199.42 | 199.92 | 0.50 | | MUDSTONE | SLTY.DK.GY AS ABOVE; ABUNDANT COALY INCLUSIONS; LI STIC FRACTURE SURFACES. |
| | 18 | 199.92 | 200.43 | 0.51 | 00763 | CORE LOSS | |
| | 18 | 200.43 | 200.53 | 0.10 | 00763 | COAL | C-5 C5 LUSTROUS; SOME SHEARING; SLICKENSIDE S. |
| | 18 | 200.53 | 200.58 | 0.05 | 00763 | COAL | C-3 |
| | 18 | 200.58 | 200.66 | 0.08 | 00763 | COAL | C-6 DULL LUSTROUS - OCCASIONAL BRIGHT BANDS ; CORE INTACT. |
| | 18 | 200.66 | 200.73 | 0.07 | 00763 | COAL | C-6 DULL LUSTROUS; SHEARED IN PART. |
| | 18 | 200.73 | 200.74 | 0.01 | 00763 | COAL | STONEY; HIGHLY SHEARED; SLICKENSIDES; V ERY DIRTY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GLR BLOCK: XX DATA SOURCE: UDH80041

| BCA | DEPTH FROM | DEPTH INTERVAL | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------------|----------------|----------|---------|-----------|--|
| 18 | 200.74 | 200.80 | 0.06 | 00763 | | COAL | C-5 C5 LUSTROUS; OCCASIONALLY BRIGHT BANDS; CORE BADLY BRKN; SHEARED. |
| 18 | 200.80 | 200.83 | 0.03 | 00763 | | ROCK | CARB ROUNDED FRAGMENTS INCLUDING SANDSTONE, SILTSTONES - HIGHLY SHEARED. |
| 18 | 200.83 | 200.87 | 0.04 | 00763 | | COAL | C-3 PARTLY BONEY. |
| 18 | 200.87 | 200.94 | 0.07 | 00763 | | COAL | C-6 DULL AND BRIGHT. |
| 18 | 200.94 | 200.97 | 0.03 | 00763 | | COAL | C-6 DULL LUSTROUS. |
| 18 | 200.97 | 201.01 | 0.04 | 00763 | | COAL | C-5 C5 LUSTROUS. |
| 18 | 201.01 | 201.08 | 0.07 | 00763 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT STRING ERS. |
| 18 | 201.08 | 201.16 | 0.08 | 00763 | | COAL | C-5 C5 LUSTROUS; OCCASIONAL BRIGHT BANDS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 29

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 18 | 201.16 | 201.21 | 0.05 | 00763 | | COAL | C-5 C5 LUSTROUS; SHEARED SLICKENSIDED SURFACES. |
| 18 | 201.21 | 201.32 | 0.11 | 00763 | | COAL | C-6 DULL LUSTROUS. |
| 18 | 201.32 | 201.43 | 0.11 | 00763 | | COAL | C-6 DULL LUSTROUS; SLICKENSIDED FRACTURE SURFACES. |
| 18 | 201.43 | 201.54 | 0.11 | 00763 | | COAL | C-6 |
| 18 | 201.54 | 201.64 | 0.10 | 00763 | | COAL | C-6 |
| 18 | 201.64 | 201.73 | 0.09 | 00763 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL DIRT BANDS; CORE INTACT WITH LISTRIC SURFACES. |
| 18 | 201.73 | 201.79 | 0.06 | 00763 | | COAL | C-6 |
| 18 | 201.79 | 201.89 | 0.10 | 00763 | | COAL | C-6 DULL LUSTROUS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 18 | 201.89 | 202.09 | 0.20 | 00763 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT INCLUSIONS. |
| 18 | 202.09 | 202.13 | 0.04 | 00763 | | COAL | C-3 |
| 18 | 202.13 | 202.20 | 0.07 | 00763 | | COAL | C-6 DULL AND BRIGHT. |
| 18 | 202.20 | 202.26 | 0.06 | 00763 | | COAL | C-6 |
| 18 | 202.26 | 202.45 | 0.19 | 00763 | | COAL | C-6 DULL AND BRIGHT. |
| 18 | 202.45 | 202.63 | 0.18 | 00763 | | COAL | C-6 DULL AND DULL LUSTROUS. |
| 18 | 202.63 | 202.73 | 0.10 | 00763 | | COAL | C-6 DULL AND DULL LUSTROUS WITH OCCASIONAL BRIGHT INCLUSIONS. |
| 18 | 202.73 | 202.89 | 0.16 | 00763 | | COAL | C-6 AS ABOVE. |
| 18 | 202.89 | 202.94 | 0.05 | 00763 | | COAL | C-6 DULL LUSTROUS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 18 | 202.94 | 203.16 | 0.22 | 00763 | | COAL | C-6 DULL LUSTROUS. |
| 18 | 203.16 | 203.20 | 0.04 | 00763 | | COAL | C-3 COAL BROKEN AND SHEARED; SLICKENSIDES. |
| 18 | 203.20 | 203.31 | 0.11 | 00763 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT BANDS. |
| 18 | 203.31 | 203.36 | 0.05 | 00763 | | COAL | C-3 CORE BADLY SHEARED; BROKEN. |
| 18 | 203.36 | 203.41 | 0.05 | 00763 | | COAL | C-5 C5 LUSTROUS; SHEARED. |
| 18 | 203.41 | 203.45 | 0.04 | 00763 | | COAL | C-6 DULL LUSTROUS WITH OCCASIONAL BRIGHT BANDS. |
| 18 | 203.45 | 203.68 | 0.23 | 00763 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT INCLUSIONS. |
| 18 | 203.68 | 203.73 | 0.05 | 00763 | | COAL | AS ABOVE. |
| 18 | 203.73 | 203.95 | 0.22 | 00763 | | COAL | C-6 DULL, LUSTROUS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GLR BLOCK: XX DATA SOURCE: UDH80041

| BCA | DEPTH FROM | DEPTH TO | INTKVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 18 | 203.95 | 204.07 | 0.12 | 00763 | | COAL | C-6 DULL, LUSTROUS. |
| 18 | 204.07 | 204.34 | 0.27 | 00763 | | COAL | C-6 DULL LUSTROUS; A FEW BRIGHT INCLUSIONS. |
| 18 | 204.34 | 204.66 | 0.32 | 00763 | | COAL | C-6 AS ABOVE. |
| 18 | 204.66 | 204.74 | 0.08 | 00763 | | COAL | C-6 AS ABOVE. |
| 18 | 204.74 | 204.91 | 0.17 | 00763 | | COAL | C-6 DULL LUSTROUS. |
| 18 | 204.91 | 205.05 | 0.14 | 00763 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT BANDS; HIGHLY SHEARED SLICKENSIDES; CORE POWD ERED. |
| 18 | 205.05 | 205.11 | 0.06 | 00763 | | COAL | C-3 BONEY IN PART. |
| 18 | 205.11 | 205.28 | 0.17 | 00763 | | COAL | C-1 HIGHLY SHEARED; SLICKENSIDES; CORE PULV ERIZED POWDER. |
| 18 | 205.28 | 205.58 | 0.30 | 00763 | | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 33

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 18 | 205.58 | 205.62 | 0.04 | 00763 | | COAL | C-5 C5 LUSTROUS; HIGHLY SHEARED; SLICKENSIDES. |
| 18 | 205.62 | 205.69 | 0.07 | 00763 | | COAL | C-3 HIGHLY SHEARED, SLICKENSIDES. |
| 18 | 205.69 | 205.77 | 0.08 | 00763 | | COAL | C-1 HIGHLY SHEARED; SLICKENSIDES AND CORE PULVERIZED, POWDERED. |
| 18 | 205.77 | 206.11 | 0.34 | 00763 | | COAL | C-1 HIGHLY SHEARED, CORE PULVERIZED, POWDERED. |
| 18 | 206.11 | 206.29 | 0.18 | 00763 | | COAL | C-3 HIGHLY SHEARED, SLICKENSIDES; CORE POWDERED AND PULVERIZED. |
| 18 | 206.29 | 206.38 | 0.09 | 00763 | | COAL | C-3 CORE BADLY SHEARED AND POWDERED. |
| 18 | 206.38 | 206.46 | 0.08 | 00763 | | COAL | C-5 C5 LUSTROUS; CORE BADLY SHEARED, POWDERED. |
| 18 | 206.46 | 206.49 | 0.03 | 00763 | | COAL | C-6 DULL LUSTROUS WITH OCCASIONAL BRIGHT BANDS. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 34

PROJECT: GDR BLOCK: XX DATA SOURCE: DUH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 18 | 206.49 | 206.56 | 0.07 | 00763 | | COAL | C-5 C5 LUSTROUS; HIGHLY SHEARED; POWDERED I N PART. |
| 18 | 206.56 | 206.60 | 0.04 | 00763 | | COAL | C-1 HIGHLY SHEARED; SLICKENSIDES. |
| 18 | 206.60 | 206.74 | 0.14 | 00763 | | COAL | C-5 C5 LUSTROUS; OCCASIONAL BRIGHT BANDS; C LRE BROKEN; SHEARED; SLICKENSIDES. |
| 18 | 206.74 | 207.01 | 0.27 | 00763 | | COAL | C-5 C5 LUSTROUS; SHEARED SLICKENSIDES; CORE BADLY BROKEN. |
| 18 | 207.01 | 207.09 | 0.08 | 00763 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT BANDS. |
| 18 | 207.09 | 207.24 | 0.15 | 00763 | | COAL | C-6 AS ABOVE. |
| 18 | 207.24 | 207.37 | 0.13 | 00763 | | COAL | C-6 DULL AND BRIGHT. |
| 18 | 207.37 | 207.58 | 0.21 | 00763 | | COAL | C-6 DULL LUSTROUS TO DULL; SOME SHEARING AN D SLICKENSIDES. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 35

PROJECT: GUR BLOCK: XX DATA SOURCE: D0H80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 18 | 207.58 | 207.62 | 0.04 | 00763 | | COAL | C-3 SHEARED; SLICKENSIDES. |
| 18 | 207.62 | 207.65 | 0.03 | 00763 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT BANDS. |
| 18 | 207.65 | 207.80 | 0.15 | 00763 | | COAL | STONEY; DULL LUSTROUS; OCCASIONAL BRIGHT BANDS; SHEARED. |
| 18 | 207.80 | 207.84 | 0.04 | 00763 | | COAL LOSS | |
| 18 | 207.84 | 208.41 | 0.57 | 00764 | | MUDSTONE | CARB.GY HIGHLY CARBONACEOUS; CARBONACEOUS PLANT FRAGMENTS; COALY INCLUSIONS THROUGHOUT ; HIGHLY SHEARED AND FRACTURED; BCA APP ROX. 0%. GREY TO BROWN. |
| 17 | 208.41 | 209.02 | 0.61 | 00764 | | ROCK LOSS | |
| 17 | 209.02 | 209.34 | 0.32 | 00765 | | COAL | STONEY. |
| 17 | 209.34 | 209.41 | 0.07 | 00765 | | COAL | STONEY; DULL AND DULL LUSTROUS. |
| 17 | 209.41 | 209.77 | 0.36 | 00765 | | COAL | STONEY; AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 36

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH60041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 17 | 209.77 | 209.83 | 0.06 | 00765 | | COAL | C-6 DULL LUSTROUS; CORE BADLY BROKEN; SHEARED; SLICKENSIDES. |
| 17 | 209.83 | 210.07 | 0.24 | 00765 | | COAL | C-6 DULL LUSTROUS. |
| 17 | 210.07 | 210.27 | 0.20 | 00765 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT BANDS; CORE BADLY BROKEN; SHEARED; POWDERED. |
| 17 | 210.27 | 210.59 | 0.32 | 00765 | | COAL | C-6 DULL LUSTROUS; CORE MAINLY INTACT; SOME SLICKENSIDED SURFACES. |
| 17 | 210.59 | 211.53 | 0.94 | 00765 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT INCLUSIONS; CORE INTACT. |
| 17 | 211.53 | 211.84 | 0.31 | 00765 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT BANDS; BROKEN; SHEARED; SLICKENSIDES; PULVERIZED AND POWDERED. |
| 17 | 211.84 | 212.65 | 0.81 | 00765 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT INCLUSIONS; CORE INTACT; OCCASIONAL LUSTRIC SURFACES. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 37

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 17 | 212.65 | 212.75 | 0.10 | 00765 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT BAND. |
| 17 | 212.75 | 212.81 | 0.06 | 00765 | | COAL | C-1 |
| 17 | 212.81 | 212.95 | 0.14 | 00765 | | COAL | C-6 DULL LUSTROUS. |
| 17 | 212.95 | 213.01 | 0.06 | 00765 | | COAL | C-1 |
| 17 | 213.01 | 213.30 | 0.29 | 00765 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT INCLUSIONS; CORE INTACT; BROKEN IN PART. |
| 17 | 213.30 | 213.33 | 0.03 | 00765 | | COAL | C-6 DULL LUSTROUS. |
| 17 | 213.33 | 214.80 | 1.47 | 00765 | | COAL | C-6 DULL LUSTROUS; OCCASIONAL BRIGHT INCLUSIONS; CORE MAINLY INTACT WITH SOME LISTRIC FRACTURE SURFACES. |
| 17 | 214.80 | 216.08 | 1.28 | 00765 | | COAL | C-6 AS ABOVE. |
| 17 | 216.08 | 216.27 | 0.19 | 00765 | | COAL LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

PAGE 38

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 17 | 216.27 | 216.93 | 0.66 | 00766 | | ROCK LOSS | |
| 17 | 216.93 | 217.39 | 0.46 | 00766 | | COAL LOSS | |
| 17 | 217.39 | 217.84 | 0.45 | 00766 | | ROCK LOSS | |
| 17 | 217.84 | 217.93 | 0.09 | 00766 | | COAL LOSS | |
| 17 | 217.93 | 218.40 | 0.47 | 00766 | | COAL | STONEY; EXTREMELY SHEARED AND POWDERED WITH SLICKENSIDES; VERY DIRTY. |
| 17 | 218.40 | 218.46 | 0.06 | 00766 | | COAL LOSS | |
| 17 | 218.46 | 219.25 | 0.79 | 00766 | | ROCK LOSS | |
| 17 | 219.25 | 219.69 | 0.44 | 00766 | | COAL LOSS | |
| 17 | 219.69 | 219.79 | 0.10 | | | MUDSTONE | BWN POWDERED; MIXED WITH SOME COAL POWDER. |
| 17 | 219.79 | 220.20 | 0.41 | | | MUDSTONE | DK.GY FINE COALY STRINGERS; AND INCLUSIONS TH ROUGHOUT; PARTLY SILTY; CORE BROKEN AND POWDERED. |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 39

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH INTERVAL TO THICK. | SAMP. SEAM TO TO | LITHOLOGY | DESCRIPTION |
|-----|---------------|-----------------------------|---------------------|-----------|--|
| 17 | 220.20 | 221.26 | 1.06 | MUDSTONE | DK.GY OCCASIONALLY SILTY WITH SOME SILTY INTERBEDS; FINE COAL STRINGERS AND COALY INCLUSIONS THROUGHOUT; SOME CARBONACEOUS PLANT FRAGMENTS; FRACTURES WITH LISTRIC SURFACES; NON-CALCAREOUS; FROM GREY TO BROWN |
| 17 | 221.26 | 222.80 | 1.54 | MUDSTONE | DK.GY AS ABOVE; WITH INCREASING AMOUNTS OF SILT; CORE BADLY BROKEN AND PULVERIZED; ABUNDANT LISTRIC FRACTURE SURFACES; FROM DARK GREY TO BROWN. |
| 17 | 222.80 | 223.80 | 1.00 | MUDSTONE | DK.GY AS ABOVE. FROM DARK GREY TO BROWN. |
| 17 | 223.80 | 225.63 | 1.83 | MUDSTONE | DK.GY AS ABOVE; WITH SOME FINE CALCITE FRACTURING; FROM DARK GREY TO BROWN. |
| 17 | 225.63 | 226.32 | 0.69 | MUDSTONE | DK.GY AS ABOVE; FROM DARK GREY TO BROWN. |
| 16 | 226.32 | 227.87 | 1.55 | MUDSTONE | DK.GY AS ABOVE; CORE BADLY BROKEN IN PART; SHEARED; PULVERIZED; FROM DARK GREY TO BROWN. |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 40

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 16 | 227.87 | 228.91 | 1.04 | | | MUDSTONE | DK.GY AS ABOVE; FROM DARK GREY TO BROWN. |
| 16 | 228.91 | 230.62 | 1.71 | | | MUDSTONE | DK.GY AS ABOVE; MISMATCHED CORE; VERY BADLY B ROKEN; FROM DARK GREY TO BROWN. |
| 16 | 230.62 | 231.53 | 0.91 | | | MUDSTONE | AS ABOVE. |
| 16 | 231.53 | 232.33 | 0.80 | | | MUDSTONE | AS ABOVE; CORE BADLY BROKEN; LISTRIC FR ACTURE SURFACES. |
| 16 | 232.33 | 232.53 | 0.20 | 00767 | | COAL LOSS | |
| 16 | 232.53 | 232.66 | 0.13 | 00767 | | COAL | C-1 HIGHLY SHEARED SLICKENSIDES; CONCHOIDAL FRACTURE; CORE BADLY BROKEN. |
| 16 | 232.66 | 232.95 | 0.29 | 00767 | | COAL LOSS | |
| 16 | 232.95 | 233.08 | 0.13 | 00767 | | COAL | C-3 HIGHLY SHEARED; ABUNDANT PYRITE STRINGE RS AND BLEBS. |
| 16 | 233.08 | 233.15 | 0.07 | 00767 | | COAL | C-3 AS ABOVE; NO PYRITE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

PAGE 41

PROJECT: GUR BLOCK: XX DATA SOURCE: DUH80041

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|-------------------|----------------|----------|---------|-------------|---|
| 16 | 233.15 | 233.22 | 0.07 | 00767 | | COAL | C-3 AS ABOVE; NO PYRITE; EXTREMELY SHEARED WITH SLICKENSIDED SURFACES. |
| 16 | 233.22 | 233.41 | 0.19 | 00767 | | COAL | C-3 AS ABOVE; NO PYRITE. |
| 16 | 233.41 | 233.61 | 0.20 | 00767 | | COAL LOSS | |
| 16 | 233.61 | 234.17 | 0.56 | | | MUDSTONE | SLTY.DK.GY SILTY WITH SOME SILT INTERBEDS; SOME FINE COALY STRINGERS AND INCLUSIONS; SOME CARBONACEOUS PLANT FRAGMENTS; LISTRIC FRACTURE SURFACES. |
| 16 | 234.17 | 234.65 | 0.48 | | | MUDSTONE | SLTY.DK.GY AS ABOVE. |
| * 16 | 234.65 | 235.82 | 1.17 | | | MUDSTONE | SLTY.DK.GY AS ABOVE; BECOMING QUITE SILTY AND SANDY AT BOTTOM; LARGE CALCITE FILLED FRACTURE AT BOTTOM WITH ANGULAR AND SUB-ANGULAR RIP-UP CLASTS. |
| 15 | 235.82 | 236.05 | 0.23 | | | COAL & ROCK | CORE EXTREMELY BROKEN WITH ROUNDED PIECES AND LISTRIC FRACTURE SURFACES. |
| 15 | 236.05 | 237.22 | 1.17 | | | CORE LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 42

PROJECT: GOK BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 14 | 237.22 | 238.42 | 1.20 | | | MUDSTONE | SLTY.DK.GY.BIOTR AS ABOVE; ABUNDANT CONTORTED SILTY AND SANDY INTERBEDS; CORE EXTREMELY BROKEN WITH ROUNDED FRAGMENTS AND LISTRIC FRACTURE SURFACES; FRACTURES PARALLEL TO CORE AXIS. |
| 13 | 238.42 | 238.87 | 0.45 | | | CORE LOSS | |
| 12 | 238.87 | 240.26 | 1.39 | | | MUDSTONE | SLTY.DK.GY AS ABOVE; SOME ARGILLAGEOUS CLASTS. |
| * 11 | 240.26 | 241.36 | 1.10 | | | MUDSTONE | SLTY.DK.GY AS ABOVE; SILTY AT BOTTOM; SOME LARGE QUALY INCLUSIONS. |
| * 10 | 241.36 | 241.82 | 0.46 | | | MUDSTONE | SLTY.DK.GY.BIOTR AS ABOVE; CONTORTED BEDDING. |
| 13 | 241.82 | 244.18 | 2.36 | | | MUDSTONE | SLTY.DK.GY AS ABOVE; WITH LISTRIC FRACTURE SURFACES; CALCITE FILLED FRACTURES ALL RUNNING PARALLEL TO CORE AXIS. |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 43

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 16 | 244.18 | 244.37 | 0.19 | | CORELOSS | |
| | 19 | 244.37 | 246.36 | 1.99 | | MUDSTONE | SLTY.DK.GY AS ABOVE. |
| | 22 | 246.36 | 246.87 | 0.51 | | MUDSTONE | SLTY.DK.GY AS ABOVE; LESS SLTY WITH ONLY INCLUSION S AT BOTTOM. |
| * | 25 | 246.87 | 248.75 | 1.88 | | MUDSTONE | SLTY AS ABOVE; ABUNDANT COALY INCLUSIONS THR OUGHOUT; SOME CALCITE FILLED FRACTURES; BEDDING TENDS TO WARP ALONG CORE AXIS. |
| * | 23 | 248.75 | 249.51 | 0.76 | | MUDSTONE | AS ABOVE. |
| | 22 | 249.51 | 250.26 | 0.75 | | MUDSTONE | SLTY.DK.GY.BIOTR AS ABOVE; OCCASIONAL SLTY INTERBEDS; CO RE BRKN; MISMATCHED ENDS |
| | 19 | 250.26 | 252.46 | 2.20 | | MUDSTONE | DK.GY AS ABOVE; OCCASIONAL SLTY ZONES; SOME M ISMATCHED ENDS |
| | 17 | 252.46 | 252.98 | 0.52 | | MUDSTONE | AS ABOVE; REGROUND ENDS. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 44

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 14 | 252.98 | 255.51 | 2.53 | | | MUDSTONE | LAM AS ABOVE; SOME SLTY CROSS LAMINATIONS. |
| * 12 | 255.51 | 255.61 | 0.10 | | | CORELOSS | |
| 12 | 255.61 | 255.88 | 0.27 | | | MUDSTONE | DK.GY AS ABOVE. |
| * 12 | 255.88 | 258.59 | 2.71 | | | MUDSTONE | AS ABOVE; SOME SLTY AND SSY LAMINATED ZONES. |
| * 11 | 258.59 | 261.37 | 2.78 | | | MUDSTONE | DK.GY AS ABOVE; SLTY AND SSY CROSS LAMINATED THROUGHOUT. |
| 10 | 261.37 | 261.65 | 0.28 | | | MUDSTONE | AS ABOVE; REGROUND ENDS AND MISMATCHED LURE. |
| * 10 | 261.65 | 264.15 | 2.50 | | | MUDSTONE | BIDTR AS ABOVE; SOME SLTY CROSS LAMINATED ZONES; SOME COALY INCLUSIONS; SOME ZONES OF FINE CALCITE AND COALY LAMINAE. |
| * 10 | 264.15 | 264.70 | 0.55 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

62/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 45

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80041

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|----------------------|-------------------|----------|------------|-----------|---|
| 12 | 264.70 | 266.80 | 2.10 | | | SANDSTONE | FG.GY SOME SLTY LAMINATIONS; FRACTURED THROUGHOUT WITH CALCITE FILLING; SOME QUARTZ INFILLING; SOME PYRITE; LISTRIC FRACTURE SURFACES; CORE BADLY BRKN WITH MISMATCHED ENDS. |
| 13 | 266.80 | 266.92 | 0.12 | | | CORELOSS | |
| 13 | 266.92 | 267.09 | 0.17 | | | SANDSTONE | FG.GY AS SS ABOVE. |
| 13 | 267.09 | 267.74 | 0.65 | | | SILTSTONE | DK.GY WITH MUDDY AND SSSY CROSS LAMINATIONS THROUGHOUT; SOME FINE CALCITE FILLED MIXTURES WITH LISTRIC SURFACES; CALCAREOUS. |
| 14 | 267.74 | 267.94 | 0.20 | | | SILTSTONE | AS ABOVE. |
| * 15 | 267.94 | 269.57 | 1.63 | | | SILTSTONE | AS ABOVE; BECOMING MUDDY AT BOTTOM; SOME FINE CALCITE FILLED STRESS CRACKS NEAR BOTTOM. 272.17 FINAL DEPTH AT END OF HOLE. |

* DENOTES MEASURED BCA

DDH 80-42

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDHS0042

HISTORY

DY MO YR DY MO YR
 START DATE: 25/11/80 END DATE: 29/11/80 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: L. KLATZEL SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1213.73
 UTM ZONE: 10 NORTH: 6141524.14 EAST: 549044.21
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 215.20 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 26.72 CEMENTED: _____ PLUGGED: _____ PIEZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | --- | --- | --- | X | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | --- | X | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | --- | X | 457AS |
| CALIPER | --- | : | : | --- | --- | --- | --- | --- |
| FE-SHORT | --- | : | : | --- | --- | --- | --- | --- |
| FE-LONG | --- | : | : | --- | --- | --- | --- | --- |
| DIRECTIONAL | --- | : | : | --- | --- | --- | --- | --- |
| DIPMETER | --- | : | : | --- | --- | --- | --- | --- |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

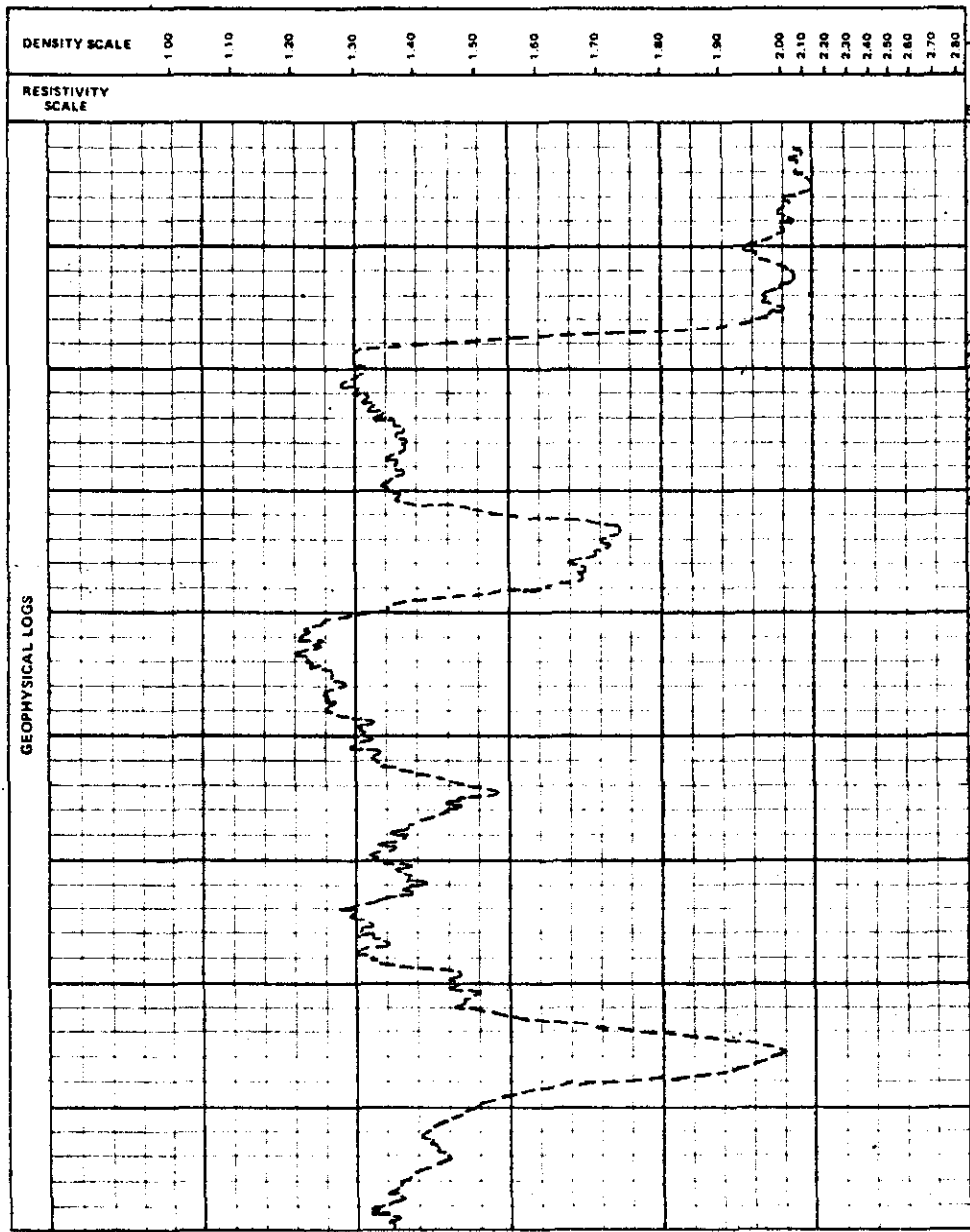
P-287 (12.80)

Coal / Coal + Rock (True Thk (m))
5.30 / 5.86

DENSITY --- RESISTIVITY ---

DRILL NO. GDR-DDH-80-42 SEAM 1
SCALE 1:40

SEAM INTERVAL 53.75m - 66.89m



| SEAM COMP. 54.32 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. (1.5 (F199)) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | |
|---------------------|-------|---------------|----------|--------|---------------------|-------------|--------|--------------------|-------|-------|-------|------|----------------|-----|--|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS | MOIST | ASH | VM | FC | S | (RTI) (MJ/KG) | FSI | | | |
| | 53.75 | | | 0.21 | | | | | | | | | | | | | |
| | | | | 0.05 | | | | | | | | | | | | | |
| | 54.47 | | | 0.31 | | | | | | | | | | | | | |
| | | | | 0.05 | | 99 (71.71) | 00768 | 0.76 | 7.16 | 25.0 | 67.08 | 0.26 | 14.024 (28.05) | 2.5 | | | |
| | | | | 0.10 | | | | | | | | | | | | | |
| | | | | 0.13 | | | | | | | | | | | | | |
| | | | | 0.49 | | | | | | | | | | | | | |
| | | | | (0.03) | | | | | | | | | | | | | |
| | | | 0.29 | | | 41 (2.85) | 00769 | 0.84 | 17.56 | 23.87 | 57.73 | 0.29 | 12.339 (24.68) | 3.0 | | | |
| | | | (0.41) | | | | | | | | | | | | | | |
| | 56.50 | | | 0.06 | | | | | | | | | | | | | |
| | | | | 0.62 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | 100 (87.50) | 00770 | 1.03 | 16.28 | 23.90 | 58.79 | 0.23 | 12.547 (25.09) | 2.0 | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | |
| | 59.57 | | | 0.44 | | | | | | | | | | | | | |
| | 59.83 | | | 0.25 | | 49 (48.03) | 00771 | 0.86 | 14.60 | 31.14 | 53.40 | 0.30 | 12.882 (25.76) | 8.0 | | | |
| | | | | | | | | | | | | | | | | | |
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COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

DENSITY RESISTIVITY

DRILL NO. GDR - DDH - 80 - 42 SEAM 1
SCALE 1:40

SEAM INTERVAL 53.75 m - 66.89 m

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | | SEAM COMP. (MS-432) | DEPTH | COAL SEAM LOG | INTERVAL | | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | | | | | | | |
|---------------|-------------------|------|------|------|------|------|------|------|------|------|------|---------------------|-------|---------------|----------|--------|--------|------------|--------------------|-------|------|------|------|-------|-------------------|--------|--------|----------------|----------------|-----|----|---|-------------|-----|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | 2.00 | | | | 2.10 | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | % REC. (1.5 FEET) | NUMBER | COMPOS | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI |
| | | | | | | | | | | | | | | 59.57 | | (0.26) | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | (1.31) | 28 (96.85) | 00772 | | | | | 0.78 | 5.15 | 25.66 | 68.41 | 0.27 | 14,333 (28 67) | 2.3 | | | | |
| | | | | | | | | | | | | | | 61.14 | | (0.07) | | 75 (5.30) | 00773 | | | | | 0.83 | 15.87 | 25.71 | 57.59 | 0.34 | 12,630 (25 26) | 7.0 | | | | |
| | | | | | | | | | | | | | | | | 0.21 | | | 00774 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 07 (85.61) | | | | | 0.71 | 13.01 | 25.59 | 60.69 | 0.31 | 13,061 (26 12) | 6.0 | | | | | |
| | | | | | | | | | | | | | | 64.10 | | (0.35) | | 17 (33.78) | 00775 | | | | | 0.73 | 13.00 | 26.28 | 59.99 | 0.27 | 13,188 (26 38) | 7.0 | | | | |
| | | | | | | | | | | | | | | | | 0.07 | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | (0.82) | 23 (57.34) | 00776 | | | | | 0.80 | 10.08 | 25.43 | 63.69 | 0.24 | 13,495 (26 99) | 5.5 | | | | |
| | | | | | | | | | | | | | | 65.79 | | 0.20 | | | 100 (6.22) | 00777 | | | | 0.57 | 13.87 | 33.15 | 52.41 | 0.37 | 13,300 (26 60) | 8.5 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | (0.48) | 56 (91.85) | 00778 | | | | | 0.55 | 4.39 | 34.10 | 60.69 | 0.41 | 14,519 (29 04) | 8.5 | | | | |
| | | | | | | | | | | | | | | 66.89 | | | | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECK | MISSING COAL | RECK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|------|--------------|------|
| LDH80042 | | 768 | 53.75 | 55.12 | 1.34 | 97.81 | 1.34 | 0.00 | 0.03 | 0.00 |
| | | 769 | 55.12 | 55.82 | 0.29 | 41.43 | 0.00 | 0.29 | 0.00 | 0.41 |
| | | 770 | 55.82 | 59.32 | 1.12 | 32.00 | 1.12 | 0.00 | 2.38 | 0.00 |
| | | 771 | 59.32 | 59.63 | 0.25 | 49.02 | 0.25 | 0.00 | 0.00 | 0.28 |
| | | 772 | 59.63 | 61.60 | 0.46 | 25.99 | 0.46 | 0.00 | 1.51 | 0.00 |
| | | 773 | 61.60 | 61.86 | 0.21 | 75.00 | 0.00 | 0.21 | 0.00 | 0.07 |
| | | 774 | 61.88 | 64.10 | 0.24 | 10.81 | 0.24 | 0.00 | 1.98 | 0.00 |
| | | 775 | 64.10 | 64.52 | 0.07 | 16.67 | 0.00 | 0.07 | 0.00 | 0.33 |
| | | 776 | 64.52 | 65.39 | 0.32 | 36.78 | 0.32 | 0.00 | 0.55 | 0.00 |
| | | 777 | 65.39 | 65.79 | 0.20 | 50.00 | 0.00 | 0.20 | 0.00 | 0.20 |
| | | 778 | 65.79 | 66.89 | 0.62 | 56.36 | 0.62 | 0.00 | 0.48 | 0.00 |
| | | 779 | 167.76 | 168.61 | 0.37 | 43.53 | 0.07 | 0.00 | 0.33 | 0.13 |
| | | 780 | 168.61 | 168.86 | 0.11 | 68.00 | 0.04 | 0.13 | 0.08 | 0.00 |
| | | 781 | 168.86 | 169.45 | 0.29 | 49.15 | 0.27 | 0.02 | 0.15 | 0.15 |
| | | 782 | 169.45 | 170.04 | 0.35 | 93.22 | 0.55 | 0.00 | 0.04 | 0.00 |

PROJ - GDR ANALYSIS BASIS TYPE - NAME OF STANDARD -

DATA SEAM SAMPLE INHERENT ASH% FIXED VOLATILE TOTAL GROSS CALORIFIC SPG FSI
 SOURCE ID MOISTURE% CARBON% MATTER% SULPHUR% VALUE (MJ-KG)

DDH80042

- 768
- 769
- 770
- 771
- 772
- 773
- 774
- 775
- 776
- 777
- 778
- 779
- 780
- 781
- 782

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 62 | 26.72 | 27.20 | 0.48 | | | SANDSTONE | MG.GY.BRKN |
| * 62 | 27.20 | 27.53 | 0.33 | | | SANDSTONE | AS ABOVE |
| 61 | 27.53 | 27.98 | 0.45 | | | MUDSTONE | M-DK.GY WITH SSY INTERBEDS, IRON STAINING AND OXIDATION ALONG MOST FRACTURES, HEAVILY BROKEN AND GROUND |
| 52 | 27.98 | 31.94 | 3.96 | | | CORELOSS | COAL |
| 43 | 31.94 | 33.00 | 1.06 | | | MUDSTONE | AS ABOVE |
| 40 | 33.00 | 33.43 | 0.43 | | | MUDSTONE | DK.GY.BRKN FAINT CARB REMAINS |
| 38 | 33.43 | 34.29 | 0.86 | | | MUDSTONE | VBRKN AS ABOVE; NUMEROUS OXIDE STAINS IN FRACTURES; GRADUALLY BECOMES SSY AT BASE. |
| 35 | 34.29 | 34.96 | 0.67 | | | CORELOSS | ROCK |
| * 32 | 34.96 | 35.85 | 0.89 | | | MUDSTONE | M-DK.GY WITH LTGY SSY INTERBEDS IRON OXIDE STAINING, BROKEN |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 34 | 35.85 | 36.29 | 0.44 | | | MUDSTONE | M-DK.GY GY SLTY INTERLAMINATIONS BROKEN. |
| 36 | 36.29 | 36.65 | 0.36 | | | CORELOSS | ROCK |
| * 38 | 36.65 | 37.23 | 0.58 | | | MUDSTONE | AS ABOVE |
| 39 | 37.23 | 37.31 | 0.08 | | | MUDSTONE | ORANGE TO RUST, HEAVILY OXIDIZED BAND W ITHIN & MUDST |
| 39 | 37.31 | 38.01 | 0.70 | | | MUDSTONE | M-DK.GY NUMEROUS CARB. FLECKS AND PLANT REMAINS , HEAVILY BROKEN. |
| * 40 | 38.01 | 38.34 | 0.33 | | | MUDSTONE | M-DK.GY.BIDTR BRIGHTER GY SILT AND SAND INTERLAMINATI ONS |
| * 35 | 38.34 | 38.72 | 0.38 | | | MUDSTONE | GY BROKEN, SLIGHTLY SLTY AND SSY |
| 35 | 38.72 | 38.91 | 0.19 | | | MUDSTONE | M-DK.GY TO ORANGE RUST, HEAVILY OXIDIZED, HEAVI LY BROKEN |
| 35 | 38.91 | 39.31 | 0.40 | | | MUDSTONE | SLTY LAM. ,CARB. FLECKS |
| 35 | 39.31 | 40.26 | 0.95 | | | CORELOSS | ROCK |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| * 35 | 40.26 | 41.48 | 1.22 | | | MUDSTONE | AS ABOVE, IRON OXIDATION, BROKEN HEAVILY. |
| 37 | 41.48 | 41.54 | 0.06 | | | MUDSTONE | AS ABOVE |
| * 40 | 41.54 | 43.82 | 2.28 | | | MUDSTONE | GY WELL LAM. WITH SILT AND SAND, ABUNDANT CARB. FLECKS, IRON OXIDATION ON FRACTURES, LAMINATION DECREASE TO BASE HEAVILY BROKEN IN PLACES |
| 40 | 43.82 | 44.06 | 0.24 | | | CORELOSS | ROCK |
| 40 | 44.06 | 44.28 | 0.22 | | | MUDSTONE | AS ABOVE, FAINTLY LAMINATED |
| * 40 | 44.28 | 45.66 | 1.38 | | | MUDSTONE | AS ABOVE |
| 40 | 45.66 | 46.39 | 0.73 | | | MUDSTONE | GY IRON OXIDATION ON FRACTURES, CARBONACEOUS FLECKS |
| 40 | 46.39 | 47.15 | 0.76 | | | MUDSTONE | AS ABOVE, HEAVILY BROKEN |
| 40 | 47.15 | 47.64 | 0.49 | | | CORELOSS | ROCK |
| 39 | 47.64 | 48.98 | 1.34 | | | MUDSTONE | AS ABOVE, GRADUALLY BECOMES DARK GREY |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 39 | 48.98 | 50.45 | 1.47 | | | MUDSTONE | M-DK.GY IRON OXIDATION ON FRACTURES, HEAVILY BROKEN POWDER IN PLACES |
| 39 | 50.45 | 51.28 | 0.83 | | | MUDSTONE | AS ABOVE |
| 39 | 51.28 | 51.84 | 0.56 | | | MUDSTONE | GY HEAVILY BROKEN POWDER AND PIECES, IRON OXIDE STAINS ON SOME FRACTURE SURFACES, POSSIBLE FAULT |
| 38 | 51.84 | 53.46 | 1.62 | | | CORELOSS | ROCK |
| 38 | 53.46 | 53.70 | 0.24 | | | MUDSTONE | GY AS ABOVE, HEAVILY BROKEN, CARB. PLANT REMAINS AT BASE, SLICKENSIDES, POSSIBLE FAULT, IRON OXIDE STAINING ON FRACTURES |
| 38 | 53.70 | 53.75 | 0.05 | | | MUDSTONE | AS ABOVE |
| 38 | 53.75 | 53.88 | 0.13 | 00768 | 1 | COAL | C-4 HEAVILY BROKEN, SHEARED, HARD. |
| 38 | 53.88 | 53.96 | 0.08 | 00768 | 1 | COAL | C-5 HARD - SHEARED - SPARSE ROCK CLASTS IN COAL |
| 38 | 53.96 | 54.01 | 0.05 | 00768 | 1 | COAL | BROKEN AND GROUND |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 38 | 54.01 | 54.04 | 0.03 | 00768 | 1 | COAL | C-6 HEAVILY BROKEN |
| 38 | 54.04 | 54.09 | 0.05 | 00768 | 1 | COAL | C-5 BROKEN, SHEARED |
| 38 | 54.09 | 54.17 | 0.08 | 00768 | 1 | COAL | C-5 HARD, SHEARED |
| 38 | 54.17 | 54.23 | 0.06 | 00768 | 1 | COAL | C-4 HEAVILY BROKEN, SHEARED, ROCK CLASTS. |
| 38 | 54.23 | 54.30 | 0.07 | 00768 | 1 | COAL | C-4 SHEARED, BANDED |
| 38 | 54.30 | 54.32 | 0.02 | 00768 | 1 | COAL | C-5 BROKEN GROUND |
| 38 | 54.32 | 54.37 | 0.05 | 00768 | 1 | COAL | STONEY, BROKEN - GROUND |
| 38 | 54.37 | 54.47 | 0.10 | 00768 | 1 | COAL | C-5 HARD, SHEARED, BROKEN |
| 38 | 54.47 | 54.60 | 0.13 | 00768 | 1 | COAL | STONEY - BROKEN, POWDER PIECES, GROUND, SOME BRIGHT BANDS. |
| 38 | 54.60 | 54.63 | 0.03 | 00768 | 1 | COAL | C-4 SHEARED, ROCK CLASTS. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 38 | 54.63 | 54.78 | 0.15 | 00768 | 1 | COAL | C-3 SHEARED. |
| 38 | 54.78 | 55.09 | 0.31 | 00768 | 1 | COAL | C-3 SHEARED |
| 37 | 55.09 | 55.12 | 0.03 | 00768 | 1 | CORELOSS | COAL |
| 37 | 55.12 | 55.41 | 0.29 | 00769 | 1 | SILTSTONE | TUFFACEOUS LT BUFF TO TANS, VERY DENSE, POWDERY DOES NOT FEEL GREASY AS OTHER TUFFS DO, BUT RATHER SLTY; CONTAINS COAL CLASTS STRINGERS, SOME CLAY; SHARP CONT ACT AT TOP AND BASE WITH COAL. |
| 36 | 55.41 | 55.82 | 0.41 | 00769 | 1 | CORELOSS | ROCK |
| | 55.82 | 55.88 | 0.06 | 00769 | 1 | COAL | STONEY WITH BRIGHT BANDS. |
| 36 | 55.88 | 56.00 | 0.12 | 00769 | 1 | COAL | C-5 HARD, SHEARED. |
| 35 | 56.00 | 56.20 | 0.20 | 00769 | 1 | COAL | C-5 HARD, STONEY BAND 4CM WIDE WITHIN DULL ;STONEY OCCURS IN CENTER OF CORE. BOUND ED ON SIDES BY DULL; BROKEN AND GROUND |
| 35 | 56.20 | 56.50 | 0.30 | | 1 | COAL | C-3.VBRKN SHRD. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 33 | 56.50 | 58.88 | 2.38 | 00770 | 1 | CORELOSS COAL |
| | 30 | 58.88 | 58.91 | 0.03 | 00770 | 1 | COAL C-4 |
| | 30 | 58.91 | 59.04 | 0.13 | 00770 | 1 | COAL C-5 HARD, SHEARED, BROKEN |
| | 30 | 59.04 | 59.19 | 0.15 | 00770 | 1 | COAL C-5 POWDER AND PIECES, SHEARED. |
| | 30 | 59.19 | 59.32 | 0.13 | 00770 | 1 | COAL C-4 POWDER AND PIECES, SHEARED |
| | 29 | 59.32 | 59.47 | 0.15 | 00771 | 1 | COAL & ROCK COAL WITH TUFFACEOUS SLTST; LIGHT TAN; INTERBEDDED WITH COAL. |
| | 29 | 59.47 | 59.57 | 0.10 | 00771 | 1 | COAL & ROCK POWDER AND PIECES OF MIXED COAL AND TUF FACEOUS SLTST |
| | 29 | 59.57 | 59.83 | 0.26 | 00771 | 1 | CORELOSS ROCK |
| | 27 | 59.83 | 61.14 | 1.31 | 00772 | 1 | CORELOSS COAL |
| | 26 | 61.14 | 61.60 | 0.46 | 00772 | 1 | COAL C-4 SHEARED |
| | 25 | 61.60 | 61.67 | 0.07 | 00773 | 1 | CORELOSS ROCK |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 25 | 61.67 | 61.88 | 0.21 | 00773 | 1 | TUFF | LT.GY VERY SOFT AND HEAVY, SMALL INDIVIDUAL GRAINS OF TUFF WITH CLAY MATRIX COAL STRINGERS WITHIN TUFF.TRUE THICKNESS APPEARS TO BE 5CM. BOUNDED ON EACH SIDE BY COAL. SHARP CONTACT WITH COAL |
| 25 | 61.88 | 62.12 | 0.24 | | 1 | COAL | |
| 24 | 62.12 | 64.10 | 1.98 | 00774 | 1 | CORELOSS | COAL |
| 23 | 64.10 | 64.45 | 0.35 | 00775 | 1 | CORELOSS | ROCK |
| 23 | 64.45 | 64.52 | 0.07 | 00775 | 1 | TUFF | CARB DK RED BROWN WITH ABUNDANT COAL BANDS AND COALY MATRIX, VERY CARB. |
| 22 | 64.52 | 64.57 | 0.05 | 00776 | 1 | COAL | C-4 BROKEN |
| 22 | 64.57 | 64.77 | 0.20 | 00776 | 1 | COAL | TUFFACEOUS--- BROWN STREAK - PYRITE AT BASE BECOMES COAL AND BANDS (50/50); BANDS ARE DK BRN & CARB. |
| 22 | 64.77 | 65.32 | 0.55 | 00776 | 1 | CORELOSS | COAL |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 21 | 65.32 | 65.59 | 0.27 | 00777 | 1 | TUFF | GY WHGY TO BRGY SOFT DENSE, MICACEOUS, NUMEROUS COAL STRINGERS WITHIN |
| 21 | 65.59 | 65.79 | 0.20 | | 1 | CORELOSS | |
| 21 | 65.79 | 65.83 | 0.04 | 00778 | 1 | COAL | C-4 |
| 21 | 65.83 | 66.18 | 0.35 | 00778 | 1 | COAL | C-2 SHEARED, ROCK CLASTS NEAR BASE, POWDER AND PIECES |
| 21 | 66.18 | 66.41 | 0.23 | 00778 | 1 | COAL | C-3 POWDER & PIECES, HEAVILY BROKEN, SHEARED, AT BASE COAL AND BANDS (40/60) |
| 21 | 66.41 | 66.89 | 0.48 | | 1 | CORELOSS | COAL. |
| * 20 | 66.89 | 67.52 | 0.63 | 00778 | | TUFF | SOFT, DENSE, COAL STRINGERS AND PODS |
| 20 | 67.52 | 69.01 | 1.49 | 00778 | | MUDSTONE | DK.GY COAL LAMINATIONS AND STRINGERS AT TOP DECREASING TOWARDS BASE, BROKEN, POWDER AND PIECES IN PLACES, SLTY SSSY NEAR BASE |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 21 | 69.01 | 70.17 | 1.16 | | | MUDSTONE | CARB.GY WITH BRN TINGE; GRADUALLY GRADING TO FG SS WITH ARGILLACEOUS MATRIX; ABDT COAL STRINGERS; CARB; PYRITE SMEARS IN COAL ; CALCITE VEINING; VBRKN AT TOP. |
| 21 | 70.17 | 70.90 | 0.73 | | | MUDSTONE | GY GY WITH A BRN TINGE; GRADUALLY GRADING TO FG. |
| 21 | 70.90 | 71.42 | 0.52 | | | MUDSTONE | GY BROWN, NUMEROUS CARB. PLANT REMAINS, ABU NDANT COAL STRINGERS |
| 21 | 71.42 | 71.97 | 0.55 | | | MUDSTONE | BRKN AS ABOVE; SLICKENSIDES. |
| 21 | 71.97 | 72.10 | 0.13 | | | MUDSTONE | GY BROWN GY, NUMEROUS CARB. PLANT REMAINS, LTBN PELLETS |
| 21 | 72.10 | 72.56 | 0.46 | | | MUDSTONE | GY BROWN, ABUNDANT PYRITE CRYSTALS MAINLY I N VUGGY CALCITE VEINLETS, CARB. PLANT |
| 21 | 72.56 | 73.82 | 1.26 | | | MUDSTONE | GY BROWN, NUMEROUS CARB. PLANT REMAINS, ABU NDANT COAL STRINGERS, BECOMES DARKER GY AND LESS CARB. AT BASE, BROKEN AT BASE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 11

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 21 | 73.82 | 74.28 | 0.46 | | | MUDSTONE | GY DARK GY BROWN,CARB PLANT REMAINS, SLICK ENSIDES AND LISTRIC SURFACES, HEAVILY BROKEN AND POWDERED |
| 21 | 74.28 | 75.02 | 0.74 | | | CORELOSS | ROCK |
| 21 | 75.02 | 77.02 | 2.00 | | | MUDSTONE | DK.GY NUMEROUS COAL STRINGERS,SLICKENSIDES AN D LISTRIC SURFACES, NO LAM TO DETERMINE BCA |
| 21 | 77.02 | 78.00 | 0.98 | | | MUDSTONE | GY DARK GY-BROWN GY,ABUNDANT CARB PLANT RE MAINS, NUMEROUS COAL STRINGERS,HEAVILY BROKEN. |
| * 22 | 78.00 | 79.58 | 1.58 | | | MUDSTONE | AS ABOVE, FAINT LAM, BECOMING SLTY AND SSY AT BASE |
| 21 | 79.58 | 81.21 | 1.63 | | | MUDSTONE | GY FAINT LAMINAE PARALLEL TO CORE AXIS |
| * 21 | 81.21 | 82.28 | 1.07 | | | MUDSTONE | AS ABOVE, SPARSE COAL STRINGERS WITH PY RITE SMEARS |
| * 20 | 82.28 | 83.64 | 1.36 | | | MUDSTONE | AS ABOVE, CARB PLANT REMAINS AND COAL S TRINGERS INCREASING, BCA'S ARE NOTICABL Y INCREASING FROM 20 DEG TO 49 DEG. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 12

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 28 | 83.64 | 84.38 | 0.74 | | | MUDSTONE | DK.GY NUMEROUS CARB, PLANT REMAINS AND COAL STRINGERS, FAINTLY LAM. BROKEN, LISTRIC SURFACES AND SLICKENSIDES |
| 32 | 84.38 | 84.78 | 0.40 | | | MUDSTONE | AS ABOVE. |
| 37 | 84.78 | 85.82 | 1.04 | | | MUDSTONE | DK.GY DKGY TO BNGY; ABUNDANT CARB PLANT REMAINS; COAL STRINGERS; NUMEROUS SLICKENSIDES AND LISTRIC SURFACES; BRKN FROM SHEARING; CALCITE INFILLING OF TENSION GASHES. |
| 43 | 85.82 | 86.62 | 0.80 | | | CORELOSS | ROCK |
| 47 | 86.62 | 86.82 | 0.20 | | | TUFF | GY VERY SOFT, SOAPY TO ROUGH, GRANULAR WITH CLAY MATRIX, CARB. PLANT REMAINS AND STRINGERS, SHARP CONTACT AT TOP AND BASE WITH MUDST |
| * 52 | 86.82 | 88.01 | 1.19 | | | MUDSTONE | CARB.DK.GY VERY CARB IN SECTIONS, CARB. PLANT REMAINS ABUNDANT COAL STRINGERS AND PODS, FAINT SLTY LAMINAE IN PLACES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 40 | 88.01 | 89.31 | 1.30 | | | MUDSTONE | CARB.DK.GY VERY CARB, COAL STRINGERS, HEAVILY BROK EN, POWDERED AT BASE ESPECIALLY |
| 42 | 89.31 | 90.13 | 0.82 | | | CORELOSS | ROCK |
| 43 | 90.13 | 91.52 | 1.39 | | | MUDSTONE | DK.GY MINOR CARB. PLANT REMAINS, SPARE COAL S TRINGERS, SLICKENSIDES, LISTRIC SURFACE S. |
| 49 | 91.52 | 93.22 | 1.70 | | | MUDSTONE | AS ABOVE, IN PLACES BECOMING MORE CARB. SSY TOWARD BASE |
| 52 | 93.22 | 94.16 | 0.94 | | | MUDSTONE | SLTY.GY SSY AT TOP, WISPY CALCITE VEINLETS, SKS |
| * 55 | 94.16 | 96.18 | 2.02 | | | MUDSTONE | DK.GY SLIGHTLY CARB, CARB PLANT REMAINS (MINO R) SLICKENSIDES, OCCASIONALLY SLTY & SS Y, CALCITE VEINING AT BASE |
| 50 | 96.18 | 96.62 | 0.44 | | | MUDSTONE | AS ABOVE |
| * 44 | 96.62 | 99.23 | 2.61 | | | MUDSTONE | AS ABOVE; OCCASIONALLY SLTY; ABUNDANT C ALCITE VEINING AT 1.35; PYRITE DISSEMIN ATION. |
| 41 | 99.23 | 99.31 | 0.08 | | | MUDSTONE | AS ABOVE, PYRITE SMEARS ON SLICKENSIDES |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 39 | 99.31 | 101.80 | 2.49 | | | MUDSTONE | GY SLIGHTLY CARB, COAL LAM. AND STRINGERS, SLTY IN PLACES, SPARSE SOFT SEDIMENT D EFORMATION |
| 51 | 101.80 | 102.40 | 0.60 | | | MUDSTONE | AS ABOVE |
| * 60 | 102.40 | 104.26 | 1.86 | | | MUDSTONE | GY SLTY AT TOP, COAL BANDS AT BASE, CARB. PARTINGS, SLICKENSIDES. |
| 55 | 104.26 | 105.36 | 1.10 | | | MUDSTONE | AS ABOVE; BUT SLIGHTLY CARB WITH COAL S TRINGERS. |
| * 50 | 105.36 | 106.89 | 1.53 | | | MUDSTONE | AS ABOVE, BECOMING VERY CARB. WITH NUMER OUS COAL STRINGERS AT BASE. |
| * 60 | 106.89 | 108.39 | 1.50 | | | MUDSTONE | DKBN TO GY; CARB PLANT REMAINS; NUMEROU S COAL STRINGERS; WISPY CALCITE VEINING ; PYRITE SMEARS ON COAL STRINGERS. |
| 62 | 108.39 | 109.53 | 1.14 | | | MUDSTONE | AS ABOVE, GRADATIONAL AT BASE TO CARB. MUDST. |
| 63 | 109.53 | 111.48 | 1.95 | | | MUDSTONE | CARB.GY DARK BROWN GY. VERY CARB, NUMEROUS COAL STRINGERS AND ABUNDANT CARB. PLANT FRA GMENTS; WISPY CALCITE STRINGERS; NUMERO US PYRITE SMEARS ALONG COAL STRINGERS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 65 | 111.48 | 112.26 | 0.78 | | | MUDSTONE | LT-DK BRN GY; SILTY AND INTERLAMINATION S, RARE COAL STRINGERS. |
| * 65 | 112.26 | 113.23 | 0.97 | | | MUDSTONE | AS ABOVE, BECOMING CARB. AT BASE. |
| 65 | 113.23 | 114.39 | 1.16 | | | MUDSTONE | DK.GY NUMEROUS COAL STRINGERS CARB. PLANT REMAINS |
| 65 | 114.39 | 114.96 | 0.57 | | | MUDSTONE | GY BROWN GY. CARB. PARTINGS, SPARCE COAL S TRINGERS. |
| * 65 | 114.96 | 116.79 | 1.83 | | | MUDSTONE | AS ABOVE, RARE COAL STRINGERS |
| 62 | 116.79 | 117.05 | 0.26 | | | MUDSTONE | CARB.DK.GY VERY CARB, NUMEROUS COAL STRINGERS AND PLANT REMAINS, IN PLACES GRADATIONAL TO CARB.MUDST. |
| 62 | 117.05 | 117.14 | 0.09 | | | MUDSTONE | CARB.DK.GY VERY CARB., HEAVILY BROKEN, POWDER AND PIECES OF COAL IN BOTTOM OF TRAY, PIECE S ARE GENERALLY DULL AND BRIGHT TO BRIG HT BANDED; THEY ARE UP TO 0.02 M IN LEN GTH. |
| 61 | 117.14 | 117.44 | 0.30 | | | CORELOSS | ROCK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 61 | 117.44 | 117.56 | 0.12 | | | MUDSTONE | CARB.DK.GY HEAVILY BROKEN, ONLY SMALL CHUNKS OF CO RE. |
| 60 | 117.56 | 118.01 | 0.45 | | | MUDSTONE | DK.GY MINOR CARB. PLANT REMAINS AND COAL STRI NGERS |
| 56 | 118.01 | 120.34 | 2.33 | | | MUDSTONE | DK.GY BROWN GY. NUMEROUS CARB. PLANT REMAINS AND COAL STINGERS |
| 52 | 120.34 | 120.68 | 0.34 | | | MUDSTONE | GY MINOR CARB. PLANT REMAINS |
| * 50 | 120.68 | 122.14 | 1.46 | | | MUDSTONE | CARB.GY DARK BROWN. VERY CARB., NUMEROUS COAL S TRINGERS, IN PLACES GRADATIONAL TO CARB . MUDST, BROKEN |
| 52 | 122.14 | 122.37 | 0.23 | | | CORELOSS | ROCK |
| 53 | 122.37 | 123.06 | 0.69 | 00783 | 2 | CORELOSS | COAL |
| 54 | 123.06 | 123.13 | 0.07 | 00783 | 2 | COAL | C-6 BROKEN |
| 54 | 123.13 | 123.16 | 0.03 | 00783 | 2 | COAL | C-5 BROKEN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 55 | 123.16 | 123.24 | 0.08 | 00783 | 2 | COAL | C-4 BROKEN |
| 55 | 123.24 | 123.31 | 0.07 | 00784 | | MUDSTONE | CARB.GY DARK BROWN. NUMEROUS COAL STRINGERS |
| 58 | 123.31 | 125.50 | 2.19 | 00784 | | CORELOSS | ROCK |
| 61 | 125.50 | 125.87 | 0.37 | 00785 | 2 | CORELOSS | COAL |
| 61 | 125.87 | 125.94 | 0.07 | 00785 | 2 | COAL | C-3 |
| 62 | 125.94 | 126.00 | 0.06 | 00785 | 2 | COAL | C-2 |
| 62 | 126.00 | 126.08 | 0.08 | 00785 | 2 | COAL | C-5 |
| 62 | 126.08 | 126.16 | 0.08 | 00785 | 2 | COAL | C-1 |
| 62 | 126.16 | 126.19 | 0.03 | 00785 | 2 | COAL | C-4 POWDER & PIECES |
| 62 | 126.19 | 126.24 | 0.05 | 00785 | 2 | COAL | C-4 BROKEN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 63 | 126.24 | 126.80 | 0.56 | | MUDSTONE | GY MINOR CARB. PLANT & REMAINS, COAL STRINGERS |
| * | 65 | 126.80 | 127.91 | 1.11 | | MUDSTONE | GY.XBDG SLTY AND SSY INTERLAMINATIONS; MINOR CARB. PLANT REMAINS AND COAL STRINGERS, FAINTLY XBDD. |
| | 65 | 127.91 | 128.31 | 0.40 | | MUDSTONE | DK.GY CARB. PLANT REMAINS, NUMEROUS COAL STRINGERS AND PYRITE SMEARS, SLICKENSIDES. |
| | 65 | 128.31 | 128.40 | 0.09 | | COAL | C-1 POWDER AND PIECES, SHEARED |
| | 65 | 128.40 | 128.48 | 0.08 | | MUDSTONE | CARB.DK.GY DARK GY BROWN. POWDER AND PIECES MIXED WITH COAL |
| | 65 | 128.48 | 128.51 | 0.03 | | COAL | C-2 BROKEN, SHEARED. |
| | 65 | 128.51 | 128.65 | 0.14 | | COAL | C-4 SHEARED. |
| | 65 | 128.65 | 128.77 | 0.12 | | COAL | C-4 SHEARED, BROKEN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 65 | 128.77 | 128.91 | 0.14 | | | COAL | C-4 POWDER AND PIECES |
| 65 | 128.91 | 129.07 | 0.16 | | | MUDSTONE | CARB.GY DARK GY BROWN. SLIGHTLY CARB. BROKEN POWDER AND PIECES |
| 65 | 129.07 | 129.47 | 0.40 | | | CORELOSS | ROCK |
| 65 | 129.47 | 129.60 | 0.13 | | | COAL | C-4 |
| * 65 | 129.60 | 132.04 | 2.44 | | | MUDSTONE | GY BROWN GY DARK GY. CARB. PLANT REMAINS, COAL STRINGERS, BROKEN, LISTRIC SURFACE S AND SKS |
| 65 | 132.04 | 132.34 | 0.30 | | | CORELOSS | ROCK |
| 65 | 132.34 | 132.54 | 0.20 | | | MUDSTONE | AS ABOVE, VERY CRUMBLY |
| * 65 | 132.54 | 135.00 | 2.46 | | | MUDSTONE | GY SPARSE COAL STRINGERS AND PLANT REMAINS ; SLIGHTLY SLTY; SLICKENSIDES. |
| 61 | 135.00 | 135.43 | 0.43 | | | MUDSTONE | AS ABOVE, FEATURELESS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 58 | 135.43 | 137.54 | 2.11 | | | MUDSTONE | DK.GY SPARSE COAL STRINGERS AT TOP, BECOMING CARB. WITH NUMEROUS COAL STRINGERS AT B ASE, NO DISTINCT LAM. |
| 55 | 137.54 | 138.25 | 0.71 | | | MUDSTONE | DK.GY CARB. PARTINGS, ABUNDANT & PLANT REMAIN S, COAL STRINGERS AND PODS, BROKEN ROCK |
| 53 | 138.25 | 138.45 | 0.20 | | | CORELOSS | ROCK |
| 53 | 138.45 | 138.91 | 0.46 | | | CORELOSS | ROCK |
| 50 | 138.91 | 140.40 | 1.49 | | | MUDSTONE | CARB.DK.GY WITH RARE COAL STRINGERS, BROKEN, IN PLA CES CRUMBLES TO POWDER, SLICKENSIDES. |
| 48 | 140.40 | 140.50 | 0.10 | | | MUDSTONE | AS ABOVE |
| * 47 | 140.50 | 141.26 | 0.76 | | | MUDSTONE | AS ABOVE |
| 49 | 141.26 | 142.70 | 1.44 | | | MUDSTONE | CARB.DK.GY NUMEROUS PLANT REMAINS AND COAL STRINGE RS, SHEARED, POWDER AND PIECES IN SOME PLACES. |
| 51 | 142.70 | 143.10 | 0.40 | | | MUDSTONE | AS ABOVE, POWDERED IN PLACES |
| 52 | 143.10 | 143.55 | 0.45 | | | CORELOSS | ROCK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 52 | 143.55 | 143.77 | 0.22 | | | MUDSTONE | CARB. DK. GY NUMEROUS BRIGHT COAL BANDS, HEAVILY BROKEN ROCK |
| 53 | 143.77 | 144.20 | 0.43 | | | CORELOSS | ROCK |
| 55 | 144.20 | 146.17 | 1.97 | | | MUDSTONE | GY DARK BROWN GY. CARB. PLANT REMAINS COAL STRINGERS, NO DISTINCT LAM. BROKEN, GRADITIONAL TO CARB MUDST. IN PLACE |
| 57 | 146.17 | 146.64 | 0.47 | | | MUDSTONE | AS ABOVE |
| * 60 | 146.64 | 148.81 | 2.17 | | | MUDSTONE | GY SPARSE COAL STRINGERS AND PLANT REMAINS ; FAINT SILT LAMINATION IN PLACES. |
| 60 | 148.81 | 149.39 | 0.58 | | | MUDSTONE | GY SPARSE COAL STRINGERS; FEATURELESS. |
| * 60 | 149.39 | 151.18 | 1.79 | | | MUDSTONE | AS ABOVE, GRADUALLY DARKER WITH CARB. |
| * 55 | 151.18 | 152.43 | 1.25 | | | MUDSTONE | GY AT TOP, DK GY AT BASE, CARB. PLANT FRAGMENTS INCREASES TOWARDS BASE, BROKEN, SHEARED. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 65 | 152.43 | 153.52 | 1.09 | | | MUDSTONE | DK.GY NUMEROUS CARB. PLANT REMAINS AND COAL S TRINGERS, GRADATIONAL TO CARB. MUDST IN PLACES, BROKEN |
| * 60 | 153.52 | 155.17 | 1.65 | | | MUDSTONE | AS ABOVE, HEAVILY BROKEN AND POWDERED I N PLACES, VERY FAINTLY LAMINATED. |
| 57 | 155.17 | 155.91 | 0.74 | | | MUDSTONE | AS ABOVE, HEAVILY BROKEN AND SHEARED |
| 53 | 155.91 | 157.96 | 2.05 | | | MUDSTONE | AS ABOVE, HEAVILY BROKEN, POWDERED IN P LACES, SHEARED, LISTRIC SURFACES, NO BC A'S AVAILABLE DUE TO FEATURELESS MUDST AND BROKEN NATURE OF CORE, POWDERED ABO VE MARKER BLOCK |
| 50 | 157.96 | 158.00 | 0.04 | | | COAL | C-3 BROKEN |
| 50 | 158.00 | 158.03 | 0.03 | | | COAL | C-4. BRKN |
| 50 | 158.03 | 158.07 | 0.04 | | | MUDSTONE | CARB. DK.GY NUMEROUS COAL STRINGERS, BROKEN |
| * 50 | 158.07 | 158.22 | 0.15 | | | MUDSTONE | DK.GY NUMEROUS CARB. PLANT REMAINS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 56 | 158.22 | 160.71 | 2.49 | | | MUDSTONE | DK.GY SPARSE COAL STRINGERS AND PLANT REMAINS , SLICKENSIDES, CRUMBLES EASILY, BROKEN , SHEARED AND INCREASINGLY CARB AT BASE |
| 63 | 160.71 | 161.01 | 0.30 | | | MUDSTONE | AS ABOVE, CARB. MUDST IN PLACES. |
| 64 | 161.01 | 161.08 | 0.07 | | | COAL | C-4 SHEARED |
| * 69 | 161.08 | 163.15 | 2.07 | | | MUDSTONE | CARB.DK.GY SLIGHTLY CARB, CARB. MUDST IN PLACES, S LICKENSIDES, SPARSE COAL STRINGERS. |
| 66 | 163.15 | 163.72 | 0.57 | | | MUDSTONE | CARB.DK.GY VERY CARB, NUMEROUS COAL STRINGERS, HEA VILY BROKEN |
| * 65 | 163.72 | 164.31 | 0.59 | | | MUDSTONE | AS ABOVE |
| * 72 | 164.31 | 165.16 | 0.85 | | | MUDSTONE | DK.GY CARB. PLANT REMAINS, COAL STRINGERS, BI G SILTY LAM. WISPY CALCITE STRINGERS. |
| 72 | 165.16 | 166.06 | 0.90 | | | MUDSTONE | DK.GY VERY CARB. WITH PLANT REMAINS AND COAL STRINGERS. |
| 71 | 166.06 | 166.46 | 0.40 | | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 24

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|------------|---|
| 71 | 166.46 | 167.44 | 0.98 | | | MUDSTONE | AS ABOVE, IN PLACES CARB. MUDST, BROKEN AND POWDERED IN PLACES. |
| 71 | 167.44 | 167.76 | 0.32 | | | MUDSTONE | CARB. DK. GY VERY CARB. WITH NUMEROUS COAL STRINGERS , GRADATIONAL TO MUDST. IN PLACES, HEAVILY BROKEN, GRADES TO BONEY COAL. |
| 71 | 167.76 | 168.11 | 0.35 | 00779 | 3 | CORELOSS | COAL |
| 71 | 168.11 | 168.14 | 0.03 | 00779 | 3 | COAL | C-6 |
| 71 | 168.14 | 168.23 | 0.09 | 00779 | 3 | COAL | C-4 |
| 71 | 168.23 | 168.30 | 0.07 | 00779 | 3 | COAL | C-4 HEAVILY BROKEN |
| 71 | 168.30 | 168.45 | 0.15 | 00779 | 3 | COAL | C4 AT 0.06M LTGY TUFFACEOUS CLASTS. |
| 71 | 168.45 | 168.58 | 0.13 | 00779 | 3 | CORELOSS | ROCK |
| 71 | 168.58 | 168.66 | 0.08 | | 3 | CORELOSS | ROCK. |
| 71 | 168.66 | 168.69 | 0.03 | 00780 | 3 | TUFFACEOUS | CONGLOMERATE. DKGY MUDST. CLASTS AND TUFFACEOUS CLASTS IN COAL MATRIX (C4) |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 71 | 168.69 | 168.73 | 0.04 | 00780 | 3 | COAL | C-4 POWDER AND PIECES. |
| 71 | 168.73 | 168.86 | 0.13 | 00780 | 3 | MUDSTONE | CARB.GY DARK BROWN DARK GY. VERY DENSE, FINE WI SPY CALCITE STRINGERS, APPEARS TO BE DE FORMED, HAS SOFT RUSTY-BROWN CLASTS |
| 71 | 168.86 | 168.90 | 0.04 | 00781 | 3 | COAL | C-4 |
| 71 | 168.90 | 168.94 | 0.04 | 00781 | 3 | COAL | C-4 POWDER AND PIECES |
| 71 | 168.94 | 169.01 | 0.07 | 00781 | 3 | COAL | C-4 |
| 71 | 169.01 | 169.03 | 0.02 | 00781 | 3 | COAL | C-1 HEAVILY BROKEDON, SHEARED |
| 71 | 169.03 | 169.07 | 0.04 | 00781 | 3 | COAL | C-3 WITH MUDST. CLASTS, HEAVILY BROKEN, SHEA RED |
| 71 | 169.07 | 169.09 | 0.02 | 00781 | 3 | COAL | C-2 WITH MUDST. CLASTS, HEAVILY BROKEN, SHEA RED |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|-----------------------------------|
| 71 | 169.09 | 169.11 | 0.02 | 00781 | 3 | COAL | C-4 |
| 71 | 169.11 | 169.13 | 0.02 | 00781 | 3 | COAL | C-6 |
| 71 | 169.13 | 169.28 | 0.15 | 00781 | 3 | CORELOSS | COAL |
| 70 | 169.28 | 169.43 | 0.15 | 00781 | 3 | CORELOSS | ROCK |
| 70 | 169.43 | 169.45 | 0.02 | 00781 | 3 | MUDSTONE | CARB.GY BROWN GY. |
| 70 | 169.45 | 169.62 | 0.17 | 00782 | 3 | COAL | C-1 SHEARED |
| 70 | 169.62 | 169.73 | 0.11 | 00782 | 3 | COAL | C-1 SHEARED |
| 70 | 169.73 | 169.79 | 0.06 | 00782 | 3 | COAL | C-1 SHEARED, BROKEN |
| 70 | 169.79 | 169.86 | 0.07 | 00782 | 3 | COAL | POWDER AND PIECES, 60% AND 40% C1 |
| 70 | 169.86 | 170.00 | 0.14 | 00782 | 3 | COAL | C-4 POWDER AND PIECES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 70 | 170.00 | 170.04 | 0.04 | 00782 | 3 | CORELOSS COAL |
| | 70 | 170.04 | 170.24 | 0.20 | | 3 | CORELOSS ROCK |
| | 70 | 170.24 | 170.52 | 0.28 | | 3 | CORELOSS COAL |
| * | 70 | 170.52 | 171.09 | 0.57 | | | MUDSTONE CARB VERY CARB, ABUNDANT COAL LAM. POWDER AT BASE |
| | 69 | 171.09 | 171.75 | 0.66 | | | MUDSTONE GY NUMEROUS COAL STRINGERS AND PLANT FRAGM ENTS, BECOMES OKGY AT BASE |
| | 68 | 171.75 | 172.27 | 0.52 | | | MUDSTONE DK.GY FEATURELESS, SPARSE CARB AND COAL LAM. |
| | 67 | 172.27 | 173.07 | 0.80 | | | MUDSTONE AS ABOVE, CARB. IN PLACES |
| * | 65 | 173.07 | 174.95 | 1.88 | | | MUDSTONE AS ABOVE; SLIGHTLY SLTY IN PLACES; VBRK N IN PLACES; CARB MUDST IN PLACES. |
| * | 75 | 174.95 | 175.53 | 0.58 | | | MUDSTONE SLTY SLTY AT BASE |
| * | 70 | 175.53 | 176.19 | 0.66 | | | SILTSTONE LT-M.GY CARB. PLANT REMAINS, MINDR SSY XBD, GRAD ES TO MUDST. AT BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 70 | 176.19 | 176.61 | 0.42 | | | MUDSTONE | DK.GY NUMEROUS CARB. PLANT REMAINS, COAL STRINGER, BROKEN |
| 70 | 176.61 | 176.97 | 0.36 | | | SILTSTONE | GY SSY XBD'S, CARB,PARTINGS |
| 70 | 176.97 | 177.50 | 0.53 | | | MUDSTONE | AS ABOVE, LESS CARB. |
| 70 | 177.50 | 177.75 | 0.25 | | | CORELOSS | |
| 70 | 177.75 | 178.28 | 0.53 | | | MUDSTONE | AS ABOVE; LESS CARB. |
| 70 | 178.28 | 178.78 | 0.50 | | | MUDSTONE | AS ABOVE |
| 70 | 178.78 | 179.94 | 1.16 | | | MUDSTONE | |
| 70 | 179.94 | 180.89 | 0.95 | | | SILTSTONE | GY.BIOTR NUMEROUS SILT AND ARGILLACEOUS SAND LAMINAE, SPARSE COAL STRINGERS AND PLANT FRAGMENTS, MINOR SOFT SEDIMENT DEFORMATIONS. |
| 70 | 180.89 | 181.38 | 0.49 | | | SILTSTONE | AS ABOVE |
| 70 | 181.38 | 181.95 | 0.57 | | | SILTSTONE | AS ABOVE, GRADATIONAL TO MUDST, SCOUR MARKS AND SOFT SEDIMENT DEFORMATION IN SILTST, SLICKENSIDES, HEAVILY BROKEN. |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 29

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 70 | 181.95 | 182.20 | 0.25 | | CORELOSS | ROCK |
| | 70 | 182.20 | 184.10 | 1.90 | | MUDSTONE | SLTY.DK.GY.BIOTR NUMEROUS CARB. PLANT REMAINS, SPARSE CO AL STRINGERS, BROKEN IN PLACES, SLTY IN PLACES. |
| * | 70 | 184.10 | 186.05 | 1.95 | | SILTSTONE | LT-M.GY.LAM.BIOTR FAINTLY LAM. |
| * | 75 | 186.05 | 186.52 | 0.47 | | MUDSTONE | DK.GY FAINT LAM, SPARSE CARB. PLANT & FRAGMEN TS AND PARTINGS. |
| | 74 | 186.52 | 186.78 | 0.26 | | MUDSTONE | AS ABOVE |
| * | 70 | 186.78 | 189.42 | 2.64 | | MUDSTONE | AS ABOVE, SANDY INTER LAMINATIONS AT BA SE, BROKEN AT BASE. |
| | 70 | 189.42 | 189.60 | 0.18 | | CORELOSS | ROCK |
| | 70 | 189.60 | 189.83 | 0.23 | | MUDSTONE | DK.GY RARE CARB. PARTINGS AND COAL STRINGERS, BROKEN IN PLACES, FEATURELESS. |
| | 70 | 189.83 | 190.03 | 0.20 | | CORELOSS | ROCK |
| | 70 | 190.03 | 192.24 | 2.21 | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 30

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 71 | 192.24 | 192.93 | 0.69 | | MUDSTONE | AS ABOVE, NUMEROUS SLICKENSIDES. |
| | 71 | 192.93 | 194.82 | 1.89 | | MUDSTONE | AS ABOVE, GYBN IN PLACES, MINOR CARB. P LANT & REMAINS AND COAL STRINGERS, NO L AM., CRUMBLY. |
| | 71 | 194.82 | 195.27 | 0.45 | | MUDSTONE | AS ABOVE |
| * | 71 | 195.27 | 196.09 | 0.82 | | MUDSTONE | GY WITH BNGY, ARGILLACEOUS LAMINAE. |
| | 71 | 196.09 | 197.48 | 1.39 | | MUDSTONE | DK.GY.BIOTR FAINT LAM. , RARE COAL STRINGERS. |
| | 71 | 197.48 | 198.98 | 1.50 | | MUDSTONE | AS ABOVE, VERY FAINT LAM. AND BIOTRB, F EATURELESS. |
| | 71 | 198.98 | 199.23 | 0.25 | | CORELOSS | ROCK |
| | 71 | 199.23 | 200.13 | 0.90 | | MUDSTONE | AS ABOVE, BROKEN AT MARKERS, BECOMES SA NDY NEAR BASE |
| * | 71 | 200.13 | 200.71 | 0.58 | | SANDSTONE | GY NUMEROUS ARGILLACEOUS AND SLTY LAMINAE, CARB PARTINGS, GRADES TU MGSS |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 31

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 71 | 200.71 | 202.31 | 1.60 | | | SANDSTONE | GY DKGY MUDST. RIP UP CLASTS, NUMEROUS WIS PY COAL STRINGERS, CARB. PARTINGS, PYRI TE ALONG SOME PARTINGS. |
| 71 | 202.31 | 202.74 | 0.43 | | | SANDSTONE | AS ABOVE |
| 71 | 202.74 | 203.15 | 0.41 | | | SANDSTONE | AS ABOVE, EXTENSIVE MUDST. RIP UP CLAST S. |
| 71 | 203.15 | 203.40 | 0.25 | | | SANDSTONE | GY.MAS |
| 71 | 203.40 | 203.52 | 0.12 | | | SANDSTONE | AS ABOVE, EXTENSIVE MUDST. RIP UP CLAST S |
| 71 | 203.52 | 204.03 | 0.51 | | | SANDSTONE | MG.LT.GY |
| 71 | 204.03 | 204.46 | 0.43 | | | MUDSTONE | SSY.GY SLICKENSIDES, SLIGHTLY SSY. SHARP CONTA CT AT TOP AND BASE WITH SS |
| 71 | 204.46 | 204.65 | 0.19 | | | SANDSTONE | GY SLICKENSIDES, BROKEN |
| 71 | 204.65 | 205.35 | 0.70 | | | CORELOSS | ROCK |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 32

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80042

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 71 | 205.35 | 205.71 | 0.36 | | | MUDSTONE | GY NUMEROUS SLICKENSIDES;BROKEN. |
| 71 | 205.71 | 206.06 | 0.35 | | | CORELOSS | ROCK |
| 71 | 206.06 | 206.41 | 0.35 | | | MUDSTONE | |
| 71 | 206.41 | 208.98 | 2.57 | | | MUDSTONE | DK.GY FEATURELESS, SLICKENSIDES BECOMES SLTY NEAR BASE BROKEN AT BASE |
| 71 | 208.98 | 209.28 | 0.30 | | | CORELOSS | ROCK |

* DENOTES MEASURED BCA

DDH 80-43

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH80043

HISTORY

START DATE: 26/11/80 END DATE: 03/12/80 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: J. LOADER SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1068.27
 UTM ZONE: 10 NORTH: 6138835.69 EAST: 551611.15
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: . EAST: . LSD: SEC: TWP: RGE: MER:
 NTS-BC NORTH: . EAST: . QUAD: UNIT: BLK: ST: MUS: MS:

DIMENSIONS AND ORIENTATION

LENGTH: 320.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: . SIZE HEIGHT: .
 ROOF STRIKE: DIP: FLOOR STRIKE: DIP:

DRILL HOLE STATUS

CASING DEPTH: 6.10 CEMENTED: PLUGGED: PEIZOMETERS INSTALLED:
 AQUIFER DEPTHS: . . LOST CIRCULATION DEPTHS: . .

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | -- | -- | X | -- | 125A |
| NEUTRON | X | 1:100 | : | -- | -- | X | -- | 125A |
| DENSITY | X | 1:100 | 1:40 | -- | -- | X | -- | 457AS |
| CALIPER | X | 1:100 | : | -- | -- | X | -- | 785 |
| FE-SHORT | | : | : | -- | -- | -- | -- | |
| FE-LONG | X | 1:100 | 1:40 | -- | -- | X | -- | 7 |
| DIRECTIONAL | X | : | : | -- | -- | X | -- | |
| DIPMETER | | : | : | -- | -- | -- | -- | |

*** COAL DIVISION ***

DATA SOURCE: D80-43

INTERVAL OF INTERPOLATION 10 UNIT(S)

VIEWPOINT: 45.0 DEGREES

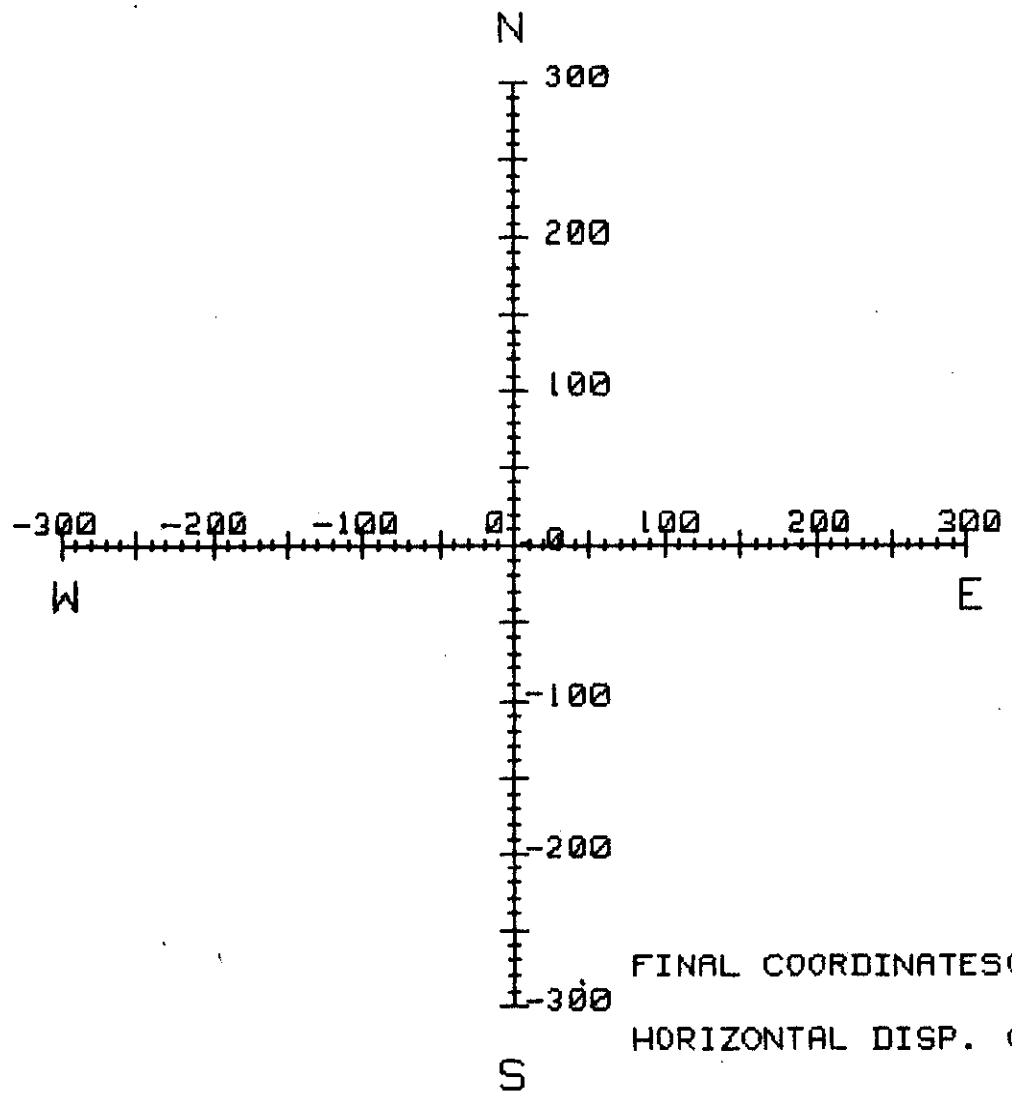
DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 0.00 | .30 | 302.40 |
| 45.00 | .30 | 302.40 |
| 60.00 | .20 | 294.90 |
| 75.00 | .20 | 295.00 |
| 90.00 | .20 | 293.10 |
| 90.00 | .20 | 293.10 |
| 105.00 | .30 | 276.80 |
| 120.00 | .40 | 48.00 |
| 135.00 | 8.00 | 92.20 |
| 150.00 | 1.20 | 116.60 |
| 165.00 | 2.10 | 63.60 |
| 180.00 | 2.10 | 79.70 |
| 195.00 | 2.50 | 80.00 |
| 210.00 | 2.60 | 98.90 |
| 225.00 | 2.80 | 82.70 |
| 240.00 | 2.60 | 55.20 |
| 255.00 | 2.80 | 92.70 |
| 270.00 | 2.40 | 98.00 |
| 285.00 | 2.80 | 72.50 |
| 300.00 | 3.00 | 53.10 |
| 315.00 | 3.40 | 87.50 |

PLAN VIEW

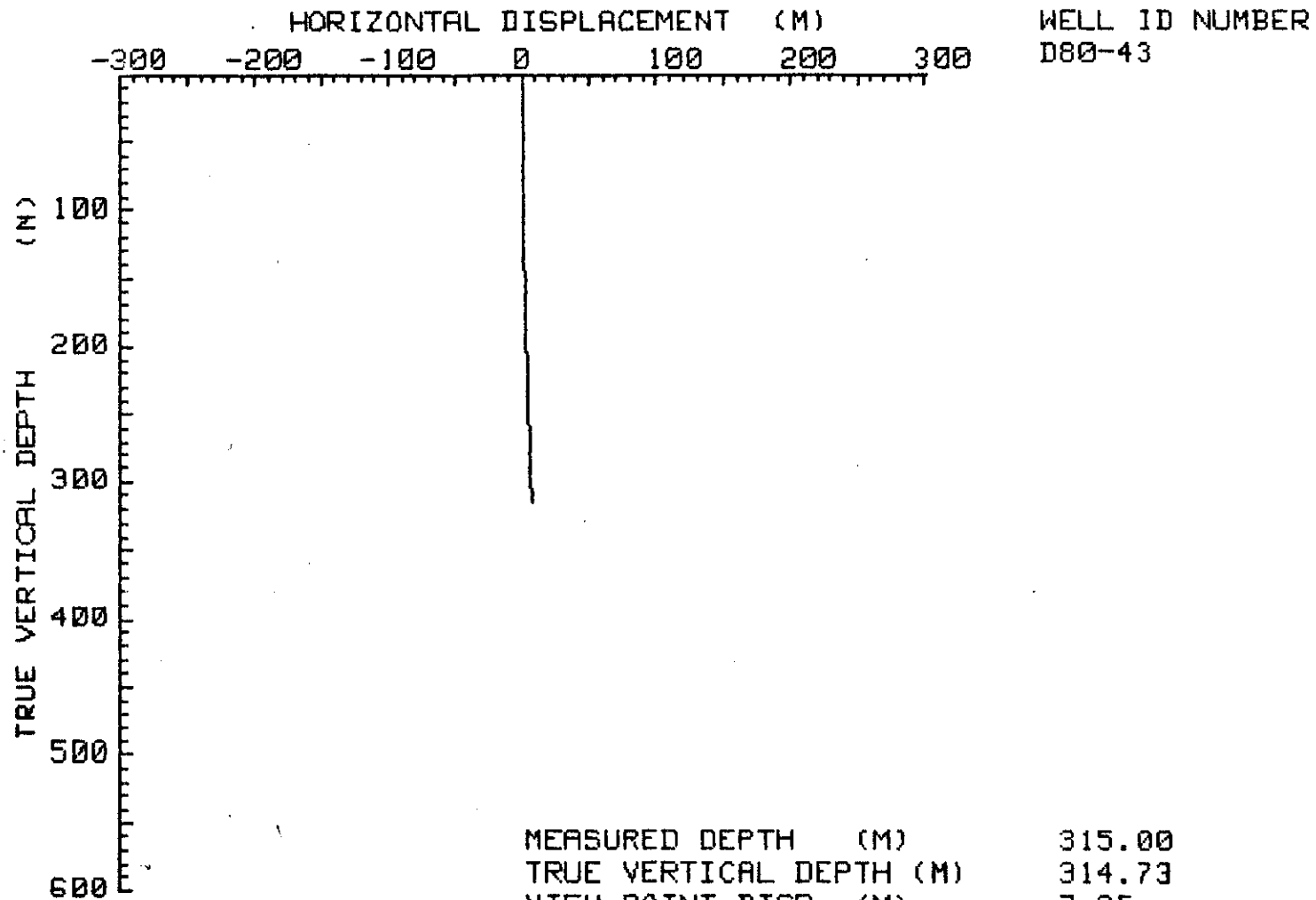
WELL ID NUMBER

D88-43



FINAL COORDINATES (M) N 1.49
E 8.76
HORIZONTAL DISP. (M) 7.25

DISPLACEMENT



COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

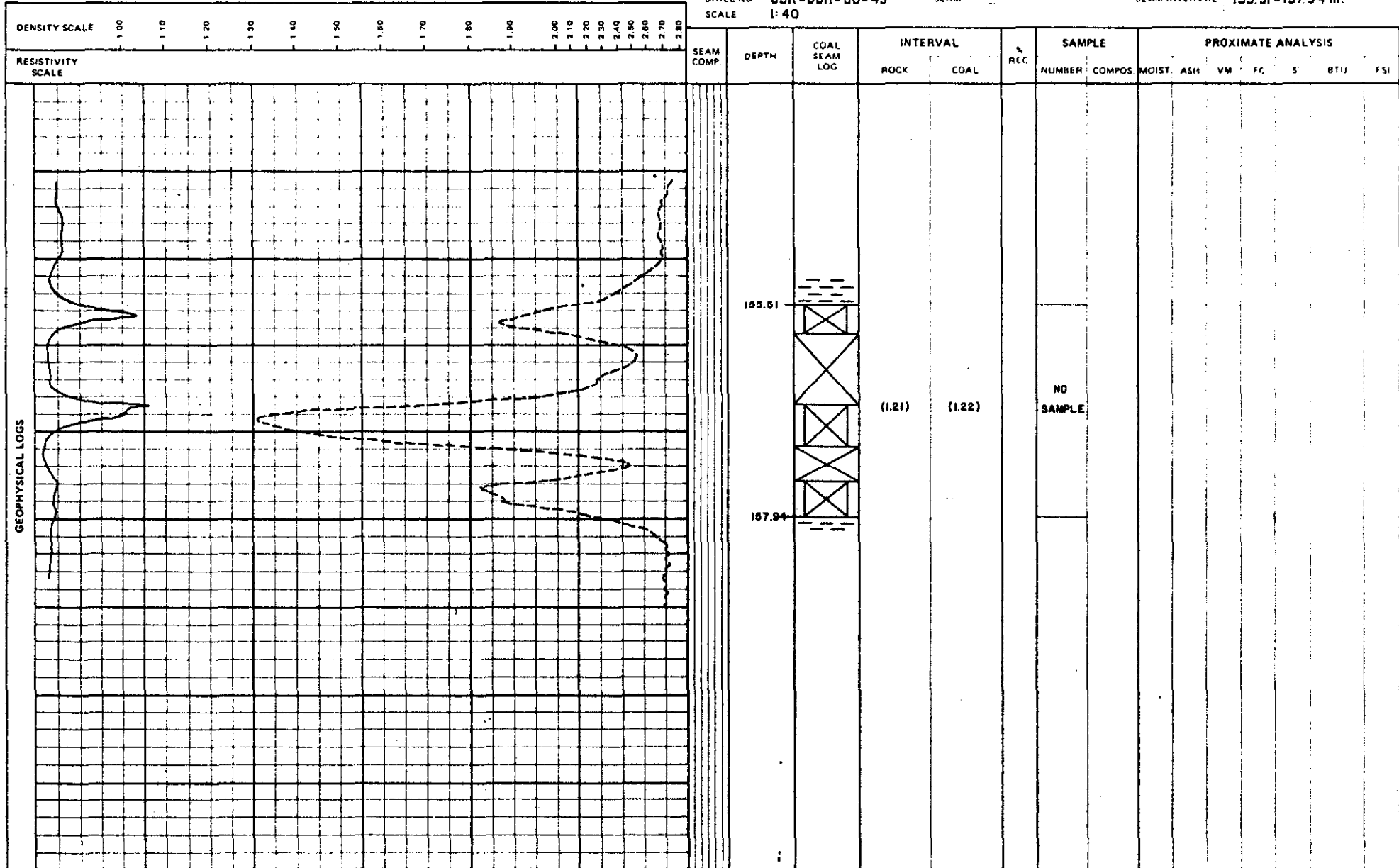
DENSITY

RESISTIVITY

DRILL NO: GDR-DDH-80-43
SCALE 1:40

SEAM

SEAM INTERVAL 155.51-157.94 m.



COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P 26 / (12 90)

Coal/Coal + Rock (True Thk (m))
1.03/1.03

SEAM INTERVAL 257.98 - 259.91 m.

DENSITY

RESISTIVITY

DRILL NO. GDR-DDH-80-43

SEAM

SCALE 1:40

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | REC | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | | |
|---------------|-------------------|------|------|------|------|------|------|------|------|------|------------|-------|---------------|----------|-----------|-----|--------|------|--------------------|------|------|------|------|------|------|--------|--------|-------|-----|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | | | | 2.00 | 2.10 | | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | NUMBER | COMPOS | MOIST | ASH |
| | | | | | | | | | | | | | (1.93) | | NO SAMPLE | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION

13/JAN/82

SIMPLE SAMPLE SUMMARY

PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|----------------|------|--------------|---------------|-------------|-------------|----------------|-------------------|-------------------|-----------------|-----------------|
| DDH80043 | | 734 | 307.94 | 310.29 | 0.44 | 16.72 | 0.44 | 0.00 | 1.56 | 0.35 |
| | | 735 | 274.19 | 277.33 | 0.97 | 30.89 | 0.97 | 0.00 | 2.17 | 0.00 |
| | | 736 | 214.58 | 216.52 | 0.15 | 7.75 | 0.15 | 0.00 | 1.79 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

| PROJ - GDR | | ANALYSIS BASIS TYPE - | | | | NAME OF STANDARD - | | | | |
|-------------|------|-----------------------|--------------------|------|---------------|--------------------|----------------|-------------------------------|-----|-----|
| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |

DDH60043

734
735
736

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 30 | 6.10 | 7.69 | 1.59 | | MUDSTONE | SLTY.DK.GY.BIOTR.VBRKN OCCASIONALLY SLTY; CARB PLANT FRAGMENTS ; LISTRIC FRACTURE SURFACES WITH ABUNDA NT LIMONITIC STAINING AND VARIOUS SULFI DE MINERALS IN ASSOCIATION; FINE CALCIT E INFILLINGS. |
| | 30 | 7.69 | 8.37 | 0.68 | | CORELOSS | |
| | 30 | 8.37 | 9.08 | 0.71 | | MUDSTONE | AS ABOVE; FINE DISSEMINATED PYRITE THRO UGHOUT; CORE REGROUND WITH BOTTOM FRAGM ENTS BECOMING SANDIER. |
| | 30 | 9.08 | 9.64 | 0.56 | | CORELOSS | |
| * | 30 | 9.64 | 11.82 | 2.18 | | SANDSTONE | FG.M-DK.GY SOME IRON STAINING ALONG FRACTURES;INTE RBEDDED WITH FINELY LAM MUDST & SLTST; SOME CALCITE FILLED FRACTURES WITH BRN CALCITE AND SOME PYRITE;SOME LARGE COAL Y INCLUSIONS;PYRITE BLEBS THROUGHOUT; |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 29 | 11.82 | 12.19 | 0.37 | | SANDSTONE | AS ABOVE. |
| * | 28 | 12.19 | 14.52 | 2.33 | | SANDSTONE | VBRKN AS ABOVE; INCREASING AMOUNT OF CALCITE FILLED FRACTURES; IRON STAINING ALONG F RACTURES; SOME QUARTZ CRYSTALS IN FRACT URE OPENINGS. |
| * | | 14.52 | 16.90 | 2.38 | | SANDSTONE | VBRKN AS ABOVE; INCREASING AMOUNTS OF CALCITE FRACTURING; COALY LAMINAE ALONG BEDDING; OIL STAINING ALONG FRACTURE; SOME COAL I NCLUSIONS; ANGULAR ARGILLACEOUS CLASTS N EAR BOTTOM; POSSIBLE FAULT ZONE; BEDDING TEND |
| | | 16.90 | 17.35 | 0.45 | | SANDSTONE | FG.GY ABUNDANT SMALL COALY INCLUSIONS AND LAM INAE; ABUNDANT ARGILLACEOUS CLASTS AND BLEBS THROUGHOUT; WEATHERED FRAC SURFAC E WITH IRON STAINING AND LISTRIC SURFAC ES; SOME FRACTURE WITH BRN QUARTZ; BEDDI NG |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * | 17.35 | 19.32 | 1.97 | | | SANDSTONE | AS ABOVE; INCREASING AMOUNT CALCITE, QUARTZ FILLED FRACTURING; SOME ARGILLACEOUS CLASTS TO 1.5 CM DIAMETER (SUB ANGULAR); COARSE CALCITE CRYSTALS WITH PYRITE AND CHALCOPYRITE ASSOCIATED ALONG FRACTURE . . |
| * 10 | 19.32 | 20.20 | 0.88 | | | SANDSTONE | AS ABOVE; OCCASIONAL ZONES OF THIN COAL Y AND CALCITE LAMINAE REGULARLY BEDDED AND CONTORTED. |
| * 20 | 20.20 | 21.81 | 1.61 | | | SANDSTONE | AS ABOVE; SOME SMALL SUBANGULAR ARGILLACEOUS CLASTS. |
| 21 | 21.81 | 21.91 | 0.10 | | | CORELOSS | |
| 21 | 21.91 | 23.01 | 1.10 | | | COALLOSS | |
| 22 | 23.01 | 23.95 | 0.94 | | | COAL | STONEY; DULL LUSTROUS WITH OCCASIONAL CLASTS; HIGHLY SHEARED WITH SLICKENSIDE SURFACES; CORE BADLY BRKN, PULVERIZED AND POWDERED IN PART. |
| 23 | 23.95 | 24.91 | 0.96 | | | CORELOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 24.91 | 25.91 | 1.00 | | | MUDSTONE | CARB.GY TO BN; CARB WITH COALY INCLUSIONS; HIGH LY SHEARED WITH SLICKENSIDE SURFACES; CO RE BADLY BRKN ,PULVERIZED AND POWDERED; SOME FINE DISSEMINATED PYRITE FLECKS TH ROUGHOUT. |
| 25 | 25.91 | 26.33 | 0.42 | | | CORELOSS | |
| | 26.33 | 27.45 | 1.12 | | | MUDSTONE | SLTY.DK.GY OCCASIONALLY SLTY; SOME FINE COALY INCL USIONS THROUGHOUT; SOME FINE COAL AND C ALCITE IN STRESS CRACKS; PYRITE CHALCOP YRITE BORNITE ALONG FRACTURES WITH LIMO NITIC STAINING;LISTRIC FRACTURE SURFACE S; L |
| * 27 | 27.45 | 28.95 | 1.50 | | | SILTSTONE | CARB.GY.BIOTR GY TO BRN; WITH MUDST LAM; BDG SOMEWHAT CONTORTED IN PART; CARB WITH COALY INC LUSIONS; SOME FINE CALCITE FILLED STRES S CRACKS; WITH REGROUND ENDS; BECOMING MORE MUDDY AT BOTTOM. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 32 | 28.95 | 31.08 | 2.13 | | | MUDSTONE | SLTY.OK.GY OCCASIONALLY SLTY IN PART,SOME SLTY LAM ; FINE DISSEMINATED PYRITE FLECKS THROU GHOUT; CARB IN PART WITH COALY INCLUSIO NS THROUGHOUT; SOME FINE CALCITE INFILL STRESS CRACKS; CORE FRACTURED; WITH LI STRIC |
| 36 | 31.08 | 31.41 | 0.33 | | | CORELOSS | |
| * 37 | 31.41 | 31.77 | 0.36 | | | SILTSTONE | GY.XBDG BIOTRB; WITH INTERBEDDED MUDST AND SAND ; IRREGULAR AND XBDG; SOME SMALL COALY INCLUSIONS THROUGHOUT WITH A FEW CALCIT E FILLED STRESS CRACKS; TOPS UPRIGHT. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 25 | 31.77 | 32.61 | 0.84 | | | MUDSTONE | OK.GY.VBRKN TO BLK;SLIGHTLY CARB WITH FREQUENT COAL Y INCLUSIONS;CALCAREOUS;FINE DISSEMINAT ED PYRITE FLECKS THROUGHOUT;COAL AND CA LCITE LAMINAE ALONG FRACTURE ZONES; LIS TRIC FRACTURE SURFACES;MARCASITE PRESEN T. |
| 22 | 32.61 | 33.70 | 1.09 | | | MUDSTONE | AS ABOVE; CORE SOFT WITH SOME FRACTURE ZONES WITH LISTRIC SURFACES; BECOMING S LTY TO BOTTOM |
| 20 | 33.70 | 34.02 | 0.32 | | | CORELOSS | |
| * | 34.02 | 35.36 | 1.34 | | | SILTSTONE | GY WITH INTERBEDDED SANDS AND MUDST;BANDED APPEARANCE;SOME THIN COALY LAM THROUGH OUT; SOME CALCITE AND QUARTZ FILLED FRA CTURES; XBDD IN PART AT TOP;TOP'S UPRIG HT; OIL STAINING ALONG FRACTURES. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 22 | 35.36 | 36.64 | 1.28 | | | SILTSTONE | VBRKN AS ABOVE; MUDDY ZONE AT TOP; BEDDING BE COMING QUITE CONTORTED; SOME IRON STAIN ING ALONG FRACTURES WITH ABUNDANT PYRIT E PRESENT; POSSIBLE MUSCOVITE(TRACE); A NGULAR RIP UP CLASTS IN LARGER FRACTURE S. |
| 22 | 36.64 | 36.81 | 0.17 | | | CORELOSS | |
| | 36.81 | 38.40 | 1.59 | | | SILTSTONE | AS ABOVE; BECOMING SANDIER AT BOTTOM; A BUNDANT QUARTZ ALONG FRACTURES; ABUNDAN T PYRITE AND CHALCOPYRITE THROUGHOUT. |
| 22 | 38.40 | 38.44 | 0.04 | | | SILTSTONE | AS ABOVE; SHARP CONTACT. |
| 22 | 38.44 | 39.26 | 0.82 | | | MUDSTONE | DK.GY TO BLK; FINE DISSEMINATED PYRITE FLECKS THROUGHOUT; SOME SMALL CALCITE FILLED FRACTURES WITH LISTRIC SURFACES; BECOMI NG DARKER AT BOTTOM. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 21 | 39.26 | 40.45 | 1.19 | | | MUDSTONE | AS ABOVE; CORE SOFT AND BADLY BRKN; HIGHLY SHEARED WITH SLICKENSIDES; BECOMING MORE CARB AT BOTTOM; POWERED IN PART. |
| 21 | 40.45 | 40.65 | 0.20 | | | CORELOSS | |
| 21 | 40.65 | 41.43 | 0.78 | | | SILTSTONE | M.GY SOME CARB PLANT FRAG; OCCASIONAL CLY IN CLUSIONS; ABNT FINE CALCT INFILLED FRACTURES AND CRACKS; CONTAINS SOME INTERBEDDED MUDSTONE. |
| 21 | 41.43 | 41.94 | 0.51 | | | SILTSTONE | AS ABOVE; CORE REGROUND AND ROUNDED; IRONSTONE UNIT AT TOP. |
| 21 | 41.94 | 42.26 | 0.32 | | | CORELOSS | |
| 21 | 42.26 | 43.67 | 1.41 | | | SILTSTONE | CARB AS ABOVE; WITH INCREASING AMOUNTS OF MUD INTERBEDS; SLIGHTLY MORE CARB; CORE V BRKN AND PULVERIZED; POSSIBLE FAULT ZONE; SLICKENSIDE FRACTURE SURFACES. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 21 | 43.67 | 44.19 | 0.52 | | | CORELOSS | |
| 21 | 44.19 | 44.63 | 0.44 | | | MUDSTONE | DK.GY DKGY TO BLK; HIGHLY CARB; OCCASIONAL SL TY ZONES; HIGHLY SHEARED AND BRKN WITH SLICKENSIDE SURFACES; CORE BRKN AND PWR U. |
| 21 | 44.63 | 45.13 | 0.50 | | | CORELOSS | |
| 21 | 45.13 | 45.26 | 0.13 | | | MUDSTONE | AS ABOVE. |
| 21 | 45.26 | 45.93 | 0.67 | | | CORELOSS | |
| 21 | 45.93 | 46.36 | 0.43 | | | MUDSTONE | AS ABOVE. |
| | 46.36 | 47.98 | 1.62 | | | MUDSTONE | GY GY TO BRN; MOTTLED; QUARTZ-CALCITE FILL ED FRACTURE ZONES WITH SLICKENSIDE SURF ACES;CONTAINS SOME CARB PLANT DEBRIS; S OME COALY FLECKS; CORE BROKEN. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| 20 | 47.98 | 49.67 | 1.69 | | | MUDSTONE | SLTY AS ABOVE; WITH OCCASIONAL SLTY ZONES; SOME PYRITE BLEBS. |
| 20 | 49.67 | 50.49 | 0.82 | | | MUDSTONE | AS ABOVE; IRONSTONE BAND AT BOTTOM |
| 20 | 50.49 | 52.51 | 2.02 | | | MUDSTONE | SLTY AS ABOVE; BECOMING MORE SLTY AT TOP; LARGE CALCITE FRACTURE AT 1.70. |
| 20 | 52.51 | 52.95 | 0.44 | | | MUDSTONE | AS ABOVE. |
| 19 | 52.95 | 54.50 | 1.55 | | | MUDSTONE | AS ABOVE; BECOMING SLTY AND SSY AT BOTTOM. |
| | 54.50 | 55.35 | 0.85 | | | SANDSTONE | FG.DK.GY SOME SMALL COALY INCLUSIONS AND COALY LAMINAE ALONG BEDDING PLANES; OCCASIONAL SMALL CALCITE FILLED FRACTURE WITH OIL STAINING; CORE BRKN WITH ROUNDED ENDS; OCCASIONAL ZONES WITH PYRITE. |
| 19 | 55.35 | 55.57 | 0.22 | | | CORELOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 19 | 55.57 | 57.85 | 2.28 | | | SANDSTONE | AS ABOVE; SOME ANGULAR RIP UP CLASTS AND FRACTURE ZONES; NO DISTINCT BEDDING PLANES; CONTORTED BEDDING. |
| 18 | 57.85 | 58.39 | 0.54 | | | SANDSTONE | MAS AS ABOVE; MASSIVE, BECOMING EXTREMELY HARD AT BOTTOM. |
| 17 | 58.39 | 60.45 | 2.06 | | | SANDSTONE | FG.GY WITH FINE CARB LAMINAE THROUGHOUT BEDDING; SOME DISSEMINATED PYRITE FLECKS; FRACTURE WITH CALCITE QUARTZ INFILLING; LAMINAR SURFACES; EXTREMELY HARD; BEDDING CONTORTED AND WARPED; SOME RIP UP CLASTS; BCA ALMOST ZERO. |
| | 60.45 | 60.80 | 0.35 | | | SANDSTONE | AS ABOVE; CALCITE CEMENTED ANGULAR RIP UP CLASTS AT BOTTOM; PYRITE ALONG FRACTURES; CORE VBRKN AND REGROUND |
| 16 | 60.80 | 61.24 | 0.44 | | | CORELOSS | |
| * | 61.24 | 62.59 | 1.35 | | | SANDSTONE | AS ABOVE; BEDDING TRENDS PARALLEL TO CORE AXIS; FRACTURES WITH SLICKENSIDE SURFACES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 12

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 16 | 62.59 | 63.02 | 0.43 | | | SANDSTONE | AS ABOVE; CORE BRKN AND REGROUND; HIGHLY FRACTURED WITH CALCITE INFILLING; BEDDING LAMINAE CONTORTED; DRILLING MUD IN CORE. |
| 16 | 63.02 | 63.19 | 0.17 | | | CORELOSS | |
| * 16 | 63.19 | 63.81 | 0.62 | | | SANDSTONE | VBRKN AS ABOVE. |
| 18 | 63.81 | 63.96 | 0.15 | | | CORELOSS | |
| * 20 | 63.96 | 64.73 | 0.77 | | | SANDSTONE | AS ABOVE. |
| 32 | 64.73 | 64.79 | 0.06 | | | CORELOSS | |
| * 37 | 64.79 | 65.03 | 0.24 | | | SANDSTONE | AS ABOVE. |
| 35 | 65.03 | 65.17 | 0.14 | | | CORELOSS | |
| 34 | 65.17 | 65.44 | 0.27 | | | SANDSTONE | AS ABOVE; REGROUND ENDS; DRILLING MUD MIXED IN; BECOMES COARSER GRAINED. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 13

PROJECT: GDR BLOCK: XX DATA SOURCE: UDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 22 | 65.44 | 67.87 | 2.43 | | | SANDSTONE | VBRKN AS ABOVE; SLTY AND MG-CG SANDS WITH COAL INCLUSIONS AND WISPS; SMALL ARGILLACEOUS CLASTS; REGROUND ENDS IN PARTS. |
| 23 | 67.87 | 67.96 | 0.09 | | | CORELOSS | |
| 23 | 67.96 | 68.64 | 0.68 | | | SANDSTONE | AS ABOVE; INCREASED CALCITE FILLED FRACTURING WITH SLICKENSIDE SURFACES; CORE INTACT. |
| | 68.64 | 69.30 | 0.66 | | | SANDSTONE | AS ABOVE; MAJORITY OF UNIT MG-CG; SHARP CONTACT AT BOTTOM BUT IRREGULAR CONTACT BCA 39 DEGREES; SEVERAL RIP UP CLASTS. |
| 25 | 69.30 | 70.49 | 1.19 | | | MUDSTONE | CARB.BIOTR FINE DISSEMINATED PYRITE FLECKS THROUGHOUT; SLTY IN PART. |
| 26 | 70.49 | 71.58 | 1.09 | | | MUDSTONE | DK.GY.BIOTR.BRKN DKGY TO BLK; SOME CARB PLANT FRAGMENTS; DISSEMINATED PYRITE FLECKS THROUGHOUT; INTERBEDDED WITH IRREGULAR BANDS OF SLTST; FRACTURES WITH CALCITE INFILLING AND LISTRIC SURFACES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 14

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 26 | 71.58 | 71.70 | 0.12 | | | CORELOSS | |
| 27 | 71.70 | 72.95 | 1.25 | | | MUDSTONE | AS ABOVE; CORE BADLY BRKN IN PART. |
| 27 | 72.95 | 73.14 | 0.19 | | | CORELOSS | |
| 27 | 73.14 | 73.28 | 0.14 | | | MUDSTONE | SLTY AS ABOVE; VERY SLTY. |
| * 28 | 73.28 | 74.38 | 1.10 | | | MUDSTONE | AS ABOVE; CORE VBRKN WITH REGROUND ENDS . |
| 28 | 74.38 | 74.94 | 0.56 | | | MUDSTONE | AS ABOVE; OCCASIONAL COALY INCLUSIONS; CORE EXTREMELY SHRD AND BRKN AND POWDER ED; LISTRIC SURFACES AND SLICKENSIDES. |
| 28 | 74.94 | 75.32 | 0.38 | | | CORELOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 15

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 28 | 75.32 | 75.95 | 0.63 | | MUDSTONE | DK.GY DKGY TO BRN; CARB PLANT FRAGMENTS THROU GHOUT; SOME COALY INCLUSIONS; SOME FINE COAL AND CALCITE LAMINAE IN FRACTURES WITH LISTRIC SURFACES; SOFT; CONTORTED BEDDING. |
| | 28 | 75.95 | 78.43 | 2.48 | | MUDSTONE | AS ABOVE; BECOMING LESS CONTORTED TO BO TTOM; ZONES OF SMALL ARGILLACEOUS GLAST S(WELL ROUNDED) CONTAINING FINE PYRITE FLECKS NEAR BOTTOM. |
| | 28 | 78.43 | 78.67 | 0.24 | | MUDSTONE | AS ABOVE; CALCITE FILLED FRACTURES WITH LISTRIC SURFACES. |
| * | 28 | 78.67 | 80.96 | 2.29 | | MUDSTONE | AS ABOVE; CROSS LAM OF SLTST AND OCC SL TST ZONES; SOME PYRITE ALONG FRACTURES; OCC FINE CALCITE FILLED CRACKS; A FEW IRONSTONE MODULES; LARGE IRONSTONE MODU LE AT 1.43; SLTY TO BOTTOM WITH SLTST C LASTS |
| * | 29 | 80.96 | 81.26 | 0.30 | | SILTSTONE | GY.BIOTR WITH SHARP IRREGULAR CONTACT AT TOP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GLR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL IN BLK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|-----------------|----------|---------|-----------|---|
| 69 | 31.22 | 31.29 | 0.07 | 00751 | 01 | COAL LOSS | |
| 69 | 31.29 | 31.71 | 0.42 | 00752 | | ROCK LOSS | |
| 69 | 31.71 | 31.81 | 0.10 | 00752 | | MUDSTONE | CARB. DK. GY |
| 69 | 31.81 | 32.23 | 0.42 | 00752 | | SANDSTONE | M. GY TO DKGY; VERY SLTY AND ARGILLACEOUS. |
| 68 | 32.23 | 32.95 | 0.72 | 00752 | | SANDSTONE | FG. LT. GY ARGILLACEOUS. |
| 68 | 32.95 | 34.55 | 1.60 | 00752 | | SANDSTONE | AS ABOVE; VERY ARGILLACEOUS. |
| 68 | 34.55 | 34.69 | 0.14 | 00753 | | COAL | BONEY ; UNBRKN |
| 68 | 34.69 | 34.71 | 0.02 | 00753 | | COAL | C-5. SHRD VBRKN TO PWRD. |
| 68 | 34.71 | 34.75 | 0.04 | 00753 | | COAL | C-2 |
| 68 | 34.75 | 34.94 | 0.19 | 00753 | | COAL | C-4. SHRD VBRKN |
| 68 | 34.94 | 35.15 | 0.21 | 00753 | | COAL | C-5 LUSTROUS; UNBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH60043

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 28 | 88.74 | 88.88 | 0.14 | | | CORELOSS | |
| 28 | 88.88 | 89.60 | 0.72 | | | MUDSTONE | AS ABOVE. |
| * 28 | 89.60 | 91.79 | 2.19 | | | MUDSTONE | SLTY.BIOTR AS ABOVE; SLIGHTLY MORE SLTY; COALY INCLUSIONS AND LAMINAE ALONG BEDDING PLANE S; SOME FINE CALCITE FILLED CRACKS AND FRACTURES WITH LISTRIC SURFACES; SOME SMALL SS CLASTS(WELL ROUNDED). |
| 28 | 91.79 | 92.13 | 0.34 | | | MUDSTONE | AS ABOVE. |
| 28 | 92.13 | 93.40 | 1.27 | | | MUDSTONE | AS ABOVE; WITH MANY CLY INCLUSIONS AND LAM; EXTREMELY SHRD WITH SLICKENSIDES; SOME CALCITE FILLED CRACKS. |
| 28 | 93.40 | 93.68 | 0.28 | | | CORELOSS | |
| 28 | 93.68 | 94.65 | 0.97 | | | MUDSTONE | AS ABOVE: WITH ONLY A FEW COALY INCLUSIONS: SMALL FRACTURE ZONE WITH SLICKENSIDES AND REGROUND MUDSTONE AT 0.55; SMALL COALY LAM AT BOTTOM WITH SLICKENSIDES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 18

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 28 | 94.65 | 95.02 | 0.37 | | | MUDSTONE | AS ABOVE; CORE BRKN WITH LISTRIC FRACTURE SURFACES. |
| 28 | 95.02 | 95.14 | 0.12 | | | CORELOSS | |
| | 95.14 | 97.27 | 2.13 | | | MUDSTONE | BIOTR AS ABOVE; VERY FEW COALY INCLUSIONS; INCREASED AMOUNTS OF SLTY LAM AND ZONES; VERY LITTLE CARB PLANT FRAGMENTS; CORE BRKN WITH LISTRIC FRACTURE SURFACES. |
| 27 | 97.27 | 97.42 | 0.15 | | | CORELOSS | |
| 27 | 97.42 | 98.22 | 0.80 | | | SANDSTONE | VFG.GY MOTTLED APPEARANCE; GRADATIONAL UPPER BOUNDARY FROM MUDST TO SS; SOME ZONES OF FINE CALCITE FILLED FRACTURES; FRACTURES WITH PYRITE AND SMOKEY QUARTZ CRYSTALS; NO DISTINCT BEDDING. |
| 27 | 98.22 | 100.04 | 1.82 | | | SANDSTONE | AS ABOVE; MUDDY ZONES NEAR BOTTOM; CORE INTACT WITH SOME REGROUND ENDS |
| 27 | 100.04 | 100.19 | 0.15 | | | CORELOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 19

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 27 | 100.19 | 101.26 | 1.07 | | | SANDSTONE | BIOTR AS ABOVE; BIOTRB WITH MUDDY INTERBEDDED ZONES. |
| 25 | 101.26 | 103.01 | 1.75 | | | SANDSTONE | FG.GY.BIOTR CROSS LAM WITH MUDDY AND SLTY INTERBEDS ; FINE CALCITE FILLED LAM FRACTURES WIT H LISTRIC SURFACES. |
| 24 | 103.01 | 104.20 | 1.19 | | | SANDSTONE | AS ABOVE; MUDDY UNIT AT TOP WITH REROUN D END. |
| 23 | 104.20 | 104.29 | 0.09 | | | CORELOSS | |
| * 22 | 104.29 | 105.83 | 1.54 | | | SANDSTONE | AS ABOVE; BIOTRB; CONTORTED BEDDING; SM ALL ARGILLACEOUS FLECKS AND CLASTS. |
| * | 105.83 | 107.25 | 1.42 | | | SANDSTONE | AS ABOVE; COALY LAMINAE ALONG BEDDING P LANES; TOPS UPRIGHT; FRACTURES WITH POWD ERED CALCITE AND FINE QUARTZ NEEDLES. |
| * 30 | 107.25 | 108.44 | 1.19 | | | SANDSTONE | AS ABOVE; OCCASIONAL ARGILLACEOUS ELONG ATED CLASTS; ABUNDANT CALCITE FRACTURES WITH PYRITE, MARCASITE AND QUARTZ CRYSTALS; SOME OIL STAINING ALONG FRACTURES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 20

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| * 17 | 108.44 | 110.19 | 1.75 | | | SANDSTONE | BIOTR AS ABOVE; GRADING THROUGH TO MUDST , TH EN GRADING BACK TO SLTY SAND AT BOTTOM; CORE VBRKN IN PART WITH LISTRIC FRACTU RE SURFACES; FINE CALCITE FILLED STRESS CRACKS. |
| 28 | 110.19 | 110.29 | 0.10 | | | CORELOSS | |
| * 33 | 110.29 | 111.06 | 0.77 | | | SANDSTONE | AS ABOVE; WITH A FEW COALY INCLUSIONS; CORE BRKN ALONG FRACTURE SURFACES. |
| * 50 | 111.06 | 112.88 | 1.82 | | | SANDSTONE | AS ABOVE; WITH MUDDY AND SLTY INTERBEDS THROUGHOUT; SOME SMALL COALY INCLUSION S AND COAL FILLED FRACTURES WITH LISTRI C SURFACES; CORE VBRKN WITH PULVERIZED FRACTURE ZONES. |
| 47 | 112.88 | 113.34 | 0.46 | | | CORELOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 21

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 46 | 113.34 | 113.66 | 0.32 | | | SANDSTONE | AS ABOVE; EXTREMELY HARD SAND AT TOP; INTERBEDDED WITH SLTST AND MUD AT BOTTOM; CORE WITH REGROUND ENDS. |
| 45 | 113.66 | 113.82 | 0.16 | | | CORELOSS | |
| 41 | 113.82 | 116.55 | 2.73 | | | SANDSTONE | XBDG AS ABOVE; INTERBEDDED WITH MUDSTONE AND SLTST; BIOTRB IN PART; TOPS UP; BECOMING MUDDY AT BOTTOM; LISTRIC FRACTURE SURFACES. |
| * 34 | 116.55 | 119.31 | 2.76 | | | SANDSTONE | XBDG AS ABOVE; MUDDY AT TOP; GRADING BACK TO INTERBEDDED SANDS, SILTS AND MUDST AT BOTTOM; TOPS UP; DISSEMINATED PYRITE FLECKS THROUGHOUT MUDST. |
| * 38 | 119.31 | 119.45 | 0.14 | | | MUDSTONE | SLTY.DK.GY.BIOTR XBDG; CROSS LAM AND SLTST AND SS THROUGHOUT; SOME COALY INCLUSIONS; CALCITE FILLED FRACTURES WITH LISTRIC SURFACES; SOME XBDG; BIOTRB IN PART; CALCAREOUS. |
| * 44 | 119.45 | 121.83 | 2.38 | | | MUDSTONE | AS ABOVE. |
| 37 | 121.83 | 122.34 | 0.51 | | | MUDSTONE | AS ABOVE; PYRITE ALONG FRACTURE ZONES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 22

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 31 | 122.34 | 124.32 | 1.98 | | | MUDSTONE | AS ABOVE; BECOMING SANDIER AND INTERBEDDED NEAR BOTTOM; CORE BRKN AROUND FRACTURE ZONES. |
| 27 | 124.32 | 124.48 | 0.16 | | | CORELOSS | |
| * 25 | 124.48 | 125.39 | 0.91 | | | MUDSTONE | AS ABOVE; ABUNDANT CALCITE FILLED LAMINAE ALONG BEDDING PLANES; LISTRIC SURFACES; PYRITE SMEARS ALONG FRACTURES. |
| | 125.39 | 127.18 | 1.79 | | | MUDSTONE | AS ABV ; ABNT CALCT FILLED LAM ALONG BEDDING PLANES; LISTRIC SURFACE; PYRITE SMEARS ALONG FRACTURES. |
| * 15 | 127.18 | 128.18 | 1.00 | | | MUDSTONE | AS ABOVE. |
| * 34 | 128.18 | 129.47 | 1.29 | | | MUDSTONE | AS ABOVE; CARB PLANT FRAGMENTS THROUGHOUT; COALY LAMINAE; CORE BRKN AND PULVERIZED AT BOTTOM. |
| 37 | 129.47 | 129.81 | 0.34 | | | CORELOSS | |
| 37 | 129.81 | 130.07 | 0.26 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 23

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH INTRVAL ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|------------------|----------------|----------|---------|-----------|--|
| * 40 | 130.07 | 131.48 | 1.41 | | | SANDSTONE | FG.GY.BIOTR INTERBEDDED MUDST AND SLTST; CONTORTED BEDDING WITH XBDG IN PART; SOME FINE CO ALY LAMINAE ALONG BEDDING PLANES; POSSI BLY BIOTRB. |
| * 39 | 131.48 | 132.37 | 0.89 | | | SANDSTONE | AS ABOVE. |
| * 35 | 132.37 | 134.46 | 2.09 | | | SANDSTONE | AS ABOVE; BECOMES INCREASINGLY MUDDY TO BOTTOM. |
| 35 | 134.46 | 134.55 | 0.09 | | | SANDSTONE | AS ABOVE; WITH ROUNDED , REGROUND END. |
| 35 | 134.55 | 134.62 | 0.07 | | | CORELOSS | |
| * 35 | 134.62 | 135.13 | 0.51 | | | MUDSTONE | SLTY.GY SOME CARB PLANT FRAGMENTS THROUGHOUT; F INE DISSEMINATED PYRITE FLECKS THROUGH UT; TOP HAS BEEN REGROUND. |
| 34 | 135.13 | 135.76 | 0.63 | | | CORELOSS | |
| * 32 | 135.76 | 136.85 | 1.09 | | | MUDSTONE | AS ABOVE; BECOMES SSY AT BOTTOM; SOME C OALY INCLUSIONS AT BOTTOM; FRACTURES CO VERED BY FINE SMOKEY QUARTZ CRYSTALS; S OME PYRITE FLECKS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 24

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 32 | 136.85 | 137.58 | 0.73 | | | MUDSTONE | DK.GY TO BRN; CARB PLANT FRAGMENTS AND COALY DEBRIS THROUGHOUT; OCCASIONAL COALY INC LUSIONS; CORE VBRKN AND PWRD AT BOTTOM; LISTRIC FRACTURE SURFACES. |
| 32 | 137.58 | 138.31 | 0.73 | | | CORELOSS | |
| 32 | 138.31 | 139.54 | 1.23 | | | COALLOSS | |
| 32 | 139.54 | 139.67 | 0.13 | | | CORELOSS | |
| 33 | 139.67 | 140.31 | 0.64 | | | MUDSTONE | AS ABOVE; CORE VBRKN AND REGROUND. |
| 33 | 140.31 | 140.83 | 0.52 | | | MUDSTONE | AS ABOVE; CORE PULVERIZED AND PWRD IN P ART. |
| 33 | 140.83 | 142.53 | 1.70 | | | MUDSTONE | AS ABOVE; CORE PULVERIZED AND PWRD IN P ART. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 25

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 33 | 142.53 | 144.13 | 1.60 | | MUDSTONE | AS ABOVE. |
| | 33 | 144.13 | 146.60 | 2.47 | | MUDSTONE | DK.GY.BIOTR SOME COALY AND CALCITE LAMINAE ALONG BEDDING PLANES WITH INTERBEDDED SILTS AND FINE SANDS; SMALL COALY INCLUSIONS; CONTORTED BEDDING; CALCAREOUS; FINE DISSEMINATED PYRITE THROUGHOUT; LISTRIC FRACTURE ; . |
| | 33 | 146.60 | 146.83 | 0.23 | | MUDSTONE | AS ABOVE. |
| | 34 | 146.83 | 148.95 | 2.12 | | MUDSTONE | AS ABOVE; VERY LITTLE CARB PLANT MATERIAL. |
| | 34 | 148.95 | 149.15 | 0.20 | | MUDSTONE | AS ABOVE; INCREASING AMOUNTS OF SLTY AND SSSY INTERBEDS. |
| * | 34 | 149.15 | 151.57 | 2.42 | | MUDSTONE | AS ABOVE. |
| * | 37 | 151.57 | 152.37 | 0.80 | | MUDSTONE | AS ABOVE. |
| * | 25 | 152.37 | 154.31 | 1.94 | | MUDSTONE | AS ABOVE. |
| | 26 | 154.31 | 155.41 | 1.10 | | MUDSTONE | AS ABOVE; BECOMING DARKER AND MUDDIER TO BOTTOM; CORE VBRKN. |
| | 26 | 155.41 | 155.51 | 0.10 | | CORELOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 27 | 155.51 | 155.84 | 0.33 | | | COALLOSS | |
| 27 | 155.84 | 156.66 | 0.82 | | | ROCKLOSS | |
| 27 | 156.66 | 157.14 | 0.48 | | | COALLOSS | |
| 28 | 157.14 | 157.53 | 0.39 | | | ROCKLOSS | |
| 28 | 157.53 | 157.94 | 0.41 | | | COALLOSS | |
| 28 | 157.94 | 158.04 | 0.10 | | | CORELOSS | |
| 29 | 158.04 | 159.07 | 1.03 | | | MUDSTONE | DK.GY DKGY TO BLK; AS ABOVE; LISTRIC FRACTURE SURFACES THROUGHOUT; CORE VBRKN, PULVE RIZED AND POWDERED; COAL POWDER MIXED W ITH CORE; PROBABLY SOME COALY INCLUSION S ALONG FRACTURES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 27

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 29 | 159.07 | 159.17 | 0.10 | | | CORELOSS | |
| 29 | 159.17 | 159.32 | 0.15 | | | MUDSTONE | AS ABOVE. |
| * | 159.32 | 161.68 | 2.36 | | | SILTSTONE | M-DK.GY INTERBEDDED WITH MUDST AND FINE SS; CAL CAREOUS; VERY FINE DISSEMINATED PYRITE FLECKS; FINE COAL AND CALCITE LAMINAE A LONG BEDDINGS; DISTURBED BEDDING; LISTR IC FRACTURE SURFACES. |
| 35 | 161.68 | 163.63 | 1.95 | | | SILTSTONE | AS ABOVE; BOX FELL OFF TRUCK; SOME CORE LOSS. |
| 38 | 163.63 | 164.13 | 0.50 | | | CORELOSS | |
| 39 | 164.13 | 164.19 | 0.06 | | | SILTSTONE | AS ABOVE. |
| 42 | 164.19 | 166.80 | 2.61 | | | SILTSTONE | AS ABOVE; BECOMING MUDDIER TO BOTTOM; C ORE BRKN IN PART; OCCASIONAL SMALL CALC T FILLED FRACTURES; SOME SMOKEY QUARTZ CRYSTALS ALONG FRACTURE ZONES; WITH OIL STAINING. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 46 | 166.80 | 167.23 | 0.43 | | SILTSTONE | AS ABOVE. |
| * | 49 | 167.23 | 169.40 | 2.17 | | SILTSTONE | AS ABOVE; LISTRIC FRACTURE ZONES WITH CALCITE AND COALY LAMINAE AND PYRITE SPARS; CALCAREOUS. |
| * | 22 | 169.40 | 170.10 | 0.70 | | SILTSTONE | AS ABOVE; INCREASING AMOUNTS OF SAND INTERBEDDED. |
| * | 33 | 170.10 | 172.01 | 1.91 | | SILTSTONE | AS ABOVE; SOME LARGE SSSY INTERBEDS. |
| * | 32 | 172.01 | 172.99 | 0.98 | | SILTSTONE | AS ABOVE; BECOMING MUDDIER AT BOTTOM. |
| * | 26 | 172.99 | 174.73 | 1.74 | | SILTSTONE | BIOTR AS ABOVE; WITH SLICKENSIDED CALCITE FILLED FRACTURE; IRREGULAR BANDED; SOME LIGHT ARGILLACEOUS FLECKS IN SANDIER UNITS. |
| | 26 | 174.73 | 176.07 | 1.34 | | SILTSTONE | AS ABOVE; BECOMING MUDDIER TO BOTTOM; WITH SOME LARGE PYRITE BLEBS NEAR FRACTURES; FRACTURES FILLED WITH THIN COAL AND CALCITE LAMINAE WITH LISTRIC SURFACES. |
| | 26 | 176.07 | 177.46 | 1.39 | | SILTSTONE | AS ABOVE; WITH LARGE MUDST ZONES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 29

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 27 177.46 | 178.62 | 1.16 | | | SILTSTONE | GY WITH INTERBEDDED DKGY MUDST AND GY FG S S; OCC COALY INCLUSIONS; SOME CARB PLAN T FRAGMENTS IN MUDST; DISSEMINATED FINE PYRITE FLECKS; FRACTURES WITH COAL AND CALCITE LAMINAE AND LISTRIC SURFACE; B EDDIN |
| | 27 178.62 | 179.92 | 1.30 | | | SILTSTONE | AS ABOVE. |
| * | 27 179.92 | 181.44 | 1.52 | | | SILTSTONE | AS ABOVE; COALY WISPS IN SS UNITS; PYRI TE SMEARS ON FRACTURE SURFACES; TOPS UP |
| * | 33 181.44 | 182.64 | 1.20 | | | SILTSTONE | LAM AS ABOVE; BECOMING INCREASINGLY SSY. |
| * | 33 182.64 | 184.51 | 1.87 | | | SILTSTONE | AS ABOVE; TOPS UP. |
| * | 25 184.51 | 185.34 | 0.83 | | | SILTSTONE | AS ABOVE. |
| * | 29 185.34 | 188.02 | 2.68 | | | SILTSTONE | AS ABOVE; OCCASIONAL MARCASITE BLEBS; F RACTURES PARALLEL TO BEDDING WITH LISTR IC SURFACES; BEDDING WARPING BACK AND F ORTH TO AXIS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH EBDM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * | 188.02 | 189.25 | 1.23 | | | SANDSTONE | FG.GY GRADATIONAL BOUNDARY AT TOP; PYRITE AND MARCASITE IN ABUNDANCE THROUGHOUT CORE AND ALONG FRACTURE SURFACES; OCC COALY W ISPS AND COAL LAMINAE ALONG BDG PLANES; ABUNDANT FRACTURES WITH COAL & CALCITE |
| * 11 | 189.25 | 190.35 | 1.10 | | | SANDSTONE | AS ABOVE; SOME INTERBEDDED MUDST; REGRO UND END AT TOP; ABUNDANT CALCITE FILLED FRACTURING WITH SOME QUARTZ CRYSTALS. |
| * 21 | 190.35 | 191.32 | 0.97 | | | SANDSTONE | AS ABOVE; INCREASING AMOUNT OF CARB AND COALY LAM AND INCLUSIONS; SAND GRADING TO MG AT BOTTOM. |
| * 40 | 191.32 | 193.09 | 1.77 | | | SILTSTONE | GY.LAM,BIDTR INTERBEDDED SANDS AND MUDS THROUGHOUT; CONTORTED; CROSS LAMINATED; OCCASIONAL COALY INCLUSIONS; SOME CALCITE FILLED F RACTURES; OIL STAINS ALONG SOME FRACTUR ES; LISTRIC FRACTURE SURFACES. |
| 37 | 193.09 | 193.28 | 0.19 | | | SILTSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * | 193.28 | 195.93 | 2.65 | | | SILTSTONE | AS ABOVE; FINE PYRITE FLECKS THROUGHOUT ;OCCASIONAL COALY FRAGMENTS;OCCASIONAL CALCITE FILLED FRACTURES WITH SOME OIL STAINING; SOME LIGHT COLORED ARGILLACEOUS FLECKS. |
| | 195.93 | 198.14 | 2.21 | | | SILTSTONE | VBRKN AS ABOVE; WITH LARGE MUDST UNIT AT BOTTOM; ABUNDANT COAL AND CALCITE LAM. FRACTURES; WITH SLICKENSIDED SURFACES; ABUNDANT PYRITE THROUGHOUT WITH MASSIVE PYRITIC SLTY MUDST UNIT AT 1.55 (VERY HEAVY); CORE PULVERIZED IN PART. |
| 35 | 198.14 | 198.26 | 0.12 | | | CORELESS | |
| 36 | 198.26 | 200.10 | 1.84 | | | COALLOSS | |
| 37 | 200.10 | 200.13 | 0.03 | | | CORELOSS | |
| 37 | 200.13 | 200.24 | 0.11 | | | SILTSTONE | SLTST AS ABOVE |
| * 38 | 200.24 | 202.32 | 2.08 | | | SILTSTONE | AS ABOVE; AT 1.58 ABUNDANT CALCITE FILLED FRACTURES WITH BROKEN AND REGROUND CORE; POSSIBLE FAULT ZONE; SUBANGULAR RIP-UP CLASTS; SLICKENSIDED FRACTURE SURFACES; PULVERIZED AND POWDERED CORE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 32

PROJECT: GDR BLOCK: XX DATA SOURCE: UDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 22 | 202.32 | 204.65 | 2.33 | | | SILTSTONE | AS ABOVE; MUDDY AT TOP; BECOMING SILTY R TOWARDS BOTTOM; CORE BADLY BROKEN AND POWDERED; LISTRIC FRACTURE SURFACES. |
| 22 | 204.65 | 204.75 | 0.10 | | | SILTSTONE | AS ABOVE |
| 22 | 204.75 | 205.71 | 0.96 | | | SILTSTONE | AS ABOVE; BECOMING MUDDY TO BOTTOM. |
| 22 | 205.71 | 207.10 | 1.39 | | | MUDSTONE | CARB.BLK VERY COALY WITH THIN COAL STRINGERS THRU OUGHOUT; CORE VERY BADLY BROKEN, SHEARED D WITH SLICKENSIDES, PULVERIZED IN PART . |
| 22 | 207.10 | 207.16 | 0.06 | | | MUDSTONE | AS ABOVE. |
| 22 | 207.16 | 207.41 | 0.25 | | | MUDSTONE | AS ABOVE. |
| 22 | 207.41 | 209.11 | 1.70 | | | MUDSTONE | SLTY.DK.GY WITH OCCASIONAL SLTST INTERBEDS; SOME C ARB PLANT FRAGMENTS AND OCCASIONAL COAL Y INCLUSIONS; LISTRIC FRACTURE SURFACES ; SOME DISSEMINATED PYRITE FLECKS; CARB ; TOPS BADLY BROKEN, REGROUND AND PULVE RIZED |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 33

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 22 | 209.11 | 209.14 | 0.03 | | | CORELOSS | |
| 22 | 209.14 | 210.09 | 0.95 | | | COALLOSS | |
| 22 | 210.09 | 210.17 | 0.08 | | | MUDSTONE | AS ABOVE. |
| 22 | 210.17 | 211.62 | 1.45 | | | ROCKLOSS | |
| 22 | 211.62 | 212.61 | 0.99 | | | MUDSTONE | AS ABOVE; LISTRIC FRACTURE SURFACES WITH POWDERED CORE IN FRACTURE ZONES. |
| 22 | 212.61 | 213.62 | 1.01 | | | COALLOSS | |
| 22 | 213.62 | 214.58 | 0.96 | | | MUDSTONE | AS ABOVE; CORE BADLY BROKEN WITH REGROUND ENDS. |
| 22 | 214.58 | 215.89 | 1.31 | 00736 | | COALLOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 22 | 215.89 | 216.01 | 0.12 | 00736 | | COAL | DULL LUSTROUS; OCCASIONAL THIN BRIGHT STRINGERS; HIGHLY SHEARED WITH SLICKENSIDES; ROUNDED PIECES; CORE PULVERIZED POWDERED |
| 22 | 216.01 | 216.04 | 0.03 | 00736 | | COAL | STONEY; DULL LUSTROUS; HIGHLY SHEARED; SLICKENSIDES; CORE PULVERIZED, POWDERED |
| 22 | 216.04 | 216.52 | 0.48 | 00736 | | COALLOSS | |
| 22 | 216.52 | 216.85 | 0.33 | | | CORELOSS | |
| 22 | 216.85 | 216.88 | 0.03 | | | SILTSTONE | WITH COALY INCLUSIONS THROUGHOUT; CORE MIXED AND BROKEN. |
| 22 | 216.88 | 217.01 | 0.13 | | | ROCKLOSS | |
| 22 | 217.01 | 217.49 | 0.48 | | | MUDSTONE | AS MUDST ABOVE. |
| 22 | 217.49 | 218.08 | 0.59 | | | CORELOSS | |
| 22 | 218.08 | 219.82 | 1.74 | | | MUDSTONE | AS ABOVE; CORE VERY BADLY BROKEN WITH A BUNDANT REGROUND ENDS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 22 | 219.82 | 219.98 | 0.16 | | | CORELOSS | |
| 22 | 219.98 | 220.08 | 0.10 | | | MUDSTONE | AS ABOVE; SLICKENSIDED FRACTURES; CORE BROKEN. |
| 22 | 220.08 | 220.14 | 0.06 | | | CORELOSS | |
| 22 | 220.14 | 220.60 | 0.46 | | | MUDSTONE | AS ABOVE; BECOMING SLTY TO BOTTOM; CORE BADLY BROKEN AND PULVERIZED. |
| 22 | 220.60 | 221.09 | 0.49 | | | CORELOSS | |
| 22 | 221.09 | 223.09 | 2.00 | | | SILTSTONE | M-DK.GY.BIOTR WITH ABUNDANT INTERBEDDED MUDST; CONTOR TED; SMALL COALY INCLUSIONS THROUGHOUT; FINE DISSEMINATED PYRITE FLECKS. |
| 22 | 223.09 | 223.62 | 0.53 | | | SILTSTONE | AS ABOVE. |
| * 22 | 223.62 | 225.57 | 1.95 | | | SILTSTONE | AS ABOVE; INCREASING AMOUNTS OF SS INTE RBEDS TO BOTTOM; COALY WISPS; SOME FINE CALCITE-FILLED STRESS CRACKS AND FRACT URES. |
| 24 | 225.57 | 226.96 | 1.39 | | | SILTSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * | 25 | 226.96 | 228.03 | 1.07 | | SILTSTONE | BIOTR AS ABOVE; BDG CONTORTED; FINE CALCITE AND NO COALY LAM. FRACTURE ZONES AT BOTTOM. |
| | 23 | 228.03 | 229.49 | 1.46 | | SILTSTONE | AS ABOVE; ABUNDANT CALCITE-FILLED FRACTURE AND STRESS CRACKS; SOME WITH OIL STAINING. |
| * | | 229.49 | 230.52 | 1.03 | | SILTSTONE | AS ABOVE; GRADING TO SS AT BOTTOM; SEVERAL SMALL CALCITE FILLED FRACTURES- CORE INTACT. |
| * | 25 | 230.52 | 232.48 | 1.96 | | SANDSTONE | FG.GY.LAM.BIOTR WITH INTERBEDDED MUDS AND SILTS; SOME CARB. LAMINAE ALONG BDG. PLANES; SOME THIN IN CALCITE AND QUARTZ FILLED FRACTURES; SOME OIL STAINED FRACTURES; BDG CONTORTED; SOME ROUNDED SS CLASTS THROUGHOUT. |
| | 28 | 232.48 | 233.17 | 0.69 | | SANDSTONE | AS ABOVE. |
| * | 30 | 233.17 | 234.39 | 1.22 | | SANDSTONE | AS ABOVE; CORE BROKEN AND PULVERIZED WITH LISTRIC FRACTURE SURFACES. |
| | 33 | 234.39 | 234.91 | 0.52 | | CORELOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 35 | 234.91 | 235.60 | 0.69 | | SANDSTONE | AS ABOVE; CORE BROKEN AND REGROUND WITH QUARTZ CALCITE FRACTURE IN FILLING AND PYRITE ON FRACTURE SURFACES. |
| | 37 | 235.60 | 236.06 | 0.46 | | SANDSTONE | AS ABOVE. |
| * | 42 | 236.06 | 238.66 | 2.60 | | SANDSTONE | AS ABOVE; CONTORTED ARGILLACEOUS CLASTS ; FRACTURES WITH SLICKENSIDE SURFACES; VERY LITTLE CALCITE FRACTURING. |
| | 41 | 238.66 | 238.76 | 0.10 | | SANDSTONE | AS ABOVE. |
| | 40 | 238.76 | 239.68 | 0.92 | | SANDSTONE | AS ABOVE; WITH WISPY COALY INCLUSIONS AT BOTTOM. |
| | 39 | 239.68 | 240.64 | 0.96 | | MUDSTONE | SLTY.DK.GY CARB AND COALY INCLUSIONS THROUGHOUT; FINE DISSEMINATED PYRITE FLECKS; OCCASIONALLY SLTY; FRACTURE WITH SLICKENSIDED SURFACES; CORELOSS ALONG FRACTURES. |
| | 39 | 240.64 | 241.13 | 0.49 | | CORELOSS | |
| | 38 | 241.13 | 241.73 | 0.60 | | MUDSTONE | AS ABOVE; CORE BADLY BROKEN WITH REGROUNDED ENDS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 241.73 | 241.93 | 0.20 | | | CORELOSS | |
| | 241.93 | 243.88 | 1.95 | | | MUDSTONE | LAM. BIOTR AS ABOVE; INTERBEDDED WITH SANDS AND SL TST; CORE BROKEN WITH REGROUND ENDS. |
| | 243.88 | 244.17 | 0.29 | | | CORELOSS | |
| * 35 | 244.17 | 244.72 | 0.55 | | | MUDSTONE | AS ABOVE. |
| | 244.72 | 245.57 | 0.85 | | | MUDSTONE | AS ABOVE; CORE BADLY BROKEN WITH REGROU ND ENDS AND ROUNDED PIECES. |
| | 245.57 | 246.05 | 0.48 | | | CORELOSS | |
| | 246.05 | 247.35 | 1.30 | | | MUDSTONE | AS ABOVE; CORE BROKEN AND PULVERIZED WI TH ROUNDED FRAGMENTS. |
| | 247.35 | 247.56 | 0.21 | | | MUDSTONE | AS ABOVE; SEVERAL COALY INCLUSIONS. |
| | 247.56 | 248.31 | 0.75 | | | CORELOSS | |
| | 248.31 | 250.15 | 1.84 | | | MUDSTONE | AS ABOVE; OCCASIONAL COALY INCLUSIONS; CORE BADLY BROKEN WITH REGROUND ENDS AN D ROUNDED PIECES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 34 | 250.15 | 250.35 | 0.20 | | | CORELOSS | |
| 34 | 250.35 | 250.60 | 0.25 | | | MUDSTONE | AS ABOVE. |
| 34 | 250.60 | 251.38 | 0.78 | | | MUDSTONE | AS ABOVE; REGROUND ENDS. |
| 34 | 251.38 | 251.58 | 0.20 | | | CORELOSS | |
| 33 | 251.58 | 253.50 | 1.92 | | | MUDSTONE | AS ABOVE; CALCITE FILLED FRACTURES WITH SOME QUARTZ CRYSTALS AND OIL STAINED; REGROUND ENDS. |
| 33 | 253.50 | 253.59 | 0.09 | | | CORELOSS | |
| 33 | 253.59 | 253.99 | 0.40 | | | MUDSTONE | AS ABOVE. |
| 33 | 253.99 | 254.38 | 0.39 | | | CORELOSS | |
| 33 | 254.38 | 256.43 | 2.05 | | | MUDSTONE | AS ABOVE; SOME SMALL CALCITE AND QUARTZ FILLED FRACTURES WITH OIL STAINING; CORE BADLY BROKEN IN PART WITH REGROUND ENDS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 33 | 256.43 | 257.98 | 1.55 | | | CORELOSS | |
| 32 | 257.98 | 259.91 | 1.93 | | | COALLOSS | |
| 32 | 259.91 | 260.08 | 0.17 | | | MUDSTONE | AS ABOVE; BECOMING SLTY TO BOTTOM. |
| 32 | 260.08 | 260.34 | 0.26 | | | CORELOSS | |
| 32 | 260.34 | 261.16 | 0.82 | | | MUDSTONE | AS ABOVE; SLTY AT TOP; BDG CONTORTED AT BOTTOM. |
| 32 | 261.16 | 262.95 | 1.79 | | | MUDSTONE | AS ABOVE; BDG CONTORTED; CORE BADLY BROKEN; WITH REG ROUNDED ENDS. |
| 31 | 262.95 | 263.13 | 0.18 | | | MUDSTONE | AS ABOVE; BECOMING SLTY TO BOTTOM. |
| 31 | 263.13 | 265.65 | 2.52 | | | SILTSTONE | DK.GY INTERBEDDED WITH MUDS AND SANDS; IRREGULAR AND CONTORTED BDG. DISSEMINATED PYRITE FLECKS THROUGHOUT; FINE CALCITE AND COALY LAMINAE WITH OCCASIONAL COALY INCLUSIONS; BECOMING MUDDY AT BOTTOM. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 31 | 265.65 | 268.57 | 2.92 | | SILTSTONE | BIOTR AS ABOVE. |
| | 30 | 268.57 | 268.75 | 0.18 | | SILTSTONE | AS ABOVE |
| * | 30 | 268.75 | 271.42 | 2.67 | | SILTSTONE | AS ABOVE. |
| | 29 | 271.42 | 272.16 | 0.74 | | SILTSTONE | AS ABOVE; CORE BADLY BROKEN; REGOUND EN DS. |
| | 28 | 272.16 | 272.26 | 0.10 | | CORELOSS | |
| * | 28 | 272.26 | 273.01 | 0.75 | | SILTSTONE | AS ABOVE. |
| | 29 | 273.01 | 273.11 | 0.10 | | CORELOSS | |
| * | 30 | 273.11 | 274.06 | 0.95 | | SILTSTONE | AS ABOVE. |
| * | 35 | 274.06 | 274.19 | 0.13 | | CORELOSS | |
| | 35 | 274.19 | 274.29 | 0.10 | 00735 | COAL-ROCK | MIXED; COAL DULL LUSTROUS; ROCK IS AS A BOVE; REG ROUND FRAGMENTS; ROUNDED PIEC ES. |
| | 35 | 274.29 | 274.69 | 0.40 | 00735 | COALLOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 42

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 36 | 274.69 | 274.84 | 0.15 | 00735 | | COAL | DULL LUSTROUS; OCCASIONAL C2; CORE BADLY BROKEN WITH ROUNDED PIECES. |
| 36 | 274.84 | 274.86 | 0.02 | 00735 | | COAL | C-3 HIGHLY SHEARED WITH SLICKENSIDES; CORE PULVERIZED. |
| 36 | 274.86 | 275.09 | 0.23 | 00735 | | COAL | DULL LUSTROUS; CORE BADLY BROKEN AND SHEARED WITH SLICKENSIDES. |
| 36 | 275.09 | 275.27 | 0.18 | 00735 | | COAL | DULL LUSTROUS; OCCASIONAL C4; HIGHLY SHEARED; SLICKENSIDES; POWDERED. |
| 36 | 275.27 | 275.36 | 0.09 | 00735 | | COAL | STONEY; DULL TO DULL LUSTROUS; CORE BROKEN. |
| 36 | 275.36 | 275.45 | 0.09 | 00735 | | COALLOSS | |
| 36 | 275.45 | 275.50 | 0.05 | 00735 | | COAL | DULL LUSTROUS; BADLY SHEARED AND CONTORTED; SLICKENSIDES. |
| 36 | 275.50 | 275.53 | 0.03 | 00735 | | COAL | C-1 |
| 37 | 275.53 | 275.59 | 0.06 | 00735 | | COAL | DULL LUSTROUS WITH DIRT BANDS |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 43

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 37 275.59 | 275.65 | 0.06 | 00735 | | COAL | DULL LUSTROUS; HIGHLY SHEARED; CONTORTED WITH SLICKENSIDES; CORE PULVERIZED. |
| | 38 275.65 | 277.33 | 1.68 | 00735 | | COALLOSS | |
| | 39 277.33 | 277.90 | 0.57 | | | SILTSTONE | GY INTERBEDDED WITH MUDS AND SANDS. COALY AND CARB WISPS WITH FINE COALY LAMINAE ALONG BDG; COALY INCLUSIONS AND SOME CALCITE FILLED FRACTURES. |
| | 39 277.90 | 278.25 | 0.35 | | | CORELOSS | |
| | 40 278.25 | 279.20 | 0.95 | | | SILTSTONE | AS ABOVE; PYRITE ALONG FRACTURE SURFACE S. |
| | 41 279.20 | 279.42 | 0.22 | | | SILTSTONE | AS ABOVE. |
| * | 42 279.42 | 281.93 | 2.51 | | | MUDSTONE | DK.GY OCCASIONALLY SLTY WITH SLTY INTERBED; FINE COALY INCLUSIONS; CALCITE INFILLED STRESS CRACKS; FINE DISSEMINATED PYRITE THROUGHOUT; LISTRIC FRACTURE SURFACES; CORE BROKEN WITH REGROUND ENDS. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 44

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH60043

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 31 | 281.93 | 282.23 | 0.30 | | | CORELOSS | |
| 29 | 282.23 | 282.47 | 0.24 | | | MUDSTONE | AS ABOVE. |
| * 20 | 282.47 | 284.74 | 2.27 | | | MUDSTONE | AS ABOVE; CORE BADLY BROKEN; REGROUND ENDS. |
| 22 | 284.74 | 284.81 | 0.07 | | | CORELOSS | |
| 22 | 284.81 | 285.52 | 0.71 | | | MUDSTONE | AS ABOVE; CORE BROKEN. |
| 23 | 285.52 | 285.68 | 0.16 | | | CORELOSS | |
| 24 | 285.68 | 287.40 | 1.72 | | | MUDSTONE | AS ABOVE. |
| 26 | 287.40 | 288.56 | 1.16 | | | MUDSTONE | AS ABOVE. |
| 28 | 288.56 | 289.47 | 0.91 | | | CORELOSS | |
| 30 | 289.47 | 291.05 | 1.58 | | | MUDSTONE | AS ABOVE. |
| 31 | 291.05 | 291.31 | 0.26 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 45

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 291.31 | 293.56 | 2.25 | | | MUDSTONE | AS ABOVE; SLTY INTERBED AT TOP; CALCITE FILLED FRACTURES WITH QUARTZ CRYSTALS; SLICKENSIDED SURFACES; CORE BRKN WITH REGROUND ENDS. |
| 35 | 293.56 | 293.86 | 0.30 | | | CORELOSS | |
| 35 | 293.86 | 294.51 | 0.65 | | | MUDSTONE | LAM.BIOTR AS ABOVE; SLTY WITH SOME SLTST INTERVAL S; BDG CONTORTED; TOPS UP. |
| * 37 | 294.51 | 296.24 | 1.73 | | | MUDSTONE | AS ABOVE; EXTREMELY CARB AT BOTTOM; COR E BROKEN ALONG FRACTURE SURFACES; SLICK ENSIDES; COALY INCLUSIONS AND STRINGERS ; POWDERED IN PART. |
| 33 | 296.24 | 296.69 | 0.45 | | | CORELOSS | |
| 31 | 296.69 | 297.70 | 1.01 | | | MUDSTONE | AS ABOVE; LESS CARB; MORE SLTY; GRADING TO SLTST. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 46

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 27 | 297.70 | 299.23 | 1.53 | | | SILTSTONE | DK.GY.BIOTR SOME CARB PLANT FRAGMENTS; FINE DISSEMI NATED PYRITE FLECKS THROUGHOUT; INTERBE DED WITH MUDST; CONTORTED; VERY FEW CA LCITE-FILLED FRACTURES; SOME REGROUND E NDS. |
| 30 | 299.23 | 299.27 | 0.04 | | | CORELOSS | |
| 32 | 299.27 | 300.65 | 1.38 | | | SILTSTONE | AS ABOVE; CORE MISMATCHED WITH ROUNDED ENDS. |
| * 36 | 300.65 | 301.71 | 1.06 | | | SILTSTONE | AS ABOVE; BECOMING MUDDY TO BOTTOM. |
| 36 | 301.71 | 302.01 | 0.30 | | | SILTSTONE | AS ABOVE; ENDS REGROUND. |
| 37 | 302.01 | 302.77 | 0.76 | | | MUDSTONE | SLTY.DK.GY FROM DKGY TO BLK; OCCASIONALLY SLTY; FI NE DISSEMINATED PYRITE THROUGHOUT; BECO MING CARB AT BOTTOM WITH FINE COALY STR INGERS AND INCLUSIONS THROUGHOUT. |
| 37 | 302.77 | 304.46 | 1.69 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 47

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 38 | 304.46 | 305.89 | 1.43 | | MUDSTONE | AS ABOVE; BECOMING INCREASINGLY SLTY & GRADING TO SLTST AT BOTTOM. |
| * | 39 | 305.89 | 306.58 | 0.69 | | SANDSTONE | FG.GY.BIOTR WITH INTERBEDDED SILTS AND MUDST; CONTO RTED. |
| * | 31 | 306.58 | 307.10 | 0.52 | | SANDSTONE | AS ABOVE; TOPS UP. |
| | 32 | 307.10 | 307.83 | 0.73 | | SANDSTONE | AS ABOVE; WITH COALY AND CARB LAMINAE A LONG BDG PLANES; INTERMIXED SS AND COAL AT BOTTOM; CORE INTACT; LISTRIC FRACTURE SURFACES. |
| | 32 | 307.83 | 307.94 | 0.11 | | CORELOSS | |
| | 32 | 307.94 | 308.52 | 0.58 | 00734 | COAL LOSS | |
| | 32 | 308.52 | 308.53 | 0.01 | 00734 | COAL | C-1 CORE BADLY BROKEN; ROUNDED FRAGMENTS; HIGHLY SHEARED WITH SLICKENSIDES THROUGH OUT. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 48

PROJECT: GDR BLOCK: XX DATA SOURCE: UDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|-----------------------|
| 32 | 308.53 | 308.62 | 0.09 | 00734 | | COAL | DULL LUSTROUS |
| 33 | 308.62 | 308.69 | 0.07 | 00734 | | COAL | DULL LUSTROUS. |
| 33 | 308.69 | 308.71 | 0.02 | 00734 | | COAL | C-6 DULL LUSTROUS. |
| 33 | 308.71 | 308.78 | 0.07 | 00734 | | COAL | C-3 |
| 33 | 308.78 | 308.83 | 0.05 | 00734 | | COAL | DULL LUSTROUS. |
| 33 | 308.83 | 308.87 | 0.04 | 00734 | | COAL | DULL LUSTROUS. |
| 33 | 308.87 | 308.92 | 0.05 | 00734 | | COAL | DULL LUSTROUS. |
| 33 | 308.92 | 308.95 | 0.03 | 00734 | | COAL | C-3 STONEY. |
| 33 | 308.95 | 308.96 | 0.01 | 00734 | | COAL | STONEY. |
| 33 | 308.96 | 309.16 | 0.20 | 00734 | | COAL LOSS | |
| 33 | 309.16 | 309.51 | 0.35 | 00734 | | ROCK LOSS | |
| 34 | 309.51 | 310.29 | 0.78 | 00734 | | COAL LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 49

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 34 | 310.29 | 310.63 | 0.34 | | | MUDSTONE | SLTY VERY SLTY; CARB WITH COALY STRINGERS AND D INCLUSIONS AT TOP; CORE BADLY BROKEN, REGROUND ENDS AND ROUNDED FRAGMENTS. |
| 34 | 310.63 | 310.98 | 0.35 | | | CORE LOSS | |
| * 35 | 310.98 | 312.01 | 1.03 | | | SILTSTONE | GY.LAM.BIOTR INTERBEDDED WITH MUDST AND FG SS; IRREG ULAR BDG; SOME CALCITE FILLED FRACTURES ; SOME QUARTZ CRYSTALS ON FRACTURE FACE S. |
| * 26 | 312.01 | 312.74 | 0.73 | | | SILTSTONE | AS ABOVE; SSY AT TOP; GRADING TO MUDST AT BOTTOM. |
| * 29 | 312.74 | 313.10 | 0.36 | | | MUDSTONE | DK.GY DISSEMINATED PYRITE FLECKS THROUGHOUT; OCCASIONAL CALCITE FILLED FRACTURE. |
| 29 | 313.10 | 314.80 | 1.70 | | | MUDSTONE | AS ABOVE; OCCASIONAL SLTY ZONES AND CLA STS. |
| 30 | 314.80 | 316.09 | 1.29 | | | MUDSTONE | AS ABOVE; SOME REGROUND ENDS. |
| 30 | 316.09 | 316.37 | 0.28 | | | CORE LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 50

| PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80043

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 30 | 316.37 | 316.98 | 0.61 | | | MUDSTONE | AS ABOVE; SOME SMALL COALY INCLUSIONS; OCCASIONAL FRACTURE WITH LISTRIC SURFACES BECOMING INTERBEDDED WITH SANDS AND SILTS AT BOTTOM. |
| * 30 | 316.98 | 317.78 | 0.80 | | | SILTSTONE | GY.LAM.BIOTR INTERBEDDED WITH MUDST AND FG SS; OCCASIONAL THIN CALCITE FILLED FRACTURE; BECOMING SANDIER TO BOTTOM. |
| | 317.78 | 319.14 | 1.36 | | | SILTSTONE | AS ABOVE; WITH INCREASING AMOUNTS OF SS INTERBEDS; WITH LAMINAE ALONG BDG PLANES; ANGULAR ARGILLACEOUS CLASTS; CHERTY NODULES NEAR BOTTOM; SOME CALCITE AND QUARTZ FILLED FRACTURE; MEDIUM SIZED CRYSTALS. |
| 30 | 319.14 | 320.02 | 0.88 | | | SILTSTONE | AS ABOVE; BECOMING SILTIER TO BOTTOM. |

* DENOTES MEASURED BCA

DDH 80-44
(GOODRICH EAST)

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: DATA SOURCE: DDH80044

HISTORY

 DY MO YR DY MO YR
 START DATE: 02/12/80 END DATE: 06/12/80 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: C. WILLIAMS SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

 PROVINCE: B.C. ELEVATION: 1154.10
 UTM ZONE: 10 NORTH: 6140227.05 EAST: 554554.67
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ NS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 193.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 4.13 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : _____ | --- | --- | X | --- | 125A |
| NEUTRON | X | 1:100 | : _____ | --- | --- | X | --- | 125A |
| DENSITY | X | 1:100 | : _____ | --- | --- | X | --- | 457AS |
| CALIPER | X | 1:100 | : _____ | --- | --- | X | --- | 785 |
| FE-SHORT | X | : | 1:40 | --- | --- | X | --- | 7 |
| FE-LONG | X | 1:100 | : _____ | --- | --- | X | --- | 7 |
| DIRECTIONAL | X | : | : _____ | --- | --- | X | --- | _____ |
| DIPMETER | --- | : | : _____ | --- | --- | --- | --- | _____ |

*** COAL DIVISION ***

DATA SOURCE: D80-44

INTERVAL OF INTERPOLATION 10 UNIT(S)

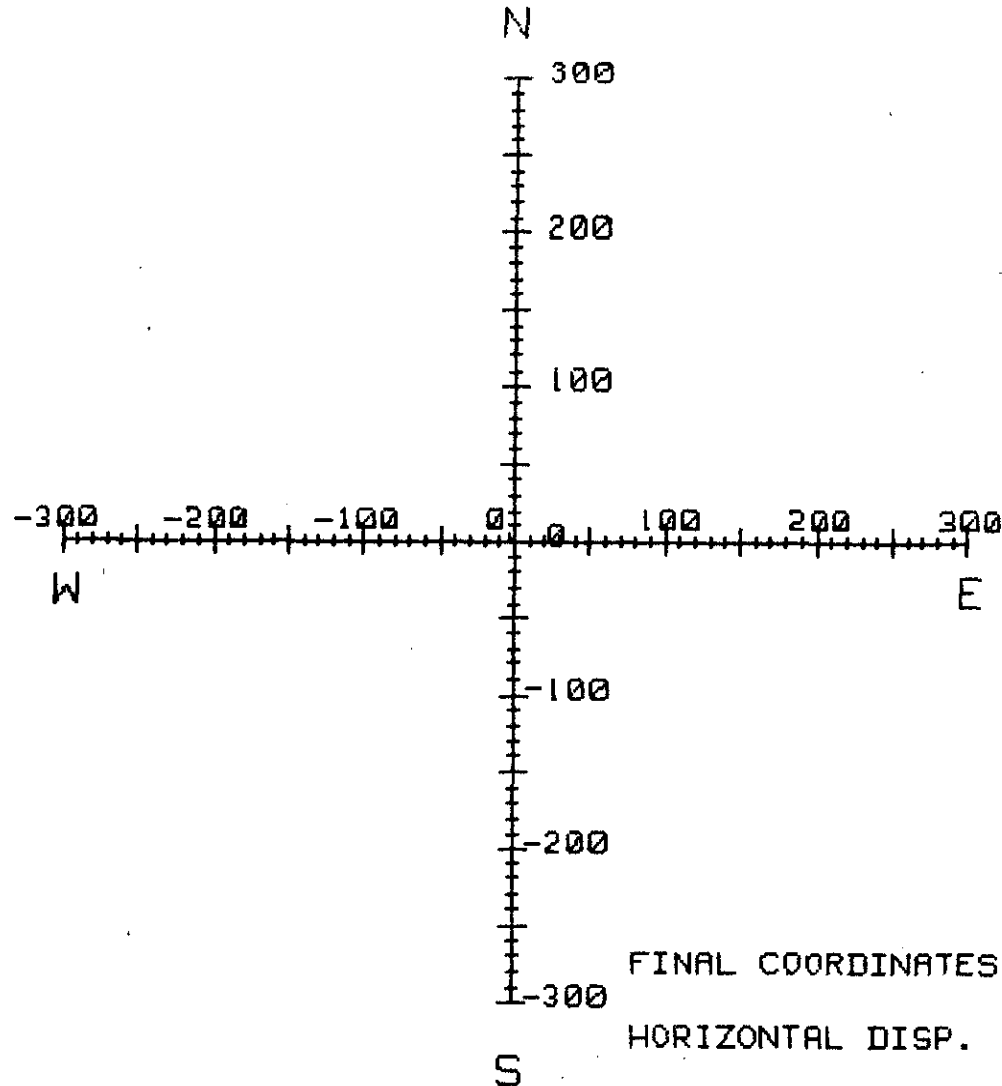
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

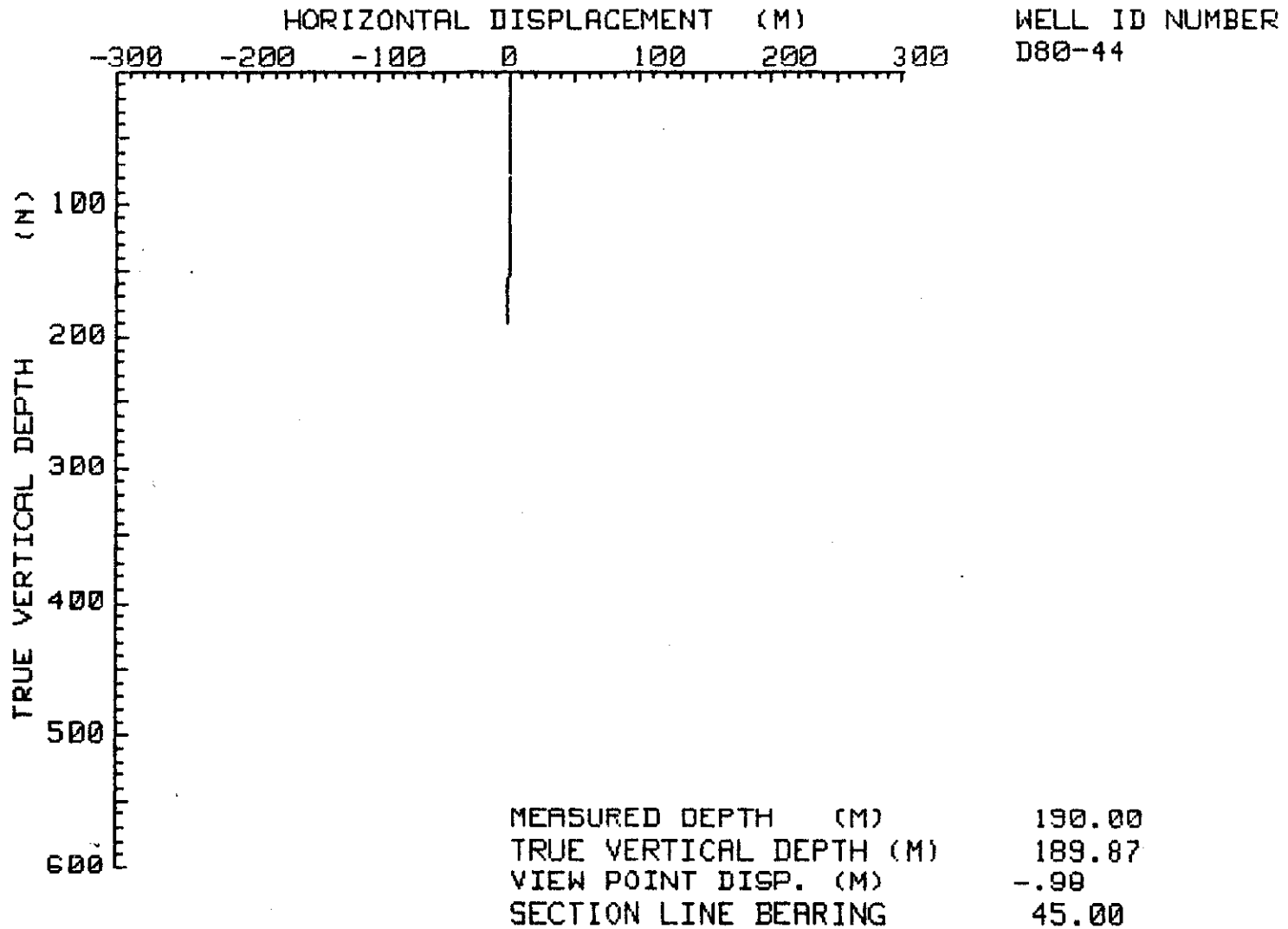
| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 0.00 | .80 | 282.40 |
| 15.00 | .80 | 282.40 |
| 30.00 | .80 | 301.70 |
| 45.00 | .80 | 267.90 |
| 60.00 | 1.70 | 317.40 |
| 75.00 | 2.10 | 314.90 |
| 90.00 | 2.50 | 299.00 |
| 105.00 | 2.70 | 342.10 |
| 120.00 | 2.70 | 313.60 |
| 135.00 | 2.70 | 330.10 |
| 150.00 | 2.30 | 13.10 |
| 165.00 | 2.50 | 337.10 |
| 180.00 | 2.70 | 333.00 |
| 190.00 | 3.00 | 333.20 |

PLAN VIEW

WELL ID NUMBER
080-44



DISPLACEMENT



COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12/00)

DENSITY

RESISTIVITY

DRILL NO. GDR-DDH-80-44

SEAM 81

SEAM INTERVAL

Coal / Coal + Rock (True Thk (m))
2.64 / 2.64, 0.61 / 0.61
28.50 - 31.29 m.
34.55 - 35.20 m

DENSITY SCALE 1.0 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80

RESISTIVITY SCALE

SEAM COMP. 654321

DEPTH

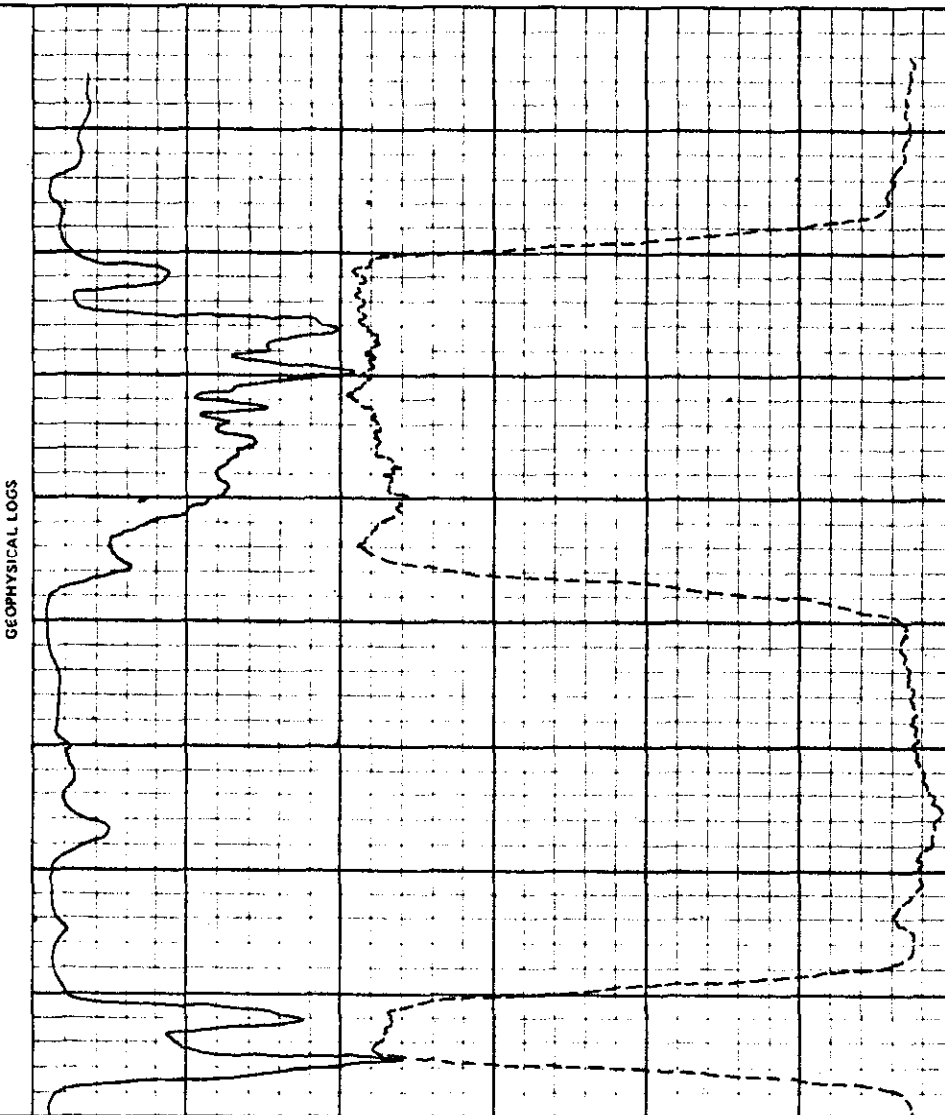
COAL SEAM LOG

INTERVAL

% REC (1.5 Floor)

SAMPLE

PROXIMATE ANALYSIS



| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC (1.5 Floor) | SAMPLE | | PROXIMATE ANALYSIS | | | | | | | | | |
|------------|-------|---------------|----------|--------|-------------------|--------|--------|--------------------|------|-------|-------|------|-------------|----------------|--|-----|--|
| | | | ROCK | COAL | | NUMBER | COMPOS | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI | | | |
| | 28.50 | | | (0.35) | | | | | | | | | | | | | |
| | | | | | 64 | 00751 | | | | | | | | | | | |
| | | | | | 94.15 | | | 0.82 | 4.21 | 18.88 | 76.09 | 0.36 | | 14,666 (29.33) | | 10 | |
| | | | | (0.57) | | | | | | | | | | | | | |
| | 30.81 | | | 0.39 | | | | | | | | | | | | | |
| | 31.00 | | | 0.22 | | | | | | | | | | | | | |
| | 31.29 | | | (0.07) | | | | | | | | | | | | | |
| | | | | (0.42) | | | | | | | | | | | | | |
| | 31.81 | | | 0.10 | 87 | 00752 | | | | | | | | | | | |
| | | | | | (0.12) | | | NSS | NSS | NSS | NSS | 0.89 | | 11,598 (23.20) | | NSS | |
| | | | | 2.74 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | 34.55 | | | | 100 | 68.28 | 00753 | | | | | | | | | | |
| | | | | | 0.65 | | | 0.70 | 6.28 | 19.91 | 73.11 | 0.76 | | 14,497 (28.99) | | 30 | |
| | 35.20 | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

DENSITY

RESISTIVITY

DRILL NO. GDR-DDH-80-44
SCALE 1:40

SEAM

SEAM INTERVAL 167.50 - 170.07 m

| RESISTIVITY SCALE | DENSITY SCALE | | SEAM COMP | DEPTH | COAL SEAM LOG | INTERVAL | | R/C (1.5 Feet) | SAMPLE NUMBER COMPOS | PROXIMATE ANALYSIS | | | | | | | | | | | | | | | | | |
|-------------------|---------------|------|-----------|--------|---------------|----------------|----------------------|----------------------|-------------------------|--------------------|-------|-------|-------|------|-------------------|------|------|------|------|------|------|------|------|------|------|------|-------|
| | 1.00 | 1.10 | | | | 1.20 | 1.30 | | | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | 2.00 | 2.10 | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | MOIST |
| | | | 55432 | 167.50 | | (0.06) | 0.08 (0.09) | 47 80.98 | 00754 | 0.48 | 4.85 | 21.61 | 73.06 | 0.89 | 14,363 (29,93) | 90 | | | | | | | | | | | |
| | | | | 168.24 | | 0.54 | 0.13 0.18 0.05 | 90 (0.96) | 00755 | 0.58 | 9.38 | 23.12 | 66.92 | 1.02 | 14,150 (28.30) | 90 | | | | | | | | | | | |
| | | | | 169.07 | | 0.06 (0.30) | 0.06 0.18 0.05 | 62 (11.48) | 00756 | 0.38 | 11.38 | 20.62 | 67.62 | 1.32 | 13,703 (27.41) | 90 | | | | | | | | | | | |
| | | | | 170.07 | | 0.25 (0.15) | 0.40 | 100 70.87 | 00757 | 0.72 | 5.78 | 19.89 | 73.61 | 0.78 | 14,651 (29.30) | 55 | | | | | | | | | | | |
| | | | | 170.07 | | 0.10 0.10 | 0.10 | 53 (4.89) | 00758 | 0.57 | 19.59 | 16.62 | 63.22 | 0.59 | 12,410 (24.82) | 10 | | | | | | | | | | | |
| | | | | 170.07 | | 0.10 0.10 | 0.10 | 51 (4.89) | 00759 | 0.60 | 1.05 | 22.78 | 75.57 | 0.84 | 15,582 (31.16) | 90 | | | | | | | | | | | |

GEOPHYSICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECK | MISSING COAL | RECK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|------|--------------|------|
| DDH80044 | | 751 | 28.50 | 31.29 | 1.80 | 64.52 | 1.80 | 0.00 | 0.99 | 0.00 |
| | | 752 | 31.29 | 34.55 | 2.84 | 37.12 | 0.00 | 2.84 | 0.00 | 0.42 |
| | | 753 | 34.55 | 35.20 | 0.65 | 100.00 | 0.65 | 0.00 | 0.00 | 0.00 |
| | | 754 | 167.50 | 167.67 | 0.08 | 47.00 | 0.08 | 0.00 | 0.09 | 0.00 |
| | | 755 | 167.67 | 168.27 | 0.54 | 90.00 | 0.00 | 0.54 | 0.00 | 0.06 |
| | | 756 | 168.27 | 169.07 | 0.50 | 62.50 | 0.36 | 0.14 | 0.00 | 0.50 |
| | | 757 | 169.07 | 169.47 | 0.40 | 100.00 | 0.40 | 0.00 | 0.00 | 0.00 |
| | | 758 | 169.47 | 169.87 | 0.25 | 62.50 | 0.00 | 0.25 | 0.00 | 0.15 |
| | | 759 | 169.87 | 170.07 | 0.10 | 50.00 | 0.10 | 0.00 | 0.10 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GUR

ANALYSIS BASIS TYPE -

NAME OF STANDARD -

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|
|-------------|------|-----------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|

DDH80044

- 751
- 752
- 753
- 754
- 755
- 756
- 757
- 758
- 759

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: UDM8C044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|------------|--|
| 62 | 0.00 | 4.13 | 4.13 | | | OVERBURDEN | |
| 62 | 4.13 | 5.18 | 1.05 | | | MUDSTONE | DK.GY.VBRKN ABNDT FE-STAINING ON FRACTURE SURFACES (HAS A YELLOW TINGE); A PURPLISH TINGE IN PLACES AS WELL; CARB PLANT STEMS |
| 62 | 5.18 | 5.69 | 0.51 | | | MUDSTONE | AS ABOVE; VBRKN AT TOP OF MEASUREMENT |
| * 62 | 5.69 | 6.34 | 0.65 | | | SILTSTONE | LT.GY.BIOTR A VFG LAM, MINOR (SED STRUX); TOP IS UP ; ARGILLACEOUS; ABNDT MINOR FLECKS |
| 60 | 6.34 | 6.57 | 0.23 | | | CORE LOSS | |
| 58 | 6.57 | 7.12 | 0.55 | | | SILTSTONE | BIOTR ABNDT PYRITE FILLED (SED STRUX) WITH A P RESUMABLY FE-STONE FILLED HALO |
| 55 | 7.12 | 7.92 | 0.80 | | | MUDSTONE | DK.GY.BIOTR MINOR (SED STRUX) DEEP REDDISH BRN ON S OME FRACTURE SURFACE; VBRKN; A FEW CARB PLANT REMAINS |
| 52 | 7.92 | 8.37 | 0.45 | | | MUDSTONE | AS ABOVE; A FEW CARB FOSSIL |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 50 | 8.37 | 6.95 | 0.58 | | | SILTSTONE | LT.GY.BIDTR INTERLAM WITH FINE SS AND MUDST; TOP IS UP; VERY MICACEOUS; SOME CARB MATERIAL |
| 61 | 8.95 | 12.06 | 3.11 | | | CORE LOSS | ALL OF BOX 3 |
| 70 | 12.06 | 12.15 | 0.09 | | | COAL | C-1.VBRKN POWDERY; MIXED WITH ROCK FRAGMENTS; IT MAY BE A LARGE COALY INCLUSION |
| * 72 | 12.15 | 12.87 | 0.72 | | | SILTSTONE | GY.BRKN MOTTLED APPEARANCE ; A FEW FINE GRAINED SAND INTERBEDS. |
| * 72 | 12.87 | 14.02 | 1.15 | | | SANDSTONE | FG.LT.GY.BIDTR INTERLAM WITH SLTST; MINORISED STRUX); TOP APPEARS TO BE UP |
| 72 | 14.02 | 14.23 | 0.21 | | | MUDSTONE | CARB.DK.GY.BRKN VERY CARB. |
| 72 | 14.23 | 14.30 | 0.07 | | | COAL | C-4.VBRKN |
| 72 | 14.30 | 14.52 | 0.22 | | | MUDSTONE | CARB.LT.GY.VBRKN VERY CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|---------------|----------|---------|-----------|--|
| 72 | 14.52 | 15.61 | 1.09 | | | MUDSTONE | CARB.DK.GY AS ABOVE; SANDY INTVAL FROM 0.44 TO 0.68 |
| 72 | 15.61 | 15.62 | 0.01 | | | COAL | C-5.VBRKN LUSTROUS |
| 72 | 15.62 | 15.64 | 0.02 | | | MUDSTONE | CARB.DK.GY.VBRKN VERY CARB. |
| 72 | 15.64 | 15.66 | 0.02 | | | COAL | C-5.VBRKN LUSTROUS |
| 72 | 15.66 | 15.87 | 0.21 | | | MUDSTONE | DK.GY.VBRKN COALY LAM AND INCLUSIONS; PIECES DO NOT MATCH |
| 72 | 15.87 | 16.07 | 0.20 | | | SANDSTONE | MG.LT.GY |
| 72 | 16.07 | 16.38 | 0.31 | | | SILTSTONE | DK.GY MOTTLED APPEARANCE |
| 72 | 16.38 | 17.07 | 0.69 | | | CORE LOSS | |
| 72 | 17.07 | 17.23 | 0.16 | | | SILTSTONE | DK.GY MOTTLED APPEARANCE |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | DEPTH INTKVAL INTK. | SAMP. SEAM ID ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|------------------------|---------------------|-----------|--|
| * 72 | 17.23 | 17.57 | 0.34 | | SANDSTONE | FG.LT.GY.BIOTR TOP APPEARS TO BE UP |
| * 62 | 17.57 | 19.14 | 1.57 | | SANDSTONE | LT.GY.BIOTR AS ABOVE; TOP IS UP; BIOTRB MICACEOUS. |
| 63 | 19.14 | 19.74 | 0.60 | | MUDSTONE | DK.GY CARB PLANT REMAINS |
| 64 | 19.74 | 19.94 | 0.20 | | MUDSTONE | DK.GY AS ABOVE; SLTY LAM |
| 64 | 19.94 | 20.27 | 0.33 | | CORE LOSS | |
| 64 | 20.27 | 20.61 | 0.34 | | MUDSTONE | AS MUDST ABOVE |
| * 66 | 20.61 | 22.93 | 2.32 | | MUDSTONE | BRKN AS ABOVE; A FEW SLTY LAM; SSY INTERVALS FROM 1.80 TO 2.04; SOME PYRITE BLEBS T HROUGHOUT |
| 67 | 22.93 | 23.47 | 0.54 | | CORE LOSS | |
| 67 | 23.47 | 23.70 | 0.23 | | MUDSTONE | AS ABOVE; COALY INCLUSIONS; REDDISH BRN STAINING ON FRACTURES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | DEPTH INTERVAL | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 67 | 23.70 | 24.21 | 0.51 | | MUDSTONE | SLTY AS ABOVE; PIECES DO NOT MATCH AT 0.31 |
| | 68 | 24.21 | 26.28 | 2.07 | | SANDSTONE | CG.LT.GY CG TO FG; SLTY AT TOP SGP APPEARANCE; RED-BRN STAINING (EXTENSIVE) AROUND CALC T FILLED FRAC, AT PLACES WHERE RED-BRN STAINING HAS OCCURED ROCK HAS DETERIORATED, PIECES DON'T MATCH. |
| | 69 | 26.28 | 26.52 | 0.24 | | CORE LOSS | |
| | 69 | 26.52 | 26.63 | 0.11 | | SANDSTONE | AS ABOVE; PIECES DO NOT MATCH; CALC T FILLED BRECCIA |
| | 69 | 26.63 | 26.87 | 0.24 | | CORE LOSS | |
| * | 70 | 26.87 | 28.50 | 1.63 | | SANDSTONE | BRKN AS ABOVE; MUDST BAND 0.02M THICK AT 1.10M; RED-BRN STAINING ALONG SOME CALC T FILLED FRACTURES; CARB PLANT REMAINS |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: X DATA SOURCE: DDH80044

| BCA | DEPTH E80M | DEPTH IQ | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|------------------------------|
| 70 | 28.50 | 28.85 | 0.35 | 00751 | | CORE LOSS | |
| 70 | 28.85 | 28.93 | 0.08 | 00751 | B1 | COAL | C-5.VBRKN LUSTROUS |
| 70 | 28.93 | 28.96 | 0.03 | 00751 | B1 | COAL | C-5 AS ABOVE |
| 70 | 28.96 | 29.05 | 0.09 | 00751 | B1 | COAL | C-5 AS ABOVE |
| 70 | 29.05 | 29.15 | 0.10 | 00751 | B1 | COAL | C-5.PWRD AS ABOVE |
| 70 | 29.15 | 29.17 | 0.02 | 00751 | B1 | COAL | C-3.VBRKN PWRDY |
| 69 | 29.17 | 29.38 | 0.21 | 00751 | B1 | COAL | C-5.VBRKN LUSTROUS, PWRDY |
| 69 | 29.38 | 29.40 | 0.02 | 00751 | B1 | COAL | C-5.VBRKN LUSTROUS |
| 69 | 29.40 | 29.48 | 0.08 | 00751 | B1 | COAL | C-5 LUSTROUS, UNBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTERVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|--------------------|-------------|------------|-----------|------------------------|
| 69 | 29.48 | 29.50 | 0.02 | 00751 | B1 | COAL | C-4 UNBRKN |
| 69 | 29.50 | 29.56 | 0.06 | 00751 | B1 | COAL | C-5.VBRKN LUSTROUS |
| 69 | 29.56 | 29.60 | 0.04 | 00751 | B1 | COAL | C-5.VBRKN |
| 69 | 29.60 | 29.62 | 0.02 | 00751 | B1 | COAL | C-5 LUSTROUS |
| 69 | 29.62 | 29.66 | 0.04 | 00751 | B1 | COAL | C-3 |
| 69 | 29.66 | 29.68 | 0.02 | 00751 | B1 | COAL | C-5 LUSTROUS |
| 69 | 29.68 | 29.70 | 0.02 | 00751 | B1 | COAL | C-2.BRKN |
| 69 | 29.70 | 29.74 | 0.04 | 00751 | B1 | COAL | C-3.BRKN |
| 69 | 29.74 | 29.78 | 0.04 | 00751 | B1 | COAL | C-5.BRKN LUSTROUS |
| 69 | 29.78 | 30.04 | 0.26 | 00751 | B1 | COAL | C-5.VBRKN LUSTROUS. |

* DENOTES MEASURED BCA

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PROJECT: GUK BLOCK: XX DATA SOURCE: DDH8C044

| DEPTH EQUV | DEPTH IN | INTRVAL THICK | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|---------------|-------------|------------------|-------------|------------|-----------|------------------------------|
| 69 30.04 | 30.61 | 0.57 | 00751 | 01 | CORE LOSS | COAL |
| 69 30.61 | 30.69 | 0.08 | 00751 | 01 | COAL | C-5.VBRKN LUSTROUS; PMRDY |
| 69 30.69 | 30.78 | 0.09 | 00751 | 01 | COAL | C-5.BRKN LUSTROUS |
| 69 30.78 | 30.84 | 0.06 | 00751 | 01 | COAL | C-5.BRKN LUSTROUS; PMRDY |
| 69 30.84 | 30.94 | 0.10 | 00751 | 01 | COAL | C-5 LUSTROUS; UNBRKN |
| 69 30.94 | 30.96 | 0.02 | 00751 | 01 | COAL | C-1 UNBRKN |
| 69 30.96 | 31.00 | 0.04 | 00751 | 01 | COAL | C-5 LUSTROUS; UNBRKN |
| 69 31.00 | 31.09 | 0.09 | 00751 | 01 | COAL | C-4.BRKN |
| 69 31.09 | 31.12 | 0.03 | 00751 | 01 | COAL | C-3 AS ABOVE |
| 69 31.12 | 31.22 | 0.10 | 00751 | 01 | COAL | C-4 UNBRKN |

* DENOTES MEASURED ECA

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62/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GLR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL IN BLK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|-----------------|----------|---------|-----------|---|
| 69 | 31.22 | 31.29 | 0.07 | 00751 | 01 | COAL LOSS | |
| 69 | 31.29 | 31.71 | 0.42 | 00752 | | ROCK LOSS | |
| 69 | 31.71 | 31.81 | 0.10 | 00752 | | MUDSTONE | CARB. DK. GY |
| 69 | 31.81 | 32.23 | 0.42 | 00752 | | SANDSTONE | M. GY TO DKGY; VERY SLTY AND ARGILLACEOUS. |
| 68 | 32.23 | 32.95 | 0.72 | 00752 | | SANDSTONE | FG. LT. GY ARGILLACEOUS. |
| 68 | 32.95 | 34.55 | 1.60 | 00752 | | SANDSTONE | AS ABOVE; VERY ARGILLACEOUS. |
| 68 | 34.55 | 34.69 | 0.14 | 00753 | | COAL | BONEY ; UNBRKN |
| 68 | 34.69 | 34.71 | 0.02 | 00753 | | COAL | C-5. SHRD VBRKN TO PWRD. |
| 68 | 34.71 | 34.75 | 0.04 | 00753 | | COAL | C-2 |
| 68 | 34.75 | 34.94 | 0.19 | 00753 | | COAL | C-4. SHRD VBRKN |
| 68 | 34.94 | 35.15 | 0.21 | 00753 | | COAL | C-5 LUSTROUS; UNBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GUR BLOCK: XX DATA SOURCE: DUH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 68 | 35.15 | 35.20 | 0.05 | 00753 | | COAL | C-3.VBRKN SHRD |
| 68 | 35.20 | 35.40 | 0.20 | | | MUDSTONE | SLTY.DK.GY CARB PLANT REMAINS |
| 67 | 35.40 | 35.55 | 0.15 | | | SANDSTONE | FG.LT.GY FG TO MG, ARGILLACEOUS; ABNDT SLTY LAM |
| 67 | 35.55 | 35.62 | 0.07 | | | SANDSTONE | AS ABOVE; TOP IS UP |
| * 67 | 35.62 | 38.25 | 2.63 | | | SANDSTONE | AS ABOVE; CARB INTERVAL FROM 2.10 TO 2.15 |
| 67 | 38.25 | 38.60 | 0.35 | | | SANDSTONE | AS ABOVE; PIECES DON'T MATCH FOOTAGE MARKER |
| 67 | 38.60 | 38.66 | 0.06 | | | CORE LOSS | |
| 67 | 38.66 | 38.85 | 0.19 | | | SANDSTONE | AS ABOVE |
| 67 | 38.85 | 38.87 | 0.02 | | | SANDSTONE | AS ABOVE |
| * 67 | 38.87 | 40.90 | 2.03 | | | SANDSTONE | AS ABOVE; AT 6.0, PIECES DO NOT MATCH; RED-BRN STAINING ALONG CALCT FILLED FRACTURES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 11

PROJECT: CLR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH INTERVAL TO | THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|----------------------|--------|----------|---------|-----------|---|
| 66 | 40.90 | 41.08 | 0.18 | | | CORE LOSS | |
| 65 | 41.08 | 41.70 | 0.62 | | | SANDSTONE | AS ABOVE FOR SS; PIECES DO NOT MATCH AT 0.09 AND 0.25, CALCT FILLED BRECCIA AT 0.32 SOME CUALY INCLUSIONS |
| 64 | 41.70 | 41.86 | 0.16 | | | MUDSTONE | CARB.DK.GY.VBRKN |
| 63 | 41.86 | 43.55 | 1.69 | | | SANDSTONE | LT.GY VFG TO MG; ARGILLACEOUS; SLTY LAM; VERY MUDDY FROM 1.12 TO 1.60; PIECES DO NOT MATCH |
| 62 | 43.55 | 43.80 | 0.25 | | | CORE LOSS | |
| 61 | 43.80 | 44.15 | 0.35 | | | MUDSTONE | DK.GY CARB FROM 0.24 TO END OF MEASUREMENT |
| 61 | 44.15 | 44.72 | 0.57 | | | SANDSTONE | LT.GY VFG TO FG; ARGILLACEOUS; SLTY LAM; BWN STAINING ALONG CALCT FRACTURES; TOP IS UP |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 12

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| * 60 | 44.72 | 45.38 | 0.66 | | | SANDSTONE | AS ABOVE |
| 60 | 45.38 | 46.18 | 0.80 | | | MUDSTONE | DK.GY SILICEOUS TO .40; FROM 0.40 TO 0.59 VER Y CARB(PWRDY) |
| 60 | 46.18 | 46.44 | 0.26 | | | SANDSTONE | FG.LT.GY A FEW SILT LAM. |
| 60 | 46.44 | 46.70 | 0.26 | | | SANDSTONE | FG.LT.GY.BRKN AS ABOVE; |
| 61 | 46.70 | 46.81 | 0.11 | | | SANDSTONE | FG.LT.GY.VBRKN AS ABOVE; ABNDT STAINS ON CALCT FILLED FRACTURES; SKS; |
| 61 | 46.81 | 46.86 | 0.05 | | | CLAY&ROCK | LT.GY |
| 61 | 46.86 | 47.36 | 0.50 | | | CURE LUSS | |
| 61 | 47.36 | 47.51 | 0.15 | | | SANDSTONE | BRKN AS ABOVE SS |
| 61 | 47.51 | 47.71 | 0.20 | | | MUDSTONE | CARB.DK.GY.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH60044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 61 | 47.71 | 48.01 | 0.30 | | | MUDSTONE | CARB.DK.GY.BRKN |
| 61 | 48.01 | 48.02 | 0.01 | | | CLAY | LT.GY |
| 61 | 48.02 | 48.22 | 0.20 | | | MUDSTONE | CARB.DK.GY.BRKN BECOMING SILTIER |
| 61 | 48.22 | 48.88 | 0.66 | | | SILTSTONE | SILICEOUS PIECES DO NOT MATCH AT 0.58 |
| 61 | 48.88 | 49.40 | 0.52 | | | MUDSTONE | DK.GY CARB PLANT FRAGMENTS; BECOMING SILTIER TOWARDS BASE; BRN STAINING ON FRACTURE SURFACES; PYRITE SMEARS |
| 61 | 49.40 | 49.54 | 0.14 | | | MUDSTONE | DK.GY.BRKN COALY INCLUSIONS; PIECES DO NOT MATCH W ITH NEXT BOX |
| 62 | 49.54 | 50.77 | 1.23 | | | SANDSTONE | VFG.LT.GY.BRKN BRN STAINING ALONG FRACTURE SURFACES; C OARSE GRAINED SS FROM 0.96 TO 1.03; PIE CES DO NOT MATCH AT MARKER |
| * 62 | 50.77 | 51.84 | 1.07 | | | SANDSTONE | AS ABOVE; CG FROM 0.43 TO 0.47 AND PIEC ES DO NOT MATCH AT THIS POINT |
| 62 | 51.84 | 52.07 | 0.23 | | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTKVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 62 | 52.07 | 52.39 | 0.32 | | SANDSTONE | BIOTR AS ABOVE |
| * | 62 | 52.39 | 53.80 | 1.41 | | SANDSTONE | CG.LT.GY.BIOTR A FEW SLTY AND ARGILLACEOUS LAM; (SED S TRUX) FROM 0.56 TO 0.98; ABNDT SLTY AND FG SAND LAM ; SOME PIECES DO NOT MATCH |
| | 62 | 53.80 | 54.68 | 0.88 | | SANDSTONE | LT.GY.BIOTR AS ABOVE; PIECES DO NOT MATCH AT 0.11, 0.23, 0.39, AND 0.46; RIP UP CLASTS. |
| | 61 | 54.68 | 55.11 | 0.43 | | CORE LOSS | |
| | 61 | 55.11 | 56.55 | 1.44 | | SANDSTONE | LT.GY AS ABOVE, DO NOT MATCH AT 0.67; SHARP C ONTACT WITH MUDST FROM 0.46 TO 0.57; AB LNT BRN STAINING ALONG FRACTURES;RIP UP PEBBLES AND CLASTS AT 0.67; BRKN |
| | 61 | 56.55 | 56.82 | 0.27 | | SANDSTONE | VBRKN AS ABOVE; EXTENSIVE BRN STAINING; POSSI BLE FAULT ZONE;VUGGY SURFACES; FRACTURE SURFACES ARE LIMONITIC AND CALCT FILL D AS WELL; SMALL SMUKEY QUARTZ CRYSTALS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GOR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|-------------------|----------------|----------|---------|-----------|---|
| | 61 | 56.82 | 56.89 | 0.07 | | SANDSTONE | LT.GY AS ABOVE; PART OF SAND FAULT ZONES |
| | 60 | 56.89 | 57.43 | 0.54 | | SANDSTONE | LT.GY.BRKN AS ABOVE; LISTRIC SURFACES; LIMONITIC STAINING ON CALCT VEINS; A FEW PYRITE SMEARS; NO RED-BRN PRESENT, LIMONITE HALO AROUND CALCT VEINING; CEMENT IS SILICEOUS |
| * | 60 | 57.43 | 59.19 | 1.76 | | SANDSTONE | LT.GY AS ABOVE; SOME COALY INCLUSIONS; SMALL PEBBLE AT 0.05,0.37,1.03; LISTRIC SURFACES WITH A REDDISH GREEN TINGE. |
| | 60 | 59.19 | 59.66 | 0.47 | | CORE LOSS | |
| | 60 | 59.66 | 59.72 | 0.06 | | COAL | C-1.VBRKN PWDRY; DOES NOT FIT WITH ABOVE MEASUREMENTS; WITH ROCK FRAGMENTS |
| | 60 | 59.72 | 59.82 | 0.10 | | MUDSTONE | CARB.DK.GY.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH INTERVAL | SAMP. SEAM | LITHOLOGY | DESCRIPTION |
|------|------------|----------------|------------|-----------|---|
| | ID | THICK. | ID ID | | |
| 60 | 59.82 | 60.17 | 0.35 | SANDSTONE | MG.LT.GY VFG TO MG; A FEW SLTY LAM ; VERY MICACEOUS; SOME BRN STAINING ALONG FRACTURES |
| * 60 | 60.17 | 62.77 | 2.60 | SANDSTONE | MG.LT.GY AS ABOVE; PIECES DONT MATCH AT FOOTAGE BLOCK; BRN STAINING ALONG FRACTURES; VFG TO MG |
| 60 | 62.77 | 62.86 | 0.09 | CORE LOSS | |
| 60 | 62.86 | 62.96 | 0.10 | SANDSTONE | AS ABOVE |
| 60 | 62.96 | 64.31 | 1.35 | SANDSTONE | AS ABOVE; RIP UP CLASTS FROM 0.00 TO 0.10; SOME COALY INCLUSIONS |
| 60 | 64.31 | 65.59 | 1.28 | SANDSTONE | AS ABOVE; PIECES DO NOT MATCH AT 0.65, 1.00 |
| 60 | 65.59 | 65.99 | 0.40 | SANDSTONE | AS ABOVE; PIECES DO NOT MATCH AT MARKER |
| 60 | 65.99 | 68.69 | 2.70 | SANDSTONE | AS ABOVE; PIECES DO NOT MATCH AT 0.30; PEBBLE BAND AT 2.33 TO 2.44; SOME RIP UP CLASTS; COALY INCLUSIONS; PEBBLE BAND AT END OF MEASUREMENT |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. -- COAL DIVISION -- DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80644

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 68.69 | 69.04 | 0.35 | | | SANDSTONE | AS ABV; WH AND BLK CHT BDS AT 0.00 TO 0.04, 0.16 TO 0.46 (SUBRD); ONE RED PBL A PPROX 0.002 TO 0.01 M; SOME PBL MAY BE SIL RIP UP CL; SOME BLU CHERT. |
| | 69.04 | 69.25 | 0.21 | | | SANDSTONE | AS ABOVE; PART OF PEBBLE BAND FROM LAST MEASUREMENT |
| | 69.25 | 70.41 | 1.16 | | | SILTSTONE | GY. VBRKN VERY ARGILLACEOUS; ABDNT LITRISTIC SURFACES LIMONTIC STAINING ALONG CALCIT FILLED FRACTURES; MUDST AT TOP OF MEASUREMENT AND FROM 0.43 TO 0.53 WHERE PIECES DO NOT MATCH |
| | 70.41 | 70.75 | 0.34 | | | CORE LOSS | |
| | 70.75 | 70.94 | 0.19 | | | SILTSTONE | GY. VBRKN AS ABOVE; ABDNT LIMONITE STAINING; SKS; |
| | 70.94 | 71.35 | 0.41 | | | SILTSTONE | GY AS ABOVE |
| | 71.35 | 71.57 | 0.22 | | | SILTSTONE | GY AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 18

PROJECT: GDR BLOCK: XX DATA SOURCE: UDH80044

| BCA | DEPTH EROM | DEPTH INTRVAL ID THICK. | SAMP. SEAM ID ID | LITHOLOGY | DESCRIPTION |
|------|---------------|----------------------------|---------------------|-----------|---|
| * 60 | 71.57 | 71.94 | 0.37 | SANDSTONE | MG.LT.GY FG TO MG |
| 60 | 71.94 | 72.05 | 0.11 | MUDSTONE | CARB.DK.GY VERY(MODIFIER); COALY LAM ; PWRDY |
| 60 | 72.05 | 72.16 | 0.11 | SANDSTONE | MG.LT.GY FG TO MG; BECOMING ARGILLACEOUS |
| 60 | 72.16 | 72.78 | 0.62 | SILTSTONE | GY FG SAND LAM; PIECES DO NOT MATCH AT 0.0 1, 0.26, 0.34, 0.4 |
| 61 | 72.78 | 72.90 | 0.12 | CORE LOSS | |
| 61 | 72.90 | 73.86 | 0.96 | SANDSTONE | MG.LT.GY FG TO MG; SLTY LAM ; MINOR CROSS-BEDDIN G; VERY MICACEOUS; HIGHLY FRACTURED CAL CT VEINING FROM 0.6 TO 0.74 |
| 61 | 73.86 | 74.21 | 0.35 | SANDSTONE | AS ABOVE |
| 61 | 74.21 | 75.09 | 0.88 | MUDSTONE | DK.GY A FEW SLTY LAM ; A FEW COALY PLANT REMA INS; PIECES DO NOT MATCH AT END OF MEAS UREMENT |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-------------|---|
| 62 | 75.09 | 75.39 | 0.30 | | | MUDSTONE | DK.GY.VBRKN AS ABOVE |
| 62 | 75.39 | 76.33 | 0.94 | | | SILTSTONE | GY MUDST INTERVAL FROM 0.58 TO 0.64 AND FROM 0.76 TO 0.94 ; CARB FLECKS THROUGHOUT |
| 62 | 76.33 | 76.87 | 0.54 | | | SILTSTONE | BRKN MUDST BANDS (VBRKN) FROM 0.39 TO 0.54 |
| 63 | 76.87 | 76.97 | 0.10 | | | COAL & ROCK | BRKN AND PWRDY; 10 TO 15% COAL |
| 63 | 76.97 | 77.40 | 0.43 | | | COAL LOSS | |
| 63 | 77.40 | 78.09 | 0.69 | | | SILTSTONE | VBRKN SANDY AT BASE; |
| 63 | 78.09 | 78.29 | 0.20 | | | SILTSTONE | AS ABOVE |
| 63 | 78.29 | 78.48 | 0.19 | | | MUDSTONE | SLTY.DK.GY A FEW PLANT FRAGMENTS COLOR: M-DK GY |
| 63 | 78.48 | 78.51 | 0.03 | | | COAL | C-5.VBRKN PWRDY |
| 63 | 78.51 | 78.61 | 0.10 | | | MUDSTONE | SLTY.DK.GY.BRKN AS MUDST ABOVE COLOR: M-DK GY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | DEPTH INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|----------------------------|-------------|------------|-----------|--|
| 63 | 78.61 | 78.65 | 0.04 | | | COAL | C-1.VBRKN POWDERY |
| 63 | 78.65 | 78.82 | 0.17 | | | CORE LOSS | |
| 64 | 78.82 | 78.98 | 0.16 | | | MUDSTONE | CARB.M.GY.VBRKN |
| 64 | 78.98 | 79.26 | 0.28 | | | SILTSTONE | DK.GY.BRKN ARGILLACEOUS AT TOP ; SOME CARB MATERIA L THROUGHOUT ; BECOMING SSY AT BASE |
| 64 | 79.26 | 80.23 | 0.97 | | | SILTSTONE | AS ABOVE; SSY AT BASE |
| 64 | 80.23 | 80.50 | 0.27 | | | MUDSTONE | DK.GY.VBRKN COALY LAM; SOME COAL FRAGMENTS IN TRAY |
| 64 | 80.50 | 81.12 | 0.62 | | | MUDSTONE | DK.GY.VBRKN AS ABOVE; BRKN TO POWDERY |
| 65 | 81.12 | 81.20 | 0.08 | | | MUDSTONE | DK.GY.VBRKN AS ABOVE |
| 65 | 81.20 | 81.25 | 0.05 | | | COAL | C-2.VSHRD VBRKN TO POWDERY |
| 65 | 81.25 | 81.69 | 0.44 | | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GOR BLOCK: XX DATA SOURCE: UDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 65 | 81.69 | 82.06 | 0.37 | | | MUDSTONE | SHRD AS ABOVE; SOME COALY INCLUSIONS; VBRKN ; A FEW SMALL PLANT FOSSILS |
| 65 | 82.06 | 82.76 | 0.70 | | | MUDSTONE | BRKN AS ABOVE; SOME PIECES DO NOT MATCH; LIS TRIC SURFACES; GREENISH BRN STAINING AL ONG FRACTURES SURFACES |
| 66 | 82.76 | 83.76 | 1.00 | | | SILTSTONE | M.GY A FEW MUD AND SILT LAM |
| * 66 | 83.76 | 84.12 | 0.36 | | | SANDSTONE | MG.LT.GY.BRKN MG TO FG; A FEW SLTY LAM ; REDDISH BRN AND GREENISH TINGE ALONG FRACTURE SURFA CES |
| 66 | 84.12 | 84.42 | 0.30 | | | SANDSTONE | MG.LT.GY AS ABOVE; MG-FG. |
| 66 | 84.42 | 84.72 | 0.30 | | | SANDSTONE | MG.LT.GY MG TO FG; AS ABOVE |
| 66 | 84.72 | 85.21 | 0.49 | | | MUDSTONE | LT.GY.SHRD VBRKN TO POWDERY; BECOMING VERY CARB AT BASE |
| 67 | 85.21 | 85.91 | 0.70 | | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDM80044

| BLA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 67 | 85.91 | 86.37 | 0.46 | | | COAL | C-5.VSHRD (C-5), LUSTROUS; VBRKN TO POWDERY |
| 67 | 86.37 | 86.40 | 0.03 | | | COAL | STONEY ; VERY CARB |
| 67 | 86.40 | 86.91 | 0.51 | | | SANDSTONE | MG.LT.GY.VBRKN FG TO MG; ARGILLACEOUS AT TOP ; EXTENSI VE CALCT VEINING; POSSIBLE FAULT |
| 67 | 86.91 | 87.06 | 0.15 | | | SANDSTONE | MG.LT.GY AS ABOVE; POWDERY; MG TO FG |
| 68 | 87.06 | 87.32 | 0.26 | | | SANDSTONE | MG.LT.GY.VBRKN AS ABOVE; REDDISH BRN STAINING AT TOP; EXTENSIVE CALCT VEINING |
| 68 | 87.32 | 88.03 | 0.71 | | | SANDSTONE | VBRKN AS ABOVE; ABDNT CALCT VEINING ; FAULT Z ONE |
| 68 | 88.03 | 88.34 | 0.31 | | | CORE LOSS | |
| 68 | 88.34 | 89.67 | 1.33 | | | SANDSTONE | CARB.VBRKN AS ABOVE; ABDNT CALCT VEINING; A FEW MI NDR RIP UP CLASTS |
| 69 | 89.67 | 90.11 | 0.44 | | | SANDSTONE | VBRKN AS ABOVE |

* DENOTES MEASURED BLA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 23

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|-------------------|----------------|----------|---------|-----------|---|
| 69 | 90.11 | 91.61 | 1.50 | | | SANDSTONE | AS ABOVE; SOME PIECES DO NOT FIT; VERY CG SS FROM 1.42 TO 1.53; POSSIBLE END OF FAULT ZONE; TOP 0.04 M IS REDDISH BRN; SMOKEY QUARTZ IN PURES |
| 70 | 91.61 | 92.24 | 0.63 | | | CORE LOSS | |
| * 70 | 92.24 | 92.39 | 0.15 | | | SANDSTONE | AS ABOVE; NOTE: BOX 33 IDENTITY IS UNCERTAIN; (WAS ORIGINALLY MISSING). END OF BOX 32 DOES NOT MATCH TOP OF BOX 33 DOES NOT MATCH TOP OF BOX 34 |
| 70 | 92.39 | 94.33 | 1.94 | | | CORE LOSS | |
| 69 | 94.33 | 96.21 | 1.88 | | | SANDSTONE | VBRKN AS ABOVE SS; NUMEROUS COALY INCLUSIONS; RIP UP CLASTS AT 1.00; VERY GRITTY; RIP UP CLAST BANDS AT 1.00 |
| 69 | 96.21 | 96.77 | 0.56 | | | SANDSTONE | VBRKN AS ABOVE |
| 69 | 96.77 | 97.84 | 1.07 | | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 68 | 97.84 | 99.26 | 1.42 | | | SANDSTONE | VCG.M.GY GRITTY BANDS; GRIT BANDS AT 0.77, 1.00; PIECES DO NOT MATCH 1.16; RIP UP CLAST S AT 1.24; VERY GRITTY AT BASE |
| 68 | 99.26 | 100.45 | 1.19 | | | SANDSTONE | AS ABOVE; PEBBLE BAND; SUB ANGULAR BLAC K AND WHITE CHERT AT 0.12, 0.60; COAL F LECKS; BRKN; RIP UP CLASTS |
| 68 | 100.45 | 100.62 | 0.17 | | | SANDSTONE | AS ABOVE |
| 68 | 100.62 | 100.87 | 0.25 | | | MUDSTONE | CARB.DK.GY.VBRKN |
| 68 | 100.87 | 100.93 | 0.06 | | | CORE LOSS | |
| 68 | 100.93 | 101.88 | 0.95 | | | MUDSTONE | CARB.DK.GY.VBRKN |
| 67 | 101.88 | 102.45 | 0.57 | | | CORE LOSS | |
| 67 | 102.45 | 103.43 | 0.98 | | | MUDSTONE | CARB.DK.GY.VBRKN AS ABOVE |
| 67 | 103.43 | 103.71 | 0.28 | | | CORE LOSS | |
| 67 | 103.71 | 105.50 | 1.79 | | | MUDSTONE | CARB.DK.GY.BRKN AS ABOVE MUDST |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 25

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 66 | 105.50 | 106.38 | 0.88 | | | MUDSTONE | CARB.DK.GY AS ABOVE |
| 66 | 106.38 | 106.51 | 0.13 | | | CORE LOSS | |
| 66 | 106.51 | 108.55 | 2.04 | | | MUDSTONE | CARB.DK.GY AS ABOVE |
| 66 | 108.55 | 108.91 | 0.36 | | | MUDSTONE | CARB.DK.GY.BRKN AS ABOVE; COALY INCLUSIONS |
| 66 | 108.91 | 108.97 | 0.06 | | | COAL | C-1.VBRKN VBRKN TO POWDERY; ROCK FRAGMENT MIXED W ITHIN |
| 66 | 108.97 | 109.17 | 0.20 | | | MUDSTONE | CARB.DK.GY.VBRKN AS MUDST ABOVE |
| 65 | 109.17 | 109.27 | 0.10 | | | MUDSTONE | AS ABOVE COALY INCLUSIONS |
| 65 | 109.27 | 109.30 | 0.03 | | | COAL | C-5.VBRKN VBRKN TO POWDERY |
| 65 | 109.30 | 109.35 | 0.05 | | | MUDSTONE | CARB.DK.GY.VBRKN AS ABOVE MUDST; NUMEROUS COAL INCLUSION S. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 26

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 65 | 109.35 | 109.41 | 0.06 | | | COAL | C-4.VBRKN |
| 65 | 109.41 | 110.10 | 0.69 | | | CORE LOSS | |
| 65 | 110.10 | 110.16 | 0.06 | | | MUDSTONE | CARB.DK.GY.VBRKN VERY CARB. |
| 65 | 110.16 | 110.18 | 0.02 | | | COAL | C-5.VBRKN C-5 LUSTROUS |
| 65 | 110.18 | 110.30 | 0.12 | | | MUDSTONE | VBRKN AS MUDST ABOVE; VSHRD; ABUNT LISTRIC SU RFACES |
| 65 | 110.30 | 110.38 | 0.08 | | | COAL | C-5.SHRD C-5 LUSTROUS; VBRKN |
| 65 | 110.38 | 110.51 | 0.13 | | | MUDSTONE | CARB.DK.GY |
| 65 | 110.51 | 110.57 | 0.06 | | | COAL | VBRKN STONEY |
| 65 | 110.57 | 110.60 | 0.03 | | | COAL | C-4.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 27

PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 65 | 110.60 | 110.72 | 0.12 | | | MUDSTONE | CARB. DK. GY |
| 65 | 110.72 | 111.60 | 0.88 | | | SANDSTONE | CG. LT-M. GY. BRKN MG TO CG; CALCIT FILLED FRACTURES; VERY ARGILLACEOUS |
| 65 | 111.60 | 111.93 | 0.33 | | | SANDSTONE | CG. LT-M. GY CG TO MG; AS ABOVE; SMOKEY QUARTZ ON FR ACTURE SURFACES |
| 64 | 111.93 | 114.53 | 2.60 | | | SANDSTONE | BRKN AS ABOVE; ABUNT SMOKEY QUARTZ CRYSTALS ON FRACTURES SURFACES; |
| 64 | 114.53 | 114.63 | 0.10 | | | SANDSTONE | CG. LT-M. GY CG TO MG; AS ABOVE; GRITTY; COALY INCLU SIONS. |
| 64 | 114.63 | 114.96 | 0.33 | | | CORE LOSS | |
| 64 | 114.96 | 117.58 | 2.62 | | | SANDSTONE | MG. LT-M. GY. BRKN VFG TO MG; A FEW SLTY AND MUDDY INTERBE DS |
| 63 | 117.58 | 120.25 | 2.67 | | | SANDSTONE | MG. LT. GY. BRKN MG TO VFG; AS ABOVE; GRIT FROM 0.00 TO 0.07 , MUDST BAND FROM 0.44 TO 0.67 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH80044

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 62 | 120.25 | 120.75 | 0.50 | | | SANDSTONE | AS ABOVE, A FEW PIECES DON'T MATCH 0.41 |
| 62 | 120.75 | 120.87 | 0.12 | | | SANDSTONE | AS ABOVE |
| 62 | 120.87 | 121.47 | 0.60 | | | MUDSTONE | DK.GY A FEW HORSETAIL CALCIT VEINS |
| * 62 | 121.47 | 122.98 | 1.51 | | | SANDSTONE | LT.GY.BIOTR A FEW COALY LAM |
| 64 | 122.98 | 123.21 | 0.23 | | | SANDSTONE | LT.GY.BIOTR AS ABOVE, (CORE BADLY MIXED UP); INTERB EDDED CUAL |
| 65 | 123.21 | 123.42 | 0.21 | | | MUDSTONE | DK.GY.BRKN |
| 65 | 123.42 | 123.52 | 0.10 | | | SANDSTONE | LT.GY.BIOTR AS ABOVE SS |
| 66 | 123.52 | 123.58 | 0.06 | | | MUDSTONE | DK.GY.BRKN PIECES DO NOT FIT;(CORE LOSS) |
| 66 | 123.58 | 123.80 | 0.22 | | | CORE LOSS | |
| 67 | 123.80 | 123.86 | 0.06 | | | MUDSTONE | DK.GY AS MUDST ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 29

PROJECT: GDR BLOCK: XX DATA SOURCE: DUH80044

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|-------------------|----------------|----------|---------|-----------|---|
| 67 | 123.86 | 124.19 | 0.33 | | | SANDSTONE | MG.LT.GY MG TU FG |
| 68 | 124.19 | 124.34 | 0.15 | | | CORE LOSS | |
| 68 | 124.34 | 124.74 | 0.40 | | | MUDSTONE | CARB.DK.GY |
| 70 | 124.74 | 125.74 | 1.00 | | | SANDSTONE | FG.LT.GY SLTY AND MUDDY LAM; CALCT VEINING WITH YELLOW STAINING |
| 72 | 125.74 | 126.00 | 0.26 | | | MUDSTONE | DK.GY |
| 73 | 126.00 | 126.15 | 0.15 | | | MUDSTONE | DK.GY |
| * 74 | 126.15 | 126.85 | 0.70 | | | SANDSTONE | MG.LT.GY FG TU MG; ARGILLACEOUS PYRITE SMEARS ON FRACTURE SURFACES; CALCT VEINING |
| 74 | 126.85 | 126.88 | 0.03 | | | SANDSTONE | AS ABOVE |
| 73 | 126.88 | 127.28 | 0.40 | | | MUDSTONE | SLTY.DK.GY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 30

PROJECT: GUK BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH INTERVAL TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|-------------------|----------------|----------|---------|-----------|--|
| 73 | 127.28 | 127.55 | 0.27 | | | SANDSTONE | FG.M.GY.BRKN ARGILLACEOUS |
| 72 | 127.55 | 128.51 | 0.96 | | | MUDSTONE | DK.GY.BRKN LISTRIC SURFACES ABDNT; SMALL LEAF PLANT FOSSILS; |
| 71 | 128.51 | 129.07 | 0.56 | | | MUDSTONE | BRKN AS ABOVE; PIECES DO NOT MATCH |
| 71 | 129.07 | 129.45 | 0.38 | | | CORE LOSS | |
| 70 | 129.45 | 129.70 | 0.25 | | | SILTSTONE | M.GY.BRKN VERY SILICEOUS |
| 70 | 129.70 | 129.90 | 0.20 | | | MUDSTONE | CARB AS ABOVE MUDST |
| 70 | 129.90 | 130.11 | 0.21 | | | MUDSTONE | DK.GY COAL IN TRAY 10%; BRKN TO POWDERY |
| 70 | 130.11 | 130.35 | 0.24 | | | CORE LOSS | |
| 69 | 130.35 | 130.96 | 0.61 | | | MUDSTONE | SLTY AS MUDST ABOVE; HARD |
| 69 | 130.96 | 131.26 | 0.30 | | | SILTSTONE | M.GY.BRKN COALY INCLUSIONS; WELL SILICIFIED |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 31

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH INTRVAL TO | INTRVAL THICK. | SAMP. SEAM ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|---------------------|-------------------|------------------|------------|-----------|---|
| | 68 | 131.26 | 131.52 | 0.26 | | MUDSTONE | BRKN AS MUDST ABOVE; SILICIFIED |
| | 68 | 131.52 | 132.25 | 0.73 | | MUDSTONE | SLTY AS ABOVE; COALY PLANT REMAINS |
| * | 67 | 132.25 | 132.95 | 0.70 | | SANDSTONE | MG.DK.GY.BRKN FG TO MG; VERY DIRTY; A FEW PYRITE SMEA RS ON FRACTURE SURFACES |
| | 67 | 132.95 | 133.72 | 0.77 | | SANDSTONE | BIOTR AS ABOVE |
| | 67 | 133.72 | 134.31 | 0.59 | | SANDSTONE | CG.LT.GY FG TO CG ; COALY INCLUSIONS AT BASE; RI P UP CLASTS |
| | 67 | 134.31 | 134.38 | 0.07 | | CORE LOSS | |
| | 67 | 134.38 | 136.00 | 1.62 | | SANDSTONE | AS SS ABOVE; PIECES DO NOT MATCH |
| | 67 | 136.00 | 136.15 | 0.15 | | CORE LOSS | |
| | 67 | 136.15 | 136.18 | 0.03 | | SANDSTONE | AS SS ABOVE |
| | 67 | 136.18 | 137.18 | 1.00 | | MUDSTONE | CARB.DK.GY SLTY AT BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH INTERVAL | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------------|----------|---------|-----------|--|
| 66 | 137.18 | 139.05 | 1.87 | | MUDSTONE | CARB.DK.GY |
| 66 | 139.05 | 139.82 | 0.77 | | MUDSTONE | CARB.DK.GY AS ABOVE; SILT BANDS |
| 66 | 139.82 | 140.80 | 0.98 | | SANDSTONE | MG.LT.GY FG TO MG; COALY INCLUSIONS |
| 66 | 140.80 | 140.82 | 0.02 | | COAL | C-5.BRKN |
| 66 | 140.82 | 140.88 | 0.06 | | COAL | STONEY |
| 66 | 140.88 | 141.09 | 0.21 | | MUDSTONE | CARB.DK.GY |
| 66 | 141.09 | 141.11 | 0.02 | | COAL | C-4 |
| 66 | 141.11 | 141.14 | 0.03 | | COAL | C-2 |
| 66 | 141.14 | 141.17 | 0.03 | | COAL | C-3 |
| 66 | 141.17 | 141.60 | 0.43 | | CORE LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 33

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH0044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 66 | 141.60 | 141.96 | 0.36 | | MUDSTONE | DK.GY SLTY AND SSY INCLUSIONS |
| * | 66 | 141.96 | 142.02 | 0.06 | | COAL | C-4 |
| | 66 | 142.02 | 142.10 | 0.08 | | MUDSTONE | CARB.DK.GY |
| | 66 | 142.10 | 142.47 | 0.37 | | MUDSTONE | CARB.DK.GY AS ABOVE ; COALY INCLUSIONS |
| | 66 | 142.47 | 142.61 | 0.14 | | SANDSTONE | MG.LT.GY FG TO MG; COALY INCLUSIONS |
| | 66 | 142.61 | 143.50 | 0.89 | | SANDSTONE | FG.LT.GY.BRKN |
| | 66 | 143.50 | 144.04 | 0.54 | | MUDSTONE | LK.GY.VBRKN SHRD; LISTRIC SURFACES; CARB PYRITE FLE CKS |
| | 66 | 144.04 | 144.08 | 0.04 | | COAL | C-5.BRKN |
| | 66 | 144.08 | 144.10 | 0.02 | | MUDSTONE | DK.GY AS MUDST ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH ELEM. | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|----------------|-------------|-------------------|-------------|------------|-----------|--------------------------------------|
| 66 | 144.10 | 144.69 | 0.59 | | | CORE LOSS | |
| 66 | 144.69 | 144.71 | 0.02 | | | COAL | C-4 POWDERY |
| 66 | 144.71 | 144.78 | 0.07 | | | COAL | C-5 C-5 LUSTROUS |
| 66 | 144.78 | 144.88 | 0.10 | | | COAL | C-5.BRKN C-5 LUSTROUS |
| 66 | 144.88 | 144.96 | 0.08 | | | COAL | C-5.BRKN |
| 66 | 144.96 | 145.01 | 0.05 | | | COAL | C-1.VSHRD |
| 66 | 145.01 | 145.10 | 0.09 | | | COAL | C-6 |
| 66 | 145.10 | 145.16 | 0.06 | | | COAL | C-2.SHRD |
| 66 | 145.16 | 145.18 | 0.02 | | | COAL | C-2 |
| 66 | 145.18 | 145.58 | 0.40 | | | MUDSTONE | CARB.DK.GY SSY INCLUSIONS AND LAM |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 35

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 65 145.58 | 146.71 | 1.13 | | | MUDSTONE | CARB.DK.GY AS ABOVE |
| | 65 146.71 | 148.02 | 1.31 | | | SANDSTONE | MG.LT.GY.BRKN FG TO MG; PIECES DO NOT MATCH |
| | 65 148.02 | 148.22 | 0.20 | | | ROCK LOSS | |
| | 65 148.22 | 148.57 | 0.35 | | | ROCK LOSS | |
| * | 65 148.57 | 151.02 | 2.45 | | | SANDSTONE | MG.LT.GY MG TO FG; AS SS ABOVE; LISTRIC SURFACES ; SMALL SMUKEY QUARTZ CRYSTALS ALONG CA LCT FRACTURES; SOME FRACTURES ARE NOT C ALCT FILLED ; TOP IS UP |
| | 66 151.02 | 151.27 | 0.25 | | | SANDSTONE | AS ABOVE |
| | 66 151.27 | 152.78 | 1.51 | | | SANDSTONE | AS ABOVE; ABOUT CALCT FILLED FRACTURES |
| | 67 152.78 | 153.36 | 0.58 | | | MUDSTONE | CARB.DK.GY |
| | 67 153.36 | 153.68 | 0.32 | | | CORE LOSS | |
| | 67 153.68 | 153.79 | 0.11 | | | COAL | C-6 |
| | 67 153.79 | 153.89 | 0.10 | | | MUDSTONE | CARB.DK.GY |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 36

PROJECT: GDR BLOCK: XY DATA SOURCE: DDH60044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 67 | 153.89 | 153.95 | 0.06 | | | SILTSTONE | M.GY |
| 67 | 153.95 | 154.15 | 0.20 | | | MUDSTONE | CARB.DK.GY |
| 67 | 154.15 | 154.32 | 0.17 | | | SILTSTONE | M.GY |
| 67 | 154.32 | 155.20 | 0.88 | | | MUDSTONE | CARB.DK.GY.VBRKN |
| 68 | 155.20 | 156.07 | 0.87 | | | SILTSTONE | LT.GY.BRKN A FEW COALY INCLUSIONS; SILICIOUS |
| 68 | 156.07 | 156.67 | 0.60 | | | CORE LUSS | |
| 68 | 156.67 | 156.76 | 0.09 | | | COAL | C-5.BRKN C-5 LUSTROUS |
| 68 | 156.76 | 156.79 | 0.03 | | | COAL | C-3.BRKN |
| 68 | 156.79 | 156.86 | 0.07 | | | COAL | C-3.VBRKN VBRKN TO POWDERY |
| 68 | 156.86 | 157.38 | 0.52 | | | SILTSTONE | M.GY.VBRKN SILICIFIED. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 37

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INIRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 69 157.38 | 158.88 | 1.50 | | | CORE LOSS | |
| | 69 158.88 | 159.29 | 0.41 | | | SILTSTONE | AS SLTST ABOVE; SS INTERBEDDED AT 0.38, 0.51 |
| | 70 159.29 | 159.96 | 0.67 | | | MUDSTONE | DK.GY.BRKN |
| | 70 159.96 | 160.13 | 0.17 | | | MUDSTONE | DK.GY AS ABOVE |
| | 70 160.13 | 160.17 | 0.04 | | | SANDSTONE | MG.M.GY FG TO MG; FINE XBDG THEN COALY LAM |
| | 70 160.17 | 161.34 | 1.17 | | | SANDSTONE | AS ABOVE; ARGILLACEOUS; PLANT FOSSILS; VERY CALC |
| | 70 161.34 | 161.37 | 0.03 | | | MUDSTONE | CARB.DK.GY |
| | 70 161.37 | 161.41 | 0.04 | | | COAL | C-4.VBRKN |
| | 71 161.41 | 161.86 | 0.45 | | | CORE LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 38

PROJECT: CLR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 71 | 161.86 | 161.99 | 0.13 | | | MUDSTONE | CARB.DK.GY |
| 71 | 161.99 | 162.28 | 0.29 | | | SANDSTONE | FG.LT.GY |
| 71 | 162.28 | 162.53 | 0.25 | | | MUDSTONE | M.GY.VBRKN SLTY COAL INCLUSIONS; PLANT FOSSILS |
| 71 | 162.53 | 162.56 | 0.03 | | | COAL | C-4.PWRD MIXED WITH ROCK FRAGMENTS |
| 71 | 162.56 | 162.83 | 0.27 | | | MUDSTONE | SLTY.M.GY AS MUDST ABOVE; ABDNT LISTRIC SURFACES; VERY CARB;CALCT VEINING |
| 71 | 162.83 | 163.23 | 0.40 | | | MUDSTONE | SLTY.M.GY AS ABOVE; LISTRIC SURFACES WITH CALCT |
| 71 | 163.23 | 163.46 | 0.23 | | | MUDSTONE | SLTY.M.GY.BRKN AS ABOVE |
| 71 | 163.46 | 163.51 | 0.05 | | | CORE LOSS | |
| 72 | 163.51 | 163.85 | 0.34 | | | SILTSTONE | LT.GY.BRKN VERY ARGILLACEOUS |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 39

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 72 | 163.85 | 165.55 | 1.70 | | | SILTSTONE | LT.GY.BRKN AS ABOVE; YELLOW STAINING AT 0.49; COAL Y INCLUSIONS |
| 72 | 165.55 | 165.87 | 0.32 | | | CORE LOSS | |
| * 72 | 165.87 | 166.60 | 0.73 | | | SILTSTONE | AS ABOVE; VERY ARGILLACEOUS FROM 0.00 T O 0.21; PYRITE SMEARS |
| 72 | 166.60 | 166.87 | 0.27 | | | SILTSTONE | AS ABOVE PYRITE SMEARS |
| 72 | 166.87 | 167.50 | 0.63 | | | MUDSTONE | CARB.DK.GY.BRKN |
| 71 | 167.50 | 167.58 | 0.08 | 00754 | | COAL | C-4.VBRKN |
| 71 | 167.58 | 167.67 | 0.09 | 00754 | | COAL LOSS | |
| 71 | 167.67 | 167.73 | 0.06 | 00755 | | ROCK LOSS | |
| 71 | 167.73 | 168.27 | 0.54 | 00755 | | MUDSTONE | DK.GY SLTY LAM; COALY LAM |
| 71 | 168.27 | 168.40 | 0.13 | 00756 | | COAL&ROCK | VBRKN TO POWDERY; COAL IS DULL LUSTROUS; 90% COAL |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 40

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--------------------------|
| 71 | 168.40 | 168.47 | 0.07 | 00756 | | MUDSTONE | CARB.DK.GY VERY CARB. |
| 71 | 168.47 | 168.48 | 0.01 | 00756 | | SILTSTONE | DK.GY |
| 71 | 168.48 | 168.50 | 0.02 | 00756 | | COAL | C-5.BRKN |
| 71 | 168.50 | 168.52 | 0.02 | 00756 | | COAL | C-1 |
| 71 | 168.52 | 168.54 | 0.02 | 00756 | | COAL | C-6 |
| 71 | 168.54 | 168.58 | 0.04 | 00756 | | COAL | C-3.VBRKN |
| 71 | 168.58 | 168.66 | 0.08 | 00756 | | COAL | C-5.VBRKN |
| 71 | 168.66 | 168.68 | 0.02 | 00756 | | MUDSTONE | CARB.DK.GY |
| 71 | 168.68 | 168.71 | 0.03 | 00756 | | COAL | STONEY |
| 71 | 168.71 | 168.72 | 0.01 | 00756 | | MUDSTONE | CARB.DK.GY |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 41

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|------------------------------------|
| 71 | 168.72 | 168.74 | 0.02 | 00756 | | COAL | BRKN STONEY |
| 71 | 168.74 | 168.77 | 0.03 | 00756 | | MUDSTONE | CARB. DK. GY |
| 71 | 168.77 | 169.01 | 0.24 | 00756 | | ROCK LOSS | |
| 71 | 169.01 | 169.07 | 0.06 | 00756 | | ROCK LOSS | |
| 71 | 169.07 | 169.21 | 0.14 | 00757 | | COAL | C-4 |
| 71 | 169.21 | 169.25 | 0.04 | 00757 | | COAL | C-2 |
| 71 | 169.25 | 169.27 | 0.02 | 00757 | | COAL | C-5 C-5 LUSTROUS |
| 71 | 169.27 | 169.32 | 0.05 | 00757 | | COAL | C-4 .VBRKN |
| 71 | 169.32 | 169.33 | 0.01 | 00757 | | COAL | C-1 |
| 71 | 169.33 | 169.35 | 0.02 | 00757 | | COAL | C-5 .BRKN C-5 LUSTROUS; POWDERY |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 42

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 71 | 169.35 | 169.42 | 0.07 | 00757 | | COAL | C-2.BRKN POWDERY |
| 71 | 169.42 | 169.47 | 0.05 | 00757 | | COAL | C-4.BRKN POWDERY |
| 71 | 169.47 | 169.49 | 0.02 | 00758 | | MUDSTONE | CARB.DK.GY BRIGHT BANDS |
| 71 | 169.49 | 169.72 | 0.23 | 00758 | | MUDSTONE | CARB.DK.GY AS ABOVE; SLTY |
| 70 | 169.72 | 169.87 | 0.15 | 00758 | | ROCK LOSS | |
| 70 | 169.87 | 169.97 | 0.10 | 00759 | | COAL LOSS | |
| 70 | 169.97 | 170.07 | 0.10 | 00759 | | COAL | C-2 BRKN TO POWDERY |
| 70 | 170.07 | 170.19 | 0.12 | | | MUDSTONE | CARB.DK.GY AS MUDST ABOVE; SLTY |
| * 70 | 170.19 | 171.51 | 1.32 | | | SANDSTONE | FG.LT.GY VERY FINE SILT LAM, SOME PIECES DO NOT MATCH; COALY LAM; A FEW SURFACES, REACT TO ACID |
| 70 | 171.51 | 171.69 | 0.18 | | | MUDSTONE | DK.GY SILICEOUS |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 43

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 70 | 171.69 | 172.29 | 0.60 | | | MUDSTONE | M.GY SLTY INTERBEDS |
| 69 | 172.29 | 172.54 | 0.25 | | | SILTSTONE | LT.GY CALCT VEINING |
| 69 | 172.54 | 172.67 | 0.13 | | | MUDSTONE | SLTY.M.GY BRKN PIECES DO NOT MATCH AT MARKER |
| 69 | 172.67 | 173.12 | 0.45 | | | CORE LOSS | |
| 69 | 173.12 | 174.68 | 1.56 | | | MUDSTONE | SLTY.M.GY AS ABOVE; VERY CARB CALCT VEINING |
| 69 | 174.68 | 175.07 | 0.39 | | | MUDSTONE | SLTY.M.GY.BRKN AS ABOVE; VERY CARB |
| 69 | 175.07 | 175.33 | 0.26 | | | CORE LOSS | |
| 68 | 175.33 | 175.44 | 0.11 | | | COAL | C-5.VBRKN C-5 LUSTROUS; |
| 68 | 175.44 | 175.48 | 0.04 | | | COAL | C-4 BRKN TO POWDERY |
| 68 | 175.48 | 175.63 | 0.15 | | | COAL | C-5.SHRD C-5 LUSTROUS; FEW BRIGHT |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 44

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 68 | 175.63 | 176.17 | 0.54 | | | SILTSTONE | M.GY CALCIUM CEMENT; CALCT VEINING; A FEW SS Y INTERLAM |
| 68 | 176.17 | 177.10 | 0.93 | | | SILTSTONE | M.GY AS ABOVE; SSY AT BASE |
| 68 | 177.10 | 177.37 | 0.27 | | | CORELOSS | |
| 68 | 177.37 | 177.40 | 0.03 | | | COAL | C-4.BRKN |
| 68 | 177.40 | 177.42 | 0.02 | | | COAL | C-3.BRKN |
| 68 | 177.42 | 177.48 | 0.06 | | | COAL | |
| 68 | 177.48 | 177.53 | 0.05 | | | MUDSTONE | CARB.DK.GY.BRKN |
| 68 | 177.53 | 177.56 | 0.03 | | | COAL | C-4 |
| 68 | 177.56 | 177.58 | 0.02 | | | COAL | C-6.BRKN |
| 68 | 177.58 | 177.62 | 0.04 | | | COAL | C-5 C-5 LUSTROUS |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 45

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FBOM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 68 | 177.62 | 177.73 | 0.11 | | | MUDSTONE | CARB.DK.GY |
| 68 | 177.73 | 177.76 | 0.03 | | | COAL | C-6 |
| 67 | 177.76 | 179.19 | 1.43 | | | MUDSTONE | CARB.DK.GY SLTST INTERBEDS; CALCT VEINING; SKS PUS SIBLE FAULT |
| 67 | 179.19 | 179.66 | 0.47 | | | MUDSTONE | CARB.DK.GY.VBRKN AS ABOVE |
| 67 | 179.66 | 180.29 | 0.63 | | | SANDSTONE | FG.LT.GY TO MGY. |
| 67 | 180.29 | 180.42 | 0.13 | | | SANDSTONE | AS ABOVE. |
| 67 | 180.42 | 181.27 | 0.85 | | | MUDSTONE | CARB.DK.GY.VBRKN COALY INCLUSIONS. |
| 66 | 181.27 | 181.50 | 0.23 | | | CORE LOSS | |
| 66 | 181.50 | 181.53 | 0.03 | | | COAL | C-3.SHRD VBRKN |
| 66 | 181.53 | 181.62 | 0.09 | | | COAL | C-5 C-5 LUSTROUS |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 46

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH60044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 66 | 181.62 | 181.67 | 0.05 | | | COAL | C-6 |
| 66 | 181.67 | 181.70 | 0.03 | | | COAL | C-5 C-5 LUSTROUS |
| 66 | 181.70 | 181.74 | 0.04 | | | COAL | C-5 C-5 LUSTROUS; BRKN AND POWDERY |
| 66 | 181.74 | 181.79 | 0.05 | | | COAL | C-2.BRKN |
| 66 | 181.79 | 181.82 | 0.03 | | | COAL | C-5 C-5 LUSTROUS; BRKN POWDERY |
| 66 | 181.82 | 181.84 | 0.02 | | | MUDSTONE | CARB.DK.GY |
| 66 | 181.84 | 181.88 | 0.04 | | | COAL | C-5.VBRKN |
| 66 | 181.88 | 182.23 | 0.35 | | | MUDSTONE | CARB.DK.GY AS ABOVE ; VERY HARD; VERY CARB |
| 66 | 182.23 | 182.25 | 0.02 | | | MUDSTONE | AS ABOVE. |
| 66 | 182.25 | 182.27 | 0.02 | | | COAL | C-2.SHRD POWDERY |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 47

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 66 | 182.27 | 182.68 | 0.41 | | | MUDSTONE | CARB.DK.GY |
| * 66 | 182.68 | 182.97 | 0.29 | | | SANDSTONE | FG.M.GY CALCT VEINING |
| 66 | 182.97 | 183.99 | 1.02 | | | SANDSTONE | FG.M.GY AS ABOVE; LISTRIC SURFACES; CALCT VEINI NG; POSSIBLE FAULT |
| 66 | 183.99 | 184.32 | 0.33 | | | CORE LOSS | |
| 66 | 184.32 | 184.46 | 0.14 | | | COAL | C-5 POWDERY WITH POWDER ROCK FRAGMENTS |
| 66 | 184.46 | 185.08 | 0.62 | | | MUDSTONE | CARB.DK.GY A FEW SSY INTERBEDS |
| 66 | 185.08 | 185.18 | 0.10 | | | COAL&ROCK | PWRD 20%COAL |
| 66 | 185.18 | 185.28 | 0.10 | | | MUDSTONE | AS MUDST ABOVE |
| 66 | 185.28 | 185.65 | 0.37 | | | MUDSTONE | AS ABOVE; SLTY LAM |
| 66 | 185.65 | 186.72 | 1.07 | | | MUDSTONE | BRKN AS ABOVE; WITH SLTY INTERBEDS FROM 0.29 TO 0.34 |

* DENOTES MEASURED BCA

XXXXX

82/G1/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 48

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. TO | SEAM TO | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---------------------------|
| 66 | 186.72 | 186.81 | 0.09 | | | COAL | C-6 |
| 66 | 186.81 | 187.04 | 0.23 | | | MUDSTONE | AS MUDST ABOVE |
| 66 | 187.04 | 187.12 | 0.08 | | | COAL | C-4.BRKN |
| 66 | 187.12 | 187.29 | 0.17 | | | CORE LOSS | |
| 66 | 187.29 | 187.47 | 0.18 | | | COAL | C-5.VBRKN C-5 LUSTROUS |
| 66 | 187.47 | 187.50 | 0.03 | | | COAL | C-6.BRKN |
| 66 | 187.50 | 187.53 | 0.03 | | | COAL | C-5.BRKN |
| 66 | 187.53 | 187.56 | 0.03 | | | MUDSTONE | CARB.DK.GY |
| 66 | 187.56 | 187.60 | 0.04 | | | COAL | C-6.BRKN |
| 66 | 187.60 | 187.63 | 0.03 | | | COAL | C-6.BRKN |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - GRILL CORE LOG

PAGE 49

PROJECT: GDR BLOCK: XX DATA SOURCE: UDH80044

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 66 | 187.63 | 188.33 | 0.70 | | | SILTSTONE | M.GY ARGILLACEOUS; A FEW COALY PLANT FOSSILS |
| 66 | 188.33 | 190.85 | 2.52 | | | SILTSTONE | AS ABOVE WITH SSS INTERBEDS; PIECES DO NOT MATCH; PIECES ARE MIXED UP WITH TH IS BOX AND 66 |
| 66 | 190.85 | 191.24 | 0.39 | | | CORE LOSS | |
| 66 | 191.24 | 191.38 | 0.14 | | | SILTSTONE | AS ABOVE; PIECES DO NOT FIT |
| 66 | 191.38 | 191.95 | 0.57 | | | SILTSTONE | AS ABOVE; MIXED UP |
| 66 | 191.95 | 193.21 | 1.26 | | | SANDSTONE | MG.LT.GY ARGILLACEOUS; MIXED UP; PIECES DO NOT F IT; END OF HOLE 192.98 |

* DENOTES MEASURED BCA



OPEN FILE

GULF CANADA RESOURCES INC.

COAL DIVISION

GOODRICH GEOLOGICAL REPORT

1981.

APPENDIX B PART 3

DDH 81-01 to DDH 81-04

DDH 81-01

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81001

HISTORY

DY MO YR DY MO YR
 START DATE: 19/06/81 END DATE: 23/06/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: V. TAPLEY SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1230.6
 UTM ZONE: 10 NORTH: 6140535.08 EAST: 549360.18
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: . EAST: . LSD: SEC: TWP: RGE: MER:
 NIS-BC NORTH: . EAST: . QUAD: UNIT: BLK: ST: MUS: MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 385.55 INCLINATION: -65.0 AZIMUTH: 040.0
 SIZE WIDTH: . SIZE HEIGHT: .
 ROOF STRIKE: DIP: FLOOR STRIKE: DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 8.50 CEMENTED: PLUGGED: PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: . . LOST CIRCULATION DEPTHS: . .

GEOPHYSICAL LOGGING

| LOG | RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|-----|---------|---------|-----------|----------------|-----------|-----------|-------------|
| GAMMA | X | 1:100 | : | --- | --- | --- | X | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | --- | X | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | X | --- | 247AS |
| CALIPER | X | 1:100 | : | --- | --- | X | --- | 785 |
| FE-SHORT | --- | : | : | --- | --- | --- | --- | _____ |
| FE-LONG | --- | : | : | --- | --- | --- | --- | _____ |
| DIRECTIONAL | X | : | : | --- | --- | --- | --- | _____ |
| DIPMETER | --- | : | : | --- | --- | --- | --- | _____ |

*** COAL DIVISION ***

INTERVAL OF INTERPOLATION 10 UNIT(S)

DATA SOURCE: DB1-01

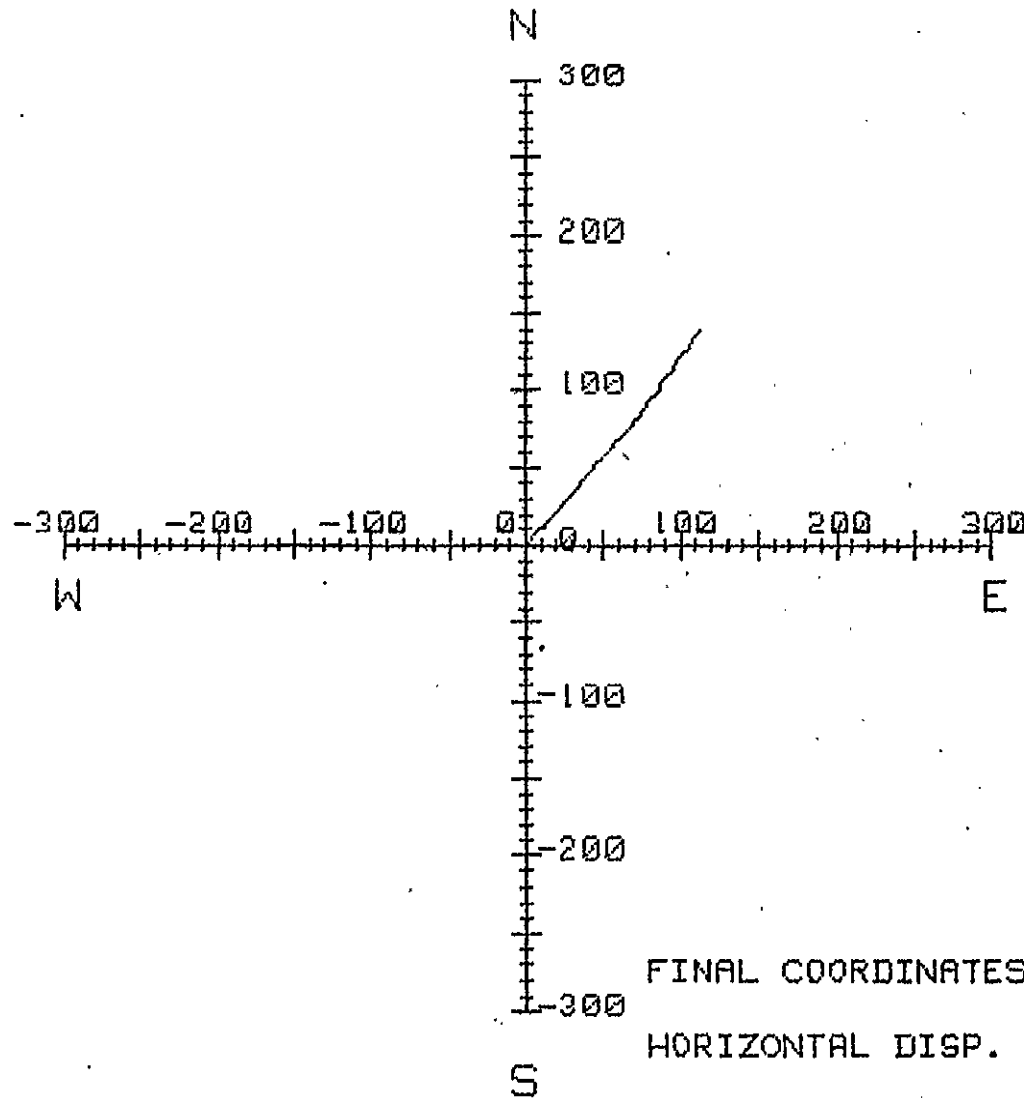
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY -- INPUT PARAMETERS

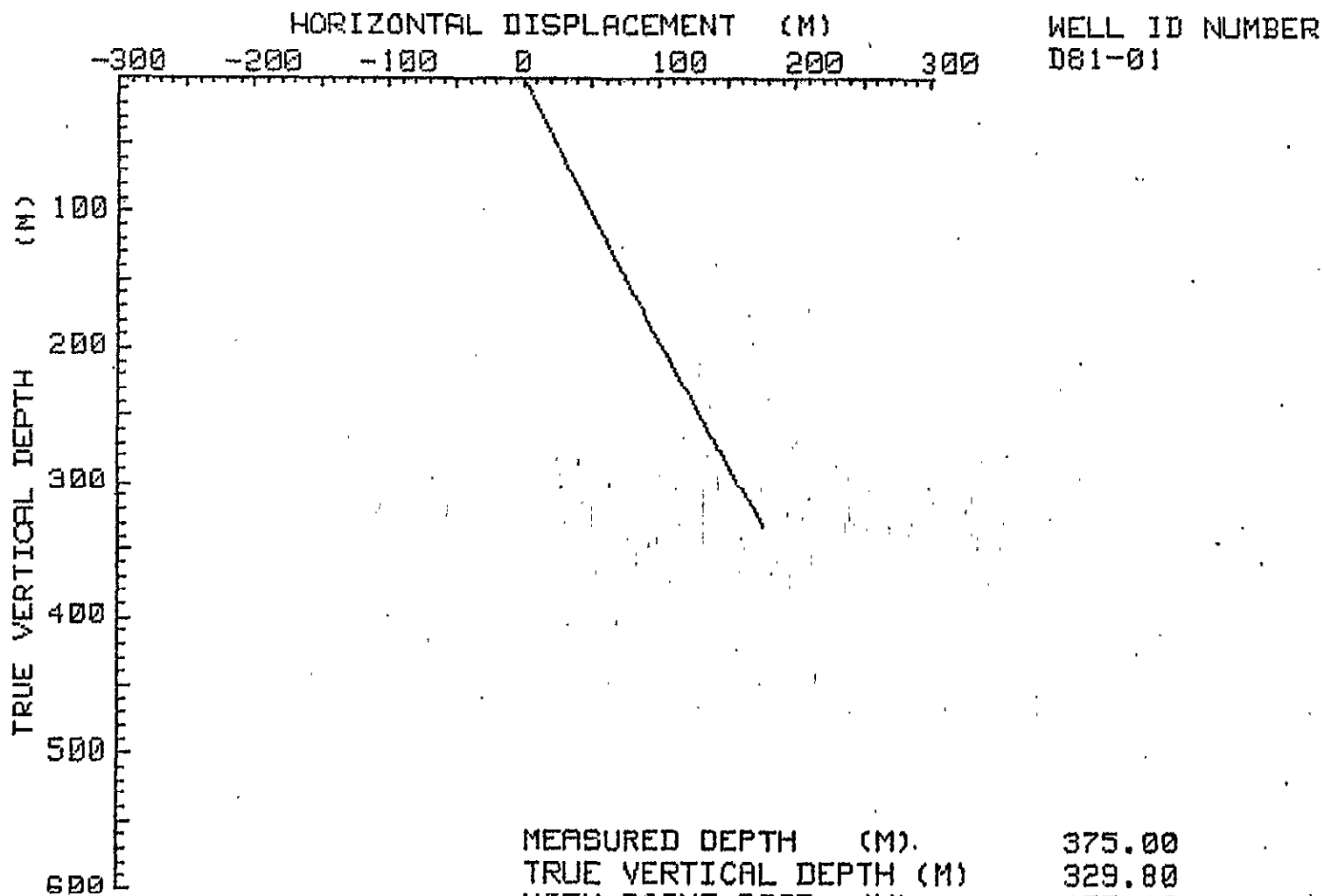
| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 0.00 | 25.70 | 41.40 |
| 15.00 | 26.10 | 41.40 |
| 30.00 | 26.10 | 41.20 |
| 45.00 | 26.10 | 42.40 |
| 60.00 | 26.10 | 41.80 |
| 75.00 | 26.80 | 44.00 |
| 90.00 | 26.80 | 42.40 |
| 105.00 | 27.30 | 41.10 |
| 120.00 | 27.70 | 40.40 |
| 135.00 | 27.70 | 40.80 |
| 150.00 | 28.00 | 38.80 |
| 165.00 | 28.20 | 40.70 |
| 180.00 | 28.50 | 40.00 |
| 195.00 | 28.20 | 40.00 |
| 210.00 | 28.60 | 41.60 |
| 225.00 | 28.90 | 40.00 |
| 240.00 | 29.10 | 36.50 |
| 255.00 | 29.50 | 38.00 |
| 285.00 | 29.70 | 36.00 |
| 300.00 | 30.30 | 36.20 |
| 315.00 | 30.20 | 35.50 |
| 330.00 | 30.30 | 34.20 |
| 345.00 | 30.40 | 38.00 |
| 360.00 | 30.90 | 34.90 |
| 375.00 | 31.30 | 37.80 |

PLAN VIEW

WELL ID NUMBER
D81-01

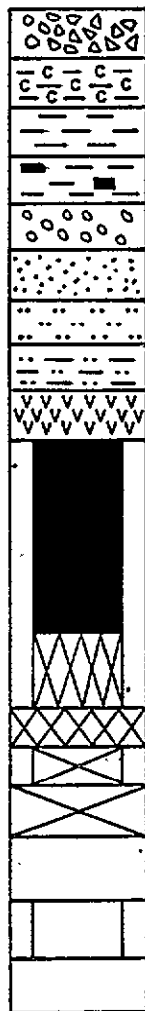
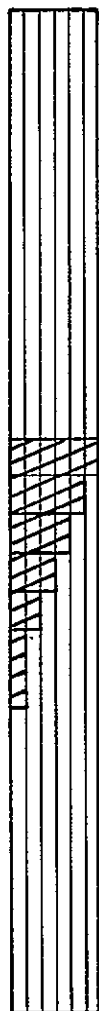


DISPLACEMENT



SEAM
COMP

COAL
SEAM
LOG



LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone

- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff

coal

coal-boney, stoney,
coal and bands/rock
- designated "C6"

rock } coal
lithotype uncertain

coal } MISSING
rock } CORE

rock

coal

CORED HOLE

GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



LEGEND FOR COAL
SEAM DATA SHEETS

PREPARED BY: V.O.

SCALE 1:40

APPROVED BY:

DATE: JAN. 82

DRAWING No.

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-207 (12 80)

Coal / Coal + Rock (True Thk (m))
4.60 / 6.06
323.25 - 329.44m

DENSITY

RESISTIVITY

DRILL NO. GDR-DDH-81-01 SEAM 1
SCALE 1:40

SEAM INTERVAL

| DENSITY SCALE | RESISTIVITY SCALE | SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS | | | | | | |
|---------------|-------------------|------------|--------|---------------|----------|-------------|--------|--------|---------|--------------------|-------|-------|-------|------|----------------|-----|
| | | | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTJ (MJ/KG) | FSI |
| 1.60 | 1.10 | 554321 | 323.25 | | 0.11 | 1.30 | 100 | 00001 | | 0.79 | 8.11 | 25.39 | 65.71 | 0.29 | 13,743 (31.97) | 1.5 |
| 1.30 | 1.40 | | 324.55 | | 0.39 | 0.15 | 100 | 00002 | | 0.63 | 21.95 | 21.80 | 55.62 | 0.19 | 11,462 (26.66) | 1.0 |
| 1.50 | 1.60 | | 325.94 | | 0.50 | 0.35 (0.36) | 49 | 00003 | | 0.69 | 6.55 | 26.44 | 66.32 | 0.25 | 14,357 (33.39) | 3.0 |
| 1.70 | 1.80 | | 326.71 | | (0.30) | 0.11 | 27 | 00004 | | 0.70 | 65.85 | 15.50 | 17.95 | 0.06 | 3934 (9.15) | 0.0 |
| 1.90 | 2.00 | | 329.44 | | 0.88 | 0.06 | 96 | 00005 | | 0.74 | 12.17 | 26.26 | 60.83 | 0.24 | 13,361 (31.08) | 4.5 |
| 2.10 | 2.20 | | 329.84 | | (0.07) | 0.71 | | | | 0.68 | 50.53 | 23.65 | 25.14 | 0.15 | 6,809 (14.68) | 4.5 |
| 2.30 | 2.40 | | | | 0.06 | 0.12 | 100 | 00006 | | 0.77 | 10.07 | 33.39 | 55.77 | 0.40 | 13,781 (32.06) | 8.5 |
| 2.50 | 2.60 | | | | 0.61 | 0.02 | 100 | 00007 | | | | | | | | |
| 2.70 | 2.80 | | | | 0.40 | 0.61 | | | | | | | | | | |
| | | | | | 0.61 | | | | | | | | | | | |

GEOPHYSICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION
 12/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|----------------|--------------|--------------|
| DDH81001 | | 1 | 323.25 | 324.55 | 1.30 | 100.00 | 1.30 | 0.00 | 0.00 | 0.00 |
| | | 2 | 324.55 | 325.59 | 1.04 | 100.00 | 0.15 | 0.89 | 0.00 | 0.00 |
| | | 3 | 325.59 | 326.30 | 0.35 | 49.30 | 0.35 | 0.00 | 0.36 | 0.00 |
| | | 4 | 326.30 | 326.71 | 0.11 | 26.83 | 0.00 | 0.11 | 0.00 | 0.30 |
| | | 5 | 326.71 | 328.37 | 1.59 | 95.78 | 1.59 | 0.00 | 0.00 | 0.07 |
| | | 6 | 328.37 | 328.83 | 0.46 | 100.00 | 0.28 | 0.18 | 0.00 | 0.00 |
| | | 7 | 328.83 | 329.44 | 0.61 | 100.00 | 0.61 | 0.00 | 0.00 | 0.00 |
| | | 8 | 333.64 | 334.48 | 0.84 | 100.00 | 0.78 | 0.06 | 0.00 | 0.00 |
| | | 9 | 334.48 | 335.46 | 0.98 | 100.00 | 0.03 | 0.95 | 0.00 | 0.00 |
| | | 10 | 335.46 | 336.11 | 0.65 | 100.00 | 0.65 | 0.00 | 0.00 | 0.00 |
| | | 11 | 336.11 | 336.72 | 0.46 | 75.41 | 0.25 | 0.21 | 0.00 | 0.15 |
| | | 12 | 336.72 | 338.88 | 2.16 | 100.00 | 2.09 | 0.07 | 0.00 | 0.00 |
| | | 13 | 340.28 | 340.80 | 0.52 | 100.00 | 0.30 | 0.22 | 0.00 | 0.00 |

| PROJ - GDR | | ANALYSIS BASIS TYPE - AD | | | | NAME OF STANDARD - ASTM | | | | |
|-------------|------|--------------------------|--------------------|-------|---------------|-------------------------|----------------|-------------------------------|------|------|
| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
| DDH81001 | | | | | | | | | | |
| | | 1 | 0.79 | 8.11 | 65.71 | 25.39 | 0.29 | 31.97 | 1.31 | 1.50 |
| | | 2 | 0.63 | 21.95 | 55.62 | 21.80 | 0.19 | 26.66 | 1.42 | 1.00 |
| | | 3 | 0.69 | 6.55 | 66.32 | 26.44 | 0.25 | 33.40 | 1.31 | 3.00 |
| | | 4 | 0.70 | 65.85 | 17.95 | 15.50 | 0.06 | 9.15 | 1.95 | 0.00 |
| | | 5 | 0.74 | 12.17 | 60.83 | 26.26 | 0.24 | 31.08 | 1.32 | 4.50 |
| | | 6 | 0.68 | 50.53 | 25.14 | 23.65 | 0.15 | 15.84 | 1.70 | 4.50 |
| | | 7 | 0.77 | 10.07 | 55.77 | 33.39 | 0.40 | 32.06 | 1.29 | 8.50 |
| | | 8 | 0.66 | 14.18 | 55.00 | 30.16 | 0.25 | 30.57 | 1.32 | 5.00 |
| | | 9 | 1.04 | 72.05 | 15.39 | 11.52 | 0.10 | 8.25 | 2.01 | 1.00 |
| | | 10 | 0.67 | 10.09 | 55.61 | 33.63 | 0.26 | 32.28 | 1.29 | 8.00 |
| | | 11 | 0.74 | 38.80 | 40.11 | 20.35 | 0.17 | 20.06 | 1.63 | 1.00 |
| | | 12 | 0.90 | 17.59 | 59.26 | 22.25 | 0.23 | 28.52 | 1.40 | 1.00 |
| | | 13 | 0.50 | 20.95 | 48.07 | 30.48 | 0.67 | 27.30 | 1.39 | 8.50 |

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-------------|---|
| 90 | 7.61 | 10.63 | 3.02 | | | MUDSTONE | DK.GY CALCT INFILL AND FLECKS, BROKEN, WITH L ISTRIC SURFACES |
| * 90 | 10.63 | 12.80 | 2.17 | | | MUDSTONE | DK.GY MNR CALCT INFILL;SKS;CARB PYR FLECKS |
| * 90 | 12.80 | 14.45 | 1.65 | | | MUDSTONE | DK.GY MNR CALCT INFILL;SKS, CARB, PYR. FLECKS , 1MM. STN, FE STN NOD. CARB, FLECKS. |
| 90 | 14.45 | 15.60 | 1.15 | | | SILTSTONE | M.GY ABNT CALCT VEINING;LISTRIC SURF; WRM. B UR, CARB, 1MM STN, INTBD MUDST; VERY BA DLY BROKEN, POSSIBLE FLT. ZONE, BRECCIA TED. |
| 90 | 15.60 | 16.15 | 0.55 | | | MUDSTONE | DK.GY CALCT. INFILL, SLIGHTLY CARB, |
| * 90 | 16.15 | 16.39 | 0.24 | | | FEST BANDED | BADLY BROKEN |
| 90 | 16.39 | 16.99 | 0.60 | | | MUDSTONE | DK.GY MINOR CALCT VEINS, CARB. FLECKS, |
| 90 | 16.99 | 18.15 | 1.16 | | | SANDSTONE | FG.M.GY MUDST INTBDS,MNR CALCT. VEINING, LISTRI C SURF, SLIGHTLY CARB; IMM STN, CALCT. CONC. BIOTURBATED |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| * 90 | 18.15 | 19.98 | 1.83 | | | MUDSTONE | DK.GY BIOTURB, MINOR CALCT, IMM STN. |
| * 40 | 19.98 | 22.06 | 2.08 | | | SANDSTONE | FG.M.GY.XBDG CALCT VEINING, BIOTURB, TOP IS UP, INTB D MUDS, IMM STN, RIP-UP CLASTS |
| 42 | 22.06 | 22.38 | 0.32 | | | MUDSTONE | M-DK.GY INTBD SILTS, BIOTURB; OIL STN, |
| 43 | 22.38 | 22.82 | 0.44 | | | SANDSTONE | FG.M.GY MNR CALCT. VEINS, SKS, |
| * 45 | 22.82 | 24.70 | 1.88 | | | MUDSTONE | M.GY INTBD. SILTS, MNR. CALCT, MNR SKS; BIOT URB; |
| * 30 | 24.70 | 25.46 | 0.76 | | | SANDSTONE | FG.M.GY.XBDG MNR. CALCT, XBDG, TOP IS UP, WRM. BUR |
| * 45 | 25.46 | 28.20 | 2.74 | | | MUDSTONE | M.GY MNR. CALCT. VEINING, MNR. SLTST BDS, BIO TURB, CARB; |
| 57 | 28.20 | 28.86 | 0.66 | | | MUDSTONE | M.GY CALCT. VEINING, SKS, SLIGHTLY CARB, BRE C; BROKEN, INTBD. SILTS, POSSIBLE FAULT |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 63 | 28.86 | 29.89 | 1.03 | | | SANDSTONE | M.GY INTBD. MUDST, CALCT. VEINING, BREC, CAR B, POSSIBLEFAULT |
| 80 | 29.89 | 30.28 | 0.39 | | | MUDSTONE | M.GY INTBD, SLTST, CALCT, VEINING, CARB, |
| * 90 | 30.28 | 30.79 | 0.51 | | | SANDSTONE | FG.M.GY CARB, INTBD. MUDST, CALCT. VEINING, BRE C. |
| * 90 | 30.79 | 31.18 | 0.39 | | | MUDSTONE | M.GY INTBD. SS, MNR CALCT. VEINING, SLIGHTLY CARB. |
| * 45 | 31.18 | 32.04 | 0.86 | | | SANDSTONE | FG.LT.GY CALCT. VEINING, MUDST. INTBD, WRM BUR, MICACEOUS, |
| * 54 | 32.04 | 33.40 | 1.36 | | | MUDSTONE | DK.GY.BIOTR INTBD. SS MNR CALCT. VEINING, XBDG, TOP IS UP; SKS; SLIGHTLY CARB |
| 74 | 33.40 | 33.85 | 0.45 | | | SANDSTONE | MG.LT-M.GY CALCT. VEINING, BREC. TOP IS UP, |
| * 82 | 33.85 | 34.16 | 0.31 | | | MUDSTONE | M.GY INTBD. SLTST, CARB. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 45 | 34.16 | 35.28 | 1.12 | | | SANDSTONE | CARB.FG.M.GY INTBD MUDST. |
| * 55 | 35.28 | 35.56 | 0.28 | | | MUDSTONE | M.GY MNR CALCT. VEINING, INTBD. SS AND SLTST ; CARB, SKS. |
| * 90 | 35.56 | 36.21 | 0.65 | | | SANDSTONE | CARB.FG.M.GY MNR. CALCT. INFILL, INTBD MUDS, PYR. |
| * 58 | 36.21 | 36.66 | 0.45 | | | MUDSTONE | M.GY INTBD. SILTS AND SANDS, BIOTURB; SKS, C ARB FLECKS, |
| * 70 | 36.66 | 37.03 | 0.37 | | | SANDSTONE | FG.M.GY PYR, INTBD. MUDST, BIOTURB |
| 72 | 37.03 | 37.78 | 0.75 | | | MUDSTONE | M.GY INTBD SILTS AND SANDS, MNR. CALCT. INFI LL, MICACEOUS, BIOTURB; CARB. FLECKS, |
| 73 | 37.78 | 37.99 | 0.21 | | | SANDSTONE | FG.M.GY MNR. MUDST. INTBDS, GLAUC; MNR CALCT VE INS, |
| * 75 | 37.99 | 39.31 | 1.32 | | | MUDSTONE | M.GY INTBD SILTS AND SANDS, BIOTURB; SKS, CA LCT. VEINING, WRM. BUR; CARB. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 50 | 39.31 | 40.12 | 0.81 | | | SANDSTONE | FG.M.GY.XBDG MNR. CALCT. INFILL, TOP IS UP, MNR. MUDD T INTBDS, |
| 67 | 40.12 | 41.85 | 1.73 | | | MUDSTONE | M.GY INTBD. SS, AND SLTST, CARB; CALCT. VEINING, BIOTURB, SKS; MICACEOUS |
| * 85 | 41.85 | 42.87 | 1.02 | | | MUDSTONE | M.GY.XBDG INTBD. SS AND SLTST; CARB; CALCT VEINING, BIOTURB, SKS, MICACEOUS; PYR, TOP IS UP, RIP UP CLASTS |
| 82 | 42.87 | 43.03 | 0.16 | | | SANDSTONE | FG.M.GY CALCT VEINING, PYR. FLECKS, |
| * 80 | 43.03 | 43.61 | 0.58 | | | MUDSTONE | M.GY INTBD. SS, SKS, CALCT. VEINING, PYR, RIP-UP CLASTS, CARB. |
| 71 | 43.61 | 44.54 | 0.93 | | | MUDSTONE | M-DK.GY MNR. SLTST. INTBDS, VERY MNR. CALCT; WR M. BUR; POSSIBLE GLAUCONITE |
| 63 | 44.54 | 44.97 | 0.43 | | | MUDSTONE | M-DK.GY MNR. SLTST. INTBDS; CARB. |
| * 58 | 44.97 | 45.37 | 0.40 | | | SANDSTONE | FG.M.GY MUDD. INTBD, MICACEOUS, |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 70 | 45.37 | 47.60 | 2.23 | | MUDSTONE | M.GY MNR. CALCT VEINING, SKS, CARB; |
| * | 88 | 47.60 | 49.31 | 1.71 | | MUDSTONE | M-DK.GY SLTST INTBS, CARB, MNR. GLAUC. BIOTURB. WRM. BUR, |
| | 85 | 49.31 | 50.29 | 0.98 | | MUDSTONE | M-DK.GY MNR. SLTST INTBDS, SKS, CALCT. VEINING, CARB. |
| * | 80 | 50.29 | 53.31 | 3.02 | | MUDSTONE | M.GY MNR CALCT INFILL SLTST INTBDS, AND SS I NTBDS, WRM. BUR; CARB, RIP-UP CLASTS, B IOTURB, SKS. |
| * | 85 | 53.31 | 54.85 | 1.54 | | MUDSTONE | M.GY INTBD SS, CARB; BIOTURB; LIMONITE STN; CALCT CLASTS MICACEOUS. |
| * | 68 | 54.85 | 56.30 | 1.45 | | MUDSTONE | M.GY WRM. BUR, CARB; MNR SLTST. INTBDS. |
| * | 68 | 56.30 | 58.68 | 2.38 | | MUDSTONE | M.GY CALCT. VEINING, BIOTURB, SLTST; SS INTB DS, CARB. FLECKS, WRM. BURROWS, RIP-UP CLASTS. (POSSIBLY OVERTURNED WRM. BURRO W CUT-OFF .53M) |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 75 | 58.68 | 61.57 | 2.89 | | | SANDSTONE | FG.M.GY.XBDG INTBD MUDST, CARB, MNR. CALCT. VEINING, RIP-UP CLASTS, BIOTURB |
| 81 | 61.57 | 62.41 | 0.84 | | | MUDSTONE | M.GY.XBDG INTBD. SLTS; CARB; RIP-UP CLASTS, XBDG INDICATES TOP IS UP, MNR. CALCT. VEININ G. |
| * 85 | 62.41 | 64.19 | 1.78 | | | MUDSTONE | M.GY INTBD SS, CALCT. VEINING, BIOTURB CARB. RIP-UP CLASTS, XBDG INDICATES TOP IS U P |
| 82 | 64.19 | 65.44 | 1.25 | | | MUDSTONE | M.GY INTBD. SLTST; BIOTURB, WRM. BUR, XBDG I NDICATES TOP IS UP, CALCT. VEINING, RIP -UP CLASTS |
| * 80 | 65.44 | 67.08 | 1.64 | | | MUDSTONE | M.GY SLTST INTBDS MNR. CALCT VEINING, SKS; |
| * 75 | 67.08 | 69.98 | 2.90 | | | MUDSTONE | M.GY SLTST INTBDS, MNR CALCT. LISTRIC SURFAC E, MICACEOUS BIOTURB RIP UP CLASTS |
| * 90 | 69.98 | 71.57 | 1.59 | | | SANDSTONE | FG.M.GY.XBDG MUDST INTBDS, MNR CALCT, TOP IS UP, WRM B UR, RIP UP CLASTS; CARB |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 68 | 71.57 | 72.80 | 1.23 | | | SANDSTONE | FG.M.GY.XBDG MUDST INTBDS,WRM BUR, TOP IS UP, RIP UP C LASTS, BIOTURB |
| * 80 | 72.80 | 74.68 | 1.88 | | | SANDSTONE | MG.M.GY.XBDG MUDST INTBDS, WRM BUR. RIP UP CLASTS BI OTURB. |
| * 75 | 74.68 | 75.11 | 0.43 | | | SANDSTONE | FG.M.GY.XBDG MUDST INTBDS, CALCT VEIN CARB RIP UP CL ASTS BIOTURB WRM BUR TOP IS UP |
| 75 | 75.11 | 75.92 | 0.81 | | | MUDSTONE | M-DK.GY SLTST INTBDS, CARB CALCT VEINS, WRM BUR . |
| * 75 | 75.92 | 77.58 | 1.66 | | | MUDSTONE | M-DK.GY SLTST INTBDS, CARB CALCT VEINS WRM BUR |
| * 75 | 77.58 | 78.03 | 0.45 | | | SANDSTONE | FG.XBDG MUDST INTBDS, TOP IS UP, RIP UP CLASTS, CA RB. |
| 75 | 78.03 | 79.32 | 1.29 | | | SANDSTONE | FG.M.GY MUDST INTBDS. CALCT VEINING; CARB; SKS PYR |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 75 | 79.32 | 81.67 | 2.35 | | | MUDSTONE | M-DK.GY SLTST AND SS INTBDS MNR CALC PYR (OR GL AUC?) CARB. RIP UP CLASTS. |
| * 90 | 81.67 | 83.43 | 1.76 | | | MUDSTONE | M-DK.GY GLAUC., MNR. CALCT., MNR. SLTST, CARB. FLECKS, SKS, MNR. RIP-UP CLASTS, WRM. B UR. |
| * 90 | 83.43 | 85.98 | 2.55 | | | MUDSTONE | M-DK.GY CARB, MNR CALCT VEINS, MONOTONOUS. |
| * 85 | 85.98 | 89.08 | 3.10 | | | MUDSTONE | M-DK.GY CARB, MNR CALCT VEINING. |
| * 88 | 89.08 | 92.01 | 2.93 | | | SANDSTONE | FG.M.GY.XBDG INTBD MUDST, CARB, BIOTURB, CALCT VEINI NG, RIP-UP CLASTS, XBDG INDICATES TOP I S UP. |
| * 80 | 92.01 | 93.14 | 1.13 | | | SANDSTONE | FG.M.GY WRM BUR., INTBD MUDST, CARB, MICACEOUS, BIOTURB, CALCT VEINING, RIP-UP CLASTS. |
| * 80 | 93.14 | 95.13 | 1.99 | | | MUDSTONE | M.GY CALCT VEINS, WRM BUR, LISTRIC SURFACES, SKS, XBDG INDICATES TOP IS UP, INTBD S S. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 70 | 95.13 | 95.54 | 0.41 | | | MUDSTONE | M.GY CALCT VEINS, LISTRIC SURFACES, SKS, WRM BUR, INTBD SS. |
| * 75 | 95.54 | 98.02 | 2.48 | | | MUDSTONE | M.GY INTBD SILTS, CALCT VEINING, WRM BUR, SK S. |
| 81 | 98.02 | 98.66 | 0.64 | | | MUDSTONE | M.GY INTBD SS AND SLTST, WRM BUR, BIOTURB, X BDG CALCT VEINS. |
| * 85 | 98.66 | 100.53 | 1.87 | | | MUDSTONE | M.GY GLAUC, INTBD SS AND SLTST, WRM BUR, BIOT URB, CALCT VEINS. |
| 83 | 100.53 | 101.14 | 0.61 | | | MUDSTONE | M-DK.GY CALCT VEINING, SKS, CARB. |
| 82 | 101.14 | 102.02 | 0.88 | | | MUDSTONE | M-DK.GY WRM BUR, MONOTONOUS MUDST. |
| * 80 | 102.02 | 104.12 | 2.10 | | | MUDSTONE | M-DK.GY WRM BUR, CALCT VEINING, GLAUCONITE. |
| 80 | 104.12 | 105.06 | 0.94 | | | MUDSTONE | M-DK.GY MONOTONOUS MUDST. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 80 | 105.06 | 106.93 | 1.87 | | | MUDSTONE | M-DK.GY WRM BUR, CALCT VEINING. |
| 80 | 106.93 | 108.08 | 1.15 | | | MUDSTONE | M-DK.GY MONOTONOUS MUDST. |
| 80 | 108.08 | 109.83 | 1.75 | | | MUDSTONE | M-DK.GY WRM BUR, MNR GLAUC, CARROT, CARB. |
| * 80 | 109.83 | 111.56 | 1.73 | | | MUDSTONE | M-DK.GY WRM BUR, CALCT VEINS, SKS, GLAUCONITE, CARB FLECKS. |
| 83 | 111.56 | 112.73 | 1.17 | | | SANDSTONE | FG.M.GY INTBD MUDST, CALCT VEINS, RIP-UP CLASTS , BIOTURB. |
| * 85 | 112.73 | 114.29 | 1.56 | | | SANDSTONE | FG.M.GY.XBDG MUDST INTBDS, BIOTURBATED, CALCT VEININ G, WRM BUR, SKS; XBDG INDICATES TOP UP; RIP-UP CLASTS. |
| 80 | 114.29 | 115.64 | 1.35 | | | SANDSTONE | FG.M.GY INTBD MUDST, BIOTURBATED; CALCT VEINING ; WRM BUR; SKS; RIP-UP CLASTS. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 75 | 115.64 | 117.41 | 1.77 | | | MUDSTONE | M.GY.XBDG INTBD SS AND SLTST; MNR CALCT VEINING; WRM BUR; RIP-UP CLASTS; CARB FLECKS; XB DG INDICATES TOP IS UP. |
| 75 | 117.41 | 118.45 | 1.04 | | | SANDSTONE | FG INTBD MUDST; SKS; MNR CALCT VEINING; BI OTURB; RIP-UP CLASTS. |
| * 75 | 118.45 | 120.44 | 1.99 | | | SANDSTONE | FG.M.GY INTBD MUDST AND SLTST; BIOTURB; RIP-UP CLASTS; CALCT VEINING; SKS. |
| 75 | 120.44 | 121.17 | 0.73 | | | MUDSTONE | M.GY INTBD WITH SS AND SILTSTONE; MNR CALCT VEINING; SKS. |
| * 75 | 121.17 | 123.47 | 2.30 | | | MUDSTONE | M.GY.XBDG INTDB SLTST AND SS; MNR CALCT VEINING; XBDG INDICATES TOP-UP; PYR. |
| 80 | 123.47 | 124.17 | 0.70 | | | MUDSTONE | M.GY INTBD SLTST AND SS, MNR CALCT VEINING, PYR. |
| 83 | 124.17 | 125.30 | 1.13 | | | MUDSTONE | M.GY INTBD SLTST, CALCT VEINING, BROKEN, LIS TRIC SURFACES, WRM BUR. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 87 | 125.30 | 126.53 | 1.23 | | | MUDSTONE | M-DK.GY MNR CALCITE VEINING; MONOTONOUS MNR SIL T. |
| * 90 | 126.53 | 127.30 | 0.77 | | | MUDSTONE | M-DK.GY CALCT VEINING; SKS; CARB MNR SLTST. |
| * 68 | 127.30 | 129.66 | 2.36 | | | SANDSTONE | M.GY INTBD MUDST AND SLTST CALCT VEINING; SK S; RIP-UP CLASTS; BIOTURB; GLAUC WRM BU R. |
| * 70 | 129.66 | 132.56 | 2.90 | | | SANDSTONE | M.GY.XBDG INTBD MUDST; CALCT VEINING; RIP-UP CLAS TS; BIOTURB; XBDG INDICATES TOP IS UP. |
| * 70 | 132.56 | 135.15 | 2.59 | | | MUDSTONE | M-DK.GY MNR SLTST; CALCT VEINING; SKS; WRM BUR. |
| 70 | 135.15 | 135.62 | 0.47 | | | SANDSTONE | FG.M.GY INTBD MUDST; GLAUC; CALCT VEINING. |
| * 70 | 135.62 | 137.80 | 2.18 | | | SANDSTONE | FG.M.GY INTB MUDST; SKS; RIP-UP CLASTS; CALCT V EINS; WRM BUR; PYR. |
| 68 | 137.80 | 138.02 | 0.22 | | | SANDSTONE | FG.M.GY WRM BUR; INTBD MUDST. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|---------|-----------|--|
| 67 | 138.02 | 139.13 | 1.11 | | | MUDSTONE | M-DK.GY CALCT VEINING; WRM BUR; SKS. |
| * 65 | 139.13 | 140.53 | 1.40 | | | MUDSTONE | M-DK.GY GLAUC; WRM BUR; MONOTONOUS MUDST. |
| * 70 | 140.53 | 141.74 | 1.21 | | | MUDSTONE | DK.GY CARB FLECKS; MONOTONOUS MUDST; WRM BUR. |
| 77 | 141.74 | 143.21 | 1.47 | | | MUDSTONE | DK.GY MNR CALCT VEINING; WRM BUR. |
| * 85 | 143.21 | 144.68 | 1.47 | | | MUDSTONE | DK.GY CALCT VEINING; SKS; MONOTONOUS MUDST. |
| 87 | 144.68 | 145.96 | 1.28 | | | MUDSTONE | DK.GY CALCT VEINING MNR; WRM BUR. |
| * 90 | 145.96 | 147.61 | 1.65 | | | MUDSTONE | DK.GY WRM BUR; MONOTONOUS. |
| 90 | 147.61 | 148.74 | 1.13 | | | MUDSTONE | DK.GY CALCT VEINING; WRM BUR; SKS. |
| * 90 | 148.74 | 150.79 | 2.05 | | | MUDSTONE | DK.GY CALCT VEINING; SKS; MONOTONOUS CARB. |
| 90 | 150.79 | 151.46 | 0.67 | | | MUDSTONE | DK.GY CARB; MONOTONOUS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 90 | 151.46 | 153.78 | 2.32 | | | MUDSTONE | DK.GY CALCT VEINING; SKS; CARB. |
| 90 | 153.78 | 154.12 | 0.34 | | | MUDSTONE | DK.GY MONOTONOUS. |
| * 90 | 154.12 | 156.79 | 2.67 | | | MUDSTONE | DK.GY SKS; CALCT VEINING. |
| * 90 | 156.79 | 159.63 | 2.84 | | | MUDSTONE | DK.GY MONOTONOUS; CALCT VEINING; SKS. |
| 90 | 159.63 | 160.04 | 0.41 | | | MUDSTONE | DK.GY MONOTONOUS. |
| 90 | 160.04 | 162.35 | 2.31 | | | MUDSTONE | DK.GY MRN CALCT VEINING; SKS; CARROT; MONOTONOUS. |
| 90 | 162.35 | 163.10 | 0.75 | | | MUDSTONE | DK.GY MONOTONOUS. |
| * 90 | 163.10 | 165.12 | 2.02 | | | MUDSTONE | DK.GY MONOTONOUS; WRM BUR; MNR CALCT. |
| 87 | 165.12 | 166.15 | 1.03 | | | MUDSTONE | DK.GY MONOTONOUS. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 84 | 166.15 | 167.96 | 1.81 | | | MUDSTONE | DK.GY CARB; PYR; POSSIBLE TUFF @ 166.91; IT I S APPROX. 3 CM WIDE. |
| 81 | 167.96 | 169.17 | 1.21 | | | MUDSTONE | DK.GY MONOTONOUS MUDST. |
| 78 | 169.17 | 170.73 | 1.56 | | | MUDSTONE | DK.GY CALCT VEINING; WRM BUR; RIP-UP CLASTS; SKS. |
| * 75 | 170.73 | 172.14 | 1.41 | | | MUDSTONE | DK.GY MNR CALCT VEINING; PYR; MUD CLASTS. |
| 77 | 172.14 | 173.47 | 1.33 | | | MUDSTONE | DK.GY MNR CALCT VEINING; SKS. |
| * 80 | 173.47 | 175.33 | 1.86 | | | MUDSTONE | DK.GY MNR CALCT VEINING; WRM BUR; SKS. |
| 78 | 175.33 | 176.31 | 0.98 | | | MUDSTONE | DK.GY MONOTONOUS; WRM BUR. |
| 77 | 176.31 | 178.35 | 2.04 | | | MUDSTONE | DK.GY MONOTONOUS; WRM BUR; MNR CALCT VEINS. |
| 75 | 178.35 | 179.08 | 0.73 | | | MUDSTONE | DK.GY MONOTONOUS; CARROT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 73 | 179.08 | 181.51 | 2.43 | | MUDSTONE | DK.GY MNR CALCT; MONOTONOUS; PYR. |
| | 72 | 181.51 | 181.93 | 0.42 | | MUDSTONE | DK.GY MONOTONOUS; WRM BUR. |
| * | 70 | 181.93 | 184.43 | 2.50 | | MUDSTONE | DK.GY WRM BUR; MNR CALCT VEINING AND IN-FILLI NG. |
| | 74 | 184.43 | 184.77 | 0.34 | | MUDSTONE | DK.GY MONOTONOUS. |
| | 78 | 184.77 | 187.40 | 2.63 | | MUDSTONE | DK.GY MONOTONOUS; MNR CALCT VEINING; SKS. |
| * | 85 | 187.40 | 190.23 | 2.83 | | MUDSTONE | DK.GY RIP-UP CLASTS; CALCT VEINING; SKS. |
| | 86 | 190.23 | 190.62 | 0.39 | | MUDSTONE | DK.GY MONOTONOUS. |
| | 88 | 190.62 | 192.90 | 2.28 | | MUDSTONE | DK.GY CALCT VEINING. |
| | 89 | 192.90 | 193.55 | 0.65 | | MUDSTONE | DK.GY SAME AS ABOVE. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 90 | 193.55 | 195.71 | 2.16 | | | MUDSTONE | DK.GY CALCT VEIN MRN; CARROT. |
| 84 | 195.71 | 197.19 | 1.48 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| * 80 | 197.19 | 198.38 | 1.19 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 79 | 198.38 | 199.55 | 1.17 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 78 | 199.55 | 201.65 | 2.10 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 77 | 201.65 | 203.08 | 1.43 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 76 | 203.08 | 204.56 | 1.48 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 75 | 204.56 | 205.85 | 1.29 | | | MUDSTONE | DK.GY SAME AS ABOVE WITH PYR. |
| 74 | 205.85 | 207.30 | 1.45 | | | MUDSTONE | DK.GY CALCT VEINING; LISTRIC SURFACES; SKS. |
| 73 | 207.30 | 208.73 | 1.43 | | | MUDSTONE | DK.GY BREC. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 72 | 208.73 | 209.89 | 1.16 | | | MUDSTONE | DK.GY CALCT VEINING. |
| 71 | 209.89 | 211.63 | 1.74 | | | MUDSTONE | DK.GY MNR CALCT VEINING; PYR BLEB. |
| * 70 | 211.63 | 212.78 | 1.15 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 70 | 212.78 | 214.78 | 2.00 | | | MUDSTONE | DK.GY SAME AS ABOVE WITH SKS. |
| 70 | 214.78 | 215.69 | 0.91 | | | MUDSTONE | DK.GY PYR BLEBS, CARROT. |
| * 70 | 215.69 | 218.02 | 2.33 | | | MUDSTONE | DK.GY CALCT VEINING; PYR BLEBS; CARROT; SKS. |
| 72 | 218.02 | 218.56 | 0.54 | | | MUDSTONE | DK.GY WRM BUR; LISTRIC SURFACE. |
| * 75 | 218.56 | 221.00 | 2.44 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 82 | 221.00 | 221.41 | 0.41 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| * 90 | 221.41 | 224.20 | 2.79 | | | MUDSTONE | DK.GY SAME AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| * 80 | 224.20 | 226.50 | 2.30 | | | MUDSTONE | DK.GY CALCT VEINING; SKS; WRM BUR. |
| * 60 | 226.50 | 226.64 | 0.14 | | | SANDSTONE | MG.LT.GY CLEAN; CALCT VEINING; SKS. |
| 61 | 226.64 | 227.07 | 0.43 | | | MUDSTONE | DK.GY CALCT VEINING; PYR BLEBS. |
| 68 | 227.07 | 229.69 | 2.62 | | | MUDSTONE | DK.GY MNR CALCT VEIN; SKS. |
| 74 | 229.69 | 230.02 | 0.33 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| * 80 | 230.02 | 232.48 | 2.46 | | | MUDSTONE | DK.GY SAME AS ABOVE WITH CARROTS. |
| 85 | 232.48 | 233.11 | 0.63 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| * 90 | 233.11 | 235.36 | 2.25 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 90 | 235.36 | 236.23 | 0.87 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| * 90 | 236.23 | 238.19 | 1.96 | | | MUDSTONE | DK.GY SAME AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 90 | 238.19 | 239.25 | 1.06 | | MUDSTONE | DK.GY SAME AS ABOVE. |
| * | 90 | 239.25 | 241.01 | 1.76 | | MUDSTONE | DK.GY SAME AS ABOVE; PYR BLEBS; PULVERIZED. |
| | 83 | 241.01 | 242.18 | 1.17 | | MUDSTONE | DK.GY SAME AS ABOVE; CARB; PYR. |
| | 79 | 242.18 | 243.08 | 0.90 | | MUDSTONE | DK.GY SAME AS ABOVE. |
| * | 75 | 243.08 | 243.83 | 0.75 | | SANDSTONE | M.GY INTBD MUDST; CALCT VEINING; LISTRIC SUR FACES; BIOTURB FG BECOMING COARSER TO E ND OF BOX; ALSO CLEANER. |
| * | 70 | 243.83 | 245.17 | 1.34 | | MUDSTONE | DK.GY CALCT VEINING; SKS; PYR BLEBS; F-M.G. L T GY SS BAND @ 245 M; CARB. |
| | 70 | 245.17 | 246.73 | 1.56 | | MUDSTONE | DK.GY SAME AS ABOVE. |
| | 70 | 246.73 | 248.923 | 1.50 | | MUDSTONE | DK.GY CALCT VEINING; SKS. |
| * | 70 | 248.23 | 249.38 | 1.15 | | MUDSTONE | DK.GY SAME AS ABOVE; PYR; CALCT VEINING; SKS. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 80 | 249.38 | 251.49 | 2.11 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 81 | 251.49 | 252.19 | 0.70 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 82 | 252.19 | 253.92 | 1.73 | | | MUDSTONE | DK.GY SAME AS ABOVE; LISTRIC SURF; WRM BUR. |
| 84 | 253.92 | 255.01 | 1.09 | | | MUDSTONE | SAME AS ABOVE. |
| 85 | 255.01 | 257.15 | 2.14 | | | MUDSTONE | DK.GY F.G. SS BAND @ 251.63 M. |
| 86 | 257.15 | 257.87 | 0.72 | | | MUDSTONE | DK.GY CALCT VEINING; SKS. |
| 88 | 257.87 | 260.31 | 2.44 | | | MUDSTONE | DK.GY CALCT VEINING; SKS; PYR BLEBS. |
| 89 | 260.31 | 260.59 | 0.28 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| * 90 | 260.59 | 263.29 | 2.70 | | | MUDSTONE | DK.GY SAME AS ABOVE; CARROTS. |
| * 70 | 263.29 | 265.49 | 2.20 | | | MUDSTONE | DK.GY CALCT VEINING; SKS; PYR BLEBS; CARROTS. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 81 | 265.49 | 266.23 | 0.74 | | MUDSTONE | DK.GY SAME AS ABOVE; BROKEN. |
| * | 90 | 266.23 | 268.12 | 1.89 | | MUDSTONE | DK.GY SAME AS ABOVE. |
| | 73 | 268.12 | 269.35 | 1.23 | | MUDSTONE | DK.GY SAME AS ABOVE. |
| | 58 | 269.35 | 270.78 | 1.43 | | MUDSTONE | DK.GY SAME AS ABOVE. |
| * | 40 | 270.78 | 272.53 | 1.75 | | MUDSTONE | DK.GY CALCT VEINING; SKS. |
| | 52 | 272.53 | 273.66 | 1.13 | | MUDSTONE | DK.GY SAME AS ABOVE; SLIGHTLY PULVERIZED. |
| | 63 | 273.66 | 275.40 | 1.74 | | MUDSTONE | DK.GY SAME AS ABOVE. |
| * | 75 | 275.40 | 276.53 | 1.13 | | MUDSTONE | DK.GY SAME AS ABOVE. |
| | 74 | 276.53 | 278.94 | 2.41 | | MUDSTONE | DK.GY BADLY BROKEN. |
| | 73 | 278.94 | 279.26 | 0.32 | | MUDSTONE | DK.GY SAME AS ABOVE. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 72 | 279.26 | 281.95 | 2.69 | | MUDSTONE | DK.GY CALCT VEINING; SKS; PYR BLEBS. |
| | 70 | 281.95 | 282.62 | 0.67 | | MUDSTONE | DK.GY CALCT VEINING; LISTRIC SURF. |
| * | 70 | 282.62 | 283.05 | 0.43 | | MUDSTONE | DK.GY MNR CALCT VEINING; LISTRIC SURF; F.G. S S PEBBLES, UP TO 1 CM DIA; MOOSEBAR/BLU ESKY CONTACT. |
| * | 45 | 283.05 | 284.64 | 1.59 | | SANDSTONE | MG.LT.GY CLEAN; CALCT VEINING; SKS; PYR; S&P APP EARANCE. |
| * | 65 | 284.64 | 286.14 | 1.50 | | SANDSTONE | MG.LT.GY CALCT VEINING; S&P APPEARANCE; PYR; ARG ILLACEOUS. |
| | 68 | 286.14 | 287.17 | 1.03 | | SANDSTONE | MG.LT.GY.XBDG INTBD MUDST; CARB; CALCT VEINING; SKS; LISTRIC SURF; PYR; XBDG INDICATES TOP I S UP. |
| * | 70 | 287.17 | 287.87 | 0.70 | | SANDSTONE | MG.LT.GY INTBD MUDST; CALCT VEINING; LISTRIC SUR FACES. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 70 | 287.87 | 288.84 | 0.97 | | MUDSTONE | DK.GY INTERBD SS; M GR; CALCT VEINING; LISTRI C SURF; PYR; SKS; BROKEN. |
| * | 70 | 288.84 | 289.47 | 0.63 | | SANDSTONE | MG.LT.GY INTBD MUDST; ABUND CALCT VEINING; LISTRI IC SURF; PYR; RIP-UP CLASTS; POSSIBLE B EGINNING OF FLT ZONE; ARGILLACEOUS. |
| | 76 | 289.47 | 290.49 | 1.02 | | SANDSTONE | MG.LT.GY.XBDG INTBD MUDST; CALCT VEINING; SKS; PYR BL EBS; @ TOP OF BOX (290.29 M) ABUND CALC T VEINING; BREC; FLT ZONE; XBDG INDICAT ES TOP IS UP. |
| * | 85 | 290.49 | 292.25 | 1.76 | | MUDSTONE | DK.GY INTBD SLTS AND SS; CALCT VEINING; SKS; RIP-UP CLASTS; PYR BLEBS. |
| | 77 | 292.25 | 293.78 | 1.53 | | MUDSTONE | DK.GY.XBDG INTERBD SS AND SLTST; CALCT VEINING; SK S; PYR; RIP-UP CLASTS; XBDG INDICATES T OP IS UP. |
| * | 70 | 293.78 | 294.95 | 1.17 | | MUDSTONE | DK.GY INTBD SS AND SLTST; RIP-UP CLASTS; PYR; CALCT VEINING; SKS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 78 | 294.95 | 296.88 | 1.93 | | MUDSTONE | DK.GY INTBD SLTST; MNR CALCT VEINING; RIP-UP CLASTS. |
| * | 85 | 296.88 | 297.74 | 0.86 | | MUDSTONE | DK.GY SAME AS ABOVE. |
| | 80 | 297.74 | 299.77 | 2.03 | | MUDSTONE | DK.GY SAME AS ABOVE; LISTRIC SURFACES; SLIGHT LY CARB. |
| * | 75 | 299.77 | 300.52 | 0.75 | | MUDSTONE | DK.GY SAME AS ABOVE. |
| | 74 | 300.52 | 300.59 | 0.07 | | SANDSTONE | MG.LT.GY CALCT VEINING; MNR MUDST INTBDS; CARB. |
| * | 70 | 300.59 | 302.95 | 2.36 | | SANDSTONE | MG.LT.GY INTBD MUDST; PYR; MNR BREC; MNR CALCT V EINING; BIOTURB. |
| * | 60 | 302.95 | 305.67 | 2.72 | | MUDSTONE | DK.GY.XBDG INTBD SS AND SLTST; CALCT VEINING; LISTR IC SURF; BIOTURB; RIP-UP CLASTS; XBDG I NDICATES TOP IS UP. |
| * | 70 | 305.67 | 308.52 | 2.85 | | MUDSTONE | DK.GY SAME AS ABOVE. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 75 | 308.52 | 309.07 | 0.55 | | | MUDSTONE | CARB.DK.GY MONOTONOUS MUDSTONE; CALCT VEINING; SKS ; CARB. |
| 72 | 309.07 | 311.38 | 2.31 | | | MUDSTONE | CARB.DK.GY PYR; SKS; CALCT VEINING; CARB. |
| 68 | 311.38 | 312.22 | 0.84 | | | MUDSTONE | CARB.DK.GY SAME AS ABOVE. |
| * 65 | 312.22 | 314.18 | 1.96 | | | MUDSTONE | CARB.DK.GY SAME AS ABOVE. |
| 68 | 314.18 | 315.29 | 1.11 | | | MUDSTONE | CARB.DK.GY SAME AS ABOVE. |
| 71 | 315.29 | 316.81 | 1.52 | | | MUDSTONE | CARB.DK.GY CARB; COALY INCLUSIONS AND LAMINAE; LIS TRIC SURFACES. |
| 73 | 316.81 | 316.83 | 0.02 | | | COAL | C-2.BLK BRIGHT BANDED. |
| 73 | 316.83 | 317.00 | 0.17 | | | MUDSTONE | CARB.DK.GY SAME AS ABOVE. |
| * 75 | 317.00 | 318.28 | 1.28 | | | MUDSTONE | DK.GY INTBD SLTST; MNR CALCT VEINING; COALY I NCLUSIONS; LISTRIC SURF. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 73 | 318.28 | 319.72 | 1.44 | | | SANDSTONE | MG.M.GY INTBD MUDST AND SLTST; COALY INCLUSIONS ; MNR CALCT VEINING; SKS. |
| 70 | 319.72 | 321.29 | 1.57 | | | SANDSTONE | MG.M.GY INTBD MUDST; COALY INCLUSIONS. |
| * 68 | 321.29 | 322.43 | 1.14 | | | MUDSTONE | DK.GY CARB; COALY INCLUSIONS; MNR CALCT VEINI NG. |
| 68 | 322.43 | 323.14 | 0.71 | | | MUDSTONE | DK.GY CARB; MNR SLTST OCCASIONAL COAL BANDS A ND PARTINGS; MNR SKS LISTRIC SURFACES; CORE IS INTACT. |
| 68 | 323.14 | 323.25 | 0.11 | | | MUDSTONE | DK.GY CARB; V THIN COAL PARTINGS; FOLDING IS EVIDENT - CRENULATED CORE IS SHEARED. |
| 69 | 323.25 | 324.02 | 0.77 | 00001 | 1 | COAL | C-5.BLK DULL; OCCASIONAL CARB MUDST LENSES; COR E IS INTACT. |
| 69 | 324.02 | 324.19 | 0.17 | 00001 | 1 | COAL | C-6.BLK STONEY WITH BRIGHT BANDS AND LENSES; CO RE INTACT. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 69 | 324.19 | 324.22 | 0.03 | 00001 | 1 | COAL | C-5.BLK DULL; MNR CARB MUDST; CORE BROKEN. |
| 69 | 324.22 | 324.32 | 0.10 | 00001 | 1 | COAL | C-5.BLK DULL; CORE BROKEN. |
| 69 | 324.32 | 324.55 | 0.23 | 00001 | 1 | COAL | C-4.BLK DULL BANDED; UPPR SECTION BRIGHT COAL BANDING. |
| 69 | 324.55 | 324.61 | 0.06 | 00002 | 1 | COAL | C-6.BLK COAL & ROCK; MNR BRIGHT BANDS AND LENSES BROKEN; MNR CARB MUDST LENSES. |
| 69 | 324.61 | 324.94 | 0.33 | 00002 | 1 | COAL | C-6.BLK MNR MUDST AND CARB MUDST LENSES; BROKEN; COAL AND ROCK. |
| 69 | 324.94 | 325.03 | 0.09 | 00002 | 1 | COAL | C-5.BLK MNR CARB MUDST AND MUDST. |
| 69 | 325.03 | 325.09 | 0.06 | 00002 | 1 | COAL | C-6.BLK STONY; CORE IS BROKEN. |
| 69 | 325.09 | 325.59 | 0.50 | 00002 | 1 | COAL | C-6.BLK COAL AND ROCK WITH CARB MUDST. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 69 | 325.59 | 325.63 | 0.04 | 00003 | 1 | COAL | C-6.BLK STONEY MNR BRIGHT BANDS; COAL IS BROKEN |
| 69 | 325.63 | 325.73 | 0.10 | 00003 | 1 | COAL | C-5.BLK DULL; CORE IS BROKEN. |
| 69 | 325.73 | 325.94 | 0.21 | 00003 | 1 | COAL | C-5 DULL; CORE IS BROKEN, SHEARED AND POWDERED AT BASE (POSSIBLE CORE LOSS). |
| 70 | 325.94 | 326.30 | 0.36 | 00003 | 1 | COAL LOSS | |
| 70 | 326.30 | 326.60 | 0.30 | 00004 | 1 | ROCK LOSS | |
| 70 | 326.60 | 326.62 | 0.02 | 00004 | 1 | MUDSTONE | CARB.M.BRN SHEARED AND BROKEN. |
| 70 | 326.62 | 326.68 | 0.06 | 00004 | 1 | MUDSTONE | M.BRN SILTY AND SLIGHTLY BENTONITIC. |
| 70 | 326.68 | 326.71 | 0.03 | 00004 | 1 | MUDSTONE | CARB.M.BRN CORE IS SHEARED. |
| 70 | 326.71 | 326.87 | 0.16 | 00005 | 1 | COAL | C-5.BLK DULL; MUDST LENSES; CORE IS BROKEN. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 70 | 326.87 | 327.34 | 0.47 | 00005 | 1 | COAL | C-5.BLK DULL; MNR BRIGHT BANDS; CORE IS INTACT. |
| 70 | 327.34 | 327.46 | 0.12 | 00005 | 1 | COAL | C-5.BLK DULL; MNR CARB MUDST LENSES. |
| 70 | 327.46 | 327.59 | 0.13 | 00005 | 1 | COAL | C-6.BLK STONY. |
| 70 | 327.59 | 327.66 | 0.07 | 00005 | 1 | ROCK LOSS | |
| 70 | 327.66 | 328.16 | 0.50 | 00005 | 1 | COAL | C-5.BLK DULL; CORE IS BROKEN. |
| 70 | 328.16 | 328.37 | 0.21 | 00005 | 1 | COAL | C-5.BLK DULL. |
| 70 | 328.37 | 328.43 | 0.06 | 00006 | 1 | SILTSTONE | M.BRN. CARB MUDST ABOVE AND BELOW UNIT; ARGILL ACEOUS. |
| 70 | 328.43 | 328.53 | 0.10 | 00006 | 1 | COAL | C-5.BLK DULL; BROKEN. |
| 70 | 328.53 | 328.71 | 0.18 | 00006 | 1 | COAL | C-5.BLK DULL; BROKEN. |
| 71 | 328.71 | 328.83 | 0.12 | 00006 | 1 | SILTSTONE | M.BRN COAL BAND CENTER OF UNIT; ARGILLACEOUS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 71 | 328.83 | 329.44 | 0.61 | 00007 | 1 | COAL | C-5.BLK DULL; CORE IS BROKEN AND SHEARED. |
| 71 | 329.44 | 329.65 | 0.21 | | | SANDSTONE | FG.BRN CARB LENSES AND PLANT FRAGMENTS; FROM BROWN TO GREY. |
| 71 | 329.65 | 329.84 | 0.19 | | | MUDSTONE | SLTY.DK.GY CARB; SOME COAL PARTINGS UP TO 5 CM. |
| 71 | 329.84 | 329.86 | 0.02 | | | COAL | C-5.BLK CARB MUDST. |
| 71 | 329.86 | 329.93 | 0.07 | | | MUDSTONE | DK.GY CARB INTBDS. |
| 71 | 329.93 | 330.21 | 0.28 | | | MUDSTONE | DK.GY CARB; COAL PARTINGS. |
| 71 | 330.21 | 330.47 | 0.26 | | | MUDSTONE | DK.GY CARB; SOME BRIGHT COAL PARTINGS. |
| 71 | 330.47 | 330.77 | 0.30 | | | ROCK LOSS | |
| 71 | 330.77 | 331.57 | 0.80 | | | MUDSTONE | DK.GY CARB; COALY INCLUSIONS AND PARTINGS; LI STRIC SURFACES; SKS; WORM BUR. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 72 | 331.57 | 331.59 | 0.02 | | | COAL | C-5.BLK DULL. |
| 72 | 331.59 | 332.18 | 0.59 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 72 | 332.18 | 332.21 | 0.03 | | | COAL | C-5.BLK DULL. |
| 72 | 332.21 | 332.34 | 0.13 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 72 | 332.34 | 332.37 | 0.03 | | | COAL | C-5.BLK DULL. |
| 72 | 332.37 | 333.44 | 1.07 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 72 | 333.44 | 333.64 | 0.20 | | | MUDSTONE | DK.GY MNR COAL PARTINGS. |
| 72 | 333.64 | 333.99 | 0.35 | 00008 | 1 | COAL | C-5.BLK DULL; MNR BRIGHT BANDS IN TOP HALF. |
| 72 | 333.99 | 334.05 | 0.06 | 00008 | 1 | MUDSTONE | DK.GY SAME AS ABOVE. |
| 73 | 334.05 | 334.48 | 0.43 | 00008 | 1 | COAL | C-5.BLK DULL; CORE IS BROKEN. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 73 | 334.48 | 334.81 | 0.33 | 00009 | 1 | MUDSTONE | DK.GY CARB LISTRIC SURF. |
| 73 | 334.81 | 334.84 | 0.03 | 00009 | 1 | COAL | C-5.BLK DULL. |
| 73 | 334.84 | 335.46 | 0.62 | 00009 | 1 | MUDSTONE | DK.GY THIN COAL PARTINGS AND BAND .05 CM. |
| 73 | 335.46 | 335.63 | 0.17 | 00010 | 1 | COAL | C-5.BLK DULL CORE BROKEN. |
| 73 | 335.63 | 336.05 | 0.42 | 00010 | 1 | COAL | C-5.BLK DULL. |
| 73 | 336.05 | 336.11 | 0.06 | 00010 | 1 | COAL | C-6.BLK STONY MNR CARB MUDST LAMINATIONS. |
| 73 | 336.11 | 336.27 | 0.16 | 00011 | 1 | MUDSTONE | DK.GY SILTY WITH CARB MUDST. |
| 73 | 336.27 | 336.37 | 0.10 | 00011 | 1 | ROCK LOSS | |
| 73 | 336.37 | 336.62 | 0.25 | 00011 | 1 | COAL | C-5.BLK DULL. |
| 73 | 336.62 | 336.67 | 0.05 | 00011 | 1 | MUDSTONE | DK.GY SHEARED AND POLISHED SURFACES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 73 | 336.67 | 336.72 | 0.05 | 00011 | 1 | ROCK LOSS | |
| 74 | 336.72 | 336.83 | 0.11 | 00012 | 1 | COAL | C-5.BLK DULL; V BROKEN. |
| 74 | 336.83 | 337.13 | 0.30 | 00012 | 1 | COAL | C-5.BLK DULL; V BROKEN, POWDERED; V THIN MUDST LAMINATIONS; POLISHED SURFACE. |
| 74 | 337.13 | 337.20 | 0.07 | 00012 | 1 | MUDSTONE | DK.GY SHEARED; POLISHED SURF; CARB; MINUTE CO AL PARTINGS. |
| 74 | 337.20 | 337.43 | 0.23 | 00012 | 1 | COAL | C-5.BLK V BROKEN, POWDERED; MNR MUDST INTBDS. |
| 74 | 337.43 | 338.16 | 0.73 | 00012 | 1 | COAL | C-4.BLK DULL BANDED; OCCASIONAL BRIGHT BANDS. |
| 74 | 338.16 | 338.28 | 0.12 | 00012 | 1 | COAL | C-6.BLK STONY INTBDED COAL AND CARB MUDST |
| 74 | 338.28 | 338.34 | 0.06 | 00012 | 1 | COAL | C-1.BLK BRIGHT BROKEN |
| 74 | 338.34 | 338.71 | 0.37 | 00012 | 1 | COAL | C-4.BLK DULL BANDED |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 74 | 338.71 | 338.88 | 0.17 | 00012 | 1 | COAL | C-4.BLK DULL BANDED |
| 74 | 338.88 | 339.04 | 0.16 | | 1 | MUDSTONE | DK.GY CARB, NUMEROUS COAL PARTINGS AND BANDS PREDOMINANT IN UPPER PART OF UNIT BROKE N & POWDERED AT BASE (POSSIBLE CORE LOS S) |
| 74 | 339.04 | 339.06 | 0.02 | | 1 | COAL | C-4.BLK DULL BANDED BROKEN AND POWDERED |
| 74 | 339.06 | 339.46 | 0.40 | | 1 | MUDSTONE | SLTY.DK.GY CARB. MOD. COAL PARTINGS. |
| 75 | 339.46 | 340.28 | 0.82 | | 1 | MUDSTONE | DK.GY CARB WITH SILTY INTBDS COAL BANDS UP TO 0.05M |
| 75 | 340.28 | 340.58 | 0.30 | 00013 | 1 | COAL | C-5 DULL |
| 75 | 340.58 | 340.80 | 0.22 | 00013 | 1 | COAL | C-6 COAL AND MUDST INTBDS |
| 75 | 340.80 | 341.40 | 0.60 | | | SILTSTONE | M.GY ARG TOWARDS TOP OF UNIT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 75 | 341.40 | 342.45 | 1.05 | | | MUDSTONE | DK.GY MNR CALCT VEINING, CARB. INTBD. SLTS; P YR. |
| 76 | 342.45 | 342.90 | 0.45 | | | MUDSTONE | DK.GY SAME AS ABOVE |
| * 76 | 342.90 | 344.15 | 1.25 | | | SANDSTONE | MG.M.GY CARB, INTBD. MUDST, MNR, CALCT VEINING, SKS; MAR BREC. |
| * 60 | 344.15 | 345.34 | 1.19 | | | SANDSTONE | M.GY INTBD MUDST; CARB, BREC, COALY INCLUSIO NS. |
| 66 | 345.34 | 345.38 | 0.04 | | | COAL | C-2 BRIGHT BANDED, BROKEN |
| 67 | 345.38 | 345.52 | 0.14 | | | MUDSTONE | INTBD SS, COALY LAMINAE, |
| * 75 | 345.52 | 346.94 | 1.42 | | | SANDSTONE | MG.LT-M.GY INTBD. MUDST, CARB; PYR, MNR. CALCT VEI NING |
| 69 | 346.94 | 348.55 | 1.61 | | | MUDSTONE | DK.GY.XBDG INTBD SS AND SLTST CALCT. VEINING, CARB ; XBDG INDICATES TOP UP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 64 | 348.55 | 349.68 | 1.13 | | | SANDSTONE | MG INTBD. MUDST, CARB, COALY INCLUSIONS, M NR. CALCT. VEINING, LISTRIC SURFACES, R IP-UP CLASTS, BREC. |
| * 62 | 349.68 | 349.84 | 0.16 | | | SILTSTONE | M.GY CARB; |
| 62 | 349.84 | 350.69 | 0.85 | | | SANDSTONE | M.GY CARB; MICACEOUS, |
| * 62 | 350.69 | 351.49 | 0.80 | | | SANDSTONE | M.GY INTBD. SLTST; CARB, COALY INCLUSIONS, R IP-UP CLASTS, PYR. |
| 59 | 351.49 | 352.62 | 1.13 | | | SILTSTONE | M.GY INTBD. MUDST. AND SLTST; COALY INCLUSIO NS, CARB; |
| * 55 | 352.62 | 354.59 | 1.97 | | | SANDSTONE | CG.LT-M.GY MUDST SLTST INTBDS, COALY INCLUSIONS, C ALCT. VEINING, BECOMING CLEANER TOWARDS BOX MARKER, PYR, LISTRIC SURF. |
| * 55 | 354.59 | 355.41 | 0.82 | | | SANDSTONE | CG.LT-M.GY SAME AS ABOVE, RIP UP CLASTS, BIOTURB |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 60 | 355.41 | 357.75 | 2.34 | | | SANDSTONE | CG.LT-M.GY INTBD MUDST & SLTST, CALCT. VEINING, CO ALY INCLUSION SKS, |
| 60 | 357.75 | 358.15 | 0.40 | | | SILTSTONE | M.GY INTBD MUDST AND SS CARB. |
| 60 | 358.15 | 358.63 | 0.48 | | | SANDSTONE | MG.LT.GY CALCT. VEINING, COALY INCLUSIONS, RIP-U P CLASTS; SKS, CARB, |
| 60 | 358.63 | 359.18 | 0.55 | | | SILTSTONE | M.GY CARB, CALCT. VEINING, SKS, |
| * 60 | 359.18 | 360.03 | 0.85 | | | SANDSTONE | MG.LT-M.GY CALCT. VEINING, SKS, COALY INCLUSIONS, BREC |
| * 70 | 360.03 | 360.86 | 0.83 | | | SANDSTONE | FG.M.GY CALCT. VEINING, CARB. |
| 70 | 360.86 | 361.32 | 0.46 | | | SANDSTONE | MG.M.GY SAME AS ABOVE INTBD. MUDST. |
| * 70 | 361.32 | 362.77 | 1.45 | | | SANDSTONE | CG.M.GY CALCT, VEINING, SKS, CARB, COALY INCLUS IONS, BROKEN, POSSIBLE FLT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 66 | 362.77 | 362.98 | 0.21 | | SANDSTONE | CG.M.GY SAME AS ABOVE |
| * | 60 | 362.98 | 365.61 | 2.63 | | SANDSTONE | MG.LT-M.GY CARB. COALY INCLUSIONS, CALCT VEINING, CLEANER THAN PREVIOUS SS. |
| * | 70 | 365.61 | 366.33 | 0.72 | | SANDSTONE | MG.LT-M.GY CALCT. VEINING, CARB; COALY INCLUSIONS INTBD. MUDST. |
| * | 65 | 366.33 | 368.46 | 2.13 | | MUDSTONE | DK.GY INTBD. SLTST, CALCT. VEINING SKS, CARB. |
| * | 50 | 368.46 | 368.83 | 0.37 | | MUDSTONE | DK.GY INTBD SLTST AND SS, CARB. |
| | 57 | 368.83 | 369.28 | 0.45 | | SANDSTONE | CG.M.GY COALY INCLUSIONS, CARB; CALCT. VEINING, LISTRIC SURF. |
| * | 80 | 369.28 | 371.33 | 2.05 | | SANDSTONE | CG.M.GY RIP-UP CLASTS SAME AS ABOVE |
| | 74 | 371.33 | 372.31 | 0.98 | | SANDSTONE | CG.M.GY SAME AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 70 | 372.31 | 372.99 | 0.68 | | | SANDSTONE | CG.M.GY COALY INCLUSIONS, CARB CALCT. VEINING, LISTRIC SURF; RIP-UP CLASTS. |
| * 65 | 372.99 | 373.94 | 0.95 | | | MUDSTONE | DK.GY INTBD. SLTST; CARB; MNR. CALCT. VEINING |
| 66 | 373.94 | 375.40 | 1.46 | | | MUDSTONE | DK.GY CARB; MNR. CALCT. VEINING, SKS. |
| 68 | 375.40 | 376.74 | 1.34 | | | MUDSTONE | DK.GY SAME AS ABOVE |
| * 70 | 376.74 | 378.49 | 1.75 | | | MUDSTONE | DK.GY INTBD. SLTST; COALY STRINGERS, CARB. |
| 70 | 378.49 | 379.48 | 0.99 | | | MUDSTONE | DK.GY SAME AS ABOVE |
| 70 | 379.48 | 381.76 | 2.28 | | | MUDSTONE | DK.GY SAME AS ABOVE |
| 70 | 381.76 | 382.43 | 0.67 | | | MUDSTONE | DK.GY SAME AS ABOVE |
| 70 | 382.43 | 384.15 | 1.72 | | | MUDSTONE | DK.GY SAME AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 42

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81001

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 70 | 384.15 | 384.65 | 0.50 | | | MUDSTONE | DK.GY SAME AS ABOVE W ABUND COAL INCLUSIONS AND ND STRINGERS, BADLY BROKEN |

* DENOTES MEASURED BCA

DDH 81-02

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81002

HISTORY

DY MO YR DY MO YR
 START DATE: 25/06/81 END DATE: 28/06/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: C. WILLIAMS SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1249.6
 UTM ZONE: 10 NORTH: 6141262.56 EAST: 548649.78
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NIS-BC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 331.30 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 21.30 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | --- | --- | | X | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | | X | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | X | X | 247AS |
| CALIPER | X | 1:100 | : | --- | --- | X | | 785 |
| FE-SHORT | X | 1:100 | 1:40 | --- | --- | X | | 10 |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | | 10 |
| DIRECTIONAL | X | : | : | --- | --- | X | | |
| DIPMETER | --- | : | : | --- | --- | --- | | |

*** COAL DIVISION ***

DATA SOURCE: D81-02

INTERVAL OF INTERPOLATION 10 UNIT(S)

VIEWPOINT: 45.0 DEGREES

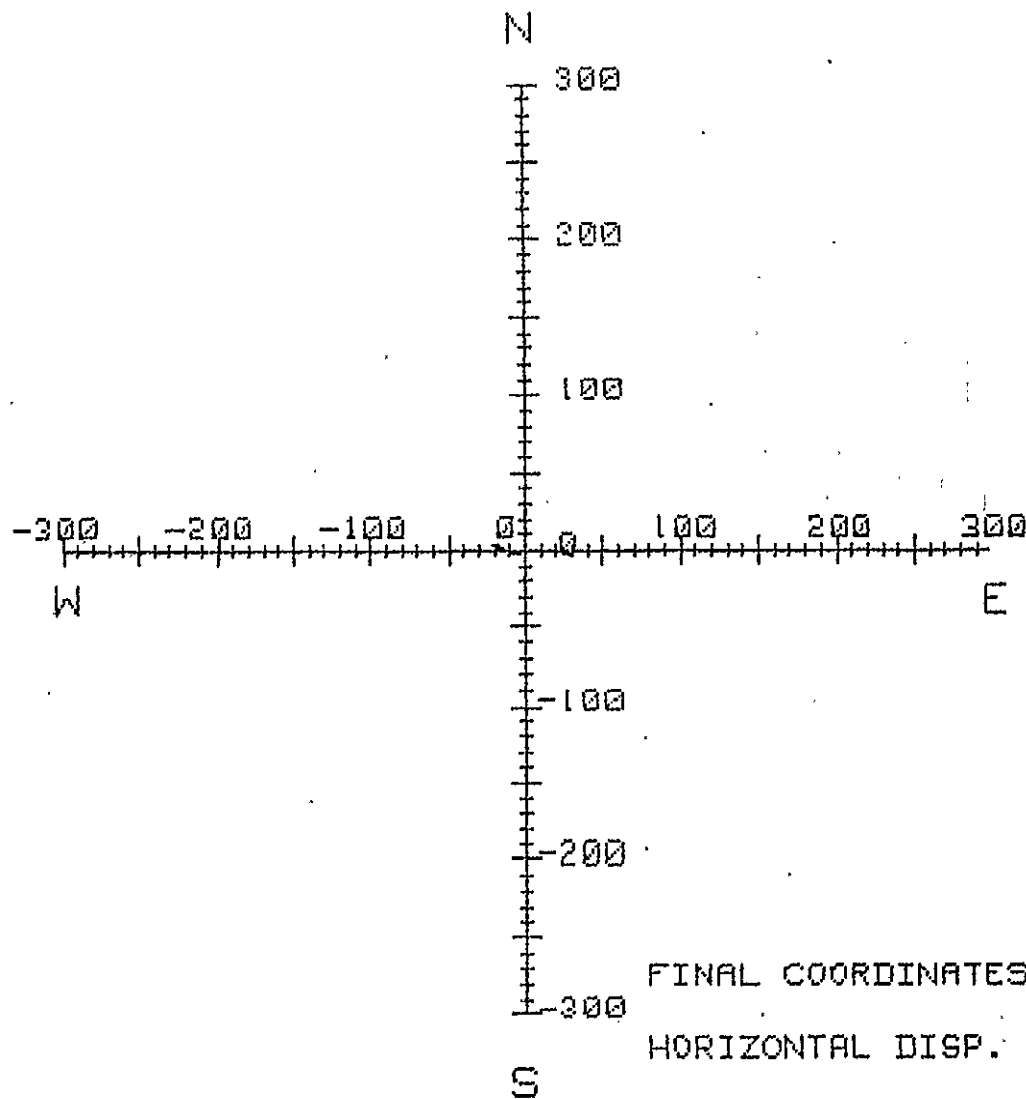
DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 0.00 | 3.60 | 257.00 |
| 30.00 | 3.60 | 257.00 |
| 45.00 | 3.40 | 242.90 |
| 60.00 | 3.30 | 242.30 |
| 75.00 | 3.30 | 260.30 |
| 90.00 | 3.10 | 253.60 |
| 105.00 | 3.40 | 272.20 |
| 120.00 | 3.40 | 272.80 |
| 135.00 | 3.60 | 272.60 |
| 150.00 | 3.50 | 275.20 |
| 165.00 | 3.60 | 289.70 |
| 180.00 | 3.75 | 289.90 |
| 195.00 | 3.90 | 292.10 |
| 210.00 | 4.10 | 300.90 |
| 225.00 | 4.10 | 303.40 |
| 240.00 | 3.90 | 287.30 |
| 255.00 | 4.28 | 289.50 |
| 270.00 | 4.50 | 295.70 |
| 280.00 | 4.60 | 300.90 |
| 300.00 | 4.80 | 296.20 |
| 315.00 | 4.40 | 296.00 |
| 330.00 | 4.30 | 304.40 |

PLAN VIEW

WELL ID NUMBER

D81-02

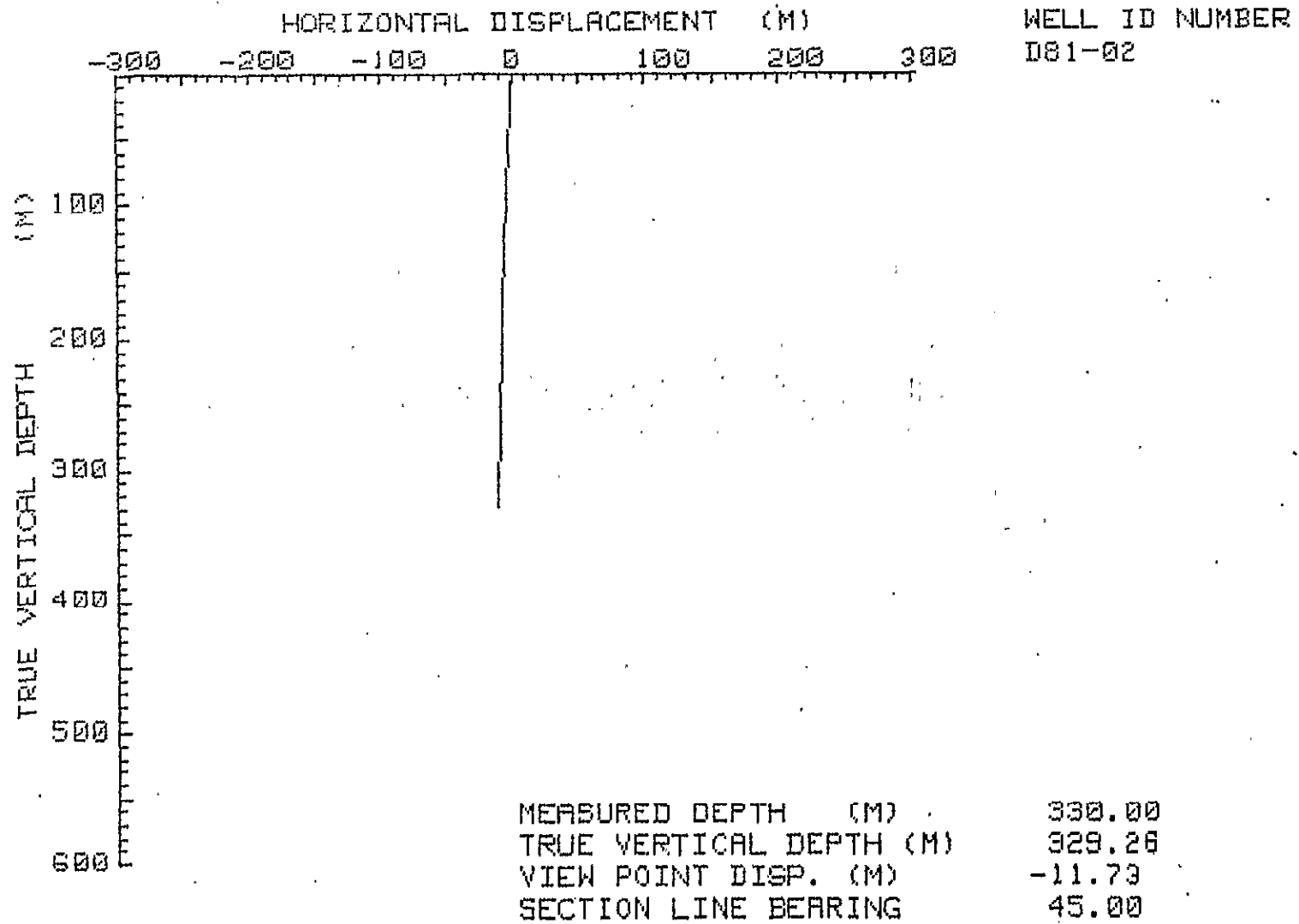


FINAL COORDINATES(M) N 3.85

E -20.44

HORIZONTAL DISP. (M) -11.73

DISPLACEMENT

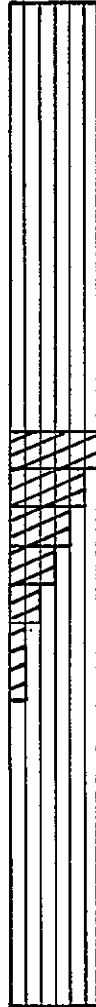


SEAM
COMP

COAL
SEAM
LOG

LITHOTYPE

| | |
|--------------------|----------------|
| C-1: Bright | 80% Vitrain |
| C-2: Bright banded | 60-80% Vitrain |
| C-3: Dull/Bright | 40-60% Vitrain |
| C-4: Dull banded | 20-40% Vitrain |
| C-5: Dull | 20% Vitrain |
| C-6: Bone | |



breccia
carbonaceous
claystone
claystone
coaly claystone
conglomerate
sandstone
siltstone
silty claystone
tuff

coal

coal-boney, stoney,
coal and bands/rock
- designated C6

rock > coal
lithotype uncertain

coal } MISSING
rock } CORE

rock

coal

CORED HOLE

GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

| | | |
|---|---------------|-------------|
| GULF CANADA RESOURCES INC. | | |
| Coal Division | | |
| CALGARY | ALBERTA | |
| LEGEND FOR COAL SEAM DATA SHEETS | | |
| PREPARED BY: V.O. | SCALE 1:40 | |
| APPROVED BY: | DATE: JAN. 82 | DRAWING No. |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal/Coal + Rock (True Thk (m))
8.56/11.52

DENSITY -----

RESISTIVITY -----

DRILL NO. GDR - DDH - 81 - 02 SEAM

SEAM INTERVAL 305.52 - 319.51 m

SCALE 1:40

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | | | | | | |
|---------------|-------------------|------|------|------|------|------|------|------|------|------|------------|-------|---------------|----------|----------------|---------------------|--------|-------|-------------------------|------|------|------|------|------|------|--------|---------|-------|------|----------------|-----|----|--------------|-----|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | | | | 2.00 | 2.10 | | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (M.J/KG) | FSI |
| | | | | | | | | | | | | | 305.52 | | | (0.08) | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 1.98 | 96 | 00038 | | | | | | | 0.80 | 18.99 | 24.44 | 55.77 | 0.25 | 11,960 (27.82) | 2.0 | | | |
| | | | | | | | | | | | | | 307.58 | | 0.04 (0.16) | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 0.60 | 82 | 00039 | | | | | | | 0.91 | 78.89 | 9.85 | 10.35 | 0.31 | 2,489 (5.79) | 0.0 | | | |
| | | | | | | | | | | | | | 308.38 | | 0.04 0.08 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 0.66 | 100 | 00040 | | | | | | | 0.73 | 30.25 | 20.92 | 48.10 | 0.22 | 10,052 (23.38) | 1.0 | | | |
| | | | | | | | | | | | | | | | | 0.04 0.11 | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | 309.87 | | | 0.15 | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 0.47 | 69 | 00041 | | | | | | | 0.78 | 86.09 | 12.23 | 0.95 | 0.02 | 370 (0.86) | 0.0 | | | |
| | | | | | | | | | | | | | 310.66 | | (0.21) | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 1.33 | 95 | 00042 | | | | | | | 0.82 | 12.87 | 24.44 | 61.87 | 0.26 | 13,001 (30.24) | 2.0 | | | |
| | | | | | | | | | | | | | | | | 0.04 0.59 | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | 312.62 | | | 0.74 | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | (0.10) | | | | | | | | | 0.76 | 70.94 | 11.81 | 16.49 | 0.15 | 3,796 (8.83) | 0.5 | | | |
| | | | | | | | | | | | | | 313.46 | | 0.01 0.06 0.04 | (0.13) | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | 314.00 | | | 0.04 0.10 0.02 0.14 | | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

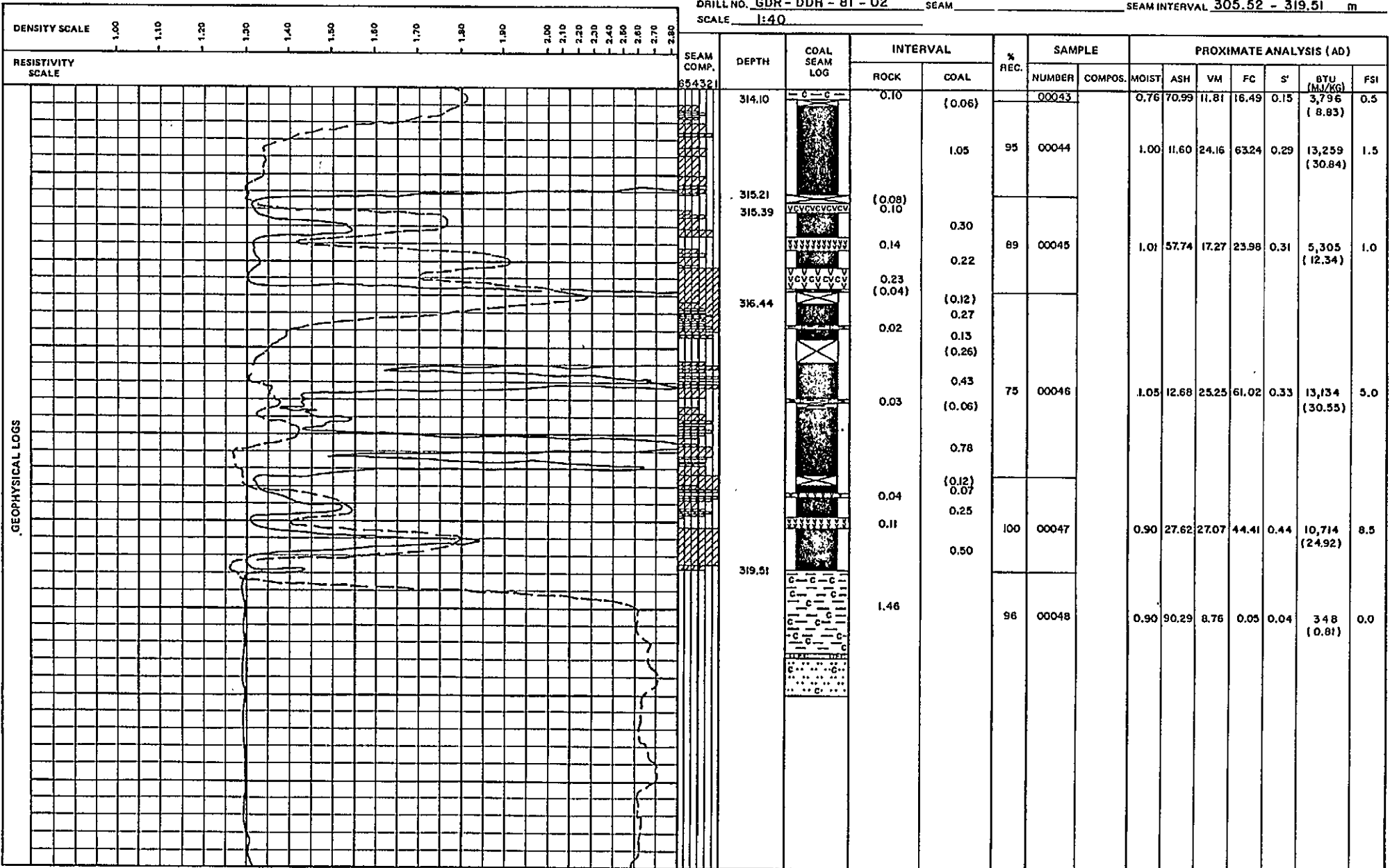
GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-02 SEAM _____
SCALE 1:40

SEAM INTERVAL 305.52 - 319.51 m



COAL SEAM DATA SHEET

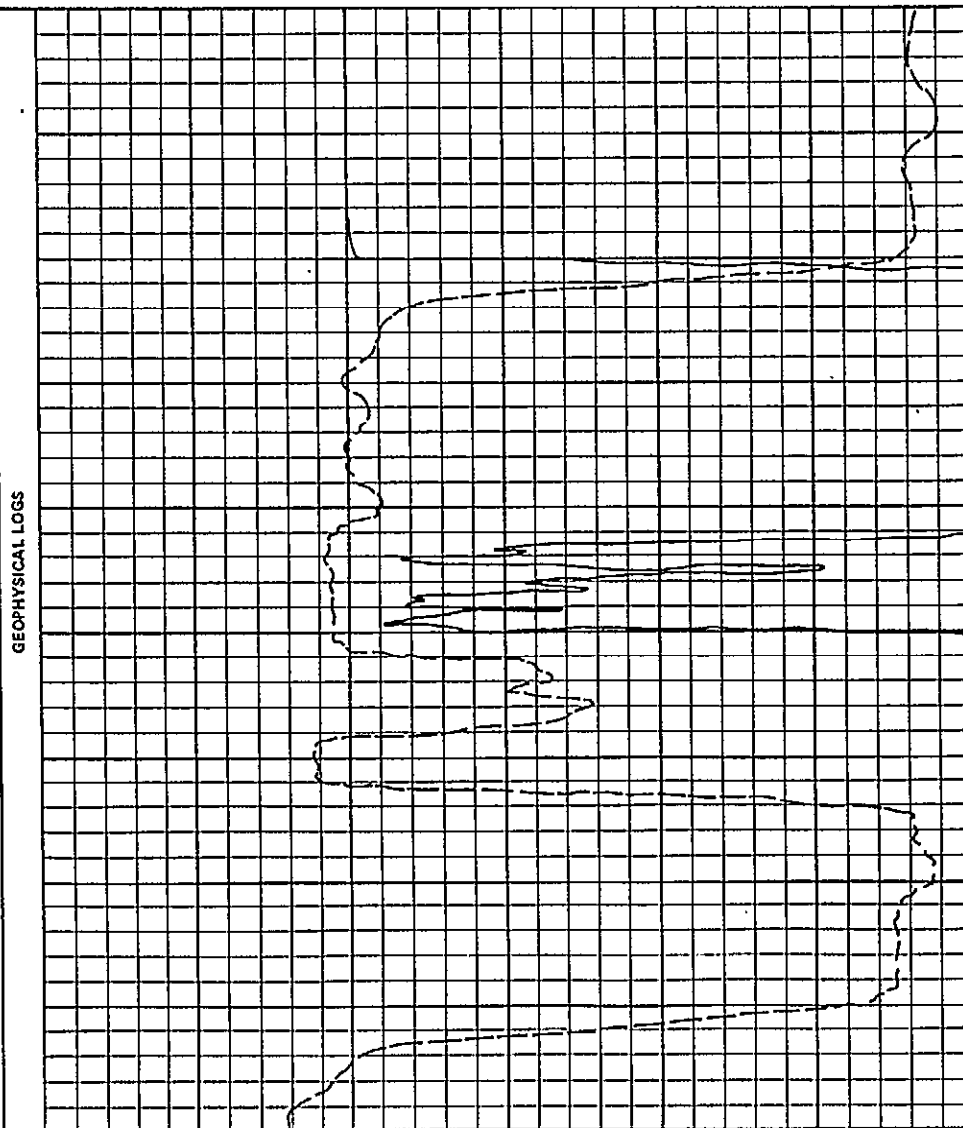
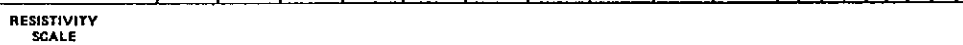
GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-00)

Coal/Coal + Rock (TrueThk(m))
2.48/2.90, 0.54/0.65
323.00 - 327.03 m
328.71 - 330.07 m

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-02 SEAM _____
SCALE 1:40 SEAM INTERVAL _____



GEOPHYSICAL LOGS

| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | |
|------------|--------|---------------|----------------|--------------------------|--------|--------|---------|-------------------------|-------|-------|-------|----------------|-------------------|-----|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ¹ | BTU (HJ/KG) | FSI |
| 654321 | 323.00 | | 1.85 (0.15) | | 96 | 00048 | | 0.90 | 90.29 | 8.76 | 0.05 | 0.04 | 348 (0.81) | 0.0 |
| | | | | 0.96 (0.14) 0.02 | 84 | 00049 | | 1.07 | 16.11 | 23.58 | 59.26 | 0.34 | 12,623 (29.36) | 4.5 |
| | | | | 0.40 (0.16) (0.04) | | | | | | | | | | |
| | | | | 0.57 (0.14) 0.03 | | | | | | | | | | |
| | 326.11 | | | 0.16 0.02 0.09 | | | | | | | | | | |
| | | | | 0.15 (0.92) | 32 | 00050 | | 0.97 | 42.69 | 22.08 | 34.26 | 0.23 | 8,005 (18,62) | 4.5 |
| | 327.03 | | | | | | | | | | | | | |
| | 327.74 | | 0.71 | | | | | | | | | | | |
| | | | | 0.05 0.92 | 100 | 00051 | | 0.83 | 85.55 | 12.39 | 1.23 | 0.11 | 1,187 (2,76) | 0.0 |
| | | | | | | | | | | | | | | |
| | | | | 0.57 | | | | | | | | | | |
| | | | 0.23 | | 100 | 00052 | | 0.94 | 41.48 | 22.49 | 35.09 | 0.21 | 8,336 (19,39) | 1.0 |
| | | | | 0.48 0.10 | | | | | | | | | | |
| | 330.07 | | | | | | | | | | | | | |

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|----------------|--------------|--------------|
| DDHB1002 | | 38 | 305.52 | 307.58 | 1.98 | 96.12 | 1.98 | 0.00 | 0.08 | 0.00 |
| | | 39 | 307.58 | 308.48 | 0.75 | 83.33 | 0.10 | 0.65 | 0.00 | 0.15 |
| | | 40 | 308.48 | 309.67 | 1.39 | 100.00 | 1.12 | 0.27 | 0.00 | 0.00 |
| | | 41 | 309.87 | 310.55 | 0.47 | 69.12 | 0.00 | 0.47 | 0.00 | 0.21 |
| | | 42 | 310.55 | 312.62 | 1.96 | 94.69 | 1.92 | 0.04 | 0.11 | 0.00 |
| | | 43 | 312.62 | 314.10 | 1.27 | 85.81 | 0.32 | 0.95 | 0.13 | 0.08 |
| | | 44 | 315.21 | 316.32 | 0.99 | 89.19 | 0.52 | 0.47 | 0.00 | 0.12 |
| | | 45 | 314.10 | 315.21 | 1.05 | 94.59 | 1.05 | 0.00 | 0.00 | 0.00 |
| | | 46 | 316.32 | 318.42 | 1.66 | 79.05 | 1.61 | 0.05 | 0.44 | 0.00 |
| | | 47 | 318.42 | 319.51 | 0.97 | 88.99 | 0.82 | 0.15 | 0.00 | 0.12 |
| | | 48 | 319.51 | 323.00 | 3.34 | 95.70 | 0.00 | 3.34 | 0.00 | 0.15 |
| | | 49 | 323.00 | 325.33 | 1.95 | 83.69 | 1.93 | 0.02 | 0.00 | 0.30 |
| | | 50 | 325.33 | 327.03 | 0.54 | 31.76 | 0.40 | 0.14 | 1.02 | 0.14 |
| | | 51 | 327.03 | 328.71 | 1.68 | 100.00 | 0.05 | 1.63 | 0.00 | 0.00 |
| | | 52 | 328.71 | 330.07 | 1.36 | 100.00 | 1.13 | 0.23 | 0.00 | 0.00 |

PROJ - GDR ANALYSIS BASIS TYPE - AD NAME OF STANDARD - ASTM

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|-------|---------------|------------------|----------------|-------------------------------|------|------|
| DDH81002 | | 38 | 0.80 | 18.99 | 55.77 | 24.44 | 0.25 | 27.82 | 1.42 | 2.00 |
| | | 39 | 0.91 | 78.89 | 10.35 | 9.85 | 0.13 | 5.79 | 2.14 | 0.00 |
| | | 40 | 0.73 | 30.25 | 48.10 | 20.92 | 0.22 | 23.38 | 1.53 | 1.00 |
| | | 41 | 0.78 | 86.04 | 0.95 | 12.23 | 0.02 | 0.86 | 2.52 | 0.00 |
| | | 42 | 0.82 | 12.87 | 61.87 | 24.44 | 0.26 | 30.24 | 1.37 | 2.00 |
| | | 43 | 0.76 | 70.94 | 16.49 | 11.81 | 0.15 | 8.83 | 2.10 | 0.50 |
| | | 44 | 1.00 | 11.60 | 63.24 | 24.16 | 0.29 | 30.84 | 1.35 | 1.50 |
| | | 45 | 1.01 | 57.74 | 23.98 | 17.27 | 0.13 | 12.34 | 1.69 | 1.00 |
| | | 46 | 1.05 | 12.68 | 61.02 | 25.25 | 0.33 | 30.55 | 1.34 | 5.00 |
| | | 47 | 0.90 | 27.62 | 44.41 | 27.07 | 0.44 | 24.92 | 1.48 | 3.50 |
| | | 48 | 0.90 | 90.29 | 0.05 | 8.76 | 0.04 | 0.81 | 2.56 | 0.00 |
| | | 49 | 1.07 | 16.11 | 59.26 | 23.56 | 0.34 | 29.36 | 1.39 | 4.50 |
| | | 50 | 0.97 | 42.69 | 34.26 | 22.03 | 0.23 | 18.62 | 1.63 | 4.50 |
| | | 51 | 0.83 | 85.55 | 1.23 | 12.39 | 0.11 | 2.76 | 2.41 | 0.00 |
| | | 52 | 0.94 | 41.48 | 35.09 | 22.49 | 0.21 | 19.39 | 1.65 | 1.00 |

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|------------|--|
| 45 | 21.30 | 22.17 | 0.87 | | | OVERBURDEN | |
| * 45 | 22.17 | 23.77 | 1.60 | | | SILTSTONE | LT-M.GY.BIOTR PIECE OF BOTTOM BOX 1 DOESNT MATCH PIECE ON TOP OF BOX 2: POSSIBLE CORE LOSS |
| 45 | 23.77 | 23.87 | 0.10 | | | SILTSTONE | LT-M.GY.BIOTR |
| * 45 | 23.87 | 24.41 | 0.54 | | | SANDSTONE | FG.WEL.LT.GY.BIOTR |
| 45 | 24.41 | 25.64 | 1.23 | | | MUDSTONE | SLTY.M.GY.BIOTR MINOR HORSETAIL CALCITE VEINING; FEW SL ICKENSIDES;PYRITE BLEBS;VBRKN. |
| 45 | 25.64 | 25.91 | 0.27 | | | MUDSTONE | |
| 45 | 25.91 | 26.45 | 0.54 | | | MUDSTONE | SSY.M.GY WEL BECOMING SANDIER TOWARDS BASE |
| * 45 | 26.45 | 26.65 | 0.20 | | | SANDSTONE | CLYY.FG.WEL.LT.GY.XBDG TOPS UP POSSIBLE CORE LOSS |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 45 | 26.65 | 28.40 | 1.75 | | | SANDSTONE | BIOTR CALCITE BLEBS; SLICKENSIDES, |
| 45 | 28.40 | 28.66 | 0.26 | | | ROCK LOSS | |
| 45 | 28.66 | 29.45 | 0.79 | | | SANDSTONE | LT.GY |
| * 45 | 29.45 | 31.22 | 1.77 | | | MUDSTONE | CARB.LT-M.GY.BIOTR FEW SS INTERBEDS; SLICKENSIDES; MINOR C ALCITE VEINING: SSY: SORTING WELL. |
| 41 | 31.22 | 32.36 | 1.14 | | | MUDSTONE | SANDY INTERVAL FROM 0.44 TO 0.54 M. |
| * 38 | 32.36 | 33.71 | 1.35 | | | MUDSTONE | BADLY BROKEN, ABUNDANT SLICKENSIDES AT 0 .87; SOME CALCITE SMEARS. |
| 42 | 33.71 | 35.28 | 1.57 | | | MUDSTONE | SLTY.LT-M.GY.WRMBU |
| * 45 | 35.28 | 36.25 | 0.97 | | | MUDSTONE | SLTY.LT-M.GY SLICKENSIDES AT 0.17 AND 0.72 M. |
| 43 | 36.25 | 37.28 | 1.03 | | | MUDSTONE | LT-M.GY.WRMBU SLICKENSIDES AT 0.37 M. |
| 41 | 37.28 | 38.18 | 0.90 | | | SILTSTONE | PBLY.M.GY.BIOTR SLICKENSIDES AT 0.6M. |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 40 | 38.18 | 38.22 | 0.04 | | | SANDSTONE | FG.WEL.LT.GY.XBDG |
| 40 | 38.22 | 38.29 | 0.07 | | | SANDSTONE | FG.WEL.LT.GY |
| 40 | 38.29 | 38.84 | 0.55 | | | MUDSTONE | SLTY.M.GY CORE LOSS AT 0.11 M |
| * 38 | 38.84 | 41.17 | 2.33 | | | MUDSTONE | SLTY.M.GY.BIOTR FEW MINOR COALY INCLUSIONS, 2.27 TO 2.3 3 MNR SS. |
| 39 | 41.17 | 41.61 | 0.44 | | | MUDSTONE | SLTY.M.GY |
| 39 | 41.61 | 44.25 | 2.64 | | | SANDSTONE | SLTY.FG.WEL.LT-M.GY.BIOTR FEW MUDST INTERBEDS; VBRKN; NUMEROUS SL ICKENSIDES AT 0.70 M; POSSIBLE CORELOSS ; CALCITE VEINING AT 1.73 M AND 2.11 M; LMN STN; CARB DEBRIS. |
| * 40 | 44.25 | 46.20 | 1.95 | | | SANDSTONE | LT-M.GY.BIOTR AT 1.45 LMN STN FEW CALCITE VEINING; TO PS UP; SEVERAL COALY INCLUSIONS; CALC FE W MUDST INTERBEDS. |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 36 | 46.20 | 46.86 | 0.66 | | | SANDSTONE | FG.WEL.LT.GY |
| * 33 | 46.86 | 47.86 | 1.00 | | | SANDSTONE | FG.WEL.BIOTR 0.40 MUD SLICKENSIDES & CALCITE VEINING |
| 35 | 47.86 | 48.49 | 0.63 | | | SILTSTONE | CLYY.M.GY VBRKN; CALCITE VEINING AND SLICKENSIDES ; CARB. |
| * 37 | 48.49 | 49.40 | 0.91 | | | SILTSTONE | BIOTR FEW SANDY INTRBS. |
| 35 | 49.40 | 49.46 | 0.06 | | | SILTSTONE | M.GY AS ABOVE |
| * 34 | 49.46 | 49.81 | 0.35 | | | SANDSTONE | CLYY.FG.WEL.LT.GY.XBDG MINOR SLICKENSIDES. |
| 35 | 49.81 | 50.03 | 0.22 | | | SILTSTONE | CLYY.M-DK.GY.BIOTR CALC; CARB. |
| 36 | 50.03 | 52.04 | 2.01 | | | SILTSTONE | AS ABOVE MNR CALCT SMEARS ON SLICKENSID E SURFACES. |
| 39 | 52.04 | 53.08 | 1.04 | | | MUDSTONE | SLTY.M.GY.BIOTR CALC |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 40 | 53.08 | 53.28 | 0.20 | | MUDSTONE | AS ABOVE |
| | 41 | 53.28 | 53.39 | 0.11 | | SILTSTONE | LT.GY.BIOTR |
| | 41 | 53.39 | 53.88 | 0.49 | | MUDSTONE | SLTY.M.GY.BIOTR CALC |
| * | 42 | 53.88 | 54.44 | 0.56 | | SILTSTONE | LT.GY.BIOTR CALC, MNR SLICKENSIDES |
| | 41 | 54.44 | 54.70 | 0.26 | | MUDSTONE | SLTY.M.GY.BIOTR MNR COALY INCLUSIONS, SLICK ENSIDES. |
| | 40 | 54.70 | 55.97 | 1.27 | | MUDSTONE | AS ABOVE |
| * | 38 | 55.97 | 56.16 | 0.19 | | SANDSTONE | CLYY.VFG.LT.GY.BIOTR |
| | 39 | 56.16 | 57.41 | 1.25 | | MUDSTONE | SLTY.LT-M.GY.BIOTR CALCITE VEINING ON SLICKENSIDES. |
| * | 40 | 57.41 | 58.92 | 1.51 | | MUDSTONE | LT-M.GY |
| | 40 | 58.92 | 60.08 | 1.16 | | MUDSTONE | CARB BIVALVES, CALC. SLICKENSIDES. |
| | 40 | 60.08 | 60.28 | 0.20 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 40 | 60.28 | 61.85 | 1.57 | | | MUDSTONE | SLTY MNR CALCITE VEINING |
| 41 | 61.85 | 63.01 | 1.16 | | | MUDSTONE | CARB MNR CALCT VEINING, FE CONCRETIONS AT 1.16M |
| 41 | 63.01 | 63.19 | 0.18 | | | ROCK LOSS | |
| 41 | 63.19 | 64.90 | 1.71 | | | MUDSTONE | SLTY.LT-M.GY SLIGHTLY SLTY; BRKN; POSSIBLE CORELOSS AT 0.75 M; WRMBUR; FEW SMALL FE ST NODULES. |
| * 41 | 64.90 | 65.81 | 0.91 | | | MUDSTONE | SLTY.LT-M.GY SKS MNR CALCT VEINING AT 0.48;PYR BLEBS THROUGHOUT. |
| 38 | 65.81 | 68.02 | 2.21 | | | MUDSTONE | SLTY POSSIBLE CORE LOSS AT 0.90;PIECES DO NOT MATCH;BROKEN;LG CALCITE VEIN 1 CM THK & SKS AT THAT PT THIN SLTST LAM .70-.80. |
| * 35 | 68.02 | 68.51 | 0.49 | | | MUDSTONE | SLTY.BIOTR SKS AND CALCT VEINING AT 0.41 |
| 37 | 68.51 | 68.61 | 0.10 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 45 | 68.61 | 71.07 | 2.46 | | | MUDSTONE | SLTY.LT-M.GY.WRMBU THIN SLTY LAMINATIONS AT .10,1.05,1.82; SKS @ 1.05, 1.82; POSSIBLE CORE LOSS A T 1.28; BROKEN PIECES DO NOT FIT. |
| 45 | 71.07 | 71.40 | 0.33 | | | MUDSTONE | SLTY.LT-M.GY CALC VEININ & SKS @ 0.15. |
| 44 | 71.40 | 74.13 | 2.73 | | | MUDSTONE | SLICKENSIDES AND CALCITE VEINING 1.31, 2.31- 2.40. |
| * 44 | 74.13 | 74.17 | 0.04 | | | ROCK LOSS | SLTY |
| 43 | 74.17 | 76.99 | 2.82 | | | MUDSTONE | SLTY.M.GY.WRMBU POSSIBLE CORELOSS 0.74;PIECES DO NOT MA TCH; SKS @ 1.40;FOSSIL @ 0.48. |
| 41 | 76.99 | 77.04 | 0.05 | | | ROCKLOSS | |
| 41 | 77.04 | 77.22 | 0.18 | | | MUDSTONE | SLTY.M.GY POSSIBLE CORE LOSS AT .1 PIECES DONT MA TCH. |
| 40 | 77.22 | 79.84 | 2.62 | | | MUDSTONE | SLTY.M.GY SKS AND CALCT AT .23 AND 2.2 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 39 | 79.84 | 80.11 | 0.27 | | ROCK LOSS | |
| | 39 | 80.11 | 80.27 | 0.16 | | MUDSTONE | M.GY.WRMBU |
| | 37 | 80.27 | 82.89 | 2.62 | | MUDSTONE | M.GY FOSSIL BIVALVES SEVERAL SMALL CLAY BLEB S @ 0.51, SKS AT .64, 1.60, 2.42 |
| | 36 | 82.89 | 83.17 | 0.28 | | MUDSTONE | SLTY.M.GY ICM CALCIT VEINING, CORE BADLY BROKEN P OSSIBLE CORE LOSS |
| | 36 | 83.17 | 83.32 | 0.15 | | MUDSTONE | SLTY.M.GY |
| * | 35 | 83.32 | 85.53 | 2.21 | | MUDSTONE | SLTY SKS W CALCT VEING @ 1.36, SMALL PYR BLE BS, WHITE SPECKS THROUGHOUT, (CALCT? FO SSILS?) |
| | 30 | 85.53 | 85.75 | 0.22 | | MUDSTONE | SLTY.M.GY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 30 | 85.75 | 85.79 | 0.04 | | | MUDSTONE | SLTY.M.GY POSSIBLE CORE LOSS AT END OF MEASUREMENT |
| 30 | 85.79 | 85.92 | 0.13 | | | MUDSTONE | SLTY.M.GY |
| 30 | 85.92 | 85.97 | 0.05 | | | CLAY | WEL.M.GY SOFT POSSIBLY SHEARED |
| 30 | 85.97 | 86.02 | 0.05 | | | MUDSTONE | SLTY.M.GY.BIOTR POSSIBLE CORELOSS AT END OF MEASUREMENT |
| 30 | 86.02 | 86.12 | 0.10 | | | ROCK LOSS | |
| 30 | 86.12 | 86.15 | 0.03 | | | MUDSTONE | SLTY.M.GY VERY BADLY BROKEN |
| 30 | 86.15 | 86.67 | 0.52 | | | MUDSTONE | SLTY.M.GY |
| 30 | 86.67 | 86.70 | 0.03 | | | CLAY | WEL.M.GY SOFT; POSSIBLY SHEARED. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 30 | 86.70 | 86.78 | 0.08 | | | MUDSTONE | SLTY.M.GY VERY BADLY BROKEN; SKS; CALCT VEINING; SLIGHTLY SLTY. |
| 30 | 86.78 | 88.14 | 1.36 | | | MUDSTONE | SLTY.M.GY BIVALVE AT 0.99 |
| 30 | 88.14 | 88.80 | 0.66 | | | MUDSTONE | SLTY.M.GY SKS @ END OF MEASUREMENT AND CALCT VEIN ING |
| 30 | 88.80 | 90.85 | 2.05 | | | MUDSTONE | SLTY.M.GY.WRMBU SLICKENSIDES AT 1.50. |
| * 30 | 90.85 | 91.66 | 0.81 | | | MUDSTONE | SLTY.M.GY.WRMBU SKS AND CALCT. SMEARS @ 0.58 POSSIBLE C ORELOSS AT 9.73 PIECES DONT MATCH |
| 31 | 91.66 | 91.85 | 0.19 | | | ROCK LOSS | |
| 31 | 91.85 | 92.90 | 1.05 | | | MUDSTONE | SLTY.WRMBU SKS AND CALCT SMEARS @ 0.84 PYRITIZED W RM BURROWS |
| 32 | 92.90 | 92.97 | 0.07 | | | MUDSTONE | SLTY.M.GY CORE VERY BADLY BROKEN, POSSIBLE CORE L OSS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 33 | 92.97 | 93.67 | 0.70 | | | MUDSTONE | SLTY.M.GY.WRMBU COALY INCL. @ 0.15, PYRITIZED WRM BUR. |
| 34 | 93.67 | 94.26 | 0.59 | | | MUDSTONE | SLTY.M.GY.BIOTR |
| 34 | 94.26 | 94.35 | 0.09 | | | MUDSTONE | SLTY.M.GY.BIOTR SKS, CALCT VEINING, VERY BADLY BROKEN |
| 34 | 94.35 | 94.95 | 0.60 | | | MUDSTONE | SLTY.M.GY.BIOTR BADLY BROKEN, POSSIBLE CORE LOSS |
| 35 | 94.95 | 95.22 | 0.27 | | | ROCK LOSS | |
| 35 | 95.22 | 95.25 | 0.03 | | | MUDSTONE | SLTY.M.GY.BIOTR POSSIBLE CORE LOSS PIECE DOES NOT FIT T OP OR BOTTOM |
| 35 | 95.25 | 95.30 | 0.05 | | | ROCK LOSS | |
| 36 | 95.30 | 96.75 | 1.45 | | | MUDSTONE | SLTY.M.GY.BIOTR SKS, HORSETAIL CALCT VEINING @ 0.98 |
| 38 | 96.75 | 98.27 | 1.52 | | | MUDSTONE | SLTY.M.GY.WRMBU CALCITE SMEARS & SKS AT 0.24 0.67 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| | 40 | 98.27 | 99.40 | 1.13 | | MUDSTONE | SLTY.M.GY.WRMBU LISTRIC SURF @ 0.47; CORE BADLY BROKEN @ THAT PT;SKS @ END OF MEASUREMENT. |
| | 41 | 99.40 | 99.67 | 0.27 | | ROCK LOSS | |
| * | 42 | 99.67 | 101.32 | 1.65 | | MUDSTONE | SLTY.M.GY.BIOTR SKS & CALCT SMEARS AT 0.90 1.31, 1.47 |
| * | 42 | 101.32 | 102.44 | 1.12 | | MUDSTONE | SLTY.M.GY.BIOTR SKS AND CALCT SMEAR @ 0.92 PYR BLEBS. |
| * | 45 | 102.44 | 102.73 | 0.29 | | MUDSTONE | SLTY.M.GY.BIOTR |
| | 45 | 102.73 | 102.80 | 0.07 | | ROCK LOSS | |
| | 45 | 102.80 | 102.83 | 0.03 | | TUFF | LT.GY VOLCANIC ASH;DEGENERATE SOAPY FEEL AND SOFT SKS AND CALCT SMEARS @ THIS PT. CO RE BADLY BROKEN;SAMPLE TAKEN FOR B.C. D EPT OF MINES. |
| | 44 | 102.83 | 103.42 | 0.59 | | MUDSTONE | SLTY.M-DK.GY.WRMBU FEW MNR SH LAM FROM 0.00 TO 0.10 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 13

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 44 | 103.42 | 103.46 | 0.04 | | | MUDSTONE | SLTY.M-DK.GY VERY BADLY BROKEN POSSIBLE CORE LOSS @ THIS PT |
| 42 | 103.46 | 105.08 | 1.62 | | | MUDSTONE | SLTY.M-DK.GY MINOR CALCITE VEINS THROUGHOUT |
| 39 | 105.08 | 106.45 | 1.37 | | | MUDSTONE | SLTY.M-DK.GY VERY SLTY, AS ABOVE, SKS AND CALCT VEIN ING @ TOP OF HOLE ; LISTRIC SURF.. |
| 38 | 106.45 | 106.51 | 0.06 | | | ROCK LOSS | |
| 37 | 106.51 | 107.78 | 1.27 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR |
| 35 | 107.78 | 108.24 | 0.46 | | | MUDSTONE | SLTY.LT-M.GY.BIOTR MNR CALCT VEINING, HEAVILY BIOTB VERY S LTY PYR BLEBS ABNT |
| * 34 | 108.24 | 109.49 | 1.25 | | | MUDSTONE | SLTY.M.GY.BIOTR WRM BUR, PYR BLEBS AS ABOVE MNR SLT LAM THROUGHOUT |
| 34 | 109.49 | 110.69 | 1.20 | | | MUDSTONE | SLTY.M.GY.BIOTR AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 35 | 110.69 | 113.52 | 2.83 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR AS ABOVE SKS W CALCT SMEARS AT 0.63&1.8 8 |
| 35 | 113.52 | 113.60 | 0.08 | | | ROCK LOSS | |
| 35 | 113.60 | 113.74 | 0.14 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR PYRITIZED WORM BURROWS |
| 35 | 113.74 | 116.36 | 2.62 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR AS ABOVE, SKS W CALCT VEINING @ 0.18,0. 90,2.19, SLT LAM @ 0.96,1.12 |
| 36 | 116.36 | 116.41 | 0.05 | | | ROCK LOSS | |
| 36 | 116.41 | 116.79 | 0.38 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR AS ABOVE, SKS @ 0.29 W MNR. CALCT. VEIN ING |
| 36 | 116.79 | 119.19 | 2.40 | | | MUDSTONE | SLTY.M-DK.GY.WRMBU PYR WRM BUR, CALCT VEINING @ 0.50 0.96, SKS @ 1.90 2.37 PYR BLEBS POSSIBLE FLT |
| 36 | 119.19 | 119.30 | 0.11 | | | ROCKLOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 36 | 119.30 | 119.84 | 0.54 | | | MUDSTONE | SLTY.M-DK.GY.WRMBU PYR WRMBUR CALCT VEINING AND SKS @ 0.33 , 0.45 |
| 37 | 119.84 | 121.98 | 2.14 | | | MUDSTONE | SLTY.M-DK.GY SKS AND CALCT SMEARS @ 0.96 AS ABOVE |
| 37 | 121.98 | 122.24 | 0.26 | | | ROCK LOSS | M-DK.GY |
| * 37 | 122.24 | 122.89 | 0.65 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR SKS AT 0.43 |
| 37 | 122.89 | 123.06 | 0.17 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR PIECES DONT MATCH POSSIBLE CORE LOSS @ THIS PT |
| 37 | 123.06 | 123.22 | 0.16 | | | ROCK LOSS | |
| 37 | 123.22 | 124.98 | 1.76 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR SKS @ 1.13 AND 1.64 |
| 37 | 124.98 | 125.24 | 0.26 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR VERY BADLY BROKEN AS ABOVE |
| 38 | 125.24 | 125.94 | 0.70 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR VERY BADLY BROKEN; PROBABLE CORE LOSS; V ERY ABNT PYRITE WRMBUR. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 38 | 125.94 | 127.05 | 1.11 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR |
| 38 | 127.05 | 127.39 | 0.34 | | | MUDSTONE | SLTY.LT.GY.BIOTR VERY SLTY W ABNT HORSETAIL CALCT VEINING; VERY HARD; POSSIBLE FESTN CONCRETION. |
| 38 | 127.39 | 127.49 | 0.10 | | | MUDSTONE | SLTY.LT.GY.BIOTR VERY HARD ABNT HORSETAIL CALCT VEINING AT MEASUREMENT; POSSIBLE FE STONE CONCRETION |
| 38 | 127.49 | 128.90 | 1.41 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR WRM BUR, POSSIBLE CORE LOSS AT END OF MEASUREMENT PIECES DO NOT MATCH |
| 38 | 128.90 | 128.99 | 0.09 | | | ROCK LOSS | |
| 38 | 128.99 | 129.97 | 0.98 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR SKS AND CALCT FILLED FRAC @ 0.4, 0.64 AND 0.98. |
| 39 | 129.97 | 130.78 | 0.81 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR PIECES DONT MATCH- POSSIBLE CORE LOSS @ END OF MEASUREMENT PIECES DONT MATCH |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 17

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 39 | 130.78 | 130.93 | 0.15 | | ROCK LOSS | |
| | 39 | 130.93 | 132.04 | 1.11 | | MUDSTONE | SLTY.M-DK.GY.BIOTR POSSIBLE FEST CON @ 0.14 |
| | 39 | 132.04 | 132.70 | 0.66 | | MUDSTONE | SLTY.M-DK.GY.BIOTR |
| * | 39 | 132.70 | 134.96 | 2.26 | | MUDSTONE | SLTY.M-DK.GY.BIOTR BADLY BROKEN FE NOD @ 0.27, 1.29 MNR SKS AND CALCT VEINING |
| | 40 | 134.96 | 135.23 | 0.27 | | ROCK LOSS | |
| | 40 | 135.23 | 135.56 | 0.33 | | MUDSTONE | SLTY.M-DK.GY.BIOTR |
| * | 40 | 135.56 | 138.14 | 2.58 | | MUDSTONE | SLTY.M-DK.GY.WRMBU PYR WRM BUR |
| | 38 | 138.14 | 140.91 | 2.77 | | MUDSTONE | SLTY.M-DK.GY.BIOTR CALCT FILLED FRAC AND SKS @ 0.00 TO 0.7 O W FEW RIP UP CLASTS |
| | 36 | 140.91 | 141.08 | 0.17 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH01002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 36 | 141.08 | 141.19 | 0.11 | | | MUDSTONE | SLTY.M.GY.WRMBU |
| 38 | 141.19 | 143.68 | 2.49 | | | MUDSTONE | SLTY.M.GY.WRMBU POSSIBLE FE CONCRETION AT 0.57, SKS @ 1 .98, SLTST BAND AT 1.8 |
| 41 | 143.68 | 144.30 | 0.62 | | | MUDSTONE | M.GY.BIOTR |
| 43 | 144.30 | 146.15 | 1.85 | | | MUDSTONE | M.GY.BIOTR PYR BLEBS, CALCT VEINING @ 0.53, 1.1 |
| 45 | 146.15 | 147.22 | 1.07 | | | MUDSTONE | M.GY.BIOTR PIECES DONT MATCH; SKS @ 0.47 AT 1.06; POSSIBLE CORELOSS @ THIS MEASUREMENT. |
| 46 | 147.22 | 147.35 | 0.13 | | | ROCK LOSS | |
| 48 | 147.35 | 149.07 | 1.72 | | | MUDSTONE | M.GY.BIOTR BROKEN LARGE CALCT VEIN @ 0.78 APPROX 5 MM ACROSS |
| 50 | 149.07 | 149.42 | 0.35 | | | MUDSTONE | M.GY.BIOTR SLICKENSIDES & CALCITE SMEARS @ 0.11; P OSSIBLE CORE LOSS @ END OF MEASUREMENT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 50 | 149.42 | 149.48 | 0.06 | | | ROCK LOSS | |
| 51 | 149.48 | 150.40 | 0.92 | | | MUDSTONE | M.GY.BIOTR POSSIBLE SHELL FRAGMENT. |
| 53 | 150.40 | 151.62 | 1.22 | | | MUDSTONE | M.GY.BIOTR CARROT; LG PYR BLEBS @ 0.23, 0.27, 0.5, |
| * 55 | 151.62 | 153.32 | 1.70 | | | MUDSTONE | M.GY.BIOTR SLICKENSIDES @ 0.4, 1.5 PYR CARROT. |
| 51 | 153.32 | 153.45 | 0.13 | | | ROCK LOSS | |
| 49 | 153.45 | 154.35 | 0.90 | | | MUDSTONE | M.GY.BIOTR POSSIBLE CORE LOSS @ 0.5, PIECES DONT M ATCH, CALCT VEINS AND SKS |
| 42 | 154.35 | 156.40 | 2.05 | | | MUDSTONE | M.GY.BIOTR BADLY BROKEN POSSIBLE CORE LOSS @ 0.23, CORE BADLY BROKEN |
| 37 | 156.40 | 156.48 | 0.08 | | | ROCK LOSS | |
| 36 | 156.48 | 156.88 | 0.40 | | | MUDSTONE | M.GY.WRMBU MINOR CALCITE VEINING |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 20

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 30 | 156.88 | 159.26 | 2.38 | | | MUDSTONE | M.GY.BIOTR POSSIBLE CORE LOSS AT END OF MEASURE, S KS, AND CALCT. SMEARS @ 1.2,1.6 |
| 30 | 159.26 | 159.53 | 0.27 | | | ROCK LOSS | |
| 30 | 159.53 | 159.83 | 0.30 | | | MUDSTONE | M.GY.BIOTR POSSIBLE CORE LOSS @ 0.11, PIECES DONT MATCH SKS @ THIS PT |
| 30 | 159.83 | 162.38 | 2.55 | | | MUDSTONE | M.GY.BIOTR SKS @ 0.68, 1.45, POSSIBLE CORE LOSS @ END OF TOTAL. |
| 30 | 162.38 | 162.54 | 0.16 | | | MUDSTONE | M.GY.BIOTR |
| 30 | 162.54 | 162.67 | 0.13 | | | MUDSTONE | M.GY.BIOTR |
| 30 | 162.67 | 163.14 | 0.47 | | | MUDSTONE | M.GY.BIOTR POSSIBLE CORE LOSS AT END OF MEASUREMEN T |
| 30 | 163.14 | 163.42 | 0.28 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 30 | 163.42 | 165.81 | 2.39 | | | MUDSTONE | M.GY.BIOTR AS ABOVE, SKS @ 2.03 |
| 30 | 165.81 | 166.09 | 0.28 | | | MUDSTONE | M.GY.BIOTR AS ABOVE |
| 30 | 166.09 | 166.28 | 0.19 | | | MUDSTONE | LT.GY HARD MODERATE THIN CALCT. LAM. |
| 30 | 166.28 | 168.39 | 2.11 | | | MUDSTONE | M.GY.BIOTR BECOMING SLTY TOWARDS BASE, PYR BLEBS, SKS @ 0.76, 1.04 |
| * 30 | 168.39 | 169.32 | 0.93 | | | MUDSTONE | SLTY.M.GY.BIOTR POSSIBLE CORE LOSS @ 0.85 AND 0.93 |
| 34 | 169.32 | 169.52 | 0.20 | | | MUDSTONE | M.GY.BIOTR VERY BADLY BROKEN POSSIBLE CORE LOSS |
| * 38 | 169.52 | 170.22 | 0.70 | | | MUDSTONE | M.GY.BIOTR SKS AT 0.20 |
| 38 | 170.22 | 170.34 | 0.12 | | | MUDSTONE | M.GY FE CONCRETION |
| 38 | 170.34 | 171.03 | 0.69 | | | MUDSTONE | M.GY SKS @ 0.00, 0.27 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 38 | 171.03 | 172.26 | 1.23 | | | MUDSTONE | M-DK.GY.BIOTR SKS @ 0.45, 1.00 POSSIBLE CORE LOSS @ E ND OF MEASUREMENT. |
| 38 | 172.26 | 172.37 | 0.11 | | | ROCK LOSS | |
| * 38 | 172.37 | 173.86 | 1.49 | | | MUDSTONE | M-DK.GY.BIOTR POSSIBLE TUFF @ 0.67, 1CM THICK, |
| 38 | 173.86 | 175.29 | 1.43 | | | MUDSTONE | M-DK.GY.BIOTR SKS @ 0.30, 0.66 |
| 38 | 175.29 | 175.42 | 0.13 | | | ROCK LOSS | |
| 38 | 175.42 | 176.68 | 1.26 | | | MUDSTONE | M-DK.GY.BIOTR PYR BLEBS. |
| 38 | 176.68 | 177.31 | 0.63 | | | MUDSTONE | M.GY.BIOTR AS ABOVE |
| 38 | 177.31 | 177.55 | 0.24 | | | ROCK LOSS | M.GY |
| 38 | 177.55 | 179.27 | 1.72 | | | MUDSTONE | SLTY.M.GY.BIOTR AS ABOVE, SKS AND LISTRICS, CALCT. VEIN ING @ TOP OF MEASUREMENT |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 38 | 179.27 | 179.45 | 0.18 | | | MUDSTONE | SLTY M.GY.BIOTR AS ABOVE VERY BADLY BROKEN. |
| 38 | 179.45 | 180.23 | 0.78 | | | MUDSTONE | M.GY.BIOTR AS ABOVE, POSSIBLE CORE LOSS @ TOP AND BOT. |
| 38 | 180.23 | 180.67 | 0.44 | | | MUDSTONE | M.GY.BIOTR AS ABOVE |
| 38 | 180.67 | 181.87 | 1.20 | | | MUDSTONE | M-DK.GY.BIOTR AS ABOVE |
| 38 | 181.87 | 181.98 | 0.11 | | | MUDSTONE | LT.GY.BIOTR POSSIBLE FE CONCRETION HARD, PYR. WRM B UR, SLIGHTLY SLTY. |
| 38 | 181.98 | 182.44 | 0.46 | | | MUDSTONE | M-DK.GY.BIOTR CALCT FILLED FRAC, THROUGHOUT, POSSIBLE CORE LOSS @ END OF MEASUREMENT |
| 38 | 182.44 | 182.58 | 0.14 | | | ROCK LOSS | |
| 38 | 182.58 | 183.59 | 1.01 | | | MUDSTONE | M-DK.GY.BIOTR BADLY BROKEN TO SHATTERED-POSSIBLE DRIL L INDUCED, MNR CALCT, LITTLE IF ANY SKS PRESENT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 38 | 183.59 | 184.00 | 0.41 | | | MUDSTONE | M-DK.GY.BIOTR POSSIBLE CORELOSS AT END OF MEASUREMENT |
| 38 | 184.00 | 184.21 | 0.21 | | | MUDSTONE | M-DK.GY.BIOTR POSSIBLE CORE LOSS, PIECES DO NOT MATCH |
| 38 | 184.21 | 184.26 | 0.05 | | | ROCK LOSS | |
| 38 | 184.26 | 184.92 | 0.66 | | | MUDSTONE | M-DK.GY.BIOTR |
| 39 | 184.92 | 186.92 | 2.00 | | | MUDSTONE | M-DK.GY.BIOTR POSSIBLE CORELOSS @ 0.20 PIECE DONT MAT CH |
| 39 | 186.92 | 187.90 | 0.98 | | | MUDSTONE | M-DK.GY.BIOTR SLICKENSIDE WITH CALCITE VEINING @ 0.53 |
| 39 | 187.90 | 187.97 | 0.07 | | | ROCK LOSS | |
| 39 | 187.97 | 189.64 | 1.67 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR |
| 39 | 189.64 | 191.05 | 1.41 | | | MUDSTONE | SLTY.M-DK.GY.BIOTR PYR. WRM. BUR. |
| 39 | 191.05 | 192.32 | 1.27 | | | MUDSTONE | M-DK.GY.BIOTR SKS W CALCT FILLED FRAC @ 0.56 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 39 | 192.32 | 192.51 | 0.19 | | ROCK LOSS | |
| | 39 | 192.51 | 194.10 | 1.59 | | MUDSTONE | SLTY.M.GY.BIOTR SLIGHTLY SILTY |
| | 39 | 194.10 | 195.34 | 1.24 | | MUDSTONE | M.GY.BIOTR |
| | 39 | 195.34 | 196.18 | 0.84 | | MUDSTONE | M.GY.BIOTR |
| * | 39 | 196.18 | 196.20 | 0.02 | | TUFF | M.GY.BIOTR POSSIBLE TUFF (LT,GY) SOALY FEEL, SKS @ BOTTOM OF TUFF; B.C. SAMPLE TAKEN. |
| | 39 | 196.20 | 197.06 | 0.86 | | MUDSTONE | M.GY.BIOTR |
| | 39 | 197.06 | 197.14 | 0.08 | | ROCK LOSS | |
| | 40 | 197.14 | 197.59 | 0.45 | | MUDSTONE | SLTY.M.GY.BIOTR BROKEN AT TOP, POSSIBLE CORE LOSS @ THE TOP |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 40 | 197.59 | 197.75 | 0.16 | | | TUFF | LT.GY VERY STRONG CALC REACTION TO HCL;POSSIB LE ARAGONITE OR CALCITE;LARGE CALCT FIL LED FRACTURE IN CENTER3.5 CM THICK HARD (NOTE HIGH GAMMA KICK HERE);BC GOVERN SAMPLE TAKEN. |
| 40 | 197.75 | 198.15 | 0.40 | | | MUDSTONE | SLTY.M.GY.BIOTR HARD, WELL SILICIFIED, PYR WRM BUR |
| 40 | 198.15 | 200.11 | 1.96 | | | MUDSTONE | M.GY.BIOTR AS ABOVE |
| 41 | 200.11 | 200.95 | 0.84 | | | MUDSTONE | M-DK.GY.BIOTR AS ABOVE |
| 42 | 200.95 | 203.12 | 2.17 | | | MUDSTONE | M-DK.GY.BIOTR POSSIBLE CORE LOSS AT 1.87 PIECES DONT MATCH PYRITE BLEBS & PYRITIZED WORM BUR ROWS POSSIBLE FOSSIL SHELLS |
| 43 | 203.12 | 203.78 | 0.66 | | | MUDSTONE | M-DK.GY.BIOTR PYRITIZED WORM BURROWS |
| 43 | 203.78 | 204.33 | 0.55 | | | MUDSTONE | M-DK.GY.BIOTR AT 0.36 CALCITE FILLED FRACTURE WITH SL ICKENSIDES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 43 | 204.33 | 204.54 | 0.21 | | | IRONSTONE | LT.GY CONCRETION HARD, PYRITE BLEB |
| 43 | 204.54 | 205.80 | 1.26 | | | MUDSTONE | DK.GY.BIOTR PYRTIZED WORM BURROWS |
| 44 | 205.80 | 205.94 | 0.14 | | | IRONSTONE | LT.GY CONCRETON HARD BADLY BROKEN |
| 44 | 205.94 | 206.17 | 0.23 | | | ROCK LOSS | |
| * 44 | 206.17 | 206.60 | 0.43 | | | MUDSTONE | BIOTR POSSIBLE CORELOSSS AT 0.23 AT END OF BOX PIECES DONT MATCH PYRITIZED WORM BURROWS |
| 44 | 206.60 | 207.23 | 0.63 | | | ROCK LOSS | |
| 44 | 207.23 | 207.39 | 0.16 | | | MUDSTONE | M.GY CALCITE FILLED FRACTURE AT 0.07; CORE VERY BADLY BROKEN; POSSIBLE CORELOSS; PYRITIZED WRMBUR. |
| 43 | 207.39 | 209.77 | 2.38 | | | MUDSTONE | M.GY.BIOTR CALCITE FILLED FRACTURE AT 1.85 |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 42 209.77 | 210.69 | 0.92 | | | MUDSTONE | M.GY.BIOTR PYRITE BLEB |
| * | 42 210.69 | 210.95 | 0.26 | | | IRONSTONE | CONCRETION |
| | 43 210.95 | 212.68 | 1.73 | | | MUDSTONE | M.GY.BIOTR POSSIBLE CORE LOSS AT END OF MEASUREMENT T ALSO COALIFIED PLANT REMAINS AT END OF F MEASUREMENT |
| | 44 212.68 | 215.50 | 2.82 | | | MUDSTONE | M.GY.BIOTR |
| | 45 215.50 | 215.70 | 0.20 | | | MUDSTONE | M.GY.BIOTR |
| * | 45 215.70 | 217.35 | 1.65 | | | MUDSTONE | M.GY.BIOTR LARGE CALCITE FRACTURE AT 0.06 SLICKENS IDES AS WELL FEW SILT LAMINATIONS |
| | 44 217.35 | 217.49 | 0.14 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 44 | 217.49 | 217.53 | 0.04 | | | TUFF | LT.GY SOFT, SOAPY FEEL; BC GOVERNMENT SAMPLES TAKEN |
| 44 | 217.53 | 218.39 | 0.86 | | | MUDSTONE | SLTY.LT-M.GY.BIOTR |
| 43 | 218.39 | 218.75 | 0.36 | | | MUDSTONE | SLTY.M.GY.BIOTR |
| 42 | 218.75 | 221.18 | 2.43 | | | MUDSTONE | M.GY.BIOTR ABUNDANT PYRITIZED WORM BURROWS AND PYR ITE BLEBS (AS ABOVE) |
| 41 | 221.18 | 221.85 | 0.67 | | | MUDSTONE | M.GY.BIOTR CALCITE FILLED FRACTURE 0.33 WITH SLICK ENSIDES (AS ABOVE) |
| * 40 | 221.85 | 223.66 | 1.81 | | | MUDSTONE | SLTY.LT-M.GY MINOR SILT LAM PYRITIZED WORM BURROWS P OSSIBLY TUFF LAM AT 0.14 HORSE TAIL CAL CITE VEINING 0.82 TO 101 POSSIBLE LARGE RIP UP CLAST AT 1.01 |
| 42 | 223.66 | 223.82 | 0.16 | | | TUFF | LT.GY FAIRLY HARD HAS SOAPY FEEL TO IT; BC GO VERNMENT SAMPLE TAKEN HERE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 42 | 223.82 | 224.66 | 0.84 | | | MUDSTONE | SLTY.M.GY LARGE CALCITE FILLED FRACTURE AT 0.65 W ITH SLICKENSIDES; PYRITIZED WRMBUR. |
| 43 | 224.66 | 224.83 | 0.17 | | | MUDSTONE | SLTY.LT-M.GY.BIOTR PYRITIZED. |
| 43 | 224.83 | 224.93 | 0.10 | | | TUFF | LT.GY SOAPY;B.C. GOVERNMENT SAMPLE TAKEN. |
| 44 | 224.93 | 225.45 | 0.52 | | | MUDSTONE | SLTY.LT-M.GY.BIOTR CALCITE FILLED FRACTRE WITH SLICKENSIDE S AT 0.36;POSSIBLE CORE LOSS |
| * 45 | 225.45 | 226.53 | 1.08 | | | MUDSTONE | SLTY.M.GY.BIOTR PYRITIZED CARROT AT .50; CALCT FILLED F RACT WITH SKS AT 0.81; PYRITIZED WRMBUR AT END. |
| 45 | 226.53 | 228.25 | 1.72 | | | MUDSTONE | SLTY.M.GY.BIOTR |
| * 46 | 228.25 | 229.55 | 1.30 | | | MUDSTONE | SLTY.M.GY.BIOTR CALCT FILLED FRACT AT 0.71 WITH SKS, FE W SILT LAM |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 46 | 229.55 | 230.97 | 1.42 | | | MUDSTONE | SLTY.M.GY.BIOTR ABNT PYRITIZED BIOTRB |
| 46 | 230.97 | 231.10 | 0.13 | | | ROCK LOSS | M.GY |
| 46 | 231.10 | 232.60 | 1.50 | | | MUDSTONE | SLTY.M.GY.BIOTR POSSIBLE CORE LOSS AND END OF MEASUREME NT PIECES DONT MATCH |
| 45 | 232.60 | 233.92 | 1.32 | | | MUDSTONE | SLTY.M.GY.BIOTR CALCT FILLED FRACT. WITH SKS AT 0.41 |
| 45 | 233.92 | 235.56 | 1.64 | | | MUDSTONE | SLTY.M.GY.BIOTR POSSIBLE CORE LOSS AT 0.68, 1.50 |
| 45 | 235.56 | 235.65 | 0.09 | | | ROCK LOSS | CORE LOSS |
| * 45 | 235.65 | 236.69 | 1.04 | | | MUDSTONE | SLTY.M.GY.BIOTR FEW SILT LAM MNR BIOTRB |
| 43 | 236.69 | 237.25 | 0.56 | | | MUDSTONE | SLTY.M.GY.BIOTR BECOMING VERY SLTY TOWARD BASE |
| 42 | 237.25 | 237.36 | 0.11 | | | MUDSTONE | SSY.LT.GY |
| 40 | 237.36 | 238.46 | 1.10 | | | MUDSTONE | M.GY.BIOTR CALCT FILLED FRACT AT 1.1 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 38 | 238.46 | 238.70 | 0.24 | | | ROCKLOSS | |
| 39 | 238.70 | 240.96 | 2.26 | | | MUDSTONE | M-DK.GY.BIOTR FOSSIL SHELLS; ABUNDANT PYRITIZED BIOTR B; PL-CASTS; POSSIBLE CORELOSS. |
| 40 | 240.96 | 241.75 | 0.79 | | | ROCK LOSS | |
| 41 | 241.75 | 242.25 | 0.50 | | | MUDSTONE | SSY.DK.GY.BIOTR POSSIBLE FOSSIL BIVALVE, PYRITIZED BIOT RB. |
| 41 | 242.25 | 243.05 | 0.80 | | | MUDSTONE | M-DK.GY.BIOTR HEAVILY BIOTRB;PYR BLEBS. |
| 41 | 243.05 | 243.16 | 0.11 | | | FE ST | LT.GY EXTREMELY HARD |
| 42 | 243.16 | 244.73 | 1.57 | | | MUDSTONE | SLTY.LT-M.GY.BIOTR HEAVILY BIOTRB;CARROT AT BOTTOM; PYR IN FILL. |
| 43 | 244.73 | 244.97 | 0.24 | | | MUDSTONE | LT-M.GY.BIOTR PYRTIZED WRMBUR |
| 43 | 244.97 | 245.78 | 0.81 | | | MUDSTONE | LT-M.GY.BIOTR HEAVILY BIOTRB;PYRITIZED WRMBUR;CALCT F ILLED FRACT AT 0.25 WITH SKS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 44 | 245.78 | 247.63 | 1.85 | | MUDSTONE | M.GY.BIOTR MODERATE BIOTRB;SOAPY CARROTS POSSIBLE CORELOSS AT END OF BOX. |
| | 45 | 247.63 | 247.78 | 0.15 | | ROCK LOSS | |
| * | 45 | 247.78 | 247.82 | 0.04 | | MUDSTONE | SLTY.M.GY.BIOTR BADLY BROKEN |
| | 44 | 247.82 | 250.39 | 2.57 | | MUDSTONE | SLTY.LT-M.GY PYRITIZED PL-CAST, MODERATE BIOTRB, MNR SILT LAM |
| | 43 | 250.39 | 250.44 | 0.05 | | ROCK LOSS | CORE LOSS |
| | 43 | 250.44 | 250.80 | 0.36 | | MUDSTONE | M.GY.BIOTR MODERATE BIOTRB, POSSIBLE CORE LOSS |
| | 42 | 250.80 | 253.13 | 2.33 | | MUDSTONE | M.GY.BIOTR MODERATE BIOTRB CALCT FILLED FRACT AT 1 .15 |
| | 41 | 253.13 | 253.80 | 0.67 | | MUDSTONE | M.GY.BIOTR CALC FILLED FRACT AT 0.42. |
| * | 40 | 253.80 | 255.88 | 2.08 | | MUDSTONE | SLTY.M.GY.BIOTR POSSIBLE COR LOSS, MNR SILT LAM. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 43 | 255.88 | 256.05 | 0.17 | | ROCK LOSS | |
| | 44 | 256.05 | 257.01 | 0.96 | | MUDSTONE | SLTY.M.GY.BIOTR |
| * | 48 | 257.01 | 258.69 | 1.68 | | MUDSTONE | SLTY.M-DK.GY.BIOTR MODERATE BIOTRB |
| | 46 | 258.69 | 259.72 | 1.03 | | MUDSTONE | SLTY.DK.GY.BIOTR PYRITIZED BIOTRB |
| * | 45 | 259.72 | 259.80 | 0.08 | | FE ST | LT.GY HARD |
| | 45 | 259.80 | 259.90 | 0.10 | | MUDSTONE | DK.GY |
| | 48 | 259.90 | 261.01 | 1.11 | | MUDSTONE | SLTY.DK.GY.BIOTR MODERATE BIOTRB, PYRITIZED; WRMBUR. |
| * | 50 | 261.01 | 261.04 | 0.03 | | FE ST | LT.GY HARD |
| | 50 | 261.04 | 261.40 | 0.36 | | MUDSTONE | LT.GY.BIOTR CALCT FILLED FRACT, SKS AT 0.20 |
| | 52 | 261.40 | 262.86 | 1.46 | | MUDSTONE | DK.GY.BIOTR POSSIBLE CORE LOSS AT END OF ABNT PYRIT IZED WRMBUR |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| 54 | 262.86 | 262.95 | 0.09 | | | ROCK LOSS | CORE LOSS |
| 54 | 262.95 | 263.11 | 0.16 | | | MUDSTONE | DK.GY.BIOTR |
| 54 | 263.11 | 263.15 | 0.04 | | | FE ST | LT.GY HARD |
| 55 | 263.15 | 263.99 | 0.84 | | | MUDSTONE | DK.GY.BIOTR MODERATE BIOTRB, PYRITIZED WRMBR, CALCT FILLED FRACT SKS AT 0.54 |
| 56 | 263.99 | 264.01 | 0.02 | | | FE ST | LT.GY |
| 56 | 264.01 | 264.05 | 0.04 | | | MUDSTONE | M.GY.BIOTR |
| 56 | 264.05 | 264.12 | 0.07 | | | FE ST | LT.GY HARD; POSSIBLE CORE LOSS AT END OF BOX. |
| 57 | 264.12 | 264.43 | 0.31 | | | ROCKLOSS | |
| 58 | 264.43 | 265.97 | 1.54 | | | MUDSTONE | DK.GY.BIOTR PYRITIZED WRMBUR |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 60 | 265.97 | 266.00 | 0.03 | | | FE ST | LT.GY HARD |
| 60 | 266.00 | 266.09 | 0.09 | | | MUDSTONE | DK.GY.BIOTR POSSIBLE CORE LOSS AT END OF MEASUREMENT |
| 59 | 266.09 | 266.98 | 0.89 | | | MUDSTONE | DK.GY.BIOTR CARB PL-FRAG, ABNT FLECKS. |
| 59 | 266.98 | 267.04 | 0.06 | | | FE ST | LT.GY HARD |
| 58 | 267.04 | 267.52 | 0.48 | | | MUDSTONE | M.GY.BIOTR CARB PL-FLAG, WH FLECKS |
| 57 | 267.52 | 268.13 | 0.61 | | | SANDSTONE | PBLY.FG.PR.LT-M.GY CARB PL REMAINS,PBLS ARE WH & BLK CHERT S,VERY MUDDY. BLUE SKY. |
| 56 | 268.13 | 269.12 | 0.99 | | | SANDSTONE | FG.PR.LT.GY CARB PL REMAINS,PBLS ARE WH & BLK CHERT S,VERY MUDDY. |
| * 55 | 269.12 | 269.69 | 0.57 | | | SANDSTONE | FG.LT.GY.XBDG TOPS UP |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 53 | 269.69 | 270.16 | 0.47 | | | SILTSTONE | CLYY.LT-DK.GY.THNB INTBD WITH MUDST, ABNT CALCT FILLED FRA CT WITH SKS |
| * 50 | 270.16 | 270.99 | 0.83 | | | SANDSTONE | FG EXTREMELY CALC, MNR CALCT FILLED FRACT, TOPS UP |
| 50 | 270.99 | 271.28 | 0.29 | | | MUDSTONE | SSY.DK.GY MNR SANDY INTBD. |
| 50 | 271.28 | 271.35 | 0.07 | | | SANDSTONE | FG.LT.GY |
| 50 | 271.35 | 271.44 | 0.09 | | | MUDSTONE | DK.GY MICACEOUS. |
| 50 | 271.44 | 271.58 | 0.14 | | | SANDSTONE | FG.LT.GY.XBDG |
| 50 | 271.58 | 271.70 | 0.12 | | | MUDSTONE | SLTY.M.GY.BIOTR |
| 50 | 271.70 | 271.83 | 0.13 | | | SANDSTONE | FG.LT.GY.XBDG TOPS UP, PYR BLEB, SALT & PEPPER |
| 50 | 271.83 | 271.89 | 0.06 | | | MUDSTONE | M.GY.BIOTR |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 50 | 271.89 | 272.04 | 0.15 | | | SANDSTONE | FG.LT.GY.XBDG SALT & PEPPER CALC, POSSIBLE CORE LOSS AT END. |
| 50 | 272.04 | 272.39 | 0.35 | | | ROCKLOSS | |
| 50 | 272.39 | 273.53 | 1.14 | | | SLST | LT-M.GY.THNB.BIOTR INTBD WITH MUDST CALC & CARB |
| 50 | 273.53 | 274.27 | 0.74 | | | SANDSTONE | LT-DK.GY.MB.BIOTR SALT & PEPPER, TOPS UP |
| 50 | 274.27 | 274.87 | 0.60 | | | SLST | LT-DK.GY.THNB.BIOTR CALC |
| * 50 | 274.87 | 275.22 | 0.35 | | | SANDSTONE | FG.LT.GY.XBDG TOPS UP, MNR CALCT FILLED FRACT, POSSIB LE CORE LOSS AT END OF MEASUREMENT |
| 55 | 275.22 | 277.33 | 2.11 | | | SILTSTONE | LT-DK.GY.XBDG WRMBUR MUDST INTBD |
| 62 | 277.33 | 278.12 | 0.79 | | | SILTSTONE | LT-DK.GY.XBDG BIOTRB MUDST INTBDS; CY INCLUSIONS; CAL CT FILLED FRACT AT 0.28, 0.38; POSSIBLE CORELOSS AT END OF MEASUREMENT; PIECES DON'T MATCH. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 64 | 278.12 | 278.54 | 0.42 | | | ROCK LOSS | |
| * 69 | 278.54 | 280.34 | 1.80 | | | SILTSTONE | LT-DK.GY.XBDG HEAVILY BIOTB FROM 1.20 TO 1.37 & FROM 1.68 TO END OF MEASUREMENT; CALCITE FIL LED FRACTURE WITH SKS AT 0.94. |
| 62 | 280.34 | 281.38 | 1.04 | | | MUDSTONE | SLTY.LT-DK.GY.XBDG HEAVILY BIOTRB FROB .18 TO .52 & .89 TO END OF MEASUREMENT. |
| * 56 | 281.38 | 282.99 | 1.61 | | | MUDSTONE | SLTY.LT-DK.GY.BIOTR SANDSTONE INTERBEDS FROM 0.19 TO 0.22 & 0.25 TO 0.31; HEAVILY BIOTURBATED FROM 0.80 TO 1.59; MINOR AMOUNTS OF PLANT DE BRIS;SSY. |
| 49 | 282.99 | 283.38 | 0.39 | | | MUDSTONE | SLTY.LT-DK.GY.BIOTR SSY. |
| * 45 | 283.38 | 284.37 | 0.99 | | | SANDSTONE | SLTY.FG.PR.LT-DK.GY.THNB.WRMBU FEW THIN MUDSTONE INTERBEDS; CALCITE FI LLED FRACTURES AT 0.26 & 0.54; NUMEROUS COALY INCLUSIONS AT 0.88.SLTY;VFG. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 51 | 284.37 | 284.43 | 0.06 | | | ROCKLOSS | |
| 53 | 284.43 | 284.78 | 0.35 | | | SANDSTONE | FG.PR.LT-DK.GY.THNB.WRMBU THIN INTERBEDS OF MUDSTONE & SLTST CALC ITE FILLED FRACTURES AT 0.16 AND 0.27;S LTY. |
| * 60 | 284.78 | 285.64 | 0.86 | | | MUDSTONE | SLTY.LT-DK.GY.THNB.BIOTR THIS INTERBEDS OF SILT; HEAVY BIOT FROM 0.54 TO END OF MEASUREMENT |
| * 60 | 285.64 | 287.44 | 1.80 | | | MUDSTONE | SLTY.LT-DK.GY.THNB.BIOTR HEAVILY BIOTB FROM 0.00 TO 0.97, CALCIT E FILLED FRACTURE WITH SLICKENSIDES @ 1 .34 & END OF MEASUREMENT; TOPS UP;SSY. |
| 61 | 287.44 | 288.19 | 0.75 | | | MUDSTONE | SLTY.LT-DK.GY.THNB.BIOTR INTERBEDDED SILTSTONE AND THIN SANDSTON E;SSY. |
| * 62 | 288.19 | 290.38 | 2.19 | | | MUDSTONE | SLTY.LT-DK.GY.THNB.BIOTR THIN INTERBEDS OF SILTSTONE & SANDSTONE ; HEAVILY BIOTRB FROM 0.0 TO 0.25; CALC ITE BLEBS AT 0.76 & 0.86;SSY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 65 | 290.38 | 290.53 | 0.15 | | | ROCK LOSS | |
| * 66 | 290.53 | 291.02 | 0.49 | | | MUDSTONE | SLTY.DK.GY.THNB.BIOTR |
| 65 | 291.02 | 293.49 | 2.47 | | | MUDSTONE | SLTY.DK.GY.MB.BIOTR FEW THIN SLTY INTERBEDS; CORE HAS MOTTLED APPEARANCE |
| 65 | 293.49 | 293.59 | 0.10 | | | ROCKLOSS | |
| 64 | 293.59 | 293.83 | 0.24 | | | MUDSTONE | SLTY.DK.GY.MB.BIOTR POSSIBLE CORE LOSS AT MARKER |
| 64 | 293.83 | 296.54 | 2.71 | | | MUDSTONE | SLTY.DK.GY.THKB.BIOTR INTERVAL IS HEAVILY BIOTRB; POSSIBLE FES TONE BANDS AT 1.21 & 2.00, FOSSIL BIVAL VE AT 1.03; PYRITIZE BIOTB; MINOR PLANT FRAGMENTS; POSSIBLE CORE LOSS AT END O F MEASUREMENT; PYRITIZED; BIOTRB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 63 | 296.54 | 296.86 | 0.32 | | | ROCK LOSS | |
| 63 | 296.86 | 297.86 | 1.00 | | | MUDSTONE | DK.GY SMALL WHITE FLECKS THROUGHOUT, FOSSIL BIVALVES; SOME PYRITIZED; POSSIBLE CORE LOSS AT TOP OF UNIT; PIECES DONT MATCH |
| 62 | 297.86 | 298.01 | 0.15 | | | FESTONE | LT.GY THIN CALCITE FILLED FRACTURES; STONE TYPE-CONCRETION. |
| * 62 | 298.01 | 299.03 | 1.02 | | | MUDSTONE | SLTY.DK.GY.BIOTR BIVALVES; CARBONACEOUS PLANT DEBRIS; WHITE FLECKS THROUGHOUT |
| 63 | 299.03 | 299.35 | 0.32 | | | MUDSTONE | SLTY.PBL.LT-DK.GY CARBONACEOUS PLANT DEBRIS; BLACK CHERT PEBBLES; CALCAREOUS OOLITES PRESENT IN A BUNDANCE |
| 63 | 299.35 | 299.68 | 0.33 | | | MUDSTONE | CLYY.M-DK.GY.WRMBU ABUNDANT COALY INCLUSIONS; FEW PYRITE WRMBUR; CARB; RTB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 63 | 299.68 | 299.75 | 0.07 | | | MUDSTONE | CARB.DK.GY.RTB ABUNDANT CARBONACEOUS PLANT REMAINS. |
| 64 | 299.75 | 300.78 | 1.03 | | | MUDSTONE | CARB.DK.GY.RTB PYR WRMBUR PLANT FOSSILS, FEW 0.01M COA LY INCLUSIONS; FEW CHALCOPYRITE SMEARS; POSSIBLE CORELOSS; CARB; WRMBUR. |
| 64 | 300.78 | 301.21 | 0.43 | | | ROCK LOSS | |
| 65 | 301.21 | 301.32 | 0.11 | | | MARL | CARB.M.GY CALCAREOUS HARD: SKS AT END OF MEASUREM ENT |
| 65 | 301.32 | 301.51 | 0.19 | | | MUDSTONE | CARB.DK.GY FEW MINOR CALCITE FILLED FRACTURES, SLT Y; PLANT FOSSILS; CLYY. |
| * 65 | 301.51 | 301.94 | 0.43 | | | SANDSTONE | CARB.MOD.LT-M.GY.RTB SLTY; CLYY; WRMBUR; XBDG; COALY INCLUSIONS; POSSIBLE RTB; TOPS UP. |
| 65 | 301.94 | 302.28 | 0.34 | | | MUDSTONE | SLTY.DK.GY.RTB CARB MOD; PLANT FOSSILS; COALY INCLUSION S; SMALL CALCITE FILLED FRACTURES WITH S KS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 65 | 302.28 | 302.41 | 0.13 | | | FESTONE | BF THIN CALCAREOUS FRACTURES; STONE TYPE-CO NCRETION. |
| 64 | 302.41 | 302.80 | 0.39 | | | MUDSTONE | CARB.DK.GY SLTY; PLANT FOSSILS; HORSETAIL CALCT VEI NING-THIN. |
| 64 | 302.80 | 303.10 | 0.30 | | | MUDSTONE | CARB.DK.GY SLTY CARBONACEOUS PLANT CASTS; POSSIBLE CORE LOSS AT FOOTAGE BLOCK. |
| 64 | 303.10 | 304.44 | 1.34 | | | MUDSTONE | CARB.DK.GY SLTY LARGE COAL INCLUSION AT 0.74 POSSI BLE CORE LOSS HERE & AT END OF INTERVAL ; |
| 63 | 304.44 | 304.45 | 0.01 | | | COAL | C-1.RTB POSSIBLE RTB OR STEM; CRUMBLY; POSSIBLE CORE LOSS. |
| 63 | 304.45 | 305.30 | 0.85 | | | MUDSTONE | CARB.DK.GY.RTB ABUNDANT COALY INCLUSION & LAM MOST ARE SMALL BRIGHT BANDS, PLANT FOSSILS; SOM E CALCITE; POSSIBLE CORE LOSS AT END OF INTERVAL; SLTY. |
| 63 | 305.30 | 305.47 | 0.17 | | | MUDSTONE | CARB.DK.GY AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 63 | 305.47 | 305.52 | 0.05 | | | MUDSTONE | CARB.DK.GY CALCAREOUS LAMINATIONS FROM 0.03 TO 0.05 |
| 63 | 305.52 | 305.60 | 0.08 | 00038 | 1 | CORELOSS | |
| 63 | 305.60 | 305.73 | 0.13 | 00038 | 1 | COAL | C-3 SHATTERED TO POWDER, SHEARED |
| 63 | 305.73 | 305.86 | 0.13 | 00038 | 1 | COAL | C-6 BRIGHT BAND AT 0.03 TO 0.04, WITH NUMEROUS THIN BRIGHT BANDS AFTER 0.04 |
| 63 | 305.86 | 305.89 | 0.03 | 00038 | 1 | COAL | C-2 BADLY BROKEN TO POWDERY |
| 62 | 305.89 | 305.90 | 0.01 | 00038 | 1 | COAL | C-1 |
| 62 | 305.90 | 305.92 | 0.02 | 00038 | 1 | COAL | C-2 |
| 62 | 305.92 | 305.97 | 0.05 | 00038 | 1 | COAL | C-2 |
| 62 | 305.97 | 305.99 | 0.02 | 00038 | 1 | COAL | C-3 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 62 | 305.99 | 306.02 | 0.03 | 00038 | 1 | COAL | C-3 |
| 62 | 306.02 | 306.07 | 0.05 | 00038 | 1 | COAL | C-4 |
| 62 | 306.07 | 306.09 | 0.02 | 00038 | 1 | COAL | C-6 BADLY BROKEN, POSSIBLE CORE LOSS |
| 62 | 306.09 | 306.15 | 0.06 | 00038 | 1 | COAL | C-4 |
| 62 | 306.15 | 306.19 | 0.04 | 00038 | 1 | COAL | C-3 CALCT BLEBS AT END OF MEASUREMENT. |
| 62 | 306.19 | 306.40 | 0.21 | 00038 | 1 | COAL | C-5 ABUNDANT CALCITE BLEBS THROUGHOUT |
| 62 | 306.40 | 306.41 | 0.01 | 00038 | 1 | COAL | C-1 |
| 62 | 306.41 | 306.45 | 0.04 | 00038 | 1 | COAL | C-5 CALCITE BLEBS THROUGHOUT |
| 62 | 306.45 | 306.47 | 0.02 | 00038 | 1 | COAL | C-5 |
| 62 | 306.47 | 306.57 | 0.10 | 00038 | 1 | COAL | C-3 A FEW THIN(1MM) DIRT BANDS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---------------------|
| 62 | 306.57 | 306.60 | 0.03 | 00038 | 1 | COAL | C-5 |
| 62 | 306.60 | 306.62 | 0.02 | 00038 | 1 | COAL | C-2 |
| 62 | 306.62 | 306.71 | 0.09 | 00038 | 1 | COAL | C-3 |
| * 62 | 306.71 | 306.72 | 0.01 | 00038 | 1 | COAL | C-5 |
| 62 | 306.72 | 306.74 | 0.02 | 00038 | 1 | COAL | C-1 |
| 62 | 306.74 | 306.77 | 0.03 | 00038 | 1 | COAL | C-3 |
| 62 | 306.77 | 306.79 | 0.02 | 00038 | 1 | COAL | C-1 |
| 62 | 306.79 | 306.86 | 0.07 | 00038 | 1 | COAL | C-4 |
| 62 | 306.86 | 306.93 | 0.07 | 00038 | 1 | COAL | C-6 CORE INTACT. |
| 62 | 306.93 | 306.96 | 0.03 | 00038 | 1 | COAL | C-1 AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 62 | 306.96 | 307.02 | 0.06 | 00038 | 1 | COAL | C-2 AS ABOVE |
| 62 | 307.02 | 307.08 | 0.06 | 00038 | 1 | COAL | C-4 AS ABOVE |
| 62 | 307.08 | 307.10 | 0.02 | 00038 | 1 | COAL | C-2 AS ABOVE |
| 62 | 307.10 | 307.13 | 0.03 | 00038 | 1 | COAL | C-4 AS ABOVE |
| 62 | 307.13 | 307.20 | 0.07 | 00038 | 1 | COAL | C-3 AS ABOVE |
| 62 | 307.20 | 307.22 | 0.02 | 00038 | 1 | COAL | C-4 AS ABOVE |
| 62 | 307.22 | 307.23 | 0.01 | 00038 | 1 | COAL | C-2 AS ABOVE |
| 62 | 307.23 | 307.25 | 0.02 | 00038 | 1 | COAL | C-4 AS ABOVE |
| 62 | 307.25 | 307.28 | 0.03 | 00038 | 1 | COAL | C-2 |
| 62 | 307.28 | 307.31 | 0.03 | 00038 | 1 | COAL | C-1 ONE 2MM DULL COAL BAND; SOLID CORE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 62 | 307.31 | 307.32 | 0.01 | 00038 | 1 | COAL | C-5 SOLID CORE |
| 62 | 307.32 | 307.38 | 0.06 | 00038 | 1 | COAL | C-1 SOLID CORE |
| 62 | 307.38 | 307.41 | 0.03 | 00038 | 1 | COAL | C-1 VERY BADLY BROKEN POSSIBLE CORE LOSS |
| 62 | 307.41 | 307.44 | 0.03 | 00038 | 1 | COAL | C-3 |
| 62 | 307.44 | 307.46 | 0.02 | 00038 | 1 | COAL | C-2 |
| 62 | 307.46 | 307.49 | 0.03 | 00038 | 1 | COAL | C-3 SEVERAL 1MM ASH BANDS. |
| 62 | 307.49 | 307.50 | 0.01 | 00038 | 1 | COAL | C-5 |
| 62 | 307.50 | 307.58 | 0.08 | 00038 | 1 | COAL | C-6 STONEY |
| 62 | 307.58 | 307.62 | 0.04 | 00039 | | MUDSTONE | CARB.DK.GY SEVERAL 1MM BRIGHT BANDS; POSSIBLE CORE LOSS AT END OF INTERVAL |
| 62 | 307.62 | 307.78 | 0.16 | 00039 | | CORE LOSS | ROCK. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 62 | 307.78 | 308.08 | 0.30 | 00039 | | MUDSTONE | CARB.DK.GY AS ABOVE |
| 62 | 308.08 | 308.36 | 0.28 | 00039 | | MUDSTONE | CARB.DK.GY LARGE 0.01M COALY INCLUSION AT 0.24; NU MEROUS BRIGHT BANDS THROUGHOUT |
| 62 | 308.36 | 308.38 | 0.02 | 00039 | | MUDSTONE | CARB.DK.GY |
| 62 | 308.38 | 308.39 | 0.01 | 00039 | 1 | COAL | C-1 SOLID CORE |
| 62 | 308.39 | 308.40 | 0.01 | 00039 | 1 | COAL | C-5 AS ABOVE |
| 62 | 308.40 | 308.42 | 0.02 | 00039 | 1 | COAL | C-2 AS ABOVE |
| 62 | 308.42 | 308.48 | 0.06 | 00039 | 1 | COAL | C-6 AS ABOVE-BONE |
| * 62 | 308.48 | 308.52 | 0.04 | 00040 | 1 | TUFF | LT.GY NUMEROUS COALY INCLUSIONS, NOTE: SEVERA L WHITE OOLITES REACT WITH HCL. |
| 62 | 308.52 | 308.65 | 0.13 | 00040 | 1 | COAL | C-6 BONE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-----------------------|---------------------|---------------------------|---------------------|--------------------|------------------|---|
| 62 | 308.65 | 308.68 | 0.03 | 00040 | 1 | MUDSTONE | CARB.GY |
| 62 | 308.68 | 308.73 | 0.05 | 00040 | 1 | MUDSTONE | CARB.DK.GY NUMEROUS IMM BRIGHT COAL BANDS. |
| 62 | 308.73 | 308.76 | 0.03 | 00040 | 1 | COAL | C-6 STONE |
| 62 | 308.76 | 308.78 | 0.02 | 00040 | 1 | COAL | C-4 SOLID CORE |
| 62 | 308.78 | 308.80 | 0.02 | 00040 | 1 | COAL | C-2 AS ABOVE |
| 62 | 308.80 | 308.81 | 0.01 | 00040 | 1 | COAL | C-5 AS ABOVE |
| 61 | 308.81 | 308.88 | 0.07 | 00040 | 1 | COAL | C-3 AS ABOVE |
| 61 | 308.88 | 308.93 | 0.05 | 00040 | 1 | COAL | C-4 AS ABOVE |
| 61 | 308.93 | 308.99 | 0.06 | 00040 | 1 | COAL | C-3 |
| 61 | 308.99 | 309.01 | 0.02 | 00040 | 1 | COAL | C-4 BROKEN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 61 | 309.01 | 309.06 | 0.05 | 00040 | 1 | COAL | C-5 SOLID CORE |
| 61 | 309.06 | 309.14 | 0.08 | 00040 | 1 | COAL | C-4 SILVERY SHEEN-STRONG HCL REACTION SOLID CORE |
| 61 | 309.14 | 309.17 | 0.03 | 00040 | 1 | COAL | C-3 AS ABOVE |
| 61 | 309.17 | 309.20 | 0.03 | 00040 | 1 | COAL | C-2 SOLID CORE |
| 61 | 309.20 | 309.35 | 0.15 | 00040 | 1 | COAL | C-4 AS ABOVE |
| 61 | 309.35 | 309.39 | 0.04 | 00040 | 1 | COAL | C-1 BADLY BROKEN-POSSIBLE CORE LOSS |
| 61 | 309.39 | 309.43 | 0.04 | 00040 | 1 | TUFF | LT.GY NUMEROUS COALY INCLUSION 1 TO 3MM; FEEL S SOFT; SHEARED BC GOVERNMENT SAMPLE |
| 60 | 309.43 | 309.61 | 0.18 | 00040 | 1 | COAL | C-5 SHEARED-CRUMBLY TO POWDERY |
| 60 | 309.61 | 309.70 | 0.09 | 00040 | 1 | TUFF | LT.GY SEVERAL COALY INCLUSIONE, NOTE SOME WHI TE OOLITES REACT TO HCL-SAMPLED |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 60 | 309.70 | 309.72 | 0.02 | 00040 | 1 | TUFF | CARB.DK.GY VERY CARBONACEOUS |
| 60 | 309.72 | 309.87 | 0.15 | 00040 | 1 | COAL | C-4 VERY BADLY BROKEN TO CRUMBLY SHEARED POSSIBLY SEVERAL IMM DIRT BANDS IN LOWER PORTION; POSSIBLE CORE LOSS |
| 60 | 309.87 | 309.98 | 0.11 | 00041 | | TUFF | CARB.LT.GY REACTS TO HCL; VERY BADLY SHEARED & BROKEN; SKSW/LISTRIC SURFACES |
| 59 | 309.98 | 310.34 | 0.36 | 00041 | | TUFF | |
| 59 | 310.34 | 310.55 | 0.21 | 00041 | | ROCK LOSS | |
| 59 | 310.55 | 310.66 | 0.11 | 00042 | 1 | COAL LOSS | |
| 58 | 310.66 | 310.73 | 0.07 | 00042 | 1 | COAL | C-5 VERY BADLY BROKEN TO CRUMBLY, SHEARED; CORE LOSS |
| 58 | 310.73 | 310.75 | 0.02 | 00042 | 1 | COAL | C-4 AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 58 | 310.75 | 310.82 | 0.07 | 00042 | 1 | COAL | C-6 STONEY; AS ABOVE |
| 58 | 310.82 | 311.00 | 0.18 | 00042 | 1 | COAL | C-5 VERY BADLY SHEARED W/ ABUNDANT LISTRIC SURFACES; CRUMBLD TO POWDERY |
| 58 | 311.00 | 311.10 | 0.10 | 00042 | 1 | COAL | C-4 SHEARED VERY BADLY BROKEN TO POWDERY; C. ALCITE SMEARS |
| 58 | 311.10 | 311.19 | 0.09 | 00042 | 1 | COAL | C-4 SHEARED |
| 58 | 311.19 | 311.22 | 0.03 | 00042 | 1 | COAL | |
| 58 | 311.22 | 311.27 | 0.05 | 00042 | 1 | COAL | C-4 BROKEN |
| 58 | 311.27 | 311.28 | 0.01 | 00042 | 1 | COAL | C-1 AS ABOVE |
| 57 | 311.28 | 311.33 | 0.05 | 00042 | 1 | COAL | C-4 AS ABOVE |
| 57 | 311.33 | 311.34 | 0.01 | 00042 | 1 | COAL | C-5 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|-----------------------------------|
| 57 | 311.34 | 311.37 | 0.03 | 00042 | 1 | COAL | C-6 BONE |
| 57 | 311.37 | 311.46 | 0.09 | 00042 | 1 | COAL | C-4 |
| 57 | 311.46 | 311.52 | 0.06 | 00042 | 1 | COAL | C-5 CALCAREOUS OOLITES PRESENT |
| 57 | 311.52 | 311.55 | 0.03 | 00042 | 1 | COAL | C-3 AS ABOVE |
| 57 | 311.55 | 311.67 | 0.12 | 00042 | 1 | COAL | C-5 AS ABOVE |
| 57 | 311.67 | 311.70 | 0.03 | 00042 | 1 | COAL | C-4 |
| 57 | 311.70 | 311.74 | 0.04 | 00042 | 1 | COAL | C-3 |
| 57 | 311.74 | 311.76 | 0.02 | 00042 | 1 | COAL | C-1 |
| 57 | 311.76 | 311.85 | 0.09 | 00042 | 1 | COAL | C-3 |
| 57 | 311.85 | 311.86 | 0.01 | 00042 | 1 | COAL | C-1 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 57 | 311.86 | 311.91 | 0.05 | 00042 | 1 | COAL | C-2 |
| 56 | 311.91 | 311.99 | 0.08 | 00042 | 1 | COAL | C-3 SEVERAL 1MM DIRT BANDS TOWARDS END OF MEASUREMENT |
| 56 | 311.99 | 312.03 | 0.04 | 00042 | 1 | MUDSTONE | CARB SEVERAL 2MM BRIGHTEST BANDS THROUGHOUT |
| 56 | 312.03 | 312.06 | 0.03 | 00042 | 1 | COAL | C-1 |
| 56 | 312.06 | 312.09 | 0.03 | 00042 | 1 | COAL | C-2 |
| 56 | 312.09 | 312.21 | 0.12 | 00042 | 1 | COAL | C-1 |
| 56 | 312.21 | 312.23 | 0.02 | 00042 | 1 | COAL | C-4 |
| 56 | 312.23 | 312.28 | 0.05 | 00042 | 1 | COAL | C-4 |
| 56 | 312.28 | 312.31 | 0.03 | 00042 | 1 | COAL | C-1 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 56 | 312.31 | 312.32 | 0.01 | 00042 | 1 | COAL | C-3 SEVERAL 1 MM DIRT BANDS. |
| 56 | 312.32 | 312.36 | 0.04 | 00042 | 1 | COAL | C-1 |
| 56 | 312.36 | 312.38 | 0.02 | 00042 | 1 | COAL | C-1 VERY BADLY BROKEN |
| 56 | 312.38 | 312.47 | 0.09 | 00042 | 1 | COAL | C-3 AS ABOVE |
| 56 | 312.47 | 312.49 | 0.02 | 00042 | 1 | COAL | C-5 AS ABOVE |
| 56 | 312.49 | 312.50 | 0.01 | 00042 | 1 | COAL | C-4 AS ABOVE |
| 55 | 312.50 | 312.62 | 0.12 | 00042 | 1 | COAL | C-5 |
| 55 | 312.62 | 313.22 | 0.60 | 00043 | | MUDSTONE | CARB.DK.GY 0.30-0.40 SLTY SEVERAL 3MM BRIGHT BANDS TOWARD END OF MEASUREMENT END OF BOX N EXT UNIT;SLTY. |
| 54 | 313.22 | 313.36 | 0.14 | 00043 | | MUDSTONE | CARB.DK.GY BADLY BROKEN; SHEARED AT TOP, NUMEROUS IMM BRIGHT BANDS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 54 | 313.36 | 313.46 | 0.10 | 00043 | | ROCK LOSS | |
| 54 | 313.46 | 313.59 | 0.13 | 00043 | 1 | COAL LOSS | |
| 54 | 313.59 | 313.63 | 0.04 | 00043 | 1 | COAL | C-3 SHEARED |
| 54 | 313.63 | 313.64 | 0.01 | 00043 | 1 | MUDSTONE | CARB.DK.GY |
| 54 | 313.64 | 313.74 | 0.10 | 00043 | 1 | COAL | C-6 STONEY TO BONE,-SHEARED |
| 54 | 313.74 | 313.80 | 0.06 | 00043 | 1 | MUDSTONE | CARB SHEARED-BADLY BROKEN |
| 53 | 313.80 | 313.82 | 0.02 | 00043 | 1 | COAL | C-6 STONEY-SHEARED |
| 53 | 313.82 | 313.86 | 0.04 | 00043 | 1 | MUDSTONE | CARB.DK.GY SHEARED |
| 53 | 313.86 | 313.91 | 0.05 | 00043 | 1 | COAL | C-5 VERY BADLY BROKEN & SHEARED LISTRIC SUR FACES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--------------------------|
| 53 | 313.91 | 314.00 | 0.09 | 00043 | 1 | COAL | C-6 STONE |
| 53 | 314.00 | 314.10 | 0.10 | 00043 | 1 | MUDSTONE | CARB. DK. GY SHEARED |
| 53 | 314.10 | 314.16 | 0.06 | 00044 | 1 | COAL LOSS | |
| 53 | 314.16 | 314.20 | 0.04 | 00044 | 1 | COAL | C-4 VERY BADLY BROKEN |
| 53 | 314.20 | 314.22 | 0.02 | 00044 | 1 | COAL | C-4 CORE INTACT. |
| 53 | 314.22 | 314.23 | 0.01 | 00044 | 1 | COAL | C-6 AS ABOVE |
| 53 | 314.23 | 314.28 | 0.05 | 00044 | 1 | COAL | C-3 AS ABOVE |
| 53 | 314.28 | 314.30 | 0.02 | 00044 | 1 | COAL | C-6 AS ABOVE |
| 53 | 314.30 | 314.32 | 0.02 | 00044 | 1 | COAL | C-4 AS ABOVE |
| 53 | 314.32 | 314.37 | 0.05 | 00044 | 1 | COAL | C-5 CORE BROKEN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|------------------------------------|
| 52 | 314.37 | 314.48 | 0.11 | 00044 | 1 | COAL | C-3 AS ABOVE |
| 52 | 314.48 | 314.51 | 0.03 | 00044 | 1 | COAL | C-2 AS ABOVE |
| 52 | 314.51 | 314.60 | 0.09 | 00044 | 1 | COAL | C-4 BADLY BROKEN; SHEARED |
| 52 | 314.60 | 314.65 | 0.05 | 00044 | 1 | COAL | C-4 SHEARED |
| 52 | 314.65 | 314.67 | 0.02 | 00044 | 1 | COAL | C-3 VERY BADLY BROKEN; SHEARED |
| 52 | 314.67 | 314.74 | 0.07 | 00044 | 1 | COAL | C-3 VERY BADLY SHEARED & BROKEN |
| 52 | 314.74 | 314.83 | 0.09 | 00044 | 1 | COAL | C-4 AS ABOVE |
| 52 | 314.83 | 314.90 | 0.07 | 00044 | 1 | COAL | C-4 |
| 52 | 314.90 | 314.98 | 0.08 | 00044 | 1 | COAL | C-4 AS ABOVE |
| 51 | 314.98 | 315.08 | 0.10 | 00044 | 1 | COAL | C-3 AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 51 | 315.08 | 315.11 | 0.03 | 00044 | 1 | COAL | C-4 AS ABOVE |
| 51 | 315.11 | 315.19 | 0.08 | 00044 | 1 | COAL | C-3 AS ABOVE |
| 51 | 315.19 | 315.21 | 0.02 | 00044 | 1 | COAL | C-4 |
| 51 | 315.21 | 315.29 | 0.08 | 00045 | 1 | ROCK LOSS | |
| * 51 | 315.29 | 315.39 | 0.10 | 00045 | 1 | TUFF | CARB.LT.GY SHEARED & BROKEN B.C. SAMPLE |
| 50 | 315.39 | 315.43 | 0.04 | 00045 | 1 | COAL | C-5 SHEARED; VERY BADLY BROKEN |
| 50 | 315.43 | 315.48 | 0.05 | 00045 | 1 | COAL | C-3 |
| 50 | 315.48 | 315.61 | 0.13 | 00045 | 1 | COAL | C-4 VERY BADLY SHEARED, BROKEN TO POWDERY |
| 49 | 315.61 | 315.69 | 0.08 | 00045 | 1 | COAL | C-2 |
| 48 | 315.69 | 315.83 | 0.14 | 00045 | 1 | TUFF | M.GY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 47 | 315.83 | 315.87 | 0.04 | 00045 | 1 | COAL | C-4 |
| 47 | 315.87 | 315.92 | 0.05 | 00045 | 1 | COAL | C-3 CALCITE SMEARS |
| 46 | 315.92 | 316.02 | 0.10 | 00045 | 1 | COAL | C-4 |
| 46 | 316.02 | 316.04 | 0.02 | 00045 | 1 | COAL | C-5 |
| 46 | 316.04 | 316.05 | 0.01 | 00045 | 1 | COAL | C-1 |
| * 45 | 316.05 | 316.28 | 0.23 | 00045 | 1 | TUFF | CARB.LT-M.GY SOFT SOAPY FEEL; CARB FROM 0.10M TO 0.1 5M; 0.09 BCGOVERNMENT SAMPLE TAKEN; SHE ARED; BADLY BROKEN. POSSIBLE CORE LOSS |
| 45 | 316.28 | 316.32 | 0.04 | 00045 | 1 | ROCK LOSS | |
| 45 | 316.32 | 316.44 | 0.12 | 00046 | 1 | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 46 | 316.44 | 316.47 | 0.03 | 00046 | 1 | COAL | C-4 2MM BRIGHT BAND AT END OF MEASUREMENT |
| 46 | 316.47 | 316.50 | 0.03 | 00046 | 1 | COAL | C-4 VERY BADLY BROKEN TO CRUMBLY; POSSIBLE CORE LOSS |
| 46 | 316.50 | 316.52 | 0.02 | 00046 | 1 | COAL | C-4 CORE BROKEN |
| 46 | 316.52 | 316.54 | 0.02 | 00046 | 1 | COAL | C-3 AS ABOVE |
| 46 | 316.54 | 316.56 | 0.02 | 00046 | 1 | COAL | C-4 AS ABOVE |
| 46 | 316.56 | 316.58 | 0.02 | 00046 | 1 | COAL | C-3 AS ABOVE |
| 46 | 316.58 | 316.60 | 0.02 | 00046 | 1 | COAL | C-2 SOLID CORE. |
| 46 | 316.60 | 316.62 | 0.02 | 00046 | 1 | COAL | C-3 AS ABOVE |
| 46 | 316.62 | 316.64 | 0.02 | 00046 | 1 | COAL | C-4 AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|-----------------|
| 46 | 316.64 | 316.67 | 0.03 | 00046 | 1 | COAL | C-3 AS ABOVE |
| 46 | 316.67 | 316.70 | 0.03 | 00046 | 1 | COAL | C-4 AS ABOVE |
| 46 | 316.70 | 316.71 | 0.01 | 00046 | 1 | COAL | C-1 |
| 46 | 316.71 | 316.73 | 0.02 | 00046 | 1 | MUDSTONE | CARB |
| 46 | 316.73 | 316.74 | 0.01 | 00046 | 1 | COAL | C-1 |
| 46 | 316.74 | 316.77 | 0.03 | 00046 | 1 | COAL | C-3 |
| 46 | 316.77 | 316.78 | 0.01 | 00046 | 1 | COAL | C-1 |
| 46 | 316.78 | 316.80 | 0.02 | 00046 | 1 | COAL | C-3 |
| 46 | 316.80 | 316.83 | 0.03 | 00046 | 1 | COAL | C-2 |
| 47 | 316.83 | 316.86 | 0.03 | 00046 | 1 | COAL | C-3 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 47 | 316.86 | 317.12 | 0.26 | 00046 | 1 | COAL LOSS | |
| 47 | 317.12 | 317.13 | 0.01 | 00046 | 1 | COAL | C-5 |
| 47 | 317.13 | 317.15 | 0.02 | 00046 | 1 | COAL | C-3 |
| 47 | 317.15 | 317.18 | 0.03 | 00046 | 1 | COAL | C-3 CALCITE SMEARS ON FRACTURE SURFACES. |
| 47 | 317.18 | 317.19 | 0.01 | 00046 | 1 | COAL | C-3 |
| 47 | 317.19 | 317.20 | 0.01 | 00046 | 1 | COAL | C-1 |
| 47 | 317.20 | 317.22 | 0.02 | 00046 | 1 | COAL | C-4 IMM ASH BAND |
| 47 | 317.22 | 317.23 | 0.01 | 00046 | 1 | COAL | C-1 |
| 48 | 317.23 | 317.32 | 0.09 | 00046 | 1 | COAL | C-3 |
| 48 | 317.32 | 317.34 | 0.02 | 00046 | 1 | COAL | C-1 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 48 | 317.34 | 317.35 | 0.01 | 00046 | 1 | COAL | C-4 |
| 48 | 317.35 | 317.37 | 0.02 | 00046 | 1 | COAL | C-1 |
| 48 | 317.37 | 317.40 | 0.03 | 00046 | 1 | COAL | C-4 |
| 48 | 317.40 | 317.44 | 0.04 | 00046 | 1 | COAL | C-1 |
| 48 | 317.44 | 317.55 | 0.11 | 00046 | 1 | COAL | C-3 SEVERAL IMM ASH BANDS BROKEN. |
| 48 | 317.55 | 317.58 | 0.03 | 00046 | 1 | MUDSTONE | CARB SEVERAL IMM BRIGHT BANDS |
| 48 | 317.58 | 317.64 | 0.06 | 00046 | 1 | COAL LOSS | |
| 48 | 317.64 | 317.67 | 0.03 | 00046 | 1 | COAL | C-4 SHEARED; BADLY BROKEN- POSSIBLE CORE LO SS, SHEARED |
| 48 | 317.67 | 317.71 | 0.04 | 00046 | 1 | COAL | C-4 AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 49 | 317.71 | 317.73 | 0.02 | 00046 | 1 | COAL | C-4 VERY BADLY BROKEN TO CRUMBLLED; POSSIBLE CORE LOSS |
| 49 | 317.73 | 317.80 | 0.07 | 00046 | 1 | COAL | C-3 AS ABOVE; POWDERY. |
| 49 | 317.80 | 317.82 | 0.02 | 00046 | 1 | COAL | C-2 |
| 49 | 317.82 | 317.85 | 0.03 | 00046 | 1 | COAL | C-6 |
| 49 | 317.85 | 317.89 | 0.04 | 00046 | 1 | COAL | C-3 SHEARED & VERY BADLY BROKEN. |
| 49 | 317.89 | 317.91 | 0.02 | 00046 | 1 | COAL | C-2 |
| 49 | 317.91 | 317.93 | 0.02 | 00046 | 1 | COAL | C-3 |
| 49 | 317.93 | 317.97 | 0.04 | 00046 | 1 | COAL | C-4 VERY BADLY BROKEN TO CRUMBLLED; POSSIBLE CORELOSS. |
| 49 | 317.97 | 318.03 | 0.06 | 00046 | 1 | COAL | C-2 AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--------------------|
| 49 | 318.03 | 318.05 | 0.02 | 00046 | 1 | COAL | C-4 AS ABOVE |
| 49 | 318.05 | 318.09 | 0.04 | 00046 | 1 | COAL | C-2 AS ABOVE |
| 49 | 318.09 | 318.13 | 0.04 | 00046 | 1 | COAL | |
| 49 | 318.13 | 318.16 | 0.03 | 00046 | 1 | COAL | C-2 |
| 50 | 318.16 | 318.18 | 0.02 | 00046 | 1 | COAL | C-2 |
| 50 | 318.18 | 318.21 | 0.03 | 00046 | 1 | COAL | C-1 |
| 50 | 318.21 | 318.22 | 0.01 | 00046 | 1 | COAL | C-4 |
| 50 | 318.22 | 318.24 | 0.02 | 00046 | 1 | COAL | C-1 |
| 50 | 318.24 | 318.28 | 0.04 | 00046 | 1 | COAL | C-4 |
| 50 | 318.28 | 318.41 | 0.13 | 00046 | 1 | COAL | C-3 |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 50 | 318.41 | 318.42 | 0.01 | 00046 | 1 | COAL | C-1 |
| 50 | 318.42 | 318.54 | 0.12 | 00047 | 1 | COAL LOSS | |
| 50 | 318.54 | 318.58 | 0.04 | 00047 | 1 | COAL | C-4 VERY BADLY BROKEN TO CRUMBLLED PIECES |
| 51 | 318.58 | 318.61 | 0.03 | 00047 | 1 | COAL | C-1 |
| 51 | 318.61 | 318.65 | 0.04 | 00047 | 1 | TUFF | CARB BC GOVERNMENT SAMPLE TAKEN |
| 51 | 318.65 | 318.68 | 0.03 | 00047 | 1 | COAL | C-1 |
| 51 | 318.68 | 318.70 | 0.02 | 00047 | 1 | COAL | |
| 51 | 318.70 | 318.80 | 0.10 | 00047 | 1 | COAL | C-4 CRUMBLLED TO POWDER SHEARED POSSIBLE CORE LOSS |
| 51 | 318.80 | 318.82 | 0.02 | 00047 | 1 | COAL | C-3 BROKEN |
| 51 | 318.82 | 318.84 | 0.02 | 00047 | 1 | COAL | C-2 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|----------------------------|
| 51 | 318.84 | 318.87 | 0.03 | 00047 | 1 | COAL | C-3 |
| 51 | 318.87 | 318.90 | 0.03 | 00047 | 1 | COAL | C-6 COAL & BANDS |
| 51 | 318.90 | 319.01 | 0.11 | 00047 | 1 | TUFF | M.GY HARD. |
| 52 | 319.01 | 319.05 | 0.04 | 00047 | 1 | COAL | C-1 |
| 52 | 319.05 | 319.25 | 0.20 | 00047 | 1 | COAL | C-1 |
| 52 | 319.25 | 319.32 | 0.07 | 00047 | 1 | COAL | C-1 |
| 52 | 319.32 | 319.37 | 0.05 | 00047 | 1 | COAL | C-1 |
| 52 | 319.37 | 319.45 | 0.08 | 00047 | 1 | COAL | C-1 SMALL 5MM ASH BAND. |
| 53 | 319.45 | 319.51 | 0.06 | 00047 | 1 | COAL | C-3 |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 53 | 319.51 | 319.53 | 0.02 | 00048 | | MUDSTONE | CARB.DK.GY NUMEROUS FINE BRIGHT FILAMENTS OF COAL 0.5MM TO 1MM IN THICKNESS |
| 53 | 319.53 | 319.73 | 0.20 | 00048 | | MUDSTONE | CARB.M-DK.GY SKS PRESENT AT END OF MEASUREMENT |
| 54 | 319.73 | 320.48 | 0.75 | 00048 | | MUDSTONE | SLTY CARB, COALY INCLUSIONS; SILT LAMINATION S. |
| 55 | 320.48 | 320.53 | 0.05 | 00048 | | FE STONE | LT.BKN CONCRETION. |
| * 56 | 320.53 | 321.48 | 0.95 | 00048 | | SILTSTONE | CLYY.M-DK.GY COALY INCLUSION; ARGILLACEOUS LAMINATIO NS; SKS AT 0.05 WITH MINOR CALCITE INFI LLING CARB. |
| * 40 | 321.48 | 322.74 | 1.26 | 00048 | | MUDSTONE | SLTY.M-DK.GY PLANT STEAM & LEAF FOSSILS; CALCITE FIL LED SKS AT 0.34, 0.64& 1.10;CARB. |
| 44 | 322.74 | 322.80 | 0.06 | 00048 | | MUDSTONE | CARB.M-DK.GY SLTY SKS AT END OF UNIT- POSSIBLE CORE LOSS HENCE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 44 | 322.80 | 322.85 | 0.05 | 00048 | | MUDSTONE | CARB VERY BADLY SHEARED; CORE SHATTERED TO POWDER; CORE LOSS/ |
| 45 | 322.85 | 323.00 | 0.15 | 00048 | | ROCK LOSS | |
| 46 | 323.00 | 323.16 | 0.16 | 00049 | 1 | COAL | C-4 VERY BADLY SHEARED; CORE SHATTERED TO POWDERY; POSSIBLE CORE LOSS |
| 47 | 323.16 | 323.34 | 0.18 | 00049 | 1 | COAL | C-4 AS ABOVE |
| 47 | 323.34 | 323.36 | 0.02 | 00049 | 1 | COAL | C-2 AS ABOVE |
| 48 | 323.36 | 323.44 | 0.08 | 00049 | 1 | COAL | C-3 AS ABOVE |
| 48 | 323.44 | 323.56 | 0.12 | 00049 | 1 | COAL | C-3 AS ABOVE; NOTE BLOCK IN CORE STATION LOST 2 FT HERE |
| 49 | 323.56 | 323.65 | 0.09 | 00049 | 1 | COAL | C-4 VERY BADLY SHEARED CORE SHATTERED TO POWDERY |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 73

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 49 | 323.65 | 323.71 | 0.06 | 00049 | 1 | COAL | C-3 AS ABOVE |
| 50 | 323.71 | 323.87 | 0.16 | 00049 | 1 | COAL | C-2 AS ABOVE |
| 51 | 323.87 | 323.89 | 0.02 | 00049 | 1 | COAL | C-3 AS ABOVE |
| 51 | 323.89 | 323.90 | 0.01 | 00049 | 1 | COAL | C-3 AS ABOVE |
| 51 | 323.90 | 323.91 | 0.01 | 00049 | 1 | COAL | C-4 AS ABOVE |
| 51 | 323.91 | 323.94 | 0.03 | 00049 | 1 | COAL | C-4 AS ABOVE |
| 51 | 323.94 | 323.96 | 0.02 | 00049 | 1 | COAL | C-3 SEVERAL 2MM DIRT BANDS PRESENT |
| 52 | 323.96 | 324.10 | 0.14 | 00049 | 1 | ROCKLOSS | |
| * 52 | 324.10 | 324.12 | 0.02 | 00049 | 1 | TUFF | CARB.M.GY B.C. GOVERNMENT SAMPLE TAKEN HERE, CORE BADLY BROKEN; POSSIBLE CORELOSS. |
| 52 | 324.12 | 324.14 | 0.02 | 00049 | 1 | COAL | C-2 BADLY BROKEN |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 74

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---------------------------------------|
| 52 | 324.14 | 324.17 | 0.03 | 00049 | 1 | COAL | C-4 CORE IS BROKEN |
| 52 | 324.17 | 324.19 | 0.02 | 00049 | 1 | COAL | C-2 AS ABOVE |
| 52 | 324.19 | 324.23 | 0.04 | 00049 | 1 | COAL | C-4 AS ABOVE |
| 52 | 324.23 | 324.24 | 0.01 | 00049 | 1 | COAL | C-3 AS ABOVE |
| 52 | 324.24 | 324.30 | 0.06 | 00049 | 1 | COAL | C-4 |
| 52 | 324.30 | 324.32 | 0.02 | 00049 | 1 | COAL | C-3 |
| 52 | 324.32 | 324.34 | 0.02 | 00049 | 1 | COAL | C-3 |
| 52 | 324.34 | 324.36 | 0.02 | 00049 | 1 | COAL | C-4 |
| 52 | 324.36 | 324.46 | 0.10 | 00049 | 1 | COAL | C-4 VERY BADLY BROKEN TO SHATTERED |
| 52 | 324.46 | 324.48 | 0.02 | 00049 | 1 | COAL | C-1 AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 75

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|-----------------|
| 52 | 324.48 | 324.52 | 0.04 | 00049 | 1 | COAL | C-4 AS ABOVE |
| 52 | 324.52 | 324.56 | 0.04 | 00049 | 1 | COAL LOSS | |
| 52 | 324.56 | 324.72 | 0.16 | 00049 | 1 | ROCK LOSS | |
| 52 | 324.72 | 324.76 | 0.04 | 00049 | 1 | COAL LOSS | |
| 52 | 324.76 | 324.85 | 0.09 | 00049 | 1 | COAL | C-3 AS ABOVE |
| 51 | 324.85 | 324.87 | 0.02 | 00049 | 1 | COAL | C-2 AS ABOVE |
| 51 | 324.87 | 324.96 | 0.09 | 00049 | 1 | COAL | C-3 AS ABOVE |
| 51 | 324.96 | 325.01 | 0.05 | 00049 | 1 | COAL | C-4 AS ABOVE |
| 51 | 325.01 | 325.07 | 0.06 | 00049 | 1 | COAL | C-4 |
| 51 | 325.07 | 325.11 | 0.04 | 00049 | 1 | COAL | C-4 |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 76

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 51 | 325.11 | 325.16 | 0.05 | 00049 | 1 | COAL | C-4 VERY BADLY BROKEN TO SHATTERED; CORE IS SHEARED WITH SKS; POSSIBLE CORE LOSS |
| 51 | 325.16 | 325.26 | 0.10 | 00049 | 1 | COAL | C-4 AS ABOVE |
| 51 | 325.26 | 325.33 | 0.07 | 00049 | 1 | COAL | C-4 POWDERY |
| 51 | 325.33 | 325.43 | 0.10 | 00050 | 1 | COAL LOSS | |
| 51 | 325.43 | 325.57 | 0.14 | 00050 | 1 | ROCK LOSS | |
| * 51 | 325.57 | 325.60 | 0.03 | 00050 | 1 | TUFF | CARB.LT.GY HARD; SLIGHT SOAPY FEEL; SKS WITH LISTR IC SURFACES ON TOP & BOTTOM; B.C. SAMPL E TAKEN |
| 47 | 325.60 | 325.73 | 0.13 | 00050 | 1 | COAL | C-4 VERY BADLY BROKEN TO POWDERY HEAVILY SH EARED; POSSIBLE CORE LOSS |
| 43 | 325.73 | 325.75 | 0.02 | 00050 | 1 | COAL | C-3 |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 77

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 42 | 325.75 | 325.76 | 0.01 | 00050 | 1 | COAL | C-2 |
| 42 | 325.76 | 325.78 | 0.02 | 00050 | 1 | MUDSTONE | SLTY CARB |
| 42 | 325.78 | 325.87 | 0.09 | 00050 | 1 | COAL | C-3 |
| 43 | 325.87 | 325.96 | 0.09 | 00050 | 1 | TUFF | CARB.M.GY HARD; APPEARS TO HAVE OOLITE APPEARANCE |
| 44 | 325.96 | 326.03 | 0.07 | 00050 | 1 | COAL | |
| 44 | 326.03 | 326.06 | 0.03 | 00050 | 1 | COAL | C-3 BADLY TO VERY BADLY BROKEN, POSSIBLE CO RE LOSS |
| 44 | 326.06 | 326.11 | 0.05 | 00050 | 1 | COAL | C-2 AS ABOVE |
| 47 | 326.11 | 327.03 | 0.92 | 00050 | 1 | COAL LOSS | |
| * 51 | 327.03 | 327.20 | 0.17 | 00051 | | TUFF | CARB.LT.GY HARD; OOLITE APPEARANCE; FEW COALY INCL USIONS. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 78

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 50 | 327.20 | 327.74 | 0.54 | 00051 | | MUDSTONE | CARB.DK.GY FEW COALY INCLUSIONS & SILT LAMINATIONS ; FEW MINOR FRACTURE INFILLED WITH CALC ITE; PLANT FOSSILS MINOR; POSSIBLE CORE LOSS |
| 50 | 327.74 | 327.79 | 0.05 | 00051 | | COAL | C-1 |
| 49 | 327.79 | 328.71 | 0.92 | 00051 | | MUDSTONE | CARB.M.GY CARB;SLT ABUND HORSETAIL CALCIT VEINING COALY INCL; FEW MNR SALT INCL;ABUNT SKS AND LISTRIC SURF;PLANT FOSSILS |
| 47 | 328.71 | 329.28 | 0.57 | 00052 | 1 | COAL | SHATTERED TO POWDERY, VERY BADLY SHEARE D, POSSIBLE FLT ZONE, PROBABLE CORE LOS S. |
| * 47 | 329.28 | 329.51 | 0.23 | 00052 | 1 | TUFF | CARB.LT.GY BCA'S WERE TAKEN ON TOP AND BOTTOM OF U NIT; 0.64 SKS W LISTRIC SURF THROUGHOUT ;BOTTOM CONTACT IS SHARP, FEELS TALCY. B.C.GOV'T SAMPLE TAKEN. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 79

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81002

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| * 46 | 329.51 | 330.07 | 0.56 | 00052 | 1 | COAL | VERY BADLY SHEARED, ABNT LISTRIC SURF AND SKS; CORE IS SHATTERED TO POWDERY; SOME CALC. SMEARS ON LISTRIC SURF PROBABLE FAULT ZONE. |

* DENOTES MEASURED BCA

DDH 81-03

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: _____ DATA SOURCE: DDH81003

HISTORY

START DATE: 30/06/81 END DATE: 03/07/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: G. SEVE SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1244.1
 UTM ZONE: 10 NORTH: 6140345.03 EAST: 549123.79
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: . EAST: . LSD: TWP: RGE: MER:
 NPS-EC NORTH: . EAST: . QUAD: UNIT: BLK: ST: MUS: MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 440.40 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: . SIZE HEIGHT: .
 ROOF STRIKE: DIP: FLOOR STRIKE: DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 8.00 CEMENTED: PLUGGED: PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: . . LOST CIRCULATION DEPTHS: . .

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|---------|---------|---------|-----------|----------------|-----------|-----------|-------------|
| GAMMA | X | 1:100 | : | --- | --- | | X | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | | X | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | X | X | 247AS |
| CALIPER | X | 1:100 | : | --- | --- | X | | 785 |
| FE-SHORT | | : | : | --- | --- | | | |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | | 10 |
| DIRECTIONAL | X | : | : | --- | --- | X | | |
| DIPMETER | | : | : | --- | --- | | | |

*** COAL DIVISION ***

DATA SOURCE: DB1-03

INTERVAL OF INTERPOLATION: 10 UNIT(S)

VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 0.00 | 2.90 | 250.00 |
| 15.00 | 2.90 | 250.00 |
| 30.00 | 2.90 | 254.00 |
| 45.00 | 2.80 | 247.50 |
| 60.00 | 3.10 | 256.70 |
| 75.00 | 2.70 | 276.00 |
| 90.00 | 3.10 | 291.70 |
| 105.00 | 3.00 | 271.20 |
| 120.00 | 3.40 | 289.10 |
| 135.00 | 3.80 | 269.00 |
| 150.00 | 4.10 | 265.90 |
| 165.00 | 4.00 | 252.10 |
| 180.00 | 4.00 | 252.00 |
| 195.00 | 3.80 | 251.50 |
| 210.00 | 3.80 | 246.40 |
| 225.00 | 3.60 | 255.20 |
| 240.00 | 3.20 | 264.60 |
| 255.00 | 3.40 | 270.80 |
| 270.00 | 3.40 | 275.70 |
| 285.00 | 3.40 | 289.10 |
| 300.00 | 3.30 | 288.50 |
| 315.00 | 3.10 | 297.30 |
| 330.00 | 2.50 | 267.30 |
| 345.00 | 2.45 | 255.00 |

DATA SOURCE: D91-03

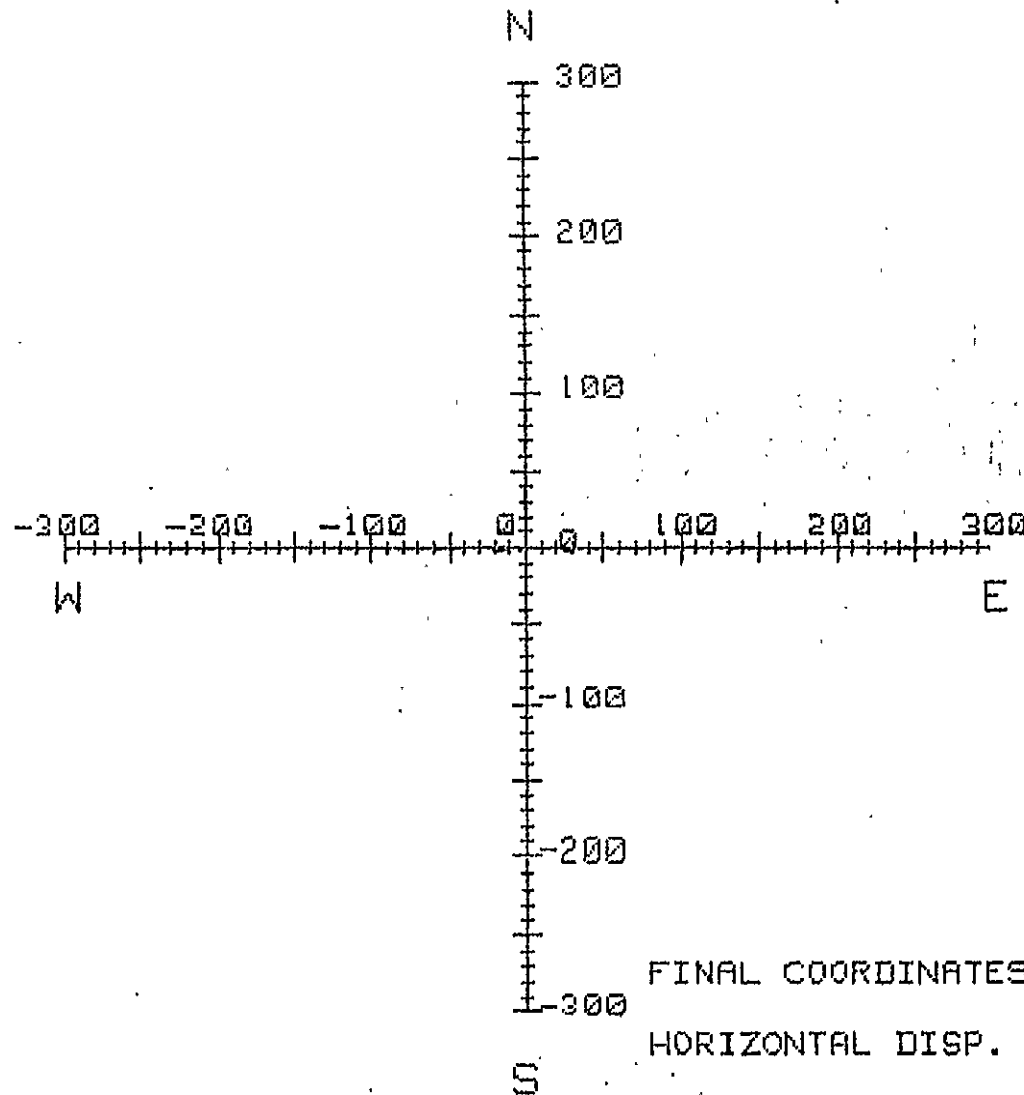
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 360.00 | 2.50 | 242.00 |
| 375.00 | 2.30 | 274.30 |
| 390.00 | 2.30 | 302.20 |
| 405.00 | 1.90 | 296.60 |
| 420.00 | 1.20 | 298.20 |
| 435.00 | 1.20 | 295.00 |

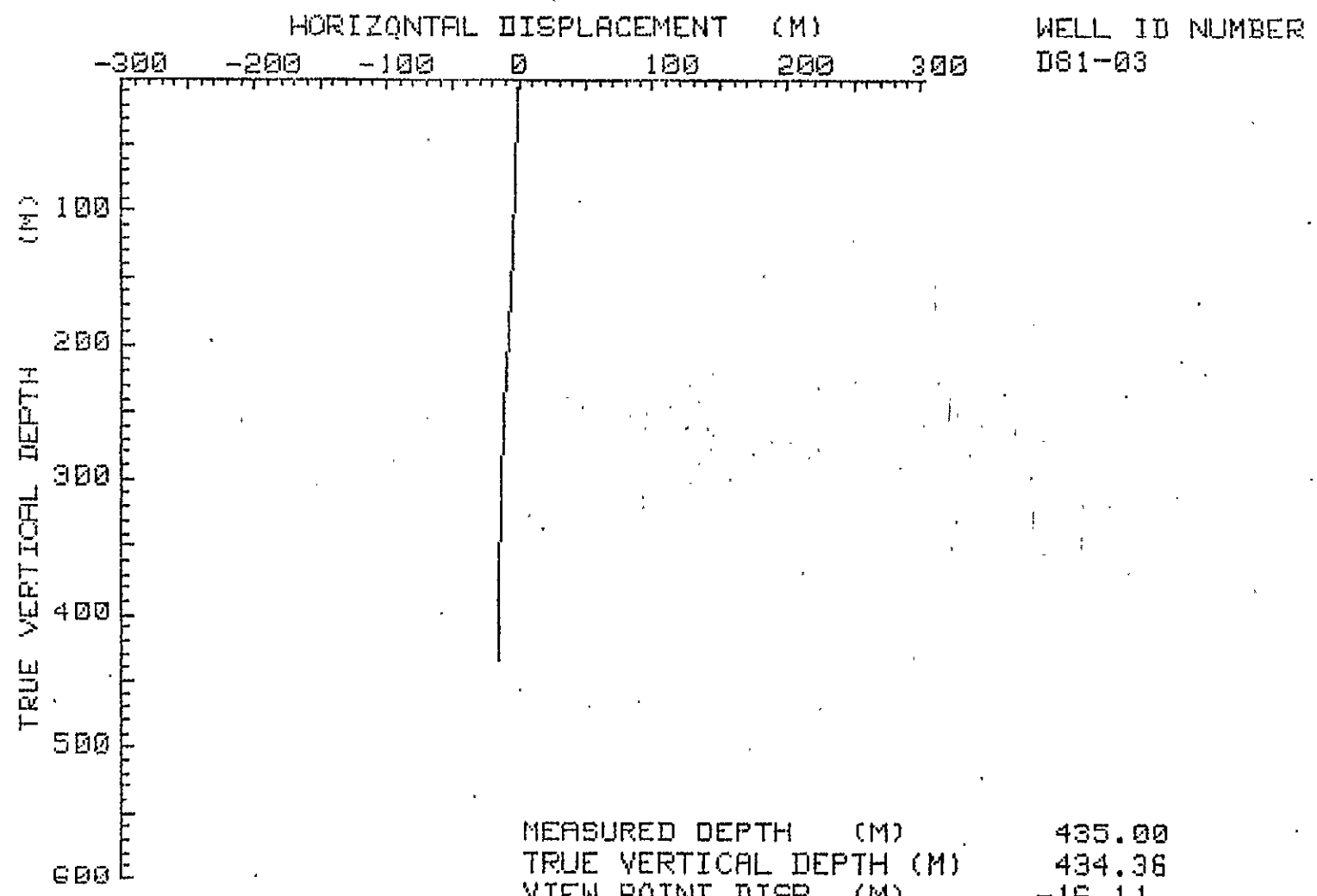
PLAN VIEW

WELL ID NUMBER
D81-03



FINAL COORDINATES(M) N-.81
E-21.98
HORIZONTAL DISP. (M) -15.11

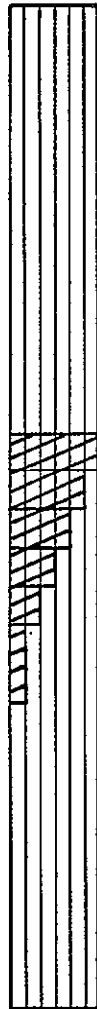
DISPLACEMENT



| | |
|-------------------------|--------|
| MEASURED DEPTH (M) | 435.00 |
| TRUE VERTICAL DEPTH (M) | 434.36 |
| VIEW POINT DISP. (M) | -16.11 |
| SECTION LINE BEARING | 45.00 |

SEAM
COMP

COAL
SEAM
LOG



LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone

- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff

coal

coal-boney, stoney,
coal and bands/rock
- designated "C6"

rock } coal
lithotype uncertain

coal } MISSING
rock } CORE


rock

coal

CORED HOLE

GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

| | | |
|---|---------------|---|
| GULF CANADA RESOURCES INC. | |  |
| CALGARY | Coal Division | |
| LEGEND FOR COAL SEAM DATA SHEETS | | |
| PREPARED BY: V.O. | | SCALE 1:40 |
| APPROVED BY: | | DATE: JAN. 82 DRAWING No. |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

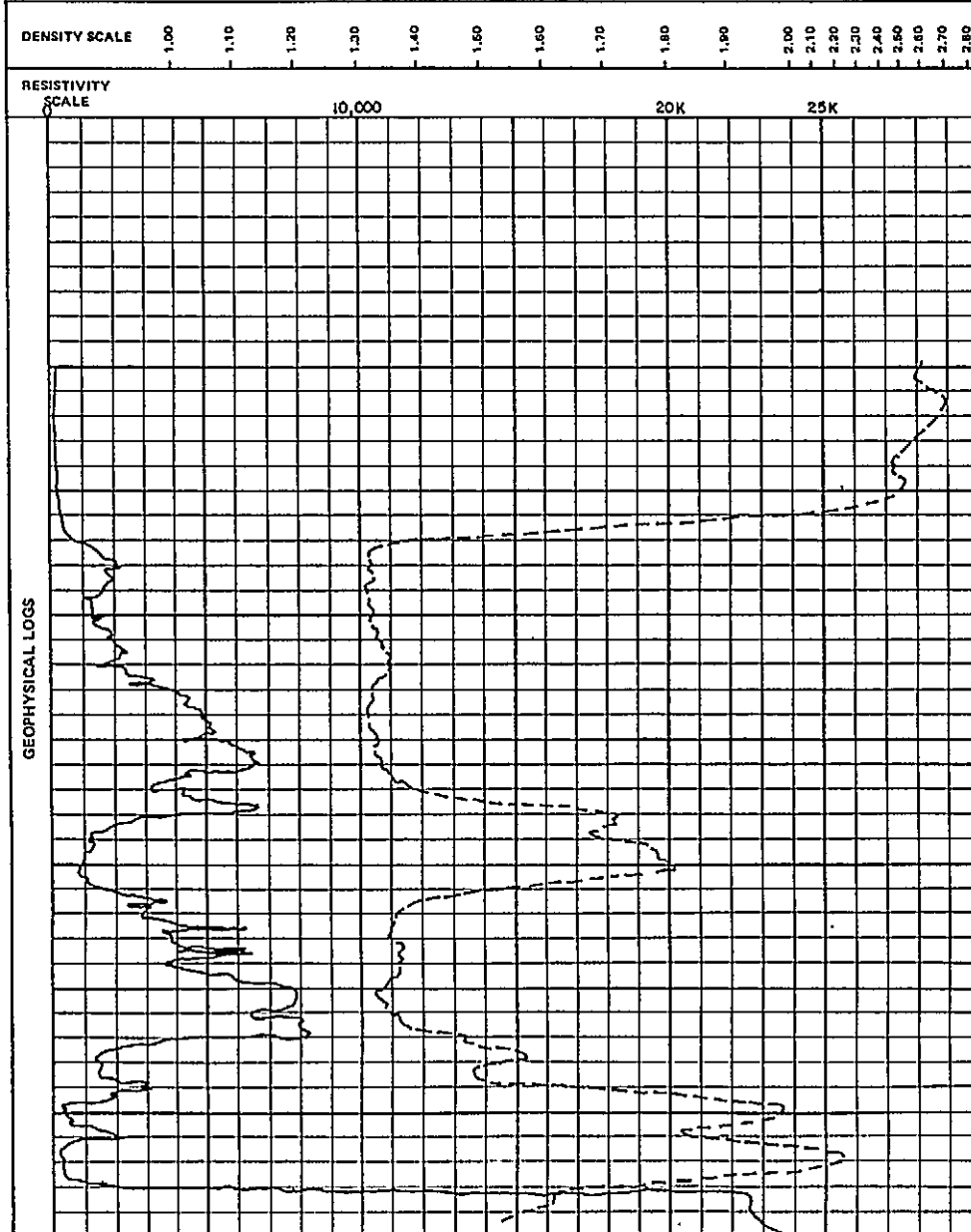
Coal/Coal + Rock (True Thk (m))
10.95 / 11.73

DENSITY _____ RESISTIVITY _____

DRILL NO. GDR - DDH - 81 - 03 SEAM _____

SEAM INTERVAL 426.25m - 438.61m

SCALE 1:40



| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | |
|------------|--------|---------------|----------|----------------------|--------|--------|---------|-------------------------|-------|-------|-------|----------------|-----------------|-----|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ¹ | BTU (MJ/Kg) | FSI |
| | 426.25 | | | 2.16 | 100 | 00028 | | 1.15 | 5.51 | 24.65 | 68.69 | 0.31 | 14,220 (33.076) | 1.5 |
| | 428.41 | | | 0.15 0.19 | 100 | 00029 | | 0.92 | 42.59 | 16.98 | 39.51 | 0.13 | 7,750 (18.027) | 1.0 |
| | 428.95 | | 0.20 | 0.80 | | | | | | | | | | |
| | 430.86 | | | 0.03 0.62 | 100 | 00030 | | 1.05 | 12.79 | 24.45 | 51.71 | 0.23 | 12,950 (30.122) | 2.0 |
| | 431.37 | | 0.02 | 0.44 | | | | | | | | | | |
| | 431.59 | | | 0.10 0.21 0.22 | 100 | 00031 | | 0.98 | 53.36 | 14.90 | 22.78 | 0.10 | 4551 (10.586) | 1.5 |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-03 SEAM _____ SEAM INTERVAL 426.25 - 438.61 m
SCALE 1:40

| DENSITY SCALE | RESISTIVITY SCALE | SEAM COMP. 854321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|---------------|-------------------|-------------------|--------|---------------|----------|------|--------|--------|---------|-------------------------|-----|------|-------|----------------|-------------|------|-----------------|-----|
| | | | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ¹ | BTU (MJ/KG) | FSI | | |
| | | | 431.37 | | | | | | | | | | | | | | | |
| | | | 431.59 | | | | 0.22 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | 3.11 | 100 | 00032 | | | 1.10 | 16.99 | 23.29 | 58.82 | 0.28 | 12,555 (29,203) | 2.5 |
| | | | 434.70 | | | 0.09 | | | | | | | | | | | | |
| | | | 434.98 | | | 0.09 | | 100 | 00033 | | | 0.80 | 47.66 | 23.26 | 28.28 | 0.14 | 6,440 (14,979) | 2.0 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | 0.89 | 100 | 00034 | | | 1.06 | 7.57 | 28.51 | 62.86 | 0.34 | 14,093 (32,760) | 8.0 |
| | | | 435.87 | | | 0.10 | (0.12) | | | | | | | | | | | |
| | | | | | | | 0.03 | | | | | | | | | | | |
| | | | | | | | 0.19 | | | | | | | | | | | |
| | | | | | | | 0.13 | 88 | 00035 | | | 0.93 | 37.24 | 25.48 | 36.35 | 0.31 | 9,155 (21,295) | 6.0 |
| | | | | | | | 0.22 | | | | | | | | | | | |
| | | | 436.85 | | | | 0.19 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | 1.76 | 100 | 00036 | | | 1.02 | 7.82 | 33.73 | 57.43 | 0.60 | 14,115 (32,851) | 8.5 |
| | | | 438.61 | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|----------------|--------------|--------------|
| DDHB1003 | | 28 | 426.25 | 428.41 | 2.16 | 100.00 | 2.16 | 0.00 | 0.00 | 0.00 |
| | | 29 | 428.41 | 429.02 | 0.61 | 100.00 | 0.41 | 0.20 | 0.00 | 0.00 |
| | | 30 | 429.02 | 430.86 | 1.84 | 100.00 | 1.82 | 0.02 | 0.00 | 0.00 |
| | | 31 | 430.86 | 431.59 | 0.73 | 100.00 | 0.43 | 0.30 | 0.00 | 0.00 |
| | | 32 | 431.59 | 434.70 | 3.11 | 100.00 | 3.11 | 0.00 | 0.00 | 0.00 |
| | | 33 | 434.70 | 434.98 | 0.28 | 100.00 | 0.10 | 0.18 | 0.00 | 0.00 |
| | | 34 | 434.98 | 435.87 | 0.89 | 100.00 | 0.89 | 0.00 | 0.00 | 0.00 |
| | | 35 | 435.87 | 436.85 | 0.86 | 87.76 | 0.76 | 0.10 | 0.00 | 0.12 |
| | | 36 | 436.85 | 438.61 | 1.76 | 100.00 | 1.76 | 0.00 | 0.00 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

| PROJ - GDR | | ANALYSIS BASIS TYPE - AD | | | | NAME OF STANDARD - ASTM | | | | |
|-------------|------|--------------------------|--------------------|-------|---------------|-------------------------|----------------|-------------------------------|------|------|
| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
| DDH81003 | | | | | | | | | | |
| | | 28 | 1.15 | 5.51 | 68.69 | 24.65 | 0.31 | 33.08 | 1.31 | 1.50 |
| | | 29 | 0.92 | 42.59 | 39.51 | 16.98 | 0.13 | 18.03 | 1.70 | 1.00 |
| | | 30 | 1.05 | 12.79 | 61.71 | 24.45 | 0.23 | 30.13 | 1.35 | 2.00 |
| | | 31 | 0.98 | 63.36 | 20.76 | 14.90 | 0.10 | 10.59 | 1.92 | 1.50 |
| | | 32 | 1.10 | 16.99 | 58.62 | 23.29 | 0.28 | 29.20 | 1.38 | 2.50 |
| | | 33 | 0.80 | 47.06 | 28.28 | 23.26 | 0.14 | 14.98 | 1.79 | 2.00 |
| | | 34 | 1.06 | 7.57 | 62.86 | 28.51 | 0.34 | 32.78 | 1.31 | 8.00 |
| | | 35 | 0.93 | 37.24 | 36.35 | 25.46 | 0.31 | 21.30 | 1.54 | 6.00 |
| | | 36 | 1.02 | 7.82 | 57.43 | 33.73 | 0.60 | 32.83 | 1.31 | 8.50 |

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|------------|--|
| 13 | 0.00 | 7.31 | 7.31 | | | OVERBURDEN | CASING - OVERBURDEN. |
| * 13 | 7.31 | 10.03 | 2.72 | | | MUDSTONE | M-DK.GY INTBDD WITH SLTST, VERY CALCAREOUS, MNR CALC VEINING NEAR TOP, MNR BIOTRB, COR E BLOCKY, POSSIBLE CORE LOSS NEAR TOP, MNR IRON STAINING. |
| 13 | 10.03 | 10.13 | 0.10 | | | CORE LOSS | ROCK. |
| 13 | 10.13 | 10.48 | 0.35 | | | MUDSTONE | AS ABOVE, MNR CARB PL FRAGS ON BEDDING PLANE. |
| 13 | 10.48 | 12.82 | 2.34 | | | MUDSTONE | BIOTRB INCREASES IN PARTS. |
| 13 | 12.82 | 13.55 | 0.73 | | | MUDSTONE | AS ABOVE. |
| 13 | 13.55 | 15.36 | 1.81 | | | MUDSTONE | AS ABOVE, VERY MNR CARB FRAGS. |
| 13 | 15.36 | 16.07 | 0.71 | | | MUDSTONE | AS ABOVE. |
| | 16.07 | 16.59 | 0.52 | | | SANDSTONE | FG.M.GY FG-VFG, XBDG ; TOP'S UP, VERY CALCAREOU S; NUMEROUS CALC STRINGERS, SOME IRON ST AINING, CORE INTACT TO BLOCKY. |
| * 13 | 16.59 | 17.88 | 1.29 | | | SANDSTONE | AS ABOVE, CONTACT WITH MUDST AT BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 13 | 17.88 | 18.49 | 0.61 | | | MUDSTONE | M-DK.GY SLTY, MOTTLED, INTBDD WITH SS AS ABOVE. |
| 13 | 18.49 | 19.55 | 1.06 | | | SILTSTONE | M.GY CONTAINS SS INCLUSIONS, BECOMES SANDIER TOWARDS BASE, NUMEROUS SMALL CARB PART ICLES NEAR BASE, VERY CALCAREOUS, CORE INTACT. |
| 13 | 19.55 | 20.55 | 1.00 | | | SANDSTONE | VFG.M-DK.GY SLTY, CONTACT WITH MUDST BED TOWARDS BA SE, CONTAINS SLICKENSIDES, CONTAINS PYR IN MUDST, CORE INTACT. |
| 13 | 20.55 | 20.88 | 0.33 | | | MUDSTONE | INTBDD WITH SILT, MOTTLED, CORE BLOCKY. |
| 13 | 20.88 | 21.20 | 0.32 | | | SANDSTONE | VFG.M-DK.GY SLTY IN PART, VERY CALCAREOUS. |
| * | 21.20 | 22.42 | 1.22 | | | SILTSTONE | M-DK.GY INTBDD WITH MUST, CARB IN PART; HEAVY CA LC VEINING, CORE MOTTLED, SLICKENSIDES, CORE BLOCKY TO BROKEN, BECOMING MUDDIE R TOWARDS BASE. |
| 13 | 22.42 | 22.99 | 0.57 | | | MUDSTONE | AS ABOVE, CORE BADLY BROKEN IN PART, PR OBABLE CORE LOSS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 13 | 22.99 | 23.52 | 0.53 | | | MUDSTONE | M-DK.GY AS ABOVE, CORE INTACT TO BLOCKY. |
| 13 | 23.52 | 25.50 | 1.98 | | | MUDSTONE | DK.GY BECOMES SLTY TOWARDS BASE, CALCAREOUS, CORE INTACT TO BLOCKY. |
| 13 | 25.50 | 25.64 | 0.14 | | | MUDSTONE | DK.GY AS ABOVE. |
| * 13 | 25.64 | 28.44 | 2.80 | | | SILTSTONE | M-DK.GY INTBDD WITH MUDST, SSY IN PART, MNR XBD G. |
| 13 | 28.44 | 28.52 | 0.08 | | | MUDSTONE | M-DK.GY SLTY IN PART, COAL INCLUSION NEAR TOP (MNR). |
| 13 | 28.52 | 31.16 | 2.64 | | | MUDSTONE | AS ABOVE, MNR CARB PARTICLES THROUGHOUT , PYR, VERY CALCAREOUS, CORE INTACT. |
| 13 | 31.16 | 31.57 | 0.41 | | | MUDSTONE | M-DK.GY AS ABOVE, SLTY IN PART, CORE BLOCKY. |
| * 13 | 31.57 | 33.81 | 2.24 | | | MUDSTONE | AS ABOVE, CORE INTACT TO BLOCKY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 13 | 33.81 | 34.53 | 0.72 | | | MUDSTONE | DK.GY BECOMES CARB TOWARDS BASE, VERY CALCAREOUS, MODERATE CALC VEINING, CORE BLOCKY |
| 13 | 34.53 | 34.80 | 0.27 | | | MUDSTONE | AS ABOVE, MODERATE TO HEAVY CALC VEINING, CORE BRKN, POSSIBLE CORE LOSS. |
| 13 | 34.80 | 36.36 | 1.56 | | | MUDSTONE | M-DK.GY MNR CARB PARTICLES, CORE BLOCKY TO INTACT. |
| 13 | 36.36 | 37.67 | 1.31 | | | MUDSTONE | AS ABOVE, MNR PYR, CORE INTACT. |
| * 13 | 37.67 | 39.10 | 1.43 | | | MUDSTONE | M-DK.GY AS ABOVE, CORE SLD, SLTST LAMS TOWARDS BASE. |
| 13 | 39.10 | 40.53 | 1.43 | | | MUDSTONE | AS ABOVE, COALY PARTINGS NEAR BASE. |
| 13 | 40.53 | 41.95 | 1.42 | | | MUDSTONE | AS ABOVE, MNR CARB PARTINGS AT TOP, MODERATE CALC VEINING IN PART, CORE BRKN IN PART. |
| 13 | 41.95 | 43.67 | 1.72 | | | MUDSTONE | DK.GY VERY CALCAREOUS, CORE BRKN IN PART, POSSIBLE CORE LOSS. |
| 13 | 43.67 | 43.87 | 0.20 | | | CORE LOSS | ROCK. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 13 | 43.87 | 44.57 | 0.70 | | | MUDSTONE | AS ABOVE. |
| * 13 | 44.57 | 47.01 | 2.44 | | | MUDSTONE | AS ABOVE, CORE INTACT. |
| 13 | 47.01 | 47.38 | 0.37 | | | MUDSTONE | DK.GY AS ABOVE, VERY CALCAREOUS, CORE INTACT. |
| 13 | 47.38 | 49.74 | 2.36 | | | MUDSTONE | AS ABOVE, SLIGHTLY CARB NEAR BASE, SLIC KENSIDES NEAR BASE. |
| 13 | 49.74 | 50.11 | 0.37 | | | MUDSTONE | AS ABOVE, CORE INTACT, MNR PYR. |
| 13 | 50.11 | 52.78 | 2.67 | | | MUDSTONE | DK.GY MNR SILT LAMS, VERY CALCAREOUS, AMINOID TYPE FOSSILES NEAR TOP, CORE INTACT, P YR IN PART. |
| 13 | 52.78 | 55.38 | 2.60 | | | MUDSTONE | DK.GY VERY CALCAREOUS, CORE BADLY BRKN IN PAR T, POSSIBLE CORE LOSS, PYR INCLUSIONS N EAR TOP. |
| 13 | 55.38 | 55.84 | 0.46 | | | MUDSTONE | AS ABOVE. |
| 13 | 55.84 | 56.05 | 0.21 | | | MUDSTONE | AS ABOVE, MNR SLTST PARTING, PYR INCLUS IONS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| * 13 | 56.05 | 56.19 | 0.14 | | | MUDSTONE | DK.GY DK GY TO BLK, CARB, BRKN, HEAVY CALC VE INING. |
| 13 | 56.19 | 57.99 | 1.80 | | | MUDSTONE | DK.GY CORE SLD, VERY CALCAREOUS. |
| 13 | 57.99 | 58.89 | 0.90 | | | MUDSTONE | AS ABOVE, CORE BLOCKY TO BASE. |
| 13 | 58.89 | 60.60 | 1.71 | | | MUDSTONE | DK.GY VERY CALCAREOUS, CORE INTACT, SOME SLTS T AND PYR INCLUSIONS NEAR BASE. |
| 13 | 60.60 | 61.94 | 1.34 | | | MUDSTONE | AS ABOVE, MNR PYR IN FRACTURE SURFS, CO RE INTACT TO BLOCKY, CALC VEINS AT BASE . |
| 13 | 61.94 | 63.39 | 1.45 | | | MUDSTONE | AS ABOVE. |
| 13 | 63.39 | 64.99 | 1.60 | | | MUDSTONE | AS ABOVE, MNR PYR, FEATURELESS. |
| 13 | 64.99 | 66.22 | 1.23 | | | MUDSTONE | AS ABOVE, CORE SLD. |
| * 13 | 66.22 | 68.04 | 1.82 | | | MUDSTONE | DK.GY VERY CALCAREOUS, AS ABOVE, CORE BRKN IN PART. |
| 14 | 68.04 | 68.93 | 0.89 | | | MUDSTONE | AS ABOVE, MNR CARB PARTICLES NEAR BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| 16 | 68.93 | 70.97 | 2.04 | | | MUDSTONE | AS ABOVE, MNR SLTST PARTINGS NEAR TOP, CALC VEIN NEAR TOP. |
| 17 | 70.97 | 71.57 | 0.60 | | | MUDSTONE | AS ABOVE. |
| 18 | 71.57 | 73.78 | 2.21 | | | MUDSTONE | AS ABOVE, CORE SLD. |
| 19 | 73.78 | 74.14 | 0.36 | | | MUDSTONE | CARB PARTINGS, SLICKENSIDES, HEAVY CALC VEINING, CORE BADLY BRKN, POSSIBLE COR E LOSS. |
| 19 | 74.14 | 74.31 | 0.17 | | | MUDSTONE | DK.GY CALCAREOUS, FEATURELESS, CORE SLD. |
| 21 | 74.31 | 76.69 | 2.38 | | | MUDSTONE | AS ABOVE, MNR PYR INCLUSIONS. |
| 22 | 76.69 | 77.11 | 0.42 | | | MUDSTONE | AS ABOVE, CORE SLD. |
| 23 | 77.11 | 79.66 | 2.55 | | | MUDSTONE | AS ABOVE, PYR INCLUSIONS NEAR TOP, CORE INTACT. |
| 24 | 79.66 | 79.86 | 0.20 | | | MUDSTONE | AS ABOVE. |
| 26 | 79.86 | 82.61 | 2.75 | | | MUDSTONE | AS ABOVE, CORE SLD, FEATURELESS. |
| 27 | 82.61 | 82.71 | 0.10 | | | MUDSTONE | DK.GY CALCAREOUS, FEATURELESS, CORE BRKN, POS SIBLE CORE LOSS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 28 | 82.71 | 85.36 | 2.65 | | | MUDSTONE | AS ABOVE, MNR PYR. |
| 30 | 85.36 | 85.54 | 0.18 | | | MUDSTONE | AS ABOVE, CORE BLOCKY. |
| 30 | 85.54 | 85.76 | 0.22 | | | CORE LOSS | ROCK. |
| 31 | 85.76 | 88.13 | 2.37 | | | MUDSTONE | AS ABOVE, CORE BADLY BRKN AT TOP. |
| 32 | 88.13 | 88.81 | 0.68 | | | MUDSTONE | AS ABOVE, CORE BRKN IN PART. |
| 33 | 88.81 | 90.67 | 1.86 | | | MUDSTONE | AS ABOVE, MODERATE CALC VEINING IN PART, CORE BRKN IN PART, PYR INCLUSIONS NEAR TOP. |
| | 90.67 | 91.86 | 1.19 | | | MUDSTONE | DK.GY AS ABOVE, CORE BADLY BRKN IN PART, FEAT URELESS, CALCAREOUS |
| 36 | 91.86 | 93.15 | 1.29 | | | MUDSTONE | AS ABOVE, HEAVY CALC VEINING NEAR BASE, CORE BRKN AT BASE. |
| 37 | 93.15 | 93.20 | 0.05 | | | CORE LOSS | ROCK. |
| 37 | 93.20 | 94.91 | 1.71 | | | MUDSTONE | AS ABOVE, PYR INCLUSIONS IN PART, CORE INTACT. |
| 39 | 94.91 | 95.86 | 0.95 | | | MUDSTONE | AS ABOVE, PYR INCLUSIONS THROUGHOUT, MNR CARB FRAGS, CORE INTACT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 40 | 95.86 | 97.97 | 2.11 | | | MUDSTONE | AS ABOVE, PYR INCLUSIONS THROUGHOUT, MNR CARB PLANT FRAGS, MNR CALC VEINING, S LICKENSIDES. |
| 39 | 97.97 | 98.56 | 0.59 | | | MUDSTONE | DK.GY PYR INCLUSIONS, CARB FRAGS THROUGHOUT, CORE BRKN AT BASE. |
| 37 | 98.56 | 101.48 | 2.92 | | | MUDSTONE | AS ABOVE, CORE BRKN IN PART. |
| 35 | 101.48 | 101.74 | 0.26 | | | MUDSTONE | AS ABOVE, CORE INTACT. |
| 33 | 101.74 | 104.30 | 2.56 | | | MUDSTONE | AS ABOVE, CORE SLD, PYR INCLUSIONS, MNR CARB PARTICLES THROUGHOUT. |
| * 32 | 104.30 | 104.36 | 0.06 | | | BENTONITE | LT.GY LT GY - WHITE, CORE BRKN, SML MUDST CLA STS, 1CM CALC VEIN AT BASE. |
| 32 | 104.36 | 104.39 | 0.03 | | | MUDSTONE | DK.GY MNR PYR. |
| 26 | 104.39 | 107.28 | 2.89 | | | MUDSTONE | AS ABOVE, MNR PYR, SMALL CALC STRINGERS NEAR TOP, BECOMES SILTY TOWARDS BASE, CARB PLT FRAGS MORE NUMEROUS TO BASE. |
| * 15 | 107.28 | 109.83 | 2.55 | | | MUDSTONE | AS ABOVE, CARB PLT FRAGS, SOME BIOTRB T OWARDS BASE, CORE INTACT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 16 | 109.83 | 110.33 | 0.50 | | | MUDSTONE | AS ABOVE, BECOMES DARKER GREY, CARB PL FRAGS AND PYR THROUGHOUT. |
| 16 | 110.33 | 112.47 | 2.14 | | | MUDSTONE | SLTY.DK.GY CARB FRAGS; MNR PYRITE THROUGHOUT; CORE BRKN IN PARTS; SLICKENSIDES; CALCITE VEINING; CARB FRACTURE SURFACES. |
| 17 | 112.47 | 113.29 | 0.82 | | | MUDSTONE | AS ABOVE; CARB FRAGMENTS; CORE INTACT. |
| 18 | 113.29 | 115.42 | 2.13 | | | MUDSTONE | DK.GY OCCASIONAL CARB PARTICLE; SOME PYRITE INCLUSIONS; CORE INTACT - FEATURELESS. MUDSTONE (CALC). |
| 18 | 115.42 | 116.44 | 1.02 | | | MUDSTONE | DK.GY MUDSTONE (CALC); AS ABOVE; SOME CALCITE VEINING; CORE INTACT. |
| 19 | 116.44 | 118.07 | 1.63 | | | MUDSTONE | AS ABOVE. |
| 20 | 118.07 | 119.63 | 1.56 | | | MUDSTONE | AS ABOVE. |
| 20 | 119.63 | 119.79 | 0.16 | | | CORE LOSS | ROCK; AS ABOVE; MINOR CALCITE VEINING; CORE BROKEN IN PART. |
| 20 | 119.79 | 120.88 | 1.09 | | | MUDSTONE | AS ABOVE; CORE SOLID; FEATURELESS; SOME SLICKENSIDES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| * 21 | 120.88 | 122.84 | 1.96 | | | MUDSTONE | AS ABOVE; CORE BROKEN; SLICKENSIDES. |
| 22 | 122.84 | 123.59 | 0.75 | | | MUDSTONE | AS ABOVE. |
| 22 | 123.59 | 125.89 | 2.30 | | | MUDSTONE | DK.GY MUDSTONE (CALC); CORE INTACT; MINOR CALCITE VEINING; SLICKENSIDE SURFACES. |
| 23 | 125.89 | 126.32 | 0.43 | | | MUDSTONE | AS ABOVE; CORE BROKEN AT BASE; SILTY IN PART. |
| 23 | 126.32 | 126.78 | 0.46 | | | MUDSTONE | AS ABOVE; BECOMING SILTIER TOWARDS BASE; MODERATE CALCITE VEINING; SLICKENSIDE S. |
| | 126.78 | 129.04 | 2.26 | | | SILTSTONE | M.GY (CALC); BEDDING CONVOLUTED; MODERATE TO LT CALCITE VEINING; SLICKENSIDES; MUDST INCLUSIONS THROUGHOUT; SSSY IN PART; CORE INTACT TO BLOCKY. |
| 25 | 129.04 | 129.53 | 0.49 | | | SILTSTONE | M.GY SS (CALC); AS ABOVE; BECOMING MUDDY; CORE IS BADLY BROKEN TO BLOCKY; LOTS OF SLICKENSIDES. |
| 25 | 129.53 | 131.73 | 2.20 | | | MUDSTONE | DK.GY MUDST (CALC); CORE BLOCKY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 26 | 131.73 | 131.99 | 0.26 | | MUDSTONE | AS ABOVE; SILTY IN PART. |
| | 26 | 131.99 | 134.50 | 2.51 | | SILTSTONE | DK.GY MUDDY; CORE BLOCKY; ABUNDANT CALCITE VE INING LG AND SM SCALE; SLICKENSIDES; MI NOR CARB PLANT FRAGMENTS; MUDDY IN PART . |
| | 27 | 134.50 | 135.04 | 0.54 | | SILTSTONE | AS ABOVE; CORE BLOCKY. |
| | 28 | 135.04 | 137.09 | 2.05 | | SILTSTONE | AS ABOVE. |
| | 28 | 137.09 | 138.09 | 1.00 | | SILTSTONE | DK.GY (MUDDY); AS ABOVE; GRADES TO MUDST AT B ASE. |
| * | 29 | 138.09 | 139.75 | 1.66 | | MUDSTONE | DK.GY MUDST (CALC); SLIGHTLY CARB; MODERATE T O HEAVY CALCITE VEINING - SOME SLICKENS IDES. |
| * | 22 | 139.75 | 141.14 | 1.39 | | MUDSTONE | AS ABOVE; MINOR CALCITE VEINING; CORE S OLID. |
| | 24 | 141.14 | 142.40 | 1.26 | | MUDSTONE | AS ABOVE; CORE SOLID. |
| | 25 | 142.40 | 142.44 | 0.04 | | CORE LOSS | ROCK. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 13

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 25 | 142.44 | 142.61 | 0.17 | | | MUDSTONE | BADLY BROKEN; SHEARED; HEAVY CALCITE VEINING; POSSIBLE CORE LOSS. |
| 26 | 142.61 | 143.57 | 0.96 | | | MUDSTONE | DK.GY MUDST (CALC); SLIGHTLY CARB; SLICKENSIDES; CORE BLOCKY TO BADLY BROKEN; MINOR CALCITE VEINING. |
| 28 | 143.57 | 145.17 | 1.60 | | | MUDSTONE | DK.GY MUDST (CALC); AS ABOVE. |
| 31 | 145.17 | 146.62 | 1.45 | | | MUDSTONE | AS ABOVE; CORE INTACT. |
| 33 | 146.62 | 147.86 | 1.24 | | | MUDSTONE | AS ABOVE. |
| * 35 | 147.86 | 149.67 | 1.81 | | | MUDSTONE | AS ABOVE; MODERATE TO HEAVY CALCITE VEINING; CORE BLOCKY TO BROKEN. |
| 33 | 149.67 | 150.51 | 0.84 | | | MUDSTONE | AS ABOVE; CORE BLOCKY TO INTACT. |
| | 150.51 | 152.72 | 2.21 | | | MUDSTONE | MINOR CALCITE VEINING CORE SOLID; PELECYPOD SHELL FRAGMENTS IN PART. |
| * 30 | 152.72 | 153.09 | 0.37 | | | MUDSTONE | DK.GY MUDST (CALC); CORE INTACT; MODERATE CALCITE VEINING. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 27 | 153.09 | 155.26 | 2.17 | | | MUDSTONE | DK.GY MUDST (CALC); AS ABOVE; CORE BLOCKY IN PART; SOME SLICKENSIDES. |
| 23 | 155.26 | 155.86 | 0.60 | | | MUDSTONE | AS ABOVE; CORE INTACT. |
| 18 | 155.86 | 158.51 | 2.65 | | | MUDSTONE | AS ABOVE; CORE BLOCKY. |
| * 11 | 158.51 | 161.24 | 2.73 | | | MUDSTONE | DK.GY MUDST (CALC); CORE INTACT; MODERATE CAL CITE VEINING. |
| 16 | 161.24 | 161.56 | 0.32 | | | MUDSTONE | AS ABOVE; SOME SLICKENSIDES. |
| 20 | 161.56 | 163.73 | 2.17 | | | MUDSTONE | AS ABOVE; SOME SLICKENSIDES; MODERATE C ALCITE VEINING. |
| 25 | 163.73 | 164.31 | 0.58 | | | MUDSTONE | DK.GY MUDST SLIGHTLY CALC; CORE SOLID. |
| 28 | 164.31 | 165.53 | 1.22 | | | MUDSTONE | AS ABOVE, MINOR SLICKENSIDES. |
| * 31 | 165.53 | 166.37 | 0.84 | | | MUDSTONE | AS ABOVE; SSSY LAM NEAR BASE. |
| 31 | 166.37 | 168.58 | 2.21 | | | MUDSTONE | AS ABOVE; MODERATE CALCITE VEINING; SLI CKENSIDES; CORE BLOCKY TO BROKEN. |
| 31 | 168.58 | 169.05 | 0.47 | | | MUDSTONE | AS ABOVE; MINOR CALCITE VEINING. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 32 | 169.05 | 171.63 | 2.58 | | | MUDSTONE | AS ABOVE; CORE BLOCKY IN PART. |
| 32 | 171.63 | 174.32 | 2.69 | | | MUDSTONE | DK.GY MUDST SL CALC.; CORE INTACT. |
| 32 | 174.32 | 174.66 | 0.34 | | | MUDSTONE | AS ABOVE. |
| 32 | 174.66 | 176.96 | 2.30 | | | MUDSTONE | AS ABOVE. |
| 32 | 176.96 | 177.71 | 0.75 | | | MUDSTONE | AS ABOVE; CORE SOLID. |
| 33 | 177.71 | 179.93 | 2.22 | | | MUDSTONE | AS ABOVE, CORE SOLID. |
| 33 | 179.93 | 180.76 | 0.83 | | | MUDSTONE | AS ABOVE, CORE SOLID. |
| * 33 | 180.76 | 182.81 | 2.05 | | | MUDSTONE | AS ABOVE; CORE BROKEN IN PART. |
| 32 | 182.81 | 183.81 | 1.00 | | | MUDSTONE | AS ABOVE; MINOR CALCITE VEINING. |
| 32 | 183.81 | 185.41 | 1.60 | | | MUDSTONE | DK.GY MUDST S.CALC; CORE INTACT. |
| 31 | 185.41 | 187.11 | 1.70 | | | MUDSTONE | AS ABOVE; CORE BROKEN, BLOCKY. |
| 31 | 187.11 | 188.17 | 1.06 | | | MUDSTONE | AS ABOVE. |
| 30 | 188.17 | 190.37 | 2.20 | | | MUDSTONE | AS ABOVE; SLICKENSIDE SURFACES; CORE IN TACT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| | 30 190.37 | 190.96 | 0.59 | | | MUDSTONE | AS ABOVE. |
| | 29 190.96 | 193.16 | 2.20 | | | MUDSTONE | AS ABOVE; CALCITE VEINING MODERATE TO HEAVY; SLICKENSIDES; BECOMING SILTY TOWARDS BASE. |
| * | 29 193.16 | 193.42 | 0.26 | | | SANDSTONE | FG.LT.GY SS S.CALC; MODERATE CALCITE VEINING; SLICKENSIDES. |
| | 29 193.42 | 193.49 | 0.07 | | | SANDSTONE | FG.LT.GY AS ABOVE. |
| | 29 193.49 | 193.62 | 0.13 | | | SANDSTONE | AS ABOVE; CONTACT WITH MUDST AT BASE. |
| | 28 193.62 | 196.17 | 2.55 | | | MUDSTONE | DK.GY MUDST SL CALC; SLICKENSIDES; MINOR CALCITE VEINING; MINOR PYRITE. |
| | 28 196.17 | 196.47 | 0.30 | | | MUDSTONE | AS ABOVE. |
| | 27 196.47 | 198.90 | 2.43 | | | MUDSTONE | AS ABOVE; CALCITE VEINING LIGHT TO MODERATE; CORE INTACT. |
| | 27 198.90 | 199.52 | 0.62 | | | MUDSTONE | AS ABOVE; CORE BLOCKY. |
| | 26 199.52 | 201.55 | 2.03 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 17

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 26 | 201.55 | 202.57 | 1.02 | | | MUDSTONE | DK.GY MUDST SL CALC; MINOR CALCITE VEINING; CORE BROKEN AT BASE. |
| 25 | 202.57 | 204.01 | 1.44 | | | MUDSTONE | AS ABOVE; SLICKENSIDES; COAL BAND NEAR TOP (1 TO 2CM THICK); CORE INTACT. |
| 25 | 204.01 | 205.62 | 1.61 | | | MUDSTONE | DK.GY MUDST SL CALC; MODERATE CALCITE VEINING ; SLICKENSIDES; CORE INTACT. |
| 24 | 205.62 | 206.62 | 1.00 | | | MUDSTONE | AS ABOVE; MINOR PYRITE; CARB PARTICLES (MINOR). |
| 24 | 206.62 | 208.67 | 2.05 | | | MUDSTONE | AS ABOVE; ABUNDANT SLICKENSIDES. |
| 23 | 208.67 | 209.44 | 0.77 | | | MUDSTONE | AS ABOVE; CORE INTACT. |
| 23 | 209.44 | 211.72 | 2.28 | | | MUDSTONE | DK.GY MUDST S.CALC; MINOR PYRITE; CORE BLOCKED; MINOR CALCITE VEINING. |
| 22 | 211.72 | 212.04 | 0.32 | | | MUDSTONE | AS ABOVE; CORE INTACT. |
| 22 | 212.04 | 214.55 | 2.51 | | | MUDSTONE | AS ABOVE; ABUNDANT SLICKENSIDES; CORE BADLY BROKEN AT BASE. |
| 21 | 214.55 | 214.77 | 0.22 | | | MUDSTONE | AS ABOVE; CORE INTACT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 21 | 214.77 | 217.27 | 2.50 | | | MUDSTONE | AS ABOVE; MINOR PYRITE INCLUSIONS; PELE CYPOD SHELL FRAGMENTS; MODERATE CALCITE VEINING. |
| 20 | 217.27 | 217.82 | 0.55 | | | MUDST. | DK.GY MUDST S.CALC; SLICKENSIDES; MINOR CALCI TE VEINING. |
| 20 | 217.82 | 220.02 | 2.20 | | | MUDSTONE | DK.GY MUDST SL.CALC; MINOR CALCITE VEINING; S LICKENSIDES; MINOR PYRITE. |
| 19 | 220.02 | 220.87 | 0.85 | | | MUDSTONE | AS ABOVE; SLICKENSIDES. |
| 19 | 220.87 | 222.71 | 1.84 | | | MUDSTONE | AS ABOVE; MINOR CARB PARTICLES NEAR BAS E. |
| 18 | 222.71 | 223.82 | 1.11 | | | MUDSTONE | DK.GY MUDST.SL.CALC; FEATURELESS. |
| 18 | 223.82 | 225.54 | 1.72 | | | MUDSTONE | AS ABOVE; SLICKENSIDES; CALCITE VEINING ; CORE BLOCKY AT TOP. |
| 17 | 225.54 | 226.87 | 1.33 | | | MUDSTONE | AS ABOVE; MODERATE CALCITE VEINING. |
| 17 | 226.87 | 228.19 | 1.32 | | | MUDSTONE | DK.GY MUDST.SL.CALC; FEATURELESS; CORE BADLY BROKEN AT TOP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 16 | 228.19 | 229.92 | 1.73 | | | MUDSTONE | AS ABOVE; PYRITE; MINOR CARB INCLUSIONS ; SOME SLICKENSIDES; CORE INTACT. |
| 16 | 229.92 | 230.84 | 0.92 | | | MUDSTONE | AS ABOVE; MODERATE CALCITE VEINING; SLI CKENSIDES; MINOR PYRITE; CORE BROKEN NE AR TOP. |
| 15 | 230.84 | 232.97 | 2.13 | | | MUDSTONE | AS ABOVE; NUMEROUS CALCITE STRINGERS; C ORE BLOCKY IN PART; MINOR PYRITE. |
| 15 | 232.97 | 233.43 | 0.46 | | | MUDSTONE | AS ABOVE; PYRITE INCLUSIONS; MODERATE C ALCITE VEINING; SLICKENSIDES. |
| 14 | 233.43 | 236.02 | 2.59 | | | MUDSTONE | DK.GY MUDST.SL.CALC; SLICKENSIDES; CORE INTAC T; THICK CALCITE VEINING AT TOP. |
| 14 | 236.02 | 236.14 | 0.12 | | | MUDSTONE | AS ABOVE. |
| 13 | 236.14 | 238.83 | 2.69 | | | MUDSTONE | AS ABOVE; PYRITE INCLUSIONS; SOME SLICK ENSIDES; CORE INTACT. |
| 13 | 238.83 | 239.07 | 0.24 | | | MUDSTONE | AS ABOVE; MODERATE CALCITE VEINING; SLI CKENSIDES. |
| 12 | 239.07 | 241.46 | 2.39 | | | MUDSTONE | AS ABOVE; MODERATE CALCITE VEINING; CON TACT WITH SS AT BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| * 12 | 241.46 | 241.64 | 0.18 | | | SANDSTONE | SLTY.VFG.M.GY SLIGHTLY CALC; BRECCIATED |
| 12 | 241.64 | 241.75 | 0.11 | | | SANDSTONE | SLTY.VFG.M.GY AS ABOVE. |
| 12 | 241.75 | 242.12 | 0.37 | | | MUDSTONE | DK.GY MUDST.SL.CALC; MODERATE TO HEAVY CALCITE VEINING; SLICKENSIDES. |
| 11 | 242.12 | 244.27 | 2.15 | | | MUDSTONE | AS ABOVE; MINOR CALCITE VEINING; FEATURELESS; CORE INTACT. |
| 11 | 244.27 | 245.17 | 0.90 | | | MUDSTONE | DK.GY AS ABOVE; MINOR CALCITE VEINING, MINOR PYRITE; VERY SLIGHTLY CALC. |
| 10 | 245.17 | 246.26 | 1.09 | | | MUDSTONE | AS ABOVE; SLICKENSIDES; CONTACT WITH SS AT BASE. |
| * 10 | 246.26 | 246.74 | 0.48 | | | SANDSTONE | SLTY.FG.LT.GY CALCITE STRINGERS THROUGHOUT; BRECCIATED; PROBABLE REPEAT OF SS IN BOX 67; CONTAINS SOME MUDST INCLUSIONS. |
| 10 | 246.74 | 246.97 | 0.23 | | | MUDSTONE | DK.GY MUDST.SL.CALC; HEAVY CALCITE VEINING AT TOP; MINOR PYRITE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 11 | 246.97 | 248.22 | 1.25 | | | MUDSTONE | AS ABOVE; MINOR CALCITE VEINING; CORE INTACT. |
| 11 | 248.22 | 249.68 | 1.46 | | | MUDSTONE | AS ABOVE; CORE BROKEN IN PART; MINOR CALCITE VEINING; SLICKENSIDES IN PART. |
| 12 | 249.68 | 251.26 | 1.58 | | | MUDSTONE | AS ABOVE; MINOR PYRITE INCLUSION; SLICKENSIDES; CORE SOLID TO BLOCKY. |
| 13 | 251.26 | 252.44 | 1.18 | | | MUDSTONE | AS ABOVE; MINOR PYRITE; MINOR CALCITE VEINING. |
| 14 | 252.44 | 254.31 | 1.87 | | | MUDSTONE | AS ABOVE; SLICKENSIDES; ABUNDANT CALCITE STRINGERS AT TOP; CORE INTACT. |
| 15 | 254.31 | 255.12 | 0.81 | | | MUDSTONE | DK.GY MUDST.SL.CALC; MODERATE CALCITE VEINING THROUGHOUT; SLICKENSIDES. |
| 16 | 255.12 | 257.34 | 2.22 | | | MUDSTONE | AS ABOVE; CORE SOLID; PELECYPOD SHELL FRAGMENTS; FEATURELESS. |
| 16 | 257.34 | 258.02 | 0.68 | | | MUDSTONE | AS ABOVE. |
| 17 | 258.02 | 260.39 | 2.37 | | | MUDSTONE | AS ABOVE; MINOR CALCITE VEINING; SLICKENSIDES; MINOR PYRITE; CORE INTACT TO BLOCKY. |
| 18 | 260.39 | 260.61 | 0.22 | | | MUDSTONE | AS ABOVE; CORE BROKEN. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 19 | 260.61 | 263.40 | 2.79 | | | MUDSTONE | DK.GY MUDST.SL.CALC; CORE SOLID; SOME SLICKEN SIDES; MINOR CALCITE VEINING. |
| 20 | 263.40 | 263.44 | 0.04 | | | MUDSTONE | AS ABOVE. |
| 21 | 263.44 | 266.14 | 2.70 | | | MUDSTONE | AS ABOVE; CORE INTACT TO SOLID; ABUNDAN T CALCITE STRINGERS IN MIDDLE; SOME SLI CKENSIDES. |
| 21 | 266.14 | 266.48 | 0.34 | | | MUDSTONE | AS ABOVE; CORE BLOCKY TO BROKEN. |
| 22 | 266.48 | 268.74 | 2.26 | | | MUDSTONE | AS ABOVE; CORE SOLID TO INTACT. |
| 23 | 268.74 | 269.53 | 0.79 | | | MUDSTONE | AS ABOVE; MODERATE CALCITE VEINING. |
| 24 | 269.53 | 271.43 | 1.90 | | | MUDSTONE | DK.GY MUDST.SL.CALC; SLICKENSIDES; CALCITE ST RINGERS DIE OUT TOWARDS BASE; CORE INTA CT. |
| 25 | 271.43 | 272.58 | 1.15 | | | MUDSTONE | AS ABOVE; SLICKENSIDES; CORE INTACT. |
| 26 | 272.58 | 274.20 | 1.62 | | | MUDSTONE | AS ABOVE; CORE PULVERIZED AT BASE; POSS IBLE CORE LOSS; MINOR PYRITE. |
| 26 | 274.20 | 275.53 | 1.33 | | | MUDSTONE | AS ABOVE; CORE SOLID TO INTACT; MINOR S LICKENSIDES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 23

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 27 | 275.53 | 276.95 | 1.42 | | | MUDSTONE | AS ABOVE; CORE BROKEN IN PART. |
| 28 | 276.95 | 278.48 | 1.53 | | | MUDSTONE | DK.GY AS ABOVE; CORE BROKEN, FLAKEY. |
| 29 | 278.48 | 279.57 | 1.09 | | | MUDSTONE | AS ABOVE; CORE BROKEN, INTACT. |
| 30 | 279.57 | 281.53 | 1.96 | | | MUDSTONE | AS ABOVE; SLICKENSIDES; CORE INTACT. |
| 31 | 281.53 | 282.46 | 0.93 | | | MUDSTONE | AS ABOVE; MINOR CALCITE STRINGERS. |
| 31 | 282.46 | 284.50 | 2.04 | | | MUDSTONE | AS ABOVE; CORE BROKEN IN PART; MINOR CALCITE STRINGERS. |
| 32 | 284.50 | 285.00 | 0.50 | | | MUDSTONE | AS ABOVE; ABUNDANT CALCITE STRINGERS NEAR TOP. |
| * 33 | 285.00 | 287.55 | 2.55 | | | MUDSTONE | DK.GY CORE BROKEN IN PART; MINOR PYRITE; SLIGHTLY CALCAREOUS |
| 25 | 287.55 | 290.40 | 2.85 | | | MIDSTONE | AS ABOVE; MODERATE CALCITE VEINING; CORE INTACT; SLICKENSIDES(MINOR); MINOR PYRITE INCLUSIONS |
| 21 | 290.40 | 290.60 | 0.20 | | | SILTSTONE | LT.GY CORE BLOCKY TO BROKEN; ABUNDANT CALCITE STRINGERS; SLICKENSIDES; MUDDY; VERY CALCAREOUS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 24

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 17 | 290.60 | 293.15 | 2.55 | | | MUDSTONE | DK.GY MINOR CALCITE VEINING; SLICKENSIDES; CORE INTACT TO BLOCKY; CALCAREOUS |
| 18 | 293.15 | 293.65 | 0.50 | | | MUDSTONE | AS ABOVE |
| | 293.65 | 294.75 | 1.10 | | | MUDSTONE | AS ABOVE; MINOR CARBONACEOUS PARTICLES |
| 18 | 294.75 | 295.05 | 0.30 | | | MUDSTONE | DK.GY COAL INCLUSION THROUGHOUT; CALCAREOUS |
| 19 | 295.05 | 295.95 | 0.90 | | | MUDSTONE | DK.GY SLICKENSIDES; CORE SOLID; CALCAREOUS |
| 19 | 295.95 | 296.70 | 0.75 | | | MUDSTONE | AS ABOVE; CORE INTACT |
| 20 | 296.70 | 298.80 | 2.10 | | | MUDSTONE | AS ABOVE; SLICKENSIDES; MINOR CALCITE VEINING |
| 21 | 298.80 | 299.75 | 0.95 | | | MUDSTONE | AS ABOVE; CORE INTACT |
| 21 | 299.75 | 301.67 | 1.92 | | | MUDSTONE | AS ABOVE; FEATURELESS |
| 22 | 301.67 | 302.80 | 1.13 | | | MUDSTONE | AS ABOVE; CORE BLOCKY IN PART |
| 23 | 302.80 | 304.34 | 1.54 | | | MUDSTONE | DK.GY CORE BLOCKY IN PART; CALCAREOUS |
| 23 | 304.34 | 305.85 | 1.51 | | | MUDSTONE | AS ABOVE; MINOR CALCITE VEINING |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 24 | 305.85 | 307.12 | 1.27 | | | MUDSTONE | AS ABOVE; CALCITE VEINING MODERATE; SMALL FAULT DISPLACEMENT ACROSS BED |
| * 35 | 307.12 | 308.83 | 1.71 | | | MUDSTONE | DK.GY MODERATE CALCITE VEINING TOWARDS BASE; CALCAREOUS |
| 27 | 308.83 | 309.87 | 1.04 | | | MUDSTONE | AS ABOVE; MINOR CALCITE VEINING |
| 19 | 309.87 | 311.88 | 2.01 | | | MUDSTONE | DK.GY MINOR CALCITE VEINING; SLICKENSIDES NEAR BASE; VERY CALCAREOUS |
| * 11 | 311.88 | 312.57 | 0.69 | | | MUDSTONE | CORE SOLID |
| 16 | 312.57 | 314.93 | 2.36 | | | MUDSTONE | DK.GY CORE SOLID; FEATURELESS; VERY CALCAREOUS |
| 20 | 314.93 | 315.42 | 0.49 | | | MUDSTONE | AS ABOVE |
| * 22 | 315.42 | 316.20 | 0.78 | | | MUDSTONE | AS ABOVE; SLIGHTLY SILTY TO BASE |
| 23 | 316.20 | 317.97 | 1.77 | | | MUDSTONE | DK.GY MINOR CARBONACEOUS PARTICLES; MINOR SILT LAMINATIONS AND INCLUSIONS; MINOR CALCITE VEINING; CORE INTACT |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 26

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 24 | 317.97 | 318.19 | 0.22 | | | MUDSTONE | DK.GY VERY CALCAREOUS; CORE BLOCKY TO BROKEN |
| 25 | 318.19 | 320.83 | 2.64 | | | MUDSTONE | AS ABOVE; MINOR CALCITE VEINING; CORE SOLID BECOME SILTY TO BASE |
| 27 | 320.83 | 321.02 | 0.19 | | | MUDSTONE | DK.GY SLIGHTLY CALCAREOUS; MOTTLED SURFACE; INCLUSIONS OF FINE GRAINED SS; ABUNDANT SLUMP FEATURES; MODERATE CALCITE VEINING; SLICKENSIDES |
| 27 | 321.02 | 321.66 | 0.64 | | | MUDSTONE | AS ABOVE; BECOMES SILTY TO BASE |
| 28 | 321.66 | 323.63 | 1.97 | | | MUDSTONE | DK.GY VERY CALCAREOUS; MINOR CALCITE VEINING; MINOR PYRITE; CORE SOLID TO BROKEN |
| 29 | 323.63 | 324.07 | 0.44 | | | MUDSTONE | AS ABOVE |
| 30 | 324.07 | 326.12 | 2.05 | | | MUDSTONE | AS ABOVE; MINOR PYRITE NEAR BASE |
| 32 | 326.12 | 327.12 | 1.00 | | | MUDSTONE | AS ABOVE; MINOR PYRITE; CORE INTACT |
| 33 | 327.12 | 328.94 | 1.82 | | | MUDSTONE | AS ABOVE; MINOR PYRITE THROUGHOUT |
| 34 | 328.94 | 330.15 | 1.21 | | | MUDSTONE | AS ABOVE; MINOR PYRITE THROUGHOUT; HEAVY CALCITE VEINING IN PART |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 36 | 330.15 | 331.60 | 1.45 | | | MUDSTONE | DK.GY VERY CALCAREOUS |
| * 37 | 331.60 | 333.20 | 1.60 | | | MUDSTONE | DK.GY VERY CALCAREOUS; MINOR SILTSTONE LAMINA TIONS; MODERATE CALCITE VEINING; MINOR PYRITE; CORE INTACT |
| 35 | 333.20 | 334.21 | 1.01 | | | MUDSTONE | DK.GY VERY CALCAREOUS; MODERATE TO HEAVY CALC ITE VEINING; BIOTURBATION NEAR BASE; MI NOR PYRITE |
| 33 | 334.21 | 336.25 | 2.04 | | | MUDSTONE | AS ABOVE; BIOTURBATED NEAR TOP; CORE IN TACT; MINOR PYRITE |
| 32 | 336.25 | 336.60 | 0.35 | | | MUDSTONE | AS ABOVE |
| 30 | 336.60 | 339.30 | 2.70 | | | MUDSTONE | AS ABOVE; CORE INTACT; MINOR CALCITE VE INING; FEATURELESS |
| 27 | 339.30 | 342.10 | 2.80 | | | MUDSTONE | DK.GY VERY CALCAREOUS; MINOR PYRITE; MINOR CA RBONACEOUS FRAGMENTS TO BASE |
| 25 | 342.10 | 342.35 | 0.25 | | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 23 | 342.35 | 344.60 | 2.25 | | | MUDSTONE | AS ABOVE; PYRITE INCLUSION TO BASE; MINOR CALCITE VEINING; CORE BLOCKY TO BROKEN |
| 21 | 344.60 | 345.35 | 0.75 | | | MUDSTONE | AS ABOVE; PYRITE INCLUSIONS THROUGHOUT |
| 19 | 345.35 | 347.39 | 2.04 | | | MUDSTONE | AS ABOVE; CORE INTACT, SOLID |
| 16 | 347.39 | 348.40 | 1.01 | | | MUDSTONE | AS ABOVE; CORE BLOCKY |
| * | 348.40 | 350.16 | 1.76 | | | MUDSTONE | M-DK.GY INTERBEDDED WITH SLTST; ABUNDANT BIOTURBATED; VERY CALC; MODERATE CALCT STRINGERS |
| * 12 | 350.16 | 351.45 | 1.29 | | | MUDSTONE | AS ABOVE; MODERATE BIOTURBATED; HEAVY CALCITE VEINING IN PART |
| 14 | 351.45 | 352.92 | 1.47 | | | MUDSTONE | M-DK.GY INTERBEDDED WITH SLTST; BECOMES SLTY TO BASE; BIOTURBATED |
| 15 | 352.92 | 354.50 | 1.58 | | | MUDSTONE | AS ABOVE; MINOR LIGHT GREY, FINE GRAINED SANDSTONE INCLUSIONS; MINOR CALCITE VEINING; BIOTURBATED |
| * 17 | 354.50 | 355.53 | 1.03 | | | MUDSTONE | AS ABOVE; BIOTURBATED |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 355.53 | 357.55 | 2.02 | | | MUDSTONE | AS ABOVE; SMALL SCALE FAULTING AND INCREASED CALCITE VEINING TO BASE; BIOTURBATION DECREASES TO BASE. |
| * 20 | 357.55 | 358.35 | 0.80 | | | MUDSTONE | M-DK.GY INTERBEDDED WITH SILTSTONE; MODERATE TO HEAVY CALCITE VEINING; |
| * | 358.35 | 360.55 | 2.20 | | | MUDSTONE | DK.GY SLIGHTLY CARBONACEOUS; CALCAREOUS; SILTY IN PART; CORE INTACT; MINOR SLICKENSIDES; CALCITE VEINING MODERATE. |
| 38 | 360.55 | 360.69 | 0.14 | | | MUDSTONE | M-DK.GY VERY CALCAREOUS; HEAVY CALCITE VEINING; SLICKENSIDES ABUNDANT; CORE BADLY BROKEN |
| * 38 | 360.69 | 360.97 | 0.28 | | | MUDSTONE | AS ABOVE; DISSEMINATED PYRITE; CORE BADLY BROKEN(POSSIBLE FAULT) |
| 36 | 360.97 | 361.33 | 0.36 | | | SANDSTONE | FG.LT.GY LIGHT GREY; ABUNDANT CALCITE VEINS; SLIGHTLY CARBONACEOUS KMB-KGT CONTACT |
| 33 | 361.33 | 362.71 | 1.38 | | | MUDSTONE | CARB CARBONACEOUS; MINOR SANDSTONE INCLUSIONS AS ABOVE; BECOMES SILTY TO BASE; CORE BLOCKY TO BROKEN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 30 | 362.71 | 362.78 | 0.07 | | MUDSTONE | COALY MUDSTONE; CORE CRUSHED |
| | 29 | 362.78 | 362.99 | 0.21 | | SILTSTONE | M.GY VERY CALCAREOUS; MODERATE CALCITE VEINING |
| | 28 | 362.99 | 363.69 | 0.70 | | SILTSTONE | AS ABOVE; SLIGHTLY CARBONACEOUS INCREASING TOWARDS BASE |
| * | 26 | 363.69 | 363.77 | 0.08 | | COAL | BRIGHT; SLIGHTLY SHEARED |
| * | 20 | 363.77 | 365.42 | 1.65 | | SILTSTONE | CARB.M.GY SL. CARB.; MODERATE TO HEAVY CALCITE VEINING NEAR TOP; CORE BLOCKY TO BROKEN; MINOR CROSS-BEDDING |
| | 23 | 365.42 | 365.88 | 0.46 | | MUDSTONE | CARB.DK.GY SL. CARB.; SLICKENSIDES; HEAVY CALCITE VEINING; CORE BROKEN; BECOMES SILTY TOWARDS BASE |
| * | 27 | 365.88 | 367.87 | 1.99 | | SILTSTONE | DK.GY CALCAREOUS; MODERATE TO HEAVY CALCITE VEINING; MUDDY IN PART; CORE BLOCKY; COAL STRINGER THROUGHOUT |
| | 26 | 367.87 | 368.16 | 0.29 | | SILTSTONE | AS ABOVE; CORE INTACT |
| | 26 | 368.16 | 368.76 | 0.60 | | SILTSTONE | AS ABOVE; CORE BADLY BROKEN AT TOP |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 31

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 25 | 368.76 | 369.67 | 0.91 | | | SILTSTONE | AS ABOVE |
| 24 | 369.67 | 370.29 | 0.62 | | | SILTSTONE | AS ABOVE; MINOR COALY STRINGERS; MODERATE TO HEAVY CALCITE VEINING |
| 23 | 370.29 | 372.72 | 2.43 | | | MUDSTONE | DK.GY CALCAREOUS; SILTY IN PART; COAL INCLUSIONS THROUGHOUT; CALCITE VEINING ABUNDANT NEAR TOP |
| 21 | 372.72 | 372.91 | 0.19 | | | MUDSTONE | DK.GY CALCAREOUS |
| 20 | 372.91 | 375.65 | 2.74 | | | SILTSTONE | CARB.DK.GY VERY CALCAREOUS; COAL STRINGER AND INCLUSIONS AT TOP; VERY CALCAREOUS; SANDY IN PART; CORE SOLID TO INTACT |
| 19 | 375.65 | 375.77 | 0.12 | | | SILTSTONE | AS ABOVE; CORE BLOCKY; MINOR COAL STRINGERS AND INCLUSIONS |
| 17 | 375.77 | 378.38 | 2.61 | | | SILTSTONE | AS ABOVE; MUDSTONE IN PART; MINOR COAL STRINGERS THROUGHOUT |
| 16 | 378.38 | 378.75 | 0.37 | | | SILTSTONE | AS ABOVE; CORE INTACT; SANDY IN PART; MINOR COAL STRINGERS AND INCLUSIONS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 15 | 378.75 | 381.23 | 2.48 | | | SILTSTONE | CARB. DK. GY MINOR CALCITE STRINGERS; CORE INTACT; M INOR COAL INCLUSIONS; CALCAREOUS |
| | 381.23 | 381.80 | 0.57 | | | SILTSTONE | AS ABOVE; BECOMING SANDIER; CORE BROKEN AT BASE |
| * 12 | 381.80 | 383.84 | 2.04 | | | SILTSTONE | AS ABOVE; CORE INTACT; MINOR COAL STRIN GERS AND INCLUSIONS |
| 17 | 383.84 | 384.85 | 1.01 | | | SILTSTONE | AS ABOVE; MUDSTONE STRINGERS AT TOP; MI NOR COAL INCLUSIONS THROUGHOUT; CALCITE VEINING MODERATE AT BASE |
| 19 | 384.85 | 385.27 | 0.42 | | | SILTSTONE | AS ABOVE; MINOR SLICKENSIDES; NUMEROUS CALCITE STRINGERS |
| * 21 | 385.27 | 385.99 | 0.72 | | | SANDSTONE | FG. M. GY VERY CALCAREOUS; MINOR COAL STRINGERS I N PART; SILTY IN PART |
| | 385.99 | 386.74 | 0.75 | | | SILTSTONE | M-DK. GY CALCAREOUS; MINOR CALCITE STRINGERS AT TOP; SANDY IN PART; CARBONACEOUS IN PAR T |
| 19 | 386.74 | 387.90 | 1.16 | | | SILTSTONE | AS ABOVE; CORE SOLID; CARB FRAGS MINOR |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 33

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * | 387.90 | 389.60 | 1.70 | | | SILTSTONE | AS ABOVE; MINOR COAL INCLUSIONS NEAR BASE |
| 17 | 389.60 | 390.49 | 0.89 | | | SILTSTONE | AS ABOVE; COAL INCLUSIONS UP TO 4 CM; CORE INTACT |
| 16 | 390.49 | 390.94 | 0.45 | | | SANDSTONE | FG.M.GY VERY CALCAREOUS; CALCITE STRINGERS THROUGHOUT; SILTY IN PART; MINOR COAL STRINGERS; CORE SOLID |
| 15 | 390.94 | 392.36 | 1.42 | | | SANDSTONE | AS ABOVE; BECOMES INTERBEDDED WITH SILTSTONE TO BASE; CORE SOLID; MINOR COAL STRINGERS |
| * | 392.36 | 393.97 | 1.61 | | | SILTSTONE | M-DK.GY SANDY IN PART; CARBONACEOUS PARTICLES AND MINOR COAL STRINGERS; MINOR CALCITE STRINGER THROUGHOUT; CALCAREOUS; TOP'S UP |
| 14 | 393.97 | 395.10 | 1.13 | | | SILTSTONE | M-DK.GY CALCAREOUS; MODERATE CALCITE VEINING TO BASE; COAL INCLUSIONS TO BASE; CARBONACEOUS PARTINGS |
| 13 | 395.10 | 396.31 | 1.21 | | | MUDSTONE | DK.GY VERY CALCAREOUS; SILTY IN PART; MINOR COAL STRINGERS THROUGHOUT; CORE INTACT |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 34

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 13 | 396.31 | 397.01 | 0.70 | | | SILTSTONE | M-DK.GY CALCAREOUS; MINOR COAL STRINGERS IN PART |
| 13 | 397.01 | 397.85 | 0.84 | | | SILTSTONE | AS ABOVE |
| 13 | 397.85 | 400.01 | 2.16 | | | SILTSTONE | AS ABOVE; MUDDY IN PART; CALCITE VEINING ABUNDANT IN PART; CORE INTACT; BADLY BROKEN IN PART |
| 12 | 400.01 | 400.48 | 0.47 | | | SILTSTONE | M-DK.GY SANDY IN PART; MODERATE CALCITE VEINING ; CALCAREOUS |
| * 12 | 400.48 | 402.63 | 2.15 | | | SILTSTONE | AS ABOVE; CARBONACEOUS FRAGMENTS; SLICK ENSIDES; SANDY IN PART; MINOR CALCITE VEINING; CORE BLOCKY IN PART |
| 15 | 402.63 | 403.11 | 0.48 | | | MUDSTONE | DK.GY BECOMING SILTY TOWARDS BASE; CORE INTACT; VERY CALCAREOUS |
| 16 | 403.11 | 403.52 | 0.41 | | | SILTSTONE | M-DK.GY VERY CALCAREOUS |
| 16 | 403.52 | 403.58 | 0.06 | | | CALCITE | SILTSTONE FRAGMENTS THROUGHOUT |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 17 | 403.58 | 404.19 | 0.61 | | | SANDSTONE | SLTY.FG.M-DK.GY INTERBEDDED WITH SILSTONE; NUMEROUS CAL CITE STRINGERS; MINOR CARBONACEOUS FRAG MENTS; VERY CALCAREOUS |
| | 404.19 | 405.80 | 1.61 | | | SILTSTONE | M-DK.GY.MB CALCAREOUS; MINOR CALCITE STRINGERS AT TOP; CORE INTACT TO BLOCKY; SANDY IN PA RT |
| 27 | 405.80 | 408.66 | 2.86 | | | SILTSTONE | AS ABOVE; CALCT STRINGERS TO BASE; CORE SOLID |
| 31 | 408.66 | 408.82 | 0.16 | | | SILTSTONE | AS ABOVE |
| 33 | 408.82 | 409.83 | 1.01 | | | SILTSTONE | DK.GY INTERBEDDED WITH MUDSTONE; COAL STRINGE RS AND INCLUSIONS THROUGHOUT; MINOR CAL CITE STRINGERS |
| 37 | 409.83 | 411.42 | 1.59 | | | SANDSTONE | MG MINOR CALCITE STRINGERS THROUGHOUT; COR E INTACT; SILTY IN PART; VERY CALCAREOU S |
| 40 | 411.42 | 411.87 | 0.45 | | | SANDSTONE | AS ABOVE; INTERBEDDED WITH SILTSTONE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 36

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 41 411.87 | 412.27 | 0.40 | | | SANDSTONE | MG.M-DK.GY INTERBEDDED WITH SILTSTONE; CARBONACEOUS PARTING; VERY CALCAREOUS |
| | 42 412.27 | 412.33 | 0.06 | | | COAL | BADLY BROKEN; SHEARED |
| | 42 412.33 | 412.81 | 0.48 | | | SANDSTONE | MG.M-DK.GY BECOMES SILTY TO BASE; CALCITE VEINING THROUGHOUT; MINOR CARBONACEOUS PARTINGS |
| * 45 | 412.81 | 414.14 | 1.33 | | | SILTSTONE | M-DK.GY INTERBEDDED WITH SS; AS ABOVE; MINOR CARB PARTINGS |
| | 51 414.14 | 414.20 | 0.06 | | | SANDSTONE | MG.LT.GY MODERATE CALCITE VEINING |
| | 55 414.20 | 415.12 | 0.92 | | | SANDSTONE | AS ABOVE; CORE BLOCKY TO BROKEN; INTERBEDDED WITH SILTSTONE; COAL INCLUSIONS (SMALL) |
| * 67 | 415.12 | 416.84 | 1.72 | | | SANDSTONE | AS ABOVE; CORE INTACT; MODERATE CALCITE VEINING |
| | 74 416.84 | 418.27 | 1.43 | | | SANDSTONE | MG.LT.GY MINOR COAL STRINGERS NEAR BASE; MODERATE CALCITE VEINING; CALCAREOUS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 37

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 80 | 418.27 | 419.54 | 1.27 | | | SANDSTONE | AS ABOVE; INTERBEDDED WITH DARK GRAY SILTSTONE |
| 79 | 419.54 | 421.32 | 1.78 | | | SANDSTONE | AS ABOVE; BECOMES MUDDY TO BASE |
| 78 | 421.32 | 422.24 | 0.92 | | | SILTSTONE | DK.GY CARBONACEOUS PLANT FRAGMENTS; MINOR COAL BANDS THROUGHOUT; GRADES TO MUDSTONE AT BASE; VERY CALCAREOUS |
| 77 | 422.24 | 424.37 | 2.13 | | | MUDSTONE | CARB.DK.GY SILTY IN PART; COAL BANDS THROUGHOUT UP TO 3CM; CORE INTACT TO BLOCKY; COLOR-DARK GRAY TO BLACK |
| 77 | 424.37 | 424.89 | 0.52 | | | MUDSTONE | AS ABOVE |
| 76 | 424.89 | 425.90 | 1.01 | | | MUDSTONE | CARB.DK.GY COAL STRINGERS; CORE BLOCKY TO BROKEN; COLOR DARK GRAY TO BLACK |
| 76 | 425.90 | 426.19 | 0.29 | | | CORELOSS | |
| 76 | 426.19 | 426.25 | 0.06 | | | MUDSTONE | CARB AS ABOVE; VERY BADLY BROKEN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 38

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 75 | 426.25 | 427.06 | 0.81 | 00028 | 1 | COAL | C-5 BADLY SHEARED; CALCITE VEINING; COAL PROBABLY DULL, BEDDING-ANGLE CHANGES THROUGHOUT |
| | 427.06 | 427.15 | 0.09 | 00028 | 1 | COAL | C-4 DULL BANDED; MODERATELY SHEARED MINOR CALCITE FLECKS ON SHEARED SURFACE |
| | 427.15 | 427.33 | 0.18 | 00028 | 1 | COAL | C-5 DULL; MODERATELY SHEARED; CALCITE FLECKS (MINOR VEINING) |
| 75 | 427.33 | 427.50 | 0.17 | 00028 | 1 | COAL | C-4 DULL BANDED; SLIGHTLY SHEARED; MINOR CALCITE FLECKS |
| 75 | 427.50 | 427.57 | 0.07 | 00028 | 1 | COAL | C-4 DULL BANDED; MINOR CLAYSTONE INCLUSIONS |
| 75 | 427.57 | 427.66 | 0.09 | 00028 | 1 | COAL | C-4 DULL BANDED; BECOMES INCREASINGLY SHEARED TO BASE; CALCITE FLECKS |
| 75 | 427.66 | 427.78 | 0.12 | 00028 | 1 | COAL | C-4 DULL BANDED; SLIGHTLY SHEARED; MINOR CLAYSTONE FLECKS IN PART |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 39

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 75 | 427.78 | 427.84 | 0.06 | 00028 | 1 | COAL | C-5 COAL SHEARED; PROBABLY DULL; MINOR PYRITE FLECKS; CALCITE FLECKS |
| 75 | 427.84 | 427.96 | 0.12 | 00028 | 1 | COAL | C-5 DULL |
| 75 | 427.96 | 428.07 | 0.11 | 00028 | 1 | COAL | C-4 DULL BANDED; MINOR CLAYSTONE STRINGERS |
| 75 | 428.07 | 428.16 | 0.09 | 00028 | 1 | COAL | C-3 DULL AND BRIGHT |
| 75 | 428.16 | 428.20 | 0.04 | 00028 | 1 | COAL | C-4 SHEARED PROBABLY DULL BANDED |
| 75 | 428.20 | 428.23 | 0.03 | 00028 | 1 | COAL | C-2 BRIGHT-BANDED |
| 75 | 428.23 | 428.36 | 0.13 | 00028 | 1 | COAL | C-4 DULL BANDED |
| 74 | 428.36 | 428.41 | 0.05 | 00028 | 1 | COAL | C-5 DULL. |
| 74 | 428.41 | 428.56 | 0.15 | 00029 | 1 | COAL | COAL AND BANDS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 40

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 74 | 428.56 | 428.75 | 0.19 | 00029 | 1 | COAL | C-4 SHEARED - PROBABLY DULL BANDED; CALCITE FLECKS THROUGHOUT. |
| 74 | 428.75 | 428.95 | 0.20 | 00029 | 1 | CLAYSTONE | CARB CARBONACEOUS; BECOMES COALY TO BASE. |
| 74 | 428.95 | 429.02 | 0.07 | 00029 | 1 | COAL | BADLY SHEARED; PULVERIZED. |
| 74 | 429.02 | 429.75 | 0.73 | 00030 | 1 | COAL | C-5 DULL TO DULL-BANDED; MODERATELY SHEARED ; MINOR CALCITE FLECKS THROUGHOUT. |
| 74 | 429.75 | 429.78 | 0.03 | 00030 | 1 | COAL | COAL AND BANDS. |
| 74 | 429.78 | 429.97 | 0.19 | 00030 | 1 | COAL | C-5 DULL. |
| 74 | 429.97 | 430.05 | 0.08 | 00030 | 1 | COAL | C-4 DULL BANDED. |
| 73 | 430.05 | 430.27 | 0.22 | 00030 | 1 | COAL | C-5 BEDDING: ANGLE CHANGES THROUGHOUT; SHEAR ED; PROBABLY DULL. |
| 73 | 430.27 | 430.40 | 0.13 | 00030 | 1 | COAL | C-4 SHEARED; BADLY BROKEN; PROBABLY DULL BA NDED. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 41

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 73 | 430.40 | 430.42 | 0.02 | 00030 | 1 | TUFF? | |
| 73 | 430.42 | 430.86 | 0.44 | 00030 | 1 | COAL | C-5 SHEARED; CORE BROKEN AND PULVERIZED AT BOTTOM; CALCITE FLECKS THROUGHOUT; COAL PROBABLY DULL. |
| * 73 | 430.86 | 430.96 | 0.10 | 00031 | 1 | TUFF | |
| 73 | 430.96 | 431.17 | 0.21 | 00031 | 1 | COAL | C-5 DULL; MODERATELY SHEARED; MINOR CALCITE FLECKS. |
| 73 | 431.17 | 431.37 | 0.20 | 00031 | 1 | TUFF | |
| 72 | 431.37 | 431.59 | 0.22 | 00031 | 1 | COAL | C-6 STONEY; SHEARED. |
| 72 | 431.59 | 432.35 | 0.76 | 00032 | 1 | COAL | C-5 DULL; MODERATE TO HEAVY SHEARING; MINOR TUFF; INCLUSIONS AT TOP; CORE BADLY BR OKEN TO BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 42

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 71 | 432.35 | 432.60 | 0.25 | 00032 | 1 | COAL | C-5 DULL SHEARED; CALCITE ON SHEARED SURFACES. |
| 70 | 432.60 | 433.68 | 1.08 | 00032 | 1 | COAL | C-5 DULL; MODERATELY SHEARED; MINOR VITRAIN BANDS THROUGHOUT. |
| 69 | 433.68 | 433.85 | 0.17 | 00032 | 1 | COAL | C-5 BADLY SHEARED; COAL PROBABLY DULL; CALCITE FLECKS THROUGHOUT. |
| 69 | 433.85 | 434.17 | 0.32 | 00032 | 1 | COAL | C-4 DULL BANDED; MODERATELY SHEARED; MINOR CALCITE FLECKS. |
| 69 | 434.17 | 434.47 | 0.30 | 00032 | 1 | COAL | C-5 SHEARED; PROBABLY DULL. |
| 68 | 434.47 | 434.70 | 0.23 | 00032 | 1 | COAL | C-5 SHEARED; PROBABLY DULL - BECOMES TUFFACEOUS. |
| 68 | 434.70 | 434.79 | 0.09 | 00033 | 1 | COALY TUFF | |
| 68 | 434.79 | 434.89 | 0.10 | 00033 | 1 | COAL | C-4 DULL BANDED. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 43

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 68 | 434.89 | 434.98 | 0.09 | 00033 | 1 | TUFF | |
| 66 | 434.98 | 435.01 | 0.03 | 00034 | 1 | COAL | C-1 BRIGHT. |
| 54 | 435.01 | 435.85 | 0.84 | 00034 | 1 | COAL | C-4 BEDDING: B.C.A. VARIABLE; C-4 TO C-5; D ULL TO DULL BANDED; MODERATELY SHEARED; MINOR CALCITE FLECKS THROUGHOUT. |
| 41 | 435.85 | 435.87 | 0.02 | 00034 | 1 | COAL | C-5 SHEARED; DULL. |
| 39 | 435.87 | 435.99 | 0.12 | 00035 | 1 | CORE LOSS | ROCK. |
| 36 | 435.99 | 436.09 | 0.10 | 00035 | 1 | TUFF | COALY. |
| 34 | 436.09 | 436.12 | 0.03 | 00035 | 1 | COAL | C-6 STONEY. |
| 31 | 436.12 | 436.31 | 0.19 | 00035 | 1 | COAL | MODERATELY SHEARED; MINOR VITRAIN BANDS . |
| * 26 | 436.31 | 436.44 | 0.13 | 00035 | 1 | COAL | INTERBEDDED WITH TUFF. |
| 26 | 436.44 | 436.66 | 0.22 | 00035 | 1 | COAL | C-3 DULL AND BRIGHT. |
| 26 | 436.66 | 436.85 | 0.19 | 00035 | 1 | COAL | TUFF; INTERBEDDED WITH TUFF. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 44

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81003

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|---|
| | 26 436.85 | 437.02 | 0.17 | 00036 | 1 | COAL | MODERATELY SHEARED. |
| | 26 437.02 | 437.22 | 0.20 | 00036 | 1 | COAL | C-4 DULL BANDED; MODERATE MUDST INCLUSIONS; SLIGHTLY SHEARED. |
| | 26 437.22 | 437.61 | 0.39 | 00036 | 1 | COAL | MODERATELY SHEARED; CALCITE FLECKS THRO UGHOUT. |
| | 25 437.61 | 438.58 | 0.97 | 00036 | 1 | COAL | C-4 DULL BANDED; SLIGHTLY SHEARED. |
| | 25 438.58 | 438.61 | 0.03 | 00036 | 1 | COAL | PULVERIZED; BADLY SHEARED. |
| | 25 438.61 | 438.75 | 0.14 | | | COALY MUDST | CORE INTACT. |
| * | 25 438.75 | 440.06 | 1.31 | | | MUDSTONE | CARB NUMEROUS MINOR COAL BANDS AND INCLUSION S. |

* DENOTES MEASURED BCA

DDH 81-04

*** COAL DIVISION ***

DATA SOURCE: D81-04

INTERVAL OF INTERPOLATION 10 UNIT(S)

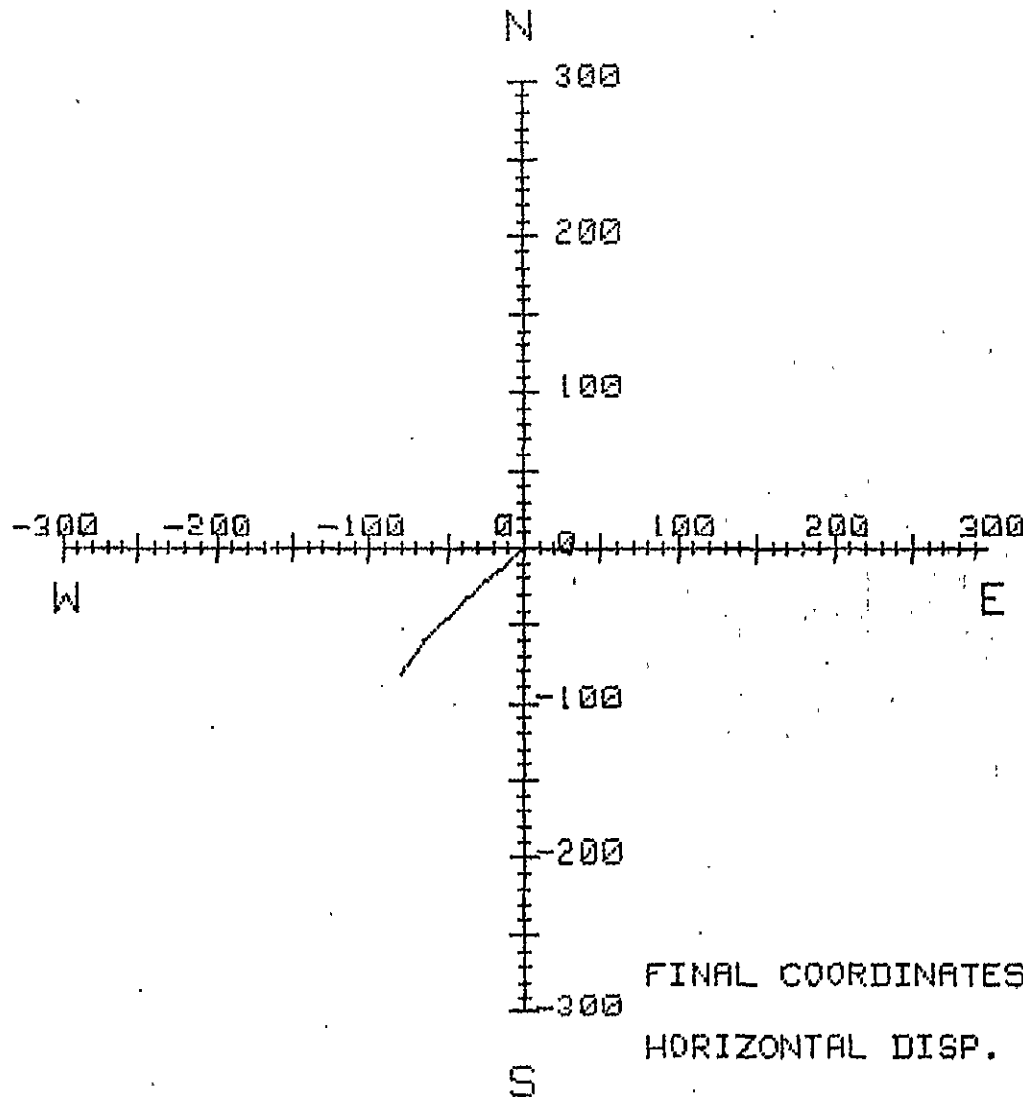
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

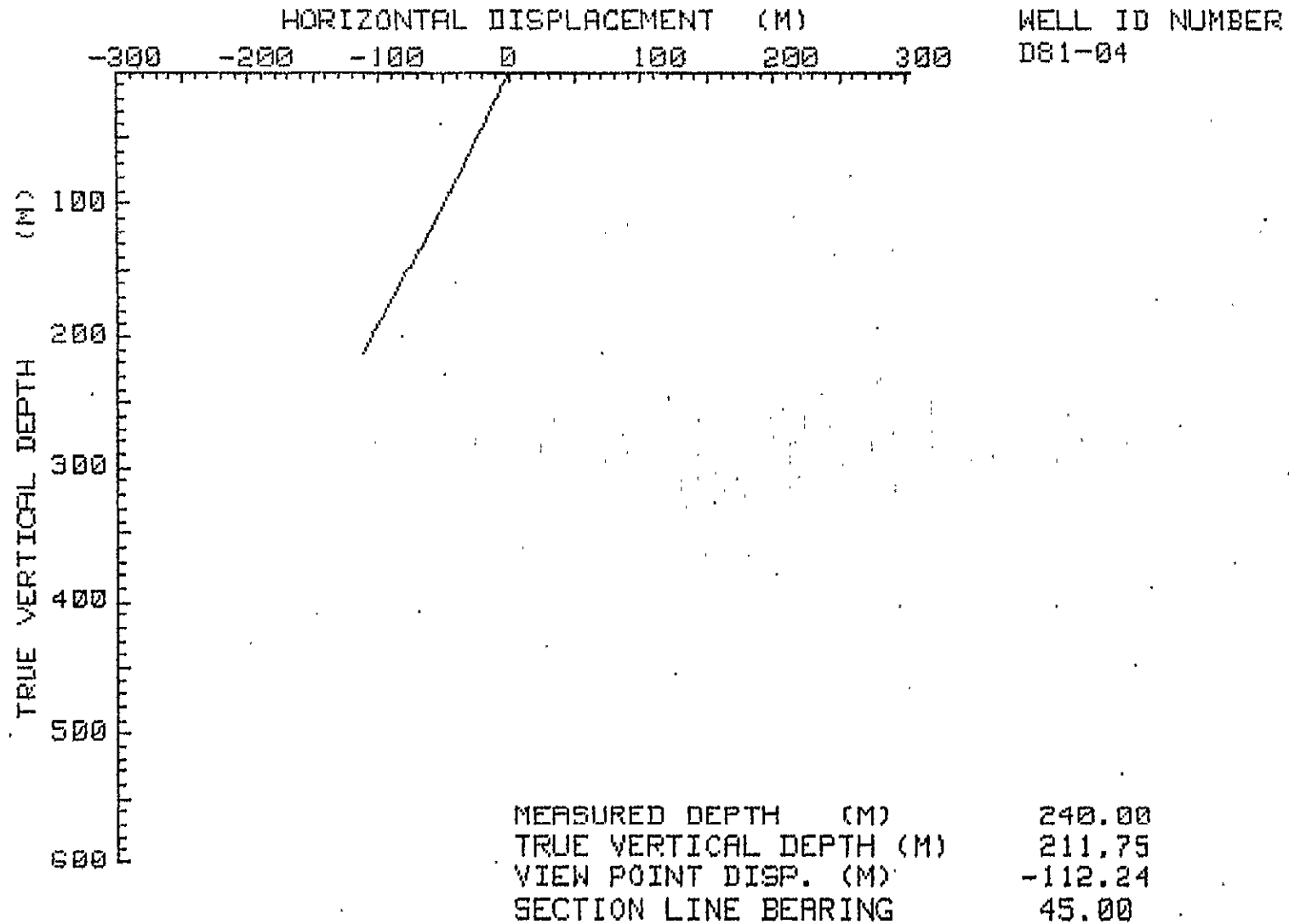
| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 0.00 | 25.60 | 224.70 |
| 15.00 | 25.60 | 224.70 |
| 30.00 | 26.10 | 229.80 |
| 45.00 | 26.50 | 231.80 |
| 60.00 | 27.30 | 227.20 |
| 75.00 | 27.40 | 233.90 |
| 90.00 | 27.70 | 230.50 |
| 105.00 | 28.10 | 226.30 |
| 120.00 | 28.60 | 225.70 |
| 135.00 | 28.70 | 220.80 |
| 150.00 | 29.20 | 225.10 |
| 165.00 | 29.40 | 227.80 |
| 180.00 | 29.40 | 224.10 |
| 195.00 | 29.50 | 215.20 |
| 210.00 | 29.20 | 217.00 |
| 225.00 | 28.90 | 214.80 |
| 240.00 | 29.30 | 210.00 |

PLAN VIEW

WELL ID NUMBER
D81-04

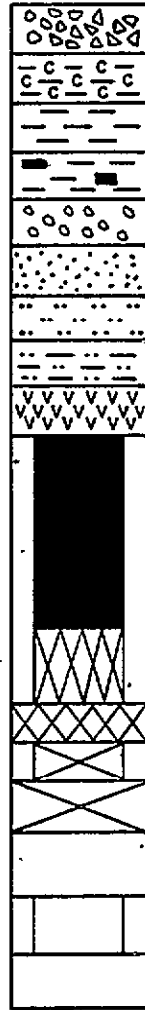
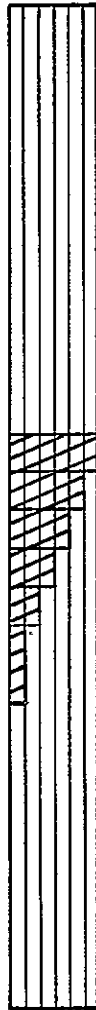


DISPLACEMENT



SEAM
COMP

COAL
SEAM
LOG



LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone

- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff

coal

coal-boney, stoney,
coal and bands/rock
- designated "C6"

rock } coal
lithotype uncertain

coal } MISSING
rock } CORE

rock

coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



LEGEND FOR COAL
SEAM DATA SHEETS

PREPARED BY: V.O.

SCALE 1:40

APPROVED BY:

DATE: JAN. 82

DRAWING No.

COAL SEAM DATA SHEET

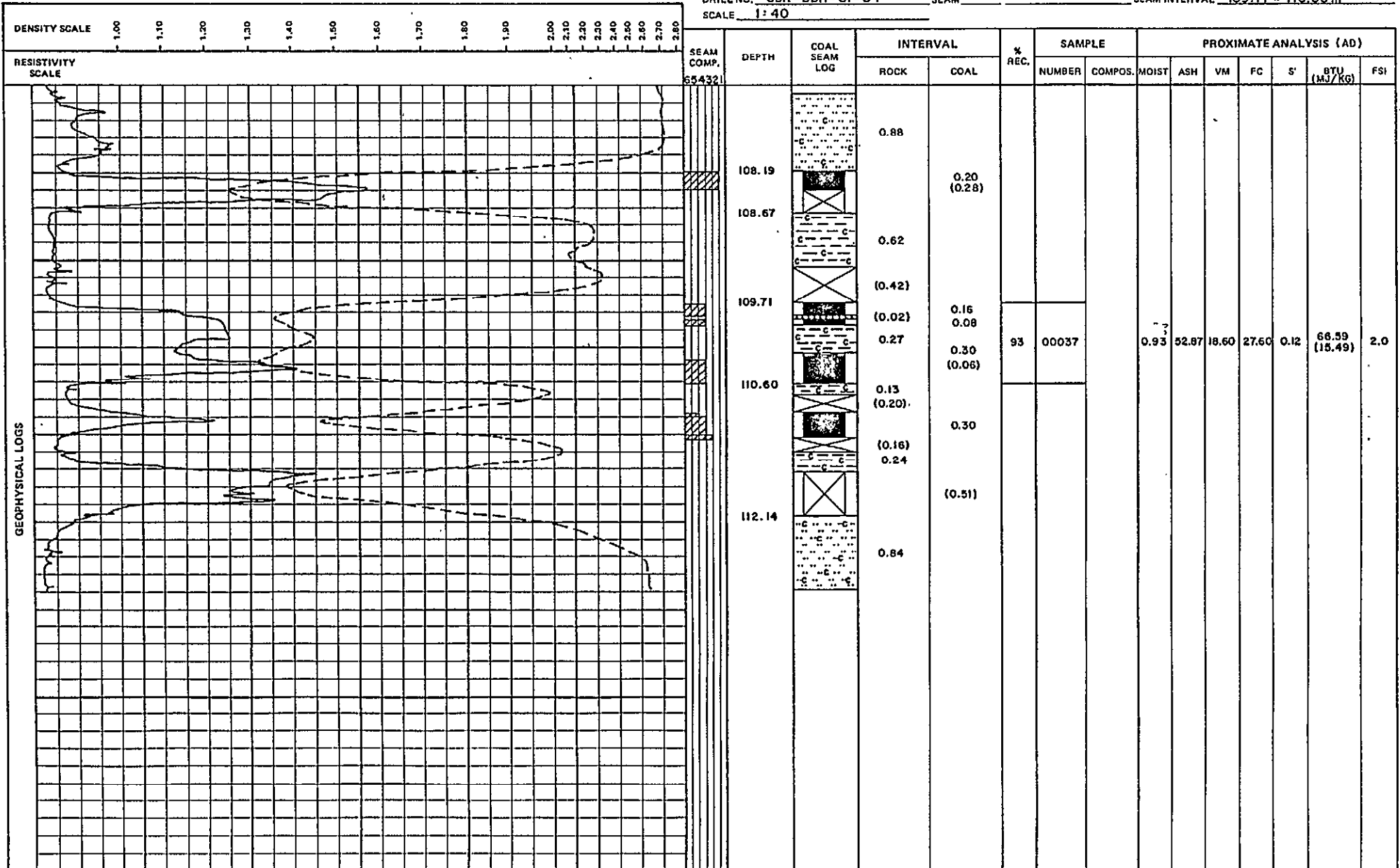
GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)
Coal/Cool + Rock (True Thk (m))

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-04 SEAM _____ SEAM INTERVAL 109.71 - 110.60m

SCALE 1:40



GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/84

SIMPLE SAMPLE SUMMARY

PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|----------------|------|--------------|---------------|-------------|-------------|----------------|-------------------|-------------------|-----------------|-----------------|
| DDH81004 | | 37 | 109.71 | 110.60 | 0.83 | 93.26 | 0.56 | 0.27 | 0.06 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE - AD

NAME OF STANDARD - ASTM

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|-------|---------------|------------------|----------------|-------------------------------|------|------|
| DDH61004 | | 37 | 0.93 | 52.87 | 27.60 | 18.60 | 0.12 | 15.49 | 1.77 | 2.00 |

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 43 | 0.00 | 11.57 | 11.57 | | | CASING | |
| * 43 | 11.57 | 13.46 | 1.89 | | | MUDSTONE | DK.GY.BIOTR.BRKN WRMBUR, INTBD SLTST AND SS; CARR MINOR C ALCITE; FE STAINING; LISTRIC SURFACES; TOPS UP; XBDG. |
| 50 | 13.46 | 13.70 | 0.24 | | | CORE LOSS | |
| 53 | 13.70 | 14.34 | 0.64 | | | MUDSTONE | DK.GY.BIOTR INTBD SLTST AND SS; CALCITE VEINING; SL IGHTLY CARB; LISTRIC SURFACES. |
| * 60 | 14.34 | 15.82 | 1.48 | | | MUDSTONE | DK.GY.BIOTR.BRKN AS ABOVE. |
| 60 | 15.82 | 15.97 | 0.15 | | | ROCK LOSS | |
| 60 | 15.97 | 16.25 | 0.28 | | | MUDSTONE | DK.GY CARB FLECKS AND MINOR CALCITE. |
| 60 | 16.25 | 16.35 | 0.10 | | | MUDSTONE | DK.GY.BIOTR INTBD SANDST AND SLTST, FE STAINING, CA RB FLECKS, MINOR CALCITE. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 60 | 16.35 | 16.47 | 0.12 | | | FE-ST | GY VERY HARD. |
| 60 | 16.47 | 16.75 | 0.28 | | | MUDSTONE | DK.GY AS ABOVE. |
| 60 | 16.75 | 17.08 | 0.33 | | | MUDSTONE | DK.GY AS ABOVE. |
| * 60 | 17.08 | 18.61 | 1.53 | | | MUDSTONE | DK.GY.BIOTR.BRKN XBDG, SANDST AND SLTST, MINOR CALCITE VE INING, FE STAINING, TOP IS UPRIGHT. |
| * 65 | 18.61 | 19.78 | 1.17 | | | MUDSTONE | DK.GY.BIOTR WRMBUR, CALCITE VEINING, FE STAINING SK S. |
| 65 | 19.78 | 19.95 | 0.17 | | | MUDSTONE | DK.GY.BIOTR WRMBUR, AS ABOVE. |
| 65 | 19.95 | 21.02 | 1.07 | | | MUDSTONE | DK.GY.WRMBU.BRKN CALCITE VEINING, FE STAINING, BEGINNING OF POSSIBLE FAULT ZONE. |
| 65 | 21.02 | 22.24 | 1.22 | | | MUDSTONE | DK.GY.VBRKN ABNT CALCITE VEINING, FE STAINING, LIST RIC SURFACES SKS, CORE IS VBRKN AND PUL VERIZED TOWARD BOX MARKER. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 66 | 22.24 | 22.58 | 0.34 | | | MUDSTONE | DK.GY.VBRKN AS ABOVE. |
| 66 | 22.58 | 23.98 | 1.40 | | | MUDSTONE | DK.GY.VBRKN MINOR SLTST BANDS, ABNT CALCITE VEINING , FE STAINING SKS, LISTRIC SURFACES, BR ECCIATED, CORE VBRKN AND PULVERIZED. |
| 66 | 23.98 | 24.07 | 0.09 | | | ROCK LOSS | |
| 66 | 24.07 | 25.27 | 1.20 | | | MUDSTONE | DK.GY AS ABOVE MUDST. |
| 66 | 25.27 | 25.66 | 0.39 | | | MUDSTONE | DK.GY AS ABOVE. |
| 66 | 25.66 | 27.26 | 1.60 | | | MUDSTONE | DK.GY.VBRKN AS ABOVE. |
| 67 | 27.26 | 27.85 | 0.59 | | | MUDSTONE | DK.GY INTBD SS AND SLTST, CALCITE VEINING, LI STRIC SURFACES, CARB FLECKS, MINOR BREC CIATION. |
| 67 | 27.85 | 28.10 | 0.25 | | | SANDSTONE | FG.GY.VBRKN INTBD MUDST AND SLTST, CALCITE VEINING, FE STAINING, LISTRIC SURFACES, SKS. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 67 | 28.10 | 29.58 | 1.48 | | | MUDSTONE | DK.GY.VBRKN INTBD SLTST AND SANDST, CALCITE VEINING , SKS LISTRIC SURFACES, CORE PIECES DON 'T MATCH. POSSIBLE CORELOSS. |
| * 67 | 29.58 | 29.98 | 0.40 | | | SANDSTONE | GY.BRKN INTBD SLTST AND SS; CALCITE VEINING, LI STRIC SURFACES. |
| 66 | 29.98 | 30.37 | 0.39 | | | MUDSTONE | DK.GY.VBRKN INTBD SS AND SLTST; CALCITE VEINING; LI STRIC SURFACES; POSSIBLE CORELOSS. |
| 63 | 30.37 | 31.41 | 1.04 | | | MUDSTONE | DK.GY.BRKN AS ABOVE; ABNT CALCITE VEINING; POSSIBL E ROCKLOSS. |
| 59 | 31.41 | 32.31 | 0.90 | | | SANDSTONE | FG.GY.VBRKN INTBD MUDST; CALCITE VEINING; SKS; BREC CIATED; LISTRIC SURFACES; CORE PIECES D ON'T MATCH; POSSIBLE ROCKLOSS. |
| 57 | 32.31 | 32.66 | 0.35 | | | ROCK LOSS | |
| 56 | 32.66 | 32.98 | 0.32 | | | MUDSTONE | DK.GY.BIOTR.VBRKN INTBD SS. AND SLTST; SKS; LISTRIC SURFA CES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 55 | 32.98 | 33.42 | 0.44 | | MUDSTONE | DK.GY AS ABOVE. |
| * | 52 | 33.42 | 34.37 | 0.95 | | MUDSTONE | DK.GY AS ABOVE. |
| | 58 | 34.37 | 35.44 | 1.07 | | MUDSTONE | DK.GY.WRMBU.BRKN CALCITE VEINING; SKS; MINOR SS BANDS; M INOR BRECCIATION. |
| | 62 | 35.44 | 35.55 | 0.11 | | ROCK LOSS | END OF FAULT ZONE. |
| * | 70 | 35.55 | 38.08 | 2.53 | | MUDSTONE | DK.GY AS ABOVE. |
| | 72 | 38.08 | 38.53 | 0.45 | | MUDSTONE | DK.GY AS ABOVE. |
| | 74 | 38.53 | 39.71 | 1.18 | | MUDSTONE | DK.GY AS ABOVE. |
| * | 75 | 39.71 | 40.30 | 0.59 | | SILTSTONE | LT.GY.BIOTR MINOR CALCITE VEINING; SLICKENSIDES; CA LCITE CONCRETIONS; INTBD MUDST; POSSIBL E CORELOSS; PIECES DON'T MATCH. |
| | 73 | 40.30 | 40.49 | 0.19 | | SILTSTONE | LT.GY.THNB MORE CALCITE VEINING; SLICKENSIDES; MIN OR PYRITE; CALCITE CONCRETIONS LAMINAE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|------------|--|
| 73 | 40.49 | 40.52 | 0.03 | | | MUDSTONE | SLTY.DK.GY.BIOTR CALCITE CONCRETIONS. |
| 72 | 40.52 | 40.72 | 0.20 | | | MUDSTONE | SLTY.DK.GY.BIOTR SLTST INTBD; CALCITE VEIN AT 0.80; CALC ITE CONCRETIONS; POSSIBLE CORELOSS; PIE CES DON'T MATCH. |
| 71 | 40.72 | 40.89 | 0.17 | | | ROCK LOSS. | |
| * 70 | 40.89 | 41.13 | 0.24 | | | MUDSTONE | SLTY.DK.GY.BIOTR AS ABOVE. |
| 68 | 41.13 | 41.35 | 0.22 | | | SILTSTONE | M.GY.XBDG CALCITE VEINING; LISTRIC SURFACES; TOPS UP. |
| 67 | 41.35 | 41.52 | 0.17 | | | MUDSTONE | SLTY.DK-M.GY.BIOTR SKS. |
| 66 | 41.52 | 41.58 | 0.06 | | | SILTSTONE | M.GY.BIOTR WRMBUR, MINOR CALCITE VEINING. |
| 65 | 41.58 | 41.81 | 0.23 | | | SILTSTONE | M.GY.XBDG MINOR CALCITE VEINING, TOPS UP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 64 | 41.81 | 41.84 | 0.03 | | | MUDSTONE | SLTY.DK.GY.BIOTR SKS; POSSIBLE CORELOSS; PIECES DON'T MATCH. |
| 62 | 41.84 | 42.13 | 0.29 | | | ROCK LOSS | |
| * 60 | 42.13 | 42.47 | 0.34 | | | SILTSTONE | LT.GY.SSD CALCITE VEINING; SKS; CALCITE. |
| 58 | 42.47 | 43.54 | 1.07 | | | SILTSTONE | CLYY.LT.GY.BIOTR WRMBUR;INTBD MUDST; CALCITE VEINING AT 0.44; SKS; CALCITE; LISTRIC SURFACES. |
| 57 | 43.54 | 43.93 | 0.39 | | | MUDSTONE | SLTY.DK.GY.BIOTR CALCITE VEINING; SKS; LISTRIC SURFACES; SLIGHTLY CARB. |
| 56 | 43.93 | 44.21 | 0.28 | | | SILTSTONE | M.GY.XBDG.BRKN TOP IS UP; CALCITE VEINING; LISTRIC SUR FACES; SLIGHT BIOTRB; POSSIBLE CORELOSS |
| * 55 | 44.21 | 44.63 | 0.42 | | | MUDSTONE | SLTY.DK.GY.BIOTR SKS; CALCITE; MINOR CALCITE VEINING. |
| 53 | 44.63 | 45.77 | 1.14 | | | MUDSTONE | SLTY.DK.GY.BIOTR.BRKN |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|------------|--|
| | 49 | 45.77 | 47.36 | 1.59 | | MUDSTONE | SLTY.DK.GY.BIOTR.BRKN CALCITE VEINING; AS ABOVE. |
| | 46 | 47.36 | 47.81 | 0.45 | | ROCK LOSS. | |
| * | 45 | 47.81 | 48.15 | 0.34 | | MUDSTONE | DK.GY.BIOTR AS ABOVE |
| | 48 | 48.15 | 48.33 | 0.18 | | SILTSTONE | M.GY CALCITE; CALCITE VEINING; SKS. |
| | 52 | 48.33 | 48.68 | 0.35 | | MUDSTONE | SLTY.DK.GY.BIOTR WRMBUR; SKS; LISTRIC SURFACES; CALCITE; MINOR CALCITE VEINING. |
| | 56 | 48.68 | 48.94 | 0.26 | | MUDSTONE | SLTY.DK.GY.BIOTR.VBRKN AS ABOVE; CORE VBRKN AND PULVERIZED TOW ARDS BOTTOM; POSSIBLE CORELOSS: WRMBUR. |
| | 58 | 48.94 | 49.13 | 0.19 | | MUDSTONE | SLTY.DK.GY.BIOTR WRMBUR, AS ABOVE. |
| * | 60 | 49.13 | 49.19 | 0.06 | | SILTSTONE | M.GY.XBDG TOP IS UP. |
| | 60 | 49.19 | 50.14 | 0.95 | | MUDSTONE | SLTY.DK.GY.BIOTR CALCITE; MINOR CALCITE VEINING; SKS. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 59 | 50.14 | 50.85 | 0.71 | | | MUDSTONE | SLTY.DK.GY.BIOTR AS ABOVE. |
| 59 | 50.85 | 50.91 | 0.06 | | | ROCK LOSS | |
| 58 | 50.91 | 53.19 | 2.28 | | | MUDSTONE | SLTY.DK.GY.BIOTR WRMBUR; CALCITE; CALCITE VEINING; SKS; CALCITE FILLED WRMBUR . |
| 57 | 53.19 | 53.57 | 0.38 | | | MUDSTONE | SLTY.DK.GY.BIOTR WRMBUR, AS ABOVE. |
| 56 | 53.57 | 56.19 | 2.62 | | | MUDSTONE | SLTY.DK.GY.WRMBU AT 0.23 SLTST BAND; CALCITE AS ABOVE; B IVALVES AT 1.76; CORE LOSS AT 1.90. |
| 55 | 56.19 | 56.99 | 0.80 | | | ROCK LOSS | |
| 54 | 56.99 | 58.78 | 1.79 | | | MUDSTONE | SLTY.DK.GY.WRMBU AT 0.36 PYRITE BLEB; POSSIBLE CORELOSS. |
| 53 | 58.78 | 59.57 | 0.79 | | | MUDSTONE | SLTY.DK.GY POSSIBLE CORELOSS. |
| 53 | 59.57 | 59.77 | 0.20 | | | MUDSTONE | SLTY.DK.GY.BRKN |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 53 | 59.77 | 60.05 | 0.28 | | | MUDSTONE | SLTY.DK.GY.BRKN MINOR CALCITE VEINS; SKS. |
| 52 | 60.05 | 60.66 | 0.61 | | | MUDSTONE | SLTY.DK.GY.VBRKN AS ABOVE; CORE VBRKN TO BOTTOM; POSSIBL E CORELOSS. |
| 52 | 60.66 | 61.20 | 0.54 | | | MUDSTONE | SLTY.DK.GY AS ABOVE; POSSIBLE CORELOSS. |
| 52 | 61.20 | 61.37 | 0.17 | | | ROCK LOSS | |
| 51 | 61.37 | 62.30 | 0.93 | | | MUDSTONE | SLTY.DK.GY AS ABOVE. |
| 51 | 62.30 | 63.09 | 0.79 | | | MUDSTONE | DK.GY AS ABOVE. |
| * 50 | 63.09 | 64.91 | 1.82 | | | MUDSTONE | DK.GY AS ABOVE. |
| 49 | 64.91 | 65.11 | 0.20 | | | MUDSTONE | DK.GY AS ABOVE; PIECES DON'T MATCH; POSSIBLE CORELOSS. |
| | 65.11 | 65.67 | 0.56 | | | MUDSTONE | DK.GY.VBRKN AS ABOVE; LARGE CALCITE VEIN AT BEGINNI NG AND 0.04. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 11

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 48 | 65.67 | 65.82 | 0.15 | | | ROCK LOSS | |
| 48 | 65.82 | 66.80 | 0.98 | | | MUDSTONE | DK.GY AS ABOVE. |
| 47 | 66.80 | 67.36 | 0.56 | | | MUDSTONE | DK.GY.VBRKN AS ABOVE. |
| 47 | 67.36 | 67.43 | 0.07 | | | ROCK LOSS | |
| 46 | 67.43 | 67.93 | 0.50 | | | MUDSTONE | DK.GY.BRKN AS ABOVE. |
| * 45 | 67.93 | 70.02 | 2.09 | | | MUDSTONE | DK.GY.WRMBU AS ABOVE; CALCITE FRACTURE AT 0.37; PYR ITE BLEB. |
| 49 | 70.02 | 70.26 | 0.24 | | | MUDSTONE | DK.GY.BRKN AS ABOVE; CALCITE FILLED FRACTURE AT 0. 17; CORE BRKN AND PULVERIZED AT BOTTOM; POSSIBLE CORELOSS. |
| 50 | 70.26 | 70.54 | 0.28 | | | ROCK LOSS | |
| 51 | 70.54 | 70.98 | 0.44 | | | MUDSTONE | DK.GY.WRMBU PYRITIZED MUD BURROWS, AS ABOVE.. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 12

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 55 | 70.98 | 72.71 | 1.73 | | | MUDSTONE | DK.GY.BIOTR SKS, LISTRIC SURFACES, CALCITE FILLED FRACTURES AT 0.26 AND 0.84. |
| * 45 | 72.71 | 73.05 | 0.34 | | | SILTSTONE | CLYY.M.GY.BIOTR WRMBUR, PYRITE BLEBS, MINOR CALCITE VEINING SKS. |
| 44 | 73.05 | 73.98 | 0.93 | | | MUDSTONE | DK.GY.BIOTR.BRKN CALCITE FILLED FRACTURES AT 0.13 AND 0.68, PYRITIZED WRMBUR. |
| 43 | 73.98 | 75.14 | 1.16 | | | MUDSTONE | DK.GY AS ABOVE, PYRITE BLEBS. |
| 41 | 75.14 | 76.19 | 1.05 | | | MUDSTONE | DK.GY.WRMBU.VBRKN MINOR CALCITE VEINING, SKS, CALCITE FILLED FRACTURES AT 0.79, POSS CORE LOSS. |
| 40 | 76.19 | 76.42 | 0.23 | | | ROCK LOSS | |
| 39 | 76.42 | 77.57 | 1.15 | | | MUDSTONE | DK.GY.WRMBU AS ABOVE. |
| 38 | 77.57 | 77.95 | 0.38 | | | MUDSTONE | DK.GY.WRMBU.VBRKN AS ABOVE. POSSIBLE CORELOSS TOWARDS BOX MARKER. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 13

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 37 | 77.95 | 78.25 | 0.30 | | ROCK LOSS | |
| | 36 | 78.25 | 80.21 | 1.96 | | MUDSTONE | DK.GY.WRMBU.VBRKN AS ABOVE, CORE VBRKN AND PULVERIZED. |
| | 34 | 80.21 | 80.34 | 0.13 | | ROCK LOSS | |
| | 34 | 80.34 | 80.99 | 0.65 | | MUDSTONE | DK.GY.WRMBU.BRKN MINOR CALCITE VEINING, SKS. |
| | 32 | 80.99 | 82.80 | 1.81 | | MUDSTONE | DK.GY.WRMBU AS ABOVE. |
| | 30 | 82.80 | 83.26 | 0.46 | | MUDSTONE | DK.GY.WRMBU AS ABOVE. |
| | 30 | 83.26 | 83.43 | 0.17 | | ROCK LOSS | |
| * | 28 | 83.43 | 85.48 | 2.05 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE, CORE IS BRKN AT TOP OF BOX MA RKER. |
| | 27 | 85.48 | 85.75 | 0.27 | | ROCK LOSS | |
| | 27 | 85.75 | 86.48 | 0.73 | | MUDSTONE | DK.GY.WRMBU CALCITE ,FILLED FRACTURE AT 0.53, SKS. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 14

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 26 | 86.48 | 88.38 | 1.90 | | | MUDSTONE | DK.GY.WRMBU.VBRKN CALCITE FILLED FRACTURE AT 1.30, PYRITI ZED WRMBUR, SKS, CORE VBRKN AT END OF B OX, POS CORE LOSS. |
| 26 | 88.38 | 88.57 | 0.19 | | | ROCK LOSS | |
| 26 | 88.57 | 89.52 | 0.95 | | | MUDSTONE | DK.GY.WRMBU MINOR CALCITE VEINING, SKS, CARROT AT 0 .69, PYRITE FILLED. |
| * 25 | 89.52 | 91.03 | 1.51 | | | MUDSTONE | DK.GY.WRMBU AS ABOVE. |
| * 45 | 91.03 | 92.19 | 1.16 | | | MUDSTONE | DK.GY.WRMBU AS ABOVE. |
| 50 | 92.19 | 93.42 | 1.23 | | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| * 56 | 93.42 | 95.21 | 1.79 | | | MUDSTONE | DK.GY.WRMBU AS ABOVE. |
| 54 | 95.21 | 96.14 | 0.93 | | | MUDSTONE | DK.GY.WRMBU AS ABOVE, CALCITE VEINING AND MINOR BRE CCIATION AT 0.51. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 50 | 96.14 | 99.02 | 2.88 | | | MUDSTONE | DK.GY.WRMBU AS ABOVE, AT 1.40 A GRIT BAND OF 2CM. |
| 47 | 99.02 | 99.16 | 0.14 | | | MUDSTONE | DK.GY.WRMBU AS ABOVE. |
| * 45 | 99.16 | 100.37 | 1.21 | | | MUDSTONE | DK.GY.WRMBU AS ABOVE. |
| 47 | 100.37 | 101.78 | 1.41 | | | MUDSTONE | DK.GY.WRMBU.VBRKN CALCITE FILLED FRACTURE AT 0.08, CALCIT E VEINING FROM 0.42 TO 0.66, SKS, PYRIT E, CORE VBRKN TO END OF BOX. |
| * 50 | 101.78 | 103.66 | 1.88 | | | MUDSTONE | DK.GY.WRMBU.VBRKN AS ABOVE, CALCITE FILLED FRACTURE AT 0. 29 AND 1.08. |
| 46 | 103.66 | 104.48 | 0.82 | | | MUDSTONE | DK.GY.WRMBU CALCITE VEINING THROUGHOUT, SKS, LISTRI C SURFACES. |
| 44 | 104.48 | 105.21 | 0.73 | | | MUDSTONE | DK.GY.WRMBU AS ABOVE. |
| * 40 | 105.21 | 107.31 | 2.10 | | | MUDSTONE | DK.GY.WRMBU.VBRKN AS ABOVE.CORE VBRKN AT END OF BOX. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 50 | 107.31 | 107.99 | 0.68 | | | SILTSTONE | CARB.GY.VBRKN ABNT CALCITE VEINING, SKS, LISTRIC SURF ACES, COALY INCLUSIONS, PYRITE, CORE IS VBRKN, SHARP CONTACT WITH ABOVE MUDST. POSSIBLE FAULT. |
| 50 | 107.99 | 108.19 | 0.20 | | | SILTSTONE | CARB.GY AS ABOVE. |
| 50 | 108.19 | 108.37 | 0.18 | | | COAL | C-2.BLK.VBRKN BRIGHT BANDED, BENTONITIC. |
| 50 | 108.37 | 108.39 | 0.02 | | | COAL | C-2.BLK AS ABOVE. |
| 50 | 108.39 | 108.67 | 0.28 | | | COAL LOSS | |
| 50 | 108.67 | 108.84 | 0.17 | | | MUDSTONE | CARB.DK.GY.BRKN COALY INCLUSIONS, LISTRIC SURFACES, SKS , CALCITE VEIN AT TOP. |
| 50 | 108.84 | 109.02 | 0.18 | | | MUDSTONE | CARB.DK.GY.VBRKN MINOR DULL COAL BANDS. |
| 51 | 109.02 | 109.20 | 0.18 | | | MUDSTONE | CARB.DK.GY COALY INCLUSIONS AND BANDS, PLANT FRAGS . |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 51 | 109.20 | 109.29 | 0.09 | | | MUDSTONE | CARB.DK.GY.PWRD AS ABOVE, CORE IS PULVERIZED AND PWRD. |
| 51 | 109.29 | 109.71 | 0.42 | | | ROCK LOSS | |
| 51 | 109.71 | 109.87 | 0.16 | 00037 | | COAL | C-4.BLK.VBRKN DULL BANDED. |
| 51 | 109.87 | 109.89 | 0.02 | 00037 | | COAL | C-6.BLK DULL COAL WITH INTBD MUDST, COAL AND RO CK. |
| 51 | 109.89 | 109.97 | 0.08 | 00037 | | COAL | C-4.BLK.VBRKN DULL BANDED. |
| 51 | 109.97 | 110.05 | 0.08 | 00037 | | MUDSTONE | CARB.DK.GY.VBRKN COALY INCLUSIONS, LISTRIC SURFACES, PLA NT FRAGS. |
| 51 | 110.05 | 110.20 | 0.15 | 00037 | | MUDSTONE | CARB.DK.GY AS ABOVE. |
| 51 | 110.20 | 110.24 | 0.04 | 00037 | | MUDSTONE | CARB.DK.GY AS ABOVE. |
| 51 | 110.24 | 110.30 | 0.06 | 00037 | | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 51 | 110.30 | 110.60 | 0.30 | 00037 | | COAL | C-4.BLK DULL BANDED, CORE IS SHEARED AND PULVERIZED WITH POSS CORE LOSS. |
| 51 | 110.60 | 110.73 | 0.13 | | | MUDSTONE | CARB.DK.GY.BRKN LISTRIC SURFACES, COALY INCLUSIONS AND PARTING. |
| 51 | 110.73 | 110.93 | 0.20 | | | ROCK LOSS | |
| 51 | 110.93 | 110.97 | 0.04 | | | COAL | C-5.BLK.BRKN DULL. |
| 51 | 110.97 | 111.18 | 0.21 | | | COAL | C-4.BLK.BRKN DULL BANDED, COAL IS SHEARED AND PULVERIZED. |
| 51 | 111.18 | 111.23 | 0.05 | | | COAL | C-3.BLK.VBRKN DULL AND BRIGHT, POSS CORE LOSS. |
| 51 | 111.23 | 111.39 | 0.16 | | | ROCK LOSS | |
| 51 | 111.39 | 111.63 | 0.24 | | | MUDSTONE | CARB.DK.GY COALY INCLUSIONS, LISTRIC SURFACES, MIN OR CALCITE. |
| 52 | 111.63 | 112.14 | 0.51 | | | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 52 | 112.14 | 112.98 | 0.84 | | | SILTSTONE | CARB.GY.VBRKN COALY INCLUSIONS, MINOR CALCITE, POSS C ORE LOSS, CORE VBRKN AT TOP OF BOX MARK. ER. |
| * 52 | 112.98 | 113.47 | 0.49 | | | MUDSTONE | SLTY.DK.GY CARB, COALY INCLUSIONS AND PARTING. |
| * 30 | 113.47 | 114.02 | 0.55 | | | MUDSTONE | CARB.DK.GY COALY INCLUSIONS AND PARTING. |
| 34 | 114.02 | 114.37 | 0.35 | | | MUDSTONE | CARB.DK.GY.BIOTR COALY INCLUSIONS, PLANT FRAGS, PIECES D O NOT MATCH, POSS CORE LOSS. |
| 37 | 114.37 | 114.73 | 0.36 | | | MUDSTONE | CARB.DK.GY.BIOTR AS ABOVE, LISTRIC SURFACES, SKS AT 0.18 AND MINOR CALCITE. |
| 40 | 114.73 | 115.02 | 0.29 | | | ROCK LOSS | |
| 44 | 115.02 | 115.74 | 0.72 | | | SILTSTONE | GY HORSETAIL CALCITE VEINING AT 0.36, SKS, PYRITE. |
| * 50 | 115.74 | 116.38 | 0.64 | | | MUDSTONE | SLTY.DK.GY SKS, LISTRIC SURFACES, CARB INCLUSIONS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 51 | 116.38 | 116.74 | 0.36 | | | MUDSTONE | SLTY.DK.GY CARB, PLANT FRAG. |
| 52 | 116.74 | 117.63 | 0.89 | | | MUDSTONE | SLTY.DK.GY CARB PLANT FRAGS, COALY INCLUSIONS. |
| 53 | 117.63 | 118.50 | 0.87 | | | MUDSTONE | DK.GY COALY INCLUSIONS, MINOR CALCITE VEINING , SKS, LISTRIC SURFACES, PYRTIE, CHALCO PYR. |
| 54 | 118.50 | 119.08 | 0.58 | | | MUDSTONE | DK.GY COALY INCLUSIONS, MINOR CALCITE VEINING , SKS, LISTRIC SURFACES. |
| 55 | 119.08 | 119.15 | 0.07 | | | MUDSTONE | DK.GY AS ABOVE. |
| 55 | 119.15 | 119.18 | 0.03 | | | COAL | C-5 SHEARED AND PULVERIZED, POSS CORE LOSS. |
| 55 | 119.18 | 119.79 | 0.61 | | | MUDSTONE | DK.GY COALY INCLUSIONS, MINOR CALCITE, SKS. |
| 56 | 119.79 | 120.76 | 0.97 | | | MUDSTONE | DK.GY AS ABOVE, CALCITE FILLED FRACTURE AT 0. 36 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 58 | 120.76 | 121.54 | 0.78 | | | MUDSTONE | DK.GY.BRKN AS ABOVE. |
| 58 | 121.54 | 121.91 | 0.37 | | | ROCK LOSS | |
| 59 | 121.91 | 122.04 | 0.13 | | | COAL | C-6.DK.GY COAL AND BANDS. |
| 59 | 122.04 | 122.21 | 0.17 | | | MUDSTONE | DK.GY COALY INCLUSIONS. |
| 59 | 122.21 | 122.33 | 0.12 | | | COAL | C-6 COAL AND BANDS. |
| 60 | 122.33 | 122.65 | 0.32 | | | MUDSTONE | DK.GY CARB AND PLANT FRAGS, ARGL. |
| * 60 | 122.65 | 122.96 | 0.31 | | | SILTSTONE | GY RIP-UP CLASTS, CY INCLUSIONS, MINOR CAL CITE VEINING, CALCITE, BRECCIATED. |
| 52 | 122.96 | 123.40 | 0.44 | | | SILTSTONE | GY.BIOTR ARGL, SKS, CALCITE FILLED FRACTURE AT 0 .25, CALCITE. |
| * 38 | 123.40 | 124.33 | 0.93 | | | SILTSTONE | GY.LAM MINOR CARB PLANT FRAGS, CALCITE, MINOR CALCITE VEINING. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 36 | 124.33 | 124.68 | 0.35 | | SILTSTONE | INTBD, CALCITE FILLED FRACTURE AT 0.31, SKS, MINOR CARB PLANT FRAGS. |
| | 33 | 124.68 | 125.74 | 1.06 | | MUDSTONE | DK.GY COALY INCLUSIONS, MINOR CALCITE VEINING , LISTRIC SURFACES TOWARDS BASE. |
| * | 30 | 125.74 | 126.44 | 0.70 | | MUDSTONE | CARB.VBRKN BRECCIATED AT 0.11, SKS, CALCITE VEININ G, POSS FAULT, COALY INCLUSIONS, SHEARE D. |
| | 34 | 126.44 | 127.62 | 1.18 | | MUDSTONE | CARB.DK.GY COALY INCLUSIONS, LISTRIC SURFACES, SKS . |
| | 41 | 127.62 | 129.08 | 1.46 | | MUDSTONE | CARB.DK.GY.BRKN AS ABOVE. |
| * | 45 | 129.08 | 129.40 | 0.32 | | MUDSTONE | CARB.GY.LAM COALY INCLUSIONS, CALCITE VEINING, SKS, LISTRIC SURFACES, INTBD SLTST. |
| | 45 | 129.40 | 130.16 | 0.76 | | MUDSTONE | CARB.DK.GY.LAM AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 45 | 130.16 | 132.33 | 2.17 | | | MUDSTONE | DK.GY COALY INCLUSIONS, BECOMING CARB TO BOTT OM, SKS AT 1.96M, MINOR CALCITE VEINING |
| 45 | 132.33 | 132.93 | 0.60 | | | MUDSTONE | CARB.DK.GY COALY INCLUSIONS, LISTRIC SURFACES. |
| 45 | 132.93 | 134.03 | 1.10 | | | MUDSTONE | CARB.DK.GY.BRKN AS ABOVE. |
| * 45 | 134.03 | 134.34 | 0.31 | | | SILTSTONE | GY.BRKN COALY INCLUSIONS, MUDST INTBD. |
| 45 | 134.34 | 134.83 | 0.49 | | | MUDSTONE | SLTY.DK.GY.BRKN COALY INCLUSIONS, LISTRIC SURFACES, SHE ARED TO BASE. |
| * 45 | 134.83 | 135.13 | 0.30 | | | SILTSTONE | GY INT BD MUDST, CY INCLUSIONS, MODIFIER C ALC |
| 44 | 135.13 | 135.33 | 0.20 | | | MUDSTONE | CARB.DK.GY CY INCLUSIONS, |
| 43 | 135.33 | 135.66 | 0.33 | | | MUDSTONE | CARB.DK.GY CY INCLUSIONS, SKS, LISTRIC SURF BRKN. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 40 | 135.66 | 136.64 | 0.98 | | | MUDSTONE | CARB.DK.GY CY INCLUSIONS, LISTRIC SURF. |
| 40 | 136.64 | 137.40 | 0.76 | | | MUDSTONE | GY CARB PL FRAG; MINOR INTRB SLTST; PYRITE SMEARS. |
| * 40 | 137.40 | 137.77 | 0.37 | | | SILTSTONE | GY.BIOTR INTBD MUDST, MODIFIER CALC |
| 38 | 137.77 | 138.38 | 0.61 | | | SILTSTONE | GY.BIOTR CALCITE FILLED FRAC. AT 0.36 WITH OIL S TAINING, PIECES HAVE BEEN GROUND;POSSIB LE CORE LOSS;MODIFIER CALC |
| * | 138.38 | 139.15 | 0.77 | | | SILTSTONE | GY MNR PL FRAG; CALCT FILLED FRAC AT 0.15; MODIFIER CALC |
| * 45 | 139.15 | 141.13 | 1.98 | | | MUDSTONE | BIOTR CARB PL FRAG, MNR SLTST INTBD , MNR CAL CT VEINING, |
| 45 | 141.13 | 141.26 | 0.13 | | | MUDSTONE | DK.GY PYR SMEARS CY INCLUSIONS, MODIFIER CALC |
| | 141.26 | 142.57 | 1.31 | | | MUDSTONE | DK.GY.BIOTR CY INCLUSIONS CHALCOPYR;PYR SMEARS, MNR PL FRAG;MODIFIER CALC |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 45 | 142.57 | 143.11 | 0.54 | | | MUDSTONE | CARB.DK.GY.BIOTR CY INCLUSIONS, |
| 45 | 143.11 | 143.21 | 0.10 | | | COAL | C-5 CORE IS BROKEN |
| 45 | 143.21 | 143.24 | 0.03 | | | COAL | C-1 |
| 45 | 143.24 | 143.28 | 0.04 | | | COAL | C-2 |
| 45 | 143.28 | 143.46 | 0.18 | | | COAL | C-3 |
| 45 | 143.46 | 143.52 | 0.06 | | | MUDSTONE | |
| | 143.52 | 143.91 | 0.39 | | | MUDSTONE | CARB.DK.GY BROKEN SHEARED CY INCLUSIONS, LISTRIC S URF; PL FRAGS. |
| 45 | 143.91 | 144.31 | 0.40 | | | MUDSTONE | CARB.DK.GY CY INCLUSIONS MNR CALCT VEINING, SKS, M NR PL FRAGS |
| 45 | 144.31 | 144.63 | 0.32 | | | MUDSTONE | DK.GY SAME AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| * 45 | 144.63 | 145.09 | 0.46 | | | MUDSTONE | CARB.M.GY.BIOTR CY INCLUSIONS, MNR CALCT VEINING, PL FR AG; SED STRUCTURE IS WRMBUR. |
| 45 | 145.09 | 145.86 | 0.77 | | | MUDSTONE | CARB.DK.GY.BIOTR SKS, CY INCLUSIONS SS BAND WITH CARB PL FRAG AT BASE (APROX 5CM) |
| 45 | 145.86 | 145.96 | 0.10 | | | COAL | C-3 CORE SHEARED PULVERIZED |
| 45 | 145.96 | 146.34 | 0.38 | | | ROCK LOSS | |
| 45 | 146.34 | 146.44 | 0.10 | | | MUDSTONE | CARB.DK.GY.BIOTR CY INCLUSIONS; SKS; LISTRIC SURFACES; C ORE IS PULVERIZED TOWARD END; POSSIBLE CORELOSS NEAR BOX MARKER. |
| 45 | 146.44 | 146.95 | 0.51 | | | MUDSTONE | CARB.DK.GY.BIOTR LISTRIC SURF; CY; INCLUSION CORE BRKN; MNR PL-FRAG |
| 45 | 146.95 | 147.37 | 0.42 | | | MUDSTONE | CARB.DK.GY.BIOTR SAME AS ABOVE CORE BROKEN. |
| * 45 | 147.37 | 147.59 | 0.22 | | | MUDSTONE | CARB.DK.GY AS ABOVE POSSIBLE CORE LOSS, PIECES DON *T MATCH |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 45 | 147.59 | 147.64 | 0.05 | | | COAL | C-5 CORE BROKEN |
| 45 | 147.64 | 147.71 | 0.07 | | | COAL | C-4 CORE BROKEN |
| 45 | 147.71 | 147.73 | 0.02 | | | COAL | C-2 CORE PULVERIZED |
| 45 | 147.73 | 147.81 | 0.08 | | | COAL | C-5 CORE BROKEN |
| 45 | 147.81 | 147.86 | 0.05 | | | COAL | C-4 CORE BROKEN |
| 45 | 147.86 | 147.93 | 0.07 | | | COAL | C-3 CORE BROKEN |
| 45 | 147.93 | 148.03 | 0.10 | | | COAL | C-3 CORE BROKEN |
| 45 | 148.03 | 148.08 | 0.05 | | | COAL | C-4 CORE BROKEN; POSSIBLE CORE LOSS; PIECES DON'T MATCH |
| 45 | 148.08 | 148.18 | 0.10 | | | COAL | C-4 CORE BROKEN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 45 | 148.18 | 148.37 | 0.19 | | COAL | C-4 CORE VERY BADLY BROKEN |
| * | 45 | 148.37 | 149.42 | 1.05 | | MUDSTONE | DK.GY CY INCLUSIONS, PL. FRAG, MNR CALCT VEIN ING, SKS |
| | 45 | 149.42 | 149.52 | 0.10 | | MUDSTONE | CARB.DK.GY SAME AS ABOVE |
| * | 45 | 149.52 | 150.59 | 1.07 | | MUDSTONE | CARB.DK.GY CY INCLUSIONS, SKS SAME AS ABOVE CORE B ROKEN |
| | 44 | 150.59 | 150.88 | 0.29 | | MUDSTONE | CARB ABNT CY INCLUSIONS AND PARTINGS AT BASE , SKS, LISTRIC SURF, CORE BROKEN |
| | 43 | 150.88 | 151.19 | 0.31 | | MUDSTONE | CARB.DK.GY CY INCLUSIONS, SKS |
| | 43 | 151.19 | 151.23 | 0.04 | | COAL | C-5 PULVERIZED |
| | | 151.23 | 151.44 | 0.21 | | MUDSTONE | CARB.DK.GY CY INCLUSIONS, SKS, MNR CALCT VEINING. POSSIBLE CORELOSS, PIECES DON'T MATCH |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 42 | 151.44 | 151.92 | 0.48 | | | MUDSTONE | CARB SAME AS ABOVE CALCT FILL FRACTURE .01, CORE BROKEN SHEARED & PULVERIZED AT THE END; POSSIBLE CORE LOSS. |
| 42 | 151.92 | 152.53 | 0.61 | | | ROCK LOSS | |
| 41 | 152.53 | 152.57 | 0.04 | | | MUDSTONE | CARB.DK.GY SAME AS ABOVE |
| 41 | 152.57 | 152.97 | 0.40 | | | MUDSTONE | CARB.DK.GY.BIOTR CY INCLUSIONS, SKS, LISTRIC SURF, CORE BADLY BROKEN, PIECES DON'T MATCH, POSSI BLE CORE LOSS. (MNR CALCT VEINING) |
| * 40 | 152.97 | 153.54 | 0.57 | | | SILTSTONE | GY.BIOTR CY INCLUSIONS MNR CALCT VEINING MODIFIE R CALC |
| 37 | 153.54 | 154.28 | 0.74 | | | MUDSTONE | SLTY.DK.GY.BIOTR CY INCLUSIONS SKS MNR CALCT VEINING |
| * 35 | 154.28 | 154.51 | 0.23 | | | MUDSTONE | SLTY.DK.GY SAME AS ABOVE; INTBD VERY FINE GRAIN SS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 36 | 154.51 | 154.97 | 0.46 | | | MUDSTONE | SLTY.DK.GY MNR CALCT VEINING SKS, LISTRIC SURF, CY INCLUSIONS PYRITE SMEARS. |
| 37 | 154.97 | 155.48 | 0.51 | | | MUDSTONE | SLTY.DK.GY.BIOTR CY INCLUSIONS PYR SMEARS MNR CALCT VEIN ING SKS LISTRIC SURFACES. CARB PL FRAG. |
| 41 | 155.48 | 157.67 | 2.19 | | | MUDSTONE | SLTY.DK.GY.BIOTR SAME AS ABOVE;CORE IS BROKEN AT BOX MAR KER POSSIBLE ROCK LOSS. |
| * 45 | 157.67 | 158.62 | 0.95 | | | MUDSTONE | DK.GY MNR CY INCLUSIONS, MNR CALCT VEINING, S KS. MODIFIER CALC |
| 42 | 158.62 | 159.19 | 0.57 | | | MUDSTONE | DK.GY CALCT FILL FRACTURE AT .16 & .26 CARB PL- FRAG BECOMING SLTY TOWARD BASE. MODIFIE R CALC |
| 40 | 159.19 | 159.71 | 0.52 | | | SANDSTONE | VFG.GY.BIOTR INTBD MUDST CALCT VEINING PYR SMEARS, M NR SKS. |
| 37 | 159.71 | 160.38 | 0.67 | | | MUDSTONE | DK.GY CALCT FILLED FRACTURES AT .02, .10, .13, .18, .35, SKS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 35 | 160.38 | 160.91 | 0.53 | | | SILTSTONE | M.GY.BIOTR CARB PL. FRAG, INTBD MUDST CALCT FILL F RACTURE AT .31, SKS, FE STAINING OIL ST AINING, MODIFIER CALC |
| 36 | 160.91 | 161.29 | 0.38 | | | MUDSTONE | SLTY.DK.GY.BIOTR CALCT VEINING; CARB PL-FRAG FE STAINING , SKS, CORE BROKEN. |
| 36 | 161.29 | 161.65 | 0.36 | | | ROCK LOSS | |
| 37 | 161.65 | 162.17 | 0.52 | | | MUDSTONE | SLTY.DK.GY SAME AS ABOVE, NO FE STAINING; CORE HAS BEEN GROUND & BROKEN |
| 38 | 162.17 | 162.47 | 0.30 | | | ROCK LOSS | |
| 38 | 162.47 | 162.57 | 0.10 | | | SANDSTONE | FG.GY LISTRIC SURF, BRECCIATED; ABNT CALCT VEI NING, SKS. |
| 38 | 162.57 | 162.81 | 0.24 | | | MUDSTONE | SLTY.DK.GY.BIOTR CALCT VEINING, SKS, LISTRIC SURF. CY IN CL CORE IS BROKEN |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 39 | 162.81 | 163.09 | 0.28 | | | SANDSTONE | FG.GY.BIOTR CALCT VEINING, SKS LISTRIC SURF. INTBD MUDST CORE DOES NOT MATCH AND BROKEN (P OSSIBLE ROCK LOSS) |
| 39 | 163.09 | 163.44 | 0.35 | | | MUDSTONE | SLTY.DK.GY.BIOTR MNR CALCT VEINING SKS LISTRIC SURF CORE IS VBRKN; PIECES DON'T MATCH; POSSIBLE CORELOSS . |
| 40 | 163.44 | 163.69 | 0.25 | | | MUDSTONE | SLTY.DK.GY.BIOTR SAME AS ABOVE |
| * 40 | 163.69 | 163.98 | 0.29 | | | SANDSTONE | GY.LAM.BIOTR INTBD MUDST MNR CALCT VEINING SKS, PYR SMEARS LISTRIC SURF. CORE IS BROKEN. MO DIFIER CALC |
| 40 | 163.98 | 164.07 | 0.09 | | | MUDSTONE | SLTY.DK.GY.BIOTR CARB PL FRAG CALCT VEINING LISTRIC SURF SED STRUX WRMBUR |
| 40 | 164.07 | 164.38 | 0.31 | | | MUDSTONE | SLTY.DK.GY.BIOTR CALCT FILLED FRACTURE AT 0.05 SKS, LIST RIC SURF. HORSETAIL CALCT VEINING;CY IN CLUSIONS; CORE IS VBRKN AT BOX MARKER. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|---------|-----------|--|
| 40 | 164.38 | 164.65 | 0.27 | | | ROCK LOSS | |
| 40 | 164.65 | 164.74 | 0.09 | | | FE ST | GY HORSETAIL CALCT VEINING |
| 40 | 164.74 | 164.86 | 0.12 | | | MUDSTONE | SLTY.DK.GY.BIOTR CALCT VEINING, SKS, LISTRIC SURF; SOME CY INCLUSIONS CORE IS BROKEN & SHEARED |
| * 40 | 164.86 | 165.08 | 0.22 | | | SANDSTONE | FG.M.GY.SSD CALCT VEINING, CY INCLUSIONS LISTRIC SURF; SKS. MODIFIER CALC; SED STRUX BIOTRB |
| * 20 | 165.08 | 165.57 | 0.49 | | | MUDSTONE | SLTY.DK.GY.BIOTR CY INCLUSIONS & PARTINGS; MNR HORSETAIL CALCT VEINING; LISTRIC SURF. |
| 22 | 165.57 | 165.78 | 0.21 | | | MUDSTONE | SLTY.DK.GY.BIOTR SAME AS ABOVE; CORE PULVERIZED AT BASE |
| 25 | 165.78 | 166.83 | 1.05 | | | ROCK LOSS | |
| 28 | 166.83 | 166.99 | 0.16 | | | SANDSTONE | FG.GY ABNT CALCT VEINING, AT .07 ABNT CALCT F ILLED FRACTURES; LISTRIC SURF, SKS. BRE CCIIATED; CORE BROKEN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 29 | 166.99 | 167.02 | 0.03 | | | MUDSTONE | SLTY.DK.GY MNR CALCT VEINING; LISTRIC SURF, SKS, C ORE DOESN'T MATCH POSSIBLE CORE LOSS |
| 30 | 167.02 | 167.40 | 0.38 | | | MUDSTONE | SLTY.DK.GY.BIOTR.VBRKN CALCT VEINING, ABNT LISTRIC SURF;SKS;CY INCLUSIONS; CORE IS VSHRD AND PULVERIZ ED; POSSIBLE CORELOSS; BECOMING CARB TO WARDS BOX MARKER. |
| 32 | 167.40 | 167.71 | 0.31 | | | MUDSTONE | CARB.DK.GY.BIOTR CY INCLUSIONS, MNR CALCT VEINING, SKS, CORE VERY BADLY BROKEN & SHEARED. |
| * 35 | 167.71 | 168.60 | 0.89 | | | MUDSTONE | SLTY.DK.GY MNR CALCT VEINING, SKS LISTRIC SURF. |
| * 30 | 168.60 | 169.34 | 0.74 | | | SANDSTONE | MG.MOD.GY.HRMBU ABNT CALCT VEINING, CALCT FILLED FRACTU RES AT 0.42 SKS, LISTRIC SURF |
| * 20 | 169.34 | 170.51 | 1.17 | | | SANDSTONE | FG.GY ABNT CALCT VEINING; PYRITE SMEARS; SKS; LISTRIC SURF; CARB PARTINGS. |
| 24 | 170.51 | 171.54 | 1.03 | | | SANDSTONE | MG.GY SAME AS ABOVE, PYRITE SMEARS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 27 | 171.54 | 171.86 | 0.32 | | SANDSTONE | MG.GY AS ABOVE |
| * | 30 | 171.86 | 173.01 | 1.15 | | SANDSTONE | MG.GY MUDST INTBDS TOWARD END SKS, LISTRIC SURF, PYRITE SMEARS, ABNT CALCT VEINING CORE IS BROKEN, SOME PIECES DON'T MATCH POSSIBLE CORE LOSS. |
| | 23 | 173.01 | 174.44 | 1.43 | | SANDSTONE | FG.BIOTR ABNT CALCT VEINING SKS LISTRIC SURF, PYRITE SMEARS CORE IS BROKEN. |
| * | 16 | 174.44 | 175.42 | 0.98 | | SANDSTONE | FG.GY SAME AS ABOVE |
| * | 16 | 175.42 | 175.92 | 0.50 | | MUDSTONE | SLTY.GY.BIOTR ABNT CALCT VEINING OIL STAINING;SKS;LISTRIC SURF. TOPS UP CALCT FILLED FRACTURE AT 0.44;PYRITE SMEARS;CORE IS BROKEN; SED STRUCTURE IS XBDG. |
| * | 16 | 175.92 | 176.23 | 0.31 | | SANDSTONE | FG.GY.BIOTR INTBD MUDST, CALCT VEINING CALCT FRACTURE AT .08 PYRITE SMEARS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 17 | 176.23 | 176.78 | 0.55 | | | MUDSTONE | SLTY.GY.BIOTR ABNT CALCT VEINING, SKS SS INTBDS, BREC CIATED ZONE AT 0.25, PYRITE BLEBS LISTR IC SURF CORE IS BROKEN SED STRUX WRMBUR |
| 18 | 176.78 | 176.96 | 0.18 | | | SANDSTONE | FG.GY INTBD MUDST, CALCT VEINING, SKS, LISTRI C SURF; OIL STAINING CORE IS BROKEN |
| 19 | 176.96 | 177.40 | 0.44 | | | SANDSTONE | FG.GY SAME AS ABOVE |
| * 20 | 177.40 | 177.58 | 0.18 | | | SANDSTONE | FG.GY AS ABOVE |
| 20 | 177.58 | 179.59 | 2.01 | | | MUDSTONE | SLTY.DK.GY.BIOTR SS INCLUSIONS, MNR CORE PARTING, MNR CA LCT VEINING PYRITE BLEBS, SKS, LISTRIC SURF. BECOMING MORE CARB TOWARD END OF BOX |
| 20 | 179.59 | 180.46 | 0.87 | | | ROCK LOSS | |
| * 20 | 180.46 | 181.25 | 0.79 | | | MUDSTONE | CARB.WRMBU PYRITE BLEBS, COALY INCLUSIONS & PARTIN GS, SKS CORE BROKEN SED STRUX BIOTRB |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|------------|--|
| 26 | 181.25 | 182.66 | 1.41 | | | MUDSTONE | CARB.DK.GY.BIOTR CY INCLUSIONS, PYRITE BLEBS, CORE IS BADLY BROKEN, PULVERIZED TOWARD END OF BOX, SKS, LISTRIC SURF |
| 31 | 182.66 | 183.07 | 0.41 | | | ROCK LOSS | |
| 35 | 183.07 | 183.78 | 0.71 | | | MUDSTONE | CARB.DK.GY.BIOTR CY INCLUSIONS; SKS LISTRIC SURF; MNR CALCT VEINING CORE VERY BADLY BROKEN; POSSIBLE ROCK LOSS. |
| 37 | 183.78 | 183.90 | 0.12 | | | ROCK LOSS. | |
| 39 | 183.90 | 184.60 | 0.70 | | | MUDSTONE | CARB.DK.GY.BIOTR SAME AS ABOVE; CORE IS BROKEN AND PULVERIZED TOWARD BOX MARKER. |
| 42 | 184.60 | 184.99 | 0.39 | | | MUDSTONE | CARB.DK.GY.BIOTR SAME AS ABOVE. |
| * 45 | 184.99 | 185.55 | 0.56 | | | SILTSTONE | M.GY.BIOTR ABNT CALCT VEINING; PYRITE BLEBS; SKS, LISTRIC SURF. CORE IS BROKEN. MUDDY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 37 | 185.55 | 185.68 | 0.13 | | | SILTSTONE | M.GY.BIOTR MUDDY; SAME AS ABOVE. |
| * 18 | 185.68 | 187.10 | 1.42 | | | MUDSTONE | SLTY.DK.GY.BIOTR CY INCLUSIONS, CALCT VEINING; FE STAINING SKS. |
| * 28 | 187.10 | 188.35 | 1.25 | | | MUDSTONE | SLTY.DK.GY.BIOTR SAME AS ABOVE. |
| 29 | 188.35 | 188.62 | 0.27 | | | MUDSTONE | DK.GY.BIOTR MNR CALCT VEINING SKS; CORE IS BROKEN. |
| * 30 | 188.62 | 189.39 | 0.77 | | | MUDSTONE | SLTY.DK.GY.BIOTR CALCT VEINING, SKS, LISTRIC SURFACES; CALCT CONCRETIONS, CY INCLUSIONS, SS BLEBS; CORE IS INTACT REWORKED AND WELDED POSSIBLE FAULT. |
| 28 | 189.39 | 189.59 | 0.20 | | | SANDSTONE | MG.GY ABNT CALCT VEINING; CY INCLUSIONS; SKS, LISTRIC SURF; PYR SMEARS; BRECCIATED; CORE IS BROKEN - END OF FAULT ZONE. |
| 26 | 189.59 | 190.15 | 0.56 | | | SANDSTONE | CG.MOD.GY ABNT CALCT VEINING; CY INCLUSIONS S AND P APPEARANCE PYR SMEARS; CORE IS BROKEN. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 24 | 190.15 | 190.91 | 0.76 | | SANDSTONE | CG.MOD.GY.RIPMK SAME AS ABOVE. |
| * | 20 | 190.91 | 191.89 | 0.98 | | SANDSTONE | CG.WEL.GY.RIPMK BIOTRB; CALCT VEINING; CY INCLUSIONS; S KS, LISTRIC SURF; PYR; CORE IS BROKEN. |
| | 22 | 191.89 | 193.23 | 1.34 | | SANDSTONE | MG.MOD.GY.BIOTR SAME AS ABOVE BECOMING FINER TOWARDS BA SE. CORE IS INTACT. RIPUPCL. |
| | 23 | 193.23 | 193.64 | 0.41 | | SANDSTONE | MG.GY.BIOTR SAME AS ABOVE. |
| | 24 | 193.64 | 194.53 | 0.89 | | SANDSTONE | MG.WEL.GY.BIOTR MNR CALCT VEINING; FE STAINING S AND P APPEARANCE BECOMING FINER TOWARDS BASE. |
| * | 25 | 194.53 | 195.81 | 1.28 | | SANDSTONE | FG.MOD.GY.LAM.BIOTR CALCT VEINING CARB AND CY INCLUSIONS; L ISTRIC SURF; CORE IS BROKEN. RIPUPCL. |
| | 24 | 195.81 | 196.07 | 0.26 | | SANDSTONE | MG.GY.BIOTR CALCT INCLUSIONS, CY INCLUSIONS SKS FE STAINING; PIECES DON'T MATCH (POSSIBLE ROCK LOSS). |
| | 23 | 196.07 | 196.35 | 0.28 | | SANDSTONE | MG.PR.GY.BIOTR SAME AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 20 | 196.35 | 199.14 | 2.79 | | | SANDSTONE | MG.MOD.GY.BIOTR MUDDY; RIPUPCL; CY INCLUSIONS, CALCT VE INING SKS; LISTRIC SURFACES; CORE IS BR OKEN. |
| * 20 | 199.14 | 201.03 | 1.89 | | | SANDSTONE | MG.MOD.GY.BIOTR RIPUPCL; SAME AS ABOVE. |
| 24 | 201.03 | 201.62 | 0.59 | | | SANDSTONE | CG.PR.GY.BIOTR RIPUPCL; SAME AS ABOVE, CORE IS BROKEN. |
| 26 | 201.62 | 201.88 | 0.26 | | | MUDSTONE | SLTY.DK.GY.BIOTR RIPUPCL; SS INTB; CALCT VEINING; CY INC LUSIONS AND STRINGERS SKS LISTRIC SURF. |
| 26 | 201.88 | 201.99 | 0.11 | | | MUDSTONE | SLTY.DK.GY.BIOTR SAME AS ABOVE. |
| 27 | 201.99 | 202.22 | 0.23 | | | SANDSTONE | CG.MOD.GY.RIPMK WRMBUR; CALCT VEINING, SKS, CY INCLUSIO NS PYR SMEARS. |
| 28 | 202.22 | 202.80 | 0.58 | | | SANDSTONE | CG.PR.RIPMK WRMBUR; SAME AS ABOVE; CORE IS BADLY BR OKEN. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 30 | 202.80 | 203.23 | 0.43 | | | SANDSTONE | MG.MOD.GY.BIOTR RIPUPCL; CALCT VEINING, CY INCLUSIONS; SKS LISTRIC SURFACES; CORE IS BADLY BRO KEN. MUDDY. |
| 28 | 203.23 | 204.66 | 1.43 | | | SANDSTONE | MG.MOD.GY.BIOTR RIPUPCL; ABNT CALCT VEINING, CY INCLUSI ONS, SKS LISTRIC SURF, PYR SMEARS; CORE IS BADLY BROKEN. |
| * 25 | 204.66 | 205.44 | 0.78 | | | SANDSTONE | MG.MOD.GY.MB.BIOTR RIPUPCL; CY INCLUSIONS, ABNT CALCT VEIN ING; CALCT FILLED AT 0.01, 0.21, 0.34 S KS, LISTRIC SURF; PYR SMEARS; CORE BADL Y BROKEN. |
| | 205.44 | 206.38 | 0.94 | | | SANDSTONE | MG.MOD.GY.MB.BIOTR CY INCLUSIONS, CALCT VEINING CALCT FILL ED FRAC AT .12, .89 SKS, LISTRIC SURF; FE STAINING; CORE IS BADLY BROKEN; MUDD Y. |
| 16 | 206.38 | 207.26 | 0.88 | | | SANDSTONE | MG.MOD.GY.MB.WRMBU SAME AS ABOVE, PIECES DON'T MATCH; POSS IBLE ROCK LOSS. |
| 13 | 207.26 | 207.56 | 0.30 | | | SANDSTONE | MG.MOD.GY.MB.WRMBU SAME AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 12 | 207.56 | 207.73 | 0.17 | | | SILTSTONE | GY MUDDY; CALCT VEINING (ABNT), CALCT FILL ED FRAC AT .06, .17, PIECES DON'T MATCH , POSSIBLE CORE LOSS. |
| * 10 | 207.73 | 208.35 | 0.62 | | | MUDSTONE | SLTY.DK.GY.BIOTR CALCT VEINING, LISTRIC SURF, SKS, CALCT FILLED FRAC AT .29, .51, PYR SMEARS, C ORE IS BROKEN. |
| 18 | 208.35 | 208.74 | 0.39 | | | MUDSTONE | SLTY.DK.GY.BIOTR SAME AS ABOVE, CORE IS BADLY BROKEN, PI ECES DON'T MATCH, POSSIBLE ROCK LOSS. |
| * | 208.74 | 209.75 | 1.01 | | | MUDSTONE | SLTY.DK.GY.BIOTR CALCT VEINING, CALCT FILLED FRAC AT .88 , SKS, LISTRIC SURF; CORE IS BROKEN. |
| * | 209.75 | 211.28 | 1.53 | | | MUDSTONE | SLTY.DK.GY.BIOTR SAME AS ABOVE, CALCT FILL FRAC AT .55, CORE IS BROKEN. |
| * 30 | 211.28 | 212.19 | 0.91 | | | MUDSTONE | SLTY.DK.GY.BIOTR SAME AS ABOVE; CORE IS GROUND AT BOX MA RKER. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 20 | 212.19 | 213.47 | 1.28 | | | SILTSTONE | GY.BIOTR CALCT VEINING OIL STAINING SKS, LISTRIC SURF, PYR SMEARS, CORE BADLY BROKEN; P IECES DON'T MATCH, POSSIBLE ROCK LOSS. MUDDY. |
| 23 | 213.47 | 213.75 | 0.28 | | | ROCK LOSS | |
| 25 | 213.75 | 214.33 | 0.58 | | | MUDSTONE | SLTY.DK.GY MNR CALCT VEINING, SKS, LISTRIC SURF, C ORE VERY BADLY BROKEN; POSSIBLE ROCK LO SS. |
| | 214.33 | 214.49 | 0.16 | | | SANDSTONE | FG.PR.GY.BIOTR CALCT FILLED FRAC AT .05 SKS, CORE BROK EN. |
| 27 | 214.49 | 214.88 | 0.39 | | | MUDSTONE | SLTY.DK.GY.BIOTR MNR CALCT VEINING, SKS, LISTRIC SURF, P YR SMEARS, CORE VERY BADLY BROKEN. |
| 28 | 214.88 | 214.92 | 0.04 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 30 | 214.92 | 215.86 | 0.94 | | | SILTSTONE | GY.BIOTR MUDDY, MNR CALCT VEINING, SKS, LISTRIC SURF; CORE IS BROKEN. |
| * 25 | 215.86 | 217.42 | 1.56 | | | SILTSTONE | GY.BIOTR SAME AS ABOVE, MUDST INTBDS. MUDDY. |
| 21 | 217.42 | 217.54 | 0.12 | | | MUDSTONE | SLTY.DK.GY.BIOTR MNR CALCT VEINING, SKS, LISTRIC SURF. |
| * 15 | 217.54 | 219.81 | 2.27 | | | SILTSTONE | GY.BIOTR SAME AS ABOVE, MUDST INTBDS, CORE VERY BADLY BROKEN, MUDDY. |
| * 25 | 219.81 | 220.53 | 0.72 | | | SILTSTONE | CARB.GY.BIOTR INTB MUDST; LISTRIC SURF; MNR CALCT VEI NING, SKS, CORE IS VERY BADLY BROKEN PI ECES DO NOT MATCH (POSSIBLE ROCK LOSS.) |
| | 220.53 | 222.38 | 1.85 | | | MUDSTONE | DK.GY.BIOTR LISTRIC SURF; SKS, MNR CALC VEINING, CY INCLUSIONS, CALC CONCRETIONS AT 1.58, 1.61 AND 1.71; CORE IS BROKEN; PYR BLEB S; CARB PL FRAG. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 20 | 222.38 | 223.54 | 1.16 | | | MUDSTONE | DK.GY.BIOTR SKS, LISTRIC SURF, PYR BLEBS AND SMEARS ; CARB INCLUSIONS, MNR CALCT VEINING; C ORE IS BROKEN. |
| 22 | 223.54 | 223.91 | 0.37 | | | MUDSTONE | DK.GY SAME AS ABOVE. |
| 24 | 223.91 | 224.66 | 0.75 | | | MUDSTONE | DK.GY SAME AS ABOVE, CORE IS VERY BADLY BROKE N; PULVERIZED AND SHEARED AT BEGINNING AND END OF MEASUREMENT. |
| 27 | 224.66 | 226.11 | 1.45 | | | ROCK LOSS | |
| 29 | 226.11 | 226.58 | 0.47 | | | MUDSTONE | CARB.DK.GY.WRMBU PYR BLEBS; CY INCLUSIONS, LISTRIC SURF, SKS, CORE IS BADLY BROKEN, PULVERIZED TOWARD END, CARB PL-FRAG. |
| * 30 | 226.58 | 226.72 | 0.14 | | | SILTSTONE | INTBD MUDST; ABNT CALCT VEINING, SKS, L ISTRIC SURF, OIL STAINING. |
| 24 | 226.72 | 227.30 | 0.58 | | | MUDSTONE | CARB.DK.GY.WRMBU MNR CALCT VEINING; CALCT CONCRETION .50 CARB PL-FRAG; CORE IS BROKEN. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 46

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * | 227.30 | 228.43 | 1.13 | | | SILTSTONE | GY.BIOTR MUDDY; INTBD MUDST; CALCT VEINING AND C ONCRETIONS, SKS, PYR. CRYSTALS; SKS, BE COMING MUDDIER TOWARDS END OF BOX; CORE IS BROKEN. |
| 19 | 228.43 | 229.62 | 1.19 | | | MUDSTONE | SLTY.DK.GY.BIOTR MNR CALCT VEINING, SKS, LISTRIC SURF, P YR SMEARS; CORE BROKEN, CARB PL-FRAG PI ECES DON'T MATCH, POSSIBLE ROCK LOSS. |
| 29 | 229.62 | 230.89 | 1.27 | | | MUDSTONE | SLTY.DK.GY.BIOTR SAME AS ABOVE. |
| 34 | 230.89 | 230.95 | 0.06 | | | SILTSTONE | GY.BIOTR MUDDY; MNR CALCT VEINING, CARB PL-FRAG. |
| | 230.95 | 231.29 | 0.34 | | | SILTSTONE | GY.BIOTR LISTRIC SURF; MNR CALCT VEINING, SKS. |
| 39 | 231.29 | 231.82 | 0.53 | | | MUDSTONE | SLTY.DK.GY CALCT VEINING, SKS, PYR SMEARS; MNR SLT ST INTBDS, CORE IS BROKEN; MODIFIER: CA LC. |
| * 45 | 231.82 | 232.89 | 1.07 | | | SANDSTONE | FG.GY CALCT VEINING, CALCT FILLED FRACT AT .6 5, .78, .88; SKS, LISTRIC SURF; CORE IS BROKEN. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 47

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 28 | 232.89 | 233.22 | 0.33 | | | SANDSTONE | FG.GY SAME AS ABOVE. |
| * 20 | 233.22 | 233.60 | 0.38 | | | MUDSTONE | SLTY.DK.GY.WRMBU INTBD SLTST, MNR CY INCLUSIONS; MNR CALCT VEINING, LISTRIC SURF; CORE IS BROKEN. |
| | 233.60 | 234.07 | 0.47 | | | SILTSTONE | GY.BIOTR MNR CALCT VEINING, INTBD MUDST; SKS, LISTRIC SURF; CARB PL-FRAG; CORE IS BADLY BROKEN. |
| 26 | 234.07 | 234.33 | 0.26 | | | ROCK LOSS | |
| * 30 | 234.33 | 235.01 | 0.68 | | | SILTSTONE | GY.BIOTR MUDDY; SAME AS ABOVE, CORE IS BROKEN. |
| 30 | 235.01 | 235.55 | 0.54 | | | MUDSTONE | CARB.DK.GY.WRMBU SLTY; CALCT VEINING; CALCT FILLED FRACT .24 SKS, LISTRIC SURF; MNR CY INCLUSIONS; CORE IS BROKEN. |
| 30 | 235.55 | 236.00 | 0.45 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 48

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 30 | 236.00 | 236.49 | 0.49 | | MUDSTONE | SLTY.DK.GY.WRMBU SAME AS ABOVE, CORE IS BROKEN. |
| * | 30 | 236.49 | 237.03 | 0.54 | | SILTSTONE | GY.WRMBU INTBD SLTST, MNR CLCT VEINING, SKS, LISTRIC SURF; CORE IS BROKEN. |
| | 30 | 237.03 | 237.24 | 0.21 | | MUDSTONE | SLTY.DK.GY.WRMBU MNR CALCT VEINING, SKS, LISTRIC SURF, SLTST INCLUSIONS, CORE IS BROKEN. |
| | 30 | 237.24 | 237.52 | 0.28 | | SILTSTONE | GY.BIOTR MNR CALCT VEINING, SKS. MUDDY; MODIFIER = CALC. |
| | 30 | 237.52 | 237.84 | 0.32 | | MUDSTONE | SLTY.DK.GY.BIOTR CARB PL-FRAG, SKS, CY INCLUSIONS (MNR); MODIFIER: CALC. |
| * | 30 | 237.84 | 238.70 | 0.86 | | MUDSTONE | SLTY.DK.GY.BIOTR SAME AS ABOVE. MODIFIER: CALC. |
| | 30 | 238.70 | 238.79 | 0.09 | | MUDSTONE | SLTY.DK.GY.BIOTR SAME AS ABOVE. MODIFIER: CALC. |
| | 30 | 238.79 | 240.27 | 1.48 | | MUDSTONE | CARB.DK.GY SAME AS ABOVE, CORE IS BROKEN. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 49

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81004

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 30 | 240.27 | 240.36 | 0.09 | | | COAL | C-3 BADLY BROKEN. |
| 30 | 240.36 | 240.45 | 0.09 | | | COAL | C-2 BADLY BROKEN. |
| 30 | 240.45 | 240.55 | 0.10 | | | COAL | C-3 BADLY BROKEN. |
| 30 | 240.55 | 240.67 | 0.12 | | | COAL | C-3 BADLY BROKEN. |
| 30 | 240.67 | 240.93 | 0.26 | | | COAL | C-5 BADLY BROKEN TO PULVERIZED. |
| 30 | 240.93 | 241.20 | 0.27 | | | MUDSTONE | CARB.DK.GY CARB PL-FRAG. |
| 30 | 241.20 | 241.86 | 0.66 | | | MUDSTONE | CARB.DK.GY.WRMBU SAME AS ABOVE; CORE BROKEN. |
| 30 | 241.86 | 242.85 | 0.99 | | | MUDSTONE | CARB.DK.GY.WRMBU SAME AS ABOVE, CORE BROKEN. |

* DENOTES MEASURED BCA

**OPEN
FILE**

GULF CANADA RESOURCES INC.

COAL DIVISION

GOODRICH GEOLOGICAL REPORT

1981

APPENDIX B PART 4

DDH 81-05 to DDH 81-07

DDH 81-05

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: _____ DATA SOURCE: DDH81005

HISTORY

START DATE: 06/08/81 END DATE: 17/08/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: I. DELAS SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1244.3
 UTM ZONE: 10 NORTH: 6140603.32 EAST: 549501.43
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: . EAST: . LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: . EAST: . QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 427.00 INCLINATION: 065.0 AZIMUTH: 058.0
 SIZE WIDTH: . SIZE HEIGHT: .
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 13.4 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: . . LOST CIRCULATION DEPTHS: . .

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | — | — | — | X | 125A |
| NEUTRON | X | 1:100 | : | — | — | — | X | 125A |
| DENSITY | X | 1:100 | 1:40 | — | — | — | X | 422AS |
| CALIPER | X | 1:100 | : | — | — | — | X | 785 |
| FE-SHORT | | : | : | — | — | — | | |
| FE-LONG | X | 1:100 | 1:40 | — | — | X | — | 9 |
| DIRECTIONAL | X | : | : | — | — | X | — | — |
| DIPMETER | — | : | : | — | — | — | — | — |

*** COAL DIVISION ***

DATA SOURCE: D81-05

INTERVAL OF INTERPOLATION 10 UNIT(S)

VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 0.00 | 23.00 | 58.10 |
| 15.00 | 23.00 | 58.10 |
| 15.00 | 23.00 | 58.10 |
| 30.00 | 23.70 | 56.00 |
| 45.00 | 24.40 | 59.10 |
| 60.00 | 23.90 | 55.00 |
| 75.00 | 24.50 | 57.50 |
| 90.00 | 24.10 | 53.80 |
| 105.00 | 24.85 | 56.80 |
| 120.00 | 24.70 | 53.30 |
| 135.00 | 25.00 | 53.40 |
| 150.00 | 25.40 | 49.10 |
| 165.00 | 25.60 | 50.90 |
| 180.00 | 24.60 | 50.20 |
| 195.00 | 25.40 | 53.00 |
| 210.00 | 25.90 | 49.30 |
| 225.00 | 26.10 | 53.40 |
| 240.00 | 26.10 | 52.90 |
| 255.00 | 26.10 | 52.40 |
| 270.00 | 27.00 | 50.70 |
| 285.00 | 26.50 | 49.80 |
| 300.00 | 27.00 | 52.80 |
| 315.00 | 26.80 | 55.60 |
| 330.00 | 27.00 | 48.00 |
| 345.00 | 27.20 | 52.90 |
| 360.00 | 28.30 | 54.60 |

DATA SOURCE: D81-05

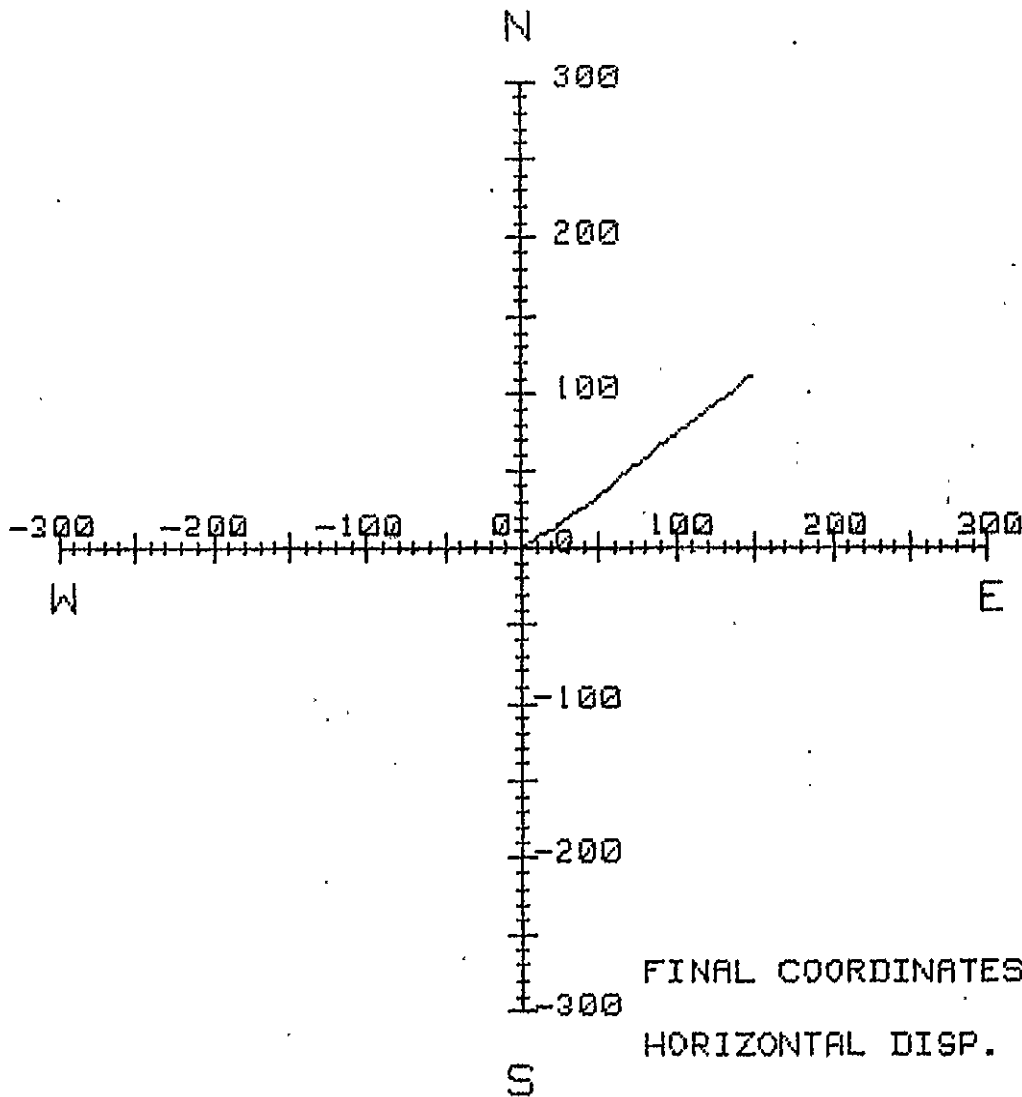
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 375.00 | 29.30 | 53.10 |
| 390.00 | 28.50 | 52.30 |
| 405.00 | 29.30 | 50.10 |
| 420.00 | 29.30 | 50.10 |
| 420.00 | 29.60 | 49.00 |
| 423.00 | 29.60 | 50.50 |

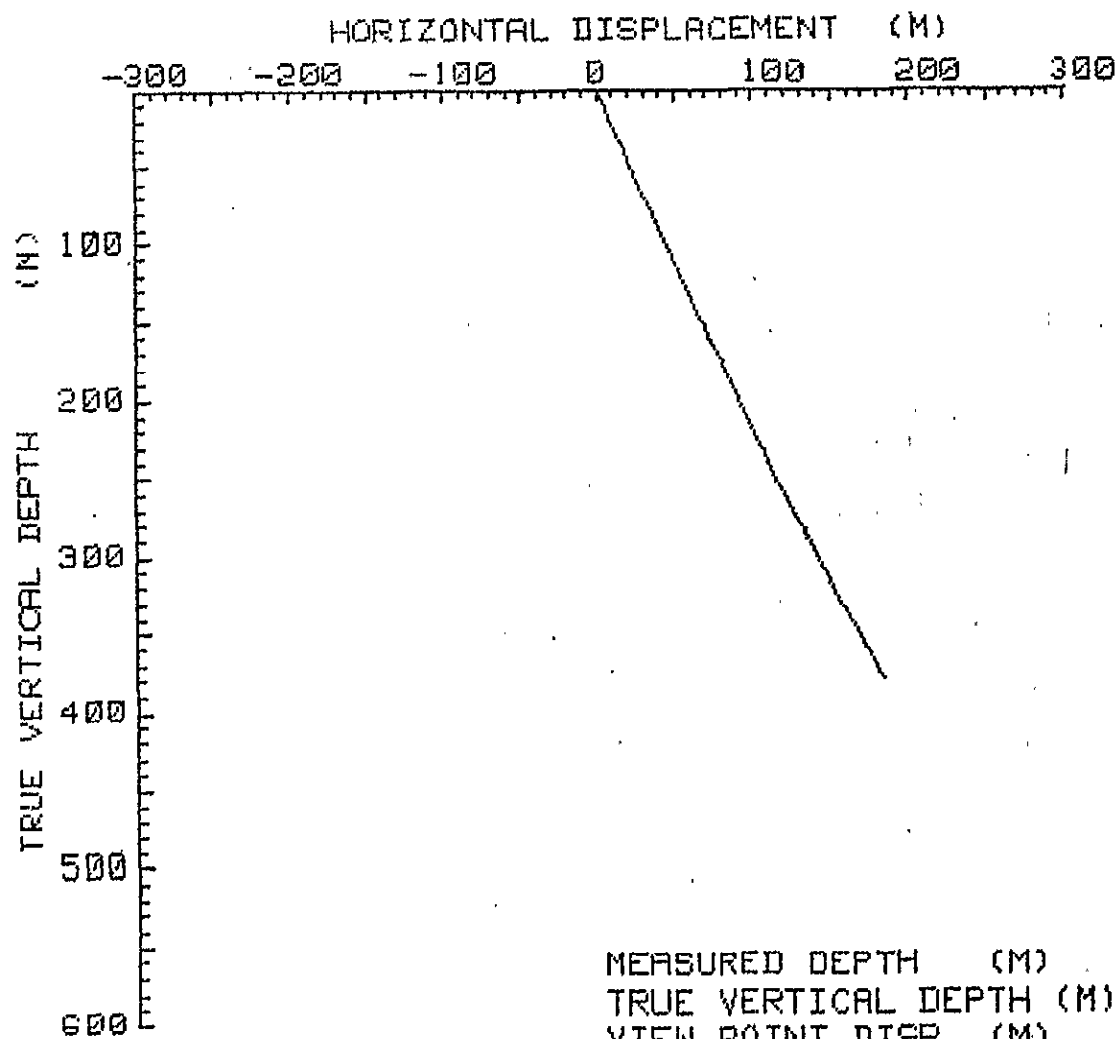
PLAN VIEW

WELL ID NUMBER
D81-05



FINAL COORDINATES(M) N 111.20
E 147.75
HORIZONTAL DISP. (M) 183.11

DISPLACEMENT

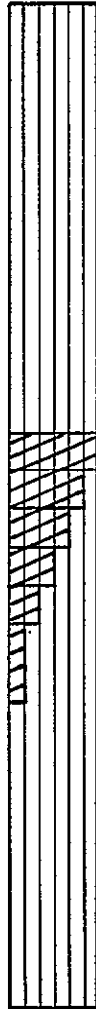


| | |
|-------------------------|--------|
| MEASURED DEPTH (M) | 423.00 |
| TRUE VERTICAL DEPTH (M) | 380.14 |
| VIEW POINT DISP. (M) | 103.11 |
| SECTION LINE BEARING | 45.00 |

SEAM
COMP

COAL
SEAM
LOG

- LITHOTYPE
- C-1: Bright 80% Vitrain
 - C-2: Bright banded 60-80% Vitrain
 - C-3: Dull/Bright 40-60% Vitrain
 - C-4: Dull banded 20-40% Vitrain
 - C-5: Dull 20% Vitrain
 - C-6: Bone



- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff
- coal
- coal-boney, stoney, coal and bands/rock - designated "C6"
- rock } coal lithotype uncertain
- coal } MISSING CORE
- rock }
- rock
- coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

| | | |
|---|---------------|-------------|
| GULF CANADA RESOURCES INC. | | |
| Coal Division | | |
| CALGARY | ALBERTA | |
| LEGEND FOR COAL SEAM DATA SHEETS | | |
| PREPARED BY: V.O. | SCALE 1:40 | |
| APPROVED BY: | DATE: JAN. 82 | DRAWING No. |

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK | |
|-------------|------|--------------------|------------|----------|----------|-------------|----------------|----------------|--------------|--------------|------|
| DDH81005 | | | | | | | | | | | |
| | | 1 { <i>ALAN</i> | 83 | 166.50 | 170.30 | 3.23 | 85.00 | 3.15 | 0.08 | 0.57 | 0.00 |
| | | | 84 | 170.30 | 170.85 | 0.35 | 63.64 | 0.15 | 0.22 | 0.00 | 0.20 |
| | | | 85 | 170.85 | 171.60 | 0.30 | 40.00 | 0.30 | 0.00 | 0.45 | 0.00 |
| | | | 86 | 171.60 | 172.00 | 0.38 | 38.00 | 0.00 | 0.36 | 0.00 | 0.62 |
| | | | 87 | 172.60 | 177.22 | 3.84 | 83.12 | 3.61 | 0.23 | 0.68 | 0.10 |
| | | 4 { | 88 | 378.90 | 379.70 | 0.36 | 45.00 | 0.36 | 0.00 | 0.44 | 0.00 |
| | | | 89 | 379.70 | 379.88 | 0.18 | 100.00 | 0.00 | 0.18 | 0.00 | 0.00 |
| | | | 90 | 379.88 | 382.79 | 2.37 | 81.44 | 2.03 | 0.34 | 0.35 | 0.19 |

PROJ - GDR ANALYSIS BASIS TYPE - AD NAME OF STANDARD - ASTM

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|-------|---------------|------------------|----------------|-------------------------------|------|------|
| DDH81005 | | 83 | 1.28 | 10.24 | 64.58 | 23.90 | 0.24 | 31.02 | 1.36 | 1.00 |
| | | 84 | 1.07 | 25.21 | 50.81 | 22.91 | 0.68 | 26.02 | 1.44 | 0.00 |
| | | 85 | 0.65 | 60.95 | 19.99 | 16.41 | 0.10 | 10.02 | 1.90 | 1.00 |
| | | 86 | 1.17 | 73.53 | 11.03 | 14.27 | 0.06 | 5.60 | 2.21 | 0.00 |
| | | 87 | 1.06 | 15.19 | 57.51 | 26.24 | 0.24 | 29.63 | 1.38 | 4.00 |
| | | 88 | 1.45 | 30.93 | 48.10 | 19.52 | 0.19 | 23.72 | 1.53 | 1.00 |
| | | 89 | 1.20 | 78.70 | 11.30 | 8.80 | 0.36 | 5.14 | 2.17 | 0.00 |
| | | 90 | 0.75 | 20.90 | 53.02 | 25.33 | 0.68 | 27.48 | 1.44 | 7.00 |

COAL SEAM DATA SHEET

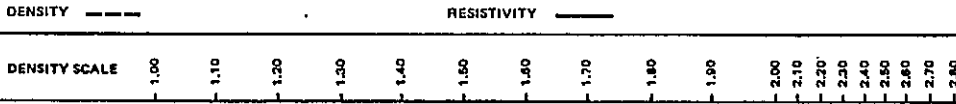
GULF CANADA RESOURCES INC.
COAL DIVISION

P-207 (12-80)

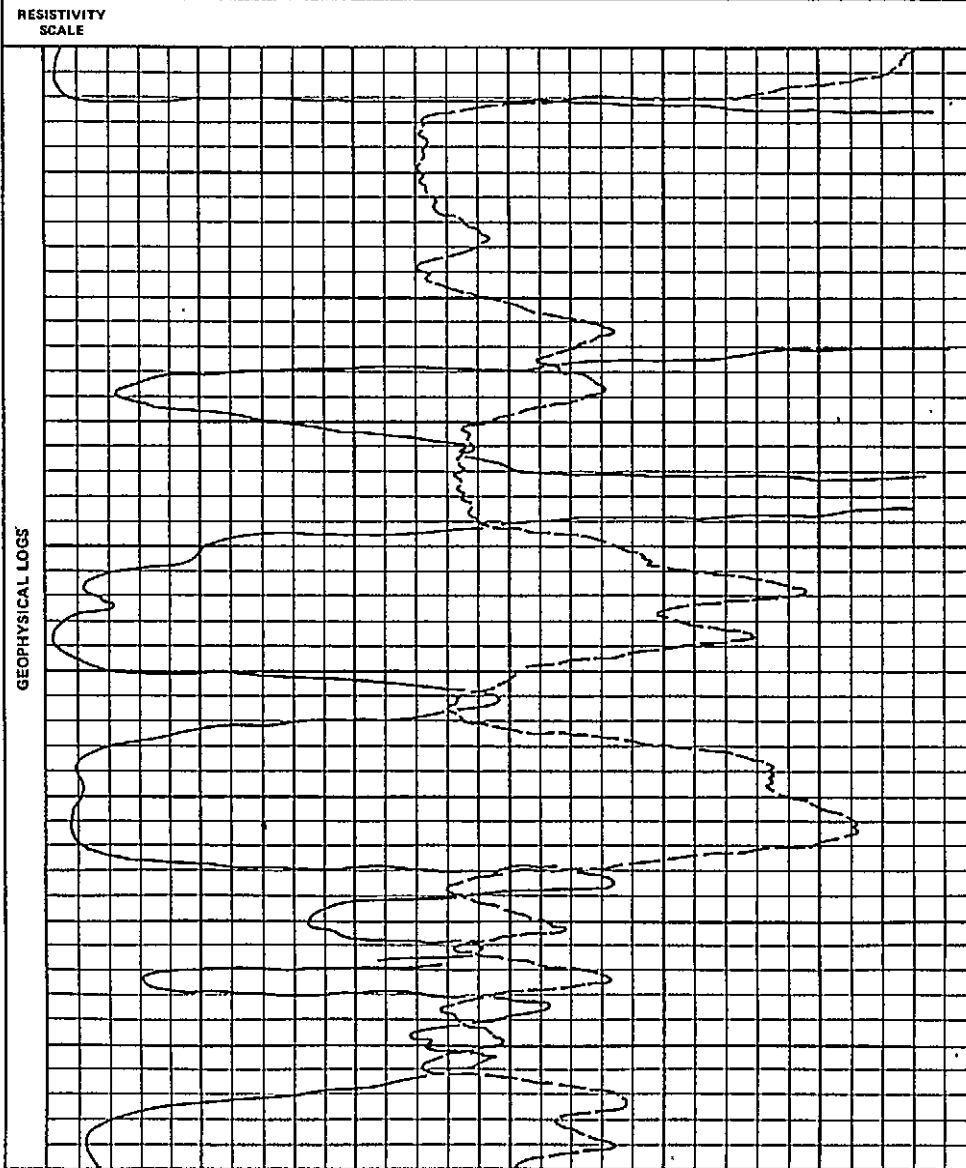
Coal / Coal + Rock (True Thk (m))
7.33 / 8.71

DRILL NO. GDR - DDH - 81-05 SEAM

SEAM INTERVAL 166.50 - 177.22 m



SCALE 1:40



SEAM COMP. 654321

| DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | |
|--------|---------------|----------|------------------------|--------|--------|---------|-------------------------|------|-------|-------|-------|-------------|-------------------|-----|--|--|--|
| | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI | | | | |
| 166.50 | | | 1.89 | | | | | | | | | | | | | | |
| | | | 0.03 (0.23) 0.05 | 85 | 00083 | | | 1.28 | 10.24 | 23.90 | 64.58 | 0.24 | 13,336 (31.02) | 1.0 | | | |
| | | | 0.95 (0.34) | | | | | | | | | | | | | | |
| 170.30 | | | (0.20) 0.05 | | | | | | | | | | | | | | |
| 170.85 | | 0.13 | | 64 | 00084 | | | 1.07 | 25.21 | 22.51 | 50.81 | 0.68 | 11,187 (26.02) | 8.0 | | | |
| 171.60 | | | 0.30 (0.45) | 40 | 00085 | | | 0.85 | 60.95 | 18.41 | 19.99 | 0.10 | 4,308 (10.02) | 1.0 | | | |
| 172.60 | | (0.62) | | 38 | 00086 | | | 1.17 | 73.53 | 14.27 | 11.03 | 0.06 | 2,408 (5.60) | 0.0 | | | |
| | | 0.38 | 0.30 (0.17) | | | | | | | | | | | | | | |
| 174.55 | | | 0.10 (0.33) | 83 | 00087 | | | 1.06 | 15.19 | 26.24 | 57.51 | 0.24 | 12,738 (29.63) | 4.0 | | | |
| | | 0.10 | | | | | | | | | | | | | | | |
| | | 0.95 | | | | | | | | | | | | | | | |
| | | 0.04 | | | | | | | | | | | | | | | |

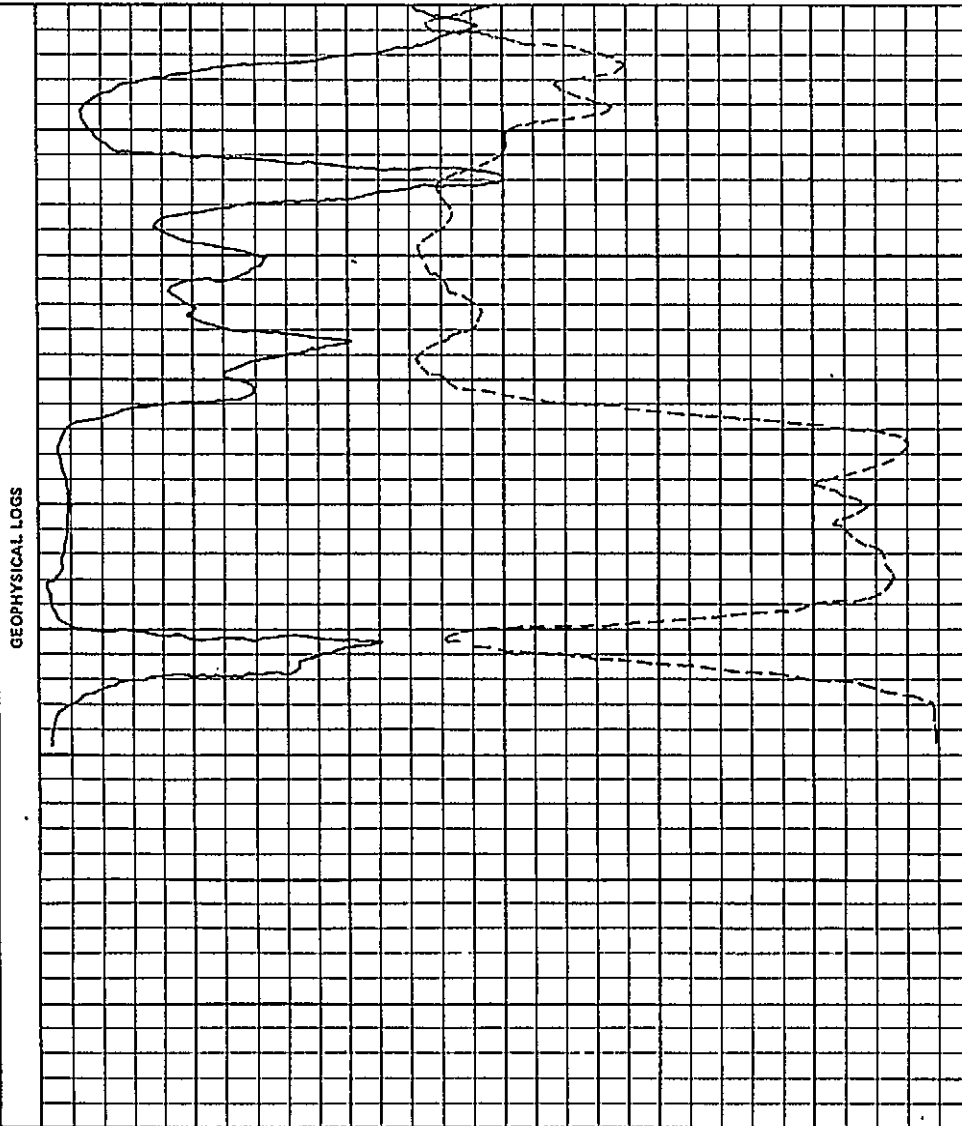
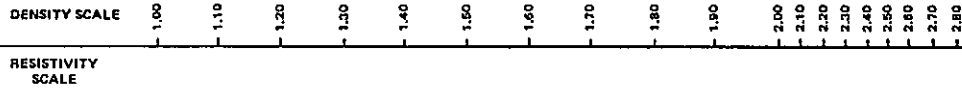
COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-287 (12-80)

DENSITY RESISTIVITY

DRILL NO. GDR - DDH - 81 - 05 SEAM _____ SEAM INTERVAL 166.50 - 177.22 m
SCALE 1:40



GEOPHYSICAL LOGS

| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|------------|--------|---------------|----------|-------------|--------|--------|---------|-------------------------|-------|-------|-------|----------------|----------------|-----|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ^c | BTU (MJ/KG) | FSI | | |
| | 174.59 | | 0.09 | 0.03 (0.19) | | | | | | | | | | | | |
| | 177.22 | | | 2.33 | 83 | 00087 | | 1.06 | 15.19 | 26.24 | 57.51 | 0.24 | 12,739 (29.63) | 4.0 | | |

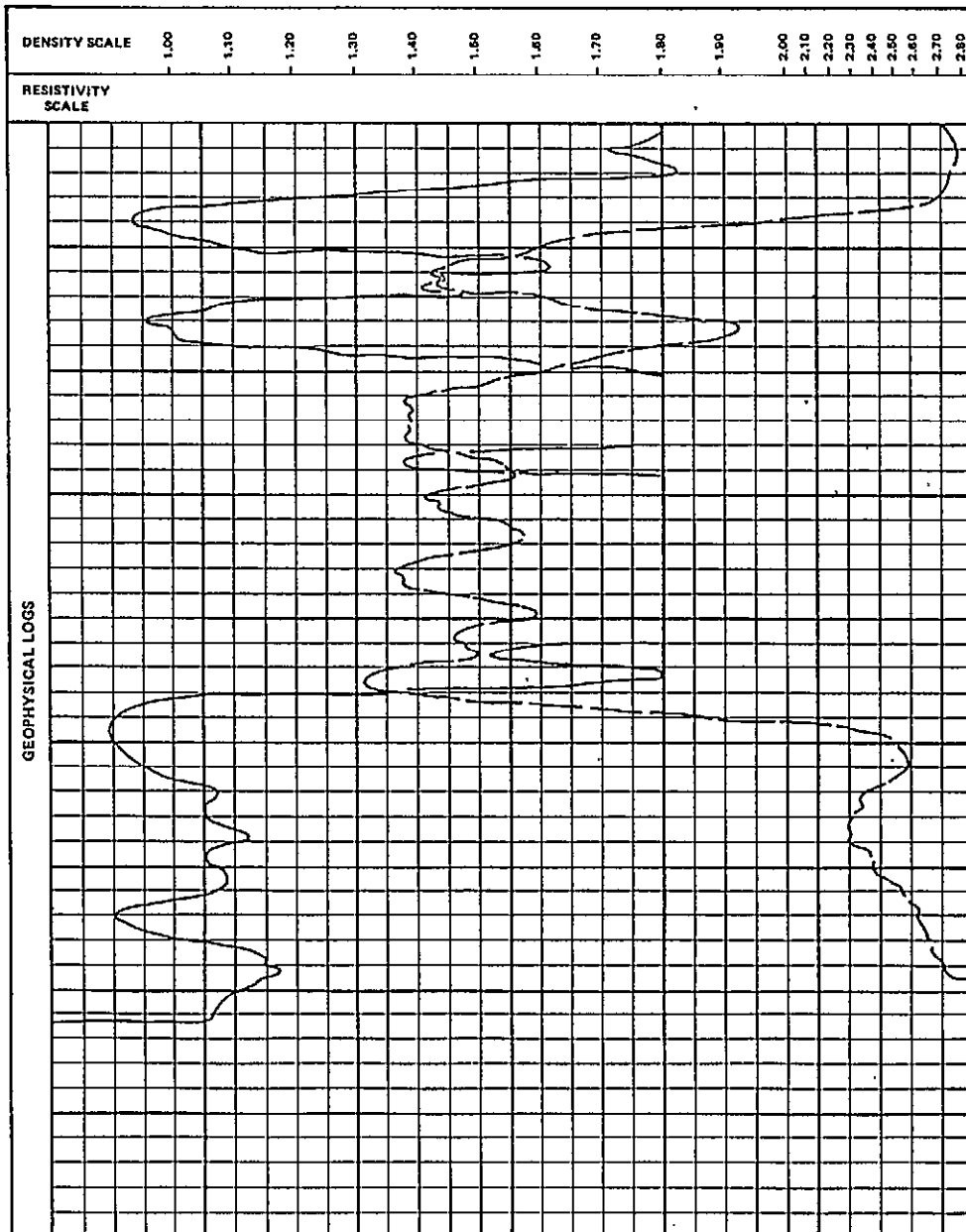
COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)
Coal/Coal + Rock (True Thk(m))
1.49 / 1.77
SEAM INTERVAL 378.90 - 382.79 m

DENSITY ----- RESISTIVITY -----

DRILL NO. GDR - DDH - 81 - 05 SEAM _____
SCALE 1:40



| SEAM COMP. 554321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | |
|-------------------|--------|---------------|----------|--------|--------|--------|---------|-------------------------|-------|-------|-------|------|----------------|-----|--|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI | | | |
| | 370.90 | | | 0.36 | | | | | | | | | | | | | |
| | 379.70 | | | (0.44) | 45 | 00088 | | 1.45 | 30.93 | 19.52 | 48.10 | 0.19 | 10,198 (23.72) | 1.0 | | | |
| | 379.88 | | 0.18 | | 100 | 00089 | | 1.20 | 78.70 | 8.80 | 11.30 | 0.36 | 2,210 (5.14) | 0.0 | | | |
| | | | | 0.99 | | | | | | | | | | | | | |
| | | | 0.08 | (0.14) | | | | | | | | | | | | | |
| | | | (0.10) | 0.26 | 82 | 00090 | | 0.75 | 20.90 | 25.33 | 53.02 | 0.68 | 11,814 (27.48) | 7.5 | | | |
| | | | 0.05 | (0.20) | | | | | | | | | | | | | |
| | | | 0.12 | 0.30 | | | | | | | | | | | | | |
| | | | (0.09) | 0.13 | | | | | | | | | | | | | |
| | | | | 0.10 | | | | | | | | | | | | | |
| | 382.79 | | | 0.35 | | | | | | | | | | | | | |

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 15 | 10.71 | 11.79 | 1.08 | | | SANDSTONE | FG.MOD.LT.GY.THNB.VBRKN CALCAREOUS REACTION, HEAVILY WEATHERED. |
| 17 | 11.79 | 12.92 | 1.13 | | | MUDSTONE | DK.GY.THKB.VBRKN ABNT FE STAINING. |
| 20 | 12.92 | 15.08 | 2.16 | | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| 22 | 15.08 | 16.10 | 1.02 | | | MUDSTONE | WRMBU.BRKN AS ABOVE. |
| 24 | 16.10 | 17.04 | 0.94 | | | MUDSTONE | AS ABOVE. |
| 25 | 17.04 | 17.11 | 0.07 | | | MUDSTONE | DK.GY.VBRKN AS ABOVE. |
| 26 | 17.11 | 18.43 | 1.32 | | | ROCK LOSS | |
| 28 | 18.43 | 20.00 | 1.57 | | | MUDSTONE | DK.GY.VBRKN SKS WITH FE STAINING, CALCITE SMEARS. |
| 30 | 20.00 | 20.26 | 0.26 | | | ROCK LOSS | |
| 30 | 20.26 | 20.42 | 0.16 | | | MUDSTONE | DK.GY.VBRKN AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 31 | 20.42 | 21.63 | 1.21 | | | MUDSTONE | DK.GY.WRMBU.BRKN CARROT AT 0.42, POSS FOSSIL FROM 0.90 T O 1.00 CALCITE FILLED. |
| 32 | 21.63 | 21.80 | 0.17 | | | ROCK LOSS | |
| 34 | 21.80 | 23.06 | 1.26 | | | MUDSTONE | SLTY.DK.GY.WRMBU.BRKN POSS CORE LOSS AT FOOTAGE BLOCK. |
| 36 | 23.06 | 24.54 | 1.48 | | | MUDSTONE | SLTY.DK.GY.WRMBU.BRKN SINGLE CARB PLANT FRAG. |
| 37 | 24.54 | 24.70 | 0.16 | | | ROCK LOSS | |
| 38 | 24.70 | 25.87 | 1.17 | | | MUDSTONE | SLTY.DK.GY.WRMBU PYRITIZED WRMBUR. |
| 40 | 25.87 | 26.23 | 0.36 | | | MUDSTONE | SLTY.DK.GY.WRMBU PYRITIZED WRMBUR. |
| 40 | 26.23 | 26.37 | 0.14 | | | ROCK LOSS | |
| 41 | 26.37 | 27.57 | 1.20 | | | MUDSTONE | SLTY.DK.GY.WRMBU.BRKN POSS CORE LOSS AT FOOTAGE MARKER. |
| 42 | 27.57 | 27.59 | 0.02 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 43 | 27.59 | 28.48 | 0.89 | | | MUDSTONE | DK.GY.WRMBU BIOTRB, PYRITIZED WRMBUR. |
| 44 | 28.48 | 28.75 | 0.27 | | | ROCK LOSS | |
| 45 | 28.75 | 29.42 | 0.67 | | | MUDSTONE | DK.GY.WRMBU.VBRKN POSS CORE LOSS AT END OF DIVISION. |
| 46 | 29.42 | 30.07 | 0.65 | | | ROCK LOSS | |
| * 48 | 30.07 | 31.92 | 1.85 | | | MUDSTONE | SLTY.DK.GY.WRMBU.VBRKN POSS CORE LOSS AT END OF DIVISION, PYRI TIZED WRMBUR. |
| 54 | 31.92 | 32.76 | 0.84 | | | MUDSTONE | DK.GY.WRMBU MINOR CALCITE FILLED FRACTURES AT END O F MEASURE, SKS, POSS CORE LOSS PIECES D ON'T MATCH AT END. |
| 57 | 32.76 | 33.40 | 0.64 | | | ROCK LOSS | |
| * 62 | 33.40 | 34.80 | 1.40 | | | MUDSTONE | SLTY.DK.GY.WRMBU POSS CORE LOSS AT END OF MEASURE. |
| 62 | 34.80 | 34.99 | 0.19 | | | MUDSTONE | SLTY.DK.GY.WRMBU |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 62 | 34.99 | 36.48 | 1.49 | | | MUDSTONE | DK.GY.WRMBU.BRKN MINOR CALCITE FILLED FRACTURES AT 1.14. |
| 62 | 36.48 | 36.75 | 0.27 | | | ROCK LOSS | |
| 61 | 36.75 | 37.76 | 1.01 | | | MUDSTONE | DK.GY.WRMBU.VBRKN POSS COR LOSS, SKS AND CALCITE SMEARS A T 0.44. |
| 61 | 37.76 | 38.72 | 0.96 | | | MUDSTONE | DK.GY.BRKN POS CORE LOSS, SKS AND CALCITE SMEARS A T 0.44. |
| 61 | 38.72 | 39.49 | 0.77 | | | ROCK LOSS | |
| 61 | 39.49 | 41.08 | 1.59 | | | MUDSTONE | DK.GY.WRMBU.BRKN COALIFIED PLANT STEM, POSS CORE LOSS AT END OF MEASUREMENT PIECES DON'T MATCH. |
| 61 | 41.08 | 42.38 | 1.30 | | | MUDSTONE | DK.GY.WRMBU BRKN |
| 60 | 42.38 | 43.55 | 1.17 | | | MUDSTONE | DK.GY CALCITE FILLED FRACTURES AT 0.54, END O F MEASUREMENT POSS CORE LOSS AT END OF BOX PIECES DON'T MATCH. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|------------|---|
| 60 | 43.55 | 43.76 | 0.21 | | | ROCK LOSS | |
| 60 | 43.76 | 45.58 | 1.82 | | | MUDSTONE | DK.GY.WRMBU SKS, CALCITE FILLED FRACTURES, POSS CORE LOSS PIECES DON'T MATCH. |
| 60 | 45.58 | 46.20 | 0.62 | | | MUDSTONE | DK.GY.WRMBU CALCITE FILLED FRACTURES AT 0.48. |
| 60 | 46.20 | 46.32 | 0.12 | | | ROCK LOSS. | |
| | 46.32 | 48.12 | 1.80 | | | MUDSTONE | DK.GY.WRMBU PYRITIZED WRMBUR, MINOR CALCITE FILLED FRACTURE AT END OF MEASUREMENT, POSS FE STAINING BANDS FROM 1.19 TO 1.32. |
| 59 | 48.12 | 49.02 | 0.90 | | | MUDSTONE | DK.GY.WRMBU MINOR CALCITE FILLED FRACTURES LOWER HALF OF UNIT. |
| 59 | 49.02 | 51.06 | 2.04 | | | MUDSTONE | DK.GY.WRMBU.VBRKN PYRITIZED WRMBUR, MINOR CALCITE FILLED FRACTURES, POSS FE STAINING NODULES AT 0.50, POSS CORE LOSS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|------------|--|
| 59 | 51.06 | 51.71 | 0.65 | | | ROCK LOSS | |
| 59 | 51.71 | 52.15 | 0.44 | | | MUDSTONE | DK.GY.WRMBU.BRKN PYRITIZED WRMBUR. |
| 59 | 52.15 | 54.63 | 2.48 | | | MUDSTONE | DK.GY.WRMBU.BRKN PYRITIZED WRMBUR, CALCITE FILLED FRACTURES(MINOR) THROUGHOUT, SOME CALCITE FILLED SKS. |
| 58 | 54.63 | 56.92 | 2.29 | | | MUDSTONE | DK.GY.WRMBU.VBRKN POSS BIVALVES, CALCITE FILLED FRACTURES, SKS, POSS CORE LOSS AT 0.57, MINOR PYRITIZED WRMBUR. |
| 58 | 56.92 | 57.35 | 0.43 | | | ROCK LOSS. | |
| 58 | 57.35 | 57.81 | 0.46 | | | MUDSTONE | DK.GY.BIOTR.BRKN WRMBUR, MINOR CALCITE FILLED FRACTURE, POSS CORE LOSS AT FOOTAGE BLOCK. |
| 58 | 57.81 | 59.86 | 2.05 | | | MUDSTONE | DK.GY.WRMBU.BRKN CARROTS AT 0.28 AND 1.35, CALCITE FILLED FRACTURES AT 0.92 AND 1.62. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 57 | 59.86 | 60.74 | 0.88 | | | MUDSTONE | DK.GY.WRMBU.BRKN BIOTRB, POSS CORE LOSS AT END MEASUREME NT, AT 0.83 TO END MEASUREMENT BIOTRB, AT 0.07 AND 0.17 CARROTS. |
| 57 | 60.74 | 62.44 | 1.70 | | | MUDSTONE | DK.GY.WRMBU.BRKN HEAVILY BIOTRB AT 0.00 TO 0.10 AND 0.20 TO 0.60, AT 0.10 AND 0.50 AND 1.57 CAL CITE FILLED FRACTURES SKS, CORE LOSS AT END MEASUREMENT, PIECES DON'T MATCH. |
| 57 | 62.44 | 63.70 | 1.26 | | | MUDSTONE | DK.GY.WRMBU POSS CORE LOSS AT 0.38 AND END MEASUREM ENT. |
| 57 | 63.70 | 63.90 | 0.20 | | | ROCK LOSS | |
| 56 | 63.90 | 65.13 | 1.23 | | | MUDSTONE | SLTY.DK.GY.WRMBU.BRKN PYRITIZED WRMBUR, POSS FOSSIL AT 0.80 A ND 1.02, MINOR CALCITE VEINING. |
| 56 | 65.13 | 66.97 | 1.84 | | | MUDSTONE | SLTY.DK.GY.WRMBU MINOR CALCITE VEINING, POSS BIVALVE 0.4 4, CALCITE FILLED FRACTURES AT 0.72, 1. 05. POSS CORE LOSS END OF MEASUREMENT, PIECES DON'T MATCH. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 56 | 66.97 | 67.83 | 0.86 | | | MUDSTONE | DK.GY.WRMBU MINOR PYRITIZED WRMBUR. |
| 56 | 67.83 | 69.33 | 1.50 | | | MUDSTONE | SLTY.DK.GY.THNB |
| 56 | 69.33 | 69.43 | 0.10 | | | SANDSTONE | FG.LT.GY.XBDG MUDST INCLUSIONS, CALCITE VEIN AT END OF MEASUREMENT. |
| 56 | 69.43 | 69.48 | 0.05 | | | SILTSTONE | M.GY MINOR SKS, NUMEROUS HORETAIL CALCITE VEINING. |
| 56 | 69.48 | 69.60 | 0.12 | | | MUDSTONE | SLTY.DK.GY.THKB CALCITE BLEBS AT END OF MEASUREMENT. |
| 56 | 69.60 | 69.77 | 0.17 | | | SILTSTONE | M.GY |
| 55 | 69.77 | 70.58 | 0.81 | | | MUDSTONE | SLTY.DK.GY.THKB |
| | 70.58 | 72.83 | 2.25 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU AS ABOVE, FEW CALCITE VEINS A TOP; PETRIFIED PIECES OF WOOD WITH SOME PYRITE BANDS AT 1.25 FROM TOP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 55 | 72.83 | 73.35 | 0.52 | | | MUDSTONE | SLTY.DK.GY PYRITE SPECKS, CALCITE VEIN AT 0.25. |
| 55 | 73.35 | 73.89 | 0.54 | | | MUDSTONE | SLTY.DK.GY CALCITE VEINING AT END OF MEASUREMENT(2 CM) AND HORSETAIL VEINING. |
| 55 | 73.89 | 74.31 | 0.42 | | | MUDSTONE | SLTY.DK.GY PYRITE PBLs. |
| 55 | 74.31 | 74.41 | 0.10 | | | SILTSTONE | M.GY.THNB PYRITE INCLUSIONS. |
| 55 | 74.41 | 75.96 | 1.55 | | | MUDSTONE | SLTY.DK.GY.THKB SOME PYRITE SPECKS TOWARD TOP, ONE CALC ITE VEINING AT .40 FROM BASE. |
| 54 | 75.96 | 76.08 | 0.12 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 54 | 76.08 | 78.30 | 2.22 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU AS ABOVE |
| 54 | 78.30 | 78.51 | 0.21 | | | SILTSTONE | DK.GY.THKB CALCITE VEINING AT END OF MEASUREMENT. |
| 54 | 78.51 | 78.86 | 0.35 | | | MUDSTONE | SLTY.DK.GY.THKB SOME SKS AT TOP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 54 | 78.86 | 81.64 | 2.78 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU 1.70 CARB LAYER, OCCASIONAL WRMBUR AND PYRITE SPECKS. |
| 53 | 81.64 | 81.90 | 0.26 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 53 | 81.90 | 83.17 | 1.27 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU BIOTRB, AS ABOVE. |
| 53 | 83.17 | 83.28 | 0.11 | | | MUDSTONE | SSY.M.GY.WRMBU GRAD SANDY TO BASE. |
| 53 | 83.28 | 83.48 | 0.20 | | | SANDSTONE | VFG.LT.GY.THNB |
| * 53 | 83.48 | 84.02 | 0.54 | | | MUDSTONE | SLTY.DK.GY.THNB.BIOTR WRMBUR. |
| 53 | 84.02 | 84.22 | 0.20 | | | SILTSTONE | DK.GY PYRITIC COMPACT. |
| 52 | 84.22 | 84.53 | 0.31 | | | MUDSTONE | SLTY.DK.GY.THKB.BIOTR WRMBUR, 0.02 FROM BASE CALCITE VEINING. |
| * 52 | 84.53 | 84.68 | 0.15 | | | MUDSTONE | SLTY.DK.GY.THKB |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 52 | 84.68 | 85.02 | 0.34 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 52 | 85.02 | 85.35 | 0.33 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 52 | 85.35 | 86.91 | 1.56 | | | MUDSTONE | SLTY.DK.GY.THKB.BIOTR WRMBUR, AS ABOVE, CALCITE VEINING AT 0. 45 FROM BASE, CORE BRKN AT BASE(DRILLIN G). |
| 53 | 86.91 | 86.94 | 0.03 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 53 | 86.94 | 87.45 | 0.51 | | | SANDSTONE | SLTY.VFG.M.GY.THKB MUDST STAINING INCLUSIONS CALCITE PEBBL ES THROUGHOUT. |
| | 87.45 | 87.61 | 0.16 | | | SILTSTONE | M.GY.THNB SKS AT BASE, SANDY INTBDS. |
| 53 | 87.61 | 87.73 | 0.12 | | | SANDSTONE | VFG.LT.GY.THKB AS ABOVE, CALC. |
| 53 | 87.73 | 87.89 | 0.16 | | | SILTSTONE | DK.GY.THNB |
| 53 | 87.89 | 88.03 | 0.14 | | | MUDSTONE | SLTY.DK.GY.THNB SLTY INTBS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 53 | 88.03 | 88.09 | 0.06 | | | SANDSTONE | VFG.M.GY.WRMBU CALCITE VEINING, FRACTURED NORMAL TO BEDDING. |
| 53 | 88.09 | 88.52 | 0.43 | | | MUDSTONE | SLTY.DK.GY.THKB.BIOTR WRMBUR, BIOTRB AT BASE. |
| 53 | 88.52 | 88.62 | 0.10 | | | SANDSTONE | VFG.LT.GY WITH MUDST INCLUSIONS. |
| 53 | 88.62 | 88.94 | 0.32 | | | MUDSTONE | SLTY.DK.GY.THKB SOME CARB AND CALCITE AT BASE. |
| 54 | 88.94 | 90.11 | 1.17 | | | MUDSTONE | SLTY.DK.GY.THKB.BIOTR WRMBUR, SLTY INCLUSIONS. |
| 54 | 90.11 | 90.95 | 0.84 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 54 | 90.95 | 92.96 | 2.01 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 55 | 92.96 | 93.11 | 0.15 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU AS ABOVE |
| 55 | 93.11 | 95.70 | 2.59 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU 1.18 FROM BASE CALCITE VEINING. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 56 | 95.70 | 96.97 | 1.27 | | | MUDSTONE | SLTY.DK.GY.THKB 0.82 FROM TOP CALCITE VEINING. |
| 56 | 96.97 | 98.33 | 1.36 | | | MUDSTONE | SLTY.DK.GY.THKB 0.75 FROM BOTTOM CALCITE VEINING. |
| 57 | 98.33 | 100.03 | 1.70 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 57 | 100.03 | 100.21 | 0.18 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 57 | 100.21 | 100.31 | 0.10 | | | SANDSTONE | SLTY.VFG.M.GY.THNB FRACTURED IRREGULAR CHUNKS OF MUDST. |
| 57 | 100.31 | 100.59 | 0.28 | | | SILTSTONE | SSY.DK.GY SANDST INCLUSIONS. |
| 57 | 100.59 | 101.13 | 0.54 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 57 | 101.13 | 103.03 | 1.90 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 58 | 103.03 | 103.81 | 0.78 | | | MUDSTONE | SLTY.DK.GY.THKB.BIOTR WRMBUR, PYRITE SPECKS |
| 58 | 103.81 | 105.06 | 1.25 | | | MUDSTONE | SLTY.DK.GY.THKB PYRITE SPECKS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 58 | 105.06 | 105.18 | 0.12 | | | MUDSTONE | SLTY.DK.GY.THKB.BIOTR WRMBUR, CORE LIGHTLY BRKN. |
| 58 | 105.18 | 105.80 | 0.62 | | | MUDSTONE | SLTY.DK.GY.THKB.BIOTR WRMBUR, CARB 0.14 FROM TOP. |
| 59 | 105.80 | 106.50 | 0.70 | | | MUDSTONE | SLTY.DK.GY.THKB.BIOTR WRMBUR, AS ABOVE. |
| 59 | 106.50 | 108.25 | 1.75 | | | MUDSTONE | SLTY.DK.GY.THKB.BRKN TOWARDS BASE CORE BRKN , AS ABOVE. |
| 59 | 108.25 | 109.13 | 0.88 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 60 | 109.13 | 111.67 | 2.54 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 61 | 111.67 | 112.57 | 0.90 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 61 | 112.57 | 114.35 | 1.78 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 61 | 114.35 | 114.65 | 0.30 | | | MUDSTONE | SLTY.DK.GY.THKB.BRKN AS ABOVE. |
| 62 | 114.65 | 116.51 | 1.86 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 62 | 116.51 | 116.81 | 0.30 | | | SILTSTONE | M.GY VERY FRACTURED FRACTURES FILLED WITH CALCITE, SOME PYRITE SPECS AND PBLs. |
| 62 | 116.81 | 117.03 | 0.22 | | | MUDSTONE | SLTY.DK.GY CALCITE, CALCITE VEINING. |
| 62 | 117.03 | 117.33 | 0.30 | | | MUDSTONE | SLTY.DK.GY.VBRKN AS ABOVE. |
| 62 | 117.33 | 117.98 | 0.65 | | | ROCK LOSS | |
| 63 | 117.98 | 120.28 | 2.30 | | | MUDSTONE | SLTY.DK.GY.THKB OCCASIONAL CALCITE. |
| 63 | 120.28 | 122.42 | 2.14 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 64 | 122.42 | 123.08 | 0.66 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 64 | 123.08 | 124.98 | 1.90 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE |
| 65 | 124.98 | 125.69 | 0.71 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 65 | 125.69 | 125.76 | 0.07 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 125.76 | 126.16 | 0.40 | | | MUDSTONE | SSY.M.GY CONGLOMERATE, MATRIX, MUDST VERY SSY(MU DST AND SANDST), SOME SLTST, DIFFERENT CHERT PBLs AND GRIT(BLK, WH, GY),(GLAUC ONITE NOT VISIBLE), LISTRIC SURFACES, C ALCITE VEINING. |
| * 65 | 126.16 | 127.18 | 1.02 | | | SANDSTONE | FG.LT.GY.THKB CALCITE VEINING. |
| | 127.18 | 127.46 | 0.28 | | | SANDSTONE | FG.LT.GY.THKB FRACTURED VERY CALC. |
| 61 | 127.46 | 128.14 | 0.68 | | | SANDSTONE | LT.GY.THKB, BRKN CORE PARTLY BRKN. |
| 60 | 128.14 | 128.26 | 0.12 | | | SANDSTONE | LT.GY.THKB NUMEROUS VEINS. |
| * 56 | 128.26 | 130.39 | 2.13 | | | SANDSTONE | LT.GY.THKB AS ABOVE, SOME SKS AT BOTTOM. |
| 57 | 130.39 | 130.72 | 0.33 | | | MUDSTONE | M.GY.THKB SLTST AND F.GR, SANDST INTBD, LAMINATED . |
| 57 | 130.72 | 130.94 | 0.22 | | | SANDSTONE | FG.M.GY LISTRIC SURFACES, HORSETAIL CALCITE VEI NING. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 57 | 130.94 | 131.11 | 0.17 | | | SANDSTONE | VFG.M.GY AS ABOVE, 4CM CALCITE VEINING AT TOP. |
| 57 | 131.11 | 131.21 | 0.10 | | | MUDSTONE | SLTY.DK.GY SLTST AND FG SANDST INTBD. |
| | 131.21 | 131.40 | 0.19 | | | SANDSTONE | VFG.M.GY PARTLY CALC. |
| * 58 | 131.40 | 132.24 | 0.84 | | | SANDSTONE | VFG.M.GY.THNB MUDST AND SLTST INTBDS LAMINATED, LISTR IC SURFACES. |
| 58 | 132.24 | 132.62 | 0.38 | | | SANDSTONE | VFG.M.GY.THKB MINOR CALCITE VEINING. |
| * 58 | 132.62 | 133.17 | 0.55 | | | MUDSTONE | DK.GY SLTST AND SANDST INTBDS, COALY STRINGER S AT BASE. |
| 58 | 133.17 | 133.62 | 0.45 | | | SANDSTONE | VFG.M.GY.THKB AS ABOVE. |
| 58 | 133.62 | 133.80 | 0.18 | | | SILTSTONE | M.GY.THNB SLTST LAMINATED, CALCITE VEINS UP TO 1C M THICK AT TOP AND BOTTOM OF INTERVAL. |
| 58 | 133.80 | 133.95 | 0.15 | | | SANDSTONE | VFG.M.GY.THNB.XBDG AS ABOVE SANDST. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 57 | 133.95 | 136.16 | 2.21 | | | MUDSTONE | SLTY.M.GY.THNB OCCASIONAL THIN INTBDS OF MUDST(SLTY), SLTST AND VFG SANDST, LAMINATED, AND CA LCITE, LISTRIC SURFACES. |
| 59 | 136.16 | 137.03 | 0.87 | | | MUDSTONE | SLTY.M.GY.THNB AS ABOVE. |
| * 60 | 137.03 | 138.95 | 1.92 | | | MUDSTONE | SLTY.DK.GY.THNB AS ABOVE. |
| | 138.95 | 139.60 | 0.65 | | | MUDSTONE | SLTY.DK.GY.THNB AS ABOVE. |
| 59 | 139.60 | 139.86 | 0.26 | | | SANDSTONE | VFG.DK.GY.THKB.SLD AS ABOVE SANDST. |
| 59 | 139.86 | 141.56 | 1.70 | | | MUDSTONE | SLTY.M.GY.THNB.WRMBU LAMINATED, OCCASIONAL THIN INTBDS OF MU DST SLTST AND VFG SANDST. |
| * 58 | 141.56 | 142.98 | 1.42 | | | MUDSTONE | SLTY.M.GY.THNB.WRMBU AS ABOVE, LISTRIC SURFACES. |
| 58 | 142.98 | 143.73 | 0.75 | | | MUDSTONE | SLTY.M.GY.THNB.WRMBU AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 58 | 143.73 | 144.04 | 0.31 | | | SANDSTONE | VFG.M.GY.THNB SOME THIN INTBDS AND INCLUSIONS OF MUDS T(IRREGULAR). |
| | 144.04 | 144.32 | 0.28 | | | MUDSTONE | SLTY.M.GY.THNB.WRMBU INTBDS OF MUDST(SLTY), MUDST, SLTST AND VFG SANDST, LAMINATED TO LISTRIC SURFA CES 3CM FROM TOP CALCITE VEIN WITH XLS. |
| * 58 | 144.32 | 146.08 | 1.76 | | | MUDSTONE | SLTY.M.GY.THNB AS ABOVE, 2CM CALCITE VEIN 15CM FROM TO P. |
| 58 | 146.08 | 146.92 | 0.84 | | | MUDSTONE | SLTY.M.GY.THNB.WRMBU AS ABOVE. |
| * 58 | 146.92 | 149.09 | 2.17 | | | MUDSTONE | SLTY.M.GY.THNB.WRMBU AS ABOVE. |
| 58 | 149.09 | 149.81 | 0.72 | | | MUDSTONE | SLTY.M.GY.THNB.WRMBU AS ABOVE. |
| 58 | 149.81 | 152.22 | 2.41 | | | MUDSTONE | SLTY.M.GY.THNB.WRMBU AS ABOVE. |
| 57 | 152.22 | 152.61 | 0.39 | | | MUDSTONE | SLTY.M.GY.THNB.WRMBU AS ABOVE. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 57 | 152.61 | 152.81 | 0.20 | | | MUDSTONE | SLTY.DK.GY.THNB MUDST WITH THIN LAMINAE OF SLTST. |
| 57 | 152.81 | 155.21 | 2.40 | | | MUDSTONE | SLTY.DK.GY.THNB AS ABOVE. |
| 57 | 155.21 | 155.34 | 0.13 | | | MUDSTONE | SLTY.DK.GY.THNB AS ABOVE. |
| 57 | 155.34 | 158.14 | 2.80 | | | MUDSTONE | SLTY.DK.GY.THKB CALCITE-MUDST FAIRLY UNIFORM CORE. |
| 57 | 158.14 | 158.31 | 0.17 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |
| 57 | 158.31 | 158.81 | 0.50 | | | MUDSTONE | DK.BLK.THKB AS ABOVE. |
| 57 | 158.81 | 159.35 | 0.54 | | | MUDSTONE | SLTY.DK.GY.THKB MUDST GRAD BECOMING VERY SLTY TO BASE, PYRITE SPECS. |
| 57 | 159.35 | 160.57 | 1.22 | | | MUDSTONE | SLTY.DK.GY.THKB SOME PYRITE SPECS AT TOP. |
| 56 | 160.57 | 160.79 | 0.22 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 56 | 160.79 | 160.92 | 0.13 | | | SANDSTONE | CARB.VFG.BLK.THKB |
| 56 | 160.92 | 161.32 | 0.40 | | | MUDSTONE | CARB.BLK.THNB.BRKN WITH SOME THIN COAL BEDS AND STRINGERS. |
| 56 | 161.32 | 161.44 | 0.12 | | | MUDSTONE | CARB.BLK.THNB AS ABOVE. |
| 56 | 161.44 | 162.59 | 1.15 | | | MUDSTONE | CARB.DK.BLK.THNB COAL BANDS AND STRINGERS, AND SOME SAND Y AND SLTY INTBDS. |
| 56 | 162.59 | 162.60 | 0.01 | | | COAL | C-1.BLK.VBRKN |
| 56 | 162.60 | 162.61 | 0.01 | | | MUDSTONE | CARB.DK.BLK.BRKN |
| 56 | 162.61 | 162.62 | 0.01 | | | COAL | C-1.BLK.BRKN |
| 56 | 162.62 | 163.51 | 0.89 | | | SANDSTONE | VFG.M.GY.XBDG OCCASIONAL COALY STRINGERS AND CARB SPE CS, VERY COALY AT TOP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 56 | 163.51 | 164.31 | 0.80 | | | SILTSTONE | SSY.VFG.M.GY.THKB PLANT FRAGS AT TOP, WITH SOME SANDY LAM INAE. |
| * 56 | 164.31 | 164.73 | 0.42 | | | SILTSTONE | SSY.VFG.M.GY.THNB AS ABOVE, CALCAREOUS AT BASE. |
| 56 | 164.73 | 165.06 | 0.33 | | | SILTSTONE | CARB.DK.GY.THKB NUMEROUS COALY STRINGERS. |
| 56 | 165.06 | 165.13 | 0.07 | | | SILTSTONE | SSY.GY.THNB |
| 56 | 165.13 | 165.61 | 0.48 | | | MUDSTONE | CARB.BLK.THNB HIGHLY CARB WITH THIN COAL LAYERS AND S TRINGERS |
| 56 | 165.61 | 165.79 | 0.18 | | | SILTSTONE | SSY.GY.THNB CARB WITH SOME SSY BANDS. |
| 56 | 165.79 | 166.19 | 0.40 | | | MUDSTONE | CARB.BLK.THKB SLTY AT BASE. |
| 55 | 166.19 | 166.50 | 0.31 | | | MUDSTONE | CARB.BLK.THKB AS ABOVE. |
| 55 | 166.50 | 166.75 | 0.25 | 00083 | 1 | COAL | C-4.BLK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|-------------|
| 55 | 166.75 | 167.24 | 0.49 | 00083 | 1 | COAL | C-3.BLK |
| 55 | 167.24 | 167.48 | 0.24 | 00083 | 1 | COAL | C-3.BLK |
| 55 | 167.48 | 167.57 | 0.09 | 00083 | 1 | COAL | BLK |
| 55 | 167.57 | 167.60 | 0.03 | 00083 | 1 | COAL | C-1.BLK |
| 55 | 167.60 | 167.64 | 0.04 | 00083 | 1 | COAL | C-4.BLK |
| 55 | 167.64 | 167.68 | 0.04 | 00083 | 1 | COAL | C-1.BLK |
| 55 | 167.68 | 167.81 | 0.13 | 00083 | 1 | COAL | C-3.BLK |
| 55 | 167.81 | 167.84 | 0.03 | 00083 | 1 | COAL | C-1.BLK |
| 55 | 167.84 | 167.89 | 0.05 | 00083 | 1 | COAL | C-3.BLK |
| 55 | 167.89 | 168.01 | 0.12 | 00083 | 1 | COAL | C-5.BLK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|-------------|
| 55 | 168.01 | 168.39 | 0.38 | 00083 | 1 | COAL | C-4.BLK |
| 55 | 168.39 | 168.42 | 0.03 | 00083 | 1 | COAL | C-6.BLK |
| 55 | 168.42 | 168.52 | 0.10 | 00083 | 1 | COAL | C-5 |
| 55 | 168.52 | 168.75 | 0.23 | 00083 | 1 | COAL LOSS | |
| 55 | 168.75 | 168.80 | 0.05 | 00083 | 1 | COAL | C-6.BLK |
| 55 | 168.80 | 168.86 | 0.06 | 00083 | 1 | COAL | C-5.BLK |
| 55 | 168.86 | 169.01 | 0.15 | 00083 | 1 | COAL | C-3.BLK |
| 54 | 169.01 | 169.75 | 0.74 | 00083 | 1 | COAL | C-4.BLK |
| 54 | 169.75 | 170.09 | 0.34 | 00083 | 1 | COAL LOSS | |
| 54 | 170.09 | 170.30 | 0.21 | 00083 | 1 | COAL | C-4.BLK |
| 54 | 170.30 | 170.50 | 0.20 | 00084 | 1 | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 54 | 170.50 | 170.55 | 0.05 | 00084 | 1 | SANDSTONE | CARB.FG.M.GY.THNB |
| 54 | 170.55 | 170.59 | 0.04 | 00084 | 1 | COAL | C-6.BLK |
| 54 | 170.59 | 170.64 | 0.05 | 00084 | 1 | COAL | BLK.BRKN HIGHLY SHEARED. |
| 54 | 170.64 | 170.72 | 0.08 | 00084 | 1 | COAL | C-5.BLK.BRKN SHEARED. |
| 54 | 170.72 | 170.85 | 0.13 | 00084 | 1 | SANDSTONE | FG.M.GY.THNB WITH COALY STRINGERS. |
| 54 | 170.85 | 171.15 | 0.30 | 00085 | 1 | COAL | BLK HIGHLY SHEARED UNDEFINABLE COAL. |
| 54 | 171.15 | 171.60 | 0.45 | 00085 | 1 | COAL LOSS | |
| 54 | 171.60 | 172.22 | 0.62 | 00086 | 1 | COAL | |
| 54 | 172.22 | 172.60 | 0.38 | 00086 | 1 | TUFF | GY.THNB.BRKN GY-YELLOW IN COLOUR, BENTONTIC AND SAND Y. |
| 54 | 172.60 | 172.90 | 0.30 | 00087 | 1 | COAL | C-5.BLK.BRKN SHEARED. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--------------------------------------|
| 54 | 172.90 | 173.07 | 0.17 | 00087 | 1 | COAL LOSS | |
| 54 | 173.07 | 173.17 | 0.10 | 00087 | 1 | MUDSTONE | BLK.VBRKN SHEARED AND PULVERIZED. |
| 54 | 173.17 | 173.50 | 0.33 | 00087 | 1 | COAL LOSS | |
| 54 | 173.50 | 173.60 | 0.10 | 00087 | 1 | ROCK LOSS | |
| 54 | 173.60 | 174.55 | 0.95 | 00087 | 1 | COAL | C-5.BLK.VBRKN |
| 53 | 174.55 | 174.59 | 0.04 | 00087 | 1 | MUDSTONE | CARB.DK.GY.BRKN |
| 53 | 174.59 | 174.62 | 0.03 | 00087 | 1 | COAL | C-4.BLK.BRKN |
| 53 | 174.62 | 174.80 | 0.18 | 00087 | 1 | COAL LOSS | |
| 53 | 174.80 | 174.89 | 0.09 | 00087 | 1 | MUDSTONE | CARB.DK.GY |
| 53 | 174.89 | 175.32 | 0.43 | 00087 | 1 | COAL | C-5.BLK.BRKN |
| 53 | 175.32 | 175.92 | 0.60 | 00087 | 1 | COAL | C-4 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--------------------|
| 53 | 175.92 | 176.02 | 0.10 | 00087 | 1 | COAL | C-3 |
| 53 | 176.02 | 176.24 | 0.22 | 00087 | 1 | COAL | C-4 |
| 53 | 176.24 | 176.29 | 0.05 | 00087 | 1 | COAL | C-1.BLK |
| 53 | 176.29 | 176.57 | 0.28 | 00087 | 1 | COAL | C-5.BLK |
| 53 | 176.57 | 176.80 | 0.23 | 00087 | 1 | COAL | C-4.BLK |
| 53 | 176.80 | 176.87 | 0.07 | 00087 | 1 | COAL | C-1.BLK |
| 53 | 176.87 | 177.07 | 0.20 | 00087 | 1 | COAL | C-3.BLK |
| 53 | 177.07 | 177.13 | 0.06 | 00087 | 1 | COAL | C-2.BLK |
| 53 | 177.13 | 177.22 | 0.09 | 00087 | 1 | COAL | C-1.BLK |
| 53 | 177.22 | 177.27 | 0.05 | | | MUDSTONE | CARB.BLK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 53 | 177.27 | 177.73 | 0.46 | | MUDSTONE | SLTY.BLK.THNB WITH CARB LAMINATIONS. |
| | 53 | 177.73 | 177.93 | 0.20 | | MUDSTONE | CARB.BLK.THNB WITH THIN COALY STRINGERS . |
| * | 53 | 177.93 | 178.65 | 0.72 | | MUDSTONE | SLTY.THNB CARB WITH COALY STRINGERS, |
| | 53 | 178.65 | 178.85 | 0.20 | | MUDSTONE | CARB.DK.BLK.THKB |
| | 52 | 178.85 | 179.18 | 0.33 | | COAL | C-4.BLK |
| | 52 | 179.18 | 179.36 | 0.18 | | COAL | C-6.BLK STONEY COAL WITH FEW BRIGHT STRINGERS. |
| | 51 | 179.36 | 181.61 | 2.25 | | SILTSTONE | SSY.M.GY.THKB CALCITE REPLACEMENT OF FRAGS, FAIRLY CO MPACT, UNIFORM. |
| | 50 | 181.61 | 181.71 | 0.10 | | SILTSTONE | SSY.M.GY.THKB AS ABOVE. |
| | 50 | 181.71 | 182.99 | 1.28 | | SILTSTONE | SSY.M.GY.THKB AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| | 49 182.99 | 184.45 | 1.46 | | | SANDSTONE | VFG.M.GY.MAS |
| * 48 | 184.45 | 184.78 | 0.33 | | | SANDSTONE | VFG.M.GY.MAS |
| | 184.78 | 186.42 | 1.64 | | | SANDSTONE | VFG.M.GY.MAS OCCASIONALLY CALCAREOUS. |
| * 46 | 186.42 | 187.12 | 0.70 | | | SANDSTONE | FG.M.GY.MAS |
| | 47 187.12 | 187.90 | 0.78 | | | SANDSTONE | FG.M.GY.MAS 17CM FROM TOP FRACTURED WITH CALCITE VE INS, FRACTURE OPPOSITE TO DIP. |
| | 49 187.90 | 189.94 | 2.04 | | | SANDSTONE | VFG.M.GY.MAS CALCITE. |
| | 51 189.94 | 190.98 | 1.04 | | | SANDSTONE | VFG.M.GY.MAS |
| | 52 190.98 | 191.63 | 0.65 | | | SANDSTONE | VFG.M.GY.MAS |
| | 53 191.63 | 191.75 | 0.12 | | | SANDSTONE | MG.LT.GY.MAS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 53 | 191.75 | 191.91 | 0.16 | | | SANDSTONE | FG.M.GY MUDST INCLUSIONS AND INTBDS. |
| | 191.91 | 192.59 | 0.68 | | | SANDSTONE | FG.LT.GY.XBDG SOME CALCITE VEINS AT BASE ALSO CALCITE XLS,20 CM FROM TOP MUDST INCLUSIONS. |
| 54 | 192.59 | 193.05 | 0.46 | | | SANDSTONE | MG.M.GY.THNB |
| * | 193.05 | 193.84 | 0.79 | | | SANDSTONE | MG.M.GY.THNB CARB LAMINAE AND SPECKS, 30CM FROM TOP HIGHLY CALC,SOME COALY AND MUDST INCLUS IONS. |
| 57 | 193.84 | 194.67 | 0.83 | | | SANDSTONE | MG.M.GY.THKB COALY INCLUSIONS. |
| 59 | 194.67 | 194.74 | 0.07 | | | SANDSTONE | FG.M.GY.THNB INTBDD CARB, MUDST LAMINATIONS WITH LIS TRIC SURFACES. |
| 59 | 194.74 | 195.15 | 0.41 | | | SANDSTONE | MG.LT.GY.MAS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| * 60 | 195.15 | 195.22 | 0.07 | | | SANDSTONE | FG.M.GY.THNB |
| 58 | 195.22 | 195.92 | 0.70 | | | SANDSTONE | FG.M.GY.MAS NUMEROUS CALCITE VEINS, CALCAREOUS INCLUSIONS. |
| 54 | 195.92 | 196.88 | 0.96 | | | SANDSTONE | MG.M.GY.THKB.BRKN NUMEROUS CALCITE VEINS AND INCLUSIONS, S KS, CARB AND COALY INCLUSIONS, DIP CHAN GE RAPIDLY, POSS FAULT. |
| 49 | 196.88 | 197.95 | 1.07 | | | SANDSTONE | MG.M.GY.THKB.BRKN AS ABOVE |
| 47 | 197.95 | 198.10 | 0.15 | | | SANDSTONE | MG.M.GY.THKB MODIFIER CALC |
| 46 | 198.10 | 198.20 | 0.10 | | | SILTSTONE | SSY.M-DK.GY.THKB |
| 45 | 198.20 | 198.38 | 0.18 | | | SANDSTONE | FG.M.GY SOME MUDST SPECKS AND COALY INCLUSIONS MODIFIER CALC |
| 42 | 198.38 | 199.46 | 1.08 | | | SILTSTONE | M-DK.GY.THKB |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 39 | 199.46 | 199.77 | 0.31 | | SILTSTONE | SSY.M.GY.MAS FAIRLY COMPACT |
| | 37 | 199.77 | 200.14 | 0.37 | | SILTSTONE | SSY.M.GY.MAS AS ABOVE |
| * | 36 | 200.14 | 200.33 | 0.19 | | SANDSTONE | MG.LT.GY FRACTURED AT TOP W CALC. VEIN (OPPOSITE TO DIP) |
| * | 40 | 200.33 | 200.69 | 0.36 | | SANDSTONE | CARB.FG.DK.GY.THNB FAIRLY LAM |
| | 40 | 200.69 | 200.74 | 0.05 | | SILTSTONE | CARB.DK.GY.THNB |
| | 42 | 200.74 | 202.66 | 1.92 | | SANDSTONE | CARB.MG.LT-M.GY.THNB OCCASIONALLY COARSE VEINED W SLTST INTB DS AND COALY INCLUSIONS LAM. |
| | 44 | 202.66 | 202.93 | 0.27 | | SILTSTONE | SSY.DK.GY.MAS |
| * | 45 | 202.93 | 203.35 | 0.42 | | SANDSTONE | CARB.MG.LT-M.GY.THNB AS ABOVE SS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * | 203.35 | 205.79 | 2.44 | | | SANDSTONE | CG.LT.GY.THNB.XBDG OCCASIONAL MUDST INCL. AND CALC AND CAR B. LAMINAE AND COALY INCL; LISTRIC SURF ACE |
| 39 | 205.79 | 207.92 | 2.13 | | | SANDSTONE | CG.LT.GY.THNB.XBDG AS ABOVE |
| 36 | 207.92 | 208.52 | 0.60 | | | SILTSTONE | DK.GY.MAS FEW CALC VEINS, SSSY AT BOTTOM OF UNIT. |
| 35 | 208.52 | 208.67 | 0.15 | | | SILTSTONE | DK.GY.MAS VERY CALCAREOUS, ONE CALCITE VEIN 2CM T HICK. |
| 35 | 208.67 | 208.87 | 0.20 | | | SANDSTONE | SLTY.VFG.M.GY.MAS |
| 33 | 208.87 | 210.15 | 1.28 | | | SANDSTONE | SLTY.VFG.M.GY.MAS |
| * 30 | 210.15 | 211.07 | 0.92 | | | SANDSTONE | SLTY.VFG.LT.GY.THNB |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 31 | 211.07 | 211.39 | 0.32 | | | SANDSTONE | SLTY.VFG.M.GY.MAS |
| 32 | 211.39 | 211.97 | 0.58 | | | SANDSTONE | SLTY.VFG.M.GY.MAS |
| 34 | 211.97 | 213.11 | 1.14 | | | SANDSTONE | SLTY.VFG.M.GY.MAS |
| 36 | 213.11 | 214.14 | 1.03 | | | SANDSTONE | SLTY.FG.M.GY.THNB.XBDG SOME VTHN SILTY INTBDS |
| | 214.14 | 214.63 | 0.49 | | | SANDSTONE | MG.LT.GY THIN CARB. LAM THROUGHOUT SS GRADUALLY BECOMING VFG AT BASE. |
| 38 | 214.63 | 214.74 | 0.11 | | | SANDSTONE | FG.M.GY.MAS |
| | 214.74 | 215.09 | 0.35 | | | SILTSTONE | DK.GY.MAS SOME LISTRIC SURFACE MODIFIER CALC |
| 40 | 215.09 | 216.84 | 1.75 | | | SILTSTONE | DK.GY.MAS OCCASIONAL SSS BANDS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 43 | 216.84 | 217.89 | 1.05 | | | SILTSTONE | DK.GY.MAS AS ABOVE |
| 46 | 217.89 | 219.49 | 1.60 | | | SILTSTONE | DK.GY.MAS VERY SSY TOWARDS BASE |
| 49 | 219.49 | 220.95 | 1.46 | | | SANDSTONE | SLTY.FG.M.GY.MAS SLTY INTBDS AND BANDS IRREGULAR |
| 51 | 220.95 | 222.32 | 1.37 | | | SANDSTONE | SLTY.FG.M.GY.MAS AS ABOVE |
| 53 | 222.32 | 223.01 | 0.69 | | | SANDSTONE | SLTY.FG.M.GY.MAS AS ABOVE |
| * 55 | 223.01 | 223.99 | 0.98 | | | SILTSTONE | DK.GY.THKB SOME CARB AND COALY LAMINAE SSY BANDS |
| 56 | 223.99 | 224.76 | 0.77 | | | SILTSTONE | DK.GY.THKB AS ABOVE |
| 56 | 224.76 | 225.06 | 0.30 | | | SANDSTONE | FG.M.GY.MAS GRADUAL CHANGE FROM SILST TO SS TOWARDS BASE. |
| 57 | 225.06 | 226.51 | 1.45 | | | SANDSTONE | FG.LT-M.GY.MAS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 58 | 226.51 | 227.01 | 0.50 | | | SANDSTONE | SLTY.FG.LT-M.GY.MAS.XBDG |
| 58 | 227.01 | 227.19 | 0.18 | | | SANDSTONE | SLTY.FG.LT-M.GY.MAS.XBDG |
| 58 | 227.19 | 227.62 | 0.43 | | | SILTSTONE | M.GY.MAS |
| 58 | 227.62 | 228.56 | 0.94 | | | SILTSTONE | M.GY.MAS |
| 58 | 228.56 | 228.65 | 0.09 | | | MUDSTONE | CARB.BLK.THNB THIN COAL BEDS AND COALY INCLUSIONS |
| 58 | 228.65 | 228.90 | 0.25 | | | MUDSTONE | SLTY.DK.GY.THKB PARTLY CARBONACEOUS. |
| 58 | 228.90 | 229.37 | 0.47 | | | SILTSTONE | DK.GY.THKB |
| 57 | 229.37 | 229.70 | 0.33 | | | MUDSTONE | DK.GY FAIRLY COMPACT GRADUALLY SLTST FROM TOP CHANGING TO MUDST |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 229.70 | 230.01 | 0.31 | | | MUDSTONE | CARB.DK.BLK.THNB THIN COAL LAMINAE THROUGHOUT. |
| 57 | 230.01 | 231.61 | 1.60 | | | ROCK LOSS | |
| 57 | 231.61 | 231.81 | 0.20 | | | MUDSTONE | CARB.DK.BLK.THNB AS ABOVE |
| 57 | 231.81 | 231.84 | 0.03 | | | MUDSTONE | CARB.DK.BLK.THNB AS ABOVE |
| 57 | 231.84 | 232.01 | 0.17 | | | MUDSTONE | SLTY.DK.GY.THKB |
| 57 | 232.01 | 232.16 | 0.15 | | | SILTSTONE | DK.GY.MAS PARTLY CARBONACEOUS |
| 57 | 232.16 | 232.79 | 0.63 | | | MUDSTONE | CARB.DK.GY.THNB COAL STRINGERS |
| 57 | 232.79 | 232.86 | 0.07 | | | SANDSTONE | CARB.VFG.DK.GY.THNB |
| 57 | 232.86 | 232.97 | 0.11 | | | MUDSTONE | CARB.DK.GY.THNB AS MUDST ABOVE |
| 57 | 232.97 | 233.00 | 0.03 | | | SILTSTONE | DK.GY.THNB MODIFIER MUDDY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 57 | 233.00 | 233.55 | 0.55 | | | MUDSTONE | CARB.DK.GY.THNB SLTY AT TOP AND CHANGING TO HIGHLY CARB AT BASE COALY STRINGERS THROUGHOUT. |
| 57 | 233.55 | 233.59 | 0.04 | | | COAL | C-5.BLK |
| 57 | 233.59 | 233.62 | 0.03 | | | COAL | BLK |
| 57 | 233.62 | 233.70 | 0.08 | | | COAL | C-4.BLK |
| 57 | 233.70 | 233.96 | 0.26 | | | ROCK LOSS | |
| 57 | 233.96 | 234.80 | 0.84 | | | MUDSTONE | CARB.DK.GY.THKB OCCASIONALLY SLTY |
| 56 | 234.80 | 234.97 | 0.17 | | | MUDSTONE | CARB.BLK WITH COAL INCLUSIONS AND STRINGERS. |
| 56 | 234.97 | 234.98 | 0.01 | | | COAL | C-1.BLK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 56 | 234.98 | 235.00 | 0.02 | | | MUDSTONE | CARB.BLK AS MUDST ABOVE |
| 56 | 235.00 | 235.01 | 0.01 | | | COAL | BLK |
| 56 | 235.01 | 235.06 | 0.05 | | | MUDSTONE | CARB.DK.GY.THNB SLTY |
| 56 | 235.06 | 235.18 | 0.12 | | | MUDSTONE | CARB.BLK.THNB COAL AND MUDST, INTBD (COALY MUDSTONE) |
| 56 | 235.18 | 235.66 | 0.48 | | | MUDSTONE | CARB.BLK.THNB NUMEROUS THIN COAL INTBDS AND STRINGERS |
| 56 | 235.66 | 235.67 | 0.01 | | | COAL | BLK |
| 56 | 235.67 | 235.74 | 0.07 | | | MUDSTONE | CARB.BLK.THNB AS MUDST ABOVE |
| 56 | 235.74 | 235.84 | 0.10 | | | COAL | C-1.BLK |
| 56 | 235.84 | 235.92 | 0.08 | | | MUDSTONE | CARB.BLK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 235.92 | 235.95 | 0.03 | | | COAL | C-1.BLK HIGHLY BROKEN- PULVERIZED |
| 56 | 235.95 | 235.98 | 0.03 | | | MUDSTONE | CARB.BLK.THNB AS MUDST ABOVE |
| 56 | 235.98 | 236.03 | 0.05 | | | COAL | C-1.BLK |
| 56 | 236.03 | 236.05 | 0.02 | | | MUDSTONE | CARB.BLK.THNB AS ABOVE MUDST |
| 56 | 236.05 | 236.24 | 0.19 | | | COAL | C-1.BLK |
| 56 | 236.24 | 236.38 | 0.14 | | | ROCK LOSS | |
| 56 | 236.38 | 236.89 | 0.51 | | | MUDSTONE | CARB.DK.GY.THNB SOME COAL INTBDS AND STRINGERS, OCCASIO NALLY SLTY. |
| 56 | 236.89 | 237.20 | 0.31 | | | SANDSTONE | SLTY.VFG.DK.GY.THKB SLTY AT TOP, SOME MUDST INCLUSIONS. |
| 56 | 237.20 | 237.40 | 0.20 | | | MUDSTONE | CARB.DK.GY.THNB AS MUDST ABOVE |
| 56 | 237.40 | 237.56 | 0.16 | | | SANDSTONE | SLTY.VFG.DK.GY.THKB AS SS ABOVE, PARTLY CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 56 | 237.56 | 237.81 | 0.25 | | | MUDSTONE | CARB.DK.GY.THNB SOME COAL INTBDS AND STRINGERS. |
| 56 | 237.81 | 238.06 | 0.25 | | 2 | COAL | C-5.BLK.BRKN |
| 56 | 238.06 | 238.11 | 0.05 | | 2 | MUDSTONE | CARB.BLK |
| 56 | 238.11 | 238.14 | 0.03 | | 2 | COAL | C-2.BLK |
| 56 | 238.14 | 238.39 | 0.25 | | 2 | COAL | C-3.BLK.BRKN PULVERIZED. |
| 56 | 238.39 | 238.99 | 0.60 | | 2 | COAL | C-2.BLK.BRKN PULVERIZED. |
| 56 | 238.99 | 239.14 | 0.15 | | | MUDSTONE | CARB.BLK.THKB |
| 56 | 239.14 | 239.30 | 0.16 | | | MUDSTONE | CARB.DK.GY.THKB SLTY, COAL LAYER 5CM FROM TOP |
| 56 | 239.30 | 239.40 | 0.10 | | | COAL | C-6.BLK THIN MUDST INTBDS AND BRIGHT COAL STRIN GERS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 56 | 239.40 | 239.61 | 0.21 | | | MUDSTONE | CARB.BLK.THNB COAL STRINGERS THROUGHOUT |
| 56 | 239.61 | 239.69 | 0.08 | | | MUDSTONE | CARB.BLK.THNB AS ABOVE |
| 56 | 239.69 | 239.71 | 0.02 | | | COAL | C-1.BLK |
| 56 | 239.71 | 240.31 | 0.60 | | | COAL LOSS | |
| 55 | 240.31 | 241.16 | 0.85 | | | MUDSTONE | CARB.BLK.THNB.BRKN COAL STRINGERS AND THIN LAYERS. |
| 55 | 241.16 | 242.21 | 1.05 | | | MUDSTONE | CARB.DK.GY.THKB SLTY, SOME COALY INCLUSIONS |
| 55 | 242.21 | 242.45 | 0.24 | | | MUDSTONE | CARB.DK.GY.THKB AS ABOVE |
| * 55 | 242.45 | 242.98 | 0.53 | | | MUDSTONE | CARB.DK.BLK.THNB NUMEROUS THIN COAL LAYERS |
| 54 | 242.98 | 243.03 | 0.05 | | | COAL | BLK |
| 54 | 243.03 | 243.45 | 0.42 | | | SILTSTONE | DK.GY.MAS IRREGULAR SSY BANDS, CARB INCLUSIONS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 52 | 243.45 | 244.48 | 1.03 | | | MUDSTONE | CARB.DK.GY.THNB SOME COALY STRINGERS |
| 51 | 244.48 | 244.90 | 0.42 | | | SILTSTONE | DK.GY.THNB OCCASIONALLY CARB; MUDST LAMINAE MODIFI ER MUDDY |
| 50 | 244.90 | 245.05 | 0.15 | | | MUDSTONE | CARB.DK.GY.THNB |
| 50 | 245.05 | 245.37 | 0.32 | | | MUDSTONE | CARB.DK.GY.THNB |
| 49 | 245.37 | 245.66 | 0.29 | | | SILTSTONE | DK.GY.MAS MODIFIER MUDDY |
| 47 | 245.66 | 247.29 | 1.63 | | | MUDSTONE | SLTY.DK.GY.THNB LAM W SOME COALY STRINGERS AND CALC IN PLACES |
| 44 | 247.29 | 247.86 | 0.57 | | | SANDSTONE | SLTY.VFG.LT.GY.THKB.XBDG CALCAREOUS, SOME SLTY BANDS, CARBONAEOU S SPECKS |
| 43 | 247.86 | 248.24 | 0.38 | | | SANDSTONE | SLTY.VFG.LT.GY.THKB.XBDG HIGHLY CALC AT TOP |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 42 | 248.24 | 249.17 | 0.93 | | | SANDSTONE | SLTY.VFG.LT.GY.THKB.XBDG AS ABOVE |
| 43 | 249.17 | 249.49 | 0.32 | | | SILTSTONE | CARB.DK.GY.THKB SOME COAL STRINGERS |
| 43 | 249.49 | 249.76 | 0.27 | | | MUDSTONE | CARB.DK.GY.THNB COAL STRINGERS AND THIN LAYERS THROUGHOUT |
| 44 | 249.76 | 249.88 | 0.12 | | | SILTSTONE | CARB.DK.GY.THKB AS SLTST ABOVE |
| 44 | 249.88 | 250.12 | 0.24 | | | MUDSTONE | CARB.DK.GY.THNB AS MUDST ABOVE |
| 44 | 250.12 | 250.29 | 0.17 | | | SILTSTONE | SSY.DK.GY.THNB THIN INTBDS OF MUDST |
| 45 | 250.29 | 250.59 | 0.30 | | | MUDSTONE | CARB.BLK.THKB LUSTROUS SURFACE |
| 45 | 250.59 | 250.67 | 0.08 | | | COAL | C-4 HIGHLY BROKEN |
| 45 | 250.67 | 250.73 | 0.06 | | | MUDSTONE | CARB.BLK.THKB LUSTROUS SURFACE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 250.73 | 250.84 | 0.11 | | | SILTSTONE | DK.GY CARBONACEOUS AT TOP; MODIFIER MUDDY. |
| 46 | 250.84 | 251.14 | 0.30 | | | SANDSTONE | FG.M.GY.MAS |
| 47 | 251.14 | 252.91 | 1.77 | | | SANDSTONE | FG.M.GY.MAS |
| 49 | 252.91 | 253.24 | 0.33 | | | MUDSTONE | SLTY.DK.GY.MAS |
| 49 | 253.24 | 253.29 | 0.05 | | | SANDSTONE | VFG.M.GY.MAS |
| 50 | 253.29 | 254.26 | 0.97 | | | SILTSTONE | DK.GY.MAS |
| 51 | 254.26 | 255.02 | 0.76 | | | SILTSTONE | DK.GY.MAS |
| * 52 | 255.02 | 255.30 | 0.28 | | | MUDSTONE | CARB.BLK.THNB SOME COALY STRINGERS AND SPECKS |
| 52 | 255.30 | 255.37 | 0.07 | | | SANDSTONE | VFG.M.GY.XBDG |
| 52 | 255.37 | 255.47 | 0.10 | | | MUDSTONE | CARB.BLK.THNB AS MUDST ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 51 | 255.47 | 256.00 | 0.53 | | | SILTSTONE | SSY.M.GY.MAS |
| 51 | 256.00 | 256.10 | 0.10 | | | SILTSTONE | SSY.M.GY.MAS |
| * 50 | 256.10 | 257.58 | 1.48 | | | MUDSTONE | SLTY.DK.GY.THNB PARTLY CARB, SOME SLTY BANDS |
| 50 | 257.58 | 257.80 | 0.22 | | | MUDSTONE | SLTY.DK.GY.THNB AS ABOVE |
| 50 | 257.80 | 257.90 | 0.10 | | | SILTSTONE | M.GY.MAS W NUMEROUS CALCIFIED SHELL FRAGS |
| 50 | 257.90 | 258.30 | 0.40 | | | MUDSTONE | SLTY.DK.GY.THNB COAL STRINGERS AND OCCASIONAL THIN LAYERS |
| 50 | 258.30 | 258.38 | 0.08 | | | MUDSTONE | CARB.DK.GY.THNB SLTY AND COALY INCLUSIONS |
| 50 | 258.38 | 258.40 | 0.02 | | | COAL | C-2.BLK |
| 50 | 258.40 | 258.49 | 0.09 | | | MUDSTONE | CARB.DK.GY.THNB AS MUDST ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDHB1005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 50 | 258.49 | 258.55 | 0.06 | | COAL | C-5 |
| | 50 | 258.55 | 258.70 | 0.15 | | SILTSTONE | SSY.DK.GY.MAS |
| | 50 | 258.70 | 260.22 | 1.52 | | MUDSTONE | SLTY.DK.GY.MAS OCCASIONALLY CARBONACEOUS; COMPACT SOLID CORE. |
| | 51 | 260.22 | 261.17 | 0.95 | | MUDSTONE | SLTY.DK.GY.MAS AS ABOVE |
| | 51 | 261.17 | 261.56 | 0.39 | | SILTSTONE | SSY.DK.GY.MAS FAIRLY UNIFORM, COMPACT CORE |
| | 51 | 261.56 | 263.02 | 1.46 | | SANDSTONE | VFG.DK.GY.MAS |
| | 52 | 263.02 | 263.48 | 0.46 | | SANDSTONE | VFG.DK.GY.MAS |
| | 52 | 263.48 | 264.04 | 0.56 | | SANDSTONE | FG.LT.GY.THNB.XBDG |
| | 52 | 264.04 | 264.14 | 0.10 | | SANDSTONE | FG.DK.GY.THNB.XBDG |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 52 | 264.14 | 264.49 | 0.35 | | | SANDSTONE | FG.LT.GY.THNB |
| 53 | 264.49 | 266.11 | 1.62 | | | SANDSTONE | CARB.MG.LT.GY.THNB LAM & SLTY, AT TOP CARB W COALY INCLUSI ONS AT BASE, SOME XBDG |
| 54 | 266.11 | 266.48 | 0.37 | | | SANDSTONE | MG.LT.GY.THKB CALCAREOUS |
| 54 | 266.48 | 267.04 | 0.56 | | | SANDSTONE | MG.M.GY.THKB SOME MUDST INCLUSIONS IN LOWER PART, PA RTLY CARB |
| 54 | 267.04 | 267.19 | 0.15 | | | SILTSTONE | DK.GY.MAS W SSY AND MUDST BANDS AND INCLUSIONS (B RECCIATED) |
| 55 | 267.19 | 267.61 | 0.42 | | | SILTSTONE | DK.GY.MAS AS ABOVE |
| 56 | 267.61 | 269.28 | 1.67 | | | SANDSTONE | MG.LT.GY.THKB.XBDG CALCAREOUS NUMEROUS COALY AND CARB STRI NGERS |
| 57 | 269.28 | 269.93 | 0.65 | | | SANDSTONE | MG.LT.GY.THKB AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 57 | 269.93 | 270.70 | 0.77 | | | SANDSTONE | CG.LT.GY.THKB AS ABOVE |
| 58 | 270.70 | 270.85 | 0.15 | | | SANDSTONE | CG.LT.GY.THKB INCLUSIONS OF SLTST MUDST BRECCIA |
| 58 | 270.85 | 272.15 | 1.30 | | | SANDSTONE | SLTY.FG.M.GY.XBDG INTBDS OF FG; VFG SS AND SLTST |
| * 59 | 272.15 | 272.69 | 0.54 | | | SANDSTONE | SLTY.FG.M.GY.XBDG AS ABOVE |
| * 55 | 272.69 | 275.63 | 2.94 | | | SANDSTONE | FG.M.GY.MAS.XBDG |
| 56 | 275.63 | 276.21 | 0.58 | | | SILTSTONE | SSY.DK.GY.MAS.XBDG OCCASIONAL SSY LAYERS & BANDS |
| 57 | 276.21 | 278.36 | 2.15 | | | SILTSTONE | SSY.DK.GY.MAS.XBDG AS ABOVE |
| 58 | 278.36 | 279.21 | 0.85 | | | SANDSTONE | FG.M.GY.THKB.XBDG SOME SLTY LAYERS-IRREGULAR |
| 59 | 279.21 | 280.03 | 0.82 | | | MUDSTONE | SLTY.DK.GY.THKB |
| 59 | 280.03 | 280.13 | 0.10 | | | SILTSTONE | M.GY.MAS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 59 | 280.13 | 280.44 | 0.31 | | | MUDSTONE | SLTY.DK.GY.THKB |
| 59 | 280.44 | 280.56 | 0.12 | | | SILTSTONE | M.GY.MAS |
| 59 | 280.56 | 280.61 | 0.05 | | | MUDSTONE | SLTY.DK.GY.THKB |
| 59 | 280.61 | 281.08 | 0.47 | | | SANDSTONE | VFG.M.GY.THKB SLTY TOWARDS BASE |
| 60 | 281.08 | 281.98 | 0.90 | | | MUDSTONE | SLTY.DK.GY.MAS SOME CARB INCLUSIONS |
| 60 | 281.98 | 282.32 | 0.34 | | | SILTSTONE | SSY.DK.GY.MAS |
| 61 | 282.32 | 282.46 | 0.14 | | | MUDSTONE | SLTY.DK.GY.MAS |
| 61 | 282.46 | 282.56 | 0.10 | | | SILTSTONE | DK.GY.MAS |
| 61 | 282.56 | 283.90 | 1.34 | | | MUDSTONE | SLTY.DK.GY.MAS UNIFORM AND COMPACT |
| 62 | 283.90 | 283.98 | 0.08 | | | SILTSTONE | DK.GY.MAS MODIFIER CALC |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 62 | 283.98 | 285.25 | 1.27 | | | MUDSTONE | SLTY.DK.GY.MAS AS MUDST ABOVE |
| 59 | 285.25 | 285.65 | 0.40 | | | SANDSTONE | FG.M.GY.THKB |
| 57 | 285.65 | 286.75 | 1.10 | | | MUDSTONE | SLTY.DK.GY.MAS AS MUDST ABOVE |
| * 52 | 286.75 | 288.43 | 1.68 | | | SANDSTONE | SLTY.VFG.M-DK.GY.MAS IRREGULAR BANDS OF SS, SLTST AND SLTY M UDST THROUGHOUT FAIRLY COMPACT |
| 54 | 288.43 | 289.55 | 1.12 | | | SILTSTONE | DK.GY.THNB OCCASIONAL COALY STRINGERS, BANDS OF SL TY MUDST, SOME SSY LAYERS |
| | 289.55 | 290.19 | 0.64 | | | SILTSTONE | DK.GY.THNB AS ABOVE. |
| 55 | 290.19 | 290.20 | 0.01 | | | COAL | C-1.BLK |
| 55 | 290.20 | 290.47 | 0.27 | | | SILTSTONE | DK.GY.THNB |
| 56 | 290.47 | 291.09 | 0.62 | | | SANDSTONE | SLTY.VFG.LT-M.GY.MAS CALC AT BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 56 | 291.09 | 291.46 | 0.37 | | | MUDSTONE | SLTY.DK.GY.THKB |
| 57 | 291.46 | 291.89 | 0.43 | | | ROCK LOSS | SLTY.DK.GY.THKB |
| 57 | 291.89 | 292.87 | 0.98 | | | MUDSTONE | SLTY.DK.GY.THKB OCCASIONAL SLTY BANDS, SOME COALY INCLUSIONS |
| 59 | 292.87 | 295.06 | 2.19 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE; VERY SLTY TOWARDS BASE. |
| 61 | 295.06 | 295.80 | 0.74 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE |
| 61 | 295.80 | 295.98 | 0.18 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE |
| 62 | 295.98 | 296.35 | 0.37 | | | SANDSTONE | SLTY.VFG.M.GY.THNB.XBDG |
| 62 | 296.35 | 296.75 | 0.40 | | | MUDSTONE | SLTY.DK.GY.THNB |
| 62 | 296.75 | 296.97 | 0.22 | | | SANDSTONE | SLTY.VFG.M.GY.THNB.XBDG |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 62 | 296.97 | 296.99 | 0.02 | | | COAL | C-1.BLK |
| 63 | 296.99 | 298.11 | 1.12 | | | SILTSTONE | SSY.DK.GY.MAS OCCASIONAL BANDS OF SLTST AND SLTY MUDS T THROUGHOUT |
| * 64 | 298.11 | 298.71 | 0.60 | | | SILTSTONE | SSY.DK.GY.MAS AS ABOVE |
| 63 | 298.71 | 298.95 | 0.24 | | | SILTSTONE | SSY.DK.GY.MAS AS ABOVE, CARB AT TOP |
| 63 | 298.95 | 299.51 | 0.56 | | | ROCK LOSS | |
| 62 | 299.51 | 299.95 | 0.44 | | | MUDSTONE | CARB.BLK.THNB OCCASIONAL THIN COAL LAYERS AND INCLUSI ONS THROUGHOUT |
| 61 | 299.95 | 300.05 | 0.10 | | | SANDSTONE | FG.LT.GY.THNB PARTLY CARB W COALY INCLUSIONS |
| 61 | 300.05 | 300.21 | 0.16 | | | COAL | C-2.BLK |
| 60 | 300.21 | 301.45 | 1.24 | | | MUDSTONE | CARB.BLK.THNB AS MUDST ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 58 | 301.45 | 301.81 | 0.36 | | | MUDSTONE | CARB.BLK.THNB AS ABOVE |
| 58 | 301.81 | 302.03 | 0.22 | | | MUDSTONE | CARB.BLK.THNB AS ABOVE |
| 58 | 302.03 | 302.06 | 0.03 | | 4 | COAL | C-4.BLK.BRKN |
| 57 | 302.06 | 302.09 | 0.03 | | 4 | MUDSTONE | CARB.BLK.BRKN SKS |
| 57 | 302.09 | 302.16 | 0.07 | | 4 | COAL | C-4.BLK |
| 57 | 302.16 | 302.22 | 0.06 | | 4 | COAL | C-3.BLK |
| 57 | 302.22 | 302.30 | 0.08 | | 4 | COAL | C-4.BLK |
| 57 | 302.30 | 302.68 | 0.38 | | 4 | COAL | C-2.BLK |
| * 55 | 302.68 | 304.23 | 1.55 | | | MUDSTONE | CARB.BLK.THNB OCCASIONAL THIN COAL LAYERS AND INCLUSI ONS THROUGHOUT SLTY TOWARDS BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 56 | 304.23 | 304.85 | 0.62 | | | MUDSTONE | CARB.BLK.THNB AS ABOVE |
| 56 | 304.85 | 305.08 | 0.23 | | | ROCK LOSS | |
| 56 | 305.08 | 305.18 | 0.10 | | | COAL | BLK.PWRD |
| 57 | 305.18 | 305.43 | 0.25 | | | COAL LOSS | |
| 57 | 305.43 | 305.83 | 0.40 | | | ROCK LOSS | |
| 57 | 305.83 | 305.90 | 0.07 | | | COAL | C-5.BLK.BRKN |
| 57 | 305.90 | 306.33 | 0.43 | | | COAL LOSS | |
| 57 | 306.33 | 306.61 | 0.28 | | | MUDSTONE | CARB.DK.BLK.THNB.VBRKN |
| 58 | 306.61 | 307.55 | 0.94 | | | SILTSTONE | M-DK.GY.MAS OCCASIONAL BANDS OF VFG SS MODIFIER CAL C |
| 59 | 307.55 | 308.25 | 0.70 | | | SILTSTONE | M-DK.GY.MAS AS ABOVE MODIFIER CALC |
| 59 | 308.25 | 308.94 | 0.69 | | | SILTSTONE | M-DK.GY.MAS AS ABOVE MODIFIER CALC |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 60 | 308.94 | 310.01 | 1.07 | | | SANDSTONE | VFG.M.GY.MAS SLTY BANDS MODIFIER CALC |
| 61 | 310.01 | 310.57 | 0.56 | | | SILTSTONE | M-DK.GY.MAS AS SLTST ABOVE MODIFIER CALC |
| | 310.57 | 310.94 | 0.37 | | | SILTSTONE | DK.GY.MAS AS ABOVE 5CM FROM TOP CALCITE VEIN XSTA LS 2CM THICK MODIFIER CALC |
| 61 | 310.94 | 311.24 | 0.30 | | | SILTSTONE | DK.GY.MAS GRADUAL CHANGE FROM SLTST. TO MUDST MODI FIER CALC |
| 62 | 311.24 | 312.36 | 1.12 | | | MUDSTONE | SLTY.DK.GY.THKB CARB IN PLACES |
| 62 | 312.36 | 312.56 | 0.20 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN CARB W SKS |
| 62 | 312.56 | 312.76 | 0.20 | | | ROCK | VBRKN COAL MIXED W ROCK |
| 63 | 312.76 | 313.01 | 0.25 | | | ROCK LOSS | |
| 63 | 313.01 | 313.13 | 0.12 | | | MUDSTONE | CARB.BLK.THNB |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 63 | 313.13 | 313.98 | 0.85 | | | MUDSTONE | SLTY.DK.GY.THKB PARTLY CARB |
| 64 | 313.98 | 315.43 | 1.45 | | | MUDSTONE | SLTY.DK.GY.THKB AS ABOVE |
| * 65 | 315.43 | 316.13 | 0.70 | | | MUDSTONE | CARB.BLK.THNB OCCASIONAL COAL INCLUSION AND THIN BAND S, CALCAREOUS |
| 64 | 316.13 | 316.81 | 0.68 | | | MUDSTONE | CARB.BLK.THNB AS ABOVE |
| 63 | 316.81 | 318.07 | 1.26 | | | MUDSTONE | CARB.BLK.THNB AS ABOVE |
| 62 | 318.07 | 318.09 | 0.02 | | | MUDSTONE | BLK.THNB WITH THIN LAYERS OF MUDST AND CLYST. |
| 62 | 318.09 | 318.13 | 0.04 | | | MUDSTONE | CARB.BLK.THNB AS MUDST ABOVE |
| 62 | 318.13 | 318.15 | 0.02 | | | COAL | C-1.BLK |
| 62 | 318.15 | 318.22 | 0.07 | | | MUDSTONE | CARB.BLK.THNB AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 62 | 318.22 | 318.26 | 0.04 | | | COAL | C-5.BLK |
| 61 | 318.26 | 318.29 | 0.03 | | | MUDSTONE | BLK.THNB.BRKN WITHN LAYERS OF MUDST AND COAL |
| 61 | 318.29 | 318.31 | 0.02 | | | MUDSTONE | CARB.BLK.THNB AS MUDST ABOVE |
| 61 | 318.31 | 318.41 | 0.10 | | | COAL | C-5.BLK.VBRKN |
| 61 | 318.41 | 318.63 | 0.22 | | | MUDSTONE | CARB.BLK.THNB AS MUDST ABOVE |
| 61 | 318.63 | 318.73 | 0.10 | | | COAL | C-6.BLK BONEY |
| 61 | 318.73 | 318.80 | 0.07 | | | COAL | C-6.BLK STONEY |
| 60 | 318.80 | 319.05 | 0.25 | | | COAL | BLK.PWRD |
| 60 | 319.05 | 319.18 | 0.13 | | | MUDSTONE | CARB.BLK.THNB AS MUDST ABOVE |
| 60 | 319.18 | 319.20 | 0.02 | | | COAL | C-1.BLK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 60 | 319.20 | 319.21 | 0.01 | | | COAL | C-6.BLK |
| 60 | 319.21 | 319.22 | 0.01 | | | COAL | C-1.BLK |
| 60 | 319.22 | 319.24 | 0.02 | | | COAL | C-6.BLK |
| 60 | 319.24 | 319.34 | 0.10 | | | MUDSTONE | CARB.DK.BLK.THNB SOME COAL INCLUSIONS |
| 59 | 319.34 | 320.50 | 1.16 | | | MUDSTONE | CARB.BLK.THNB PARTLY SLTY, CALC AND COALY LAYERS AND INCLUSIONS OCCASIONALLY |
| 58 | 320.50 | 320.72 | 0.22 | | | COAL | C-5.VBRKN |
| | 320.72 | 320.93 | 0.21 | | | COAL LOSS | |
| 57 | 320.93 | 322.31 | 1.38 | | | MUDSTONE | CARB.BLK.THNB AS MUDST ABOVE |
| | 322.31 | 323.76 | 1.45 | | | MUDSTONE | SLTY.DK.GY.THKB CARB IN PLACES, W SOME COALY INCLUSIONS AND FEW CALCITE STRINGERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 53 | 323.76 | 325.01 | 1.25 | | | MUDSTONE | CARB.BLK.THNB THIN COAL LAYERS AND INCLUSIONS |
| 54 | 325.01 | 325.45 | 0.44 | | | MUDSTONE | CARB.DK.GY.THNB AS ABOVE |
| 55 | 325.45 | 325.73 | 0.28 | | | SILTSTONE | DK.GY.THKB COMPACT |
| 55 | 325.73 | 325.79 | 0.06 | | | SANDSTONE | MG.M.GY.MAS CALCITE STRINGERS AND VEINS MODIFIER CA LC |
| 55 | 325.79 | 326.00 | 0.21 | | | SILTSTONE | DK.GY.MAS CARB IN PLACES, LAYERS OF CARB MUDST, C OAL INCLUSIONS MODIFIER MUDDY. |
| 55 | 326.00 | 326.42 | 0.42 | | | MUDSTONE | SLTY.DK.GY.THNB CARB; SOME CALC STRINGERS |
| 56 | 326.42 | 327.42 | 1.00 | | | ROCK LOSS | |
| 57 | 327.42 | 327.65 | 0.23 | | | SANDSTONE | FG.M.GY.MAS |
| | 327.65 | 327.80 | 0.15 | | | SANDSTONE | MG.M.GY.THNB CALC VEINS, STRINGERS, SOME CARB INCLUS IONS THROUGHOUT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 58 | 327.80 | 328.57 | 0.77 | | | SILTSTONE | M.GY.THNB SOME CARB INCLUSIONS AND LAYERS BECOMIN G VSSY TOWARDS BASE MODIFIER CALC |
| * 60 | 328.57 | 330.62 | 2.05 | | | SILTSTONE | M.GY.THNB.XBDG SOME CARB INCLUSIONS AND LAYERS OCCASIO NAL SSSY LAYERS MODIFIER CALC |
| 61 | 330.62 | 331.12 | 0.50 | | | SILTSTONE | M.GY.THNB.XBDG AS ABOVE MODIFIER CALC |
| 61 | 331.12 | 331.82 | 0.70 | | | ROCK LOSS | DRILLER'S MARKER REPEATED. |
| 61 | 331.82 | 333.07 | 1.25 | | | MUDSTONE | SLTY.DK.GY.THNB SOME COALY AND CALC INCLUSIONS |
| 62 | 333.07 | 333.45 | 0.38 | | | MUDSTONE | CARB.BLK.THNB THN C LAYERS & STRINGERS VERY CALC AT B OTTOM |
| 62 | 333.45 | 333.78 | 0.33 | | | MUDSTONE | SLTY.DK.GY.THNB GRADUAL CHANGE FROM CARB MUDST AT TOP, SLTY MUDST, TO SLTST |
| 62 | 333.78 | 333.87 | 0.09 | | | SANDSTONE | SLTY.LT.GY.THNB.XBDG CARB LAYERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 62 | 333.87 | 334.47 | 0.60 | | | SILTSTONE | SSY.M-DK.GY.THNB.XBDG CARB LAMINAE SSY LAYERS AND BANDS THROU GHOUT |
| 62 | 334.47 | 335.20 | 0.73 | | | MUDSTONE | SLTY.DK.GY.MAS PARTLY CARB.-SOME CALC AND COALY STRING ERS |
| 63 | 335.20 | 335.53 | 0.33 | | | MUDSTONE | SLTY.DK.GY.MAS AS ABOVE |
| 63 | 335.53 | 335.89 | 0.36 | | | MUDSTONE | CARB.BLK CALCITE VEINS AT TOP, SOME COAL INCLUSI ONS |
| 63 | 335.89 | 336.01 | 0.12 | | | COAL | C-5.BLK.PWRD BRKN |
| * 63 | 336.01 | 336.53 | 0.52 | | | MUDSTONE | SLTY.DK.GY.MAS CARB LAYERS AND SPECKS |
| 62 | 336.53 | 336.70 | 0.17 | | | MUDSTONE | CARB.DK.GY.THNB SOME SLTY INCLUSIONS |
| * 60 | 336.70 | 337.25 | 0.55 | | | SILTSTONE | M.GY.THNB CALC |
| 60 | 337.25 | 337.41 | 0.16 | | | MUDSTONE | CARB.DK.GY.THNB COALY INCLUSIONS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 60 | 337.41 | 337.51 | 0.10 | | | MUDSTONE | SLTY.DK.GY.THNB |
| 60 | 337.51 | 337.52 | 0.01 | | | COAL | C-5.BLK |
| 61 | 337.52 | 337.87 | 0.35 | | | MUDSTONE | SLTY.DK.GY.THNB AS MUDST ABOVE |
| 61 | 337.87 | 338.12 | 0.25 | | | MUDSTONE | CARB.DK.GY.THNB |
| 61 | 338.12 | 338.25 | 0.13 | | | MUDSTONE | CARB.DK.GY.THNB |
| 61 | 338.25 | 338.29 | 0.04 | | | COAL | C-4.BLK |
| 62 | 338.29 | 340.35 | 2.06 | | | MUDSTONE | CARB.DK.GY.THNB OCCASIONALLY CALC, COALY INCLUSIONS |
| 63 | 340.35 | 340.44 | 0.09 | | | SILTSTONE | M.GY.MAS |
| 63 | 340.44 | 340.57 | 0.13 | | | MUDSTONE | CARB.DK.GY.THNB AS MUDST ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 64 | 340.57 | 342.40 | 1.83 | | | MUDSTONE | CARB.DK.GY.THNB COAL STRINGERS AT TOP, SLTY TOWARDS BASE |
| 64 | 342.40 | 342.55 | 0.15 | | | COAL | C-5.BLK.VBRKN |
| 64 | 342.55 | 342.95 | 0.40 | | | MUDSTONE | SLTY.DK.GY.THKB CARB |
| 63 | 342.95 | 343.15 | 0.20 | | | SANDSTONE | VFG.M-DK.GY.MAS |
| 63 | 343.15 | 343.50 | 0.35 | | | SANDSTONE | VFG.M-DK.GY.MAS MODIFIER CALC |
| 63 | 343.50 | 345.81 | 2.31 | | | SANDSTONE | VFG.M-DK.GY.MAS.XBDG OCCASIONAL SLTY THNB SOME |
| 62 | 345.81 | 346.51 | 0.70 | | | SILTSTONE | SSY.M-DK.GY.THNB VERY CALC 20CM FROM BOTTOM OCCASIONAL SSY LAMINAE AND THIN LAYERS, SOME SLTY MUDST BANDS |
| 62 | 346.51 | 347.22 | 0.71 | | | SILTSTONE | SSY.M-DK.GY.THNB AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 62 | 347.22 | 347.72 | 0.50 | | | SILTSTONE | DK.GY.THNB CARB AND CALC IN PLACES, MODIFIER MUDDY |
| 62 | 347.72 | 347.94 | 0.22 | | | SANDSTONE | VFG.M.GY.THNB.XBDG SLTY |
| 62 | 347.94 | 348.04 | 0.10 | | | SILTSTONE | DK.GY.THNB AS SLTST ABOVE, MODIFIER MUDDY. |
| | 348.04 | 348.24 | 0.20 | | | SANDSTONE | VFG.M.GY.THNB.XBDG CHANGING TO SLTST AT BASE MODIFIER CALC |
| 62 | 348.24 | 348.53 | 0.29 | | | SILTSTONE | DK.GY.THNB AS SLTST ABOVE CALCITE VEINS (HORSETAIL) MODIFIER MUDDY |
| 62 | 348.53 | 348.70 | 0.17 | | | SANDSTONE | VFG.M.GY.THNB.XBDG SLTY MODIFIER CALC |
| 61 | 348.70 | 349.31 | 0.61 | | | SILTSTONE | DK.GY.THNB AS SLTST ABOVE MODIFIER MUDDY |
| 61 | 349.31 | 349.64 | 0.33 | | | SANDSTONE | SLTY.LT.GY.LAM VERY CALC W NUMEROUS CALCITE VEINS, COA L INCLUSIONS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 61 | 349.64 | 351.27 | 1.63 | | | SILTSTONE | DK.GY.THNB.XBDG OCCASIONALLY CARB W COAL INCLUSIONS, BE DS POORLY DEFINED |
| 60 | 351.27 | 352.67 | 1.40 | | | SILTSTONE | DK.GY.THNB.XBDG AS ABOVE TO OCCASIONAL VFG SS FINELY LA MINATED BEDS |
| 60 | 352.67 | 353.15 | 0.48 | | | SILTSTONE | DK.GY.THNB.XBDG AS ABOVE |
| * 60 | 353.15 | 353.66 | 0.51 | | | SANDSTONE | VFG.LT-M.GY.THNB SLTY TOWARDS BASE |
| 59 | 353.66 | 353.98 | 0.32 | | | SILTSTONE | SSY.DK.GY.THNB AS SLTST ABOVE SOME CARB AND CALC VEINS |
| 58 | 353.98 | 355.88 | 1.90 | | | SILTSTONE | SSY.DK.GY.THNB AS SLTST ABOVE, CALC VEINS |
| 56 | 355.88 | 356.62 | 0.74 | | | SILTSTONE | SSY.DK.GY.THNB AS ABOVE BEDDING IRREGULAR |
| * 54 | 356.62 | 358.20 | 1.58 | | | SILTSTONE | DK.GY.THNB AS ABOVE BEDS POORLY DEFINED MODIFIER C ALC. |
| 54 | 358.20 | 358.98 | 0.78 | | | SANDSTONE | VFG.M-DK.GY.XBDG SOME SLTY LAM, CALC AT BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 55 | 358.98 | 359.34 | 0.36 | | SILTSTONE | DK.GY.THNB AS SLTST ABOVE |
| | 55 | 359.34 | 360.66 | 1.32 | | SANDSTONE | SLTY.VFG.M.GY.THNB.XBDG SOME CALCITE VEINS |
| | 55 | 360.66 | 361.88 | 1.22 | | SILTSTONE | SSY.DK.GY.BRKN CALC, CALCITE VEIN AT TOP, & FRACTURED |
| | 56 | 361.88 | 362.18 | 0.30 | | SILTSTONE | SSY.DK.GY.VBRKN AS ABOVE |
| * | 56 | 362.18 | 364.44 | 2.26 | | SILTSTONE | SSY.DK.GY.THNB.VBRKN AS ABOVE IRREGULAR SSY BNDS |
| * | 66 | 364.44 | 365.11 | 0.67 | | SANDSTONE | VFG.M.GY.BRKN NUMEROUS CALCITE VEINS FRACTURED (MINOR FAULTING) |
| * | 72 | 365.11 | 366.86 | 1.75 | | SANDSTONE | VFG.M.GY.BRKN AS ABOVE, SKS |
| | 64 | 366.86 | 367.31 | 0.45 | | SANDSTONE | VFG.M.GY.BRKN AS ABOVE MODIFIER CALC |
| | 62 | 367.31 | 367.41 | 0.10 | | COAL | BLK.PWRD MIXED W ROCK |
| | 60 | 367.41 | 367.84 | 0.43 | | COAL LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 68

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 58 | 367.84 | 367.99 | 0.15 | | | SILTSTONE | DK.GY.BRKN |
| 55 | 367.99 | 368.49 | 0.50 | | | COAL | BLK SHRD HIGHLY BROKEN AT TOP; PULV AT BASE . |
| 52 | 368.49 | 368.85 | 0.36 | | | ROCK LOSS | |
| 50 | 368.85 | 369.17 | 0.32 | | | MUDSTONE | CARB.BLK.BRKN COALY INCL, CALC |
| * 45 | 369.17 | 370.17 | 1.00 | | | SILTSTONE | SSY.M-DK.GY.THNB OCCASIONAL SSY BANDS FEW CALCITE STRGRS |
| 48 | 370.17 | 370.29 | 0.12 | | | MUDSTONE | SLTY.DK.GY.THNB |
| 52 | 370.29 | 371.69 | 1.40 | | | SILTSTONE | M.GY SOME SLTY MUDST AND VFG SS BANDS OCCASI ONALLY CALC |
| 57 | 371.69 | 372.61 | 0.92 | | | MUDSTONE | CARB.DK.GY.THKB CALC AND COALY STRNGRS |
| 60 | 372.61 | 372.89 | 0.28 | | | SILTSTONE | DK.GY.THNB SOME CARB LAM, COALY INCL AT TOP SSY AT BASE CALC STRNGRS |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 69

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 63 | 372.89 | 373.71 | 0.82 | | | SANDSTONE | SLTY.VFG.M.GY.THNB FEW CALC INCLUSIONS |
| 59 | 373.71 | 373.99 | 0.28 | | | COAL | C-5.BLK |
| 56 | 373.99 | 374.51 | 0.52 | | | COAL LOSS | |
| | 374.51 | 376.16 | 1.65 | | | MUDSTONE | CARB.BLK BRKN, SHRD AT BASE, SKS CALC VEINS THRO UGHOUT, COAL LAYERS AND INCLUSIONS THRO UGHOUT. |
| | 376.16 | 376.81 | 0.65 | | | MUDSTONE | CARB.BLK.SHRD SKS, TOTALLY BRKN, SOME PULV. COAL MIXE D IN. |
| * 30 | 376.81 | 378.81 | 2.00 | | | SANDSTONE | VFG.M.GY CARB LAM, SKS, FRACTURED CALCITE VEINS AND STRINGERS, BRECCIATED AT BASE. MODI FIER CALC |
| 29 | 378.81 | 378.86 | 0.05 | | | COAL&ROCK | BLK.PWRD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 70

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|-----------------------------|
| 28 | 378.86 | 378.90 | 0.04 | | | ROCK LOSS | |
| 28 | 378.90 | 379.16 | 0.26 | 00088 | | COAL | PWRD |
| 28 | 379.16 | 379.26 | 0.10 | 00088 | | COAL | C-5.BLK |
| 28 | 379.26 | 379.70 | 0.44 | 00088 | | COAL LOSS | |
| 27 | 379.70 | 379.88 | 0.18 | 00089 | | MUDSTONE | CARB.BLK.THNB |
| 27 | 379.88 | 380.37 | 0.49 | 00090 | | COAL | C-5.BLK.BRKN PARTLY SHRD |
| 26 | 380.37 | 380.87 | 0.50 | 00090 | | COAL | C-5.BLK |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 71

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|-----------------------|
| 26 | 380.87 | 380.95 | 0.08 | 00090 | | MUDSTONE | CARB.BLK |
| 25 | 380.95 | 381.09 | 0.14 | 00090 | | COAL LOSS | |
| 25 | 381.09 | 381.35 | 0.26 | 00090 | | COAL | C-5.BLK |
| 25 | 381.35 | 381.45 | 0.10 | 00090 | | ROCK LOSS | |
| 25 | 381.45 | 381.50 | 0.05 | 00090 | | MUDSTONE | CARB.BLK |
| 25 | 381.50 | 381.70 | 0.20 | 00090 | | COAL LOSS | |
| 24 | 381.70 | 382.00 | 0.30 | 00090 | | COAL | C-4.BLK |
| 24 | 382.00 | 382.12 | 0.12 | 00090 | | MUDSTONE | CARB.BLK.BRKN SHRD |
| 24 | 382.12 | 382.21 | 0.09 | 00090 | | ROCK LOSS | |
| 24 | 382.21 | 382.34 | 0.13 | 00090 | | COAL | C-5.BLK |
| 24 | 382.34 | 382.44 | 0.10 | 00090 | | COAL | C-6.BLK |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 72

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 23 | 382.44 | 382.79 | 0.35 | 00090 | | COAL | C-5.BLK.PWRD V BRKN |
| 23 | 382.79 | 382.92 | 0.13 | | | MUDSTONE | CARB.BLK |
| 23 | 382.92 | 383.34 | 0.42 | | | MUDSTONE | SLTY.DK.GY SOME CARB PARTINGS |
| 21 | 383.34 | 384.51 | 1.17 | | | MUDSTONE | DK.GY COALY INCL V BRKN AT BASE, SKS, CALCITE VEINS. MODIFIER CALC |
| 20 | 384.51 | 385.83 | 1.32 | | | SILTSTONE | DK.GY.BRKN PARTLY CARB; VERY CALC WITH NUMEROUS VE INS OF CALCITE |
| 18 | 385.83 | 386.55 | 0.72 | | | MUDSTONE | CARB.BLK.BRKN SKS |
| 17 | 386.55 | 387.10 | 0.55 | | | MUDSTONE | CARB.BLK.BRKN SKS |
| 17 | 387.10 | 387.28 | 0.18 | | | MUDSTONE | CARB.BLK.BRKN SKS |
| 16 | 387.28 | 388.02 | 0.74 | | | MUDSTONE | SLTY.DK.GY.BRKN SOME CALC INCL AND STRNGRS |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 73

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-------------|--|
| * 15 | 388.02 | 388.92 | 0.90 | | | SILTSTONE | SSY.GY.BRKN VERY CALC BRECCIATED, SKS CARB INCLUSIO NS, DIP CHANGING RAPIDLY-FAULT ZONE STA RTING |
| 33 | 388.92 | 389.52 | 0.60 | | | SILTSTONE | SSY.GY.BRKN AS ABOVE |
| 46 | 389.52 | 389.98 | 0.46 | | | ROCK LOSS | |
| 54 | 389.98 | 390.18 | 0.20 | | | ROCK & COAL | PWRD V BRKN |
| * 62 | 390.18 | 390.65 | 0.47 | | | SANDSTONE | SLTY.VFG.M.GY.BRKN CALC W CARB STRNGRS SOME COAL INCL, SKS |
| 61 | 390.65 | 390.80 | 0.15 | | | COAL&ROCK | PWRD V BRKN |
| | 390.80 | 391.00 | 0.20 | | | COAL LOSS | |
| 60 | 391.00 | 391.52 | 0.52 | | | SANDSTONE | SLTY.VFG.M.GY.BRKN AS SS ABOVE |
| 57 | 391.52 | 392.38 | 0.86 | | | SANDSTONE | M.GY BRECCIATED (FAULT BRECCIA) NUMEROUS CAL CIT VEINS, STRNGRS AND INCL. FAULT MODI FIER CALC |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 74

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 55 | 392.38 | 392.75 | 0.37 | | | SANDSTONE | VFG.M.GY SOME SLTY LAM MODIFIER CALC |
| 56 | 392.75 | 393.35 | 0.60 | | | SANDSTONE | VFG.M.GY AS ABOVE MODIFIER CALC |
| 57 | 393.35 | 394.22 | 0.87 | | | SANDSTONE | FG.M.GY.BRKN BRECCIATED, SOME SKS AT TOP NUMEROUS CAL CITE VEINS & STRNGRS MODIFIER CALC |
| | 394.22 | 395.34 | 1.12 | | | SANDSTONE | SLTY.VFG.M.GY V CALC AT TOP BRECCIATED FRACTURED, CAL CITE VEINS S STRINGERS. |
| 62 | 395.34 | 397.31 | 1.97 | | | SANDSTONE | SLTY.VFG.M.GY AS ABOVE, SLTY AT BASE END OF FAULT ZON E |
| 65 | 397.31 | 398.13 | 0.82 | | | SILTSTONE | M.GY OCCASIONALLY SSSY, SSSY AT BASE. MODIFIER CALC |
| * 68 | 398.13 | 400.35 | 2.22 | | | SILTSTONE | M.GY.THNB LAYERS AND BANDS OF VFG SS |
| 65 | 400.35 | 400.69 | 0.34 | | | SILTSTONE | DK.GY.MAS CARB IN PLACES MODIFIER MUDDY |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 75

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 63 | 400.69 | 401.83 | 1.14 | | | SILTSTONE | M.GY.THNB VFG SS LAYERS & BANDS |
| 62 | 401.83 | 402.35 | 0.52 | | | SILTSTONE | CARB.DK.GY.MAS SOME COAL INCL AT BASE CALCITE VEINS |
| 61 | 402.35 | 402.47 | 0.12 | | | MUDSTONE | CARB.BLK |
| 60 | 402.47 | 403.15 | 0.68 | | | SILTSTONE | CARB.DK.GY.THNB CALCITE VEINS |
| 59 | 403.15 | 403.19 | 0.04 | | | MUDSTONE | CARB.BLK.BRKN W COAL INCL SKS |
| 59 | 403.19 | 403.25 | 0.06 | | | SILTSTONE | CARB.DK.GY.THNB AS SLTST ABOVE |
| * 56 | 403.25 | 405.83 | 2.58 | | | SILTSTONE | CARB.DK.GY.THNB CALC COALY INCL. OCCASIONALLY THIN LAYER S AND BANDS OF MUDST THROUGHOUT. |
| 62 | 405.83 | 405.93 | 0.10 | | | SILTSTONE | CARB.DK.GY.THNB AS ABOVE |
| 63 | 405.93 | 406.01 | 0.08 | | | MUDSTONE | CARB.BLK.BRKN LUSTROUS SURFACE |
| 64 | 406.01 | 406.27 | 0.26 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 76

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 64 | 406.27 | 406.36 | 0.09 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE |
| 65 | 406.36 | 406.49 | 0.13 | | | SILTSTONE | CARB.M.GY.MAS FILLED WITH CALCIFIED SHELL FRAGS; POSS IBLE MARKER HORIZON |
| 67 | 406.49 | 407.07 | 0.58 | | | MUDSTONE | CARB.BLK.BRKN |
| 69 | 407.07 | 407.33 | 0.26 | | | SILTSTONE | M.GY.MAS SOME CARB INCL |
| 69 | 407.33 | 407.41 | 0.08 | | | MUDSTONE | CARB.BLK.THNB.BRKN W COAL INCL |
| * 70 | 407.41 | 407.60 | 0.19 | | | SILTSTONE | M.GY.MAS AS ABOVE CALC STRNGRS |
| | 407.60 | 408.03 | 0.43 | | | MUDSTONE | CARB.BLK.THNB.BRKN AS MUDST ABOVE. |
| 69 | 408.03 | 408.77 | 0.74 | | | MUDSTONE | SLTY.DK.GY.THKB CARB, |
| 69 | 408.77 | 409.30 | 0.53 | | | MUDSTONE | CARB.BLK.THNB CARB AT TOP, GRAD SLTY AT BASE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 77

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 69 | 409.30 | 409.37 | 0.07 | | | MUDSTONE | CARB.BLK.THNB |
| 69 | 409.37 | 409.61 | 0.24 | | | SANDSTONE | VFG.LT.GY.MAS |
| 69 | 409.61 | 409.82 | 0.21 | | | SILTSTONE | SSY.M.GY.THNB THIN CARB MUDST LAYERS & BANDS |
| 69 | 409.82 | 409.92 | 0.10 | | | SANDSTONE | FG.LT.GY.THNB.XBDG SLTY LAM |
| 68 | 409.92 | 410.13 | 0.21 | | | SILTSTONE | SSY.M.GY CALC, SOME COALY INCL. SOME FRACS |
| 68 | 410.13 | 410.66 | 0.53 | | | SANDSTONE | FG.LT.GY.THNB.XBDG SLTY LAM MODIFIER CALC |
| 68 | 410.66 | 411.48 | 0.82 | | | MUDSTONE | CARB.BLK.THNB SOME CALCITE STRNGRS |
| 67 | 411.48 | 412.18 | 0.70 | | | MUDSTONE | CARB.BLK.THNB AS ABOVE |
| 67 | 412.18 | 412.81 | 0.63 | | | MUDSTONE | CARB.BLK.THNB AS ABOVE SLTY AT BASE |
| 67 | 412.81 | 413.23 | 0.42 | | | SILTSTONE | M.GY.MAS CALC AT TOP CARB W COAL STRNGRS AT BASE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 78

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 66 | 413.23 | 413.58 | 0.35 | | | MUDSTONE | CARB.BLK.THNB BRKN AT TOP |
| 66 | 413.58 | 413.96 | 0.38 | | | MUDSTONE | SLTY.DK.GY.THNB SOME CARB FRAGS |
| 66 | 413.96 | 414.18 | 0.22 | | | MUDSTONE | CARB.BLK.THNB CALC, LUSTROUS SURFACE |
| 66 | 414.18 | 414.33 | 0.15 | | | MUDSTONE | CARB.BLK.THNB AS ABOVE |
| 66 | 414.33 | 415.23 | 0.90 | | | SILTSTONE | DK.GY.MAS |
| * 65 | 415.23 | 416.36 | 1.13 | | | SILTSTONE | DK.GY.MAS SOME VFG SS BANDS |
| 64 | 416.36 | 416.48 | 0.12 | | | MUDSTONE | DK.GY.THNB SOME CARB BANDS STRNGRS CALC AT BASE |
| 64 | 416.48 | 416.91 | 0.43 | | | SILTSTONE | DK.GY.MAS |
| 63 | 416.91 | 417.06 | 0.15 | | | MUDSTONE | CARB.BLK.THKB |
| 63 | 417.06 | 417.67 | 0.61 | | | SILTSTONE | DK.GY.THNB CARB BAND< COAL INCL> MODIFIER CALC |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 79

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|---|
| | 62 | 417.67 | 417.77 | 0.10 | | SANDSTONE | SLTY.VFG.M.GY.MAS |
| * | 62 | 417.77 | 417.91 | 0.14 | | MUDSTONE | SLTY.DK.GY.THNB CARB AT BASE |
| | 58 | 417.91 | 419.03 | 1.12 | | ROCK LOSS | |
| | 54 | 419.03 | 419.38 | 0.35 | | ROCK & COAL | BLK.BRKN SHRD, PWRD |
| | 52 | 419.38 | 419.93 | 0.55 | | COAL | C-5.BLK.PWRD SHRD |
| | 48 | 419.93 | 420.81 | 0.88 | | MUDSTONE | SLTY.BLK.MAS COMPACT, UNIFORM SLTY AT BASE |
| | 45 | 420.81 | 420.91 | 0.10 | | MUDSTONE | SLTY.BLK.MAS AS ABOVE CALC AT BASE |
| * | | 420.91 | 422.49 | 1.58 | | SILTSTONE | DK.GY BRECCIATED AT TOP DIP CHANGING RAPIDLY POSSIBLE MINOR FAULT CARB STRNGRS, SKS OCCASIONAL BANDS OF VFG SS MODIFIER CALC |
| * | 45 | 422.49 | 423.36 | 0.87 | | SILTSTONE | DK.GY.THNB FAIRLY COMPACT MODIFIER CALC |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 80

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81005

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--------------------------------------|
| 45 | 423.36 | 423.78 | 0.42 | | | SILTSTONE | DK.GY.THNB AS ABOVE MODIFIER CALC |

* DENOTES MEASURED BCA

DDH 81-06

GCRI -- COAL DIVISION -- DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81006

HISTORY

DY MO YR DY MO YR
 START DATE: 29/08/81 END DATE: 06/09/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: C. WILLIAMS SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1273.2
 UTM ZONE: 10 NORTH: 6141169.73 EAST: 548456.74
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: . EAST: . LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: . EAST: . QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 325.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 19.5 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | --- | --- | X | | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | X | | 125A |
| DENSITY | X | 1:100 | : | --- | --- | X | X | 422AS |
| CALIPER | X | 1:100 | : | --- | --- | X | | 785 |
| FE-SHORT | | : | : | --- | --- | | | |
| FE-LONG | X | 1:100 | : | --- | --- | X | | 9 |
| DIRECTIONAL DIPMETER | X | : | : | --- | --- | X | | |
| | | : | : | --- | --- | | | |

*** COAL DIVISION ***

DATA SOURCE: D81-06

INTERVAL OF INTERPOLATION 10 UNIT(S)

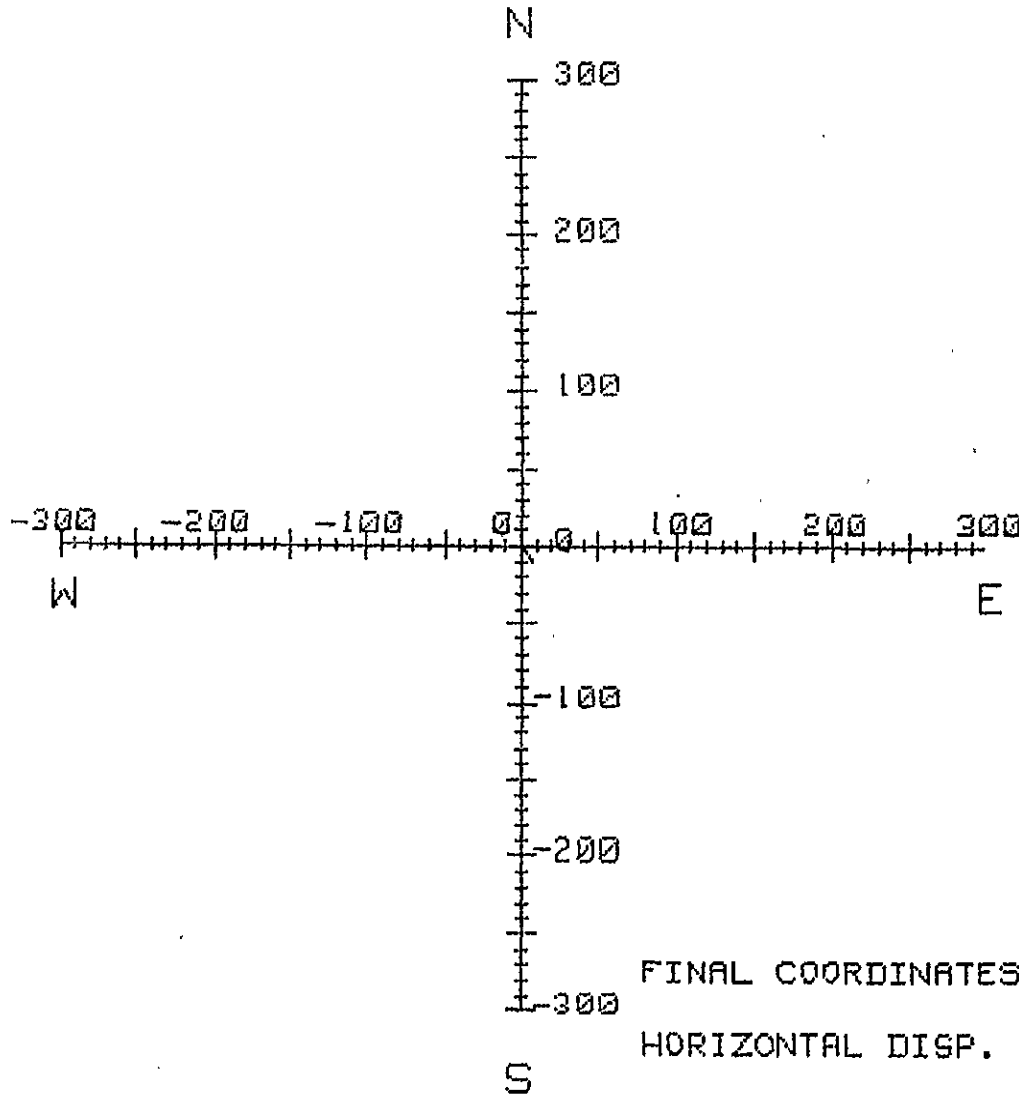
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 0.00 | 1.10 | 141.10 |
| 15.00 | 1.10 | 141.10 |
| 30.00 | 1.10 | 144.00 |
| 45.00 | 1.10 | 147.60 |
| 60.00 | 1.50 | 146.70 |
| 75.00 | 1.50 | 145.00 |
| 90.00 | 1.60 | 140.70 |
| 105.00 | 1.60 | 145.50 |
| 120.00 | 1.75 | 144.40 |
| 135.00 | 1.90 | 147.20 |
| 150.00 | 2.10 | 150.10 |
| 165.00 | 2.10 | 147.20 |
| 180.00 | 2.40 | 146.40 |
| 195.00 | 2.50 | 136.90 |
| 210.00 | 2.80 | 147.10 |
| 225.00 | 3.10 | 147.20 |
| 240.00 | 3.10 | 143.70 |
| 255.00 | 3.30 | 143.70 |
| 270.00 | 3.70 | 145.30 |
| 285.00 | 4.10 | 146.30 |
| 300.00 | 4.20 | 149.10 |
| 315.00 | 4.30 | 146.60 |
| 320.00 | 4.40 | 147.20 |

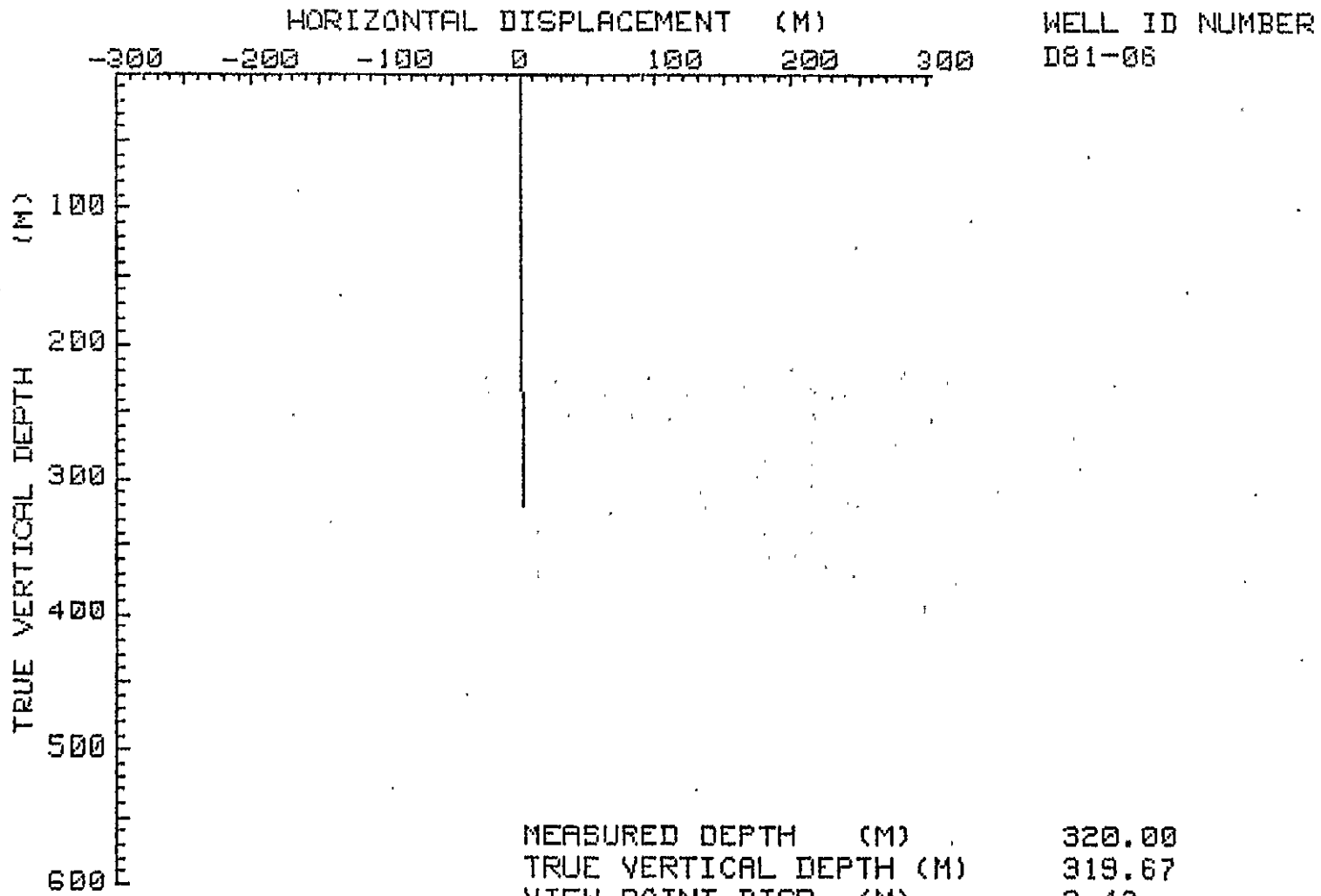
PLAN VIEW

WELL ID NUMBER
D81-06



FINAL COORDINATES(M) N-10.92
E 7.50
HORIZONTAL DISP. (M) 2.42

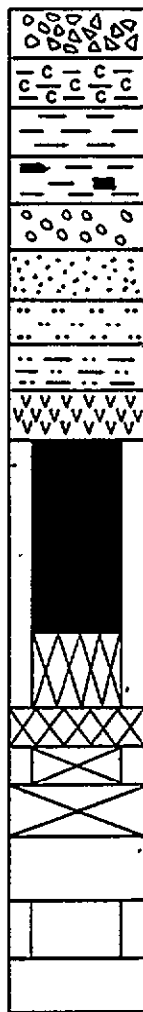
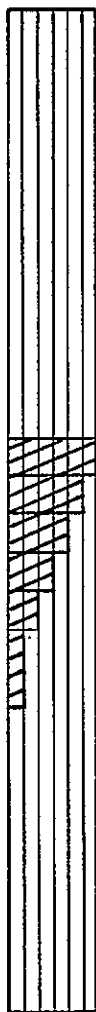
DISPLACEMENT



| | |
|-------------------------|--------|
| MEASURED DEPTH (M) | 320.00 |
| TRUE VERTICAL DEPTH (M) | 318.67 |
| VIEW POINT DISP. (M) | 2.42 |
| SECTION LINE BEARING | 45.00 |

SEAM
COMP

COAL
SEAM
LOG



- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff
- coal
- coal-boney, stoney, coal and bands/rock - designated "C6"
- rock } coal lithotype uncertain
- coal } MISSING CORE
- rock }
- rock
- coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80 % Vitrain
- C-3: Dull/Bright 40-60 % Vitrain
- C-4: Dull banded 20-40 % Vitrain
- C-5: Dull 20 % Vitrain
- C-6: Bone

GULF CANADA RESOURCES INC. Coal Division

CALGARY ALBERTA



LEGEND FOR COAL
SEAM DATA SHEETS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal / Coal + Rock (True Thk(m))
2.22 / 2.49

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-06 SEAM _____
SCALE 1:40

SEAM INTERVAL 186.99 - 192.19 m

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | | | | SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | | | | |
|---------------|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|-------------------|-------|---------------|----------|--------|--------|--------|-------|-------------------------|------|------|-------|--------|---------|-------|--------|----|----|-----|-------------|-----|--|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | 2.00 | 2.10 | 2.20 | | | | 2.30 | 2.40 | | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI | |
| | | | | | | | | | | | | | | | | 186.99 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 187.45 | | | (0.46) | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 3.24 | 88 | 00093 | | | 1.24 | 12.70 | 24.68 | 61.38 | 0.26 | | | | 2.0 | | | |
| | | | | | | | | | | | | | | | | 190.89 | | 0.40 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 191.26 | | (0.17) | | | | | | 1.39 | 80.63 | 7.62 | 10.36 | 0.06 | 2,046 | | | | 0.0 | | |
| | | | | | | | | | | | | | | | | 191.31 | | | (0.05) | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 0.75 | | | | | 1.11 | 10.94 | 24.73 | 63.22 | 0.28 | 13,276 | | | | 3.0 | | |
| | | | | | | | | | | | | | | | | 192.17 | | | 0.86 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 192.19 | | | (0.07) | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 0.81 | | | | | | 1.35 | 84.46 | 7.35 | 6.84 | 0.25 | 1152 | | | | 0.0 | | |
| | | | | | | | | | | | | | | | | | | | (0.04) | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | (0.02) | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-207 (12-80)
Coal / Coal + Rock (True Thk (m))
2.72 / 2.82

DENSITY --- RESISTIVITY ---

DRILL NO. GDR-DDH-81-06 SEAM

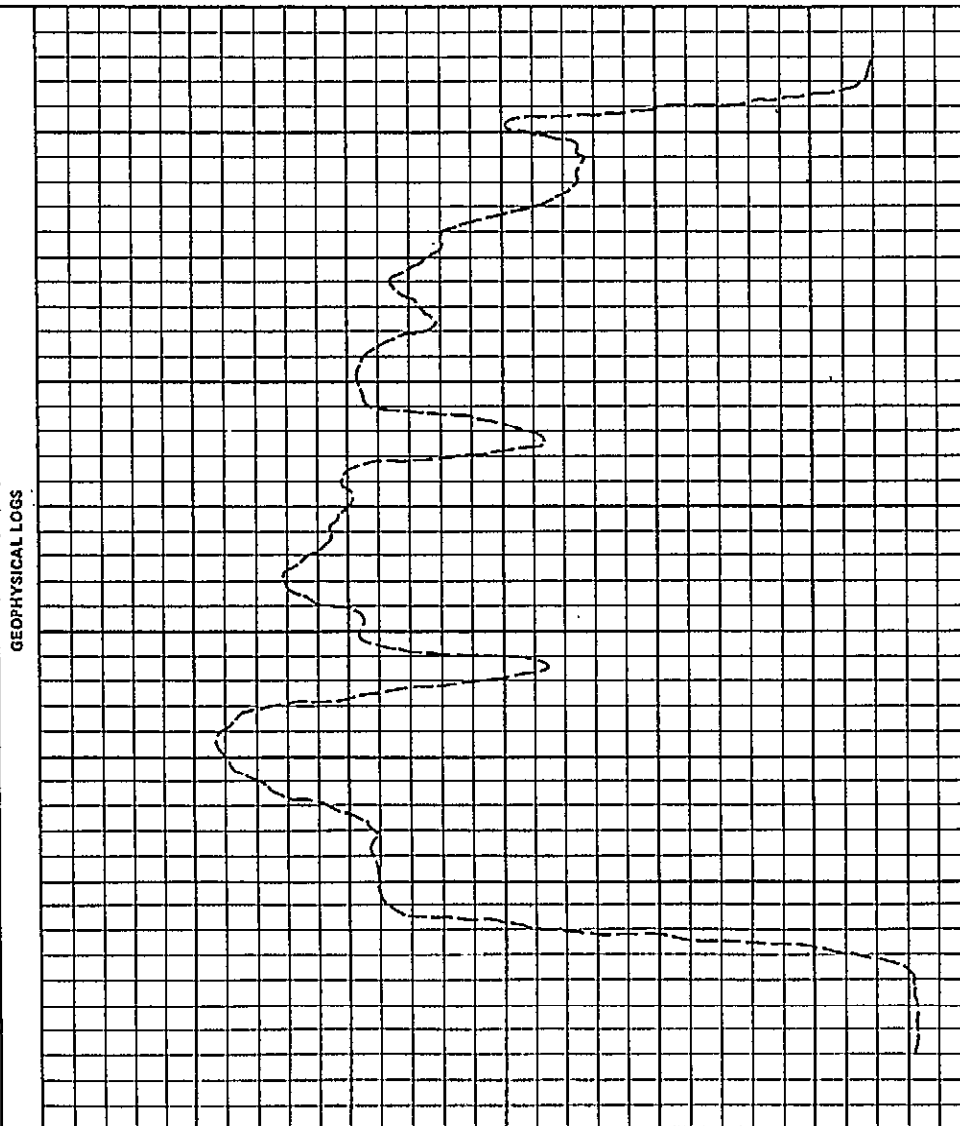
SEAM INTERVAL 193.39 - 199.99m

DENSITY SCALE 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80

RESISTIVITY SCALE

SEAM COMP. 55.4321

SCALE 1:40



GEOPHYSICAL LOGS

| DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | |
|------------------|---------------|--------------|--------------|--------|--------|---------|-------------------------|------|-------|-------|-------|-------------|----------------|-----|
| | | ROCK | COAL | | NUMBER | CDMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI | |
| 193.00 | | 0.23 | | | | 00096 | | 1.35 | 84.46 | 7.35 | 6.84 | 0.25 | 1,152 (2.88) | 0.0 |
| 193.39 193.44 | | (0.16) | (0.05) | | | | | | | | | | | |
| 193.79 193.84 | | (0.05) | 0.35 | 28 | | 00097 | | 0.93 | 41.74 | 19.39 | 37.94 | 0.24 | 8,272 (19.24) | 3.0 |
| 194.82 | | | (0.98) | | | | | | | | | | | |
| 195.39 | | | 0.57 | 60 | | 00098 | | 1.15 | 25.50 | 19.49 | 53.86 | 0.27 | 10,920 (25.40) | 1.0 |
| 195.79 195.81 | | 0.02 | (0.40) | | | | | | | | | | | |
| 196.12 | | 0.01 | | | | | | | | | | | | |
| 196.69 196.86 | | 0.04 0.04 | 0.30 | 74 | | 00099 | | 1.07 | 15.42 | 24.81 | 58.70 | 0.30 | 13,452 (31.29) | 3.5 |
| 197.33 | | | (0.47) | | | | | | | | | | | |
| 197.63 | | | 0.52 | | | | | | | | | | | |
| 199.18 | | | (1.20) | 25 | | 00101 | | 1.04 | 15.48 | 25.54 | 58.04 | 0.27 | 12,560 (29.26) | 4.0 |
| 199.99 | | 0.05 | 0.13 0.35 | | | | | | | | | | | |
| | | | (0.41) | | | | | | | | | | | |
| | | 1.01 | | 100 | | 00100 | | 0.72 | 80.68 | 6.85 | 11.75 | 0.07 | 1,092 (2.54) | 0.0 |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-287 (12-80)

Coal/Coal+Rock (True Thk (m))
0.87 / 0.97, 0.91 / 0.94

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-06 SEAM _____
SCALE 1:40

SEAM INTERVAL 244.16-245.51m ; 251.55-252.95m

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | | | | | | | SEAM CDMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|---------------|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------------|--------|---------------|----------|--------|--------------------|--------|-------|-------------------------|--------|---------|----------------|-----|----|----|---|-------------|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | 2.00 | 2.10 | 2.20 | 2.30 | 2.40 | 2.50 | | | | 2.60 | 2.70 | | 2.80 | ROCK | COAL | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ/KG) |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 244.16 | | | (0.08) | | 00104 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 244.76 | | 0.11 | | 87 | | 0.52 | 14.48 | 32.65 | 52.35 | 0.76 | 13,168 (30.63) | 8.0 | | | | |
| | | | | | | | | | | | | | | | | | 244.83 | | (0.04) | | | 00106 (liquifactn) | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 245.51 | | | | 53 | 00105 | 0.77 | 54.24 | 16.80 | 28.19 | 0.33 | 6,230 (14.44) | 1.0 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 251.55 | | | (0.10) | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | 76 | 00107 | 0.59 | 22.64 | 22.45 | 53.62 | 0.36 | 11,548 (26.86) | 5.5 | | | | |
| | | | | | | | | | | | | | | | | | 252.95 | | 0.04 | | | 00108 (liquifactn) | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal/Coal+Rock (True Thk (m))
: 0.77 / 0.77

DENSITY ----- RESISTIVITY -----

DRILL NO. GDR-DDH-81-06 SEAM

SEAM INTERVAL 267.45 - 268.39m, 274.23 - 275.68m

SCALE 1:40

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | |
|---------------|-------------------|------|------|------|------|------|------|------|------|------|------------|--------|------------------|----------|------|--------|--------|--------------|-------------------------|------|------|------|-------|------|--------|---------|---------|-------|-----|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | | | | 2.00 | 2.10 | | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | NUMBER | COMPOS. | MOIST | ASH |
| | | | | | | | | | | | | 654321 | 267.45 | | | 0.81 | 86 | 00109 | | 0.62 | 2298 | 2167 | 54.73 | 0.26 | 11,539 | 3.0 | | | |
| | | | | | | | | | | | | | 268.26 268.39 | | | (0.13) | | | | | | | | | | (26.84) | | | |
| | | | | | | | | | | | | | 274.23 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | 275.68 | | | (0.22) | 85 | 0011 0012 | | 0.32 | 2406 | 2719 | 48.43 | 0.30 | 10,668 | 4.5 | | | |
| | | | | | | | | | | | | | | | | 1.23 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING QUAL | MISSING ROCK |
|-------------|------|-----------|-------------------|-------------------|----------|-------------|----------------|----------------|--------------|--------------|
| DDHS 1006 | | 93 | 186.99 | 190.69 | 3.24 | 87.56 | 3.24 | 0.00 | 0.40 | 0.00 |
| | | 94 | 190.69 | 191.26 | 0.40 | 70.17 | 0.00 | 0.40 | 0.00 | 0.17 |
| | | 95 | 191.26 | 192.19 | 0.72 | 77.41 | 0.72 | 0.00 | 0.21 | 0.00 |
| | | 96 | 192.29 | 193.39 | 1.04 | 94.54 | 0.00 | 1.04 | 0.00 | 0.06 |
| | | 97 | 193.39 | 194.82 | 0.40 | 27.97 | 0.35 | 0.05 | 1.03 | 0.00 |
| | | 98 | 194.82 | 195.81 | 0.59 | 59.59 | 0.57 | 0.02 | 0.40 | 0.00 |
| | | 99 | 195.81 | 197.85 | 1.50 | 73.52 | 1.41 | 0.09 | 0.54 | 0.00 |
| | | 100 | 197.85 | 199.99 | 0.53 | 24.76 | 0.48 | 0.05 | 1.01 | 0.00 |
| | | 101 | 199.99 | 201.95 | 1.96 | 100.00 | 0.00 | 1.96 | 0.00 | 0.00 |
| | | 102 | 201.95 | 206.08 | 1.45 | 35.10 | 1.13 | 0.32 | 2.66 | 0.00 |
| | | 103 | 186.99 | 206.08 | 19.09 | 100.00 | 0.00 | 19.09 | 0.00 | 0.00 |
| | | 104 | 244.16 | 244.76 | 0.52 | 86.67 | 0.52 | 0.00 | 0.06 | 0.00 |
| | | 105 | 244.76 | 245.51 | 0.40 | 53.33 | 0.29 | 0.11 | 0.31 | 0.04 |
| | | 106 | 244.16 | 245.51 | 1.35 | 100.00 | 1.35 | 0.00 | 0.00 | 0.00 |
| | | 107 | 251.55 | 252.95 | 1.07 | 76.43 | 1.03 | 0.04 | 0.33 | 0.00 |
| | | 108 | 251.55 | 252.95 | 1.40 | 100.00 | 0.00 | 1.40 | 0.00 | 0.00 |
| | | 109 | 267.45 | 268.39 | 0.81 | 86.17 | 0.81 | 0.00 | 0.13 | 0.00 |
| | | 110 | 267.45 | 268.39 | 0.81 | 86.17 | 0.81 | 0.00 | 0.13 | 0.00 |
| | | 111 | 274.23 | 275.68 | 1.23 | 84.83 | 1.23 | 0.00 | 0.22 | 0.00 |
| | | 112 | 274.23 | 275.68 | 1.23 | 84.83 | 0.00 | 1.23 | 0.22 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|-------|---------------|------------------|----------------|-------------------------------|------|------|
| DDHE1006 | | 103 | | | | | | | | |
| | | 106 | | | | | | | | |
| | | 108 | | | | | | | | |
| | | 110 | | | | | | | | |
| | | 112 | | | | | | | | |
| | | 93 | 1.24 | 12.70 | 61.38 | 24.68 | 0.26 | | 1.42 | 2.00 |
| | | 94 | 1.39 | 80.63 | 10.36 | 7.62 | 0.06 | 4.76 | 2.31 | 0.00 |
| | | 95 | 1.11 | 10.94 | 63.22 | 24.73 | 0.28 | 30.88 | 1.59 | 3.00 |
| | | 96 | 1.35 | 84.46 | 6.84 | 7.35 | 0.25 | 2.68 | 2.41 | 0.00 |
| | | 97 | 0.93 | 41.74 | 57.94 | 19.39 | 0.24 | 19.24 | 1.61 | 3.00 |
| | | 98 | 1.15 | 25.50 | 53.86 | 19.49 | 0.27 | 25.40 | 1.65 | 1.00 |
| | | 99 | 1.07 | 15.42 | 58.70 | 24.61 | 0.30 | 31.29 | 1.46 | 3.50 |
| | | 101 | 0.72 | 80.68 | 11.75 | 6.85 | 0.07 | 2.54 | 2.35 | 0.00 |
| | | 100 | | | | | | | | |
| | | 102 | 0.67 | 22.18 | 50.63 | 26.52 | 0.35 | 26.96 | 1.49 | 7.50 |
| | | 104 | 0.52 | 14.48 | 52.35 | 32.65 | 0.76 | 30.63 | 1.37 | 6.00 |
| | | 105 | 0.77 | 54.24 | 28.19 | 16.80 | 0.33 | 14.49 | 1.75 | 1.00 |
| | | 107 | 0.59 | 22.84 | 53.62 | 22.95 | 0.36 | 26.86 | 1.45 | 5.50 |
| | | 109 | 0.62 | 22.98 | 54.73 | 21.67 | 0.26 | 26.84 | 1.46 | 3.00 |
| | | 111 | 0.32 | 24.06 | 46.43 | 27.19 | 0.30 | 24.81 | 1.50 | 4.50 |

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|------------|---|
| 23 | 0.00 | 20.05 | 20.05 | | | OVERBURDEN | |
| 23 | 20.05 | 21.97 | 1.92 | | | ROCK LOSS | |
| 23 | 21.97 | 22.92 | 0.95 | | | MUDSTONE | DK.GY.MAS.WRMBU.VBRKN MINOR CALCITE VEINING. |
| 23 | 22.92 | 24.38 | 1.46 | | | MUDSTONE | DK.GY.MAS.WRMBU.BRKN |
| 23 | 24.38 | 24.83 | 0.45 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD |
| * 23 | 24.83 | 26.57 | 1.74 | | | MUDSTONE | DK.GY.MAS.WRMBU.BRKN FEW THIN SLTY LAMINATIONS; FEW PYR WRMB |
| 22 | 26.57 | 26.97 | 0.40 | | | ROCK LOSS | |
| 22 | 26.97 | 27.24 | 0.27 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 21 | 27.24 | 29.10 | 1.86 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD SOME AREAS ARE HEAVILY CONCENTRATED WITH WRMBURS. FEW PYRITIC WRMBUR; MINOR CALCITE SMEARS ON BROKEN SURFACES; CALCITE; POSSIBLE SLIPPAGE AT END; CORE IS BROKEN, BUT SLIGHTLY WELDED; CALCITE VEINING. |
| 21 | 29.10 | 29.75 | 0.65 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD PYR WRMBURS; CALCITE AND FE STAINED FRACTURES AT 0.05 M AND 0.16 M. |
| * 20 | 29.75 | 30.87 | 1.12 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD FEW PYR WRMBURS AND PYR BLEBS; CALC; FE W CALCITE FLECKS THROUGHOUT - POSSIBLE FOSSILS; FEW SLT LAM AT END OF INTERVAL |
| 20 | 30.87 | 30.90 | 0.03 | | | TUFF | LT.GY.VTHNB.SHRD COLOR VARIES - ALMOST WHITE; SOFT SOAPY FEEL; 5 MM CALCITE FILLED FRACTURE. |
| 20 | 30.90 | 31.34 | 0.44 | | | MUDSTONE | SLTY.DK.GY.VTHKB.WRMBU.SLD SEVERAL LARGE CALCITE FILLED FRACTURES WITH BRECCIATION - BRECCIATED PIECES HAVE ROUNDED EDGES - POSSIBLE FAULT. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 21 | 31.34 | 31.90 | 0.56 | | | SILTSTONE | CLYY.GY.WRMBU.SLD SEVERAL LARGE CALC. FILLED FRACTURES; C ALC; FOSSIL BIVALVE LOCATED AT 0.33. |
| 21 | 31.90 | 32.23 | 0.33 | | | MUDSTONE | SLTY.GY.MAS.WRMBU.SLD |
| * 21 | 32.23 | 33.55 | 1.32 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD FEW PYR WRMBUR; NET WRMBUR ARE ROUGHLY PARALLEL TO BCAS. |
| 22 | 33.55 | 33.92 | 0.37 | | | ROCK LOSS | |
| 23 | 33.92 | 35.29 | 1.37 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD AS ABOVE; FEW MINOR CALCITE FILLED FRAC TURES; AMOUNT OF WRMBUR INCREASING. |
| 24 | 35.29 | 36.79 | 1.50 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.BRKN MINOR SLT LAM TOWARDS END OF UNIT; CALC ITE FILLED FRACTURES WITH SKS AND LISTR IC SURFACES. |
| 24 | 36.79 | 36.92 | 0.13 | | | ROCKLOSS | |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 25 | 36.92 | 38.00 | 1.08 | | | SILTSTONE | CLYY.GY.THNB.WRMBU.SLD TWO CALCITE BLEBS AT 0.30; MINOR CALCIT E VEINING AT END OF INTERVAL. |
| * 27 | 38.00 | 38.20 | 0.20 | | | MUDSTONE | DK.GY.THNB.BRKN THIS UNIT MAKES A SHARP CONTACT WITH UN DERLYING UNIT. |
| 26 | 38.20 | 38.41 | 0.21 | | | TUFF | CLYY.GY.THNB.BRKN AS ABOVE; NUMEROUS CALCITE FILLED FRACT URES; SOAPY FEELING WHEN RUBBED BETWEEN FINGERS. |
| 26 | 38.41 | 38.84 | 0.43 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.VBRKN SHEARED; SKS WITH CALCITE VEINING; POSS IBLE FAULT. |
| * 24 | 38.84 | 39.61 | 0.77 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD SEVERAL SMALL CALCITE FILLED FRACTURES. |
| 24 | 39.61 | 39.97 | 0.36 | | | ROCK LOSS | |
| 24 | 39.97 | 40.64 | 0.67 | | | MUDSTONE | DK.GY.MAS.WRMBU.BRKN SKS WITH CALCITE SMEARS AND CALCITE FIL LED FRACTURES. |
| * 25 | 40.64 | 42.96 | 2.32 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 26 | 42.96 | 43.26 | 0.30 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD SKS WITH CALC SMEAR AT END OF INTERVAL. |
| * 29 | 43.26 | 45.97 | 2.71 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD FEW SLTY LAMS FROM 1.96 M - 2.03 M. |
| * 30 | 45.97 | 48.58 | 2.61 | | | MUDSTONE | SLTY.GY.THNB.WRMBU.SLD FEW SILTY LAM; SEVERAL SMALL CALCITE FI LLED FRACTURES; COALY INCLUSION AT 0.96 M. |
| * 30 | 48.58 | 48.81 | 0.23 | | | MUDSTONE | SLTY.GY.THNB.WRMBU.SLD FEW SILTY LAM. |
| 30 | 48.81 | 49.01 | 0.20 | | | ROCK LOSS | |
| 31 | 49.01 | 51.28 | 2.27 | | | MUDSTONE | SLTY.GY.THNB.WRMBU.SLD AS ABOVE; CALCITE FILLED FRACTURE WITH SKS AT BEGINNING OF UNIT. |
| * 32 | 51.28 | 52.09 | 0.81 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD WRMBUR ARE STILL LARGELY PARALLEL TO BC AS. |
| 30 | 52.09 | 54.15 | 2.06 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD AS ABOVE; CALC FILLED FRACTURES WITH SK S AT 0.40; PYR WRMBUR. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 28 | 54.15 | 55.03 | 0.88 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD |
| * 25 | 55.03 | 56.57 | 1.54 | | | MUDSTONE | DK.GY.MAS.WRMBU.BRKN |
| * 20 | 56.57 | 57.54 | 0.97 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.BRKN FEW SILTY LAM; THIN CALCITE VEINING. |
| 25 | 57.54 | 58.88 | 1.34 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD |
| 27 | 58.88 | 59.07 | 0.19 | | | SILTSTONE | CLYY.GY.THNB.BRKN THIN CALCITE FILLED SKS. |
| * 28 | 59.07 | 59.14 | 0.07 | | | SILTSTONE | CLYY.GY.LAM.BRKN AS ABOVE. |
| 28 | 59.14 | 60.45 | 1.31 | | | MUDSTONE | SLTY.GY.MAS.WRMBU.SLD FEW CARBONACEOUS FLECKS; NOTE WRMBUR AR E STILL LARGELY PARALLEL TO BCAS. |
| 28 | 60.45 | 61.61 | 1.16 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD POSSIBLE CORE LOSS AT END OF INTERVAL; CALC. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 27 | 61.61 | 62.84 | 1.23 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD FEW PYR WRMBUR - GENERALLY THE LARGE WRMBURS. |
| 27 | 62.84 | 63.39 | 0.55 | | | MUDSTONE | DK.GY.MAS.WRMBU.VBRKN LISTRIC SURFACES PRESENT WITH CALCITE FILLED FRACTURE AT END OF INTERVAL. |
| 27 | 63.39 | 64.00 | 0.61 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD PYR WRMBURS - AGAIN USUALLY THE LARGER ONES; POSSIBLE CORE LOSS AT FOOTAGE BLOCK AND END OF THIS INTERVAL - PIECES DO NOT MATCH. |
| 27 | 64.00 | 64.83 | 0.83 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD PYR CARBONACEOUS MATERIAL AT 0.53; PYR WRMBUR. |
| 27 | 64.83 | 66.47 | 1.64 | | | MUDSTONE | DK.GY.MAS.BIOTR.SLD NOTE: THIS INTERVAL BIOTURBATED; POSSIBLE MARKER. |
| * 26 | 66.47 | 69.23 | 2.76 | | | MUDSTONE | GY.MAS.BIOTR.SLD AS ABOVE; SOME PYR WRMBUR. |
| 25 | 69.23 | 69.53 | 0.30 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD ABUNDANT WORM BURROWS. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 25 | 69.53 | 71.85 | 2.32 | | | MUDSTONE | SLTY.GY.MAS.BIOTR.SLD FEW CLAM BURROWS AT 0.27, 0.30 AND 2.18 ; FEW PYR WRMBURS. NOTE: BIOTURB AREAS GENERALLY APPEAR TO BE LIGHTER IN COLOR . |
| 24 | 71.85 | 72.61 | 0.76 | | | MUDSTONE | GY.MAS.BIOTR.SLD |
| * 24 | 72.61 | 74.54 | 1.93 | | | MUDSTONE | SLTY.GY.MAS.BIOTR.SLD INTERVAL, BECOMING DARKER IN COLOR; SIZ E OF WRMBUR INCRE 0.5MM-.0MM; LARGER WR MBUR ARE PARALLEL TO BCAS WHILE SMLER 0 .5MM ARE 0 TO 180° TO BCAS; MNR HORSETA IL CALC VEINING AT 1.40; POSS CORE LOSS AT END; |
| 27 | 74.54 | 75.30 | 0.76 | | | MUDSTONE | GY.MAS.BIOTR.SLD CALC FILLED FRAC AT TOP OF INTERVAL. |
| 28 | 75.30 | 75.38 | 0.08 | | | MUDSTONE | CARB.TAN.THNB.WRMBU PYR WRMBUR. |
| 28 | 75.38 | 75.56 | 0.18 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD ABUNDANT WRMBURS; POSSIBLE BIVALVE BURR OW. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 30 | 75.56 | 77.35 | 1.79 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD AS ABOVE. |
| 31 | 77.35 | 78.28 | 0.93 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD AS ABOVE. |
| * 32 | 78.28 | 78.43 | 0.15 | | | IRONSTONE | TAN.THNB.SLD VERY HARD. |
| 31 | 78.43 | 78.50 | 0.07 | | | MUDSTONE | GY.MAS.WRMBU.SLD |
| * 27 | 78.50 | 80.06 | 1.56 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD POSSIBLE CLAM BURROW AT 0.30. |
| * 30 | 80.06 | 81.55 | 1.49 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD COALY INCLUSION AND HORSETAIL; CALCITE VEINING AT 0.27. |
| * 20 | 81.55 | 82.85 | 1.30 | | | MUDSTONE | GY.MAS.WRMBU.SLD POSSIBLE CORE LOSS AT TOP OF INTERVAL - PIECES DON'T MATCH. |
| 20 | 82.85 | 84.51 | 1.66 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD ABUNDANT PYR WRMBURS; POSSIBLE CORE LOS S AT END OF UNIT. |
| 20 | 84.51 | 84.76 | 0.25 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| * 20 | 84.76 | 85.73 | 0.97 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD |
| 23 | 85.73 | 87.68 | 1.95 | | | MUDSTONE | GY.MAS.WRMBU.SLD CALCITE FILLED FRACTURES AT 1.45 M; WRMBUR ABUNDANT. |
| 27 | 87.68 | 88.39 | 0.71 | | | MUDSTONE | GY.MAS.WRMBU.SLD |
| * 30 | 88.39 | 90.65 | 2.26 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD POSSIBLE CLAM BURROWS AT 1.65M; PYR WRMBUR. |
| 31 | 90.65 | 91.08 | 0.43 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD PYR WRMBUR. |
| 33 | 91.08 | 93.63 | 2.55 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD |
| 34 | 93.63 | 93.76 | 0.13 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD |
| * 35 | 93.76 | 96.46 | 2.70 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD PYR CARBONACEOUS PLANT FRAGMENTS AT 2.41; CALCITE FILLED FRACTURE WITH SKS AT 1.30. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 33 | 96.46 | 96.60 | 0.14 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD PYR WRMBUR ABUNDANT. |
| * 32 | 96.60 | 99.24 | 2.64 | | | MUDSTONE | |
| 30 | 99.24 | 99.50 | 0.26 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD AS ABOVE. |
| 29 | 99.50 | 101.84 | 2.34 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD AS ABOVE; POSSIBLE FOSSIL BIVALVE AT 1. 35; CALCITE FILLED FRACTURE AT 0.71. |
| 27 | 101.84 | 102.61 | 0.77 | | | MUDSTONE | DK.GY.MAS.WRMBU.BRKN PYR WRMBURS AND BLEBBS. |
| 26 | 102.61 | 104.49 | 1.88 | | | MUDSTONE | DK.GY.MAS.WRMBU.BRKN AS ABOVE. |
| * 24 | 104.49 | 105.53 | 1.04 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD POSSIBLE IRONSTONE BAND FROM 0.45 M TO 0.50 M; CALCITE FILLED FRACTURE AND SKS AT BEGINNING OF INTERVAL. |
| 27 | 105.53 | 106.98 | 1.45 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD PYR WRMBURS. |
| 31 | 106.98 | 108.58 | 1.60 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD AS ABOVE; SEVERAL COALY INCLUSIONS AT 0 .35. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|---------|-----------|--|
| * 34 | 108.58 | 109.67 | 1.09 | | | MUDSTONE | CARB.DK.GY.MAS.WRMBU.SLD PYR WRMBURS AND BLEBS; FOSSIL BIVALVE A T 0.25 M; SEVERAL CARBONACEOUS LAMINATI ONS AT END OF INTERVAL; WHITE FLECKS TH ROUGHOUT. |
| 35 | 109.67 | 110.24 | 0.57 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD WHITE FLECKS THROUGHOUT; APPROACHING BL UE SKY. |
| 35 | 110.24 | 111.49 | 1.25 | | | SILTSTONE | PBLY.DK.GY.MAS.WRMBU.SLD BLACK AND WHITE CHART PEBBLES AND GRANU LES; NO VISIBLE GLAUCONITE; LARGE CALCI TE FILLED FRACTURE AT END OF UNIT; BLUE SKY; MODIFIER: CARB, SSY, CLYY. |
| 36 | 111.49 | 112.10 | 0.61 | | | SILTSTONE | PBLY.DK.GY.MAS.WRMBU.SLD MODIFIER: CARB, SSY, CLYY. |
| * 36 | 112.10 | 112.41 | 0.31 | | | SANDSTONE | CARB.FG.MOD.LT.GY.VTHNB.SSD SSD AT CONTACT WITH ABOVE INTERVAL; MIN OR CALCITE FILLED FRACTURES; MODIFIER: CLYY. |
| * 30 | 112.41 | 113.50 | 1.09 | | | SANDSTONE | CLYY.FG.WEL.LT.GY.THNB.XBDG.SLD MINOR CALCITE VEINING; MODIFIER: CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 28 | 113.50 | 114.25 | 0.75 | | | SANDSTONE | CLYY.FG.WEL.LT.GY.THNB.XBDG.VBRKN LISTRIC SURFACES WITH ABUNDANT CALCITE VEINING; POSSIBLE CORE LOSS AND FAULT Z ONE; MODIFIER: CARB. |
| 26 | 114.25 | 114.45 | 0.20 | | | ROCK LOSS | |
| 26 | 114.45 | 114.68 | 0.23 | | | SANDSTONE | CLYY.FG.WEL.LT.GY.THNB.XBDG.VBRKN AS ABOVE; SOME PIECES HAVING BEEN BRECC IATED, ROTATED AND ROUNDED - SURROUNDED IN CALCITE MATRIX. |
| 25 | 114.68 | 115.13 | 0.45 | | | MUDSTONE | SLTY.DK.GY.VTHNB.VBRKN CORE VERY BADLY BROKEN TO SHATTERED; AB UNDANT CALCITE VEINING; SKS AND LISTRIC SURFACES; MODIFIER: CARB, SSY. |
| 24 | 115.13 | 115.56 | 0.43 | | | SANDSTONE | CLYY.FG.WEL.LT.GY.THNB.VBRKN ABUNDANT CALCITE VEINING; MINOR BRECCIA TION; SKS. |
| 23 | 115.56 | 115.66 | 0.10 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 22 | 115.66 | 116.41 | 0.75 | | | SANDSTONE | CLYY.FG.WEL.LT.GY.THNB.SLD NUMEROUS COALY INCLUSIONS THROUGHOUT; P YRITE SMEARS ON FRACTURE SURFACES; ABUN DANT CALCITE VEINING WITH SOME BRECCIAT ION; MODIFIER: CARB. |
| * 20 | 116.41 | 116.95 | 0.54 | | | MUDSTONE | SLTY.GY.VTHNB.WRMBU.SLD MUDSTONE INTERBEDDED WITH SILTSTONE LAM INATIONS AND THIN BEDS; MINOR CALCITE V EINING; MODIFIER: CARB; SED STRUCTURES: SSD. |
| * 27 | 116.95 | 118.66 | 1.71 | | | SILTSTONE | CLYY.GY.VTHNB.WRMBU.SLD RIP-UP CLASTS; MINOR CALCITE VEINING WI TH SKS; WRMBUR DIAMETER 1 TO 2 MM - WRM BUR LARGELY PARALLEL TO BCAS; MODIFIER: SSY, CARB; SED STRUCTURES: XBDG,SSD. |
| 28 | 118.66 | 119.63 | 0.97 | | | SILTSTONE | CLYY.GY.VTHNB.SSD.SLD VERY MINOR CALCITE VEINING WITH SKS AT END OF INTERVAL; MODIFIER: SSY; SED STR UCTURES: WRMBUR. |
| * 28 | 119.63 | 119.71 | 0.08 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 30 | 119.71 | 121.00 | 1.29 | | | SANDSTONE | CLYY.FG.MOD.LT.GY.THNB.WRMBU.SLD VERY MINOR CALCITE VEININGS; SEVERAL CO ALY INCLUSIONS; PYRITE BLEB WITHIN BIOT URB SECTION; MODIFIER:SLTY; SED STRUCTU RES: BIOTURB, XBDG, SSD. |
| 32 | 121.00 | 121.72 | 0.72 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD VERY MINOR SKS. |
| 33 | 121.72 | 122.11 | 0.39 | | | MUDSTONE | SLTY.DK.GY.VTHNB.SSD.SLD AS ABOVE; MINOR SKS; MODIFIER: SSY; SED STRUCTURES: WRMBUR. |
| 34 | 122.11 | 122.21 | 0.10 | | | SANDSTONE | CLYY.FG.MOD.LT.GY.THNB.XBDG.SLD CALCITE WITH SKS; MODIFIER: SLTY, CARB; SED STRUCTURES: RIPMK. |
| * 37 | 122.21 | 124.84 | 2.63 | | | SILTSTONE | SSY.LT.GY.THNB.SSD.SLD VERY MINOR CALCITE VEINING; MODIFIER: C LYY; SED STRUCTURES: WRMBUR, XBDG. |
| * 25 | 124.84 | 125.46 | 0.62 | | | SILTSTONE | CLYY.LT.GY.VTHNB.SSD.VBRKN WRMBUR DIAMETER ROUGHLY 5 MM; REGULAR F INING UP SEQUENCES; SILTSTONE TO MUDSTO NE; CORE VERY BADLY BRKN WITH CALCITE V EINS AND SKS PRESENT THROUGHOUT LAST 0. 10 M; WRMBURS LARGER THAN ANY SEEN PREV IOUSLY. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 25 | 125.46 | 125.61 | 0.15 | | | ROCK LOSS | |
| * 25 | 125.61 | 127.56 | 1.95 | | | SILTSTONE | CLYY.LT-DK.GY.THNB.SSD.SLD VERY MINOR CALCITE VEINING; FINING UP S EQUENCES SILTS TO CLAY; SED STRUCTURES: WRMBUR, XBDG. |
| 33 | 127.56 | 128.10 | 0.54 | | | SILTSTONE | CLYY.LT-DK.GY.THNB.WRMBU.SLD MINOR CALCITE VEINING; FINING UP SEQUEN CE - SILTS TO CLYY; SKS; SED STRUCTURES : BIOTURB, SSD. |
| * 42 | 128.10 | 130.32 | 2.22 | | | SILTSTONE | CLYY.LT-DK.GY.VTHNB.SSD.SLD THIN BIOTURB ZONES LESS THAN 0.05 M THI CK; SED STRUCTURES: WRMBUR, BIOTURB. |
| * 22 | 130.32 | 131.25 | 0.93 | | | SILTSTONE | CLYY.LT-DK.GY.THNB.WRMBU.SLD VERY MINOR CALCITE AND SKS; FINING UP; WRMBUR PARALLEL TO BEDDING; COALY INCLU SION AT END OF MEASUREMENT; SED STRUCTU RES: XBDG, SSD. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 33 | 131.25 | 133.10 | 1.85 | | | SILTSTONE | CLYY.LT-DK.GY.VTHNB.BIOTR.SLD COALY INCLUSIONS AT TOP OF INTERVAL; SE D STRUCTURES: WRMBUR, SSD. |
| 27 | 133.10 | 134.32 | 1.22 | | | MUDSTONE | SLTY.DK.GY.VTHNB.WRMBU.SLD WRMBUR PARALLEL TO BEDDING, FINING UPWA RDS; SED STRUCTURES: SSD. |
| * 22 | 134.32 | 135.60 | 1.28 | | | MUDSTONE | SLTY.DK.GY.VTHNB.WRMBU.SLD AS ABOVE; WITH ONLY 0.04 M ZONE OF BIOT URBATIONS; SED STRUCTURES: SSD, BIOTURB . |
| 24 | 135.60 | 135.76 | 0.16 | | | MUDSTONE | SLTY.DK.GY.VTHNB.SSD.SLD AS ABOVE; SED STRUCTURES: WRMBUR. |
| * 28 | 135.76 | 138.57 | 2.81 | | | MUDSTONE | SLTY.LT-DK.GY.VTHNB.SSD.SLD GRADING - FINING UPWARDS; WORM BURROWS - BOTH PARALLEL AND PERPENDICULAR TO BC A; LARGER BURROWS PERPENDICULAR TO BCA; SED STRUCTURES: WRMBUR, BIOTURB. |
| * 23 | 138.57 | 139.79 | 1.22 | | | MUDSTONE | SLTY.LT-DK.GY.VTHNB.SSD.SLD AS ABOVE; MINOR CALCITE VEINING; MODIFI ER: SSY; SED STRUCTURES: BIOTURB, WRMBU R. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 23 | 139.79 | 140.12 | 0.33 | | | SANDSTONE | CLYY.FG.LT.GY.VTHNB.XBDG.SLD TOPS UP; SED STRUCTURES: WRMBUR, SSD. |
| 23 | 140.12 | 141.12 | 1.00 | | | MUDSTONE | SSY.LT-DK.GY.VTHNB.WRMBU.SLD FINING UPWARD SEQUENCE; INTERBEDDED SANDS, SILTS AND MUDSTONE; COALY INCLUSIONS; MODIFIER: SLTY, CARB; SED STRUCTURES: SSD, BIOTURB. |
| 24 | 141.12 | 141.48 | 0.36 | | | MUDSTONE | SSY.LT-DK.GY.VTHNB.WRMBU.BRKN AS ABOVE; MODIFIER: SLTY, CARB; SED STRUCTURES: SSD, BIOTURB. |
| * 24 | 141.48 | 143.83 | 2.35 | | | MUDSTONE | SLTY.LT.GY.VTHNB.WRMBU.SLD INTERVAL HIGHLY BIOTURB; WRMBUR - 0.5 M M DIAMETER; MODIFIER: SSY, CARB; SED STRUCTURES: BIOTURB, SSD. |
| 25 | 143.83 | 144.47 | 0.64 | | | MUDSTONE | SLTY.LT-DK.GY.VTHNB.WRMBU.SLD BIOTURB IN TOP HALF OF UNIT; MINOR CALCITE VEINING; MODIFIER: SSY; SED STRUCTURES: BIOTURB, SSD. |
| * 26 | 144.47 | 146.62 | 2.15 | | | MUDSTONE | SLTY.DK.GY.VTHNB.WRMBU.SLD FINING UPWARD SEQUENCE; MINOR INTERVALS OF BIOTURBATIONS; SED STRUCTURES: BIOTURB. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 26 | 146.62 | 147.55 | 0.93 | | MUDSTONE | SLTY.DK.GY.VTHNB.WRMBU. AS ABOVE; BIOTURB INCREASING TOWARD BASE OF INTERVAL; TOPS UP; SED STRUCTURES: BIOTURB, XBDG. |
| * | 26 | 147.55 | 149.29 | 1.74 | | MUDSTONE | SLTY.DK.GY.VTHNB.SSD.SLD BIOTURB 0.00 - 0.17; CALCITE FILLED 1.12 - 1.15; BRECCIATION; SLKS; MODIFIER: SSY, CARB; SED STRUCTURES: WRMBUR, BIOTURB, XBDG. |
| | 27 | 149.29 | 150.54 | 1.25 | | MUDSTONE | SLTY.DK.GY.VTHNB.SSD.SLD HEAVILY BIOTURB 0.60 - 0.37; MODIFIER: SSY, CARB; SED STRUCTURES: WRMBUR, BIOTURB. |
| * | 28 | 150.54 | 151.95 | 1.41 | | MUDSTONE | SLTY.DK.GY.VTHNB.SSD.SLD HEAVILY BIOTURB 1.02 TO END OF INTERVAL; MODIFIER: CARB; SED STRUCTURES: WRMBUR, BIOTURB. |
| | 24 | 151.95 | 153.50 | 1.55 | | MUDSTONE | SLTY.DK.GY.VTHNB.WRMBU.SLD POSSIBLE CORE LOSS AT END OF INTERVAL - PIECES DON'T MATCH CALCITE BLEBS AT END OF INTERVAL. |
| * | 21 | 153.50 | 154.63 | 1.13 | | MUDSTONE | SLTY.DK.GY.VTHNB.BIOTR.SLD CALCITE VEINS; SLKS AT END OF INTERVAL; SED STRUCTURES: WRMBUR. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 26 | 154.63 | 155.74 | 1.11 | | | MUDSTONE | SLTY.DK.GY.VTHNB.SSD.SLD BIOTURB INTERVALS THRUOUT; BIOTURBS PARALLEL BDG; 5 MM CALC VEINING AT TOP; NO TE GRAD CHANGE AT THIS PT - LOWER UNIT CONSISTS OF MORE MUDST WITH LESS SILTS; BECOMING DKER COLOR; POSS. V.F. CARB M ATER. |
| 26 | 155.74 | 156.49 | 0.75 | | | MUDSTONE | SLTY.DK.GY.VTHNB.BIOTR.SLD SILTS ARE DISAPPEARING WITHIN THIS INTERVAL; HEAVILY BIOTURB THROUGHOUT; POSSIBLE CORE LOSS AT END OF INTERVAL; PIECE S DON'T FIT; SED STRUCTURES: SSD. |
| 25 | 156.49 | 157.21 | 0.72 | | | MUDSTONE | SLTY.DK.GY.THNB.BIOTR.SLD CORE FAIRLY UNIFORM MUDSTONE; BIOTURB ROUGHLY PARALLEL TO BEDDING. |
| * 25 | 157.21 | 159.49 | 2.28 | | | MUDSTONE | SLTY.DK.GY.VTHNB.SSD.SLD COALY INCLUSIONS; BIOTURB PARALLEL TO BEDDING; HEAVILY BIOTURB; PYR BLEBS; MODIFIER: CARB; SED STRUCTURES: BIOTURB. |
| 25 | 159.49 | 159.90 | 0.41 | | | MUDSTONE | SLTY.DK.GY.VTHNB.SSD.SLD BIOTURB LARGELY PARALLEL TO BEDDING; SED STRUCTURES: BIOTURB. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 26 | 159.90 | 162.53 | 2.63 | | | MUDSTONE | SLTY.DK.GY.VTHNB.BIOTR.SLD 0.5 MM BIOTURB PARALLEL TO BEDDING; SMALL 2-3 MM CALCITE BLEBS WITH PYR CORES - POSSIBLE CLAM BURROWS. |
| 27 | 162.53 | 162.63 | 0.10 | | | MUDSTONE | SLTY.DK.GY.VTHNB.BIOTR.SLD POSSIBLE CORE LOSS; PIECES DON'T MATCH WITH NEXT INTERVAL. |
| * 27 | 162.63 | 165.25 | 2.62 | | | MUDSTONE | SLTY.DK.GY.THNB.BIOTR PYR BLEBS AND PYR WRMBUR; MINOR CALCITE FILLED FRACTURE AT 2.28 - POSSIBLE 0.06 M FE STONE BAND AT 1.60 M; MODIFIER: CARB. |
| 28 | 165.25 | 165.72 | 0.47 | | | MUDSTONE | CARB.DK.GY.MAS.BIOTR.SLD PYR WRMBUR AND BIOTURB. |
| * 29 | 165.72 | 168.05 | 2.33 | | | MUDSTONE | CARB.DK.GY.MAS.BIOTR.SLD MASSIVE NEARLY FEATURELESS MUDSTONE; CALCITE AND PYR FLECKS - PROBABLY WRMBURS; BIOTURBS WITHIN BANDS OF LESS THAN 5 CM. |
| 27 | 168.05 | 168.48 | 0.43 | | | MUDSTONE | CARB.DK.GY.MAS.BIOTR.SLD PLANT HASH PRESENT. |
| 26 | 168.48 | 168.58 | 0.10 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 26 | 168.58 | 169.01 | 0.43 | | MUDSTONE | CARB.DK.GY.MAS.SLD SKS WITH SMOKY QUARTZ, CALCITE AND LIST RIC SURFACES. |
| | 25 | 169.01 | 169.29 | 0.28 | | MUDSTONE | GY.THNB.SLD ABUNDANT CALCITE VEINING AND LIGHTER CO LOR THAN INTERVALS ABOVE AND BELOW - PO SSIBLE IRONSONE BAND - HEAVY. |
| * | 24 | 169.29 | 170.90 | 1.61 | | MUDSTONE | CARB.DK.GY.MAS.SLD FOSSIL BIVALVE AT 0.93 M; BECOM MORE CA RB TWD BASE OF INT; WELL SORTED AT TOP - POORLY AT END; BLK & WH CHT GRANLS & PBL START AT 0.61M; PBL ARE ANG/SUB-RD. IN CORE; OOL APPEARANCE OF FRAC. SURF. |
| | 25 | 170.90 | 171.46 | 0.56 | | MUDSTONE | CARB.PBL.DK.GY.THNB.RTB.SLD ABUNDANT COALY INCLUSIONS AND POSSIBLE ROOTLETS; PEBBLES ARE BLACK AND WHITE C HERTS; PREDOMINANTLY BLACK; PEBBLE SIZE INCREASES TOWARD BASE; MODIFIER: PBL, SSY; SED STRUCTURES: BIOTURB. |
| | 25 | 171.46 | 171.51 | 0.05 | | MUDSTONE | CARB.PBL.DK.GY.THNB.RTB.SLD AS ABOVE; MODIFIER: PBL, SSY; SED STRU CTURES: BIOTURB. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 26 | 171.51 | 173.01 | 1.50 | | | MUDSTONE | CARB.DK.GY.THNB.RTB.VBRKN ABUNDANT COALY INCLUSIONS; POSSIBLE ROOTLETS; ABUNDANT LISTRIC SURFACES; MODIFIER: SLTY; CORE STATE:SHRD. |
| 26 | 173.01 | 173.11 | 0.10 | | | MUDSTONE | CARB.DK.GY.THNB.RTB.VSHRD AS ABOVE; MUCH COAL POWDER; POSSIBLE CORE LOSS AT END OF INTERVAL; PIECES DON'T MATCH; MODIFIER: SLTY; CORE STATE: PWRD. |
| 26 | 173.11 | 173.31 | 0.20 | | | ROCK LOSS | |
| 27 | 173.31 | 173.94 | 0.63 | | | MUDSTONE | SLTY.DK.GY.THKB.SSD.SLD PYRITIZED WRMBUR; ABUNDANT COALY INCLUSIONS UP TO 1 CM THICK; MODIFIER: CARB; SED STRUCTURES: WRMBUR. |
| 27 | 173.94 | 173.98 | 0.04 | | | MUDSTONE | CARB.DK.GY.PWRD ABUNDANT PWRD COALY INCLUSIONS 75% OF INTERVAL; CORE STATE: SHRD. |
| 27 | 173.98 | 174.79 | 0.81 | | | MUDSTONE | CARB.DK.GY.THNB.RTB.SLD ABUNDANT COALY INCLUSIONS. |

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 28 | 174.79 | 174.91 | 0.12 | | | MUDSTONE | CARB.DK.GY.PWRD CORE IS WET; ABUNDANT POWDERED COAL IN TRAY WITH MUDSTONE PIECES; CORE STATE: SHEARED. |
| 28 | 174.91 | 175.01 | 0.10 | | | ROCK LOSS | |
| 28 | 175.01 | 175.13 | 0.12 | | | MUDSTONE | CARB.DK.GY.VTHNB.RTB.SLD |
| 28 | 175.13 | 175.69 | 0.56 | | | MUDSTONE | SLTY.DK.GY.THKB.RTB.SLD FEW LISTRIC SURFACES; CALCITE VEINING A ND SKS AT END OF INTERVAL; MODIFIER: CA RB. |
| 29 | 175.69 | 176.52 | 0.83 | | | MUDSTONE | CARB.DK.GY.THNB.RTB.SLD POSSIBLE AREA OF SMALL FAULT 0.00 - 0.4 1 -> ABUNDANT CALCITE VEINING AND MINOR BRECCIATION; MODIFIER: SLTY. |
| 29 | 176.52 | 177.42 | 0.90 | | | SANDSTONE | CARB.VFG.MOD.GY.THNB.WRMBU.SLD MODIFIER: CLYY; SED STRUCTURES: SSD, XB DG. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 30 | 177.42 | 177.52 | 0.10 | | ROCK LOSS | |
| * | 30 | 177.52 | 178.02 | 0.50 | | SANDSTONE | CARB.VFG.MOD.GY.THNB.WRMBU.SLD MODIFIER: CLYY; SED STRUCTURES: SSD, XBDG. |
| | 30 | 178.02 | 178.39 | 0.37 | | MUDSTONE | CARB.DK.GY.THNB.SLD MODIFIER: SLTY |
| * | 31 | 178.39 | 180.55 | 2.16 | | MUDSTONE | SLTY.LT-DK.GY.THNB.WRMBU.SLD MINOR HORSETAIL CALCITE VEINING 0.00 - 0.25; SILTY 0.35 - 0.42 INTERVAL, 1.00 - 1.30; ABUNDANT COALY INCLUSIONS; SEVERAL 0.02 M IN THICKNESS; MINOR CALCITE VEINING 1.35 AND 1.93; MODIFIER: CARB. |
| | 33 | 180.55 | 181.00 | 0.45 | | MUDSTONE | SLTY.LT-DK.GY.THNB.SLD MODIFIER: CARB. |
| * | 34 | 181.00 | 181.90 | 0.90 | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD SEVERAL COALY INCLUSIONS; CALCITE AT 0.50 AND AT END OF INTERVAL; MODIFIER: CARB. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 31 | 181.90 | 182.93 | 1.03 | | | SANDSTONE | CLYY.VFG.MOD.LT.GY.VTHNB.SSD.SLD MINOR XBDG; MINOR COALY INCLUSIONS WITH IN CALCITE; MODIFIER: CARB; SED STRUCTU RES: WRMBUR, XBDG. |
| 29 | 182.93 | 183.54 | 0.61 | | | MUDSTONE | SLTY.DK.GY.THNB.RTB.SLD COALY INCLUSIONS; MODIFIER: CARB. |
| 28 | 183.54 | 183.74 | 0.20 | | | ROCK LOSS | |
| 27 | 183.74 | 183.98 | 0.24 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD COALY INCLUSIONS - 5 MM; MODIFIER: CARB . |
| 23 | 183.98 | 186.52 | 2.54 | | | MUDSTONE | SLTY.DK.GY.THNB.RTB.SLD ABUNDANT PLANT HASH AND COALY INCLUSION S 2 - 5 MM; VERY CARB TOWARD END OF UNI T; PLANT FOSSILS, LISTRIC SURFACES AND SLKS THROUGHOUT; SED STRUCTURES: WRMBUR . |
| * 19 | 186.52 | 186.89 | 0.37 | | | MUDSTONE | CARB.DK.GY.THNB.RTB.SLD ABUNDANT COALY INCLUSIONS AND LAMINATIO NS; VERY CARB TOWARD BASE. |
| 20 | 186.89 | 186.99 | 0.10 | | | ROCK LOSS | |
| 21 | 186.99 | 187.45 | 0.46 | 00093 | f | COAL LOSS | |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 21 | 187.45 | 187.48 | 0.03 | 00093 | 1 | COAL | C-3.SHRD CORE STATE: POWDERED. |
| 22 | 187.48 | 187.61 | 0.13 | 00093 | 1 | COAL | C-3.VBRKN |
| 22 | 187.61 | 187.75 | 0.14 | 00093 | 1 | COAL | C-3.VBRKN CORE STATE: SHEARED. |
| 22 | 187.75 | 187.83 | 0.08 | 00093 | 1 | COAL | C-3.SLD ANHYDRITE AND/OR GYPSUM SMEARS ON SOME FRACTURE SURFACES; INTERNALLY SHEARED. |
| 22 | 187.83 | 187.86 | 0.03 | 00093 | 1 | COAL | C-3.VBRKN AS ABOVE. |
| 23 | 187.86 | 187.93 | 0.07 | 00093 | 1 | COAL | C-3.VBRKN SHEARED WITH LISTRIC SURFACES; CORE STA TE: SHEARED. |
| 23 | 187.93 | 188.02 | 0.09 | 00093 | 1 | COAL | C-3.SLD VERY SHEARED, WITH LISTRIC SURFACES. |
| 23 | 188.02 | 188.03 | 0.01 | 00093 | 1 | COAL | C-3.SLD AS ABOVE. |
| 23 | 188.03 | 188.04 | 0.01 | 00093 | 1 | COAL | C-3.SLD AS ABOVE. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 23 | 188.04 | 188.08 | 0.04 | 00093 | 1 | COAL | C-2.SLD INTERNAL SHEARING AND LISTRIC SURFACES. |
| 23 | 188.08 | 188.12 | 0.04 | 00093 | 1 | COAL | C-2.SLD AS ABOVE. |
| 23 | 188.12 | 188.15 | 0.03 | 00093 | 1 | COAL | C-3.SLD AS ABOVE. |
| 23 | 188.15 | 188.21 | 0.06 | 00093 | 1 | COAL | C-2.SLD AS ABOVE. |
| 24 | 188.21 | 188.25 | 0.04 | 00093 | 1 | COAL | C-5.SLD HEAVY, OOLITIC APPEARANCE AND TEXTURE THROUGHOUT; SHEAR PLANES; POSSIBLY C-6; OOLITES ARGILLACEOUS. |
| 24 | 188.25 | 188.30 | 0.05 | 00093 | 1 | COAL | C-5.SLD AS ABOVE; POSSIBLY C-6; OOLITES MAY BE ARGILLACEOUS. |
| 24 | 188.30 | 188.52 | 0.22 | 00093 | 1 | COAL | C-5.SLD HEAVY, MAYBE C-6, OOLITES ARGILLACEOUS. |
| 24 | 188.52 | 188.54 | 0.02 | 00093 | 1 | COAL | C-3.SLD |
| 25 | 188.54 | 188.56 | 0.02 | 00093 | 1 | COAL | C-2.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--------------------------------------|
| 25 | 188.56 | 188.70 | 0.14 | 00093 | 1 | COAL | C-3.SLD |
| 25 | 188.70 | 188.72 | 0.02 | 00093 | 1 | COAL | C-4.SLD SLIGHTLY OOLITIC TEXTURE. |
| 25 | 188.72 | 188.75 | 0.03 | 00093 | 1 | COAL | C-3.SLD OOLITIC TEXTURE. |
| 25 | 188.75 | 188.76 | 0.01 | 00093 | 1 | COAL | C-5.SLD AS ABOVE. |
| 25 | 188.76 | 188.79 | 0.03 | 00093 | 1 | COAL | C-3.SLD AS ABOVE. |
| 25 | 188.79 | 188.82 | 0.03 | 00093 | 1 | COAL | C-4.SLD AS ABOVE. |
| 25 | 188.82 | 188.89 | 0.07 | 00093 | 1 | COAL | C-3.SLD AS ABOVE. |
| 26 | 188.89 | 188.99 | 0.10 | 00093 | 1 | COAL | C-5.SLD AS ABOVE. |
| 26 | 188.99 | 189.00 | 0.01 | 00093 | 1 | COAL | C-4.SLD AS ABOVE. |
| 26 | 189.00 | 189.03 | 0.03 | 00093 | 1 | COAL | C-1.SLD SLIGHT OOLITIC TEXTURE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|----------------------|
| 26 | 189.03 | 189.05 | 0.02 | 00093 | 1 | COAL | C-5.SLD AS ABOVE. |
| 26 | 189.05 | 189.13 | 0.08 | 00093 | 1 | COAL | C-4.SLD AS ABOVE. |
| 26 | 189.13 | 189.15 | 0.02 | 00093 | 1 | COAL | C-1.SLD |
| 26 | 189.15 | 189.17 | 0.02 | 00093 | 1 | COAL | C-4.SLD |
| 26 | 189.17 | 189.19 | 0.02 | 00093 | 1 | COAL | C-1.SLD |
| 27 | 189.19 | 189.26 | 0.07 | 00093 | 1 | COAL | C-3.SLD |
| 27 | 189.26 | 189.28 | 0.02 | 00093 | 1 | COAL | C-1.SLD |
| 27 | 189.28 | 189.32 | 0.04 | 00093 | 1 | COAL | C-3.SLD |
| 27 | 189.32 | 189.37 | 0.05 | 00093 | 1 | COAL | C-2.SLD |
| 27 | 189.37 | 189.47 | 0.10 | 00093 | 1 | COAL | C-3.SLD |

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|------------------------|
| 27 | 189.47 | 189.51 | 0.04 | 00093 | 1 | COAL | C-5.SLD |
| 27 | 189.51 | 189.54 | 0.03 | 00093 | 1 | COAL | C-6.SLD STONE COAL. |
| 28 | 189.54 | 189.63 | 0.09 | 00093 | 1 | COAL | C-3.SLD |
| 28 | 189.63 | 189.68 | 0.05 | 00093 | 1 | COAL | C-3.SLD |
| 28 | 189.68 | 189.74 | 0.06 | 00093 | 1 | COAL | C-3.SLD |
| 28 | 189.74 | 189.79 | 0.05 | 00093 | 1 | COAL | C-3.SLD |
| 28 | 189.79 | 189.82 | 0.03 | 00093 | 1 | COAL | C-2.SLD |
| 28 | 189.82 | 189.90 | 0.08 | 00093 | 1 | COAL | C-3.SLD |
| 29 | 189.90 | 190.00 | 0.10 | 00093 | 1 | COAL | C-2.SLD |
| 29 | 190.00 | 190.03 | 0.03 | 00093 | 1 | COAL | C-3.SLD |

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 29 | 190.03 | 190.10 | 0.07 | 00093 | 1 | COAL | C-3.SLD |
| 29 | 190.10 | 190.28 | 0.18 | 00093 | 1 | COAL | C-2.SLD |
| 30 | 190.28 | 190.40 | 0.12 | 00093 | 1 | COAL | C-1.SLD |
| 30 | 190.40 | 190.45 | 0.05 | 00093 | 1 | COAL | C-3.SLD |
| 30 | 190.45 | 190.54 | 0.09 | 00093 | 1 | COAL | C-3.SLD INTERNALLY SHEARED. |
| 31 | 190.54 | 190.58 | 0.04 | 00093 | 1 | COAL | C-1.SLD |
| 31 | 190.58 | 190.60 | 0.02 | 00093 | 1 | COAL | C-1.SLD |
| 31 | 190.60 | 190.64 | 0.04 | 00093 | 1 | COAL | C-6.SLD BONE COAL. |
| 31 | 190.64 | 190.69 | 0.05 | 00093 | 1 | COAL | C-6.SLD BONE COAL. |
| 32 | 190.69 | 191.07 | 0.38 | 00094 | | MUDSTONE | CARB.DK.GY.THNB.SLD POSSIBLE CORE LOSS AT END OF INTERVAL. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 32 | 191.07 | 191.09 | 0.02 | 00094 | | MUDSTONE | CARB.DK.GY.THNB.VBRKN ABUNDANT CALCITE FRACTURES; CORE STATE: SHRD. |
| 32 | 191.09 | 191.26 | 0.17 | 00094 | | ROCK LOSS | |
| 33 | 191.26 | 191.31 | 0.05 | 00095 | 1 | COAL LOSS | |
| 33 | 191.31 | 191.38 | 0.07 | 00095 | 1 | COAL | C-3.BRKN |
| 33 | 191.38 | 191.46 | 0.08 | 00095 | 1 | COAL | C-3.SLD |
| 33 | 191.46 | 191.62 | 0.16 | 00095 | 1 | COAL | C-3.SLD |
| 34 | 191.62 | 191.69 | 0.07 | 00095 | 1 | COAL | C-3.SLD |
| 34 | 191.69 | 191.83 | 0.14 | 00095 | 1 | COAL | C-2.SLD |

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 34 | 191.83 | 191.87 | 0.04 | 00095 | 1 | COAL | C-2.VBRKN POSSIBLE CORE LOSS. |
| 35 | 191.87 | 191.92 | 0.05 | 00095 | 1 | COAL | C-3.VBRKN |
| 35 | 191.92 | 191.97 | 0.05 | 00095 | 1 | COAL | C-3.VBRKN POSSIBLE CORE LOSS. |
| 35 | 191.97 | 192.00 | 0.03 | 00095 | 1 | COAL | C-4.VBRKN |
| 35 | 192.00 | 192.06 | 0.06 | 00095 | 1 | COAL | C-3.VBRKN POSSIBLE CORE LOSS AT END OF THIS UNIT. |
| 35 | 192.06 | 192.13 | 0.07 | 00095 | 1 | COAL LOSS | |
| 35 | 192.13 | 192.17 | 0.04 | 00095 | 1 | COAL | C-6.SLD POSSIBLE CORE LOSS TOP AND BOTTOM OF TH IS UNIT; BONE COAL. |
| 35 | 192.17 | 192.19 | 0.02 | 00095 | 1 | COAL LOSS | |
| * 37 | 192.19 | 193.23 | 1.04 | 00096 | | MUDSTONE | CARB.DK.GY.SLD POSSIBLE CORE LOSS AT END OF UNIT. |
| 36 | 193.23 | 193.39 | 0.16 | 00096 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---------------------------------------|
| 36 | 193.39 | 193.44 | 0.05 | 00097 | 1 | COAL LOSS | |
| 35 | 193.44 | 193.48 | 0.04 | 00097 | 1 | COAL | C-3.VBRKN |
| 35 | 193.48 | 193.50 | 0.02 | 00097 | 1 | COAL | C-1.VBRKN |
| 35 | 193.50 | 193.51 | 0.01 | 00097 | 1 | COAL | C-3.VBRKN POSSIBLE CORE LOSS. |
| 35 | 193.51 | 193.54 | 0.03 | 00097 | 1 | COAL | C-1.SLD |
| 35 | 193.54 | 193.57 | 0.03 | 00097 | 1 | COAL | C-3.SLD |
| 35 | 193.57 | 193.60 | 0.03 | 00097 | 1 | COAL | C-6.SLD STONEY. |
| 35 | 193.60 | 193.61 | 0.01 | 00097 | 1 | COAL | C-3.SLD |
| 35 | 193.61 | 193.65 | 0.04 | 00097 | 1 | COAL | C-6.SLD SEVERAL 5 MM BRIGHT BANDS. |
| 35 | 193.65 | 193.69 | 0.04 | 00097 | 1 | COAL | C-6.SLD STONEY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 35 | 193.69 | 193.70 | 0.01 | 00097 | 1 | COAL | C-1 |
| 35 | 193.70 | 193.73 | 0.03 | 00097 | 1 | COAL | C-6 CALCITE SMEARS ON FRACTURE SURFACES. |
| 35 | 193.73 | 193.79 | 0.06 | 00097 | 1 | COAL | C-6 STONEY. |
| 35 | 193.79 | 193.84 | 0.05 | 00097 | 1 | MUDSTONE | CARB.DK.GY.VTHNB.SLD ANHYDRITE SMEAR ON FRACTURE PLANE; POSS IBLE CORE LOSS TOP AND BOTTOM OF INTERV AL. |
| 34 | 193.84 | 194.82 | 0.98 | 00097 | 1 | COAL LOSS | |
| 33 | 194.82 | 194.84 | 0.02 | 00098 | 1 | COAL | C-3.VBRKN POSSIBLE CORE LOSS. |
| 33 | 194.84 | 194.92 | 0.08 | 00098 | 1 | COAL | C-3.VBRKN POSSIBLE CORE LOSS. |
| 32 | 194.92 | 195.06 | 0.14 | 00098 | 1 | COAL | C-3.SLD |
| 32 | 195.06 | 195.10 | 0.04 | 00098 | 1 | COAL | C-5.SLD SEVERAL MUDSTONE BLEBS THROUGHOUT. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 32 | 195.10 | 195.15 | 0.05 | 00098 | 1 | COAL | C-6 BONEY COAL, NUMEROUS BRIGHT BANDS THROU GHOUT. |
| 32 | 195.15 | 195.18 | 0.03 | 00098 | 1 | COAL | C-3.BRKN |
| 32 | 195.18 | 195.29 | 0.11 | 00098 | 1 | COAL | C-3.SLD |
| 32 | 195.29 | 195.35 | 0.06 | 00098 | 1 | COAL | C-6.VBRKN BONEY COAL; VERY HARD. |
| 32 | 195.35 | 195.39 | 0.04 | 00098 | 1 | COAL | C-3.VBRKN |
| 31 | 195.39 | 195.79 | 0.40 | 00098 | 1 | COAL LOSS | |
| 31 | 195.79 | 195.81 | 0.02 | 00098 | 1 | MUDSTONE | CARB.DK.GY.VTHNB.VBRKN CORE STATE: SHRD. |
| 31 | 195.81 | 195.90 | 0.09 | 00099 | 1 | COAL | C-3.VBRKN CORE STATE: SHEARED. |
| 30 | 195.90 | 196.01 | 0.11 | 00099 | 1 | COAL | C-6.SLD BONE COAL. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 30 | 196.01 | 196.04 | 0.03 | 00099 | 1 | COAL | C-3.VBRKN |
| 30 | 196.04 | 196.11 | 0.07 | 00099 | 1 | COAL | C-3.VBRKN |
| 30 | 196.11 | 196.12 | 0.01 | 00099 | 1 | MUDSTONE | CARB.DK.GY.VTHNB.VBRKN |
| 30 | 196.12 | 196.25 | 0.13 | 00099 | 1 | COAL | C-3.VBRKN CORE STATE: SHRD, PWRD. |
| 30 | 196.25 | 196.33 | 0.08 | 00099 | 1 | COAL | C-3.VSHRD POSSIBLE CORE LOSS. |
| 29 | 196.33 | 196.54 | 0.21 | 00099 | 1 | COAL | C-3.PWRD CORE STATE: VSHRD. |
| 29 | 196.54 | 196.61 | 0.07 | 00099 | 1 | COAL LOSS | |
| 29 | 196.61 | 196.63 | 0.02 | 00099 | 1 | COAL | C-1.BRKN CORE STATE: POWDERED. |
| 29 | 196.63 | 196.69 | 0.06 | 00099 | 1 | COAL | C-3.PWRD CORE STATE: VSHRD |
| 29 | 196.69 | 196.73 | 0.04 | 00099 | 1 | TUFF | CARB.BWN.BRKN VFINE SANDY TEXTURE; HOWEVER -> SOFT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--------------------------------------|
| 29 | 196.73 | 196.75 | 0.02 | 00099 | 1 | COAL | C-3.PWRD CORE STATE: VSHRD. |
| 29 | 196.75 | 196.82 | 0.07 | 00099 | 1 | COAL | C-3.VBRKN CORE STATE: SHRD, PWRD. |
| 29 | 196.82 | 196.86 | 0.04 | 00099 | 1 | MUDSTONE | CARB.DK.GY.VTHNB.BRKN |
| 28 | 196.86 | 197.33 | 0.47 | 00099 | 1 | COAL LOSS | |
| 27 | 197.33 | 197.54 | 0.21 | 00099 | 1 | COAL | C-3.VSHRD |
| 27 | 197.54 | 197.60 | 0.06 | 00099 | 1 | COAL | C-3.VSHRD |
| 27 | 197.60 | 197.67 | 0.07 | 00099 | 1 | COAL | C-3.SLD BADLY SHEARED INTERNALLY. |
| 27 | 197.67 | 197.79 | 0.12 | 00099 | 1 | COAL | C-3.SLD AS ABOVE. |
| 27 | 197.79 | 197.85 | 0.06 | 00099 | 1 | COAL | C-3 |
| 25 | 197.85 | 199.05 | 1.20 | 00100 | 1 | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 24 | 199.05 | 199.06 | 0.01 | 00100 | 1 | COAL | C-6 STONE. |
| 24 | 199.06 | 199.09 | 0.03 | 00100 | 1 | COAL | C-3 |
| 24 | 199.09 | 199.12 | 0.03 | 00100 | 1 | COAL | C-3.BRKN |
| 24 | 199.12 | 199.14 | 0.02 | 00100 | 1 | COAL | C-2.BRKN |
| 24 | 199.14 | 199.16 | 0.02 | 00100 | 1 | COAL | C-1.BRKN |
| 24 | 199.16 | 199.18 | 0.02 | 00100 | 1 | COAL | C-2.BRKN SHRD |
| 24 | 199.18 | 199.23 | 0.05 | 00100 | 1 | TUFF | CARB.BWN SLD;VERY FINE SANDY TEXTURE;FAIRLY HARD |
| 24 | 199.23 | 199.34 | 0.11 | 00100 | 1 | COAL | C-3.VBRKN SHRD |
| 23 | 199.34 | 199.38 | 0.04 | 00100 | 1 | COAL | C-3.BRKN SHRD |
| 23 | 199.38 | 199.40 | 0.02 | 00100 | 1 | COAL | C-6.SLD STONE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 23 | 199.40 | 199.43 | 0.03 | 00100 | 1 | COAL | C-3.BRKN SHRD |
| 23 | 199.43 | 199.58 | 0.15 | 00100 | 1 | COAL | C-3.PWRD SHRD |
| 23 | 199.58 | 199.99 | 0.41 | 00100 | 1 | COAL LOSS | |
| 22 | 199.99 | 200.03 | 0.04 | 00101 | | MUDSTONE | CARB.DK.GY.PWRD SHRD;POSSIBLE TUFF;VERY WET;ABUNDANT PW RD CARB MATERIAL IN TRAY |
| 22 | 200.03 | 200.22 | 0.19 | 00101 | | TUFF | CARB.GY.THNB.SLD BROWNISH TINGE;SANDY TEXTURE APPEARANCE OF POSSIBLE GLASS SHARDS |
| * 21 | 200.22 | 200.95 | 0.73 | 00101 | | MUDSTONE | CARB.DK.GY.THNB SLTY ALSO AS MODIFIER |
| 23 | 200.95 | 201.00 | 0.05 | 00101 | | MUDSTONE | CARB.DK.GY.THNB.VBRKN ABUNDANT COALY FRAGMENTS IN TRAY |
| 25 | 201.00 | 201.56 | 0.56 | 00101 | | MUDSTONE | CARB.DK.GY.THNB.SLD SHEARED INTERNALLY |
| 28 | 201.56 | 201.86 | 0.30 | 00101 | | MUDSTONE | CARB.DK.GY.THNB.SLD AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 29 | 201.86 | 201.95 | 0.09 | 00101 | | TUFF | CARB.LT.GY.VBRKN SANDY TEXTURE; INTERNALLY |
| 30 | 201.95 | 202.06 | 0.11 | 00102 | 1 | COAL LOSS | |
| 30 | 202.06 | 202.07 | 0.01 | 00102 | 1 | COAL | C-3.VBRKN |
| 30 | 202.07 | 202.13 | 0.06 | 00102 | 1 | COAL | C-3.VBRKN SHRD;PWRD;SEVERAL SMALL (5MM) BRIGHT BANDS |
| 31 | 202.13 | 202.18 | 0.05 | 00102 | 1 | COAL | C-3 ANHYDRITE SMEARS ON FRACTURE SURFACES |
| 31 | 202.18 | 202.20 | 0.02 | 00102 | 1 | COAL | C-1.PWRD VSHRD;VBRKN |
| 34 | 202.20 | 203.10 | 0.90 | 00102 | 1 | COAL LOSS | |
| 37 | 203.10 | 203.20 | 0.10 | 00102 | 1 | COAL | C-2.VBRKN VSHRD; SOME PWRD COAL FRAGMENTS IN TRAY |
| 38 | 203.20 | 203.33 | 0.13 | 00102 | 1 | COAL | C-2.VBRKN |
| 38 | 203.33 | 203.38 | 0.05 | 00102 | 1 | TUFF | CARB.DK.GY.SLD SANDY TEXTURE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 39 | 203.38 | 203.42 | 0.04 | 00102 | 1 | COAL | C-1.SLD |
| 39 | 203.42 | 203.54 | 0.12 | 00102 | 1 | COAL | C-1.SLD |
| 39 | 203.54 | 203.56 | 0.02 | 00102 | 1 | TUFF | CARB.GY.SLD SANDY TEXTURE |
| 40 | 203.56 | 203.57 | 0.01 | 00102 | 1 | COAL | C-1.SLD |
| 40 | 203.57 | 203.62 | 0.05 | 00102 | 1 | COAL | C-3.VBRKN PWRD;SHRD;FRACTURE SURFACES ARE SHEARED |
| 40 | 203.62 | 203.63 | 0.01 | 00102 | 1 | TUFF | CARB.GY.VBRKN SANDY TEXTURE |
| 40 | 203.63 | 203.69 | 0.06 | 00102 | 1 | COAL | C-2 |
| 40 | 203.69 | 203.70 | 0.01 | 00102 | 1 | COAL | C-4 |
| 41 | 203.70 | 203.76 | 0.06 | 00102 | 1 | COAL | C-1 |
| * 41 | 203.76 | 203.83 | 0.07 | 00102 | 1 | MUDSTONE | CARB.DK.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 41 | 203.83 | 203.98 | 0.15 | 00102 | 1 | COAL | C-3.VBRKN VSHRD;PWRD;FRACTURE SURFACES SHEARED |
| 41 | 203.98 | 204.08 | 0.10 | 00102 | 1 | COAL | C-3.VBRKN PWRD; AS ABOVE |
| 41 | 204.08 | 204.10 | 0.02 | 00102 | 1 | COAL | C-1.VBRKN AS ABOVE |
| 41 | 204.10 | 204.20 | 0.10 | 00102 | 1 | COAL | C-1 |
| 42 | 204.20 | 204.24 | 0.04 | 00102 | 1 | COAL | C-2 |
| 42 | 204.24 | 205.10 | 0.86 | 00102 | 1 | COAL LOSS | |
| 43 | 205.10 | 205.27 | 0.17 | 00102 | 1 | TUFF | CARB.LT.GY SANDY TEXTURE |
| 43 | 205.27 | 206.08 | 0.81 | 00102 | 1 | COAL LOSS | |
| 44 | 206.08 | 206.22 | 0.14 | | | MUDSTONE | CARB.DK.GY.THNB.SLD PLANT HASH AND COALY FRAGMENTS. |
| * 45 | 206.22 | 207.53 | 1.31 | | | MUDSTONE | CARB.DK.GY.THNB.SLD NUMEROUS COALY INCLUSIONS THROUGHOUT;BE COMING SANDIER AT BASE OF UNIT; ALSO SL TY,SSY,AS ADDITIONAL MODIFIERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 45 | 207.53 | 207.92 | 0.39 | | | SILTSTONE | CARB.DK.GY.VTHNB.SSD.SLD THIN MUDSTONE LAMINATIONS; ALSO SSY, CLYY AS MODIFIERS |
| 45 | 207.92 | 208.69 | 0.77 | | | SANDSTONE | CARB.FG.MOD.GY.VTHNB.XBDG.SLD COARSENING TOWARD BASE ON FRACTURE SURF ACES; THIN LAYER WHITE POWDER ANHYDRITE OR GYPSUM; TOP IS UP; |
| * 45 | 208.69 | 210.02 | 1.33 | | | SANDSTONE | CARB.MG.WEL.LT.GY.THNB.XBDG.BRKN AS ABOVE; THIN CARB LAMINATIONS AT END O F UNIT; PROBABLE CORE LOSS AT END OF UN IT |
| 46 | 210.02 | 210.45 | 0.43 | | | ROCK LOSS | |
| 46 | 210.45 | 211.47 | 1.02 | | | SANDSTONE | CARB.CG.WEL.LT.GY.THNB.SLD CARB INTERVAL 0.00--0.06; 0.53--0.20; AB UNDANT COALY INCLUSIONS AT BASE OF UNIT ; SST--SALT AND PEPPER; CALCAREOUS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 47 | 211.47 | 213.42 | 1.95 | | | SANDSTONE | CLYY.CG.PR.LT.GY.XBDG.SLD ABUNDANT COALY INCLUSIONS THROUGHOUT;RI P UP CLASTS 1.12---1.70;ABUNDANT LARGE CALCITE FILLED FRACTURES AND SKS AT 1.2 0;POSSIBLE CORE LOSS AT END OF MEASUREM ENT;BEDDING SHOWED--SSD; |
| 47 | 213.42 | 213.78 | 0.36 | | | ROCK LOSS | |
| * 47 | 213.78 | 214.20 | 0.42 | | | SANDSTONE | CARB.CG.WEL.LT.GY.THNB.SLD 1 MINOR CALCITE FILLED FRACTURE |
| * 52 | 214.20 | 216.70 | 2.50 | | | SANDSTONE | SLTY.CG.MOD.LT.GY.THNB.XBDG.SLD ABUNDANT COALY 0.00---0.45; INCLUSIONS; RIP UP CLASTS 1.87---2.10;ABUNDANT 1.90 ---2.10 CALCITE VEINING;CLYY ALSO AS MO DIFIER;SSD ALSO AS SED STRUC; |
| 39 | 216.70 | 216.86 | 0.16 | | | SANDSTONE | CARB.CG.PR.LT.GY.THNB.XBDG.SLD CALCAREOUS;ABUNDANT RIP-UP CLASTS;MINOR CALCITE VEINING; ALSO CLYY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 30 | 216.86 | 218.60 | 1.74 | | | SANDSTONE | CARB.VCG.PR.LT.GY.THNB.SLD ABUNDANT COALY 1.50---1.74. INCLUSIONS AND LAMINATIONS |
| 34 | 218.60 | 218.80 | 0.20 | | | SANDSTONE | CARB.VCG.PR.LT.GY.VTHNB.SLD CALCAREOUS; ABUNDANT COALY INCLUSIONS THROUGHOUT; SHARP CONTACT WITH UNDERLYING UNIT; MODIFIER: CLYY. |
| 35 | 218.80 | 219.49 | 0.69 | | | MUDSTONE | CARB.DK.GY.THNB.SLD MINOR PLANT FOSSILS; ALSO SLTY AS MODIFIER |
| 38 | 219.49 | 220.11 | 0.62 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ALSO SLTY AS MODIFIER |
| * 42 | 220.11 | 221.72 | 1.61 | | | SILTSTONE | CARB.LT.GY.VTHNB.XBDG.SLD TOP IS UP; MUDSTONE INTERBED 0.60---0.86 POSSIBLE CORE LOSS AT END OF UNIT; ALSO O DK AS COL MODIFIER; ALSO SSD AS SED S TRUX; ALSO CLYY AS MODIFIER; |
| 44 | 221.72 | 221.95 | 0.23 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| * 45 | 221.95 | 222.47 | 0.52 | | | SILTSTONE | CLYY.DK.GY.THNB.WRMBU.SLD MINOR HORSETAIL CALCITE VEINING THROUGH OUT IN BEDDING PLANES; FEW MINOR COALY INCLUSIONS; ALSO CARB AS MODIFIER; SED STRUX: SSD. |
| 45 | 222.47 | 223.12 | 0.65 | | | MUDSTONE | SLTY.DK.GY.THNB.WRMBU.SLD ALSO CARB AS MODIFIER |
| 45 | 223.12 | 225.04 | 1.92 | | | SILTSTONE | CLYY.DK.GY.VTHNB.WRMBU.SLD TOP IS UP;MINOR HORSETAIL CALCITE VEINI NG;LESS CLAY TOWARDS BASE;POSSIBLE CORE LOSS;ALSO SSD,XBDS ASSED STRUX;ALSO CA RB AS MODIFIER |
| 45 | 225.04 | 225.14 | 0.10 | | | ROCK LOSS | |
| 45 | 225.14 | 225.34 | 0.20 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 45 | 225.34 | 225.81 | 0.47 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD MINOR CALCITE VEINING 0.20; ALSO CARB A S MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 45 | 225.81 | 228.11 | 2.30 | | | SILTSTONE | CARB.DK.GY.THNB.XBDG.BRKN POSSIBLE CORE LOSS AT 1.72;PIECES DONT MATCH;COALYINCLUSIONS THROUGHOUT; ALSO CLYY AS MODIFIER;ALSO SSD AS SED STRUX; |
| 46 | 228.11 | 228.34 | 0.23 | | | ROCK LOSS | |
| * 46 | 228.34 | 230.27 | 1.93 | | | SILTSTONE | CLYY.DK.GY.THNB.XBDG.SLD WRMBUR--10 M.M. DIAM; ALSO SSD, WRMBUR AS SED STRUX; ALSO CARB AND SSY AS MODI FIERS. |
| * 42 | 230.27 | 231.10 | 0.83 | | | SANDSTONE | CARB.MG.PR.GY.THNB.SSD.SLD TOP IS UP;LARGE PLANT CAST AT END OF IN TERVAL; ALSO XBDG AS SED. STRUX;ALSO CL YY AS MODIFIER |
| * 37 | 231.10 | 231.40 | 0.30 | | | SANDSTONE | CARB.FG.MOD.GY.THNB.XBDG.SLD POSSIBLE CORE LOSS AT END OF INTERVAL; ALSO CLYY AS MODIFIER |
| 35 | 231.40 | 232.78 | 1.38 | | | MUDSTONE | CARB.DK.GY.VTHNB.BRKN POSSIBLE CORE LOSS AT 1.30;MINOR COALY INCLUSIONS; ALSO SLTY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 32 | 232.78 | 233.78 | 1.00 | | | SILTSTONE | CARB.DK.GY.THNB.XBDG.SLD CALCITE FILLED FRACTURE WITH SKS AT 0.1 2; ALSO SSD AS SED STRUX |
| * 30 | 233.78 | 234.18 | 0.40 | | | SILTSTONE | CARB.LT.GY.THNB.XBDG.SLD TOP IS UP; POSSIBLE CORE LOSS AT 0.18;P IECES DONT MATCH; ALSO DK AS COL MOD; A LSO CLYY AS MODIFIER |
| 31 | 234.18 | 234.38 | 0.20 | | | ROCK LOSS | |
| 32 | 234.38 | 235.15 | 0.77 | | | MUDSTONE | CARB.DK.GY.THNB.SLD THIN CALC VEINING AT TOP OF UNIT; POSSI BLE CORE LOSS AT END; ALSO SLTY AS MODI FIER |
| * 34 | 235.15 | 236.77 | 1.62 | | | MUDSTONE | SLTY.DK.GY.THNB.WRMBU.SLD ALSO CARB AS MODIFIER |
| * 42 | 236.77 | 237.33 | 0.56 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ABUNDANT HORSETAIL CALCITE VEINING AT 0 .43;TRENDING PARALLEL TO BCA; ALSO SLTY AS MODIFIER |
| 44 | 237.33 | 238.07 | 0.74 | | | SILTSTONE | CARB.DK.GY.THNB.SSD.SLD ALSO SSY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 46 | 238.07 | 238.54 | 0.47 | | | SILTSTONE | CARB.DK.GY.THNB.SSD.SLD ALSO SSY AS MODIFIER |
| 49 | 238.54 | 239.45 | 0.91 | | | MUDSTONE | CARB.GY.THNB.SSD.SLD ABUNDANT PLANT HASH THROUGHOUT; ALSO SL TY AS MODIFIER |
| * 53 | 239.45 | 241.12 | 1.67 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ABUNDANT PLANT HASH, ENCOMPASSED BY CALC ITE PARTINGS; POSSIBLE CORE LOSS AT END OF UNIT; PIECES DONT MATCH; ALSO SLTY A S MODIFIER. |
| 50 | 241.12 | 241.68 | 0.56 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.SLD AS ABOVE; COALY INCLUSIONS; POSSIBLE COR E LOSS AT END OF INTERVAL; ALSO SLTY AS MODIFIER. |
| 49 | 241.68 | 242.07 | 0.39 | | | ROCK LOSS | |
| 49 | 242.07 | 242.08 | 0.01 | | | COAL | C-1.BRKN |
| 49 | 242.08 | 242.10 | 0.02 | | | COAL | C-6.BRKN STONE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 49 | 242.10 | 242.11 | 0.01 | | | COAL | C-1.BRKN |
| 49 | 242.11 | 242.13 | 0.02 | | | COAL | C-6.BRKN BONEY |
| 49 | 242.13 | 242.15 | 0.02 | | | COAL | C-3.BRKN |
| 49 | 242.15 | 242.17 | 0.02 | | | COAL | C-6.BRKN BONEY |
| 49 | 242.17 | 242.19 | 0.02 | | | COAL | C-6.BRKN BONEY |
| 48 | 242.19 | 242.49 | 0.30 | | | MUDSTONE | CARB.DK.GY.THNB.SLD SEVERAL THIN (5 M.M.) BRIGHT BANDS; VER Y HARD ABUNDANT HASH. |
| 48 | 242.49 | 242.81 | 0.32 | | | MUDSTONE | CARB.DK.GY.THNB.SLD AS ABOVE; ALSO SLTY AS MODIFIER. |
| 46 | 242.81 | 243.84 | 1.03 | | | SILTSTONE | CARB.DK.GY.VTHNB.SSD.SLD POSSIBLE CORE LOSS AT END OF INTERVAL; PIECES DONT MATCH; LARGE COALY INCLUSIO N AT END OF INTERVAL; ALSO CLYY AS MODI FIER; ALSO XBDG AS SED STRUX; |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 45 | 243.84 | 243.85 | 0.01 | | | COAL | C-1.VBRKN POSSIBLE PLANT STEM OR ROOT |
| 44 | 243.85 | 244.16 | 0.31 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ALSO SLTY AS MODIFIER |
| 44 | 244.16 | 244.24 | 0.08 | 00104 | 2 | COAL LOSS | |
| 44 | 244.24 | 244.28 | 0.04 | 00104 | 2 | COAL | C-1.VBRKN |
| 44 | 244.28 | 244.31 | 0.03 | 00104 | 2 | COAL | C-2.VBRKN |
| 44 | 244.31 | 244.44 | 0.13 | 00104 | 2 | COAL | C-3.VBRKN ALSO PWRD AS CORE STATE. |
| 43 | 244.44 | 244.49 | 0.05 | 00104 | 2 | COAL | C-3.VBRKN |
| 43 | 244.49 | 244.50 | 0.01 | 00104 | 2 | COAL | C-1.VBRKN |
| 43 | 244.50 | 244.52 | 0.02 | 00104 | 2 | COAL | C-3.VBRKN |
| 43 | 244.52 | 244.58 | 0.06 | 00104 | 2 | COAL | C-1.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 43 | 244.58 | 244.61 | 0.03 | 00104 | 2 | COAL | C-1.SLD |
| 43 | 244.61 | 244.67 | 0.06 | 00104 | 2 | COAL | C-3.SLD |
| 43 | 244.67 | 244.69 | 0.02 | 00104 | 2 | COAL | C-1.SLD |
| 43 | 244.69 | 244.72 | 0.03 | 00104 | 2 | COAL | C-3.SLD |
| 43 | 244.72 | 244.73 | 0.01 | 00104 | 2 | COAL | C-1.SLD |
| 43 | 244.73 | 244.75 | 0.02 | 00104 | 2 | COAL | C-6.SLD BONEY |
| 43 | 244.75 | 244.76 | 0.01 | 00106 | 2 | COAL | C-6.SLD STONEY |
| 43 | 244.76 | 244.87 | 0.11 | 00105 | 2 | MUDSTONE | CARB.DK.GY.THNB.SLD SEVERAL SMALL VITRAIN BANDS THROUGHOUT; |
| 42 | 244.87 | 244.91 | 0.04 | 00105 | 2 | ROCK LOSS | |
| 42 | 244.91 | 244.94 | 0.03 | 00105 | 2 | COAL | C-6.VBRKN STONEY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 42 | 244.94 | 244.98 | 0.04 | 00105 | 2 | COAL | C-4.VBRKN |
| 42 | 244.98 | 245.01 | 0.03 | 00105 | 2 | COAL | C-6.VBRKN COAL AND DIRTBANDS |
| 42 | 245.01 | 245.08 | 0.07 | 00105 | 2 | COAL | C-6.VBRKN COAL AND DIRTBANDS |
| 42 | 245.08 | 245.20 | 0.12 | 00105 | 2 | COAL | C-3.VSHRD ALSO PWRD CORE STATE |
| 41 | 245.20 | 245.51 | 0.31 | 00105 | 2 | COAL LOSS | |
| 41 | 245.51 | 245.54 | 0.03 | | | MUDSTONE | DK.GY.PWRD |
| 41 | 245.54 | 245.60 | 0.06 | | | ROCK LOSS | VSHRD |
| 41 | 245.60 | 245.70 | 0.10 | | | MUDSTONE | CARB.BLK.PWRD MIXTURE 50-50 MUDSTONE COAL VERY DAMP |
| 40 | 245.70 | 245.76 | 0.06 | | | ROCK LOSS | VSHRD SAME AS ABOVE |
| 40 | 245.76 | 245.94 | 0.18 | | | MUDSTONE | CARB.VBRKN ABUNDANT LISTRIC SURFACES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 40 | 245.94 | 246.00 | 0.06 | | | ROCK LOSS | SHRD ALSO PWRD AS CORE STATE; VERY DAMP |
| 40 | 246.00 | 246.07 | 0.07 | | | MUDSTONE | CARB.BLK.PWRD VERY DAMP |
| 40 | 246.07 | 246.13 | 0.06 | | | ROCK LOSS | SHRD |
| 39 | 246.13 | 246.70 | 0.57 | | | MUDSTONE | CARB.DK.GY.THNB.VBRKN ABUNDANT PLANT HASH. |
| 38 | 246.70 | 246.76 | 0.06 | | | ROCK LOSS | |
| * 37 | 246.76 | 247.63 | 0.87 | | | MUDSTONE | CARB.DK.GY.THNB.VBRKN COALY LAMINATIONS AND INCLUSIONS THROUGHOUT; ABUNDANT PLANT HASH |
| 40 | 247.63 | 247.69 | 0.06 | | | ROCK LOSS | |
| * 46 | 247.69 | 249.75 | 2.06 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.BRKN ABUNDANT SILTY AND COALY LAMINATIONS; ABUNDANT PLANT HASH; ALSO SLTY AS MODIFIER |
| 42 | 249.75 | 250.14 | 0.39 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.SLD 2 MM BRIGHT BAND AT TOP; ALSO SLTY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 39 | 250.14 | 251.55 | 1.41 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ABUNDANT PLANT HASH; COALY LAMINATIONS AND INCLUSIONS THROUGHOUT |
| 40 | 251.55 | 251.65 | 0.10 | 00107 | 2 | COAL LOSS | |
| 40 | 251.65 | 251.67 | 0.02 | 00107 | 2 | COAL | C-5.VBRKN |
| 40 | 251.67 | 251.81 | 0.14 | 00107 | 2 | COAL | C-5.SLD VERY LIGHT |
| 41 | 251.81 | 251.83 | 0.02 | 00107 | 2 | COAL | C-3.VBRKN |
| 41 | 251.83 | 251.84 | 0.01 | 00107 | 2 | COAL | C-6.VBRKN COAL AND DIRTBANDS |
| 41 | 251.84 | 251.86 | 0.02 | 00107 | 2 | COAL | C-3.VBRKN |
| 41 | 251.86 | 251.87 | 0.01 | 00107 | 2 | COAL | C-3.VBRKN |
| 41 | 251.87 | 251.89 | 0.02 | 00107 | 2 | COAL | C-3.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 41 | 251.89 | 251.92 | 0.03 | 00107 | 2 | COAL | C-4.SLD |
| 41 | 251.92 | 251.93 | 0.01 | 00107 | 2 | COAL | C-5.SLD |
| 41 | 251.93 | 251.98 | 0.05 | 00107 | 2 | COAL | C-3.SLD |
| 41 | 251.98 | 251.99 | 0.01 | 00107 | 2 | COAL | C-5.SLD |
| 41 | 251.99 | 252.02 | 0.03 | 00107 | 2 | COAL | C-4.SLD |
| 41 | 252.02 | 252.05 | 0.03 | 00107 | 2 | COAL | C-1.SLD |
| 41 | 252.05 | 252.12 | 0.07 | 00107 | 2 | COAL | C-2.SLD SEVERAL 1 MM DIRT BANDS THROUGHOUT |
| 41 | 252.12 | 252.13 | 0.01 | 00107 | 2 | COAL | C-4.SLD |
| 41 | 252.13 | 252.15 | 0.02 | 00107 | 2 | COAL | C-3.SLD |
| 41 | 252.15 | 252.18 | 0.03 | 00107 | 2 | COAL | C-1.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|-------------------------------------|
| 41 | 252.18 | 252.19 | 0.01 | 00107 | 2 | COAL | C-1.SLD |
| 41 | 252.19 | 252.21 | 0.02 | 00107 | 2 | COAL | C-3.SLD |
| 41 | 252.21 | 252.23 | 0.02 | 00107 | 2 | COAL | C-1.SLD |
| 41 | 252.23 | 252.28 | 0.05 | 00107 | 2 | COAL | C-2.BRKN ALSO SHRD IN CORE STATE |
| 42 | 252.28 | 252.44 | 0.16 | 00107 | 2 | COAL | C-1.SLD |
| 42 | 252.44 | 252.48 | 0.04 | 00107 | 2 | COAL | C-1.SLD |
| 42 | 252.48 | 252.54 | 0.06 | 00107 | 2 | COAL | C-4.SLD |
| 42 | 252.54 | 252.55 | 0.01 | 00107 | 2 | COAL | C-1.SLD |
| 42 | 252.55 | 252.63 | 0.08 | 00107 | 2 | COAL | C-3.VBRKN |
| 42 | 252.63 | 252.67 | 0.04 | 00107 | 2 | MUDSTONE | CARB.DK.GY.THNB.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 42 | 252.67 | 252.72 | 0.05 | 00107 | 2 | COAL | C-2.VBRKN |
| 42 | 252.72 | 252.95 | 0.23 | 00107 | 2 | COAL LOSS | |
| 43 | 252.95 | 253.45 | 0.50 | | | MUDSTONE | SLTY.DK.GY.VBRKN ABUNDANT PLANT HASH; COALY INCLUSIONS AND LAMINATIONS; ALSO CARB AS MODIFIER |
| 43 | 253.45 | 253.62 | 0.17 | | | ROCK LOSS | |
| 44 | 253.62 | 253.92 | 0.30 | | | MUDSTONE | SLTY.DK.GY.VBRKN AS ABOVE |
| 44 | 253.92 | 254.09 | 0.17 | | | ROCK LOSS | CARB |
| * 45 | 254.09 | 254.81 | 0.72 | | | SILTSTONE | CLYY.DK.GY.THNB.SSD.SLD ALSO CARB AS MODIFIER |
| * 38 | 254.81 | 255.75 | 0.94 | | | MUDSTONE | CARB.DK.GY.THNB LITRIC SURFACES:COALY LAMINATIONS AT E ND OF INTERVAL;LAST 20 CM HAS SEVERAL 5 MM BRIGHT BANDS;ALSO SLTY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 40 | 255.75 | 255.76 | 0.01 | | 2 | COAL | C-1.SLD |
| 40 | 255.76 | 255.77 | 0.01 | | 2 | MUDSTONE | CARB.SLD |
| 40 | 255.77 | 255.89 | 0.12 | | 2 | COAL | C-3.VBRKN ALSO PWRD, SHRD IN CORE STATE |
| 41 | 255.89 | 256.06 | 0.17 | | 2 | COAL LOSS | |
| 41 | 256.06 | 256.07 | 0.01 | | 2 | MUDSTONE | CARB.SLD |
| 41 | 256.07 | 256.08 | 0.01 | | 2 | COAL | C-1.SLD |
| 41 | 256.08 | 256.09 | 0.01 | | 2 | MUDSTONE | CARB.SLD |
| 41 | 256.09 | 256.11 | 0.02 | | 2 | COAL | C-1.SLD |
| 41 | 256.11 | 256.15 | 0.04 | | 2 | COAL | C-1.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 42 | 256.15 | 256.18 | 0.03 | | 2 | COAL | C-2.SLD |
| 42 | 256.18 | 256.20 | 0.02 | | 2 | COAL | C-3.SLD |
| 42 | 256.20 | 256.22 | 0.02 | | 2 | COAL | C-2.VBRKN |
| 42 | 256.22 | 256.31 | 0.09 | | 2 | COAL | C-6.VBRKN COAL AND DIRTBANDS; ALSO PWRD AND SHRD CORE STATE |
| 42 | 256.31 | 256.48 | 0.17 | | 2 | COAL LOSS | |
| 43 | 256.48 | 256.79 | 0.31 | | 2 | MUDSTONE | CARB.DK.GY ABUNDANT COALY LAMINATIONS FROM 0.00 TO 0.15 |
| 45 | 256.79 | 257.19 | 0.40 | | 2 | COAL LOSS | |
| * 47 | 257.19 | 257.84 | 0.65 | | | MUDSTONE | DK.GY.THNB.VBRKN ALSO SHRD,PWRD CORE STATE;POSSIBLE CORE LOSS;ABUNDANT COALY LAMINATIONS AND IN CLUSIONS;SILTY TOWARD BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 42 | 257.84 | 258.01 | 0.17 | | ROCK LOSS | |
| | 39 | 258.01 | 258.48 | 0.47 | | SILTSTONE | CARB.GY.THNB MINOR PLANT HASH; HARD |
| * | 34 | 258.48 | 258.81 | 0.33 | | SILTSTONE | CARB.DK.GY.SLD MORE CARBONACEOUS TOWARDS BASE |
| | 34 | 258.81 | 259.44 | 0.63 | | MUDSTONE | SLTY.DK.GY.SLD ABUNDANT PLANT HASH THROUGHOUT; CALCITE VEINING 0.14; PYRITIZED COALY REMAINS 0. 31---END; SOME SLKS; ALSO CARB AS MODIFIE R |
| | 34 | 259.44 | 259.70 | 0.26 | | SILTSTONE | CARB.GY.THNB.SLD MINOR COALY INCLUSIONS; ALSO CLYY AS MOD IFIER |
| | 33 | 259.70 | 259.94 | 0.24 | | SILTSTONE | CARB.SLD POSSIBLE CORE LOSS AT TOP; PIECES DONT M ATCH WITH TOP OF UNIT; |
| * | 33 | 259.94 | 261.09 | 1.15 | | MUDSTONE | CARB.DK.GY.THNB.SLD MORE CARBONACEOUS TOWARD BASE; ABUNDANT COALY LAMINATIONS 0.50---END; UP TO 2 CM INCLUSIONS; ALSO SLTY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 30 | 261.09 | 262.51 | 1.42 | | | MUDSTONE | CARB.DK.GY ABUNDANT COALY LAMINATIONS AND INCLUSIONS THROUGHOUT; ALSO SALTY MODIFIER; VERY SILTY FROM 0.57 TO 0.87 |
| 33 | 262.51 | 263.65 | 1.14 | | | MUDSTONE | CARB.DK.GY.VTHNB ABUNDANTLY COALY LAMINATIONS AND INCLUSIONS THROUGHOUT; ALSO SLTY MODIFIER |
| * 35 | 263.65 | 264.77 | 1.12 | | | MUDSTONE | CARB.DK.GY.THNB.VBRKN POSSIBLE CORE LOSS THROUGHOUT INTERVAL; ABUNDANT COALY INCLUSIONS; ROCK LOSS; ALSO SHRD CORE STATE. |
| 34 | 264.77 | 264.94 | 0.17 | | | ROCK LOSS | |
| 34 | 264.94 | 264.96 | 0.02 | | | COAL | PWRD COAL IS WET; PWRD MUDSTONE IN SAME INTERVAL; POSSIBLE REMNANT OF A COALY INCLUSION; ALSO VSHRD CORE STATE |
| 34 | 264.96 | 265.12 | 0.16 | | | COAL LOSS | |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 34 | 265.12 | 265.20 | 0.08 | | | MUDSTONE | CARB.DK.GY.SLD |
| 33 | 265.20 | 265.53 | 0.33 | | | MUDSTONE | CARB.DK.GY.BRKN POSSIBLE CORE LOSS AT TOP |
| 33 | 265.53 | 265.69 | 0.16 | | | ROCK LOSS | |
| 33 | 265.69 | 266.08 | 0.39 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN (2) 2 CM BRIGHT BANDS |
| 32 | 266.08 | 266.13 | 0.05 | | | COAL | PWRD MUDSTONE AND PWRD COAL IN TRAY; CORE WE T; ALSO SHRD AS CORE STATE |
| 32 | 266.13 | 266.29 | 0.16 | | | COAL LOSS | |
| 32 | 266.29 | 266.40 | 0.11 | | | MUDSTONE | CARB.DK.GY.THNB |
| 32 | 266.40 | 266.42 | 0.02 | | | MUDSTONE | CARB.PWRD AS ABOVE; ALSO SHRD AS CORE STATE |
| 32 | 266.42 | 266.58 | 0.16 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 31 | 266.58 | 267.01 | 0.43 | | | MUDSTONE | CARB.DK.GY.VBRKN POSSIBLE CORE LOSS THROUGHOUT; ALSO SHR D AND PWRD AS CORE STATE |
| 31 | 267.01 | 267.18 | 0.17 | | | ROCK LOSS | |
| 31 | 267.18 | 267.28 | 0.10 | | | MUDSTONE | CARB.DK.GY.VBRKN AS ABOVE; ALSO PWRD AND SHRD AS CORE ST ATE |
| 30 | 267.28 | 267.45 | 0.17 | | | ROCK LOSS | |
| 30 | 267.45 | 267.57 | 0.12 | 00109 | 2 | COAL | C-3.SLD |
| 30 | 267.57 | 267.63 | 0.06 | 00109 | 2 | COAL | C-6.SLD COAL AND BANDS |
| 30 | 267.63 | 267.70 | 0.07 | 00109 | 2 | COAL | C-6.SLD BONEY |
| 30 | 267.70 | 267.73 | 0.03 | 00109 | 2 | COAL | C-1.SLD |
| 30 | 267.73 | 267.74 | 0.01 | 00109 | 2 | COAL | C-4.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|------------------------|
| 30 | 267.74 | 267.75 | 0.01 | 00109 | 2 | COAL | C-1.SLD |
| 30 | 267.75 | 267.76 | 0.01 | 00109 | 2 | COAL | C-5.SLD |
| 30 | 267.76 | 267.82 | 0.06 | 00109 | 2 | COAL | C-2.SLD |
| 30 | 267.82 | 267.86 | 0.04 | 00109 | 2 | COAL | C-1.SLD |
| 30 | 267.86 | 267.87 | 0.01 | 00109 | 2 | COAL | C-1.SLD |
| 30 | 267.87 | 267.89 | 0.02 | 00109 | 2 | COAL | C-2.SLD |
| 30 | 267.89 | 267.96 | 0.07 | 00109 | 2 | COAL | C-3.SLD COAL IS WET |
| 30 | 267.96 | 267.99 | 0.03 | 00109 | 2 | COAL | C-3.BRKN |
| 29 | 267.99 | 268.02 | 0.03 | 00109 | 2 | COAL | C-3.BRKN |
| 29 | 268.02 | 268.04 | 0.02 | 00109 | 2 | COAL | C-3.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 29 | 268.04 | 268.06 | 0.02 | 00109 | 2 | COAL | C-1.VBRKN |
| 29 | 268.06 | 268.08 | 0.02 | 00109 | 2 | COAL | C-1.VBRKN ALSO PWRD AS CORE STATE |
| 29 | 268.08 | 268.20 | 0.12 | 00109 | 2 | COAL | C-1.VBRKN ALSO PWRD AS CORE STATE |
| 29 | 268.20 | 268.26 | 0.06 | 00109 | 2 | COAL | C-1.VBRKN ALSO PWRD AS CORE STATE |
| 29 | 268.26 | 268.39 | 0.13 | 00109 | 2 | COAL LOSS | |
| 28 | 268.39 | 269.21 | 0.82 | | | MUDSTONE | CARB.DK.GY.SLD COALY INCLUSIONS AND LAMINATIONS THROUGHOUT; ABUNDANT PLANT HASH, INTERNAL SKS. |
| 27 | 269.21 | 269.88 | 0.67 | | | MUDSTONE | CARB.DK.GY.VBRKN ABUNDANT COALY LAMINATIONS THROUGHOUT; 0.23---0.30 CALCITE ENCASED COALY INCLUSIONS; 0.36---0.37 PWRD COAL IN TRAY |
| 26 | 269.88 | 270.33 | 0.45 | | | ROCK LOSS | |
| 26 | 270.33 | 270.35 | 0.02 | | | COAL | C-1.BRKN ALSO PWRD CORE STATE |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| | 26 | 270.35 | 270.36 | 0.01 | | COAL LOSS | |
| * | 26 | 270.36 | 270.43 | 0.07 | | MUDSTONE | CARB.DK.GY.BRKN AS ABOVE; ALSO SHRD CORE STATE |
| | 26 | 270.43 | 270.46 | 0.03 | | ROCK LOSS | |
| | 26 | 270.46 | 270.60 | 0.14 | | COAL | C-6.VBRKN BONEY |
| | 26 | 270.60 | 270.66 | 0.06 | | COAL LOSS | |
| | 26 | 270.66 | 270.89 | 0.23 | | MUDSTONE | CARB.DK.GY.VBRKN AS ABOVE |
| | 27 | 270.89 | 270.95 | 0.06 | | ROCK LOSS | |
| | 27 | 270.95 | 271.11 | 0.16 | | COAL | C-6.VBRKN BONEY |
| | 27 | 271.11 | 271.18 | 0.07 | | COAL LOSS | |
| | 28 | 271.18 | 272.34 | 1.16 | | MUDSTONE | CARB.SLD ABUNDANT COALY INCLUSIONS |
| | 29 | 272.34 | 272.89 | 0.55 | | MUDSTONE | CARB.DK.GY.SLD ABUNDANT COALY LAMINATIONS AND INCLUSIO NS; INCREASING TOWARD BASE. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 70

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 29 | 272.89 | 272.99 | 0.10 | | | COAL | C-6 STONEY |
| 29 | 272.99 | 273.06 | 0.07 | | | COAL | PWRD COAL AND MUDSTONE POWDERED IN TRAY |
| 29 | 273.06 | 273.10 | 0.04 | | | COAL LOSS | |
| 29 | 273.10 | 273.25 | 0.15 | | | COAL | C-6.VBRKN STONEY; INTERVAL CLEARING; ABUNDANT BRIGHT BANDS IN A STONEY MATRIX; POSSIBLE CORE LOSS AT TOP AND BOTTOM OF INTERVAL |
| 29 | 273.25 | 273.31 | 0.06 | | | COAL LOSS | |
| 29 | 273.31 | 273.37 | 0.06 | | | MUDSTONE | DK.GY.VBRKN ABUNDANT LISTRIC SURFACES; ALSO VSHRD CORE STATE |
| 29 | 273.37 | 273.39 | 0.02 | | | ROCK LOSS | |
| 29 | 273.39 | 273.44 | 0.05 | | | COAL | C-1.VSHRD ALSO VBRKN |
| 30 | 273.44 | 273.46 | 0.02 | | | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 71

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 30 | 273.46 | 273.52 | 0.06 | | | COAL | C-6.PWRD STONEY;ALSO VBRKN AND VSHRD CORE STATE |
| 30 | 273.52 | 273.55 | 0.03 | | | COAL LOSS | |
| 30 | 273.55 | 273.71 | 0.16 | | | MUDSTONE | CARB.DK.GY.VSHRD ABUNDANT LISTRIC SURFACES;ALSO VBRKN CO RE STATE |
| 30 | 273.71 | 273.78 | 0.07 | | | ROCK LOSS | |
| 30 | 273.78 | 273.84 | 0.06 | | | COAL | C-3.VBRKN 2 MUDSTONE BAND 0-01M THICK;ABUNDANT LI STRIC SURFACES;ALSO VSHRD CORE STATE |
| 30 | 273.84 | 273.87 | 0.03 | | | COAL LOSS | |
| 30 | 273.87 | 273.91 | 0.04 | | | COAL | C-2.VSHRD ALSO VBRKN CORE STATE |
| 30 | 273.91 | 273.93 | 0.02 | | | COAL LOSS | |
| 30 | 273.93 | 273.96 | 0.03 | | | MUDSTONE | CARB.DK.GY.VBRKN LISTRIC SURFACES ABUNDANT;ALSO VSHRD CO RE STATE |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 72

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 30 | 273.96 | 273.97 | 0.01 | | | ROCK LOSS | |
| 30 | 273.97 | 274.02 | 0.05 | | | COAL | C-6 COAL AND BANDS;LAMINATIONS 5MM COAL AND DIRT BANDS |
| 30 | 274.02 | 274.23 | 0.21 | | | MUDSTONE | CARB.DK.GY.THNB COALY PARTINGS DECREASING TOWARDS BASE; |
| 31 | 274.23 | 274.45 | 0.22 | 00111 | 2 | COAL LOSS | |
| 31 | 274.45 | 274.53 | 0.08 | 00111 | 2 | COAL | C-3.VBRKN LISTRIC SURFACES;ALSO PWDR BEDDING;PWRD CORE STATE;ALSO VBRKN BEDDING |
| 31 | 274.53 | 274.68 | 0.15 | 00111 | 2 | COAL | C-6.SLD STONEY;VERY BRIGHT ;HARD AND DENSE |
| 31 | 274.68 | 274.70 | 0.02 | 00111 | 2 | COAL | C-3.VBRKN CORE STATE ALSO PWRD |
| 31 | 274.70 | 274.72 | 0.02 | 00111 | 2 | COAL | C-4 |
| 31 | 274.72 | 274.77 | 0.05 | 00111 | 2 | COAL | C-3.BRKN CORE STATE ALSO SHRD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 31 | 274.77 | 274.80 | 0.03 | 00111 | 2 | COAL | C-2 |
| 31 | 274.80 | 274.85 | 0.05 | 00111 | 2 | COAL | C-3.VBRKN FEW LISTRIC SURFACES |
| 31 | 274.85 | 274.92 | 0.07 | 00111 | 2 | COAL | C-3.PWRD WET |
| 31 | 274.92 | 275.03 | 0.11 | 00111 | 2 | COAL | C-4.VBRKN WET;ALSO PWRD CORE STATE |
| 31 | 275.03 | 275.10 | 0.07 | 00111 | 2 | COAL | PWRD WET;TO PWRD AND WET TO GRADE;POSSIBLE M UDSTONE IN TRAY |
| 31 | 275.10 | 275.16 | 0.06 | 00111 | 2 | COAL | C-3.SLD |
| 31 | 275.16 | 275.18 | 0.02 | 00111 | 2 | COAL | C-1.SLD |
| 32 | 275.18 | 275.23 | 0.05 | 00111 | 2 | COAL | C-2.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 32 | 275.23 | 275.28 | 0.05 | 00111 | 2 | COAL | C-2.VBRKN ALSO PWRD CORE STATE |
| 32 | 275.28 | 275.35 | 0.07 | 00111 | 2 | COAL | C-3.VBRKN ALSO PWRD CORE STATE |
| 32 | 275.35 | 275.43 | 0.08 | 00111 | 2 | COAL | C-2.VBRKN |
| 32 | 275.43 | 275.49 | 0.06 | 00111 | 2 | COAL | C-3.PWRD CORE IS WET |
| 32 | 275.49 | 275.58 | 0.09 | 00111 | 2 | COAL | C-4.PWRD CORE IS WET |
| 32 | 275.58 | 275.68 | 0.10 | 00111 | 2 | COAL | C-6.PWRD APPROX 50.0% MUDSTONE AND 50.0% COAL |
| 32 | 275.68 | 275.82 | 0.14 | | | MUDSTONE | CARB.DK.GY.BRKN LISTRIC SURFACES;POSSIBLE CORE LOSS AT END OF INTERVAL;PIECES DONT MATCH |
| * 33 | 275.82 | 277.13 | 1.31 | | | MUDSTONE | CARB.DK.GY.SLD COALY PARTINGS AND LAMINATIONS THROUGHOUT; COALY PARTINGS ENCASED IN CALCITE |
| 30 | 277.13 | 277.34 | 0.21 | | | MUDSTONE | CARB.DK.GY.VBRKN ABUNDANT BRIGHT LAMINATIONS AND PARTING S UP TO 5 MM;FEW LISTRIC SURFACES |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 29 | 277.34 | 277.93 | 0.59 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY PARTINGS INCREASE TOWARDS CORE OF INTERVAL |
| 28 | 277.93 | 277.95 | 0.02 | | | MUDSTONE | CARB.DK.GY.VTHNB.VBRKN ABUNDANT COALY PARTINGS;FEW LISTRIC SUR FACES;ALSO SHRD CORE STATE |
| 27 | 277.95 | 278.33 | 0.38 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY PARTINGS AND LAMINATIONS INCREASI NG TOWARDS BASE |
| 26 | 278.33 | 278.34 | 0.01 | | | MUDSTONE | CARB.DK.GY.VTHNB.VBRKN COALY PARTINGS |
| 26 | 278.34 | 278.35 | 0.01 | | | MUDSTONE | CARB.DK.GY.VTHNB.VBRKN COALY PARTINGS. |
| 26 | 278.35 | 278.62 | 0.27 | | | MUDSTONE | CARB.DK.GY.VTHNB.SLD ABUNDANT AND COALY PARTINGS |
| * 22 | 278.62 | 280.48 | 1.86 | | | SILTSTONE | CARB.GY.VTHNB.SSD.SLD FEW COALY PARTINGS;FEW LISTRIC SURFACES |
| * | 280.48 | 281.36 | 0.88 | | | SILTSTONE | CARB.GY.VTHNB.SSD.SLD FEW COALY PARTINGS;FEW LISTRIC SURFACES ;POSSIBLE CORELOSS AT 0.70; PIECES DON' T MATCH; ALSO SSY AS MODIFIER. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 39 | 281.36 | 281.98 | 0.62 | | | SILTSTONE | CARB.GY.WRMBU.SLD WRMBUR DIAMETER 10 MM;BECOMING SSY TOWA RDS BASE;PYR SMEARS ON LISTRIC SURFACES ;FEW COALY PARTINGS |
| * | 281.98 | 282.94 | 0.96 | | | SILTSTONE | CARB.LT.GY.THNB.SSD INCREASING SSY AT BOTTOM OF INTERVAL ;FEW COALY PARTINGS WITH PYR SMEARS ON FRACTURE SURFACES; MODIFIER: SSY. |
| 43 | 282.94 | 283.19 | 0.25 | | | SANDSTONE | SLTY.MOD.LT.GY.VTHNB.SLD MINOR CALCITE VEINING;BECOMING MORE ARG TOWARDS BASE;ALSO CARB AND CLYY AS MOD IFIERS |
| * 46 | 283.19 | 283.44 | 0.25 | | | MUDSTONE | SLTY.GY.VTHNB.SLD ALSO CARB AS MODIFIER. |
| 40 | 283.44 | 284.72 | 1.28 | | | MUDSTONE | SLTY.GY.VTHNB.SLD ALSO CARB SHOWN AS MODIFIER. |
| 35 | 284.72 | 284.98 | 0.26 | | | SILTSTONE | LT.GY.SLD FEATURELESS;ST 0.09 POSSIBLE CORE LESS |
| * 31 | 284.98 | 285.74 | 0.76 | | | SANDSTONE | FG.GY.SSD CALC |
| 31 | 285.74 | 285.86 | 0.12 | | | SILTSTONE | CLYY.GY ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 31 | 285.86 | 286.06 | 0.20 | | | MUDSTONE | LT.GY.SLD VERY HARD; CALCAREOUS; SOME CALCITE VEINING AT BASE OF INTERVAL. |
| 31 | 286.06 | 286.54 | 0.48 | | | MUDSTONE | GY.SLD VERY HARD; CALCAREOUS; SOME CALCITE VEINING AT BASE OF INTERVAL. |
| 31 | 286.54 | 287.40 | 0.86 | | | MUDSTONE | GY FEATURELESS |
| 30 | 287.40 | 288.01 | 0.61 | | | MUDSTONE | GY AS ABOVE |
| 30 | 288.01 | 288.67 | 0.66 | | | SILTSTONE | SSY.LT.GY.SSD.SLD CALCACEOUS |
| 30 | 288.67 | 289.48 | 0.81 | | | SILTSTONE | SSY.LT.GY.SLD AS ABOVE;VERY MINOR CALCITE VEINING |
| * 30 | 289.48 | 290.09 | 0.61 | | | SANDSTONE | FG.LT.GY.THNB.SLD CALCACEOUS WITH MINOR CALCITE VEINING;POSSIBLE CORE LOSS AT END OF INTERVAL |
| 30 | 290.09 | 290.29 | 0.20 | | | SANDSTONE | FG.LT.GY.THNB.SLD FEW PYR FLECKS THROUGHOUT |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 78

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 30 | 290.29 | 291.36 | 1.07 | | SANDSTONE | FG.SSD VERY MINOR CALCITE VEININGS; ALSO WRMBUR SED STRUX |
| * | 30 | 291.36 | 292.88 | 1.52 | | SANDSTONE | FG.LT.GY.THNB.WRMBU.SLD ALSO SSD IN SED STRUX |
| | 29 | 292.88 | 294.35 | 1.47 | | SANDSTONE | FG.LT.GY.VTHNB.SSD.SLD SLIGHT SALT AND PEPPER APPEARANCE TWO-0 .02 M CALCITE VEINS AT 0.00 AND 0.55 M; POSSIBLE CORE LOSS AT END OF INTERVAL; C ALC |
| * | 28 | 294.35 | 295.65 | 1.30 | | SANDSTONE | SLTY.FG.LT.GY.VTHNB.SSD.SLD 0.01 M CALCITE VEIN AT 1.19; CALC |
| * | 28 | 295.65 | 297.35 | 1.70 | | SANDSTONE | FG.MOD.GY.VTHNB.SSD.SLD CALC; VERY MINOR CALCT VEINING |
| * | 37 | 297.35 | 298.35 | 1.00 | | SANDSTONE | FG.PR.GY.SSD.SLD TOPS UP; MINOR CALCITE VEINS; LISTRIC SUR FACES WITH OIL SMEARS; SED STRUX: XSDG |
| * | 35 | 298.35 | 300.12 | 1.77 | | SANDSTONE | CARB.MG.GY.SLD MINOR CALCITE VEININGS; INCREASED GRAIN SIZE AND CARB CONTENT; SALT AND PEPPER A PPEARANCE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * | 300.12 | 301.02 | 0.90 | | | SANDSTONE | CARB.CG.GY RIP UP CLASTS;COAL PARTING AT 0.16M AND 0.67 M;VERY MINOR CALCITE VEINING;ALSO CLYY AS MODIFIER; LISTRIC SURFACES ON COAL PARTINGS. |
| * 30 | 301.02 | 303.26 | 2.24 | | | SANDSTONE | CARB.CG.PR.LT.GY.VTHNB.SLD ABUNDANT COALY PARTINGS THROUGHOUT;MINOR CALCITE VEINING. |
| * 21 | 303.26 | 303.68 | 0.42 | | | SANDSTONE | CARB.MG.PR.LT.GY.THNB.SSD.SLD MINOR CALCITE VEINING;RIP UP CLASTS;ALSO CLYY AS MODIFIER |
| * 31 | 303.68 | 306.35 | 2.67 | | | SANDSTONE | CARB.CG.MOD.LT.GY.THNB.XBDG.BRKN CALCAREOUS;TOP IS UP;CALCITE FILLED BRECCIATION 0.02--0.04;SMALL FAULT?;PYRITE SMEARS AND NUMEROUS SMALL CALCITE FRACTURES 0.12--0.50 COALY INCLUSIONS AND LAMINATIONS. |
| * 22 | 306.35 | 306.98 | 0.63 | | | SANDSTONE | CARB.CG.MOD.LT.GY.THNB.XBDG.SLD CALCAREOUS; MINOR CALCITE POSSIBLE CORE LOSS AT END OF INTERVAL |
| 28 | 306.98 | 307.78 | 0.80 | | | MUDSTONE | CARB.DK.GY.THNB.VBRKN POSSIBLE CORE LOSS 0.00--0.30 AND AT FOOTAGE BLOCK; MODIFIER: SLTY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| * 36 | 307.78 | 308.69 | 0.91 | | | SANDSTONE | CARB.VFG.PR.GY.VTHNB.WRMBU.SLD NUMEROUS MUDSTONE LAMINATIONS THROUGHOUT; CALCAREOUS; ALSO SSD AND XBDG AS SED STRUX; ALSO CLYY AS MODIFIER |
| * 35 | 308.69 | 308.95 | 0.26 | | | SILTSTONE | CARB.DK.GY.THNB.SLD SILTIER TOWARDS BASE |
| 35 | 308.95 | 309.22 | 0.27 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD |
| 34 | 309.22 | 309.70 | 0.48 | | | SILTSTONE | CARB.DK.GY.THNB.SLD POSSIBLE CORE LOSS AT 0.20 |
| 34 | 309.70 | 310.30 | 0.60 | | | SANDSTONE | CLYY.FG.MOD.LT.GY.THNB.XBDG.SLD ALSO SSD AS SED STRUX |
| 33 | 310.30 | 311.32 | 1.02 | | | SILTSTONE | CARB.DK.GY.THNB.SSD.SLD ALSO XBDG AS SED STRUX |
| 32 | 311.32 | 312.05 | 0.73 | | | SILTSTONE | CARB.GY.THNB.SSD.SLD CALCAREOUS; ALSO WRMBUR AS SED STRUX; A LSO SSY AS MODIFIER |
| * 30 | 312.05 | 313.84 | 1.79 | | | SILTSTONE | GY.THNB.WRMBU.SLD CALCAREOUS; ALSO SSD AS SED STRUX |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 81

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81006

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 31 | 313.84 | 315.06 | 1.22 | | | SANDSTONE | CLYY.PR.DK.GY.VTHNB.WRMBU.SLD CALCAREOUS; ALSO SSD AS SED STRUX; ALSO SLTY AND CARB AS MODIFIER |
| 28 | 315.06 | 316.57 | 1.51 | | | SANDSTONE | SLTY.MOD.DK.GY.THNB.WRMBU.SLD CALCAREOUS; ALSO SSD AS SED STRUX; ALSO CARB AS MODIFIER |
| * 24 | 316.57 | 317.98 | 1.41 | | | SANDSTONE | SLTY.VFG.GY.VTHNB.SSD.SLD FEW COALY INCLUSIONS; RIP UP CLASTS 1.0 3 TO END OF INTERVAL; ALSO CLYY AND CAR B AS MODIFIERS |
| * 21 | 317.98 | 319.21 | 1.23 | | | SANDSTONE | CARB.MG.PR.GY.VTHNB.XBDG.SLD RIP UP CLASTS 0.80 TO 0.94; ALSO CLYY AS MODIFIER; ALSO SSD AS SED STRUX |
| * 30 | 319.21 | 320.95 | 1.74 | | | SANDSTONE | CLYY.MG.VPR.LT-DK.GY.THNB.SSD.BRKN RIP UP CLASTS THROUGHOUT; FEW COALY INC LUSIONS; ALSO XBDG AS SED STRUX; ALSO C ARB AS MODIFIER |

* DENOTES MEASURED BCA

DDH 81-07

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: _____ DATA SOURCE: DDH81007

HISTORY

START DATE: 30/08/81 END DATE: 03/09/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: I. DELAS, A.R. SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1504.0
 UTM ZONE: 10 NORTH: 6149684.34 EAST: 538966.22
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: . EAST: . LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: . EAST: . QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 296.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: . SIZE HEIGHT: .
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 6.75 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : _____ | --- | --- | X | | 125A |
| NEUTRON | X | 1:100 | : _____ | --- | --- | X | | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | X | X | 422AS |
| CALIPER | X | 1:100 | : _____ | --- | --- | X | | 785 |
| FE-SHORT | | : _____ | : _____ | --- | --- | | | |
| FE-LONG | X | 1:100 | : _____ | --- | --- | X | | 9 |
| DIRECTIONAL | X | : _____ | : _____ | --- | --- | X | | |
| DIPMETER | | : _____ | : _____ | --- | --- | | | |

*** COAL DIVISION ***

DATA SOURCE: D81-07

INTERVAL OF INTERPOLATION 10 UNIT(S)

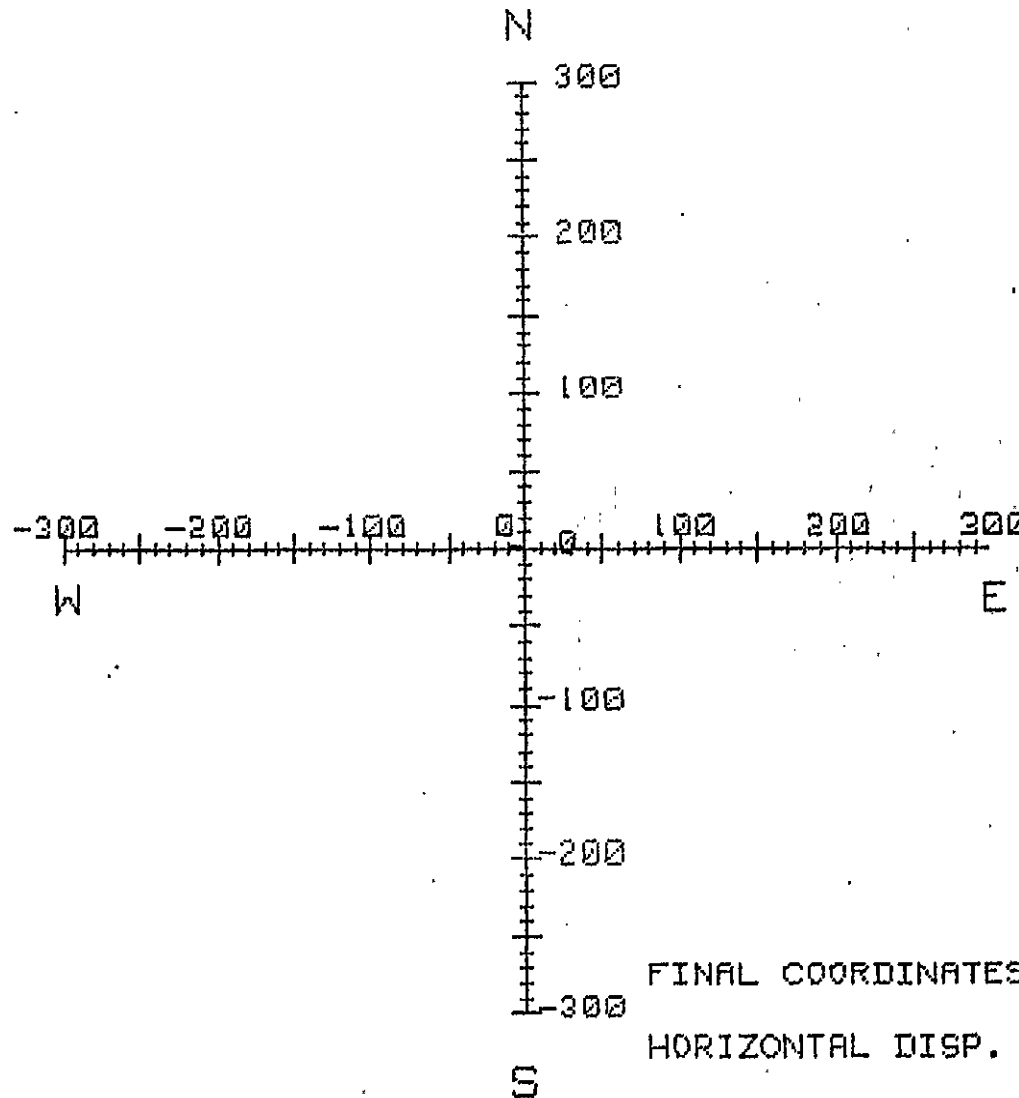
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 0.00 | .60 | 279.00 |
| 15.00 | .60 | 279.00 |
| 30.00 | .60 | 267.80 |
| 45.00 | 1.40 | 299.80 |
| 60.00 | 1.39 | 286.10 |
| 75.00 | 1.40 | 301.60 |
| 90.00 | 1.60 | 311.60 |
| 105.00 | 1.60 | 271.50 |
| 120.00 | 1.70 | 281.70 |
| 135.00 | 1.70 | 291.50 |
| 150.00 | 1.70 | 283.90 |
| 165.00 | 1.70 | 291.40 |
| 180.00 | 1.70 | 283.30 |
| 195.00 | 1.90 | 184.80 |
| 210.00 | 2.00 | 277.70 |
| 225.00 | 2.00 | 278.20 |
| 240.00 | 2.20 | 285.00 |
| 255.00 | 2.30 | 286.70 |
| 270.00 | 2.50 | 298.60 |
| 285.00 | 2.70 | 284.40 |
| 298.00 | 2.90 | 285.10 |

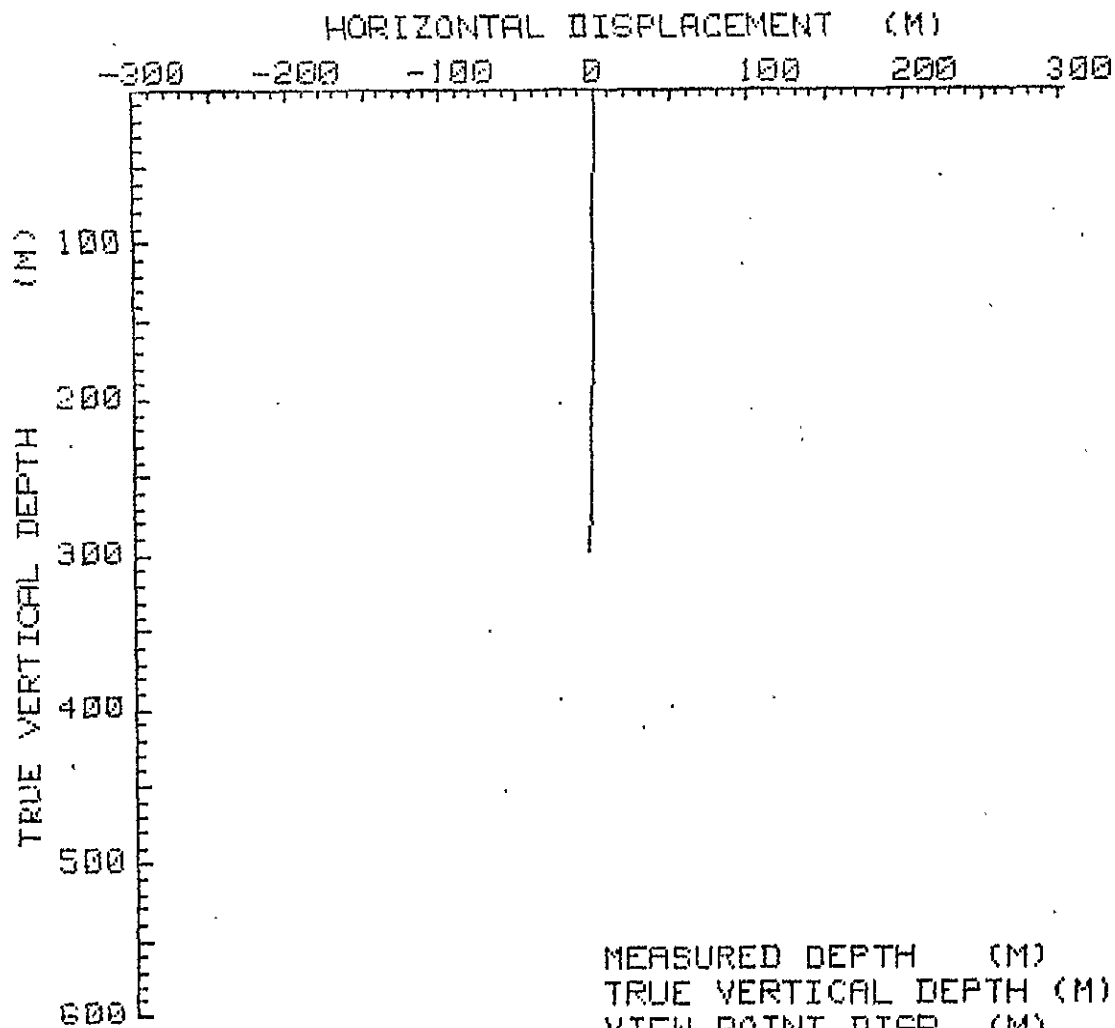
PLAN VIEW

WELL ID NUMBER
D81-07



FINAL COORDINATES(M) N 1.95
E -7.97
HORIZONTAL DISP. (M) -4.26

DISPLACEMENT

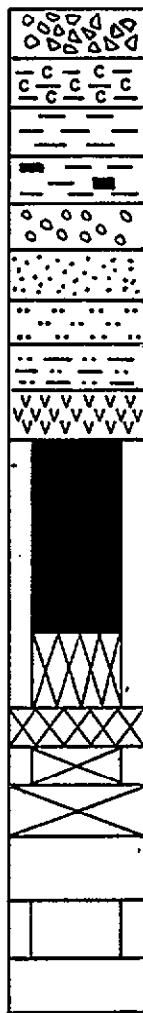
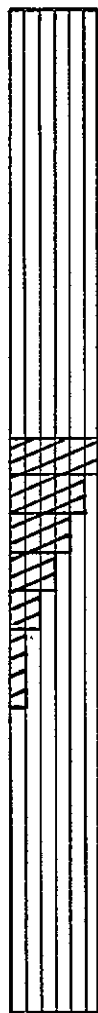


| | |
|-------------------------|--------|
| MEASURED DEPTH (M) | 298.00 |
| TRUE VERTICAL DEPTH (M) | 297.86 |
| VIEW POINT DISP. (M) | -4.26 |
| SECTION LINE BEARING | 45.00 |

SEAM
COMP.

COAL
SEAM
LOG

- LITHOTYPE
- C-1: Bright 80% Vitrain
 - C-2: Bright banded 60-80 % Vitrain
 - C-3: Dull/Bright 40-60 % Vitrain
 - C-4: Dull banded 20-40 % Vitrain
 - C-5: Dull 20 % Vitrain
 - C-6: Bone



- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff

coal

coal-boney, stoney,
coal and bands/rock
- designated "C6"

rock } coal
lithotype uncertain

coal } MISSING
rock } CORE

rock

coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

GULF CANADA RESOURCES INC.
Coal Division

CALGARY ALBERTA



LEGEND FOR COAL
SEAM DATA SHEETS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

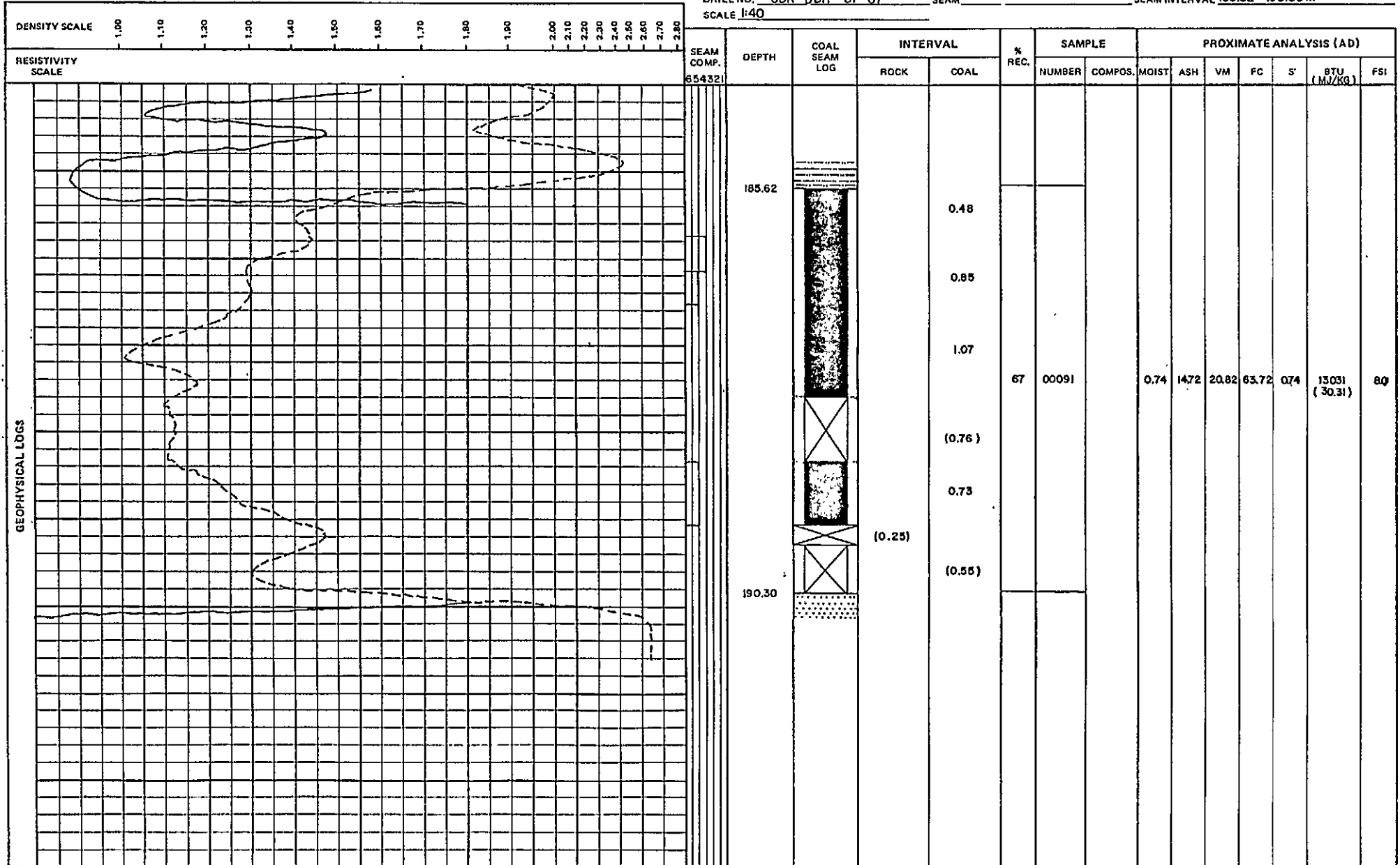
P-267 (12-80)

Coal / Coal + Rock (True Thk. (m))
2.02 / 2.13

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-07 SEAM
SCALE 1:40

SEAM INTERVAL 185.62 - 190.30 m



GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | ROCK | MISSING COAL | RUCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|------|--------------|------|
| DDHS1007 | | 91 | 185.62 | 190.30 | 3.13 | 66.88 | 3.13 | 0.00 | 1.30 | 0.25 |
| | | 113 | 70.60 | 73.37 | 2.77 | 100.00 | 2.67 | 0.10 | 0.00 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 HEAD ANALYSIS SUMMARY PAGE 1

PROJ - GDR ANALYSIS BASIS TYPE - NAME OF STANDARD -

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GRUSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|-------|---------------|------------------|----------------|-------------------------------|------|------|
| DDH81007 | | 91 | 0.74 | 14.72 | 63.72 | 20.82 | 0.74 | 30.31 | 1.32 | 6.00 |
| | | 113 | 0.30 | 8.56 | 68.29 | 22.85 | 1.01 | 32.33 | 1.35 | 7.50 |

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 23 | 0.00 | 4.14 | 4.14 | | | SILTSTONE | CASING - NO CORE |
| 23 | 4.14 | 5.56 | 1.42 | | | SILTSTONE | DK.GY.MAS CORE BROKEN AT THE BASE, OXIDIZED WITH FEW CALCITE VEINS. |
| 23 | 5.56 | 6.28 | 0.72 | | | SILTSTONE | DK.GY.MAS CORE HIGHLY BROKEN, OXIDIZED WITH CALCIT E VEINS |
| 23 | 6.28 | 6.75 | 0.47 | | | SILTSTONE | DK.GY.MAS COMPACT & UNIFORM |
| * 23 | 6.75 | 8.81 | 2.06 | | | SILTSTONE | DK.GY.MAS AS ABOVE, OXIDIZED IN PLACE |
| 23 | 8.81 | 9.46 | 0.65 | | | SILTSTONE | DK.GY.MAS AS ABOVE |
| 23 | 9.46 | 9.61 | 0.15 | | | SILTSTONE | DK.GY.MAS AS ABOVE |
| 24 | 9.61 | 10.29 | 0.68 | | | MUDSTONE | SLTY.DK.GY BROKEN AT THE BASE |
| 24 | 10.29 | 10.64 | 0.35 | | | MUDSTONE | SLTY.DK.GY.PWRD HIGHLY BROKEN, PULVERIZED |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 24 | 10.64 | 12.12 | 1.48 | | | MUDSTONE | SLTY.DK.GY.THKB SOME CARBONACEOUS SPECKS AT THE TOP |
| 24 | 12.12 | 13.92 | 1.80 | | | MUDSTONE | SLTY.DK.GY.BRKN OXIDIZED IN PLACES (BOX NOT FULL) TOTAL THICKNESS OF 1.80M |
| * 25 | 13.92 | 16.74 | 2.82 | | | MUDSTONE | SLTY.DK.GY.BRKN CALCAREOUS WITH NUMEROUS CALC STRINGERS AND SOME CARBONACEOUS INCLUSIONS |
| 24 | 16.74 | 16.85 | 0.11 | | | MUDSTONE | DK.GY.BRKN AS ABOVE |
| 24 | 16.85 | 17.20 | 0.35 | | | SILTSTONE | DK.GY.THNB SOME CARBONACEOUS SPECKS AND CALCITE STRINGERS AT THE TOP |
| 22 | 17.20 | 19.52 | 2.32 | | | SANDSTONE | SLTY.VFG.GY.RIPMK OCCASIONALLY CALCITE VEINS AND STRINGERS |
| 21 | 19.52 | 20.02 | 0.50 | | | SANDSTONE | SLTY.VFG.GY.THNB THIN BANDS OF SILTSTONE & SANDSTONE INTERCHANGEABLE, NOT DISTINGUISHED BEDDING IN BETWEEN OCCASIONALLY SOME CALCITE VEINS, IRREGULAR BEDDING |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 20 | 20.02 | 22.26 | 2.24 | | | SANDSTONE | SLTY.VFG.DK.GY.THNB AS ABOVE |
| * 15 | 22.26 | 22.96 | 0.70 | | | SANDSTONE | SLTY.VFG.GY.THNB AS ABOVE |
| 15 | 22.96 | 24.16 | 1.20 | | | SANDSTONE | SLTY.VFG.GY.THNB AS ABOVE |
| 14 | 24.16 | 24.90 | 0.74 | | | SANDSTONE | SLTY.VFG.GY.THNB AS ABOVE |
| 14 | 24.90 | 27.22 | 2.32 | | | SANDSTONE | SLTY.VFG.GY.THNB AS ABOVE |
| 13 | 27.22 | 27.57 | 0.35 | | | MUDSTONE | SLTY.DK.GY.THNB FAIRLY COMPACT AND UNIFORM CALCAREOUS A T TOP |
| 13 | 27.57 | 28.25 | 0.68 | | | MUDSTONE | SLTY.GY.THNB AS ABOVE. |
| 13 | 28.25 | 29.66 | 1.41 | | | SANDSTONE | SLTY.DK.GY.THNB FAIRLY COMPACT AND UNIFORM ,CALCAREOUS AT TOP |
| 13 | 29.66 | 30.30 | 0.64 | | | SANDSTONE | SLTY.DK.GY.THNB AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 12 | 30.30 | 32.42 | 2.12 | | MUDSTONE | SLTY.DK.GY.THKB BANDS OF SANDSTONE OF INCLUSIONS, IRREG ULAR BEDDING |
| | 12 | 32.42 | 32.74 | 0.32 | | MUDSTONE | DK.GY.THKB FAIRLY UNIFORM |
| | 12 | 32.74 | 33.14 | 0.40 | | MUDSTONE | CARB.BLK.BRKN CORE PARTLY SHEARED WITH SLICKENSIDES H IGHLY BROKEN. SOME COAL INCLUSIONS |
| | 11 | 33.14 | 34.44 | 1.30 | | MUDSTONE | CARB.BLK.BRKN AS ABOVE WITH SOME CALCAREOUS STRINGERS |
| | 11 | 34.44 | 35.68 | 1.24 | | MUDSTONE | CARB.BLK.BRKN AS ABOVE |
| | 11 | 35.68 | 35.91 | 0.23 | | ROCK LOSS | |
| | 11 | 35.91 | 35.99 | 0.08 | | COAL | C-5.BRKN |
| | 11 | 35.99 | 36.23 | 0.24 | | SILTSTONE | CARB.DK.GY CALCAREOUS WITH NUMEROUS CALCITE VEINS AND STRINGERS, MUDDY AT THE TOP |
| | 11 | 36.23 | 36.33 | 0.10 | | COAL | PWRD PULVERIZED COAL |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 10 | 36.33 | 37.13 | 0.80 | | | COAL | C-5.BRKN BROKEN COAL |
| 10 | 37.13 | 37.33 | 0.20 | | | COAL | PWRD PULVERIZED COAL |
| 10 | 37.33 | 37.53 | 0.20 | | | COAL LOSS | |
| 10 | 37.53 | 37.66 | 0.13 | | | MUDSTONE | CARB.BLK.BRKN BROKEN WITH COAL STRINGERS AND INCLUSIO NS |
| * 10 | 37.66 | 38.74 | 1.08 | | | SILTSTONE | SSY.DK.GY CARBONACEOUS WITH VERY FINE SANDSTONE W ITH SOME COALY INCLUSIONS |
| 12 | 38.74 | 38.89 | 0.15 | | | SILTSTONE | SSY.DK.GY AS ABOVE |
| 17 | 38.89 | 41.31 | 2.42 | | | SILTSTONE | DK.GY CALCAREOUS, NUMEROUS CALCITE STRINGERS T HROUGHOUT AND SOME COALY INCLUSIONS, SO ME SLICKENSLIDE IN PLACES |
| 22 | 41.31 | 41.87 | 0.56 | | | SILTSTONE | DK.GY AS ABOVE |
| * 25 | 41.87 | 42.74 | 0.87 | | | SILTSTONE | DK.GY AS ABOVE |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 24 | 42.74 | 43.28 | 0.54 | | | COAL LOSS | |
| 23 | 43.28 | 43.83 | 0.55 | | | COAL | PWRD SHEARED, PULVERIZED |
| 22 | 43.83 | 44.03 | 0.20 | | | ROCK LOSS | |
| 21 | 44.03 | 44.63 | 0.60 | | | COAL LOSS | |
| 20 | 44.63 | 44.81 | 0.18 | | | SILTSTONE | CARB.BRKN CORE HIGHLY BROKEN |
| 20 | 44.81 | 45.51 | 0.70 | | | SILTSTONE | DK.GY NUMEROUS CALCITE STRINGERS THROUGHOUT O CCASIONALLY CARBONACEOUS WITH SOME INCL USIONS, CORE HIGHLY BROKEN NEAR THE BAS E |
| 19 | 45.51 | 45.73 | 0.22 | | | MUDSTONE | SLTY.DK.GY CALCAREOUS PARTLY CARBONACEOUS |
| 18 | 45.73 | 46.13 | 0.40 | | | MUDSTONE | CARB.BLK.BRKN SLICKENSIDE. |
| 16 | 46.13 | 47.41 | 1.28 | | | MUDSTONE | DK.GY NUMEROUS CALCITE VEINS AND STRINGERS TH ROUGHOUT, BRECCIATED BEGINNING OF FAULT ZONE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 15 | 47.41 | 48.01 | 0.60 | | | SANDSTONE | SLTY.VFG.GY GRADING FROM SILTSTONE AT THE TOP TO FINE SANDSTONE AT THE BOTTOM, PARTLY BRECCIATED WITH SOME COAL INCLUSIONS |
| * 12 | 48.01 | 50.21 | 2.20 | | | SILTSTONE | SSY.GY INTERBED SILTSTONE AND VERY FINE GRAINED SANDSTONE CALCAREOUS; NUMEROUS CALCITE VEINS AND STRINGERS, OCCASIONALLY BRECCIATED. |
| 15 | 50.21 | 50.56 | 0.35 | | | MUDSTONE | CARB.BLK CALCAREOUS, SLICKENSIDED WITH COAL INCLUSIONS, DIP CHANGES RAPIDLY; FAULT PLANE |
| 15 | 50.56 | 50.74 | 0.18 | | | COAL | C-5 PARTLY SHEARED |
| 15 | 50.74 | 50.86 | 0.12 | | | COAL | PWRD PULVERIZED COAL |
| 16 | 50.86 | 51.56 | 0.70 | | | COAL | C-5.BRKN PARTLY SHEARED |
| 17 | 51.56 | 51.83 | 0.27 | | | COAL LOSS | |
| 18 | 51.83 | 51.93 | 0.10 | | | MUDSTONE | CARB.BLK SLICKENSIDES AND CALCAREOUS. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 18 | 51.93 | 52.48 | 0.55 | | | MUDSTONE | SLTY.DK.GY CALCAREOUS WITH SOME CALCITE VEINS |
| 19 | 52.48 | 52.63 | 0.15 | | | MUDSTONE | SLTY.DK.GY AS ABOVE |
| 20 | 52.63 | 53.03 | 0.40 | | | COAL | C-5 PARTLY SHEARED |
| 20 | 53.03 | 53.08 | 0.05 | | | MUDSTONE | CARB.BLK SLICKENSIDES AND CALCAREOUS. |
| 20 | 53.08 | 53.45 | 0.37 | | | SANDSTONE | MG.GY FAULT BRECCIA |
| 22 | 53.45 | 54.55 | 1.10 | | | SANDSTONE | MG AS ABOVE END OF FAULT ZONE |
| 23 | 54.55 | 54.89 | 0.34 | | | MUDSTONE | SLTY.DK.GY.THKB FAIRLY COMPACT AND UNIFORM |
| * 25 | 54.89 | 56.11 | 1.22 | | | MUDSTONE | SLTY.GY.THKB AS ABOVE |
| 24 | 56.11 | 56.74 | 0.63 | | | MUDSTONE | SLTY.GY.THKB AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 24 | 56.74 | 57.62 | 0.88 | | | MUDSTONE | CARB.BLK.BRKN SLICKENSIDES IN PLACES WITH SOME COALY AND CARBONACEOUS INCLUSIONS. |
| 23 | 57.62 | 58.17 | 0.55 | | | MUDSTONE | CARB.BLK.BRKN BROKEN AND SHEARED |
| 23 | 58.17 | 58.37 | 0.20 | | | COAL | C-5.BRKN PARTLY SHEARED |
| 23 | 58.37 | 58.54 | 0.17 | | | COAL | C-5.BRKN AS ABOVE |
| 23 | 58.54 | 59.09 | 0.55 | | | COAL | C-5.BRKN AS ABOVE |
| 23 | 59.09 | 59.37 | 0.28 | | | COAL | C-5.BRKN AS ABOVE |
| 22 | 59.37 | 59.44 | 0.07 | | | COAL | C-1 VERY BRIGHT COAL |
| 22 | 59.44 | 59.62 | 0.18 | | | COAL | C-5 |
| 22 | 59.62 | 59.66 | 0.04 | | | MUDSTONE | CARB.BRKN SHEARED |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-------------|---|
| 22 | 59.66 | 60.28 | 0.62 | | | COAL | C-5 |
| 22 | 60.28 | 60.53 | 0.25 | | | COAL & ROCK | CARB.BLK HIGHLY BROKEN, SHEARED AND PULVERIZED M IXED WITH COAL |
| 22 | 60.53 | 60.89 | 0.36 | | | MUDSTONE | CARB.BLK PARTLY SHEARED |
| 21 | 60.89 | 60.99 | 0.10 | | | MUDSTONE | CARB.BLK AS ABOVE |
| 21 | 60.99 | 61.03 | 0.04 | | | COAL | C-5.BRKN PULVERIZED COAL |
| 21 | 61.03 | 61.15 | 0.12 | | | MUDSTONE | CARB.BRKN PARTLY SHEARED |
| 21 | 61.15 | 62.15 | 1.00 | | | MUDSTONE | CARB.DK.GY SILTY, BECOMES MORE SILTY TOWARD THE BAS E |
| * 20 | 62.15 | 63.21 | 1.06 | | | SANDSTONE | SLTY.VFG.DK.GY CALCAREOUS WITH CARBONACEOUS SPECKS AND INCLUSIONS |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 11

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-------------|--|
| 20 | 63.21 | 63.76 | 0.55 | | | COAL | C-6.PWRD COAL HIGHLY PULVERIZED AND BROKEN, POSSIBLE C-6 BANDS AT THE BASE |
| 20 | 63.76 | 63.88 | 0.12 | | | COAL | C-6.BRKN SHEARED AND BROKEN |
| 19 | 63.88 | 63.93 | 0.05 | | | MUDSTONE | CARB |
| 19 | 63.93 | 64.01 | 0.08 | | | COAL | C-5 |
| 19 | 64.01 | 64.76 | 0.75 | | | COAL & ROCK | BRKN SHEARED, HIGHLY BROKEN DRILL CORE AXIS ALONG DIP-50% COAL AND 50% ROCK NOT POSSIBLE TO DISTINGUISH THEM |
| 19 | 64.76 | 64.91 | 0.15 | | | MUDSTONE | CARB.BLK WITH COALY INCLUSIONS |
| 19 | 64.91 | 64.96 | 0.05 | | | COAL | C-5 |
| 19 | 64.96 | 65.11 | 0.15 | | | MUDSTONE | CARB.BLK COALY INCLUSIONS |
| 19 | 65.11 | 65.36 | 0.25 | | | COAL | C-5.BRKN HIGHLY BROKEN |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 12

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-----------------------|---------------------|---------------------------|---------------------|--------------------|------------------|---|
| 18 | 65.36 | 66.33 | 0.97 | | | MUDSTONE | CARB.BRKN CORE HIGHLY BROKEN |
| 18 | 66.33 | 66.97 | 0.64 | | | MUDSTONE | CARB.DK.GY CALCAREOUS IN PLACES |
| 17 | 66.97 | 67.42 | 0.45 | | | COAL | C-5.BRKN MIXED WITH ROCK |
| 17 | 67.42 | 67.90 | 0.48 | | | MUDSTONE | CARB.BLK.BRKN SHEARED, MIXED WITH COAL |
| 16 | 67.90 | 69.07 | 1.17 | | | MUDSTONE | DK.GY.MAS SOME CARBONACEOUS AT THE TOP; SILTY TOW ARD THE BASE |
| 16 | 69.07 | 69.55 | 0.48 | | | MUDSTONE | CARB.DK.GY.BRKN SOME COAL INCLUSIONS, SHEARED, SOME COA L MIXTURE |
| 15 | 69.55 | 70.60 | 1.05 | | | COAL & ROCK | CARB.DK.GY.BRKN AS ABOVE |
| 15 | 70.60 | 71.67 | 1.07 | 00113 | | COAL | C-5 |
| 14 | 71.67 | 71.72 | 0.05 | 00113 | | COAL | C-5 |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 13

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-------------|---|
| 14 | 71.72 | 71.97 | 0.25 | 00113 | | COAL | C-5.PWRD PULVERIZED COAL |
| 14 | 71.97 | 72.07 | 0.10 | 00113 | | MUDSTONE | CARB.BLK ROCK AND COAL, CORE AXIS ALONG DIP |
| 14 | 72.07 | 73.37 | 1.30 | 00113 | | COAL | C-5 |
| 13 | 73.37 | 73.77 | 0.40 | | | ROCK & COAL | ROCK & COAL, CORE AXIS ALONG DIP HIGHLY BROKEN AND PULVERIZED. |
| 13 | 73.77 | 74.13 | 0.36 | | | SILTSTONE | DK.GY.MAS OCCASIONALLY BANDS OF VERY FINE SANDSTO NE |
| 12 | 74.13 | 74.85 | 0.72 | | | SILTSTONE | DK.GY.MAS CARBON STRINGERS , GRADUAL CHANGING INT O SANDSTONE |
| 12 | 74.85 | 76.49 | 1.64 | | | SANDSTONE | VFG.GY.THKB SOME CaCO3 VEINS AND STRINGERS. |
| * 11 | 76.49 | 76.95 | 0.46 | | | SANDSTONE | VFG.GY.THKB AS ABOVE SILTY AT BASE |
| 12 | 76.95 | 79.61 | 2.66 | | | SILTSTONE | GY.MAS.SLD FAIRLY UNIFORM AND COMPACT |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 14

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 14 | 79.61 | 79.79 | 0.18 | | | SILTSTONE | GY.MAS.SLD AS ABOVE |
| 15 | 79.79 | 81.77 | 1.98 | | | SILTSTONE | GY.MAS.SLD AS ABOVE |
| * 16 | 81.77 | 82.67 | 0.90 | | | SANDSTONE | SLTY.VFG.GY.THKB.SLD IRREGULAR SILTY BANDS AND SOME CARB STR INGERS |
| 16 | 82.67 | 83.00 | 0.33 | | | SANDSTONE | SLTY.VFG.GY.MAS.SLD AS ABOVE SOME LUSTREOUS SURFACES. |
| 15 | 83.00 | 85.37 | 2.37 | | | SANDSTONE | SLTY.VFG.GY.MAS.SLD AS ABOVE, OCCASIONALLY FINE GRAIN INTER BEDS. SOME CaCO ₃ VEINS AND STRINGERS TH ROUGH |
| 15 | 85.37 | 86.06 | 0.69 | | | SANDSTONE | SLTY.VFG.GY.MAS.SLD AS ABOVE |
| 15 | 86.06 | 86.87 | 0.81 | | | SILTSTONE | DK.GY.MAS.SLD |
| 14 | 86.87 | 88.20 | 1.33 | | | MUDSTONE | SLTY.DK.GY.MAS.SLD SILTIER TOWARD BASE WITH 2CM CaCO ₃ VEIN AND CRYSTALS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 14 | 88.20 | 89.07 | 0.87 | | | MUDSTONE | GY.THKB.SLD AS ABOVE WITH SOME MINOR CaCO ₃ STRINGERS |
| 14 | 89.07 | 90.01 | 0.94 | | | MUDSTONE | SLTY.GY SILTSTONE & SANDSTONE BANDS; NO BEDDING CALCAREOUS. |
| 13 | 90.01 | 90.89 | 0.88 | | | SANDSTONE | VFG.GY.SLD SOME SILTY BANDS, VERY CALCAREOUS AT TOP |
| 13 | 90.89 | 92.11 | 1.22 | | | SILTSTONE | SSY.GY DRILLING ALONG BEDDING PLANE, CALCAREOUS , SILTSTONE AND SANDSTONE, NUMEROUS VEINS AND STRINGERS |
| 12 | 92.11 | 93.61 | 1.50 | | | SILTSTONE | SSY.GY AS ABOVE |
| 12 | 93.61 | 95.01 | 1.40 | | | SILTSTONE | SSY.GY AS ABOVE, MUDDY TOWARD BASE |
| 12 | 95.01 | 95.67 | 0.66 | | | MUDSTONE | CARB.BLK.BRKN CORE HIGHLY BROKEN AT THE BASE |
| 11 | 95.67 | 96.35 | 0.68 | | | SILTSTONE | SSY.GY AS SILTSTONE ABOVE |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| * 11 | 96.35 | 98.32 | 1.97 | | | SILTSTONE | SSY.DK.GY.MAS OCCASIONALLY CALCAREOUS CALCITE VEINS AND STRINGERS |
| 10 | 98.32 | 99.10 | 0.78 | | | SILTSTONE | SSY.DK.GY.MAS AS ABOVE |
| * 10 | 99.10 | 101.22 | 2.12 | | | SILTSTONE | SSY.DK.GY.MAS AS ABOVE, VERY CALCAREOUS WITH CALCITE VEINS INCREASE AT THE BASE |
| 10 | 101.22 | 101.84 | 0.62 | | | SILTSTONE | SSY.DK.GY.MAS AS ABOVE |
| 11 | 101.84 | 104.34 | 2.50 | | | SILTSTONE | DK.GY.MAS AS ABOVE, OCCASIONALLY SANDY INTERBEDS, NUMEROUS CALCITE VEINS; MODIFIER: CALC |
| 11 | 104.34 | 104.48 | 0.14 | | | SILTSTONE | SLD AS ABOVE, VERY MINOR FAULT IS SUSPECTED |
| 11 | 104.48 | 105.03 | 0.55 | | | MUDSTONE | CARB.DK.GY PARTLY CALCAREOUS AND CARBONACEOUS |
| 11 | 105.03 | 105.16 | 0.13 | | | SANDSTONE | VFG.GY.SLD NUMEROUS CALCITE VEINS AND CRYSTALS THROUGHOUT, HIGHLY CALCAREOUS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 12 | 105.16 | 107.27 | 2.11 | | | MUDSTONE | DK.GY.THKB.SLD FAIRLY COMPACT |
| 12 | 107.27 | 109.97 | 2.70 | | | MUDSTONE | DK.GY.THKB.SLD AS ABOVE; MODIFIER: CALC. |
| 13 | 109.97 | 110.46 | 0.49 | | | MUDSTONE | SLTY.GY.SLD AS ABOVE; MODIFIER: CALC. |
| 13 | 110.46 | 111.83 | 1.37 | | | MUDSTONE | DK.GY.BRKN SILTY OCCASIONALLY, PARTLY CARBONACEOUS ; MODIFIER: CALC. |
| 14 | 111.83 | 112.73 | 0.90 | | | MUDSTONE | DK.GY.THKB.SLD AS ABOVE; MODIFIER: CALC. |
| 14 | 112.73 | 113.57 | 0.84 | | | MUDSTONE | CARB.DK.GY.BRKN MINOR CaCO ₃ VEINS. |
| * 14 | 113.57 | 114.23 | 0.66 | | | SILTSTONE | DK.GY.SLD SOME LUSTREOUS SURFACES AND NUMEROUS ST RINGERS AND VEINS OF CALCITE; MODIFIER: CALC. |
| 14 | 114.23 | 115.35 | 1.12 | | | SANDSTONE | VFG.GY.SLD NUMEROUS CALCITE VEINS AND SOME SILTY B ANDS (MINOR STRUCTURAL DISTURBANCE); MO DIFIER: CALC. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 14 | 115.35 | 116.71 | 1.36 | | | SANDSTONE | VFG.GY.SLD AS ABOVE; MODIFIER: CALC. |
| 15 | 116.71 | 118.06 | 1.35 | | | SANDSTONE | VFG.GY.BRKN AS ABOVE BUT HIGHLY CALC BROKEN AND PARTLY BRECCIATED POSSIBLE FAULT. |
| 15 | 118.06 | 119.63 | 1.57 | | | SANDSTONE | AS ABOVE. |
| 15 | 119.63 | 120.69 | 1.06 | | | SANDSTONE | VFG.GY AS ABOVE; SOME BANDS OF SILTSTONE AND SILTY; MUDSTONE IRREGULAR; CA CO ₃ ; VEINS DECREASE TOWARDS BASE; MODIFIER: CALC. |
| 15 | 120.69 | 122.62 | 1.93 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD FAIRLY COMPACT; SOME LUSTREOUS SURFACES; CALC WITH FEW CAC ₃ STRINGERS AND INCLUSIONS. |
| 16 | 122.62 | 123.01 | 0.39 | | | MUDSTONE | SLTY.GY.BRKN AS ABOVE |
| 16 | 123.01 | 123.13 | 0.12 | | | MUDSTONE | SLTY.GY.BRKN AS ABOVE |
| 16 | 123.13 | 123.94 | 0.81 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY BRKN AT BASE; PARTLY SLICK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| * | 123.94 | 125.45 | 1.51 | | | SANDSTONE | SLTY.VFG.GY.SLD CALC; VEINS AND STRINGERS OCCASIONALY |
| 16 | 125.45 | 125.76 | 0.31 | | | SANDSTONE | SLTY.DK.GY.SLD AS ABOVE SILTIER |
| 16 | 125.76 | 126.87 | 1.11 | | | MUDSTONE | DK.GY.SLD SILTY TOWARDS BASE; ROCK MOD CALC |
| 16 | 126.87 | 126.95 | 0.08 | | | SANDSTONE | GY.BRKN ROCK MOD CALC |
| 16 | 126.95 | 127.79 | 0.84 | | | MUDSTONE | SLTY.DK.GY.BRKN CORE HIGHLY BROKEN |
| 16 | 127.79 | 128.11 | 0.32 | | | MUDSTONE | SLTY.DK.GY.SLD FAIRLY COMPACT AND UNIFORMED |
| 16 | 128.11 | 128.35 | 0.24 | | | MUDSTONE | SLTY.GY.SLD |
| 16 | 128.35 | 130.55 | 2.20 | | | MUDSTONE | BLK.SLD COMPACT; MINOR LUSTREOUS SURFACE |
| 16 | 130.55 | 131.06 | 0.51 | | | MUDSTONE | BLK.BRKN ROCK MOD CALC |
| 16 | 131.06 | 131.22 | 0.16 | | | SANDSTONE | VFG.GY.SLD SOME CALC INCLUSIONS; SILTY STRINGERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 16 | 131.22 | 131.36 | 0.14 | | | SANDSTONE | VFG.GY.SLD AS ABOVE |
| 16 | 131.36 | 133.67 | 2.31 | | | SANDSTONE | VFG.GY.THKB OCCASIONAL SILTY; CALC WITH CALC. VEINS AND STRINGERS LUSTREOUS SURFACE |
| 15 | 133.67 | 133.93 | 0.26 | | | SANDSTONE | MG.LT.GY.THKB.SLD AS ABOVE; ROCK MOD CALC |
| 15 | 133.93 | 134.31 | 0.38 | | | SANDSTONE | MG.LT.GY.THKB AS ABOVE |
| 15 | 134.31 | 134.36 | 0.05 | | | CORELOSS | |
| 15 | 134.36 | 135.02 | 0.66 | | | SANDSTONE | MG.LT.GY.THKB AS ABOVE; CORE PARTLY BRKN OCCASIONAL S ILTY WITH SOME CALC CAVITIES; ROCK MOD CALC |
| 15 | 135.02 | 135.55 | 0.53 | | | SILTSTONE | DK.GY.BRKN HIGHLY BROKEN; CALCAREOUS; SANDY IN PLA CES. |
| 15 | 135.55 | 135.74 | 0.19 | | | SANDSTONE | MG.LT.GY.THNB.SLD SOME MADG INCLUSIONS AND CALC CAVITIES AND STRINGERS; ROCK MOD CALC |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 14 | 135.74 | 136.63 | 0.89 | | | MUDSTONE | SLTY.DK.GY.BRKN CALC IN PLACES; SOME LUSTREOUS SURFACES |
| * 14 | 136.63 | 139.46 | 2.83 | | | SANDSTONE | FG.LT.GY.THNB.SLD VERY CALC WITH NUMEROUS VEINS ; STRINGE RS OF CA CO3 SILTY BAND IN PLACES;ROCK MOD CALC |
| 13 | 139.46 | 139.62 | 0.16 | | | SANDSTONE | FG.GY.THNB.SLD MODIFIER: CALC. |
| 13 | 139.62 | 140.78 | 1.16 | | | SANDSTONE | FG.GY.THNB.SLD MODIFIER: CALC. |
| 13 | 140.78 | 142.14 | 1.36 | | | SANDSTONE | FG.GY.THNB.SLD AS ABOVE; LIGHTER IN COLOURS AND MAS TO WARD BASE; FEW MADG PEBBLES IN |
| * 12 | 142.14 | 143.85 | 1.71 | | | SANDSTONE | FG.GY.THNB.SLD AS ABOVE; CORE BROKEN AT BASE; ROCK MOD CALC |
| 12 | 143.85 | 144.92 | 1.07 | | | SANDSTONE | SLTY.FG.GY.THNB SILTY INTBS AND SOME CALCT VEINS AS ABO VE. |
| 13 | 144.92 | 146.74 | 1.82 | | | SANDSTONE | SLTY.FG.GY.THNB AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 13 | 146.74 | 147.80 | 1.06 | | | SANDSTONE | SLTY.FG.GY.THNB AS ABOVE. |
| 13 | 147.80 | 147.97 | 0.17 | | | SANDSTONE | SLTY.FG.GY.THNB AS ABOVE |
| 13 | 147.97 | 148.42 | 0.45 | | | MUDSTONE | SLTY.DK.GY SOME CARB INCLUSIONS |
| 13 | 148.42 | 148.55 | 0.13 | | | MUDSTONE | CARB.BLK.THNB.BRKN COALY INCL AND STR; V BRKN; SHEARED; SLIC KENSIDES. |
| 13 | 148.55 | 148.78 | 0.23 | | | ROCK LOSS | BLK.BRKN AS ABOVE |
| 13 | 148.78 | 150.02 | 1.24 | | | MUDSTONE | CARB.BLK.THNB.BRKN AS ABOVE |
| 13 | 150.02 | 150.75 | 0.73 | | | SILTSTONE | SSY.DK.GY MINOR CALC VEINS AND SOME OF V.F.GR.SS. |
| 13 | 150.75 | 151.71 | 0.96 | | | SANDSTONE | SLTY.FG.GY.THNB SOME LUSTREOUS SURFACE |
| 14 | 151.71 | 152.30 | 0.59 | | | SANDSTONE | SLTY.FG.GY.THNB AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 14 | 152.30 | 153.26 | 0.96 | | | MUDSTONE | SLTY.GY.THNB.BRKN CORE PARTLY BRKN WITH SLICKENSIDES AND CARB INCLUSIONS CALC IN PLACES |
| * 14 | 153.26 | 153.45 | 0.19 | | | SANDSTONE | SLTY.VFG.GY.THNB.SLD AS SANDSTONE ABOVE |
| 14 | 153.45 | 155.84 | 2.39 | | | SANDSTONE | SLTY.VFG.GY.THNB.SLD AS ABOVE |
| 14 | 155.84 | 156.20 | 0.36 | | | MUDSTONE | CARB.DK.GY.BRKN SOME SLICKENSIDES |
| 15 | 156.20 | 159.03 | 2.83 | | | MUDSTONE | CARB.DK.GY.BRKN SOME CALC VEINS AND COALY INCLUSIONS |
| 15 | 159.03 | 160.75 | 1.72 | | | MUDSTONE | CARB.DK.GY.VBRKN CORE HIGHLY BRKN SHEARD; PULVERIZED IN PLACES; POSSIBLE SOME COAL THN LAYERS. |
| 15 | 160.75 | 161.79 | 1.04 | | | MUDSTONE | CARB.DK.GY.VBRKN AS ABOVE |
| 15 | 161.79 | 162.12 | 0.33 | | | MUDSTONE | CARB.DK.GY.BRKN SHERD VERY BRKN; SOME COALY INCLUSION A ND SILTY IN PLACES |
| 16 | 162.12 | 164.52 | 2.40 | | | MUDSTONE | CARB.DK.GY.SLD BROKEN AT TOP; LUSTREOUS SURFACES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GOR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 16 | 164.52 | 164.97 | 0.45 | | | MUDSTONE | CARB.DK.GY.VBRKN AS ABOVE |
| 16 | 164.97 | 165.27 | 0.30 | | | COAL | PWRD |
| 16 | 165.27 | 165.81 | 0.54 | | | MUDSTONE | CARB.DK.GY.VBRKN AS MUDSTONE ABOVE |
| 16 | 165.81 | 167.31 | 1.50 | | | MUDSTONE | CARB.DK.GY OCCASIONALY SILTY |
| 16 | 167.31 | 168.13 | 0.82 | | | MUDSTONE | CARB.GY.VBRKN |
| 17 | 168.13 | 168.49 | 0.36 | | | SANDSTONE | SLTY.VFG.GY.THNB.SLD CALC IN PLACES |
| 17 | 168.49 | 170.05 | 1.56 | | | SANDSTONE | SLTY.VFG.GY.THNB.SLD AS ABOVE; SOME COALY AND CARB INCLUSION S; SLICK AT BASE |
| * 17 | 170.05 | 171.58 | 1.53 | | | SANDSTONE | SLTY.VFG.GY.THNB.SLD AS ABOVE |
| 18 | 171.58 | 172.08 | 0.50 | | | SANDSTONE | FG.LT.GY.THNB.SLD FEW CALC VEINS THROUGH IT AND SOME SILT Y INTERBEDS; ROCK MOD CALC |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 18 | 172.08 | 172.79 | 0.71 | | | MUDSTONE | CARB.DK.GY SOME SLICK; COALY INCL AND STRINGERS |
| 19 | 172.79 | 174.58 | 1.79 | | | MUDSTONE | CARB.GY.VBRKN WITH COALY STRINGERS; SHEARD SLICKES |
| 20 | 174.58 | 175.01 | 0.43 | | | SANDSTONE | FG.GY.SLD MUDSTONE PEBBLES IRREGULARLY SOFT SEDIMENT; BEDDING-ROCK; MOD-MDY. |
| 20 | 175.01 | 175.69 | 0.68 | | | MUDSTONE | SLTY.DK.GY.SLD MINOR CALC STRINGERS; SILTIER AT TOP |
| 21 | 175.69 | 177.30 | 1.61 | | | SANDSTONE | SLTY.VFG.GY.SLD OCCASIONALY SILTY; LAYERS AND SOME CALCITE VEINS; LUSTREOUS SURFACES |
| 21 | 177.30 | 177.60 | 0.30 | | | SANDSTONE | SLTY.VFG.GY AS ABOVE |
| 22 | 177.60 | 180.31 | 2.71 | | | SANDSTONE | SLTY.VFG.M.GY.THNB.SLD AS ABOVE |
| * 24 | 180.31 | 183.08 | 2.77 | | | SANDSTONE | SLTY.VFG.M.GY.THNB.SLD AS ABOVE WITH CALC VEINS AT TOP |
| 25 | 183.08 | 183.38 | 0.30 | | | SANDSTONE | SLTY.VFG.M.GY.THNB.SLD AS ABOVE; CARB TOWARDS BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 25 | 183.38 | 184.03 | 0.65 | | | COAL | PWRD SHEAR AND PULVERIZED |
| 25 | 184.03 | 184.11 | 0.08 | | | MUDSTONE | CARB.BLK.VBRKN MIXED WITH COAL SHEARED |
| 26 | 184.11 | 184.32 | 0.21 | | | COAL | PULV |
| 26 | 184.32 | 184.41 | 0.09 | | | MUDSTONE | CARB.BLK.VBRKN AS ABOVE |
| 26 | 184.41 | 184.61 | 0.20 | | | COAL | C-3.VBRKN |
| 26 | 184.61 | 184.76 | 0.15 | | | MUDSTONE | CARB.BLK.VBRKN SHEARD |
| 26 | 184.76 | 184.99 | 0.23 | | | COAL LOSS | |
| 26 | 184.99 | 185.12 | 0.13 | | | COAL | C-4.VBRKN |
| 26 | 185.12 | 185.25 | 0.13 | | | ROCK LOSS | |
| 26 | 185.25 | 185.62 | 0.37 | | | MUDSTONE | SLTY.BLK.VBRKN |
| 27 | 185.62 | 186.10 | 0.48 | 00091 | | COAL | BRKN SHEARD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 27 | 186.10 | 186.59 | 0.49 | 00091 | | COAL | C-4.BRKN |
| 27 | 186.59 | 186.95 | 0.36 | 00091 | | COAL | C-5.VBRKN |
| 27 | 186.95 | 187.20 | 0.25 | 00091 | | COAL | PWRD PULVERIZED |
| 28 | 187.20 | 188.02 | 0.82 | 00091 | | COAL | PWRD PULVERIZED |
| 28 | 188.02 | 188.77 | 0.75 | 00091 | | COAL LOSS | |
| 29 | 188.77 | 189.50 | 0.73 | 00091 | | COAL | C-5.VBRKN PULVERIZED AT BASE |
| 29 | 189.50 | 189.75 | 0.25 | 00091 | | ROCK LOSS | |
| 29 | 189.75 | 190.30 | 0.55 | 00091 | | COAL LOSS | |
| * 30 | 190.30 | 192.55 | 2.25 | | | SANDSTONE | SLTY.VFG.GY.THNB.SLD SILTY INTERBEDS; MINOR CO CO3 VEINS; LU STREOUS SURFACES |
| 37 | 192.55 | 193.00 | 0.45 | | | SANDSTONE | SLTY.VFG.GY.THNB.SLD AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 45 | 193.00 | 195.52 | 2.52 | | | SANDSTONE | SLTY.VFG.GY.THNB.SLD GRADUALLY F.G. TOWARDS BASE. |
| 45 | 195.52 | 195.70 | 0.18 | | | SANDSTONE | SLTY.FG.GY.THNB.SLD AS ABOVE; MORE CARB SPECK AND STRINGERS |
| 45 | 195.70 | 195.82 | 0.12 | | | SANDSTONE | SLTY.FG.GY.THNB.SLD CALCAREOUS, CARB, SPECKS |
| 45 | 195.82 | 195.96 | 0.14 | | | MUDSTONE | CARB.BLK.THNB.BRKN SHEARD |
| 45 | 195.96 | 196.82 | 0.86 | | | COAL | PWRD SHEARD |
| 45 | 196.82 | 197.50 | 0.68 | | | COAL LOSS | |
| 45 | 197.50 | 198.76 | 1.26 | | | SANDSTONE | FG.GY.SLD CARB SPECK AND INCLUS; ROCK MOD CALC |
| 45 | 198.76 | 199.23 | 0.47 | | | SANDSTONE | FG.GY.SLD ROCK MOD CALC; AS ABOVE; MUDDY IN PLACE S AND CALC VEINS. |
| * 45 | 199.23 | 201.75 | 2.52 | | | SANDSTONE | FG.GY.SLD AS ABOVE; MODIFIER: CALC. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| 44 | 201.75 | 201.87 | 0.12 | | | SANDSTONE | MG.GY.SLD AS ABOVE; CARB AND COALY STRINGERS; MOD IFIER: CALC. |
| 44 | 201.87 | 202.70 | 0.83 | | | SANDSTONE | FG.LT.GY.SLD CARB INCLUSIONS AND SOME COALY STRINGER S |
| 44 | 202.70 | 203.47 | 0.77 | | | MUDSTONE | SLTY.GY.SLD CALC OCCASIONALLY SILTY BANDS WITH SOME SLICK |
| 43 | 203.47 | 204.65 | 1.18 | | | SANDSTONE | VFG.GY.MAS CALC AND SILTY INTERBEDS AND BANDS SOME CARB SPECKS |
| 43 | 204.65 | 207.30 | 2.65 | | | SANDSTONE | VFG.GY.MAS.SLD AS ABOVE |
| 42 | 207.30 | 207.95 | 0.65 | | | SANDSTONE | VFG.GY.MAS.SLD AS ABOVE |
| 41 | 207.95 | 210.07 | 2.12 | | | SILTSTONE | DK.GY.MAS.SLD VERY COMPACT WITH SOME CARBON SPECKS |
| 41 | 210.07 | 210.79 | 0.72 | | | SILTSTONE | DK.GY.MAS.SLD AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 40 | 210.79 | 212.22 | 1.43 | | | SILTSTONE | GY.MAS.SLD AS ABOVE |
| 40 | 212.22 | 212.59 | 0.37 | | | MUDSTONE | CARB.DK.GY.BRKN SOME CALC STRINGERS |
| 39 | 212.59 | 212.92 | 0.33 | | | ROCK LOSS | |
| 39 | 212.92 | 213.08 | 0.16 | | | COAL | C-6.VBRKN |
| 39 | 213.08 | 213.57 | 0.49 | | | COAL LOSS | |
| 39 | 213.57 | 214.05 | 0.48 | | | MUDSTONE | CARB.DK.GY.VBRKN WITH COALY PARTINGS SLICKENSIDES |
| 39 | 214.05 | 214.33 | 0.28 | | | COAL | C-5.VBRKN POWDERED IN PLACES |
| 39 | 214.33 | 214.63 | 0.30 | | | COAL LOSS | |
| 39 | 214.63 | 214.95 | 0.32 | | | MUDSTONE | CARB.DK.GY.BRKN |
| 38 | 214.95 | 215.05 | 0.10 | | | COAL | C-6.VBRKN ROCK MIXED WITH COAL |
| 38 | 215.05 | 215.14 | 0.09 | | | MUDSTONE | CARB.DK.GY.BRKN SOME COALY INCL |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 38 | 215.14 | 215.26 | 0.12 | | | COAL | C-5.PWRD MIXED WITH ROCK |
| 38 | 215.26 | 215.56 | 0.30 | | | ROCK LOSS | |
| 38 | 215.56 | 216.17 | 0.61 | | | SILTSTONE | SSY.GY.SLD VERY FINE GRAIN; SS TOWARD BASE |
| 38 | 216.17 | 216.92 | 0.75 | | | SANDSTONE | SLTY.VFG.GY.THNB.SLD CALC IN PLACES WITH COALY STRINGERS |
| 38 | 216.92 | 217.22 | 0.30 | | | SANDSTONE | SLTY.VFG.GY.THNB.SLD AS ABOVE |
| | 217.22 | 217.95 | 0.73 | | | SANDSTONE | SLTY.VFG.GY.THNB.SLD SLTST AND MUDST TOWARDS BASE. |
| 37 | 217.95 | 218.54 | 0.59 | | | COAL | C-5.VBRKN |
| 37 | 218.54 | 219.02 | 0.48 | | | COAL | PWRD PULVERIZED COAL |
| 37 | 219.02 | 219.65 | 0.63 | | | MUDSTONE | CARB.BRKN SILTY; SOME COALY INCLUSIONS |
| 36 | 219.65 | 220.70 | 1.05 | | | SILTSTONE | DK.GY.SLD MUDSTONE TOWARDS BASE; SOME STRINGERS; CARBONACEOUS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 36 | 220.70 | 220.84 | 0.14 | | | COAL | PWRD |
| 36 | 220.84 | 221.00 | 0.16 | | | MUDSTONE | CARB.BLK.BRKN COALY INCLUSIONS |
| 36 | 221.00 | 221.62 | 0.62 | | | SILTSTONE | DK.GY.SLD ROCK MOD MDY |
| 35 | 221.62 | 222.28 | 0.66 | | | SILTSTONE | GY.THNB.SLD CALC AND CARB SPECKS; 2 CM AT BASE BREC CIATED WITH CA CO3 CRYSTALS |
| * 35 | 222.28 | 223.23 | 0.95 | | | SILTSTONE | SSY.GY.THNB.SLD OCCASIONAL THIN SANDY LAYERS AND CA CO3 VEINS AND STRINGERS |
| 39 | 223.23 | 224.56 | 1.33 | | | SILTSTONE | CARB.DK.GY.THNB.SLD |
| 43 | 224.56 | 225.07 | 0.51 | | | SILTSTONE | SSY.DK.GY.THNB.SLD FAIRLY COMPACT WITH CARB SPECK |
| * 45 | 225.07 | 225.70 | 0.63 | | | SANDSTONE | SLTY.VFG.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 45 | 225.70 | 227.22 | 1.52 | | | SILTSTONE | SSY.DK.GY.THNB.SLD CARBON IN PLACES |
| 46 | 227.22 | 227.48 | 0.26 | | | MUDSTONE | CARB.BLK.THKB.BRKN COAL; MUDSTONE WITH C-6 |
| 46 | 227.48 | 227.84 | 0.36 | | | MUDSTONE | CARB.DK.GY.THNB.SLD PARTLY CARB SPECKS OF FE ST. |
| 46 | 227.84 | 229.13 | 1.29 | | | SILTSTONE | SSY.DK.GY.MAS.SLD CARB SPECK SANDY BANDS OCCASIONALLY |
| 46 | 229.13 | 230.23 | 1.10 | | | SILTSTONE | SSY.DK.GY.MAS.SLD VERY CARB AT BASE |
| 46 | 230.23 | 230.58 | 0.35 | | | COAL | C-5.BRKN |
| 46 | 230.58 | 230.93 | 0.35 | | | COAL LOSS | |
| 46 | 230.93 | 231.06 | 0.13 | | | SILTSTONE | SSY.DK.GY.THNB.SLD AS THE SILTSTONE ABOVE |
| 47 | 231.06 | 232.38 | 1.32 | | | SANDSTONE | FG.LT.GY.MAS.SLD OCCASIONAL CARBONACEOUS STRINGERS |
| * 47 | 232.38 | 233.78 | 1.40 | | | SANDSTONE | FG.LT.GY.MAS.SLD AS ABOVE WITH SOME CALCITE VEINS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 49 | 233.78 | 234.01 | 0.23 | | | SANDSTONE | FG.LT.GY.MAS.SLD AS ABOVE |
| * 50 | 234.01 | 234.43 | 0.42 | | | SILTSTONE | GY.THNB.SLD GRADUALLY BECOME MUDSTONE AND SILTY AT THE BASE |
| 50 | 234.43 | 234.70 | 0.27 | | | MUDSTONE | CARB.DK.GY |
| 49 | 234.70 | 234.99 | 0.29 | | | SILTSTONE | GY.THNB.SLD SAME AS THE SILTSTONE ABOVE |
| 49 | 234.99 | 235.23 | 0.24 | | | SANDSTONE | VFG.LT.GY.MAS.SLD |
| 48 | 235.23 | 236.63 | 1.40 | | | SANDSTONE | FG.LT.GY.MAS.SLD SAME AS ABOVE; MEDIUM GRAINED TOWARD TH E BASE |
| 47 | 236.63 | 236.73 | 0.10 | | | SANDSTONE | MG.LT.GY.MAS.SLD |
| 47 | 236.73 | 236.98 | 0.25 | | | SILTSTONE | DK.GY.THNB.VBRKN CARBONACEOUS AT THE BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 46 | 236.98 | 237.54 | 0.56 | | | COAL | C-3.VBRKN SHEARED AT TOP. |
| 46 | 237.54 | 238.35 | 0.81 | | | SILTSTONE | DK.GY.THKB.SLD NO BEDDING VISIBLE; SOME SANDY BANDS; M UD AND COALY INCLUSIONS OCCASIONALLY |
| * 45 | 238.35 | 238.68 | 0.33 | | | SANDSTONE | CARB.DK.GY.THNB |
| 45 | 238.68 | 238.92 | 0.24 | | | SILTSTONE | DK.GY.SLD ROCK MOD MDY |
| 44 | 238.92 | 239.07 | 0.15 | | | MUDSTONE | CARB.BLK.BRKN SOME COAL INCLUSION AND STRINGERS |
| 44 | 239.07 | 239.35 | 0.28 | | | SILTSTONE | SSY.DK.GY.THKB.SLD |
| 42 | 239.35 | 241.20 | 1.85 | | | SILTSTONE | SSY.DK.GY.THKB.SLD AS ABOVE |
| 40 | 241.20 | 242.08 | 0.88 | | | MUDSTONE | CARB.DK.GY.THNB.SLD SILTY IN PLACES AND COALY STRINGERS. |
| 39 | 242.08 | 242.76 | 0.68 | | | MUDSTONE | AS ABOVE GRADUALLY CHANGES TO SILTSTONE AND V.F.G.SST AT THE BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL. THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|--------------------|-------------|------------|-----------|---|
| * 37 | 242.76 | 244.18 | 1.42 | | | SANDSTONE | VFG.LT.GY.MAS.SLD |
| 36 | 244.18 | 245.06 | 0.88 | | | SANDSTONE | VFG.LT.GY.MAS.SLD AS ABOVE |
| 36 | 245.06 | 245.64 | 0.58 | | | SANDSTONE | AS ABOVE |
| 36 | 245.64 | 245.68 | 0.04 | | | ROCK LOSS | |
| 36 | 245.68 | 245.75 | 0.07 | | | MUDSTONE | CARB.BLK.BRKN |
| 36 | 245.75 | 246.05 | 0.30 | | | COAL | C-5.BRKN VERY BROKEN |
| 35 | 246.05 | 246.38 | 0.33 | | | MUDSTONE | DK.GY.BRKN |
| 35 | 246.38 | 247.76 | 1.38 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD FAIRLY UNIFORM AND COMPACT |
| 34 | 247.76 | 249.34 | 1.58 | | | MUDSTONE | AS ABOVE |
| 33 | 249.34 | 250.49 | 1.15 | | | MUDSTONE | AS ABOVE; CARBONACEOUS AT THE BASE |
| 33 | 250.49 | 250.86 | 0.37 | | | COAL | C-5.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 32 | 250.86 | 251.71 | 0.85 | | | MUDSTONE | CARB.BLK.BRKN COALY STRINGERS |
| 32 | 251.71 | 252.71 | 1.00 | | | SILTSTONE | SSY.DK.GY.SLD OCCASIONALLY SANDY AND MUDSTONE BANDS |
| 32 | 252.71 | 253.23 | 0.52 | | | MUDSTONE | CARB.DK.GY.THNB CALCITE AND COALY STRINGERS |
| 31 | 253.23 | 253.59 | 0.36 | | | MUDSTONE | AS ABOVE |
| 31 | 253.59 | 253.84 | 0.25 | | | COAL | C-5.BRKN PARTLY SHEARD |
| 31 | 253.84 | 254.40 | 0.56 | | | MUDSTONE | CARB.BLK |
| 31 | 254.40 | 254.94 | 0.54 | | | MUDSTONE | SLTY.DK.GY.MAS CARBONACEOUS IN SOME PLACES, MOSTLY TOWA RD BASE |
| 30 | 254.94 | 255.99 | 1.05 | | | MUDSTONE | CARB.BLK.THKB.SLD COALY INCLUSIONS WITH SOME CALCITE STRI NGERS |
| 30 | 255.99 | 256.33 | 0.34 | | | MUDSTONE | DK.GY.THKB.SLD SILTY AT THE BASE; CARBONACEOUS AT THE TOP |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 29 | 256.33 | 258.05 | 1.72 | | | MUDSTONE | DK.GY.THKB.SLD FAIRLY UNIFORM AND COMPACT; CARBONACEOUS S AT THE BASE |
| 29 | 258.05 | 258.18 | 0.13 | | | COAL | C-5 |
| 28 | 258.18 | 258.48 | 0.30 | | | COAL | C-4 |
| 28 | 258.48 | 258.78 | 0.30 | | | MUDSTONE | CARB.BLK.THKB.SLD STONEY COAL |
| 28 | 258.78 | 259.50 | 0.72 | | | MUDSTONE | CARB.DK.GY FEW SILTY BANDS OF COAL STRINGERS |
| 28 | 259.50 | 260.10 | 0.60 | | | MUDSTONE | BLK AS ABOVE WITH COAL INCLUSIONS AND CALCITE STRINGERS |
| * 27 | 260.10 | 261.44 | 1.34 | | | MUDSTONE | DK.GY.THKB.SLD SOME SANDY AND SILTY BANDS AND INCLUSIONS |
| 32 | 261.44 | 262.48 | 1.04 | | | MUDSTONE | DK.GY.THKB.SLD AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 37 | 262.48 | 263.66 | 1.18 | | | SANDSTONE | SLTY.VFG.GY.SSD.SLD BIOTURBATED |
| 41 | 263.66 | 264.04 | 0.38 | | | MUDSTONE | DK.GY.THKB.SLD FAIRLY COMPACT AND UNIFORM |
| 45 | 264.04 | 265.46 | 1.42 | | | MUDSTONE | SLD AS ABOVE |
| 50 | 265.46 | 266.46 | 1.00 | | | MUDSTONE | SLD AS ABOVE |
| 53 | 266.46 | 266.88 | 0.42 | | | MUDSTONE | AS ABOVE; CORE VERY BROKEN AND CARBONAC EOUS |
| 55 | 266.88 | 267.08 | 0.20 | | | COAL | C-5 VERY BROKEN COAL. |
| 56 | 267.08 | 267.33 | 0.25 | | | MUDSTONE | CARB.BLK.SLD |
| 59 | 267.33 | 268.48 | 1.15 | | | SANDSTONE | SLTY.VFG.LT.GY.THKB.SSD BIOTURBATED; SILTY BANDS |
| 62 | 268.48 | 268.87 | 0.39 | | | MUDSTONE | DK.GY.THKB.SLD |
| 66 | 268.87 | 270.13 | 1.26 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 70 | 270.13 | 270.50 | 0.37 | | | MUDSTONE | CARB.BLK.BRKN SOME COAL INCLUSIONS AND STRINGERS |
| 71 | 270.50 | 270.63 | 0.13 | | | COAL | BRKN VERY BROKEN TO POWDERY |
| 72 | 270.63 | 270.78 | 0.15 | | | COAL | POWDERD |
| 73 | 270.78 | 271.30 | 0.52 | | | COAL LOSS | |
| 75 | 271.30 | 271.72 | 0.42 | | | SILTSTONE | DK.GY.THKB.SLD |
| 78 | 271.72 | 272.49 | 0.77 | | | SANDSTONE | SLTY.VFG.GY.THKB.SLD |
| 80 | 272.49 | 272.83 | 0.34 | | | MUDSTONE | SLTY.GY.THKB.SLD |
| 82 | 272.83 | 273.10 | 0.27 | | | MUDSTONE | DK.GY.THKB.SLD |
| 83 | 273.10 | 273.26 | 0.16 | | | MUDSTONE | CARB.BLK.SLD COALY STRINGERS |
| 84 | 273.26 | 273.78 | 0.52 | | | SANDSTONE | CARB.VFG.BLK.THKB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|------------|--|
| 86 | 273.78 | 274.13 | 0.35 | | | STONY COAL | BLK.SLD |
| 88 | 274.13 | 274.45 | 0.32 | | | COAL | C-5.BRKN |
| 89 | 274.45 | 274.75 | 0.30 | | | SILTSTONE | CARB.BLK.THKB.SLD |
| 92 | 274.75 | 275.86 | 1.11 | | | SILTSTONE | DK.GY.SLD FEW COALY STRINGERS AT THE BASE |
| * 99 | 275.86 | 277.76 | 1.90 | | | SILTSTONE | SSY.GY.THKB.SLD GRADUAL CHANGE FORM SILTSTONE AT THE TO P TO VERY FINE SANDSTONE AT THE BASE |
| * 99 | 277.76 | 278.58 | 0.82 | | | SILTSTONE | GY.THKB.SLD COMPACT AND UNIFORM |
| 62 | 278.58 | 280.10 | 1.52 | | | SILTSTONE | AS ABOVE; COMPACT AND UNIFORM |
| 37 | 280.10 | 280.17 | 0.07 | | | MUDSTONE | CARB.BLK.THNB SILTY IN PART |
| * 35 | 280.17 | 280.22 | 0.05 | | | SILTSTONE | LT.GY |
| 36 | 280.22 | 280.75 | 0.53 | | | SHALE | BLK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 37 | 280.75 | 281.05 | 0.30 | | | STONEY COAL | |
| 37 | 281.05 | 281.25 | 0.20 | | | COAL | C-5.VBRKN CARBONACEOUS MUDSTONE WITH COALY INCLUSIONS. |
| 38 | 281.25 | 281.39 | 0.14 | | | MUDSTONE | CARB.BLK.SLD STONY COAL |
| 38 | 281.39 | 281.54 | 0.15 | | | COAL | PWRD |
| 39 | 281.54 | 282.00 | 0.46 | | | SILTSTONE | CARB.DK.GY.BRKN |
| 39 | 282.00 | 282.30 | 0.30 | | | COAL+ ROCK | PWRD A MIXTURE OF COAL AND ROCK |
| 41 | 282.30 | 283.23 | 0.93 | | | ROCK LOSS | |
| 43 | 283.23 | 284.16 | 0.93 | | | MUDSTONE | CARB.DK.GY.BRKN BROKEN WITH COAL INCLUSION AT TOP |
| 45 | 284.16 | 284.73 | 0.57 | | | SILTSTONE | SSY.DK.GY.MAS.SLD FAIRLY UNIFORM |
| 47 | 284.73 | 286.39 | 1.66 | | | SILTSTONE | SSY.DK.GY.MAS.SLD AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 50 | 286.39 | 287.49 | 1.10 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD SILTY AT THE TOP; SOME CARBONACEOUS STR INGERS AND CALCITE VEINS OCCASIONALLY |
| 55 | 287.49 | 290.14 | 2.65 | | | SANDSTONE | SLTY.VFG.LT.GY.SSD.SLD OCCASIONALLY CALCAREOUS |
| * 60 | 290.14 | 292.04 | 1.90 | | | SILTSTONE | DK.GY.THKB MUDDIER AT TOP. |
| 61 | 292.04 | 292.25 | 0.21 | | | MUDSTONE | CARB.BLK.THNB COAL STRINGERS AND INCLUSIONS |
| 61 | 292.25 | 292.33 | 0.08 | | | COAL | C-5.VBRKN |
| 61 | 292.33 | 292.50 | 0.17 | | | COAL LOSS | |
| 61 | 292.50 | 293.10 | 0.60 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARBONACEOUS AT THE TOP |
| 61 | 293.10 | 294.73 | 1.63 | | | MUDSTONE | AS ABOVE |
| * 62 | 294.73 | 295.44 | 0.71 | | | SANDSTONE | SLTY.VFG.GY.SLD SANDSTONE AND SILTSTONE INTERBEDDED |
| 62 | 295.44 | 295.62 | 0.18 | | | SANDSTONE | FG.LT.GY.MAS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 62 | 295.62 | 295.92 | 0.30 | | | SILTSTONE | SSY.GY.THKB |
| 62 | 295.92 | 296.92 | 1.00 | | | MUDSTONE | SLTY.GY.THKB.SLD SILTY FROM THE TOP TO CARBONACEOUS AND COALY AT THE BASE |
| 62 | 296.92 | 297.73 | 0.81 | | | SILTSTONE | CARB.DK.GY.XBDG.SLD IRREGULAR SANDY BANDS AND CALCITE STRIN GERS |
| 62 | 297.73 | 298.28 | 0.55 | | | SANDSTONE | SLTY.VFG.LT.GY.XBDG.SLD |
| 62 | 298.28 | 298.42 | 0.14 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARBONACEOUS TOWARD THE TOP |
| 62 | 298.42 | 298.55 | 0.13 | | | MUDSTONE | SLTY AS ABOVE |
| 62 | 298.55 | 298.66 | 0.11 | | | SANDSTONE | VFG.DK.GY.MAS PARTLY CARBONACEOUS |
| 62 | 298.66 | 298.73 | 0.07 | | | COAL | C-6 |
| 62 | 298.73 | 298.85 | 0.12 | | | COAL | C-4.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---------------------------------------|
| 62 | 298.85 | 299.23 | 0.38 | | | ROCK LOSS | |
| 62 | 299.23 | 299.83 | 0.60 | | | MUDSTONE | CARB.BLK BROKEN AT THE TOP |
| 62 | 299.83 | 300.03 | 0.20 | | | COAL | C-2 |
| 62 | 300.03 | 300.10 | 0.07 | | | COAL | C-4 |
| 62 | 300.10 | 300.24 | 0.14 | | | MUDSTONE | CARB.BLK.THKB WITH COALY STRINGERS |
| 62 | 300.24 | 300.27 | 0.03 | | | COAL | C-5 VERY PYRITIC. |
| 62 | 300.27 | 300.87 | 0.60 | | | MUDSTONE | CARB.DK.GY.THNB COAL INCLUSIONS |
| 62 | 300.87 | 300.92 | 0.05 | | | COAL | C-2 VERY BROKEN |
| 62 | 300.92 | 301.15 | 0.23 | | | ROCK LOSS | |
| 62 | 301.15 | 301.52 | 0.37 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 46

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81007

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 62 | 301.52 | 302.28 | 0.76 | | | MUDSTONE | SLTY.GY.THKB.SLD SOME CARB SPECKS THROUGHOUT, FAIRLY COM PACT. |

* DENOTES MEASURED BCA



OPEN FILE

GULF CANADA RESOURCES INC.

COAL DIVISION

GOODRICH GEOLOGICAL REPORT

1981

APPENDIX B PART 5

DDH 81-08 to DDH 81-09

DDH 81-08

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81008

HISTORY

START DATE: 05/09/81 END DATE: 13/09/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: B. DAVIDSON SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1296.9
 UTM ZONE: 10 NORTH: 6142369.36 EAST: 549726.17
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: . EAST: . LSD: ___ SEC: ___ TWP: ___ RGE: ___ MER: ___
 NTS-BC NORTH: . EAST: . QUAD: ___ UNIT: ___ BLK: ___ ST: ___ MUS: ___ MS: ___

DIMENSIONS AND ORIENTATION

LENGTH: 478.30 INCLINATION: 020.0 AZIMUTH: 073.0
 SIZE WIDTH: . SIZE HEIGHT: .
 ROOF STRIKE: ___ DIP: ___ FLOOR STRIKE: . DIP: ___

DRILL HOLE STATUS

CASING DEPTH: 5.0 CEMENTED: ___ PLUGGED: ___ PEIZOMETERS INSTALLED: ___
 AQUIFER DEPTHS: . . . LOST CIRCULATION DEPTHS: . . .

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|---------|---------|---------|-----------|----------------|-----------|-----------|-------------|
| GAMMA | X | 1:100 | : | --- | --- | --- | X | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | --- | X | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | X | --- | 422AS |
| CALIPER | X | 1:100 | : | --- | --- | X | --- | 20A45 |
| FE-SHORT | X | : | 1:40 | --- | --- | X | --- | 6 |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | --- | 6 |
| DIRECTIONAL | X | : | : | --- | --- | X | --- | --- |
| DIPMETER | --- | : | : | --- | --- | --- | --- | --- |

*** COAL DIVISION ***

DATA SOURCE: DB1-08

INTERVAL OF INTERPOLATION 10 UNIT(S)

VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 0.00 | 22.10 | 72.90 |
| 15.00 | 22.40 | 72.90 |
| 30.00 | 21.50 | 79.80 |
| 45.00 | 21.90 | 73.80 |
| 60.00 | 21.90 | 73.40 |
| 75.00 | 21.50 | 72.00 |
| 90.00 | 21.90 | 73.30 |
| 105.00 | 21.10 | 76.70 |
| 120.00 | 20.99 | 74.90 |
| 135.00 | 21.50 | 71.80 |
| 150.00 | 21.00 | 73.10 |
| 165.00 | 20.40 | 70.60 |
| 180.00 | 20.80 | 73.30 |
| 195.00 | 20.98 | 73.00 |
| 210.00 | 20.60 | 75.50 |
| 195.00 | 20.98 | 73.00 |
| 225.00 | 20.10 | 68.40 |
| 240.00 | 19.30 | 74.60 |
| 255.00 | 20.10 | 73.30 |
| 270.00 | 19.50 | 70.90 |
| 285.00 | 19.80 | 70.60 |
| 300.00 | 19.80 | 73.70 |
| 315.00 | 18.70 | 69.40 |
| 330.00 | 18.30 | 80.60 |
| 345.00 | 18.90 | 70.50 |
| 360.00 | 19.10 | 70.50 |

DATA SOURCE: DB1-08

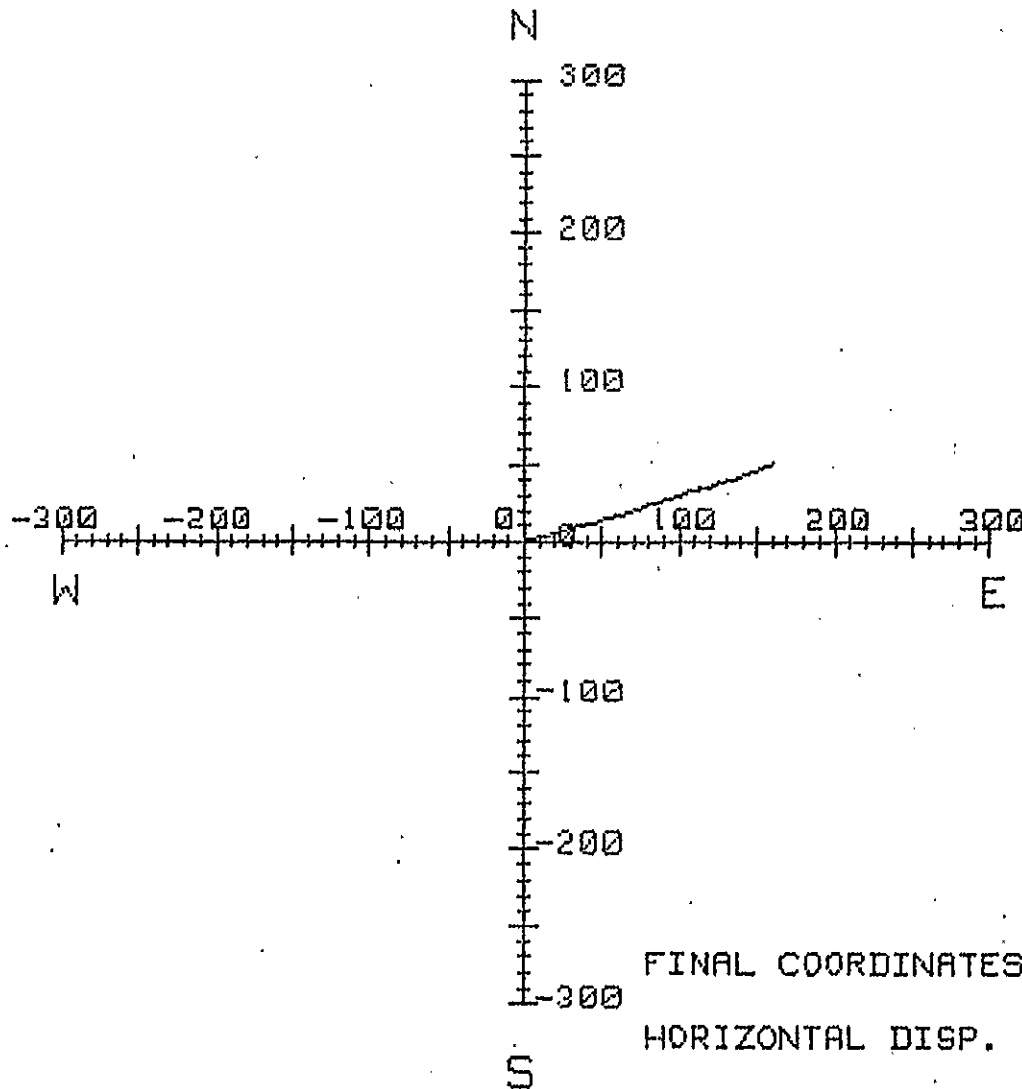
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 375.00 | 18.40 | 73.00 |
| 390.00 | 18.10 | 69.80 |
| 405.00 | 18.40 | 70.50 |
| 420.00 | 18.40 | 67.90 |
| 430.00 | 18.30 | 70.50 |
| 450.00 | 18.20 | 71.40 |
| 465.00 | 18.40 | 69.80 |
| 477.00 | 18.30 | 69.80 |

PLAN VIEW

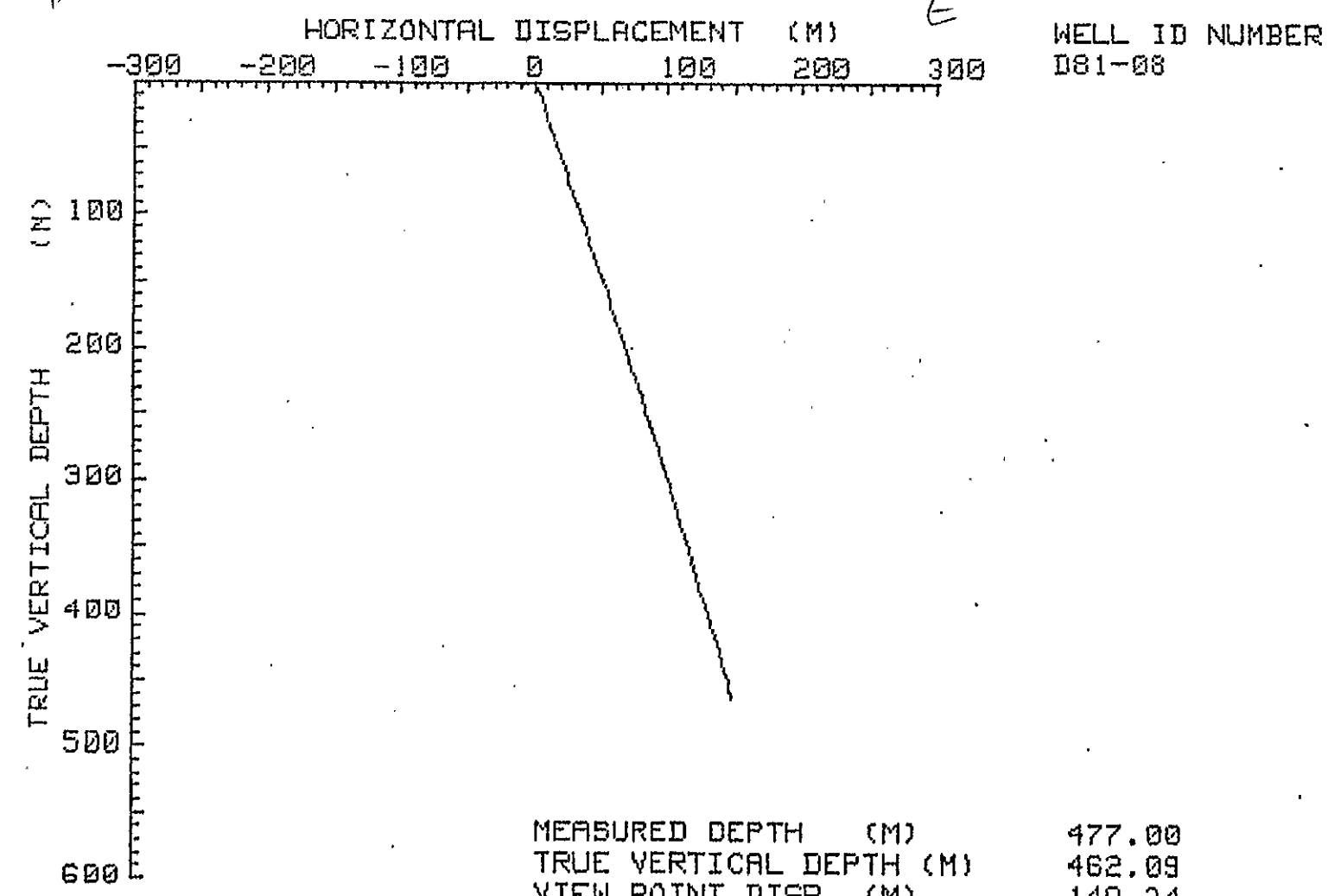
WELL ID NUMBER
D81-08



FINAL COORDINATES(M) N 50.56
E 160.64
HORIZONTAL DISP. (M) 149.34

N

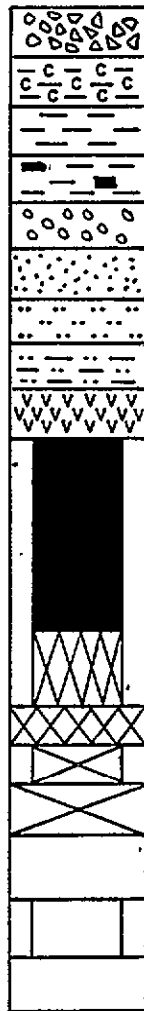
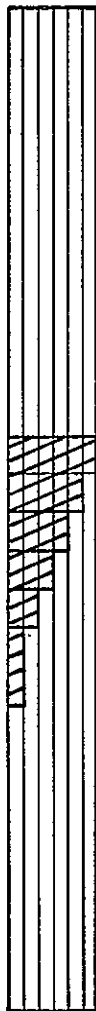
DISPLACEMENT



| | |
|-------------------------|--------|
| MEASURED DEPTH (M) | 477.00 |
| TRUE VERTICAL DEPTH (M) | 462.09 |
| VIEW POINT DISP. (M) | 149.34 |
| SECTION LINE BEARING | 45.00 |

SEAM
COMP

COAL
SEAM
LOG



LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone

- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff

coal

coal-boney, stoney,
coal and bands/rock
- designated "C6"

rock } coal
lithotype uncertain

coal } MISSING
rock } CORE

rock

coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

| | | |
|---|---------|---------------------------|
| GULF CANADA RESOURCES INC. | | |
| Coal Division | | |
| CALGARY | ALBERTA | |
| LEGEND FOR COAL SEAM DATA SHEETS | | |
| PREPARED BY: V.O. | | SCALE 1:40 |
| APPROVED BY: | | DATE: JAN. 82 DRAWING No. |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Cool/Cool+Rock (True Thk (m))
2.17/2.17

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-08 SEAM _____
SCALE 1:40

SEAM INTERVAL 163.97 - 167.29m

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | | | | | | |
|---------------|-------------------|------|------|------|------|------|------|------|------|------|------------|--------|---------------|----------|------|--------|--------|------|-------------------------|-------|-------|------|----------------|------|------|--------|---------|-------|-----|----|----|----|-------------|-----|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | | | | 2.00 | 2.10 | | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI |
| | 0 2000 4000 | | | | | | | | | | 654321 | 163.00 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 163.97 | | 2.20 | 100 | 00117 | | 0.50 | 7.24 | 17.94 | 74.32 | 0.44 | 14,183 (32.99) | 1.5 | | | | | | | | | | |
| | | | | | | | | | | | | 166.17 | | 0.80 | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 166.97 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 167.29 | | 0.43 | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 167.72 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 168.00 | | | | | | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | ROCK | MISSING COAL | ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|------|--------------|------|
| DDH81008 | | 117 | 163.97 | 166.17 | 2.20 | 100.00 | 2.20 | 0.00 | 0.00 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE - AD

NAME OF STANDARD - ASTM

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|------|---------------|------------------|----------------|-------------------------------|------|------|
| DDH81008 | | 117 | 0.50 | 7.24 | 74.32 | 17.94 | 0.44 | 32.99 | 1.33 | 1.50 |

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 71 | 0.00 | 5.26 | 5.26 | | | CASING | |
| * 71 | 5.26 | 5.99 | 0.73 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.BRKN MINOR CALCITE VEINING; WTHRD WITH FE STAINING ON FRACTURE SURFACES; PLANT HASH AND COALY PARTINGS BECOMING MORE ABUNDANT TOWARD BASE OF INTERVAL. |
| 71 | 5.99 | 6.13 | 0.14 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN |
| 71 | 6.13 | 6.35 | 0.22 | | | COAL | C-3.VBRKN SOFT, BRITTLE, FLAKEY. |
| 71 | 6.35 | 6.54 | 0.19 | | | COAL | C-3.VBRKN BLOCKY, HARD BUT BRITTLE; WET. |
| 72 | 6.54 | 6.75 | 0.21 | | | COAL | C-2.VBRKN SOFT, BRITTLE, FLAKEY. |
| 72 | 6.75 | 6.78 | 0.03 | | | MUDSTONE | CARB.DK.GY.THNB.VBRKN WET; ABUNDANT COALY LAMINATIONS. |
| 72 | 6.78 | 6.82 | 0.04 | | | MUDSTONE | CARB.DK.GY.VTHNB.BRKN |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 72 | 6.82 | 6.96 | 0.14 | | | SILTSTONE | CLYY.M.GY.THNB.SLD MINOR COALY PARTINGS; MODIFIER: CARB. |
| 72 | 6.96 | 7.03 | 0.07 | | | MUDSTONE | CARB.DK.GY.THNB.SLD MINOR CALCITE VEINING AND COALY PARTINGS; MODIFIER: SLTY. |
| 72 | 7.03 | 7.07 | 0.04 | | | MUDSTONE | CARB.DK.GY.VTHNB.VBRKN MINOR CALCITE VEINING; ABUNDANT BRIGHT POWDERY COALY INCLUSIONS. |
| 72 | 7.07 | 7.19 | 0.12 | | | ROCK LOSS | |
| 72 | 7.19 | 7.21 | 0.02 | | | MUDSTONE | CARB.M.GY.VTHNB.BRKN LITRIC SURFACES BUT NOT HIGHLY POLISHED. |
| 72 | 7.21 | 7.47 | 0.26 | | | SILTSTONE | SSY.LT.GY.THNB.SSD.SLD CALCAREOUS; POSSIBLE CORE LOSS AT BASE OF INTERVAL; MODIFIER: CLYY, CARB. |
| 72 | 7.47 | 7.51 | 0.04 | | | ROCK LOSS | |
| 72 | 7.51 | 7.63 | 0.12 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.SLD MINOR CALCITE VEINING; COALY PARTINGS AND PYRITE SMEARS AT BASE OF INTERVAL; MODIFIER: SLTY. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 72 | 7.63 | 8.02 | 0.39 | | | SANDSTONE | SLTY.VPR.LT-DK.GY.VTHNB.SSD.SLD TOP IS UP; MINOR CALCITE VEINING AT BASE OF INTERVAL; COALY PARTINGS (AND PYRITE SMEARS WITHIN) IN TOP 15 CM.; MINOR LISTRIC POLISHING; MODIFIER: CLYY, CARB; SED STRUCTURES: XBDG. |
| 72 | 8.02 | 8.13 | 0.11 | | | SANDSTONE | CLYY.VPR.LT-M.GY.VTHNB.SSD.BRKN MINOR COALY INCLUSIONS CONTAINING PYRITE SMEARS AND LISTRIC SURFACES; POSSIBLE CORE LOSS AT BASE OF INTERVAL -> PIECES DON'T FIT; WTHRD WITH FE STAINING; MODIFIER: CARB, SLTY. |
| 73 | 8.13 | 8.23 | 0.10 | | | ROCK LOSS | |
| 73 | 8.23 | 8.41 | 0.18 | | | MUDSTONE | CARB.DK.GY.VTHNB.SSD.SLD MINOR CALCITE VEINING; COALY INCLUSIONS |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 73 | 8.41 | 8.86 | 0.45 | | | SILTSTONE | SSY.LT-M.GY.VTHNB.SSD.SLD BECOMING SANDIER TOWARD BASE OF INTERVAL; MINOR CALCITE VEINING AND COALY INCLUSIONS; FEW FRACTURES WITH POORLY LITHIFIED MUDDY GOUGE WITHIN; MINOR PYRITE ON FRACTURE SURFACES; MODIFIER: CLYY, CARB. |
| 73 | 8.86 | 8.96 | 0.10 | | | SANDSTONE | CARB.VFG.MOD.LT.GY.THNB.SSD.SLD TOP IS UP; MODIFIER: CLYY; SED STRUCTURES: XBDG. |
| * 73 | 8.96 | 9.08 | 0.12 | | | SILTSTONE | CARB.M.GY.THNB.SSD.SLD MINOR CALCITE VEINING AND COALY LAMINATIONS; BECOMES MORE CARBONACEOUS TOWARD BASE; MODIFIER: CLYY, SSY. |
| 73 | 9.08 | 9.20 | 0.12 | | | SANDSTONE | SLTY.VFG.PR.LT.GY.THNB.SSD.SLD TOP IS UP; MINOR COALY INCLUSIONS; MODIFIER: CLYY, CARB; SED STRUCTURES: XBDG. |
| 73 | 9.20 | 9.27 | 0.07 | | | SILTSTONE | CARB.M.GY.THNB.SLD MINOR COALY INCLUSIONS WITHIN THIN CALCITE. |
| 73 | 9.27 | 9.44 | 0.17 | | | MUDSTONE | SLTY.M-DK.GY.THNB.SSD.BRKN COALY INCLUSIONS AND MINOR CALCITE VEINING; MODIFIER: CARB. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-----------------------|---------------------|---------------------------|---------------------|--------------------|------------------|--|
| 74 | 9.44 | 9.54 | 0.10 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD MINOR COALY LAMINATIONS AND CALCITE; BE COMES SANDIER TOWARD BASE OF INTERVAL; MODIFIER: CLYY, CARB. |
| 75 | 9.54 | 10.56 | 1.02 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD COALY INCLUSIONS AND CALCITE VEINING FR OM 0.18 TO 0.60; MODIFIER: SSY, CARB. |
| 75 | 10.56 | 10.60 | 0.04 | | | SANDSTONE | SLTY.VFG.PR.LT-M.GY.VTHNB.SSD.SLD MODIFIER: CARB. |
| 75 | 10.60 | 10.74 | 0.14 | | | SANDSTONE | SLTY.VFG.PR.LT.GY.VTHNB.SSD.SLD TOP IS UP; SANDIER TOWARD BASE; MODIFIE R: CLYY, CARB; SED STRUCTURES: XBDG. |
| 76 | 10.74 | 10.79 | 0.05 | | | SANDSTONE | SLTY.VFG.MOD.LT.GY.VTHNB.SSD.SLD MODIFIER: CARB. |
| * 76 | 10.79 | 11.27 | 0.48 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD SANDIER BETWEEN 0.22 -> 0.38; MODIFIER: SSY, CARB. |
| 75 | 11.27 | 11.41 | 0.14 | | | SANDSTONE | SLTY.PR.LT.GY.VTHNB.SSD.SLD MINOR CALCITE; MODIFIER: CARB. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 74 | 11.41 | 13.11 | 1.70 | | | MUDSTONE | CARB.M-DK.GY.THNB.SSD.SLD GRADUAL TRANSITION FROM SILTY AT TOP TO VERY CARBONACEOUS AT BASE; V MINOR CAL CITE VEINING;FISSILE BETWEEN 1.25 -> 1. 36; ABUNDANT PLANT HASH FROM 1.36 -> 1. 70; MODIFIER: SLTY. |
| 72 | 13.11 | 13.34 | 0.23 | | | MUDSTONE | CARB.BLK.THNB.SSD.VBRKN COAL AND MUDST BANDS. |
| 72 | 13.34 | 13.62 | 0.28 | | | MUDSTONE | CARB.BLK.THNB.SSD.SLD ABUNDANT BRIGHT COALY INCLUSIONS AND LA MINATIONS; MINOR CALCITE VEINING. |
| 71 | 13.62 | 13.81 | 0.19 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.SLD MINOR CALCITE VEINING. |
| 71 | 13.81 | 14.02 | 0.21 | | | SANDSTONE | SLTY.VFG.PR.LT.GY.VTHNB.SSD.SLD MODIFIER: CARB. |
| 70 | 14.02 | 14.60 | 0.58 | | | MUDSTONE | SLTY.M-DK.GY.THNB.SSD.SLD WRMBUR - 2 MM DIAMETER PERPENDICULAR TO BDG; MINOR CALCITE VEINING COINCIDENT WITH COALY INCLUSIONS AND PYRITE SMEARS ; MODIFIER: CARB; SED STRUCTURES: WRMBU R. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 69 | 14.60 | 15.32 | 0.72 | | | SILTSTONE | CLYY.LT-M.GY.THNB.SSD.SLD MINOR CALCITE; COAL AND PYRITE SMEARS; MODIFIER: SSY, CARB. |
| * 62 | 15.32 | 15.59 | 0.27 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.SLD MINOR CALCITE VEINING. |
| 63 | 15.59 | 15.75 | 0.16 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD TOP IS UP; MODIFIER: CLYY, CARB; SED ST RUCTURES: XBDG. |
| 63 | 15.75 | 15.78 | 0.03 | | | MUDSTONE | CARB.M-DK.GY.THNB.SSD.SLD MINOR CALCITE VEINING; POSSIBLE CORE LO SS AT BASE OF INTERVAL. |
| 64 | 15.78 | 16.03 | 0.25 | | | ROCK LOSS | |
| 64 | 16.03 | 16.20 | 0.17 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.SLD COALY INCLUSIONS AND CALCITE VEINING. |
| 67 | 16.20 | 17.63 | 1.43 | | | SANDSTONE | SLTY.MG.MOD.LT.GY.THNB.SLD COARSENING TOWARD BASE; MINOR COALY INC LUSIONS; CALCITE AND PYRITE SMEARS; MOD IFIER: CARB. |
| 70 | 17.63 | 17.79 | 0.16 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN COALY INCLUSIONS; CALCITE VEINING AND M INOR PLANT HASH THROUGHOUT. |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 72 | 17.79 | 18.59 | 0.80 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SSD.SLD MINOR CALCITE AND COALY INCLUSIONS WITH IN SANDIER INTERVAL AT BASE; MODIFIER: SSY, CARB. |
| 68 | 18.59 | 18.84 | 0.25 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 66 | 18.84 | 19.11 | 0.27 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN CALCITE VEINING; COALY INCLUSIONS; MINO R SKS |
| 64 | 19.11 | 19.26 | 0.15 | | | ROCK LOSS | |
| 63 | 19.26 | 19.48 | 0.22 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY LAMINATIONS AND CALCITE PARTINGS. |
| * 59 | 19.48 | 20.17 | 0.69 | | | SILTSTONE | CLYY.LT-M.GY.THNB.SSD.SLD V MINOR CALCITE; 1 CM WRMBUR PERPENDICU LAR TO BDG; V MINOR SKS; COARSENING TO BASE; MODIFIER: SSY; SED STRUCTURES: WR MBUR. |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 68 | 20.17 | 21.60 | 1.43 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SLD CALCITE VEINING; V MINOR SKS; V MINOR Q TZ XTALS WITHIN CALCITE, COARSENING TO BASE; MODIFIER: CARB. |
| * 59 | 21.60 | 22.26 | 0.66 | | | SANDSTONE | SLTY.FG.MOD.LT-M.GY.THNB.SSD.SLD QUARTZ IN CALCITE WITH PYRITE SMEAR AT TOP OF INTERVAL; CLYY RIP-UP CLASTS AT BASE; MODIFIER: CLYY, CARB. |
| 58 | 22.26 | 22.69 | 0.43 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD MINOR CALCITE PARTINGS; MODIFIER: SSY. |
| 57 | 22.69 | 23.20 | 0.51 | | | MUDSTONE | CARB.BLK.THNB.BRKN VERY CARBONACEOUS WITH ABUNDANT BRIGHT COAL BANDS, FISSILE. |
| 57 | 23.20 | 23.28 | 0.08 | | | COAL | C-6.BRKN STONEY COAL WITH (3) 1 CM BRIGHT C-1 BA NDS; FISSILE. |
| 57 | 23.28 | 23.34 | 0.06 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ABUNDANT COALY INCLUSIONS AND LAMINATIO NS. |
| 57 | 23.34 | 23.37 | 0.03 | | | COAL | C-3.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 56 | 23.37 | 23.48 | 0.11 | | | MUDSTONE | CARB.DK.GY.THNB.SLD MORE CARB TO BASE; V MINOR CALCITE PART INGS. |
| 56 | 23.48 | 23.63 | 0.15 | | | MUDSTONE | CARB.BLK.THNB.BRKN VERY CARBONACEOUS WITH (1) 1 CM C-2 BAN D AT 0.07. |
| 56 | 23.63 | 23.86 | 0.23 | | | COAL | C-2.VBRKN DAMP; CORE STATE: POWDERED. |
| 56 | 23.86 | 23.99 | 0.13 | | | MUDSTONE | CARB.BLK.THNB.BRKN LISTRIC SURFACES; VERY CARBONACEOUS; FI SSILE. |
| 55 | 23.99 | 24.06 | 0.07 | | | COAL | C-6.BRKN STONEY. |
| 55 | 24.06 | 24.13 | 0.07 | | | MUDSTONE | CARB.DK.GY.THNB.SLD CALCITE VEINING; COALY INCLUSIONS. |
| * 55 | 24.13 | 24.40 | 0.27 | | | SILTSTONE | CLYY.M.GY.THNB MODIFIER: CARB. |
| 57 | 24.40 | 25.53 | 1.13 | | | SILTSTONE | CLYY.LT-M.GY.THNB.SSD.BRKN V MINOR CALCITE AND COALY LAMINATIONS; POSSIBLE CORE LOSS AT END OF INTERVAL; MODIFIER: CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 59 | 25.53 | 25.89 | 0.36 | | SILTSTONE | CLYY.LT-M.GY.THNB.SSD.SLD V MINOR CALCITE VEINING; MODIFIER: CARB |
| | 60 | 25.89 | 26.00 | 0.11 | | MUDSTONE | CARB.M-DK.GY.THNB.SLD COALY PARTINGS AND CALCITE AT BASE OF I NTERVAL; MODIFIER: SLTY. |
| | 60 | 26.00 | 26.03 | 0.03 | | COAL | C-1.VBRKN DAMP; CORE STATE: POWDERED. |
| | 60 | 26.03 | 26.07 | 0.04 | | MUDSTONE | CARB.BLK.VTHNB.VBRKN COAL AND BANDS OF MUDSTONE. |
| | 61 | 26.07 | 27.14 | 1.07 | | SILTSTONE | CLYY.LT-M.GY.THNB.WRMBU.SLD V MINOR CALCITE VEINING; 1 CM BURROWS I N RANDOM ORIENTATION; CALCAREOUS; MODIF IER: CARB; SED STRUCTURES: SSD, BIOTRB. |
| * | 65 | 27.14 | 28.61 | 1.47 | | SILTSTONE | CLYY.LT-M.GY.THNB.BIOTR.SLD BURROWS GENERALLY PERPENDICULAR TO BEDD ING (1CM DIAMETER); POSSIBLE LOSS OF CO RE AT BASE OF INTERVAL; PIECES DON'T FI T; MINOR COALY PARTING AT 0.56; MODIFIE R: SSY, CARB; SED STRUCTURES: SSD. |
| | 67 | 28.61 | 29.31 | 0.70 | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD HORSETAIL CALCITE VEINING AT 0.26; MODI FIER: CARB; SED STRUCTURES: WRMBUR. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 68 | 29.31 | 29.90 | 0.59 | | | MUDSTONE | CARB.DK.GY.THKB |
| 70 | 29.90 | 30.99 | 1.09 | | | MUDSTONE | CARB.DK.GY.THKB.SLD MINOR PLANT HASH THROUGHOUT. |
| 71 | 30.99 | 31.03 | 0.04 | | | COAL | C-2.BRKN BRITTLE; BRIGHT. |
| 71 | 31.03 | 31.08 | 0.05 | | | COAL LOSS | |
| 71 | 31.08 | 31.38 | 0.30 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CALCITE PARTINGS THROUGHOUT; COARSENING TOWARD BASE; MODIFIER: CARB. |
| * 72 | 31.38 | 31.75 | 0.37 | | | SANDSTONE | SLTY.VFG.MOD.LT.GY.THNB.SLD CALCAREOUS; MODIFIER: CARB. |
| 72 | 31.75 | 32.75 | 1.00 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD BECOMING MORE CARBONACEOUS TOWARD BASE; MODIFIER: CARB. |
| 72 | 32.75 | 32.91 | 0.16 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN VERY CARBONACEOUS; SKS; V MINOR CALCITE . |
| 72 | 32.91 | 33.04 | 0.13 | | | COAL | C-3.VBRKN DAMP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 72 | 33.04 | 33.12 | 0.08 | | | COAL | C-6.BRKN STONEY. |
| 72 | 33.12 | 33.39 | 0.27 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ABUNDANT COALY LAMINATIONS AND VERY MIN OR CALCITE. |
| 72 | 33.39 | 33.97 | 0.58 | | | COAL | C-2.BRKN VERY LIGHT; BRITTLE; BRIGHT COAL. |
| 72 | 33.97 | 34.11 | 0.14 | | | COAL | C-6.BRKN COAL AND BANDS OF MUDSTONE. |
| 72 | 34.11 | 34.13 | 0.02 | | | COAL | C-1.BRKN |
| 72 | 34.13 | 34.16 | 0.03 | | | MUDSTONE | CARB.DK.GY.SLD |
| 72 | 34.16 | 34.18 | 0.02 | | | COAL | C-3.SLD |
| 72 | 34.18 | 34.20 | 0.02 | | | MUDSTONE | CARB.DK.GY.SLD |
| 72 | 34.20 | 34.23 | 0.03 | | | COAL | C-3.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 72 | 34.23 | 34.28 | 0.05 | | | MUDSTONE | CARB.DK.GY.BRKN MINOR CALCITE. |
| 72 | 34.28 | 34.29 | 0.01 | | | COAL | C-1.BRKN LISTRIC SURFACE. |
| 72 | 34.29 | 34.32 | 0.03 | | | MUDSTONE | CARB.DK.GY.BRKN |
| 72 | 34.32 | 34.35 | 0.03 | | | COAL | C-3.SLD |
| 72 | 34.35 | 34.38 | 0.03 | | | COAL | C-1.BRKN |
| 72 | 34.38 | 34.46 | 0.08 | | | MUDSTONE | CARB.DK.GY.SLD V MINOR CALCITE. |
| 72 | 34.46 | 34.48 | 0.02 | | | COAL | C-4.SLD |
| 72 | 34.48 | 34.54 | 0.06 | | | MUDSTONE | CARB.DK.GY.THNB.SLD CALCITE VEINING. |
| 72 | 34.54 | 34.66 | 0.12 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD CALCITE PARTING THROUGHOUT; MODIFIER: C ARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 72 | 34.66 | 35.40 | 0.74 | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD COARSENING TOWARD THE BASE; MODIFIER: C LYY, CARB. |
| * | 72 | 35.40 | 35.78 | 0.38 | | SILTSTONE | SSY.M.GY.VTHNB.SLD BECOMING FINER TOWARD BASE; MINOR FINE BREAKS IN THE CORE; MINOR CALCITE AND C ARB PARTINGS; MODIFIER: CLYY, CARB. |
| | 70 | 35.78 | 36.53 | 0.75 | | MUDSTONE | CARB.M-DK.GY.THNB.SLD BECOMING MORE CARBONACEOUS TO BASE; V C ARBONACEOUS INTERVAL 0.59 -> 0.62; MINO R CALCITE VEINING. |
| | 69 | 36.53 | 36.72 | 0.19 | | MUDSTONE | CARB.BLK.VTHNB.BRKN ABUNDANT COALY PARTINGS; POSSIBLE CORE LOSS AT BASE; V MINOR CALCITE PARTING. |
| | 69 | 36.72 | 36.89 | 0.17 | | ROCK LOSS | |
| | 67 | 36.89 | 37.48 | 0.59 | | MUDSTONE | CARB.DK.GY.THNB.SLD V MINOR CALCITE PARTING. |
| | 66 | 37.48 | 37.60 | 0.12 | | COAL | C-3.SLD LIGHT; CLEAR; HARD; BRITTLE. |
| | 66 | 37.60 | 37.69 | 0.09 | | COAL | C-1.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 66 | 37.69 | 37.74 | 0.05 | | | COAL | C-4.SLD |
| 66 | 37.74 | 37.87 | 0.13 | | | COAL LOSS | |
| 65 | 37.87 | 37.97 | 0.10 | | | COAL | C-2.BRKN |
| 65 | 37.97 | 38.04 | 0.07 | | | COAL | C-5.BRKN |
| 65 | 38.04 | 38.24 | 0.20 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ABUNDANT COALY INCLUSIONS AND LAMINATIO NS. |
| 64 | 38.24 | 38.30 | 0.06 | | | COAL | C-4.PWRD WET. |
| 64 | 38.30 | 38.36 | 0.06 | | | COAL | C-2.SLD |
| 64 | 38.36 | 38.47 | 0.11 | | | SILTSTONE | CLYY.M.GY.THNB.SLD V MINOR CALCITE AND COALY INCLUSIONS; M ODIFIER: CARB. |
| 64 | 38.47 | 38.70 | 0.23 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD V MINOR CALCITE PARTING; MODIFIER: CLYY , CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| * 63 | 38.70 | 38.86 | 0.16 | | | SANDSTONE | CARB.FG.MOD.LT.GY.THNB.SLD MODIFIER: CLYY. |
| 63 | 38.86 | 39.38 | 0.52 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD MODIFIER: CLYY, CARB. |
| 63 | 39.38 | 39.82 | 0.44 | | | MUDSTONE | CARB.DK.GY.THNB.SLD MORE CARBY TOWARD BASE. |
| 63 | 39.82 | 39.86 | 0.04 | | | COAL | C-5.SLD LIGHT; DULL BUT CLEAN. |
| 63 | 39.86 | 39.99 | 0.13 | | | COAL | C-6.SLD STONEY; 0.08 -> 0.13 LUSTROUS; MULTICOL ORED SURFACES. |
| 63 | 39.99 | 40.23 | 0.24 | | | COAL | C-1.SLD LUSTROUS MULTICOLORED SURFACES 0.00 -> 0.09. |
| 63 | 40.23 | 40.25 | 0.02 | | | COAL | C-3.BRKN |
| 63 | 40.25 | 40.41 | 0.16 | | | COAL | C-6.BRKN STONEY. |
| 63 | 40.41 | 40.45 | 0.04 | | | MUDSTONE | CARB.M.GY.VTHNB.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 63 | 40.45 | 41.14 | 0.69 | | SANDSTONE | CLYY.VFG.PR.LT-M.GY.THNB.XBDG.SLD TOP IS UP; SANDIER TOWARD BASE; MODIFIED R: SLTY, CARB; SED STRUCTURES: SSD. |
| * | 63 | 41.14 | 41.36 | 0.22 | | SANDSTONE | CARB.FG.MOD.LT.GY.VTHNB.SLD MODIFIER: CLYY. |
| * | 58 | 41.36 | 43.68 | 2.32 | | SANDSTONE | CLYY.FG.VPR.LT-M.GY.THNB.SSD.SLD RIP-UP CLASTS 0.00 → 0.04, 0.32 → 0.35, 0.68 → 0.69; COALY INCLUSIONS 0.40 → 0.46; MANY CLAYEY INCLUSIONS AND DISTORTED BEDDING 1.53 TO BASE OF INTERVAL ; VERY MINOR CALC BOT; MODIFIER: SLTY, CARB. |
| | 65 | 43.68 | 43.78 | 0.10 | | MUDSTONE | M-DK.BWN.THNB.SSD.BRKN SOFT; POORLY LITHIFIED; ABUNDANT CALCITE CONTAINING BROKEN ANGULAR SHARDS; MINOR SKS. |
| | 66 | 43.78 | 44.00 | 0.22 | | SANDSTONE | CARB.FG.MOD.LT.GY.THNB.SLD ABUNDANT CALCITE VEINING AND CARBONACEOUS PARTING. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 68 | 44.00 | 44.44 | 0.44 | | | SANDSTONE | CARB.FG.PR.LT.GY.THNB.SLD CALCITE VEINING AND ABUNDANT CARBONACEOUS PARTING; BRECCIATED 0.17 → 0.22; POSSIBLE CORE LOSS AT 0.22; RIP-UP CLASTS MUDSTONE 0.40 → 0.43; MODIFIER: CLYY. |
| * 72 | 44.44 | 45.20 | 0.76 | | | MUDSTONE | CARB.DK.GY.THNB.SLD V MINOR CALCITE; POSSIBLE CORE LOSS AT BASE. |
| 72 | 45.20 | 45.23 | 0.03 | | | COAL | C-6.VBRKN STONEY; CORE STATE: POWDERED. |
| 72 | 45.23 | 45.30 | 0.07 | | | COAL LOSS | |
| 72 | 45.30 | 45.50 | 0.20 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN FISSILE; MINOR CALCITE VEINING; MODIFIER: CARB. |
| 72 | 45.50 | 45.78 | 0.28 | | | SILTSTONE | CLYY.M.GY.THNB.SLD |
| 72 | 45.78 | 46.14 | 0.36 | | | SANDSTONE | SLTY.MOD.LT-M.GY.VTHNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 72 | 46.14 | 46.30 | 0.16 | | | SILTSTONE | CLYY.M.GY.THNB.BRKN |
| 72 | 46.30 | 46.54 | 0.24 | | | MUDSTONE | SLTY.M-DK.GY.THNB.SLD MODIFIER: CARB. |
| 72 | 46.54 | 46.61 | 0.07 | | | SILTSTONE | CLYY.M.GY.THNB.SLD MODIFIER: CARB. |
| * 72 | 46.61 | 49.46 | 2.85 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD V MINOR CALCITE VEINING AND CARBONACEOU S PARTING; POSSIBLE CORE LOSS AT 0.49; PIECES DON'T FIT; MODIFIER: SSY, CARB; SED STRUCTURES: WRMBUR. |
| 65 | 49.46 | 49.53 | 0.07 | | | ROCK LOSS | |
| 64 | 49.53 | 49.65 | 0.12 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SSD.SLD POSSIBLE CORE LOSS AT BASE; MODIFIER: C ARB. |
| 64 | 49.65 | 49.72 | 0.07 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| * 63 | 49.72 | 49.92 | 0.20 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD POSSIBLE CORE LOSS AT TOP; PIECES DON'T FIT; MODIFIER: CARB. |
| 63 | 49.92 | 50.01 | 0.09 | | | MUDSTONE | CARB.DK.GY.THNB.SLD CALCITE VEINING. |
| 62 | 50.01 | 51.41 | 1.40 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SSD.SLD MODIFIER: CARB, SSY. |
| 61 | 51.41 | 51.59 | 0.18 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.SLD CALCITE VEINING 0.01 -> 0.04. |
| 60 | 51.59 | 51.76 | 0.17 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD MODIFIER: CARB. |
| 60 | 51.76 | 52.32 | 0.56 | | | MUDSTONE | CARB.DK.GY.THNB.SLD MINOR CALCITE VEINING AND PARTING; MIND R PLANT HASH AND COALY INCLUSIONS THROU GHOUT; MODIFIER: SLTY. |
| 59 | 52.32 | 52.51 | 0.19 | | | MUDSTONE | CARB.DK.GY.THNB.SLD CALCITE PARTING THROUGHOUT. |
| 59 | 52.51 | 52.64 | 0.13 | | | SANDSTONE | SLTY.VFG.PR.LT.GY.VTHNB.XBDG.SLD TOP IS UP; SED STRUCTURES: SSD. |
| 59 | 52.64 | 52.75 | 0.11 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD MODIFIER: SSY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 58 | 52.75 | 53.48 | 0.73 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.XBDG.SLD TOP IS UP; QUARTZ XTALS IN CALCITE AT BASE; SOME CALCITE VEINING; MODIFIER: CARB. |
| 58 | 53.48 | 53.67 | 0.19 | | | SILTSTONE | CLYY.M.GY.THNB.SLD |
| 58 | 53.67 | 53.82 | 0.15 | | | SANDSTONE | SLTY.FG.WEL.LT.GY.VTHNB.XBDG.SLD TOP IS UP. |
| 57 | 53.82 | 55.05 | 1.23 | | | MUDSTONE | CARB.DK.GY.THKB.SLD COALY PARTINGS 0.10 -> 0.23; POSSIBLE CORE LOSS AT BASE OF INTERVAL. |
| 56 | 55.05 | 55.14 | 0.09 | | | ROCK LOSS | |
| 56 | 55.14 | 55.24 | 0.10 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN POSSIBLE CORE LOSS AT TOP -> PIECES ROUNDED. |
| * 55 | 55.24 | 55.91 | 0.67 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD POSSIBLE CORE LOSS AT BASE -> END ROUNDED; MODIFIER: CLYY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 55 | 55.91 | 56.08 | 0.17 | | | SANDSTONE | SLTY.FG.PR.M.GY.THNB.SLD MODIFIER: CLYY. |
| 55 | 56.08 | 56.55 | 0.47 | | | SILTSTONE | CLYY.M.GY.THNB.SLD |
| 56 | 56.55 | 56.62 | 0.07 | | | COAL | C-6.BRKN BONEY. |
| 56 | 56.62 | 56.80 | 0.18 | | | COAL | C-2.VBRKN CORE STATE: POWDERED. |
| 56 | 56.80 | 56.85 | 0.05 | | | COAL | C-3 |
| 56 | 56.85 | 56.88 | 0.03 | | | MUDSTONE | CARB.BLK.VTHNB.BRKN V CARBONACEOUS. |
| 56 | 56.88 | 57.01 | 0.13 | | | COAL | C-4.VBRKN CORE STATE: POWDERED. |
| 56 | 57.01 | 57.04 | 0.03 | | | COAL LOSS | |
| 56 | 57.04 | 57.10 | 0.06 | | | COAL | C-3.VBRKN CORE STATE: POWDERED. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|---------|-----------|---|
| 56 | 57.10 | 57.56 | 0.46 | | | MUDSTONE | CARB.DK.GY.THNB.SLD V MINOR CALCITE VEINING AT BASE; PLANT HASH AND COALY PARTING THROUGHOUT; MODI FIER: SLTY. |
| 56 | 57.56 | 57.58 | 0.02 | | | COAL | C-5.BRKN |
| 56 | 57.58 | 57.69 | 0.11 | | | MUDSTONE | CARB.DK.GY.THNB.SLD PLANT HASH AND SKS THROUGHOUT. |
| 56 | 57.69 | 57.73 | 0.04 | | | COAL | C-6.BRKN BONEY. |
| 56 | 57.73 | 57.94 | 0.21 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD PLANT HASH THROUGHOUT; MODIFIER: CARB. |
| 56 | 57.94 | 58.01 | 0.07 | | | MUDSTONE | CARB.DK.GY.THNB.SLD CALCITE VEINING AND COALY PARTING. |
| 57 | 58.01 | 58.04 | 0.03 | | | COAL | C-1.BRKN |
| 57 | 58.04 | 58.35 | 0.31 | | | MUDSTONE | CARB.DK.GY.THNB.SLD MODIFIER: SLTY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|------------------------------------|
| 57 | 58.35 | 58.38 | 0.03 | | | COAL | C-4.BRKN LIGHT; CLEAN; HARD. |
| 57 | 58.38 | 58.51 | 0.13 | | | COAL | C-2.BRKN |
| 57 | 58.51 | 58.60 | 0.09 | | | COAL | C-6.BRKN BONEY. |
| 57 | 58.60 | 58.62 | 0.02 | | | COAL | C-3.BRKN |
| 57 | 58.62 | 58.75 | 0.13 | | | COAL | C-2.VBRKN CORE STATE: POWDERED. |
| 57 | 58.75 | 58.79 | 0.04 | | | MUDSTONE | CARB.DK.GY.VTHNB.SLD |
| 57 | 58.79 | 58.81 | 0.02 | | | COAL | C-4.VBRKN CORE STATE: POWDERED. |
| 57 | 58.81 | 58.83 | 0.02 | | | MUDSTONE | CARB.DK.GY.VTHNB.BRKN |
| 57 | 58.83 | 58.86 | 0.03 | | | COAL | C-4.VBRKN CORE STATE: POWDERED. |
| 57 | 58.86 | 58.91 | 0.05 | | | COAL | C-6.BRKN BONEY. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 57 | 58.91 | 58.95 | 0.04 | | COAL | C-6 STONE. |
| | 57 | 58.95 | 58.97 | 0.02 | | COAL | C-4.VBRKN CORE STATE: POWDERED. |
| | 57 | 58.97 | 59.16 | 0.19 | | MUDSTONE | CARB.DK.GY.THNB.SLD PLANT HASH THROUGHOUT. |
| | 57 | 59.16 | 59.92 | 0.76 | | MUDSTONE | CARB.DK.GY.THNB.SLD MINOR SKS; SOME PLANT HASH; MODIFIER: S LTY. |
| | 58 | 59.92 | 60.21 | 0.29 | | SILTSTONE | CARB.M.GY.THNB.SLD MODIFIER: CLYY. |
| * | 58 | 60.21 | 60.58 | 0.37 | | SANDSTONE | SLTY.VFG.MOD.LT-M.GY.THNB.SSD.SLD COARSENING TOWARD BASE. |
| * | 66 | 60.58 | 61.05 | 0.47 | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD MODIFIER: CLYY. |
| | 66 | 61.05 | 61.25 | 0.20 | | SANDSTONE | SLTY.FG.PR.LT-M.GY.THNB.SSD.SLD MODIFIER: CLYY. |
| | 66 | 61.25 | 62.15 | 0.90 | | MUDSTONE | SLTY.DK.GY.THKB.SSD.SLD POSSIBLE CORE LOSS AT BASE; MODIFIER: C ARB. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 65 | 62.15 | 62.27 | 0.12 | | | ROCK LOSS | |
| 65 | 62.27 | 62.34 | 0.07 | | | SANDSTONE | SLTY.VFG.MOD.LT.GY.THNB.SLD |
| 65 | 62.34 | 62.96 | 0.62 | | | SILTSTONE | SSY.LT.GY.THNB.SSD.SLD MODIFIER: CLYY. |
| * 65 | 62.96 | 63.47 | 0.51 | | | SANDSTONE | SLTY.FG.MOD.LT-M.GY.SSD.SLD TOP IS UP; SED STRUCTURES: XBDG. |
| * 70 | 63.47 | 63.95 | 0.48 | | | SILTSTONE | SSY.LT-M.GY.VTHNB.SSD.SLD MODIFIER: CLYY. |
| 67 | 63.95 | 64.69 | 0.74 | | | SILTSTONE | CLYY.DK.GY.THNB.BRKN POSSIBLE CORE LOSS; PIECES DON'T FIT WI THIN INTERVAL. |
| 65 | 64.69 | 64.93 | 0.24 | | | ROCK LOSS | |
| * 63 | 64.93 | 65.54 | 0.61 | | | SILTSTONE | SSY.M.GY.VTHNB.SSD.SLD V MINOR CARB PARTING; MODIFIER: CLYY, C ARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 66 | 65.54 | 66.01 | 0.47 | | | SANDSTONE | CLYY.FG.PR.LT-M.GY.THNB.SLD MODIFIER: CARB. |
| 68 | 66.01 | 66.64 | 0.63 | | | MUDSTONE | SLTY.DK.GY.THNB.WRMBU.BRKN FINING TOWARD BASE; MODIFIER: CARB. |
| 71 | 66.64 | 67.11 | 0.47 | | | MUDSTONE | CARB.DK.GY.THNB.SLD CALCITE VEINING AND COALY INCLUSION BET WEEN 0.10 -> 0.20; MODIFIER: SLTY. |
| * 73 | 67.11 | 67.33 | 0.22 | | | SANDSTONE | SLTY.FG.PR.LT-M.GY.THNB.SSD.SLD CALCAREOUS; MODIFIER: CARB. |
| 72 | 67.33 | 67.67 | 0.34 | | | SANDSTONE | SLTY.FG.PR.LT.GY.THNB.SSD.SLD BURROWS PERPENDICULAR TO BDG; MODIFIER: CARB; SED STRUCTURES: WRMBUR. |
| 72 | 67.67 | 67.85 | 0.18 | | | MUDSTONE | CARB.DK.GY.THNB.SLD V MINOR CALCITE PARTING; MODIFIER: SLTY . |
| 72 | 67.85 | 67.93 | 0.08 | | | SANDSTONE | SLTY.PR.LT.GY.THNB.WRMBU.SLD 1 CM BURROW; MODIFIER: CARB. |
| 70 | 67.93 | 69.34 | 1.41 | | | MUDSTONE | CARB.BLK.THKB.SLD POSSIBLE CORE LOSS AT 0.76 -> CORE IS R OUNDED; COALY INCLUSIONS AND CALCITE -> 0.07 TO 0.15; MODIFIER: SLTY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 68 | 69.34 | 70.32 | 0.98 | | | SILTSTONE | SLTY.LT-M.GY.THNB.WRMBU.SLD MODIFIER: CARB, SSY; SED STRUCTURES: SS D. |
| 68 | 70.32 | 71.30 | 0.98 | | | MUDSTONE | CARB.DK.GY.THKB.SLD MINOR COALY INCLUSIONS AND CALCITE TOWARD BASE; MODIFIER: SLTY. |
| 67 | 71.30 | 71.60 | 0.30 | | | SILTSTONE | SSY.M.GY.THNB.SLD COALY INCLUSION; PYRITE SMEARS; SKS AT BASE OF INTERVAL; MODIFIER: CLYY, CARB. |
| * 67 | 71.60 | 72.12 | 0.52 | | | SILTSTONE | SSY.LT-M.GY.VTHNB.XBDG.SLD QUARTZ XTALS IN CALCITE VEIN AT 0.44; TOP IS UP; MODIFIER: CLYY, CARB; SED STRUCTURES: SSD. |
| 69 | 72.12 | 72.37 | 0.25 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD MODIFIER: CARB. |
| 70 | 72.37 | 72.64 | 0.27 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.XBDG.SLD MINOR SKS; TOP IS UP; MODIFIER: CARB; SED STRUCTURES: SSD. |
| 71 | 72.64 | 72.71 | 0.07 | | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD FINING TOWARD BASE; MODIFIER: CLYY. |
| 72 | 72.71 | 72.87 | 0.16 | | | COAL | C-3.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 72 | 72.87 | 72.93 | 0.06 | | | MUDSTONE | CARB.BLK.THNB.BRKN MODIFIER: SLTY. |
| 73 | 72.93 | 72.95 | 0.02 | | | COAL | C-3.BRKN |
| 74 | 72.95 | 73.33 | 0.38 | | | MUDSTONE | CARB.BLK.THNB.SLD V CARB 0.13 -> 0.38 WITH ABUNDANT COALY LAMINATIONS; SOME CALCITE VEINING AND SKS; FISSILE. |
| * 78 | 73.33 | 74.60 | 1.27 | | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD SOME CARBONACEOUS PARTING; VERY MINOR C ALCITE PARTING AT BASE; MODIFIER: CLYY, CARB. |
| 75 | 74.60 | 74.72 | 0.12 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN ABUNDANT COALY LAMINATIONS. |
| | 74.72 | 74.76 | 0.04 | | | ROCK LOSS | |
| 73 | 74.76 | 75.31 | 0.55 | | | MUDSTONE | CARB.BLK.THNB.SLD MORE CARBONACEOUS TOWARD BASE; MODIFIER : SLTY. |
| 72 | 75.31 | 75.35 | 0.04 | | | COAL | C-4.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 72 | 75.35 | 75.37 | 0.02 | | COAL | C-6.BRKN STONEY. |
| * | 69 | 75.37 | 76.78 | 1.41 | | SILTSTONE | CLYY.M.GY.THNB.XBDG.SLD XBDG IN SANDY MATRIX; MINOR CALCITE VEI NING; MODIFIER: SSY, CARB; SED STRUCTUR ES: SSD. |
| | 69 | 76.78 | 76.80 | 0.02 | | COAL | C-6.BRKN STONEY. |
| | 69 | 76.80 | 76.84 | 0.04 | | COAL | C-2.BRKN |
| | 69 | 76.84 | 76.87 | 0.03 | | COAL | C-4.BRKN |
| | 69 | 76.87 | 76.89 | 0.02 | | COAL | C-3.BRKN |
| | 69 | 76.89 | 76.90 | 0.01 | | COAL | C-6.BRKN BONEY. |
| | 69 | 76.90 | 76.92 | 0.02 | | COAL | C-4.BRKN LIGHT; CLEAN. |
| | 69 | 76.92 | 76.94 | 0.02 | | COAL | C-1.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| 69 | 76.94 | 76.96 | 0.02 | | | COAL | C-4.BRKN |
| 69 | 76.96 | 76.99 | 0.03 | | | MUDSTONE | CARB.BLK.VTHNB.BRKN |
| 69 | 76.99 | 77.01 | 0.02 | | | COAL | C-3.BRKN |
| 70 | 77.01 | 77.05 | 0.04 | | | COAL | C-1.BRKN |
| 70 | 77.05 | 77.07 | 0.02 | | | COAL | C-2.BRKN |
| 70 | 77.07 | 77.12 | 0.05 | | | COAL | C-5.BRKN |
| 70 | 77.12 | 77.19 | 0.07 | | | COAL | C-4.VBRKN DAMP; CORE STATE: POWDERED. |
| | 77.19 | 77.37 | 0.18 | | | COAL LOSS | |
| 70 | 77.37 | 77.40 | 0.03 | | | COAL | C-4.PWRD DAMP. |
| 70 | 77.40 | 77.42 | 0.02 | | | COAL | C-2.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 77.42 | 77.50 | 0.08 | | | COAL | C-4.BRKN |
| | 77.50 | 77.54 | 0.04 | | | COAL | C-6.BRKN STONEY. |
| | 77.54 | 77.64 | 0.10 | | | SILTSTONE | CARB.DK.GY.THNB.SLD MODIFIER: CLYY. |
| * | 77.64 | 78.32 | 0.68 | | | SANDSTONE | SLTY.VFG.PR.LT-M.GY.THNB.SSD.SLD TOP IS UP; ABUNDANT COALY INCLUSIONS AT BASE; V MINOR CALCITE; MODIFIER: CLYY, CARB; SED STRUCTURES: WRMBUR, XBDG. |
| | 78.32 | 78.40 | 0.08 | | | MUDSTONE | CARB.BLK.THNB.SLD ABUNDANT COALY LAMINATIONS. |
| | 78.40 | 78.49 | 0.09 | | | COAL LOSS | |
| | 78.49 | 78.53 | 0.04 | | | COAL | C-3.VBRKN CORE STATE: POWDERED. |
| | 78.53 | 78.57 | 0.04 | | | MUDSTONE | CARB.BLK.VTHNB.SLD MINOR CALCITE VEINING; ABUNDANT COALY L AMINATIONS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 76 | 78.57 | 80.37 | 1.80 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD MINOR CALCITE VEINING WITHIN MORE CLAYE Y MATRICES; MODIFIER: CLYY, CARB; SED S STRUCTURES: WRMBUR. |
| 77 | 80.37 | 80.51 | 0.14 | | | SILTSTONE | SSY.LT-M.GY.THNB.SLD MODIFIER: CLYY. |
| 78 | 80.51 | 80.74 | 0.23 | | | MUDSTONE | CARB.DK.GY.THNB.SLD CALCITE VEINING THROUGHOUT; MODIFIER: S LTY. |
| 78 | 80.74 | 80.86 | 0.12 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN ABUNDANT COALY LAMINATIONS. |
| 78 | 80.86 | 80.89 | 0.03 | | | COAL | C-4.BRKN |
| 78 | 80.89 | 81.19 | 0.30 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ABUNDANT CALCITE VEINING AND COALY LAMI NATIONS; MODIFIER: SLTY. |
| * 79 | 81.19 | 81.76 | 0.57 | | | SILTSTONE | CLYY.LT-M.GY.THNB.SSD.SLD MINOR PYRITE SMEARS; CALCAREOUS; MODIFI ER: SSY, CARB. |
| 78 | 81.76 | 82.04 | 0.28 | | | MUDSTONE | CARB.BLK.THNB.SLD ABUNDANT COALY LAMINATIONS AND INCLUSIO NS; CALCITE VEINING IN TOP 0.06. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 77 | 82.04 | 82.08 | 0.04 | | | COAL | C-6.BRKN STONEY. |
| 76 | 82.08 | 82.75 | 0.67 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD ABUNDANT COALY INCLUSIONS AND CALCITE V EINING; A MORE CLAYEY MATRIX FROM 0.24 -> 0.42; MODIFIER: CARB. |
| 75 | 82.75 | 83.02 | 0.27 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 74 | 83.02 | 83.13 | 0.11 | | | MUDSTONE | CARB.BLK.THNB.SLD ABUNDANT COALY LAMINATIONS AND PARTINGS . |
| 74 | 83.13 | 83.25 | 0.12 | | | COAL | C-3.BRKN |
| 73 | 83.25 | 83.28 | 0.03 | | | COAL | C-4.BRKN LIGHT; CLEAN. |
| 73 | 83.28 | 83.34 | 0.06 | | | COAL | C-3.BRKN |
| 73 | 83.34 | 83.43 | 0.09 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 73 | 83.43 | 83.50 | 0.07 | | | COAL | C-3.VBRKN CORE STATE: POWDERED. |
| 72 | 83.50 | 83.67 | 0.17 | | | SANDSTONE | SLTY.VFG.PR.DK.GY.THNB.SSD.SLD MODIFIER: CLYY, CARB. |
| 72 | 83.67 | 83.75 | 0.08 | | | SANDSTONE | SLTY.PR.LT.GY.THNB.SLD FEW CLYY RIP-UP CLASTS; MODIFIER: CLYY, CARB. |
| * 71 | 83.75 | 84.33 | 0.58 | | | SILTSTONE | SSY.LT-M.GY.THNB.WRMBU.SLD POSSIBLE CORE LOSS AT 0.43 -> CORE ROUN DED; TOP IS UP; FINING TOWARD BASE; MOD IFIER: CLYY; SED STRUCTURES: XBDG. |
| 73 | 84.33 | 84.53 | 0.20 | | | ROCK LOSS | |
| * 77 | 84.53 | 85.95 | 1.42 | | | SANDSTONE | SLTY.VFG.PR.LT.GY.THNB.XBDG.SLD QUARTZ IN CALCITE VEINS FROM 0.28 -> 0. 87; ENTIRE INTERVAL IS SLIGHTLY CALCARE OUS; TOP IS UP; MODIFIER: CARB. |
| 78 | 85.95 | 86.53 | 0.58 | | | SANDSTONE | SLTY.VFG.MOD.LT.GY.THNB.SSD.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 79 | 86.53 | 86.76 | 0.23 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD |
| * 79 | 86.76 | 86.94 | 0.18 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD V MINOR COALY INCLUSIONS AND CALCITE; M ODIFIER: CARB. |
| 79 | 86.94 | 86.99 | 0.05 | | | MUDSTONE | CARB.BLK.VTHNB.SLD PLANT HASH AND COALY PARTING. |
| 78 | 86.99 | 87.09 | 0.10 | | | COAL LOSS | |
| 78 | 87.09 | 87.15 | 0.06 | | | COAL | C-3.BRKN MINOR LISTRIC SURFACES. |
| 78 | 87.15 | 87.20 | 0.05 | | | COAL | C-6.BRKN BONEY. |
| 77 | 87.20 | 87.60 | 0.40 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD PLANT HASH THROUGHOUT; MINOR CALCITE PA RTING; MODIFIER: CARB. |
| 76 | 87.60 | 88.02 | 0.42 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD COARSENING TOWARD BASE; MODIFIER: SSY, CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 75 | 88.02 | 88.35 | 0.33 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SLD MODIFIER: CARB. |
| 74 | 88.35 | 88.74 | 0.39 | | | SILTSTONE | SSY.M-DK.GY.THNB.WRMBU.SLD CALCITE VEINING THROUGHOUT; WRMBUR AT B ASE (1 CM DIAMETER); MINOR SKS; MODIFIE R: CLYY, CARB; SED STRUCTURES: SSD. |
| 73 | 88.74 | 89.04 | 0.30 | | | SANDSTONE | SLTY.MG.MOD.LT.GY.THNB.SLD SKS; POSSIBLE CORE LOSS AT BASE; PIECES DON'T FIT. |
| 73 | 89.04 | 89.10 | 0.06 | | | ROCK LOSS | |
| 72 | 89.10 | 89.40 | 0.30 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD HORSETAIL CALCITE VEINING THROUGHOUT; M ODIFIER: CARB. |
| 72 | 89.40 | 89.64 | 0.24 | | | SILTSTONE | CLYY.LT-M.GY.THNB.SSD.SLD MODIFIER: CARB. |
| * 71 | 89.64 | 89.91 | 0.27 | | | SANDSTONE | SLTY.MOD.LT-M.GY.THNB.SSD.SLD MINOR SKS AND CALCITE VEINING. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 73 | 89.91 | 91.35 | 1.44 | | | SANDSTONE | SLTY.FG.WEL.LT.GY.THKB.SLD SKS ON FRACTURE SURFACES; BROKEN ROCK AND CALCITE VEINING 0.08 -> 0.58; MODIFI ER: CARB. |
| 77 | 91.35 | 92.06 | 0.71 | | | SANDSTONE | SLTY.FG.WEL.LT.GY.THNB.BRKN POSSIBLE CORE LOSS; PIECES BROKEN AND D IFFICULT TO FIT; CALCITE VEINING THROUG HOUT; MODIFIER: CLYY, CARB. |
| * 79 | 92.06 | 92.98 | 0.92 | | | SILTSTONE | CLYY.LT-M.GY.THNB.XBDG.SLD MODIFIER: SSY, CARB. |
| 72 | 92.98 | 94.05 | 1.07 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD V MINOR CALCITE PARTING; MODIFIER: CARB |
| 69 | 94.05 | 94.10 | 0.05 | | | COAL LOSS | |
| 68 | 94.10 | 94.12 | 0.02 | | | COAL | C-6.BRKN BONEY. |
| 68 | 94.12 | 94.25 | 0.13 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD MINOR COALY PARTING; MODIFIER: CARB. |
| * 62 | 94.25 | 95.87 | 1.62 | | | SILTSTONE | CLYY.DK.GY.THNB.SSD.BRKN POSSIBLE CORE LOSS AT BASE; PIECES DON' T FIT; MODIFIER: CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH ID</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 66 | 95.87 | 95.99 | 0.12 | | | ROCK LOSS | |
| 67 | 95.99 | 96.12 | 0.13 | | | MUDSTONE | CARB.DK.GY.THNB.SLD MODIFIER: SLTY. |
| 69 | 96.12 | 96.81 | 0.69 | | | MUDSTONE | CARB.BLK.THKB.SLD MODIFIER: SLTY. |
| 71 | 96.81 | 96.96 | 0.15 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD MODIFIER: CARB. |
| 72 | 96.96 | 97.27 | 0.31 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD MODIFIER: CARB. |
| 74 | 97.27 | 97.40 | 0.13 | | | COAL | C-4.BRKN LIGHT; CLEAN. |
| 75 | 97.40 | 97.71 | 0.31 | | | MUDSTONE | CARB.BLK.THNB.SLD POSSIBLE CORE LOSS AT TOP OF INTERVAL - > CORE WAS SPUN. |
| 76 | 97.71 | 98.02 | 0.31 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD HORSETAIL CALCITE VEINING AND COALY INC LUSIONS FROM 0.24 -> 0.31; MODIFIER: CA RB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 78 | 98.02 | 98.41 | 0.39 | | | SILTSTONE | SSY.LT-M.GY.THNB.WRMBU.SLD 1 CM BURROWS IN RANDOM ORIENTATION; MOD IFIER: CLYY, CARB; SED STRUCTURES: SSD. |
| 77 | 98.41 | 98.87 | 0.46 | | | SANDSTONE | SLTY.MOD.LT.GY.THNB.SLD MODIFIER: CARB, CLYY. |
| 76 | 98.87 | 98.93 | 0.06 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD MODIFIER: CARB. |
| 75 | 98.93 | 99.07 | 0.14 | | | SILTSTONE | CLYY.DK.GY.THNB.SSD.SLD V MINOR PYRITE; MODIFIER: CARB. |
| 74 | 99.07 | 99.49 | 0.42 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN MODIFIER: SLTY |
| 73 | 99.49 | 99.66 | 0.17 | | | MUDSTONE | CARB.BLK.THNB.BRKN |
| 73 | 99.66 | 99.83 | 0.17 | | | SILTSTONE | CARB.M.GY.THNB.SLD |
| 72 | 99.83 | 99.93 | 0.10 | | | MUDSTONE | CARB.BLK.THNB.SLD COAL AND MUDSTONE BANDS. |
| 72 | 99.93 | 99.99 | 0.06 | | | MUDSTONE | CARB.BLK.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 72 | 99.99 | 100.07 | 0.08 | | COAL | C-6.BRKN STONEY. |
| | 72 | 100.07 | 100.12 | 0.05 | | MUDSTONE | CARB.BLK.THNB.BRKN POSSIBLE CORE LOSS AT BASE. |
| | 70 | 100.12 | 101.22 | 1.10 | | MUDSTONE | SLTY.DK.GY.THNB.BRKN FROM 0.19 TO 0.45 AND FROM 0.64 TO 0.84 THE CORE IS BROKEN; THERE IS POSSIBLE CORE LOSS; CALCITE; COALY PARTINGS AND INCLUSIONS AND SLICKENSIDES; 0.73-> 1.1 O ABUNDANT CALCITE PARTING; MODIFIER: C ARB. |
| * | 67 | 101.22 | 101.84 | 0.62 | | SILTSTONE | SSY.M-DK.GY.THKB.SLD POSSIBLE CORE LOSS AT BASE; PIECES DON' T FIT; MODIFIER: CLYY. |
| | 67 | 101.84 | 102.02 | 0.18 | | SANDSTONE | SLTY.VFG.PR.LT-M.GY.THNB.BRKN CALCITE VEINING; MODIFIER: CARB. |
| | 67 | 102.02 | 102.22 | 0.20 | | SILTSTONE | CLYY.M.GY.THNB.SLD MODIFIER: SSY. |
| | 67 | 102.22 | 102.46 | 0.24 | | SILTSTONE | CLYY.M.GY.THNB.SLD MODIFIER: CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 68 | 102.46 | 102.89 | 0.43 | | | MUDSTONE | CARB.DK.GY.THNB.SLD PLANT HASH THROUGHOUT; INCREASING CARBO NACEOUS CONTENT TOWARD BASE; MODIFIER: SLTY. |
| 68 | 102.89 | 104.23 | 1.34 | | | SILTSTONE | CLYY.DK.GY.THKB.SLD HORSETAIL CALCITE VEINING FROM 1.08 TO 1.16; CARB CONTENT INCREASES TOWARD BAS E; MODIFIER: CARB. |
| 69 | 104.23 | 104.87 | 0.64 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD QUARTZ IN CALCITE AT 0.28; MODIFIER: CA RB. |
| 69 | 104.87 | 105.77 | 0.90 | | | SILTSTONE | SSY.M.GY.THKB.SLD |
| 69 | 105.77 | 106.02 | 0.25 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN POSSIBLE CORE LOSS AT BASE; MINOR SKS A ND HORSETAIL CALCITE VEINING FROM 0.11 TO 0.13; MODIFIER: CARB. |
| 69 | 106.02 | 106.16 | 0.14 | | | SILTSTONE | CLYY.M-DK.GY.THNB.BIOTR.SLD 1 CM BURROWS IN SEEMING RANDOM ORIENTAT ION. |
| 70 | 106.16 | 106.55 | 0.39 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD MODIFIER: CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 70 | 106.55 | 106.88 | 0.33 | | SANDSTONE | SLTY.FG.VPR.LT-M.GY.THNB.SSD.SLD PYRITE SMEARS ON FRACTURE SURFACE; MODI FIER: CLYY, CARB; SED STRUCTURES: XBDG. |
| * | 70 | 106.88 | 107.24 | 0.36 | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD MODIFIER: CLYY, CARB. |
| | 68 | 107.24 | 107.66 | 0.42 | | MUDSTONE | CARB.DK.GY.THNB.SLD MINOR CALCITE PARTING. |
| | 67 | 107.66 | 107.75 | 0.09 | | SILTSTONE | CLYY.M.GY.THNB.SLD |
| | 66 | 107.75 | 107.90 | 0.15 | | SILTSTONE | CLYY.M.GY.THNB.SLD POSSIBLE CORE LOSS AT BASE; PIECES DON' T FIT. |
| | 64 | 107.90 | 108.79 | 0.89 | | MUDSTONE | SLTY.DK.GY.THKB.SLD POSSIBLE CORE LOSS AT BASE OF INTERVAL; MODIFIER: CARB. |
| | 62 | 108.79 | 108.84 | 0.05 | | ROCK LOSS | |
| | 61 | 108.84 | 108.87 | 0.03 | | COAL | C-3.BRKN |
| | 61 | 108.87 | 108.93 | 0.06 | | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 108.93 | 109.75 | 0.82 | | | MUDSTONE | CARB.DK.GY.THKB.SLD COALY PARTING; COALY INCLUSIONS AND MIN OR CALCITE VEINING THROUGHOUT; MODIFIER : SLTY. |
| 55 | 109.75 | 110.67 | 0.92 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD MODIFIER: CARB, SSY. |
| 52 | 110.67 | 110.97 | 0.30 | | | SILTSTONE | CLYY.M.GY.THNB.SLD POSSIBLE LOSS AT BASE. |
| 51 | 110.97 | 111.17 | 0.20 | | | ROCK LOSS | |
| 50 | 111.17 | 111.30 | 0.13 | | | SILTSTONE | CARB.DK.GY.THNB.SLD |
| * 49 | 111.30 | 111.58 | 0.28 | | | SANDSTONE | SLTY.PR.LT-M.GY.THNB.SSD.SLD MODIFIER: CARB. |
| 53 | 111.58 | 113.16 | 1.58 | | | SILTSTONE | CLYY.DK.GY.THKB.SLD V CARB 0.39 -> 0.48; PLANT HASH THROUGH OUT; MINOR SKS; V MINOR CALCITE PARTING ; MODIFIER: CARB. |
| * 57 | 113.16 | 113.76 | 0.60 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD MODIFIER: CARB, SSY. |
| 62 | 113.76 | 114.12 | 0.36 | | | SILTSTONE | SSY.DK.GY.THNB.SLD MODIFIER: CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 66 | 114.12 | 114.41 | 0.29 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN SKS; MODIFIER: CARB. |
| 68 | 114.41 | 114.47 | 0.06 | | | MUDSTONE | CARB.DK.GY.THNB.VBRKN CORE STATE: POWDERED. |
| * 76 | 114.47 | 115.89 | 1.42 | | | SANDSTONE | SLTY.VFG.WEL.M-DK.GY.THNB.WRMBU.SLD MORE CARB FROM 0.00 -> 0.58; MODIFIER: CARB; SED STRUCTURES: SSD. |
| 70 | 115.89 | 116.53 | 0.64 | | | SANDSTONE | SLTY.FG.PR.LT-M.GY.THNB.SSD.SLD RIP-UP CLASTS -> 0.46 TO 0.52; MODIFIER : CLYY, CARB. |
| * 67 | 116.53 | 116.94 | 0.41 | | | SANDSTONE | SLTY.VFG.MOD.LT.GY.THNB.SLD MODIFIER: CARB. |
| 67 | 116.94 | 117.17 | 0.23 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD POSSIBLE CORE LOSS AT BASE. |
| 66 | 117.17 | 117.31 | 0.14 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD MINOR CALCITE VEINING AT BASE. |
| 66 | 117.31 | 117.40 | 0.09 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ABUNDANT COALY PARTING. |
| 66 | 117.40 | 117.42 | 0.02 | | | COAL | C-6.VBRKN STONE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 66 117.42 | 117.57 | 0.15 | | | COAL LOSS | |
| | 65 117.57 | 118.47 | 0.90 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ABUNDANT COALY PARTING. |
| | 65 118.47 | 118.49 | 0.02 | | | COAL | C-6.BRKN STONEY. |
| | 65 118.49 | 118.54 | 0.05 | | | COAL LOSS | |
| | 64 118.54 | 119.50 | 0.96 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ABUNDANT PLANT HASH AND COALY PARTING T HROUGHOUT; MODIFIER: SLTY. |
| | 63 119.50 | 120.25 | 0.75 | | | MUDSTONE | CARB.DK.GY.THNB.SLD PLANT HASH AND COALY PARTING THROUGHOUT . |
| | 62 120.25 | 120.39 | 0.14 | | | COAL LOSS | |
| | 62 120.39 | 120.44 | 0.05 | | | COAL | C-6 BONEY. |
| | 62 120.44 | 120.48 | 0.04 | | | MUDSTONE | CARB.DK.GY.VTHNB.BRKN |
| | 62 120.48 | 120.57 | 0.09 | | | COAL | C-6.BRKN STONEY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 61 | 120.57 | 121.49 | 0.92 | | | MUDSTONE | CARB.DK.GY.THNB.SLD POSSIBLE CORE LOSS AT TOP. |
| 61 | 121.49 | 121.50 | 0.01 | | | COAL | C-6.BRKN STONEY. |
| 61 | 121.50 | 121.54 | 0.04 | | | COAL | C-2.BRKN |
| 60 | 121.54 | 121.70 | 0.16 | | | COAL | C-5.BRKN |
| 60 | 121.70 | 121.82 | 0.12 | | | MUDSTONE | CARB.DK.GY.THNB.SLD CALCITE VEIN AT 0.05. |
| 60 | 121.82 | 122.19 | 0.37 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD MODIFIER: CARB. |
| 59 | 122.19 | 123.42 | 1.23 | | | SILTSTONE | CLYY.DK.GY.THKB.SLD POSSIBLE LOSS AT BASE; MODIFIER: CARB. |
| 57 | 123.42 | 125.03 | 1.61 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD MODIFIER: SSY. |
| * 55 | 125.03 | 126.22 | 1.19 | | | SILTSTONE | SSY.M-DK.GY.THNB.SLD MODIFIER: CLYY. |
| 58 | 126.22 | 126.39 | 0.17 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 59 | 126.39 | 126.81 | 0.42 | | | SILTSTONE | SSY.DK.GY.THNB.SLD CORE LOSS AT TOP; MODIFIER: CLYY. |
| * 62 | 126.81 | 127.93 | 1.12 | | | SILTSTONE | SSY.M-DK.GY.THKB.SLD MODIFIER: CLYY. |
| * 60 | 127.93 | 129.65 | 1.72 | | | SILTSTONE | SSY.M-DK.GY.THNB.SLD COARSENING TOWARD BASE; POSSIBLE LOSS AT T BASE; MODIFIER: CLYY, CARB. |
| 67 | 129.65 | 129.70 | 0.05 | | | ROCK LOSS | |
| * 72 | 129.70 | 130.75 | 1.05 | | | SANDSTONE | CARB.FG.VPR.DK.GY.THNB.SLD VERY CARBONACEOUS THROUGHOUT WITH ABUND ANT COALY PARTINGS; MODIFIER: SLTY, CLY Y. |
| * 82 | 130.75 | 132.67 | 1.92 | | | SANDSTONE | SLTY.VFG.MOD.LT-M.GY.THNB.SLD V MINOR CALCITE VEINING; MODIFIER: CARB . |
| 70 | 132.67 | 133.51 | 0.84 | | | SANDSTONE | FG.WEL.LT.GY.THKB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 62 | 133.51 | 134.46 | 0.95 | | | SANDSTONE | CARB.FG.WEL.LT.GY.THNB.SLD |
| 64 | 134.46 | 134.48 | 0.02 | | | COAL | C-6.SLD STONEY. |
| 65 | 134.48 | 134.53 | 0.05 | | | COAL | C-5.SLD |
| 65 | 134.53 | 134.59 | 0.06 | | | COAL | C-1.BRKN |
| 65 | 134.59 | 134.62 | 0.03 | | | COAL | C-2 |
| 66 | 134.62 | 134.79 | 0.17 | | | COAL | C-4.PWRD POSSIBLE CORE LOSS AT BASE |
| 66 | 134.79 | 134.81 | 0.02 | | | COAL LOSS | |
| 66 | 134.81 | 134.83 | 0.02 | | | COAL | C-5.BRKN |
| 67 | 134.83 | 135.18 | 0.35 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD V CARB AT TOP AND BASE. |
| 68 | 135.18 | 135.20 | 0.02 | | | COAL | C-2.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 68 | 135.20 | 135.33 | 0.13 | | | COAL | C-3.BRKN |
| 69 | 135.33 | 135.39 | 0.06 | | | COAL | C-6.SLD BONEY; LIGHT; DULL. |
| 69 | 135.39 | 135.48 | 0.09 | | | COAL | C-4.BRKN LIGHT; DULL; BRITTLE. |
| 70 | 135.48 | 135.60 | 0.12 | | | COAL | C-3.BRKN |
| 70 | 135.60 | 135.82 | 0.22 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN MODIFIER: SLTY |
| 72 | 135.82 | 136.11 | 0.29 | | | SILTSTONE | CLYY.M.GY.THNB.SLD |
| * 76 | 136.11 | 137.59 | 1.48 | | | SILTSTONE | CLYY.LT-M.GY.THNB.SSD.SLD MODIFIER: SSY. |
| 68 | 137.59 | 137.95 | 0.36 | | | SILTSTONE | CARB.DK.GY.THNB.SLD MODIFIER: CLYY. |
| * 64 | 137.95 | 138.68 | 0.73 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD MODIFIER: CLYY, CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 71 | 138.68 | 138.95 | 0.27 | | SILTSTONE | SSY.M.GY.VTHNB.SSD.SLD MINOR CALCITE PARTING; MODIFIER: CLYY, CARB. |
| * | 76 | 138.95 | 139.29 | 0.34 | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD V MINOR CALCITE PARTING AT TOP; MODIFIE R: CLYY. |
| | 76 | 139.29 | 139.68 | 0.39 | | SANDSTONE | SLTY.FG.MOD.LT-M.GY.THNB.XBDG.SLD TOP IS UP; MODIFIER: CARB. |
| | 76 | 139.68 | 140.50 | 0.82 | | SILTSTONE | CLYY.M.GY.THNB.BRKN 3 CM COALY INTERVAL (C-4) FROM 0.56 -> 0.59; MODIFIER: CARB. |
| | 76 | 140.50 | 140.99 | 0.49 | | SANDSTONE | SLTY.VFG.MOD.LT-M.GY.THNB.WRMBU.SLD TOP IS UP; 1 CM BURROW PERPENDICULAR TO BDG; MODIFIER: CARB, CLYY; SED STRUCTU RES: SSD, XBDG. |
| * | 76 | 140.99 | 141.54 | 0.55 | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD MODIFIER: CLYY. |
| | 76 | 141.54 | 141.64 | 0.10 | | SILTSTONE | CLYY.M.GY.THNB.SLD |
| * | 75 | 141.64 | 142.23 | 0.59 | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD MODIFIER: CLYY, CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| * 60 | 142.23 | 144.15 | 1.92 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SSD.SLD (1 CM) BURROW TO BEDDING; FINING TOW ARD BASE; SED STRUCTURES: WRMBUR. |
| 64 | 144.15 | 144.26 | 0.11 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD COALY INCLUSION AT TOP; MODIFIER: CARB. |
| 66 | 144.26 | 145.00 | 0.74 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY LAMINATIONS; MODIFIER: SLTY. |
| * 72 | 145.00 | 146.83 | 1.83 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.XBDG.SLD TOP IS UP; MOST CLYY AND CARB INTERVAL FROM 0.44 -> 0.72; V MINOR CALCITE VEIN ING AND SKS; SOME QUARTZ XTALS IN THE C ALCITE; MODIFIER: CARB, CLYY. |
| 69 | 146.83 | 147.33 | 0.50 | | | SANDSTONE | SLTY.FG.WEL.LT.GY.THNB.XBDG.SLD MODIFIER: CARB. |
| * 67 | 147.33 | 147.85 | 0.52 | | | SANDSTONE | SLTY.FG.WEL.LT.GY.THNB.SLD MODIFIER: CARB. |
| 66 | 147.85 | 147.96 | 0.11 | | | SILTSTONE | CLYY.M.GY.VTHNB.SSD.SLD MODIFIER: CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| 65 | 147.96 | 148.73 | 0.77 | | | MUDSTONE | SLTY.BLK.THNB.SLD COALY (C-6 STONEY) INTERVAL FROM 0.26 - > 0.29; CALCITE VEINING; COALY INCLUSIO NS AND PLANT HASH THROUGHOUT; MODIFIER: CARB. |
| 64 | 148.73 | 149.62 | 0.89 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SSD.SLD ABUNDANT COALY INCLUSIONS THROUGHOUT; S OME CALCITE VEINING; MINOR QUARTZ XTALS IN CALCITE; RIP-UP CLASTS FROM 0.13 TO 0.36; MINOR SKS; ALSO CLYY AND CARB AS MODIFIERS. |
| 62 | 149.62 | 150.04 | 0.42 | | | SANDSTONE | CLYY.FG.PR.LT.GY.THNB.SSD.SLD COALY INCLUSIONS THROUGHOUT; RIP UP CLA STS 0.03 TO 0.08; CALCITE VEINING AND M INOR SKS; ALSO CARB AS MODIFIER |
| 61 | 150.04 | 150.26 | 0.22 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN ABUNDANT SKS |
| 61 | 150.26 | 150.40 | 0.14 | | | ROCK LOSS | |
| 61 | 150.40 | 150.48 | 0.08 | | | COAL LOSS | |
| 61 | 150.48 | 150.57 | 0.09 | | | COAL | C-4.PWRD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 60 | 150.57 | 150.65 | 0.08 | | MUDSTONE | CARB.DK.GY.THNB.SLD POSSIBLE LOSS AT BASE |
| * | 59 | 150.65 | 151.90 | 1.25 | | SILTSTONE | SSY.LT-M.GY.VTHNB.WRMBU.SLD BURROW (1 CM) PERPENDICULAR TO BDG; ALS O CLYY AS MODIFIER. |
| | 68 | 151.90 | 152.08 | 0.18 | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD V MINOR CALC AND COALY PARTING; ALSO CA RB AS MODIFIER |
| | 72 | 152.08 | 152.49 | 0.41 | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY PARTING AND PLANT HASH THROUGHOUT ; |
| | 76 | 152.49 | 152.65 | 0.16 | | SILTSTONE | CARB.M-DK.GY.THNB.SLD ALSO CLYY AS MODIFIER |
| | 79 | 152.65 | 153.06 | 0.41 | | SANDSTONE | SLTY.VFG.PR.LT-M.GY.VTHNB.SLD ALSO CLYY AND CARB AS MODIFIERS |
| * | | 153.06 | 153.69 | 0.63 | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD FINING AND BECOMING MORE CARBONACEOUS T OWARD BASE; ALSO CARB AND SSY AS MODIFI ERS |
| | 84 | 153.69 | 153.72 | 0.03 | | COAL | C-6.BRKN STONEY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 84 153.72 | 153.74 | 0.02 | | | COAL LOSS | |
| | 82 153.74 | 154.74 | 1.00 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SSD.SLD V MINOR PYRITE INCLUSION; MINOR COALY PARTING; V MINOR CALCITE PARTING; ALSO SSY AND CARB AS MODIFIERS |
| | 78 154.74 | 155.30 | 0.56 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD ALSO CLYY AND CARB AS MODIFIERS |
| * | 74 155.30 | 156.64 | 1.34 | | | SILTSTONE | CLYY.LT-M.GY.THNB.SSD.SLD MINOR CALCITE VEINING; COALY PARTING AND SKS; ALSO SSY AND CARB AS MODIFIERS |
| | 74 156.64 | 156.73 | 0.09 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN MINOR COALY PARTING; |
| | 75 156.73 | 156.78 | 0.05 | | | ROCK LOSS | ROCK LOSS. |
| | 75 156.78 | 156.94 | 0.16 | | | SILTSTONE | SSY.LT-M.GY.THNB.BRKN ALSO CLYY AS MODIFIER |
| | 75 156.94 | 157.09 | 0.15 | | | ROCK LOSS | ROCK LOSS. |
| | 75 157.09 | 157.79 | 0.70 | | | SANDSTONE | SLTY.MOD.LT.GY.THNB.WRMBU.SLD BURROWS (1 CM) PERPENDICULAR TO BDG; TO P IS UP; V MINOR QTZ IN CALCITE AND SKS ; ALSO SSD AND BDG AS SED STRUX. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 76 | 157.79 | 159.88 | 2.09 | | | SILTSTONE | CLYY.LT-M.GY.THNB.SSD.SLD 1 CM COAL-(C-5); FROM 0.20 TO 0.21; POSSIBLE LOSS AT BASE; ALSO SSY AND CARB AS MODIFIERS; SED STRUX: WRMBUR. |
| 75 | 159.88 | 160.38 | 0.50 | | | ROCK LOSS | ROCK LOSS. |
| * 74 | 160.38 | 161.10 | 0.72 | | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD ALSO CLYY AS MODIFIER |
| 76 | 161.10 | 162.64 | 1.54 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD SOME PLANT HASH; ALSO SSY AND CARB AS MODIFIERS |
| * 77 | 162.64 | 163.33 | 0.69 | | | SANDSTONE | CARB.MG.WEL.LT.GY.THKB.SLD DRESSER CONTACT?; ALSO SLTY AS MODIFIER |
| 78 | 163.33 | 163.76 | 0.43 | | | SANDSTONE | CARB.MG.WEL.LT-M.GY.THKB.SLD MORE CARB TOWARDS BASE; |
| 78 | 163.76 | 163.97 | 0.21 | | | SANDSTONE | CARB.MG.WEL.LT.GY.THKB.SLD ABRUPT CONTACT AT BASE WITH COAL |
| 78 | 163.97 | 164.00 | 0.03 | 00117 | | COAL | C-3.SLD LIGHT, CLEAN, HARD |
| 78 | 164.00 | 164.06 | 0.06 | 00117 | | COAL | C-1.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 79 | 164.06 | 164.79 | 0.73 | 00117 | | COAL | C-4.SLD LIGHT; CLEAN; HARD; MODERATELY DULL |
| 80 | 164.79 | 165.42 | 0.63 | 00117 | | COAL | C-3.SLD CLEAN; HARD; V MINOR PYRITE SMEARS |
| 80 | 165.42 | 165.44 | 0.02 | 00117 | | COAL | C-1.SLD |
| 80 | 165.44 | 165.52 | 0.08 | 00117 | | COAL | C-3.SLD AS ABOVE |
| 80 | 165.52 | 165.61 | 0.09 | 00117 | | COAL | C-2.SLD |
| 80 | 165.61 | 166.06 | 0.45 | 00117 | | COAL | C-3.SLD LIGHT; CLEAN; HARD |
| 81 | 166.06 | 166.13 | 0.07 | 00117 | | COAL | C-2.SLD |
| 81 | 166.13 | 166.17 | 0.04 | 00117 | | COAL | C-3.SLD FEW BONEY BANDS |
| 81 | 166.17 | 166.24 | 0.07 | | | MUDSTONE | CARB.DK.GY.THKB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 81 | 166.24 | 166.94 | 0.70 | | | MUDSTONE | CARB.DK.GY.THKB.SLD PLANT HASH AND SOME SKS THROUGHOUT; POSSIBLE LOSS AT BASE |
| 82 | 166.94 | 166.97 | 0.03 | | | COAL | C-3.BRKN |
| 82 | 166.97 | 167.16 | 0.19 | | | COAL | C-4.BRKN DULL; LIGHT; CLEAN; HARD |
| 82 | 167.16 | 167.29 | 0.13 | | | COAL | C-4.BRKN MOD DULL; LIGHT; CLEAN; HARD |
| 82 | 167.29 | 167.72 | 0.43 | | | SILTSTONE | SSY.M.GY.THNB.SLD MORE CARB AT TOP--COARSENING TOWARDS BASE; ALSO CLYY AND CARB AS MODIFIERS |
| 83 | 167.72 | 168.17 | 0.45 | | | SANDSTONE | SLTY.FG.PR.LT-M.GY.THNB.SSD.SLD COARSENING TO BASE; ALSO CLYY AND CARB AS MODIFIERS |
| 84 | 168.17 | 168.99 | 0.82 | | | SANDSTONE | SLTY.MG.PR.LT-M.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 84 | 168.99 | 169.25 | 0.26 | | | SANDSTONE | MG.WEL.LT.GY.VTHKB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 86 | 169.25 | 171.79 | 2.54 | | | SANDSTONE | CG.MOD.LT.GY.VTHKB.SLD POSSIBLE LOSS AT 1.17; MINOR QUARTZ VEINING |
| 80 | 171.79 | 171.87 | 0.08 | | | ROCK LOSS | ROCK LOSS. |
| 79 | 171.87 | 172.34 | 0.47 | | | SANDSTONE | CG.WEL.LT.GY.VTHKB.SLD |
| * 73 | 172.34 | 174.63 | 2.29 | | | SANDSTONE | CG.WEL.LT.GY.VTHKB.SLD V MINOR SILTSTONE LAMINATIONS; MINOR QUARTZ VEINING IN FRACTURES FROM 1.82 TO 2.29; POSSIBLE LOSS AT 0.97 |
| 80 | 174.63 | 174.83 | 0.20 | | | ROCK LOSS | ROCK LOSS. |
| 82 | 174.83 | 175.32 | 0.49 | | | SANDSTONE | SLTY.MG.PR.LT-M.GY.THNB.BRKN V MINOR CALCITE VEINING; MINOR QUARTZ VEINING; MINOR SKS; ALSO CLYY AND CARB AS MODIFIERS |
| * 89 | 175.32 | 177.51 | 2.19 | | | SANDSTONE | CG.WEL.LT.GY.VTHKB.SLD V MINOR QTZ VEINING |
| 83 | 177.51 | 178.35 | 0.84 | | | SANDSTONE | CLYY.CG.WEL.LT.GY.VTHKB.XBDG.SLD TOP IS UP; POSSIBLE LOSS AT 0.40; RIP UP CLASTS AND COALY FRAGMENTS FROM 0.63 TO BASE; ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 79 | 178.35 | 179.74 | 1.39 | | | SANDSTONE | SLTY.FG.MOD.LT-M.GY.THNB.XBDG.SLD TOP IS UP; CLYY INTERVAL 0.67 TO 0.68; 0.86--0.88; ALSO CLYY AND CARB AS MODIF IERS |
| 78 | 179.74 | 180.19 | 0.45 | | | SILTSTONE | SSY.M-DK.GY.THNB.SSD.BRKN CALCITE VEIN AT 0.10 WITH CRYSTALS AND ANGULAR MUDSTONE FRAGMENTS; MINOR SKS A ND COALY PARTING; ALSO CLYY AND CARB AS MODIFIERS |
| * 77 | 180.19 | 181.42 | 1.23 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD POSSIBLE LOSS AT BASE; ALSO CLYY AND CA RB AS MODIFIERS |
| 77 | 181.42 | 183.03 | 1.61 | | | SILTSTONE | SSY.M-DK.GY.THNB.SSD.SLD FINING TOWARDS BASE; ALSO CLYY AND CARB AS MODIFIERS |
| 77 | 183.03 | 183.24 | 0.21 | | | SILTSTONE | SSY.M-DK.GY.THNB.SSD.BRKN TOP IS UP; RIP UP CLASTS FROM 0.10 TO B ASE; ALSO CLYY AND CARB AS MODIFIERS; A LSO XBDG AS SED STRUX |
| 78 | 183.24 | 184.45 | 1.21 | | | SANDSTONE | CG.WEL.LT.GY.VTHKB.SLD POSSIBLE LOSS AT BASE |
| 78 | 184.45 | 184.55 | 0.10 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 78 | 184.55 | 184.70 | 0.15 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD MINOR COALY PARTING; ALSO CARB AS MODIFIERS |
| 78 | 184.70 | 185.08 | 0.38 | | | MUDSTONE | CARB.DK.GY.THNB.SLD PLANT HASH |
| * 78 | 185.08 | 185.86 | 0.78 | | | SILTSTONE | SSY.LT.GY.THNB.SSD.SLD ALSO CLYY AS MODIFIER |
| * 77 | 185.86 | 187.04 | 1.18 | | | SANDSTONE | SLTY.FG.PR.LT-M.GY.THNB.SSD.SLD V MINOR CAL; TOP IS UP; ALSO CLYY AND CARB AS MODIFIERS; ALSO SED STRUX: XBDG. |
| 79 | 187.04 | 187.59 | 0.55 | | | SANDSTONE | SLTY.CG.PR.LT.GY.THNB.BRKN FEW COALY INCLUSIONS; ALSO CARB AS MODIFIER |
| 80 | 187.59 | 187.92 | 0.33 | | | SANDSTONE | CLYY.VCG.PR.LT-M.GY.THNB.SSD.SLD CALCITE VEIN WITH ANGULAR FRAGMENTS (FAULT) FROM 0.07 TO 0.13; ALSO CARB AS MODIFIER |
| 81 | 187.92 | 188.29 | 0.37 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD V MINOR CAL PARTING; ALSO SSY AND CARB AS MODIFIERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 82 | 188.29 | 188.42 | 0.13 | | | SANDSTONE | SLTY.VFG.PR.LT.GY.THNB.SSD.SLD ALSO CLYY AS MODIFIER |
| 81 | 188.42 | 188.62 | 0.20 | | | SILTSTONE | SSY.M.GY.THNB.SLD ALSO CLYY AND CARB AS MODIFIERS |
| 77 | 188.62 | 190.54 | 1.92 | | | SILTSTONE | CLYY.DK.GY.THNB.SSD.SLD V MINOR CALCITE PARTING; ALSO CARB AS M ODIFIER |
| 71 | 190.54 | 191.38 | 0.84 | | | MUDSTONE | CARB.DK.GY.THNB.SLD POSSIBLE LOSS AT TOP; ALSO SLTY AS MODI FIER |
| 69 | 191.38 | 191.53 | 0.15 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD POSSIBLE LOSS AT TOP AND BASE; ALSO CAR B AS MODIFIER |
| 68 | 191.53 | 191.56 | 0.03 | | | COAL LOSS | |
| 68 | 191.56 | 191.57 | 0.01 | | | COAL | C-3.BRKN |
| 68 | 191.57 | 191.89 | 0.32 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 66 | 191.89 | 192.23 | 0.34 | | | SANDSTONE | SLTY.VFG.MOD.LT-M.GY.THNB.SSD.SLD ALSO CLYY AS MODIFIER |
| * 65 | 192.23 | 192.42 | 0.19 | | | SILTSTONE | CLYY.M.GY.THNB.SLD V MINOR CALC AND COALY LAMINATIONS; ALS O CARB AS MODIFIER |
| 67 | 192.42 | 193.53 | 1.11 | | | SILTSTONE | SSY.LT-M.GY.THNB.WRMBU.SLD 1 CM BURROW; ALSO CLYY AS MODIFIER; ALS O SSD AS SED STRUX |
| 69 | 193.53 | 194.03 | 0.50 | | | SILTSTONE | SSY.LT-M.GY.THNB.WRMBU.BRKN ALSO CLYY AND CARB AS MODIFIERS |
| * 72 | 194.03 | 195.95 | 1.92 | | | SILTSTONE | SSY.M-DK.GY.THNB.SLD MOST CLYY INTERVAL FROM 0.97 TO 1.09; V MINOR CAL C PARTING AND PLANT HASH; AL SO CLYY AND CARB AS MODIFIERS. |
| 71 | 195.95 | 196.48 | 0.53 | | | SANDSTONE | SLTY.FG.PR.LT-M.GY.THNB.SLD ALSO CLYY AND CARB AS MODIFIERS |
| * 71 | 196.48 | 196.78 | 0.30 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 69 | 196.78 | 197.36 | 0.58 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.SLD ALSO SLTY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 66 | 197.36 | 197.85 | 0.49 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.BRKN ALSO CARB AS MODIFIER |
| * 64 | 197.85 | 198.05 | 0.20 | | | SANDSTONE | SLTY.VFG.MOD.LT.GY.THNB.SSD.SLD ALSO CARB AS MODIFIER; ALSO RTB AS SED STRUX |
| 65 | 198.05 | 198.37 | 0.32 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SLD MINOR CALCITE VEINING; |
| 66 | 198.37 | 198.90 | 0.53 | | | SILTSTONE | CLYY.M.GY.THNB.BRKN ALSO SSY AS MODIFIER |
| 67 | 198.90 | 198.95 | 0.05 | | | ROCK LOSS | |
| 68 | 198.95 | 199.17 | 0.22 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD MINOR SKS; COALY PARTING; ALSO CARB AS MODIFIER |
| 68 | 199.17 | 199.22 | 0.05 | | | ROCK LOSS | |
| 69 | 199.22 | 199.63 | 0.41 | | | SILTSTONE | CLYY.M-DK.GY.THNB.BRKN POSSIBLE LOSS AT TOP; COALY PARTING; AL SO CARB AND SSY AS MODIFIERS |
| * 71 | 199.63 | 200.49 | 0.86 | | | SANDSTONE | SLTY.FG.PR.LT-M.GY.THNB.SSD.SLD ALSO CLYY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 78 | 200.49 | 200.64 | 0.15 | | | SILTSTONE | CLYY.M.GY.THNB.BRKN |
| 79 | 200.64 | 200.66 | 0.02 | | | ROCK LOSS | |
| 79 | 200.66 | 200.70 | 0.04 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD COALY INCLUSION AT TOP; ALSO CARB AS MOD DIFIER |
| * 90 | 200.70 | 202.30 | 1.60 | | | SILTSTONE | SSY.LT-M.GY.THNB.SLD ALSO CLYY AND CARB AS MODIFIERS |
| 87 | 202.30 | 202.35 | 0.05 | | | SILTSTONE | CLYY.M.GY.THNB.SLD |
| 85 | 202.35 | 203.15 | 0.80 | | | SANDSTONE | SLTY.MG.PR.LT.GY.THNB.SLD COALY PARTING AT BASE; ALSO CLYY AS MOD IFIER |
| 84 | 203.15 | 203.33 | 0.18 | | | COAL | C-6.SLD BONEY; HARD |
| 83 | 203.33 | 203.36 | 0.03 | | | COAL | C-3.SLD |
| 83 | 203.36 | 203.40 | 0.04 | | | COAL | C-4.SLD HARD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 83 | 203.40 | 203.43 | 0.03 | | | COAL | C-4.BRKN |
| 83 | 203.43 | 203.45 | 0.02 | | | COAL | C-6.BRKN BONEY; HARD |
| 83 | 203.45 | 203.59 | 0.14 | | | MUDSTONE | SLTY.DK.GY.SLD FEW COALY PARTINGS; MINOR CALCITE VEINING; ALSO CARB AS MODIFIER. |
| 80 | 203.59 | 204.90 | 1.31 | | | SANDSTONE | SLTY.MG.PR.LT.GY.THNB.SSD.BRKN POSSIBLE LOSS WITHIN INTERVAL; MINOR CALCITE VEINING; SOME QUARTZ VEINING; MINOR SKS; ALSO CLYY AND CARB AS MODIFIERS |
| 78 | 204.90 | 204.92 | 0.02 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| 77 | 204.92 | 205.15 | 0.23 | | | COAL | C-3.VBRKN POSSIBLE LOSS AT TOP; CORE STATE: POWDERED. |
| 77 | 205.15 | 205.17 | 0.02 | | | COAL | C-6 STONEY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 76 | 205.17 | 205.41 | 0.24 | | | SILTSTONE | CLYY.M.GY.THNB.SLD POSSIBLE LOSS AT BASE; ALSO CARB AS MOD IFIER |
| * 73 | 205.41 | 206.92 | 1.51 | | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD POSSIBLE LOSS AT BASE; ALSO SLYY AND CA RB AS MODIFIERS |
| 73 | 206.92 | 207.58 | 0.66 | | | SANDSTONE | SLTY.FG.PR.LT-M.GY.THNB.SSD.SLD ALSO CLYY AS MODIFIER |
| * 73 | 207.58 | 208.44 | 0.86 | | | SANDSTONE | SLTY.FG.PR.LT-M.GY.THNB.SSD.SLD |
| * 79 | 208.44 | 210.28 | 1.84 | | | SANDSTONE | SLTY.FG.PR.LT-M.GY.THNB.SLD V MINOR CALCITE VEINING; ALSO CLYY AND CARB AS MODIFIERS |
| 78 | 210.28 | 210.82 | 0.54 | | | SANDSTONE | MG.WEL.LT.GY.THNB.SLD |
| 78 | 210.82 | 210.90 | 0.08 | | | SILTSTONE | CLYY.OK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 78 | 210.90 | 211.04 | 0.14 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|--------------|--|
| | 78 | 211.04 | 211.50 | 0.46 | | SILTSTONE | SSY.FG.M-DK.GY.THNB.SSD.BRKN POSSIBLE LOSS AT 0.24; PIECES DONT FIT; ALSO CLYY AND CARB AS MODIFIERS |
| | 78 | 211.50 | 211.54 | 0.04 | | ROCK LOSS | |
| * | 77 | 211.54 | 213.06 | 1.52 | | SANDSTONE | SLTY.MG.PR.LT.GY.THNB.SLD COARSENING TO BASE; ALSO CLYY AND CARB AS MODIFIERS |
| | 77 | 213.06 | 213.78 | 0.72 | | SANDSTONE | SLTY.FG.MOD.LT-M.GY.THNB.SLD ALSO CARB AS MODIFIER |
| | 77 | 213.78 | 214.63 | 0.85 | | SANDSTONE | CARB.MG.WEL.LT.GY.THKB.SLD V CARB FROM 0.45 TO 0.53; POSSIBLE LOSS AT BASE; |
| * | 77 | 214.63 | 215.40 | 0.77 | | SANDSTONE | MG.WEL.LT.GY.THKB.SLD |
| | 76 | 215.40 | 215.52 | 0.12 | | CONGLOMERATE | PBLY.PBL.PR.LT.GY.THNB.SLD ANGULAR AND ROUNDED CLASTS IN CG MATRIX BLACK, GREY AND WHITE; ALSO SSY AS MOD IFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|--------------|--|
| | 75 | 215.52 | 215.63 | 0.11 | | SANDSTONE | CARB.MG.MOD.LT.GY.THNB.BRKN POSSIBLE LOSS AT 0.03 |
| | 75 | 215.63 | 215.70 | 0.07 | | ROCK LOSS | |
| | 74 | 215.70 | 215.91 | 0.21 | | CONGLOMERATE | PBLY.PBL.PR.LT.GY.THNB.SLD ANGULAR AND SUB ROUNDED CLASTS IN CG MA TRIX BLK, GY AND WHITE; ALSO SSSY AS MOD IFIER |
| | 73 | 215.91 | 216.65 | 0.74 | | CONGLOMERATE | PBLY.PBL.PR.LT.GY.THKB.SLD MAXIMUM PEBBLE SIZE 3 CM IN CG TO GRIT MATRIX; |
| | 71 | 216.65 | 216.73 | 0.08 | | ROCK LOSS | |
| | 71 | 216.73 | 216.78 | 0.05 | | SANDSTONE | MG.MOD.LT.GY.THNB.BRKN POSSIBLE LOSS AT TOP AND BASE |
| | 71 | 216.78 | 216.86 | 0.08 | | ROCK LOSS | |
| * | 69 | 216.86 | 217.99 | 1.13 | | SANDSTONE | CG.WEL.LT.GY.THKB.SLD COARSEST AT TOP WITH FEW MINOR CLASTS |
| | 69 | 217.99 | 218.89 | 0.90 | | SANDSTONE | PBLY.MG.MOD.LT.GY.THKB.XBDG.SLD V MINOR PEBBLE CLASTS (MAX 4 CM) ; TOP IS UP |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 70 | 218.89 | 221.10 | 2.21 | | | SANDSTONE | PBLY.CG.MOD.LT.GY.THKB.SLD COALY PARTING 0.35 TO 0.46 PEBBLE (MAX 3CM)BEDS AT 0.29,1.07;1.41->1.42;1.70-> 1.75;AND 1.86 TO BASE; BLK, GY AND WHIT E CLASTS--ROUNDED TO SUB ANGULAR; SALT AND PEPPER; ALSO CARB AS MODIFIER. |
| 68 | 221.10 | 221.69 | 0.59 | | | SANDSTONE | PBLY.CG.MOD.LT.GY.THKB.SLD PEBBLE BED FROM 0.00 TO 0.19; SALT AND PEPPER |
| 67 | 221.69 | 222.46 | 0.77 | | | SANDSTONE | CG.WEL.LT.GY.THKB.SLD |
| 67 | 222.46 | 222.49 | 0.03 | | | COAL | C-2.VBRKN ALSO PWRD AS CORE STATE |
| 67 | 222.49 | 222.54 | 0.05 | | | MUDSTONE | CARB.BLK.THNB.SLD ABUNDANT COALY PARTING AND PLANT HASH |
| 67 | 222.54 | 222.60 | 0.06 | | | COAL | C-6.PR.VBRKN ALSO PWRD AS CORE STATE; COAL IN BANDS, WET |
| 67 | 222.60 | 222.62 | 0.02 | | | MUDSTONE | CARB.BLK.THNB.SLD COAL AND BANDS OF MUDSTONE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 66 | 222.62 | 222.70 | 0.08 | | | COAL | C-6.SLD COAL AND BANDS OF MUDSTONE |
| 66 | 222.70 | 222.75 | 0.05 | | | COAL | C-3.BRKN |
| 66 | 222.75 | 222.77 | 0.02 | | | COAL | C-4.PWRD WET |
| 66 | 222.77 | 222.78 | 0.01 | | | COAL | C-4.SLD |
| 66 | 222.78 | 223.24 | 0.46 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD POSSIBLE LOSS AT 0.12 |
| 66 | 223.24 | 223.41 | 0.17 | | | MUDSTONE | CARB.DK.GY.THNB.SLD POSSIBLE LOSS AT 0.05 AND 0.09 |
| 65 | 223.41 | 223.45 | 0.04 | | | COAL | C-6.SLD BONEY COAL |
| 65 | 223.45 | 223.53 | 0.08 | | | COAL | C-3.SLD HARD |
| 65 | 223.53 | 223.59 | 0.06 | | | COAL | C-2.SLD HARD |
| 65 | 223.59 | 223.86 | 0.27 | | | COAL | C-4.SLD VERY HARD COAL, ALMOST STEEL BLUE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 65 | 223.86 | 224.00 | 0.14 | | | COAL | C-6.SLD STONEY |
| 64 | 224.00 | 224.48 | 0.48 | | | SILTSTONE | CARB.DK.GY.THNB.BRKN ALSO CLYY AS MODIFIER |
| 64 | 224.48 | 225.03 | 0.55 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| * 63 | 225.03 | 225.56 | 0.53 | | | SILTSTONE | SSY.DK.GY.THNB.SLD ALSO CLYY AS MODIFIER |
| 65 | 225.56 | 225.80 | 0.24 | | | SANDSTONE | SLTY.CG.MOD.LT.GY.THNB.SLD |
| 68 | 225.80 | 226.98 | 1.18 | | | SANDSTONE | GRAN.MOD.LT.GY.THNB.SLD POSSIBLE LOSS AT TOP |
| 71 | 226.98 | 227.19 | 0.21 | | | SANDSTONE | PBLY.GRAN.VPR.LT.GY.THNB.SLD COALY PARTING; MINOR CALCITE, ANGULAR G RANULES; ALSO SLTY CLYY AND CARB AS MOD IFIERS |
| 72 | 227.19 | 227.24 | 0.05 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 75 | 227.24 | 228.37 | 1.13 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SSD.SLD WRMBUR 0.94--1.08; ALSO WRMBUR AS SED S TRUX; ALSO CARB AND SSY AS MODIFIERS |
| * 78 | 228.37 | 228.63 | 0.26 | | | SANDSTONE | SLTY.PR.LT-M.GY.THNB.XBDG.SLD TOP IS UP; ALSO SSD AS SED STRUX |
| 78 | 228.63 | 228.83 | 0.20 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD |
| 77 | 228.83 | 229.26 | 0.43 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 77 | 229.26 | 229.34 | 0.08 | | | SILTSTONE | SSY.LT-M.GY.THNB.SLD ALSO CLYY AS MODIFIER |
| 77 | 229.34 | 229.56 | 0.22 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SLD |
| 77 | 229.56 | 230.02 | 0.46 | | | SILTSTONE | CLYY.M.GY.THNB.SLD ALSO SSY AND CARB AS MODIFIERS |
| 76 | 230.02 | 230.55 | 0.53 | | | SANDSTONE | SLTY.FG.WEL.LT.GY.THNB.XBDG.SLD TOP IS UP; ALSO CLYY AS MODIFIER |
| 75 | 230.55 | 231.54 | 0.99 | | | SILTSTONE | SSY.M-DK.GY.THNB.WRMBU.SLD WRMBUR 0.25--0.30; FINING TO BASE; ALSO CLYY AND CARB AS MODIFIER |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 75 | 231.54 | 231.58 | 0.04 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 74 | 231.58 | 232.33 | 0.75 | | | SANDSTONE | SLTY.VFG.MOD.LT-M.GY.THNB.XBDG.SLD ALSO CLYY AS MODIFIER |
| 74 | 232.33 | 232.42 | 0.09 | | | MUDSTONE | SLTY.M.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 74 | 232.42 | 232.64 | 0.22 | | | SANDSTONE | SLTY.VFG.PR.LT.GY.THNB.XBDG.SLD ALSO CLYY AND CARB AS MODIFIERS |
| 74 | 232.64 | 232.75 | 0.11 | | | SILTSTONE | CLYY.M.GY.THNB.SLD |
| 73 | 232.75 | 234.30 | 1.55 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD POSSIBLE LOSS AT BASE; BECOMES MORE CARB TOWARDS BASE; ALSO CARB AS MODIFIER |
| 72 | 234.30 | 234.34 | 0.04 | | | COAL | C-4.PWRD |
| 72 | 234.34 | 234.49 | 0.15 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD ABUNDANT PLANT HASH; ALSO CARB AS MODIF IER |
| 72 | 234.49 | 234.52 | 0.03 | | | COAL | C-6.PWRD STONEY |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 71 | 234.52 | 234.72 | 0.20 | | SILTSTONE | CLYY.M.GY.THNB.SLD ALSO SSY AND CARB AS MODIFIERS |
| * | 71 | 234.72 | 235.40 | 0.68 | | SANDSTONE | SLTY.FG.WEL.LT.GY.THNB.SLD ALSO CLYY AND CARB AS MODIFIERS |
| | 71 | 235.40 | 236.20 | 0.80 | | SANDSTONE | CARB.FG.WEL.LT.GY.THNB.SLD CALCITE VEINING 0.33 TO 0.48; ALSO SLTY AS MODIFIER |
| | 72 | 236.20 | 236.24 | 0.04 | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| | 72 | 236.24 | 236.36 | 0.12 | | MUDSTONE | SLTY.DK.GY.THNB.SLD COALY PARTING; |
| * | 72 | 236.36 | 238.06 | 1.70 | | SANDSTONE | SLTY.FG.WEL.LT.GY.THKB.XBDG.SLD MINOR COALY INCLUSIONS; TOP IS UP; ALSO CARB AS MODIFIER |
| | 75 | 238.06 | 238.16 | 0.10 | | SANDSTONE | SLTY.FG.WEL.LT.GY.THNB.SLD ALSO CARB AS MODIFIER |
| | 75 | 238.16 | 238.25 | 0.09 | | SILTSTONE | CLYY.M.GY.THNB.SLD ALSO SSY AS MODIFIER |
| | 76 | 238.25 | 238.86 | 0.61 | | MUDSTONE | SLTY.DK.GY.THNB.VBRKN ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 77 | 238.86 | 239.19 | 0.33 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD ALSO CARB AS MODIFIER |
| 78 | 239.19 | 239.64 | 0.45 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD FINING TOWARDS BASE; ALSO CLYY AND CARB AS MODIFIERS |
| 79 | 239.64 | 239.80 | 0.16 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD COALY INCLUSIONS AND CALCITE AT BASE; A LSO CARB AS MODIFIER |
| 80 | 239.80 | 239.91 | 0.11 | | | SILTSTONE | CLYY.M.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 80 | 239.91 | 239.99 | 0.08 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD COALY PARTING; ALSO CARB AS MODIFIER |
| 81 | 239.99 | 240.47 | 0.48 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 82 | 240.47 | 240.78 | 0.31 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY PARTING AND PLANT HASH; |
| 83 | 240.78 | 241.50 | 0.72 | | | SILTSTONE | SSY.M-DK.GY.THNB.SLD ALSO CLYY AND CARB AS MODIFIERS |
| * 85 | 241.50 | 242.00 | 0.50 | | | SILTSTONE | SSY.M-DK.GY.THNB.BRKN POSSIBLE LOSS AT 0.34; ALSO CLYY AS MOD IFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 85 | 242.00 | 242.34 | 0.34 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SLD QTZ VEINING AND XTALS IN CAVITIES; |
| 86 | 242.34 | 242.55 | 0.21 | | | SILTSTONE | CLYY.M.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 86 | 242.55 | 243.27 | 0.72 | | | MUDSTONE | SLTY.DK.GY.THNB.VBRKN POSSIBLE LOSS THROUGHOUT; PIECES DONT F IT; COALY PARTING AND PLANT HASH; ALSO CARB AS MODIFIER |
| 86 | 243.27 | 243.42 | 0.15 | | | SILTSTONE | SSY.M.GY.THNB.SLD COALY PARTING; ALSO CLYY AND CARB AS MO DIFIERS |
| 86 | 243.42 | 243.93 | 0.51 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD V MINOR CALCITE VEINING; ALSO CARB AS M ODIFIER |
| 87 | 243.93 | 244.60 | 0.67 | | | MUDSTONE | SLTY.DK.GY.THNB.VBRKN COALY PARTING AND LAMINATIONS ABUNDANT THROUGHOUT; POSSIBLE LOSS THROUGHOUT AND AT BASE; ALSO CARB AS MODIFIER |
| 87 | 244.60 | 244.82 | 0.22 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD PLANT HASH; ALSO CARB AS MODIFIER |
| 88 | 244.82 | 245.23 | 0.41 | | | SILTSTONE | CLYY ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 88 | 245.23 | 245.98 | 0.75 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.XBDG.SLD TOP IS UP; ALSO CLYY AND CARB AS MODIFI ERS |
| * 69 | 245.98 | 247.04 | 1.06 | | | SANDSTONE | SLTY.FG.WEL.LT.GY.THKB.XBDG.SLD BURROW PERPENDICULAR TO BDG; ALSO CARB AS MODIFIER; ALSO WRMBUR AS SED STRUX. |
| 70 | 247.04 | 247.68 | 0.64 | | | SANDSTONE | SLTY.MG.PR.LT.GY.THNB.SSD.SLD CALCAREOUS--AS ARE MOST OF THE SEDS; AL SO CARB AS MODIFIER |
| 71 | 247.68 | 248.22 | 0.54 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD POSSIBLE LOSS AT TOP; |
| 71 | 248.22 | 248.72 | 0.50 | | | MUDSTONE | CARB.DK.GY.THKB.SLD PLANT HASH; ALSO SLTY AS MODIFIER |
| 72 | 248.72 | 249.76 | 1.04 | | | ROCK LOSS | |
| 73 | 249.76 | 251.01 | 1.25 | | | MUDSTONE | CARB.BLK.THKB.VBRKN VERY CARBONACEOUS FROM 0.90 TO 1.25 WIT H COAL PWRD IN TRAY; POSSIBLE LOSS THRO UGHOUT |
| 74 | 251.01 | 251.65 | 0.64 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN POSSIBLE LOSS THROUGHOUT; ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| * 75 | 251.65 | 252.40 | 0.75 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD ALSO CARB AS MODIFIER |
| * 77 | 252.40 | 253.94 | 1.54 | | | SILTSTONE | CLYY.WRMBU BURROWS FROM 0.00 TO 0.23 AND 1.07 TO 1 .24; (1CM) PERPENDICULAR TO BEDDING; AL SO CARB AND SSY AS MODIFIERS. |
| 76 | 253.94 | 254.12 | 0.18 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN PLANT HASH; ALSO CARB AS MODIFIER |
| 76 | 254.12 | 254.24 | 0.12 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN ABUNDANT PLANT HASH |
| 76 | 254.24 | 254.83 | 0.59 | | | SILTSTONE | SSY.M.GY.THNB.SSD.BRKN INTERVAL FILLED WITH RIP UP CLASTS; ALS O CLYY AND CARB AS MODIFIERS |
| 75 | 254.83 | 255.15 | 0.32 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN PLANT HASH; ALSO CARB AS MODIFIER |
| 74 | 255.15 | 256.96 | 1.81 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD COARSENING TO BASE; ALSO CARB AS MODIFI ER |
| * 73 | 256.96 | 257.89 | 0.93 | | | SILTSTONE | CLYY.M.GY.THNB.SLD POSSIBLE LOSS AT 0.17, COARSENING TO BAS E; ALSO SSY AND CARB AS MODIFIERS |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 72 | 257.89 | 258.53 | 0.64 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD ALSO CLYY AND CARB AS MODIFIERS; ALSO W RMBUR AS SED STRUX |
| 71 | 258.53 | 258.84 | 0.31 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD V MINOR CALCITE VEIN; ALSO CARB AS MODI FIER |
| 70 | 258.84 | 259.08 | 0.24 | | | SANDSTONE | SLTY.FG.PR.LT.GY.THNB.BRKN POSSIBLE LOSS AT 0.19; ALSO CARB AS MOD IFIER |
| 69 | 259.08 | 259.43 | 0.35 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 67 | 259.43 | 260.61 | 1.18 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD ALSO CARB AS MODIFIER |
| 66 | 260.61 | 260.69 | 0.08 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| * 62 | 260.69 | 263.36 | 2.67 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD PLANT HASH; FEW COALY PARTINGS; V MINOR PYRITE SMEARS; ALSO CARB AS MODIFIER |
| 63 | 263.36 | 263.45 | 0.09 | | | MUDSTONE | CARB.BLK.THNB.SLD V CARB |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 63 | 263.45 | 263.55 | 0.10 | | | COAL | C-6.SLD STONEY |
| 64 | 263.55 | 263.60 | 0.05 | | | COAL | C-6.BRKN STONEY |
| 64 | 263.60 | 263.91 | 0.31 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 64 | 263.91 | 264.44 | 0.53 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD COALY PARTING; ALSO CLYY AND CARB AS MO DIFIER; ALSO RTB AS SED STRUX |
| * 65 | 264.44 | 265.67 | 1.23 | | | SANDSTONE | SLTY.MG.PR.LT.GY.THNB.SSD.SLD FRACTURES WITH QTZ VEINING AND XTALS; A LSO CARB AS MODIFIER |
| 63 | 265.67 | 266.22 | 0.55 | | | SANDSTONE | SLTY.CG.PR.LT.GY.THNB.BRKN ABUNDANT COALY PARTINGS AND INCLUSIONS; QUARTZ VEINS, SKS AND SILICEOUS CEMENT ; ALSO CARB AS MODIFIER |
| 61 | 266.22 | 266.78 | 0.56 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.XBDG.BRKN AS ABOVE; ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 60 | 266.78 | 267.17 | 0.39 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.XBDG.SLD POSSIBLE LOSS AT TOP AND 0.14; TOP IS U P; ABUNDANT QUARTZ PARTINGS AND SKS; AL SO CARB AS MODIFIER |
| * 57 | 267.17 | 269.10 | 1.93 | | | SANDSTONE | SLTY.VFG.WEL.LT-M.GY.THKB.SSD.BRKN SOME QTZ VEINING, MINOR CALCITE VEINING ; SKS AND MINOR BRECCIATION; ALSO CLYY AS MODIFIER |
| * 70 | 269.10 | 269.99 | 0.89 | | | SANDSTONE | SLTY.FG.MOD.LT-M.GY.THNB.SSD.BRKN CALCITE VEINING, CARB PARTING AND SKS; POSSIBLE LOSS AT BASE; ALSO CARB AS MOD IFIER |
| 66 | 269.99 | 270.84 | 0.85 | | | SANDSTONE | CARB.CG.MOD.LT-M.GY.THNB.XBDG.SLD LARGE SCALE XBDG; ABUNDANT CALCITE VEIN ING; CARB PARTING |
| 63 | 270.84 | 271.31 | 0.47 | | | SANDSTONE | CARB.VCG.VPR.LT-M.GY.THNB.SLD ABUNDANT FRACTURES WITH COALY PARTING; SKS, QUARTZ XTALS AND MINOR CALCITE; |
| * 60 | 271.31 | 272.20 | 0.89 | | | SANDSTONE | SLTY.GRAN.VPR.LT.GY.THNB.BRKN SOME QTZ VEINING; COALY INCLUSIONS; FRA CTURE CAVITIES WITH QTZ IN FILLING; ALS O CARB AND CLYY FOR MODIFIERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 63 | 272.20 | 272.50 | 0.30 | | | SILTSTONE | CLYY.M.GY.THNB.SLD CHERTY,SIL CEMENT;POSSIBLE LOSS AT BASE ; VERY HARD; ALSO CARB AS MODIFIER |
| 66 | 272.50 | 273.92 | 1.42 | | | SILTSTONE | CLYY.M.GY.THKB.SLD CHERTY,SIL CEMENT; VERY HARD |
| 70 | 273.92 | 274.13 | 0.21 | | | SANDSTONE | SLTY.FG.PR.M.GY.THNB.SLD ALSO CLYY AND CARB AS MODIFIERS |
| * 72 | 274.13 | 274.86 | 0.73 | | | SANDSTONE | SLTY.MG.MOD.LT-M.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 70 | 274.86 | 275.46 | 0.60 | | | SANDSTONE | SLTY.GRAN.VPR.LT-M.GY.THNB.SLD ABUNDANT COALY UNCLUSIONS; ALSO CARB AS MODIFIER |
| 68 | 275.46 | 276.06 | 0.60 | | | SANDSTONE | PBLY.GRAN.VPR.LT-M.GY.THNB.SLD CLAST SUPPORTED CONGLOMERATE FROM 0.20 TO 0.28; MAX 0.15 M CLASTS ABUNDANT COA LY INCLUSIONS; ALSO SLTY AND CARB AS MO DIFIERS |
| 66 | 276.06 | 276.67 | 0.61 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD ABUNDANT COALY INCLUSIONS FROM 0.27 TO 0.30; POSSIBLE LOSS IN SAME INTERVAL; A LSD CARB AS MODIFIER |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 64 | 276.67 | 276.87 | 0.20 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD ALSO CLYY AND CARB AS MODIFIERS |
| * 63 | 276.87 | 277.31 | 0.44 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD FINING TO BASE; COALY PARTING; ALSO CAR B AS MODIFIER |
| 63 | 277.31 | 277.48 | 0.17 | | | COAL | C-6.SLD STONEY |
| 64 | 277.48 | 277.54 | 0.06 | | | COAL | C-6.SLD BONEY |
| 64 | 277.54 | 277.59 | 0.05 | | | MUDSTONE | CARB.BLK.THNB.SLD |
| 64 | 277.59 | 277.71 | 0.12 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD COALY PARTING; ALSO CARB AS MODIFIER |
| 64 | 277.71 | 277.74 | 0.03 | | | COAL | C-6.BRKN STONEY |
| 64 | 277.74 | 277.78 | 0.04 | | | COAL | C-3.SLD LISTRIC SURFACES |
| 64 | 277.78 | 277.83 | 0.05 | | | COAL | C-5.SLD |
| 64 | 277.83 | 278.27 | 0.44 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 65 | 278.27 | 278.37 | 0.10 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN PLANT HASH |
| 65 | 278.37 | 278.40 | 0.03 | | | COAL | C-3.BRKN LISTRIC SURFACES |
| 65 | 278.40 | 278.45 | 0.05 | | | COAL | C-6.SLD STONEY |
| 65 | 278.45 | 278.54 | 0.09 | | | MUDSTONE | CARB.BLK.THNB.SLD PLANT HASH |
| 65 | 278.54 | 278.59 | 0.05 | | | COAL | C-2.SLD |
| 65 | 278.59 | 278.62 | 0.03 | | | MUDSTONE | CARB.BLK.THNB.SLD |
| 65 | 278.62 | 278.65 | 0.03 | | | COAL | C-1.BRKN |
| 65 | 278.65 | 278.68 | 0.03 | | | COAL | C-3.BRKN LISTRIC SURFACES |
| 65 | 278.68 | 278.77 | 0.09 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN POSSIBLE LOSS AT BASE |
| 66 | 278.77 | 278.85 | 0.08 | | | MUDSTONE | CARB.BLK.THNB.BRKN POSSIBLE LOSS THROUGHOUT |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| 66 | 278.85 | 278.90 | 0.05 | | | COAL | C-3.BRKN |
| 66 | 278.90 | 278.93 | 0.03 | | | COAL | C-1.SLD LITRIC SURFACES |
| 66 | 278.93 | 279.02 | 0.09 | | | COAL | C-4.SLD |
| 66 | 279.02 | 279.11 | 0.09 | | | COAL | C-6.SLD COAL AND BANDS OF MUDSTONE |
| 66 | 279.11 | 279.26 | 0.15 | | | ROCK LOSS | |
| 67 | 279.26 | 279.93 | 0.67 | | | MUDSTONE | CARB.BLK.THNB.BRKN VERY CARB FROM TOP TO 0.24; POSSIBLE LO SS AT TOP |
| 68 | 279.93 | 280.70 | 0.77 | | | MUDSTONE | CARB.DK.GY.BRKN POSSIBLE LOSS AT 0.65; ALSO SHRD AS COR E STATE; ALSO SLTY AS MODIFIER |
| 68 | 280.70 | 280.75 | 0.05 | | | COAL | C-6.BRKN BONEY; ALSO SHRD AS CORE STATE |
| 69 | 280.75 | 281.01 | 0.26 | | | COAL LOSS | |
| 69 | 281.01 | 281.13 | 0.12 | | | COAL | C-3.PWRD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 69 | 281.13 | 281.20 | 0.07 | | | COAL | C-6.VBRKN BONEY |
| 69 | 281.20 | 281.26 | 0.06 | | | COAL | C-4.PWRD |
| 69 | 281.26 | 281.28 | 0.02 | | | MUDSTONE | CARB.BLK.THNB.VBRKN ALSO PWRD AS CORE STATE |
| 69 | 281.28 | 281.34 | 0.06 | | | COAL | C-5.PWRD |
| 69 | 281.34 | 281.44 | 0.10 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN |
| 70 | 281.44 | 281.55 | 0.11 | | | ROCK LOSS | |
| 70 | 281.55 | 282.02 | 0.47 | | | MUDSTONE | CARB.DK.GY.THNB.SLD POSSIBLE LOSS AT TOP |
| 71 | 282.02 | 282.84 | 0.82 | | | SILTSTONE | CLYY.DK.GY.THNB.VBRKN POSSIBLE LOSS AT BASE; ALSO CARB AS MOD IFIER |
| * 73 | 282.84 | 284.68 | 1.84 | | | SILTSTONE | CLYY.M.GY.THNB.SLD CALCITE PARTING; COALY INCLUSIONS AND L AMINATIONS THROUGHOUT; ALSO CARB AND SS Y AS MODIFIERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 69 | 284.68 | 285.69 | 1.01 | | | SILTSTONE | SSY.LT-M.GY.THNB.SLD V MINOR PYRITE; ALSO CLYY AND CARB AS M ODIFIERS |
| 67 | 285.69 | 286.46 | 0.77 | | | SANDSTONE | SLTY.VFG.PR.LT-M.GY.THNB.WRMBU.SLD ALSO RTB AS SED STRUX; ALSO CLYY AND CA RB AS MODIFIERS |
| * 64 | 286.46 | 287.67 | 1.21 | | | SANDSTONE | SLTY.FG.PR.LT-M.GY.THNB.SLD RIP UP CLASTS 0.40--0.46; ALSO CARB AND CLYY AS MODIFIERS |
| 66 | 287.67 | 287.68 | 0.01 | | | MUDSTONE | SLTY.OK.GY.VTHNB.SLD |
| 68 | 287.68 | 288.35 | 0.67 | | | SANDSTONE | VFG.MOD.LT-M.GY.THNB.SLD CALCITE VEINING AND COALY INCLUSIONS |
| * 70 | 288.35 | 288.80 | 0.45 | | | SILTSTONE | SSY.LT-M.GY.THNB.SLD POSSIBLE LOSS AT TOP; ALSO MINOR CALCIT E VEINING; ALSO CLYY AND CARB AS MODIFI ERS |
| 72 | 288.80 | 288.91 | 0.11 | | | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 72 | 288.91 | 288.93 | 0.02 | | | COAL | C-3.PWRD POSSIBLE LOSS THROUGHOUT |
| 77 | 288.93 | 290.75 | 1.82 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD POSSIBLE LOSS AT 1.35 AND BASE |
| 82 | 290.75 | 290.91 | 0.16 | | | COAL LOSS | |
| 83 | 290.91 | 290.96 | 0.05 | | | COAL | C-3.BRKN |
| 83 | 290.96 | 291.00 | 0.04 | | | COAL | C-4.BRKN |
| 84 | 291.00 | 291.25 | 0.25 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN POSSIBLE LOSS THROUGHOUT |
| 85 | 291.25 | 291.35 | 0.10 | | | ROCK LOSS | |
| * 90 | 291.35 | 293.13 | 1.78 | | | SILTSTONE | CLYY.M.GY.THNB.SLD PLANT HASH; ALSO SSY AND CARB AS MODIFIERS |
| 90 | 293.13 | 293.30 | 0.17 | | | COAL LOSS | |
| 90 | 293.30 | 294.30 | 1.00 | | | MUDSTONE | SLTY.M.GY.THNB.SLD POSSIBLE LOSS AT TOP; PLANT HASH THROUGHOUT; ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| * 90 | 294.30 | 295.48 | 1.18 | | | SILTSTONE | SSY.M.GY.THNB.RTB.SLD POSSIBLE LOSS AT BASE; COARSENING TO BASE; ALSO CLYY AND CARB AS MODIFIERS |
| 82 | 295.48 | 295.63 | 0.15 | | | ROCK LOSS | |
| 78 | 295.63 | 296.06 | 0.43 | | | SILTSTONE | SSY.LT-M.GY.THNB.SLD POSSIBLE LOSS AT TOP AND BASE; ALSO CLY Y AND CARB AS MODIFIERS |
| * 68 | 296.06 | 297.22 | 1.16 | | | MUDSTONE | SLTY.M-DK.GY.THNB.SSD.SLD ALSO CARB AND SSY AS MODIFIERS |
| * 74 | 297.22 | 300.09 | 2.87 | | | MUDSTONE | SLTY.M-DK.GY.THNB.XBDG.SLD TOP IS UP; ALSO SSY AND CARB AS MODIFIERS |
| 76 | 300.09 | 300.15 | 0.06 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD ALSO CARB AS MODIFIERS |
| * 78 | 300.15 | 302.81 | 2.66 | | | SILTSTONE | SSY.M-DK.GY.THNB.SLD V MINOR CALCITE AND SKS; ALSO CLYY AND CARB AS MODIFIERS |
| 78 | 302.81 | 303.24 | 0.43 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ALSO SLTY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 78 | 303.24 | 303.26 | 0.02 | | | SANDSTONE | SLTY.MG.WEL.LT.GY.THNB.SLD POSSIBLE LOSS AT BASE; |
| 78 | 303.26 | 304.25 | 0.99 | | | SANDSTONE | CLYY.MG.WEL.LT.GY.THNB.SLD CLAYEY INCLUSIONS FROM 0.03 TO 0.23 AND 0.40 TO 0.51; ALSO CARB AS MODIFIERS |
| 78 | 304.25 | 304.47 | 0.22 | | | MUDSTONE | CARB.DK.GY.THNB.SLD V MINOR CALCITE VEIN AND SKS; ALSO SLTY AS MODIFIER |
| * 78 | 304.47 | 305.20 | 0.73 | | | SILTSTONE | CLYY.M.GY.THNB.SLD ALSO CARB AND SSY AS MODIFIERS |
| 80 | 305.20 | 305.60 | 0.40 | | | SANDSTONE | SLTY.MG.WEL.LT.GY.THNB.SLD ALSO CARB AS MODIFIER |
| * 83 | 305.60 | 306.34 | 0.74 | | | SANDSTONE | CARB.CG.WEL.LT.GY.THKB.SLD |
| 80 | 306.34 | 306.69 | 0.35 | | | SANDSTONE | SLTY.CG.MOD.LT.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 76 | 306.69 | 307.50 | 0.81 | | | SANDSTONE | CARB.GRAN.WEL.LT.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| * 71 | 307.50 | 308.47 | 0.97 | | | SANDSTONE | CARB.CG.PR.LT-M.GY.THNB.BRKN POSSIBLE LOSS THROUGHOUT; CORE SPUN AND ROUNDED; GRANULAR INTERVAL 0.61 TO 0.6 6; ALSO SLTY AS MODIFIER |
| 70 | 308.47 | 308.57 | 0.10 | | | ROCK LOSS | |
| 70 | 308.57 | 308.87 | 0.30 | | | ROCK LOSS | |
| 69 | 308.87 | 309.12 | 0.25 | | | SANDSTONE | CARB.CG.PR.M.GY.THNB.BRKN POSSIBLE LOSS THROUGHOUT; |
| 69 | 309.12 | 309.32 | 0.20 | | | ROCK LOSS | |
| 69 | 309.32 | 309.50 | 0.18 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN POSSIBLE LOSS THROUGHOUT; ALSO SLTY AS MODIFIER |
| 68 | 309.50 | 309.70 | 0.20 | | | ROCK LOSS | |
| 68 | 309.70 | 309.88 | 0.18 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD V MINOR PYRITE; ALSO SSY AND CARB AS MO DIFIERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 67 | 309.88 | 311.19 | 1.31 | | | SANDSTONE | SLTY.FG.PR.M.GY.THNB.SSD.BRKN SLIGHTLY CALCAREOUS; SILICEOUS CEMENT; POSSIBLE LOSS THROUGHOUT; ALSO CLYY AND CARB AS MODIFIERS |
| 67 | 311.19 | 311.35 | 0.16 | | | ROCK LOSS | |
| 67 | 311.35 | 311.80 | 0.45 | | | SILTSTONE | CLYY.M.GY.THNB.BRKN AS ABOVE; ALSO CARB AS MODIFIER |
| 68 | 311.80 | 312.40 | 0.60 | | | ROCK LOSS | |
| 68 | 312.40 | 312.71 | 0.31 | | | ROCK LOSS | |
| * 68 | 312.71 | 313.02 | 0.31 | | | SILTSTONE | CARB.M.GY.THNB.SLD POSSIBLE LOSS AT TOP; ALSO SSY AS MODIF IER |
| 67 | 313.02 | 313.46 | 0.44 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD FINING TO BASE; ALSO CARB AS MODIFIER |
| 66 | 313.46 | 313.52 | 0.06 | | | COAL | C-5.SLD |
| 66 | 313.52 | 313.66 | 0.14 | | | COAL | C-3.SLD |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 66 | 313.66 | 313.78 | 0.12 | | | COAL | C-2.BRKN |
| 65 | 313.78 | 313.79 | 0.01 | | | COAL | C-6.SLD STONE |
| 65 | 313.79 | 313.81 | 0.02 | | | COAL | C-2.SLD |
| 65 | 313.81 | 314.23 | 0.42 | | | MUDSTONE | SLTY.BLK.THNB.SLD ALSO CARB AS MODIFIER |
| 64 | 314.23 | 314.38 | 0.15 | | | ROCK LOSS | |
| 64 | 314.38 | 314.58 | 0.20 | | | COAL | C-3.BRKN MINOR SHEARING |
| 63 | 314.58 | 314.62 | 0.04 | | | COAL | C-2.BRKN |
| 63 | 314.62 | 314.65 | 0.03 | | | COAL | C-6.SLD STONE |
| 63 | 314.65 | 314.66 | 0.01 | | | COAL | C-2.SLD |
| 63 | 314.66 | 314.74 | 0.08 | | | COAL | C-5.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 63 | 314.74 | 314.82 | 0.08 | | | COAL | C-4.BRKN |
| 62 | 314.82 | 315.08 | 0.26 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 62 | 315.08 | 315.10 | 0.02 | | | COAL | C-2.PWRD |
| 62 | 315.10 | 315.19 | 0.09 | | | COAL LOSS | |
| 61 | 315.19 | 315.50 | 0.31 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 60 | 315.50 | 315.79 | 0.29 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 59 | 315.79 | 316.22 | 0.43 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 58 | 316.22 | 316.49 | 0.27 | | | COAL | C-3.SLD HARD |
| 58 | 316.49 | 316.57 | 0.08 | | | COAL | C-6.SLD STONE |
| 58 | 316.57 | 316.60 | 0.03 | | | COAL | C-3.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|------------|---|
| 58 | 316.60 | 316.71 | 0.11 | | | COAL | C-5.BRKN |
| 57 | 316.71 | 316.76 | 0.05 | | | COAL LOSS | |
| 57 | 316.76 | 316.86 | 0.10 | | | COAL | C-3.SLD |
| * 55 | 316.86 | 318.37 | 1.51 | | | SILTSTONE | CLYY.M.GY.THNB.SLD VERY MINOR CALCITE, SKS AND PYRITE SMEARS AT 1.11, POSS LOSS AT BASE; ALSO SSY AND CARB AS MODIFIERS. |
| 60 | 318.37 | 318.62 | 0.25 | | | ROCK LOSS. | |
| 61 | 318.62 | 318.86 | 0.24 | | | SILTSTONE | CLYY.M.GY.THNB.SLD SLIGHTLY CALCAREOUS, SIL CEMENT, POLISHED CUT SURFACES; ALSO CARB AS MODIFIER. |
| 62 | 318.86 | 319.11 | 0.25 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ALSO SLTY AS MODIFIER. |
| * 65 | 319.11 | 319.86 | 0.75 | | | SILTSTONE | CLYY.M.GY.THNB.SLD MINOR CALCITE VEINING; ALSO SSY AND CARB AS MODIFIERS. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH#1008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| 64 | 319.86 | 320.01 | 0.15 | | | COAL LOSS | |
| 63 | 320.01 | 320.12 | 0.11 | | | COAL | C-3.VBRKN CORE STATE POWDERED AND SHRD. |
| 63 | 320.12 | 320.27 | 0.15 | | | COAL | C-6.BRKN STONEY. |
| 62 | 320.27 | 320.37 | 0.10 | | | SILTSTONE | CLYY.M.GY.THNB.SLD ALSO CARB AS MODIFIER. |
| 62 | 320.37 | 320.43 | 0.06 | | | COAL | C-3.BRKN CORE STATE: SHRD. |
| 62 | 320.43 | 320.63 | 0.20 | | | COAL | C-3.VBRKN PWRD, SHEARED. |
| 61 | 320.63 | 320.74 | 0.11 | | | COAL | C-3.BRKN SHEARED. |
| 61 | 320.74 | 320.84 | 0.10 | | | COAL | C-2.BRKN |
| 61 | 320.84 | 320.94 | 0.10 | | | COAL | C-3.VBRKN PWRD. |
| 60 | 320.94 | 321.22 | 0.28 | | | MUDSTONE | SLTY.BLK.THNB.SLD CARB. |

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 60 | 321.22 | 321.26 | 0.04 | | | COAL | C-3.PWRD POSS LOSS THROUGHOUT. |
| 59 | 321.26 | 321.36 | 0.10 | | | COAL LOSS | |
| 59 | 321.36 | 321.53 | 0.17 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB. |
| 59 | 321.53 | 321.58 | 0.05 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB. |
| 58 | 321.58 | 322.29 | 0.71 | | | SILTSTONE | SSY.LT.GY.THNB.SSD.SLD ABDNT CALCITE VEINS; ALSO RTB AS SED ST RUX; ALSO CLYY AND CARB AS MODIFIERS. |
| 56 | 322.29 | 322.78 | 0.49 | | | SILTSTONE | CLYY.M.GY.THNB.SLD CARB, CALCITE VEINING AT BASE; ALSO CAR B AS MODIFIER. |
| 55 | 322.78 | 322.80 | 0.02 | | | COAL | C-3.SLD |
| 54 | 322.80 | 323.71 | 0.91 | | | SILTSTONE | CLYY.M.GY.THNB.BRKN SHEARED, POSS LOSS THROUGHOUT, SKS AND CALCITE VEINING ABDNT, CARB AND SSY AS MODIFIERS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 52 | 323.71 | 324.09 | 0.38 | | | SANDSTONE | CLYY.VFG.LT.GY.THNB.BRKN AS ABOVE; SLTY AND CARB AS MODIFIERS. |
| 49 | 324.09 | 325.12 | 1.03 | | | MUDSTONE | SLTY.DK.GY.THKB.BRKN POSS LOSS THROUGHOUT, VERY MINOR CALCIT E VEINING, CARB AS MODIFIER. |
| 47 | 325.12 | 325.44 | 0.32 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN AS ABOVE; CARB AS MODIFIER. |
| 44 | 325.44 | 327.46 | 2.02 | | | ROCK LOSS | |
| 40 | 327.46 | 328.14 | 0.68 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD POSS LOSS AT TOP; ALSO CARB AS MODIFIER . |
| * 38 | 328.14 | 328.59 | 0.45 | | | SANDSTONE | SLTY.VFG.M.GY.THNB.SSD.SLD CARB, VERY MINOR PYRITE AND CALCITE VEI NS; ALSO CLYY AS MODIFIER. |
| 33 | 328.59 | 329.57 | 0.98 | | | SANDSTONE | SLTY.FG.M.GY.THNB.SSD.SLD CARB, CALCITE VEINING AND VERY MINOR SK S; ALSO CLYY AND CARB AS MODIFIERS. |
| 29 | 329.57 | 329.93 | 0.36 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB, MINOR CALCITE PARTING. |
| * 25 | 329.93 | 330.71 | 0.78 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD CARB; ALSO RTB AS SED STRUX. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 30 | 330.71 | 330.73 | 0.02 | | ROCK LOSS | |
| | 35 | 330.73 | 331.49 | 0.76 | | SILTSTONE | CLYY.M.GY.THNB.BRKN CARB, POSS LOSS AT TOP, ABDNT CALCITE VEINING FROM 0.09 TO 0.12 AND 0.53 TO 0.66. |
| | 40 | 331.49 | 331.52 | 0.03 | | ROCK LOSS | |
| | 45 | 331.52 | 332.24 | 0.72 | | SILTSTONE | CLYY.LT.GY.THNB.SLD POSSIBLE LOSS AT TOP; ALSO CARB AS MODIFIER. |
| * | 54 | 332.24 | 332.89 | 0.65 | | SANDSTONE | SLTY.VFG.LT.GY.THNB.SLD CALCITE VEINING AT 0.44 WITH SKS; ALSO CARB AS MODIFIER. |
| | 59 | 332.89 | 333.50 | 0.61 | | SILTSTONE | CLYY.M.GY.THNB.SLD CARB, POSS LOSS AT BASE, CALCITE, COALY INCLUSIONS AND SKS FROM 0.37 TO BASE. |
| | 65 | 333.50 | 334.23 | 0.73 | | SILTSTONE | CLYY.M.GY.THNB.SLD CARB. |
| * | 76 | 334.23 | 335.94 | 1.71 | | SILTSTONE | CLYY.LT.GY.THNB.SLD MINOR CALCITE VEINING; ALSO SSY AND CARB AS MODIFIERS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 78 | 335.94 | 335.97 | 0.03 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN |
| 78 | 335.97 | 336.05 | 0.08 | | | COAL C-3 | PWRD |
| 78 | 336.05 | 336.46 | 0.41 | | | MUDSTONE | CARB.BLK.THNB.BRKN POSS LOSS AT BASE. |
| 79 | 336.46 | 336.53 | 0.07 | | | COAL | C-2.PWRD |
| 79 | 336.53 | 336.60 | 0.07 | | | COAL LOSS | |
| 80 | 336.60 | 336.90 | 0.30 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN POSS LOSS THROUGHOUT,SKS. |
| 80 | 336.90 | 336.93 | 0.03 | | | ROCK LOSS | |
| * 83 | 336.93 | 339.85 | 2.92 | | | SILTSTONE | CARB.M.GY.THNB.SSD.VBRKN WRMBUR, POSS LOSS AT 1.93; ALSO SSSY AND CLYY AS MODIFIERS. |
| 80 | 339.85 | 339.90 | 0.05 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 79 | 339.90 | 340.21 | 0.31 | | | MUDSTONE | CARB.DK.GY.THNB.SLD VERY MINOR CALCITE PARTING; ALSO SLTY A S MODIFIER. |
| 77 | 340.21 | 341.78 | 1.57 | | | SILTSTONE | SSY.LT.GY.THNB.SSD.SLD WRMBUR, CARB, ICM BURROWS, RANDAM ORIET ATION, MINOR QUARTZ XTALS IN CALCITE. |
| * 75 | 341.78 | 342.40 | 0.62 | | | SANDSTONE | SLTY.FG.PR.LT.GY.THNB.SSD.SLD CARB, WRMBUR, XBDG, TOP IS UP; ALSO CLY Y AS MODIFIER. |
| 76 | 342.40 | 342.70 | 0.30 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD CARB AND SSY AS MODIFIERS. |
| 77 | 342.70 | 342.97 | 0.27 | | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD CARB, POSS LOSS AT BASE; ALSO CLYY AS M ODIFIER. |
| 78 | 342.97 | 342.98 | 0.01 | | | ROCK LOSS | |
| 78 | 342.98 | 343.32 | 0.34 | | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD CARB, POSS LOSS AT BASE. |
| 79 | 343.32 | 343.33 | 0.01 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 79 343.33 | 343.59 | 0.26 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN CARB, ABDNT COALY LAMINATIONS INCLUSION S, MINOR CALCITE AND SKS. |
| * | 83 343.59 | 345.50 | 1.91 | | | SILTSTONE | CLYY.M.GY.THNB.SLD CARB, COAL INCLUSIONS AT 0.93- 0.97(C-2) , ABDNT COALY PARTINGS, SOME CALCITE V EINING, SOME SKS. |
| | 83 345.50 | 345.90 | 0.40 | | | SILTSTONE | CLYY.M.GY.THNB.SLD CARB. |
| | 83 345.90 | 346.06 | 0.16 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD CARB, POSS LOSS AT BASE, ABDNT CALCITE VEINING, ABDNT COALY INCLUSIONS. |
| | 83 346.06 | 346.23 | 0.17 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD CARB. |
| | 84 346.23 | 346.88 | 0.65 | | | SILTSTONE | CLYY.LT.GY.THNB.SSD.SLD CARB. |
| | 84 346.88 | 347.65 | 0.77 | | | MUDSTONE | SLTY.M.GY.THKB.SLD CARB. |
| * | 84 347.65 | 348.34 | 0.69 | | | SILTSTONE | SSY.LT.GY.THNB.SSD.SLD CARB AND CLYY AS MODIFIERS; RTB AS SED STRUX. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 85 | 348.34 | 349.16 | 0.82 | | | SILTSTONE | SSY.LT.GY.THNB.SSD.SLD CARB, WRMBUR; ALSO CLYY AS MODIFIER. |
| 86 | 349.16 | 350.20 | 1.04 | | | SILTSTONE | CLYY.M.GY.THKB.SLD CARB. |
| 87 | 350.20 | 350.80 | 0.60 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN CARB, PLANT HASH, COALY PARTINGS, VERY MINOR CALCITE AND SKS. |
| 88 | 350.80 | 350.93 | 0.13 | | | COAL | C-2.BRKN |
| 88 | 350.93 | 350.95 | 0.02 | | | COAL LOSS | |
| 88 | 350.95 | 350.96 | 0.01 | | | COAL | C-6.BRKN STONEY. |
| 88 | 350.96 | 350.97 | 0.01 | | | COAL | C-1.BRKN |
| 88 | 350.97 | 350.99 | 0.02 | | | COAL LOSS | |
| 88 | 350.99 | 351.05 | 0.06 | | | COAL | C-6.BRKN STONEY. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 88 | 351.05 | 351.06 | 0.01 | | | COAL | C-1.SLD |
| 88 | 351.06 | 351.07 | 0.01 | | | COAL | C-5.SLD |
| 88 | 351.07 | 351.11 | 0.04 | | | COAL | C-2.SLD |
| 88 | 351.11 | 351.16 | 0.05 | | | COAL | C-3.SLD |
| 88 | 351.16 | 351.20 | 0.04 | | | COAL | C-2.SLD |
| 88 | 351.20 | 351.25 | 0.05 | | | COAL | C-6.SLD STONEY. |
| 89 | 351.25 | 351.93 | 0.68 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN CARB, ABDNT COALY INCLUSIONS. |
| 89 | 351.93 | 352.13 | 0.20 | | | SILTSTONE | CLYY.LT.GY.THNB.SSD.SLD CARB, WRMBUR, PLANT HASH; RTB AS SED ST RUX. |
| * 90 | 352.13 | 353.26 | 1.13 | | | SANDSTONE | CLYY.VFG.MOD.LT.GY.THNB.XBDG CARB, WRMBUR, TOP IS UP; SLTY AS MODIFI ER; SSD AS SED STRUX. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 86 | 353.26 | 353.73 | 0.47 | | | SILTSTONE | SSY.LT.GY.THNB.SSD.BRKN CARB, WRMBUR, MINOR CALCITE PARTING; CL YY AS MODIFIER. |
| 85 | 353.73 | 353.74 | 0.01 | | | COAL | C-3.SLD POSS LOSS AT TOP. |
| 85 | 353.74 | 353.78 | 0.04 | | | COAL | C-1.SLD POSS LOSS AT BASE. |
| 85 | 353.78 | 353.84 | 0.06 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 84 | 353.84 | 353.91 | 0.07 | | | COAL | C-1.VBRKN |
| 84 | 353.91 | 354.04 | 0.13 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN VERY SHEARED, ABDNT LISTRIC SURFACES. |
| 84 | 354.04 | 354.05 | 0.01 | | | COAL | C-3.PWRD |
| 84 | 354.05 | 354.07 | 0.02 | | | COAL | C-6.BRKN STONE, LISTRIC SURFACES. |
| 83 | 354.07 | 354.10 | 0.03 | | | COAL | C-2.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 83 | 354.10 | 354.12 | 0.02 | | | COAL | C-1.BRKN |
| 83 | 354.12 | 354.16 | 0.04 | | | COAL | C-3.BRKN |
| 83 | 354.16 | 354.19 | 0.03 | | | COAL | C-2.BRKN |
| 83 | 354.19 | 354.28 | 0.09 | | | COAL | C-3.BRKN |
| 82 | 354.28 | 354.33 | 0.05 | | | COAL | C-6.BRKN STONEY. |
| 81 | 354.33 | 355.00 | 0.67 | | | SILTSTONE | CLYY.DK.GY.THKB.SLD CARB, VERY MINOR SKS. |
| 77 | 355.00 | 355.80 | 0.80 | | | SILTSTONE | CLYY.DK.GY.THKB.SLD CARB, ABDNT COALY LAMINATIONS, CALCITE PARTING. |
| 75 | 355.80 | 355.83 | 0.03 | | | COAL | C-6.BRKN BONEY |
| 75 | 355.83 | 355.86 | 0.03 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 75 | 355.86 | 355.88 | 0.02 | | | COAL | C-2.SLD |
| 75 | 355.88 | 356.01 | 0.13 | | | COAL | C-3.BRKN |
| 74 | 356.01 | 356.08 | 0.07 | | | COAL LOSS | |
| 74 | 356.08 | 356.17 | 0.09 | | | COAL | C-1.VBRKN |
| 73 | 356.17 | 356.21 | 0.04 | | | COAL | C-4.BRKN |
| 73 | 356.21 | 356.22 | 0.01 | | | COAL | C-1.BRKN |
| 73 | 356.22 | 356.49 | 0.27 | | | COAL LOSS | |
| 72 | 356.49 | 356.50 | 0.01 | | | COAL | C-1.VBRKN PWRD. |
| 71 | 356.50 | 356.73 | 0.23 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB, ABDNT PLANT HASH. |
| 67 | 356.73 | 358.19 | 1.46 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.RTB.SLD CARB, QUARTZ CYSTALS AND CALCITE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 63 | 358.19 | 358.63 | 0.44 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SLD CARB, RIP-UP CLASTS 0.39 TO BASE, MINOR SKS, QUARTZ CRYSTALS AND CALCITE. |
| 65 | 358.63 | 358.82 | 0.19 | | | MUDSTONE | CARB.DK.GY.THNB.SLD POSS CORE LOSS AT BASE. |
| 66 | 358.82 | 358.86 | 0.04 | | | ROCK LOSS | |
| 67 | 358.86 | 359.11 | 0.25 | | | SILTSTONE | CLYY.M.GY.THNB.SLD CARB. |
| 70 | 359.11 | 359.56 | 0.45 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN POSS LOSS AT 0.04, SKS. |
| 71 | 359.56 | 359.60 | 0.04 | | | ROCK LOSS | |
| 73 | 359.60 | 360.14 | 0.54 | | | MUDSTONE | CARB.DK.GY.THNB.SLD INFREQUENT CALCITE STRINGERS. |
| 76 | 360.14 | 360.35 | 0.21 | | | SILTSTONE | M.GY.THNB.SLD MICACEOUS. |
| 78 | 360.35 | 360.71 | 0.36 | | | SILTSTONE | CLYY.LT.GY.THNB.SSD.SLD XBDG, MICACEOUS, TOP IS UP; ALSO CLYY A S MODIFIER. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 82 360.71 | 361.33 | 0.62 | | | SANDSTONE | SLTY.MOD.LT.GY.THKB.SSD.SLD MINOR SMALL SILT CLASTS. |
| * | 88 361.33 | 362.46 | 1.13 | | | SANDSTONE | MG.LT.GY.THKB.SLD CALCITE PARTING AT 0.22 |
| | 79 362.46 | 362.47 | 0.01 | | | MUDSTONE | M.GY.THNB.SLD ABDNT CALCITE PARTING, LISTRIC SURFACES . |
| | 73 362.47 | 363.30 | 0.83 | | | MUDSTONE | SLTY.LT.GY.THNB.SSD.SLD MINOR SANDY STRINGERS; ALSO SSY AS MODIFIER. |
| * | 63 363.30 | 363.74 | 0.44 | | | SANDSTONE | SLTY.FG.PR.LT.GY.THNB.SSD.SLD CARB, CALCITE PARTING AT 0.05. |
| | 65 363.74 | 363.98 | 0.24 | | | MUDSTONE | SLTY.M.GY.THNB.SSD.SLD CALCITE PARTING AT TOP; ALSO SSY AS MODIFIER. |
| | 66 363.98 | 364.16 | 0.18 | | | MUDSTONE | SLTY.M.GY.THNB.SLD CARB. |
| | 67 364.16 | 364.26 | 0.10 | | | COAL | C-3.BRKN PROBABLE LOSS, CALCITE STRINGER. |
| | 67 364.26 | 364.28 | 0.02 | | | COAL | C-4.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 67 | 364.28 | 364.32 | 0.04 | | | COAL | C-4.BRKN |
| 67 | 364.32 | 364.43 | 0.11 | | | COAL | C-2.BRKN |
| 68 | 364.43 | 364.45 | 0.02 | | | COAL | C-5.VBRKN SHEARED. |
| 69 | 364.45 | 364.89 | 0.44 | | | MUDSTONE | SLTY.M.GY.THNB.SLD CARB, POSS LOSS AT TOP. |
| 71 | 364.89 | 365.31 | 0.42 | | | SANDSTONE | CLYY.FG.VPR.LT.GY.THNB.SSD.SLD CARB; ALSO SLTY AS MODIFIER. |
| 73 | 365.31 | 365.52 | 0.21 | | | MUDSTONE | SSY.LT.GY.THNB.SSD.SLD CARB,WRMBUR 4MM OBLIQUE TO BEDDING; ALS O SLTY AS MODIFIER. |
| 75 | 365.52 | 366.26 | 0.74 | | | SILTSTONE | SSY.LT.GY.THNB.XBDG.BRKN TOP IS UP, CALCITE PARTING AT 0.23. |
| 80 | 366.26 | 367.29 | 1.03 | | | MUDSTONE | SSY.DK.GY.THNB.SSD.SLD CARB AND SLTY AS MODIFIERS. |
| * 84 | 367.29 | 368.02 | 0.73 | | | SILTSTONE | SSY.LT.GY.THNB.SSD.SLD CLYY AS MODIFIER. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 85 | 368.02 | 369.35 | 1.33 | | SILTSTONE | CLYY.LT.GY.THNB.SSD.SLD CARB. |
| * | 86 | 369.35 | 370.34 | 0.99 | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SSD.SLD |
| | 85 | 370.34 | 370.83 | 0.49 | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SSD.SLD CARB, COALY PARTING, VERY MINOR CALCITE AT BASE. |
| * | 84 | 370.83 | 372.90 | 2.07 | | SANDSTONE | SLTY.MG.MOD.LT.GY.THKB.SSD.VBRKN CALCITE CYSTALS IN VEINS PERPENDICULAR TO BEDDING; MINOR SMOKEY QUARTZ. |
| | 84 | 372.90 | 373.44 | 0.54 | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD CARB, CALCITE STRINGERS INFREQUENT. |
| | 84 | 373.44 | 373.52 | 0.08 | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY LAMINATIONS. |
| | 84 | 373.52 | 375.08 | 1.56 | | MUDSTONE | SLTY.LT.GY.THNB.SSD.SLD |
| | 84 | 375.08 | 375.37 | 0.29 | | SANDSTONE | SLTY.VFG.MOD.LT.GY.THNB.XBDG.SLD TOP IS UP. |
| * | 84 | 375.37 | 376.13 | 0.76 | | SILTSTONE | CLYY.LT.GY.THNB.SSD.SLD SSY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 80 | 376.13 | 376.57 | 0.44 | | SILTSTONE | SSY.LT.GY.THNB.SSD.SLD |
| | 76 | 376.57 | 377.50 | 0.93 | | MUDSTONE | SSY.M.GY.THNB.SSD.SLD THIN CALCITE PARTING AT BASE; ALSO SLTY AS MODIFIER. |
| | 72 | 377.50 | 378.24 | 0.74 | | SANDSTONE | SLTY.MG.PR.LT.GY.THNB.SLD THIN COALY LAMINATIONS, CALCITE PARTING AT 0.40, MUDDY CLASTS AT 0.50, 0.60 AN D 0.70. |
| * | 69 | 378.24 | 378.38 | 0.14 | | MUDSTONE | CARB.DK.GY.THNB.SLD CALCITE STRINGERS |
| | 72 | 378.38 | 378.91 | 0.53 | | SANDSTONE | MG.LT.GY.THKB.SLD |
| | 75 | 378.91 | 379.24 | 0.33 | | SANDSTONE | CARB.CG.LT.GY.THKB.SLD POSS LOSS AT BASE, SALT AND PEPPER, COA LY PARTING. |
| | 78 | 379.24 | 379.55 | 0.31 | | SANDSTONE | CARB.VCG.LT.GY.THKB.SLD SALT AND PEPPER. |
| | 79 | 379.55 | 379.58 | 0.03 | | COAL LOSS | |
| | 80 | 379.58 | 379.64 | 0.06 | | COAL | C-1.PWRD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| | 81 | 379.64 | 379.74 | 0.10 | | COAL LOSS | |
| | 81 | 379.74 | 379.77 | 0.03 | | COAL | C-6 STONEY. |
| | 84 | 379.77 | 380.49 | 0.72 | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB, ABDNT COALY INCLUSIONS. |
| * | 90 | 380.49 | 381.15 | 0.66 | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD CARB, RTB. |
| | 87 | 381.15 | 381.50 | 0.35 | | SANDSTONE | CLYY.VFG.PR.LT.GY.THNB.XBDG.SLD CARB, TOP IS UP; ALSO SLTY AS MODIFIER. |
| | 86 | 381.50 | 381.80 | 0.30 | | SILTSTONE | CLYY.M.GY.THNB.SLD CARB. |
| | 85 | 381.80 | 381.84 | 0.04 | | SILTSTONE | CLYY.M.GY.THNB.SLD CARB. |
| | 84 | 381.84 | 382.09 | 0.25 | | SANDSTONE | SLTY.VFG.MOD.LT.GY.THNB.XBDG.SLD CARB, TOP IS UP. |
| | 83 | 382.09 | 382.32 | 0.23 | | MUDSTONE | SLTY.M.GY.THNB.XBDG.SLD CARB. |
| | 82 | 382.32 | 382.45 | 0.13 | | SANDSTONE | SLTY.VFG.MOD.LT.GY.THNB.SLD CARB. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 77 | 382.45 | 384.03 | 1.58 | | | SANDSTONE | SLTY.FG.LT.GY.THKB.XBDG.SLD CARB, 0.14 CLAY RIPPED UP CLASTS; ALSO CLYY AS MODIFIER. |
| 69 | 384.03 | 384.66 | 0.63 | | | SANDSTONE | CG.MOD.LT.GY.THNB.XBDG.SLD LARGE SCALE XBDG, CALCITE CYSTALS ON FR ACTURE SURFACE. |
| * 64 | 384.66 | 385.56 | 0.90 | | | SANDSTONE | CG.MOD.LT.GY.THNB.XBDG.SLD |
| 69 | 385.56 | 385.61 | 0.05 | | | ROCK LOSS | |
| 69 | 385.61 | 385.65 | 0.04 | | | SANDSTONE | CG.MOD.LT.GY.THNB.XBDG.SLD POSS CORE LOSS AT TOP. |
| 72 | 385.65 | 386.11 | 0.46 | | | MUDSTONE | SLTY.DK.GY.SLD CARB. |
| 77 | 386.11 | 386.53 | 0.42 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD CARB. |
| * 83 | 386.53 | 387.30 | 0.77 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD CARB. |
| 83 | 387.30 | 387.50 | 0.20 | | | COAL | C-3.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 83 | 387.50 | 387.62 | 0.12 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ABDNT COALY LAMINATIONS. |
| 83 | 387.62 | 388.61 | 0.99 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB. |
| 83 | 388.61 | 388.69 | 0.08 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB. |
| 83 | 388.69 | 388.89 | 0.20 | | | COAL | C-1.SLD |
| 84 | 388.89 | 389.94 | 1.05 | | | SILTSTONE | CLYY.M.GY.THKB.SLD CARB, ABDNT PLANT HASH AND COALY PARTIN GS. |
| 84 | 389.94 | 390.33 | 0.39 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN ABDNT COALY LAMINATIONS, CALCITE. |
| * 84 | 390.33 | 391.58 | 1.25 | | | SILTSTONE | SSY.LT.GY.THNB.SSD.SLD CARB, WRMBUR; ALSO CLYY AS MODIFIER. |
| 84 | 391.58 | 391.60 | 0.02 | | | ROCK LOSS | |
| 83 | 391.60 | 392.05 | 0.45 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB, POSS LOSS AT INTERVAL TOP, MINOR CALCITE VEINING. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 83 | 392.05 | 392.30 | 0.25 | | | SILTSTONE | SSY.LT.GY.THNB.RTB.SLD CARB . |
| * 83 | 392.30 | 392.80 | 0.50 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD CARB. |
| 82 | 392.80 | 393.06 | 0.26 | | | SANDSTONE | SLTY.VFG.LT.GY.THNB.XBDG.SLD TOP IS UP; ALSO CLYY AS MODIFIER. |
| 81 | 393.06 | 394.64 | 1.58 | | | SANDSTONE | SLTY.VFG.PR.LT.GY.THNB.SSD.SLD CARB, XBDG, BORDERLINE SST/SLTST, ABDNT COALY LAMINATIONS; ALSO CLYY AS MODIFI ER. |
| 79 | 394.64 | 395.24 | 0.60 | | | SANDSTONE | SLTY.VFG.PR.LT.GY.THNB.SSD.SLD CARB< XBDG>; ALSO CLYY AS MODIFIER. |
| 78 | 395.24 | 395.26 | 0.02 | | | COAL | C-6.SLD BONEY. . |
| 78 | 395.26 | 395.29 | 0.03 | | | COAL | C-3.SLD |
| 78 | 395.29 | 395.40 | 0.11 | | | COAL | C-6.BRKN BONEY. |
| 78 | 395.40 | 395.42 | 0.02 | | | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 77 | 395.42 | 395.93 | 0.51 | | | MUDSTONE | SLTY.M.GY.THNB.SSD.SLD CARB, VERY MINOR PLANT HASH. |
| 76 | 395.93 | 396.45 | 0.52 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB. |
| 75 | 396.45 | 397.24 | 0.79 | | | SANDSTONE | CLYY.FG.PR.LT.GY.THNB.SLD CARB, CLYY INTERVALS, STRIPPED ROCK; AL SO SLTY AS MODIFIER. |
| 74 | 397.24 | 397.56 | 0.32 | | | SILTSTONE | CLYY.M.GY.THNB.SLD CARB, MINOR CALCITE VEINS AND SKS. |
| 74 | 397.56 | 397.59 | 0.03 | | | ROCK LOSS | |
| * 73 | 397.59 | 398.65 | 1.06 | | | SANDSTONE | CLYY.CG.MOD.LT.GY.THNB.SLD CARB, POSS CORE LOSS AT TOP, CLYY INTER VALS 0.06, 0.09-0.11, 0.26-0.29, 0.55-0 .58, 0.61-0.62, MINOR SKS, COAL INCLUSI ONS; ALSO SLTY AS MODIFIER; RIPPED CLAS TS, CALCITE VEINING. |
| 80 | 398.65 | 398.78 | 0.13 | | | MUDSTONE | SSY.DK.GY.THNB.SSD.SLD CARB, SSY INTERVAL 0.04 - 0.07, MINOR C ALCITE. |
| 82 | 398.78 | 398.98 | 0.20 | | | SILTSTONE | CLYY.M.GY.THNB.SLD ALSO SSY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| * 84 | 398.98 | 399.02 | 0.04 | | | SANDSTONE | FG.WEL.LT.GY.THNB.SLD |
| 84 | 399.02 | 399.16 | 0.14 | | | SILTSTONE | CARB.M.GY.THNB.SSD.SLD ALSO SSSY AS MODIFIER |
| 84 | 399.16 | 399.29 | 0.13 | | | SANDSTONE | SLTY.VFG.MOD.LT.GY.THNB.SSD.SLD |
| 84 | 399.29 | 399.31 | 0.02 | | | MUDSTONE | CARB.M.GY.THNB.BRKN |
| 84 | 399.31 | 399.33 | 0.02 | | | ROCK LOSS | |
| 84 | 399.33 | 399.40 | 0.07 | | | SANDSTONE | FG.WEL.LT.GY.THNB.SLD |
| 84 | 399.40 | 399.44 | 0.04 | | | SANDSTONE | SLTY.FG.PR.LT.GY.THNB.SSD.BRKN RIP UP CLASTS THROUGHOUT; PARALLEL TO B DG |
| 84 | 399.44 | 399.48 | 0.04 | | | ROCK LOSS | |
| 84 | 399.48 | 399.52 | 0.04 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 85 | 399.52 | 399.77 | 0.25 | | | SANDSTONE | FG.WEL.LT.GY.THNB.SLD |
| 85 | 399.77 | 399.92 | 0.15 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD V MINOR CALCITE PARTING; ALSO SSY AS MODIFIER |
| 85 | 399.92 | 400.23 | 0.31 | | | SANDSTONE | MG.MOD.LT.GY.THNB.SLD INFREQUENT CLASTS |
| 85 | 400.23 | 400.25 | 0.02 | | | MUDSTONE | M.GY.THNB.BRKN |
| 85 | 400.25 | 400.27 | 0.02 | | | ROCK LOSS | |
| 85 | 400.27 | 400.65 | 0.38 | | | SANDSTONE | MG.WEL.LT.GY.THNB.SLD INFREQUENT COALY LAMINATIONS |
| 86 | 400.65 | 401.77 | 1.12 | | | SANDSTONE | MG.WEL.LT.GY.THKB.SLD |
| 87 | 401.77 | 402.32 | 0.55 | | | SANDSTONE | MG.WEL.LT.GY.THKB.SLD |
| 87 | 402.32 | 402.41 | 0.09 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| | 402.41 | 403.51 | 1.10 | | | MUDSTONE | CARB.DK.GY.THNB.SLD POSSIBLE LOSS AT 0.13; FREQUENT COALY LAMINATIONS; FEW CALCITE STRINGERS |
| * 88 | 403.51 | 403.71 | 0.20 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD SILTY LAMINATIONS THROUGHOUT; ALSO CLYY AS MODIFIER |
| 88 | 403.71 | 403.77 | 0.06 | | | MUDSTONE | DK.GY.THNB.SLD POSSIBLE LOSS AT BASE |
| 88 | 403.77 | 403.82 | 0.05 | | | ROCK LOSS | |
| 88 | 403.82 | 404.31 | 0.49 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.BRKN POSSIBLE LOSS AT 0.40; ALSO CARB AS MODIFIER |
| 88 | 404.31 | 404.38 | 0.07 | | | ROCK LOSS | |
| 88 | 404.38 | 404.47 | 0.09 | | | SANDSTONE | SLTY.MG.PR.M.GY.THNB.SSD.SLD ALSO CARB AS MODIFIER |
| 88 | 404.47 | 404.73 | 0.26 | | | SANDSTONE | MG.WEL.LT.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 88 | 404.73 | 406.58 | 1.85 | | | SANDSTONE | SLTY.MG.MOD.LT.GY.THKB.SLD CALCITE VEIN AT 0.83; INFREQUENT SILTY CLASTS |
| 88 | 406.58 | 406.85 | 0.27 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN |
| * 88 | 406.85 | 407.60 | 0.75 | | | MUDSTONE | SLTY.LT-M.GY.THNB.SSD.SLD |
| 88 | 407.60 | 407.98 | 0.38 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| * 88 | 407.98 | 409.96 | 1.98 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD ALSO XBDG AS SED STRUX; ALSO CLYY AND C ARB AS MODIFIERS; TOP IS UP; CALCITE VE IN AT 0.74 |
| 86 | 409.96 | 410.31 | 0.35 | | | SANDSTONE | SLTY.MG.MOD.M.GY.THNB.XBDG.SLD INFREQUENT SILTSTONE CLASTS |
| 86 | 410.31 | 410.47 | 0.16 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 86 | 410.47 | 410.51 | 0.04 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 85 | 410.51 | 411.25 | 0.74 | | | MUDSTONE | DK.GY.THNB.SSD.SLD POSSIBLE CORE LOSS AT TOP;(2 CM) COAL I NCLUSION AT 0.26 |
| 84 | 411.25 | 412.82 | 1.57 | | | SANDSTONE | SLTY.MG.PR.LT.GY.THNB.SSD.BRKN CORE LOSS AT 1.03; FEW SILTSTONE CLASTS |
| 82 | 412.82 | 412.87 | 0.05 | | | ROCK LOSS | |
| 82 | 412.87 | 412.99 | 0.12 | | | SANDSTONE | SLTY.MG.PR.LT.GY.THNB.SSD.BRKN ALSO CARB AS MODIFIER |
| 82 | 412.99 | 413.39 | 0.40 | | | MUDSTONE | CARB.M.GY.THNB.SLD MINOR COALY INCLUSIONS |
| * 80 | 413.39 | 415.57 | 2.18 | | | SILTSTONE | CLYY.LT-M.GY.THNB.SSD.SLD CALCITE PARTING 1.8; TOP IS UP; ALSO SS Y AS MODIFIER; ALSO WRMBUR AND XBDG AS SED STRUX |
| 84 | 415.57 | 416.04 | 0.47 | | | MUDSTONE | DK.GY.THNB.SLD |
| 86 | 416.04 | 417.39 | 1.35 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN COALY INCLUSION AT 0.60; POSSIBLE LOSS AT 0.50 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 88 | 417.39 | 417.42 | 0.03 | | ROCK LOSS | |
| * | 90 | 417.42 | 418.72 | 1.30 | | SILTSTONE | SSY.LT-DK.GY.THNB.XBDG.SLD TOP IS UP; BURROWS 7MM--DIAM RANDOM ORIENTATION; ALSO CLYY AND CARB AS MODIFIERS; ALSO SSD AND BIOTRB AS SED STRUX |
| | 89 | 418.72 | 418.84 | 0.12 | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| | 89 | 418.84 | 419.17 | 0.33 | | SANDSTONE | SLTY.VFG.PR.LT-M.GY.THNB.WRMBU.SLD ALSO CLYY AND CARB AS MODIFIERS; ALSO SSD AS SED STRUX |
| * | 89 | 419.17 | 419.75 | 0.58 | | SILTSTONE | SSY.LT-DK.GY.THNB.SSD.SLD ABUNDANT COALY INCLUSIONS; ALSO CLYY AND CARB AS MODIFIERS |
| | 89 | 419.75 | 419.82 | 0.07 | | COAL | C-1.PWRD POSSIBLE LOSS |
| | 88 | 419.82 | 421.52 | 1.70 | | MUDSTONE | SLTY.DK.GY.THKB.BRKN ABUNDANT COALY INCLUSIONS; TOP---0.25; POSSIBLE LOSS; ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 87 421.52 | 422.19 | 0.67 | | | SILTSTONE | CARB.M.GY.THKB.SLD ALSO CLYY AS MODIFIER |
| * | 86 422.19 | 423.18 | 0.99 | | | SILTSTONE | CLYY.M.GY.THNB.SLD ALSO SSY AS MODIFIER |
| | 87 423.18 | 423.93 | 0.75 | | | SANDSTONE | SLTY.VFG.PR.LT-M.GY.THNB.SSD.BRKN CALCAREOUS; MINOR CAL VEINING; ALSO CLY Y AND CARB AS MODIFIERS |
| | 87 423.93 | 424.01 | 0.08 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| | 88 424.01 | 424.05 | 0.04 | | | COAL | C-3.SLD |
| | 88 424.05 | 424.09 | 0.04 | | | COAL | C-4.BRKN |
| | 88 424.09 | 424.11 | 0.02 | | | COAL | C-1.BRKN |
| | 88 424.11 | 424.21 | 0.10 | | | COAL | C-2.BRKN MINOR PYRITE |
| | 88 424.21 | 424.30 | 0.09 | | | COAL | C-3.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 88 | 424.30 | 424.34 | 0.04 | | | COAL | C-2.BRKN |
| 88 | 424.34 | 424.40 | 0.06 | | | COAL | C-2.BRKN |
| 88 | 424.40 | 425.09 | 0.69 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD ABUNDANT COALY INCLUSIONS; ALSO CARB AS MODIFIER |
| 89 | 425.09 | 425.28 | 0.19 | | | SILTSTONE | SSY.M.GY.THNB.SLD SOME COALY PARTINGS; ALSO CARB AS MODIF IER |
| * 90 | 425.28 | 427.11 | 1.83 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD ALSO CLYY AS MODIFIERS; ALSO WRMBUR AS SED STRUX |
| 89 | 427.11 | 427.50 | 0.39 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD ALSO CLYY AS MODIFIER |
| 89 | 427.50 | 428.28 | 0.78 | | | SANDSTONE | SLTY.VFG.PR.LT-M.GY.THNB.SSD.SLD ALSO CLYY AS MODIFIER |
| 89 | 428.28 | 428.48 | 0.20 | | | SANDSTONE | SLTY.VFG.PR.LT-M.GY.THNB.SSD.SLD ALSO CLYY AS MODIFIER; ALSO WRMBUR AS S ED STRUX |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 88 | 428.48 | 429.92 | 1.44 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD FEW COALY INCLUSIONS; ALSO SSY AND CARB AS MODIFIERS |
| * 90 | 429.92 | 431.34 | 1.42 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD ALSO SSY AND CARB AS MODIFIERS; ALSO WR MBUR AND RTB AS SED STRUX |
| 89 | 431.34 | 432.71 | 1.37 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD LISTRIC SURFACES; V MINOR CC; ALSO CARB AS MODIFIER |
| 89 | 432.71 | 433.69 | 0.98 | | | SILTSTONE | SSY.M.GY.THNB.RTB.SLD FINING TOWARD BASE; ALSO CLYY AND CARB AS MODIFIERS |
| 88 | 433.69 | 433.87 | 0.18 | | | ROCK LOSS | |
| 88 | 433.87 | 434.29 | 0.42 | | | SANDSTONE | SLTY.VFG.LT-M.GY.THNB.RTB.SLD TOP IS UP; ALSO CLYY AS MODIFIER; ALSO SSD AND XBDG AS SED STRUX |
| 88 | 434.29 | 435.39 | 1.10 | | | SILTSTONE | SSY.M.GY.THNB.XBDG.SLD ABUNDANT SSY LAMINATIONS; ALSO CLYY AS MODIFIER; ALSO SSD AND WRMBUR AS SED ST RUX |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 87 | 435.39 | 435.78 | 0.39 | | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD ALSO CLYY AS MODIFIER; ALSO WRMBUR AS SED STRUX |
| 87 | 435.78 | 435.87 | 0.09 | | | MUDSTONE | CARB.DK.GY.THNB.SLD FEW COALY INCLUSIONS |
| * 87 | 435.87 | 436.75 | 0.88 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD ABUNDANT SSY LAMINATIONS; ALSO CLYY AND CARB AS MODIFIERS; ALSO WRMBUR AND RTB AS SED STRUX |
| | 436.75 | 437.35 | 0.60 | | | MUDSTONE | CARB.DK.GY.THNB.SLD POSSIBLE LOSS AT BASE; ABUNDANT COALY L AMINATION; MINOR CALC VEINING. |
| 87 | 437.35 | 437.39 | 0.04 | | | ROCK LOSS | |
| 87 | 437.39 | 437.65 | 0.26 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.SLD PYRITE CONCRETIONS (3 CM) DIAM; |
| 87 | 437.65 | 438.04 | 0.39 | | | SILTSTONE | CLYY.M.GY.THNB.SLD |
| 87 | 438.04 | 438.27 | 0.23 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.RTB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 87 | 438.27 | 438.41 | 0.14 | | | SANDSTONE | MG.WEL.LT.GY.THNB.SLD CALCITE VEINING AT 0.11; CALCAREOUS |
| 87 | 438.41 | 439.36 | 0.95 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.SLD ALSO SLTY AS MODIFIER |
| 87 | 439.36 | 439.64 | 0.28 | | | SILTSTONE | SSY.LT-DK.GY.THNB.SSD.SLD COALY PARTINGS; CALCITE STRINGERS; ALSO CLYY AND CARB AS MODIFIERS |
| 87 | 439.64 | 440.05 | 0.41 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.SLD CALCITE PARTING AT 0.19; COALY PARTING; SILTY AT BASE; ALSO SLTY AS MODIFIER |
| * 87 | 440.05 | 440.40 | 0.35 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD COALY INCLUSIONS; ALSO CLYY AS MODIFIER |
| * 90 | 440.40 | 440.58 | 0.18 | | | SILTSTONE | CLYY.LT-M.GY.THNB.XBDG CALCITE VEINING AT 0.16; TOP IS UP; ALS O SSD AS SED STRUX |
| 89 | 440.58 | 441.10 | 0.52 | | | SANDSTONE | MG.WEL.LT.GY.THKB.SSD.SLD CALCITE VEIN AT 0.21; ALSO XBDG AS SED STRUX |
| 89 | 441.10 | 441.51 | 0.41 | | | SANDSTONE | MG.WEL.LT.GY.THKB.SSD.SLD ALSO XBDG AS SED STRUX |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 131

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 88 | 441.51 | 441.53 | 0.02 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| * 88 | 441.53 | 442.09 | 0.56 | | | SANDSTONE | FG.MOD.LT-M.GY.THNB.SSD.SLD COALY INCLUSIONS |
| 86 | 442.09 | 442.59 | 0.50 | | | SILTSTONE | CLYY.LT-DK.GY.THNB.SSD.SLD TOP IS UP; CALCITE STRINGER; CALCAREOUS ; ALSO SSY AS MODIFIER; ALSO XBDG AS SE D STRUX |
| * 85 | 442.59 | 442.84 | 0.25 | | | SILTSTONE | CLYY.LT-M.GY.THNB.XBDG.SLD SANDY INCLUSIONS(MG) PERPENDICULAR TO B DG; ALSO SSY AS MODIFIER. |
| 85 | 442.84 | 443.10 | 0.26 | | | SILTSTONE | M-DK.GY.THNB.SLD |
| 85 | 443.10 | 443.83 | 0.73 | | | SILTSTONE | SSY.LT-DK.GY.THNB.WRMBU.SLD CALCITE PARTING AT 0.13 0.55 AND 0.70; SANDY INCLUSIONS(MG) PERPENDICULAR TO B DG; COALY INCLUSIONS; (THIN) PERPENDICU LAR TO BDG; ALSO CLYY AND CARB AS MODIF IERS. |
| 86 | 443.83 | 443.96 | 0.13 | | | MUDSTONE | CARB.DK.GY.THNB.SLD CALCITE VEIN AT BASE; |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 132

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 86 | 443.96 | 444.05 | 0.09 | | | SANDSTONE | MG.WEL.LT.GY.THNB.SLD CALCAREOUS |
| * 86 | 444.05 | 444.60 | 0.55 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD INFREQUENT COALY LAMINATIONS; CALCAREOU S; ALSO CARB AS MODIFIER |
| 86 | 444.60 | 444.70 | 0.10 | | | COAL | C-1.PWRD PROBABLE CORE LOSS |
| 87 | 444.70 | 445.05 | 0.35 | | | MUDSTONE | SSY.DK.GY.THNB.BIOTR.SLD ALSO CARB AS MODIFIER |
| 88 | 445.05 | 445.80 | 0.75 | | | SILTSTONE | SSY.M.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 88 | 445.80 | 446.13 | 0.33 | | | SILTSTONE | SSY.M.GY.THNB.SSD.BRKN PROBABLE LOSS AT BASE; |
| * 89 | 446.13 | 446.60 | 0.47 | | | SILTSTONE | SSY.LT-M.GY.THNB.WRMBU.SLD ALSO CLYY AND CARB AS MODIFIERS; ALSO S SD AS SED STRUX |
| 89 | 446.60 | 447.98 | 1.38 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD TOP IS UP; BURROWS (3MM DIAM); INFREQUE NT SILTY CLASTS; PRONOUNCED SSD; ALSO C LYY AND CARB AS MODIFIERS; ALSO XBDG AN D WRMBUR AS SED STRUX |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 133

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 89 | 447.98 | 449.27 | 1.29 | | | SANDSTONE | MG.VWEL.LT-M.GY.THKB.SLD MUDSTONE CLASTS (2 CM DIAM) AT 0.20 AND AT 0.60 |
| * 89 | 449.27 | 450.94 | 1.67 | | | SANDSTONE | MG.VWEL.LT.GY.THKB.SLD MINOR CLYY LAMINATION AT 0.67 |
| 84 | 450.94 | 451.34 | 0.40 | | | SILTSTONE | CLYY.M.GY.THNB.SLD CARB PARTING AT BASE; POSSIBLE LOSS AT BASE; ALSO SSY AND CARB AS MODIFIERS |
| 80 | 451.34 | 452.47 | 1.13 | | | SANDSTONE | CG.VWEL.M.GY.THKB.SLD |
| 77 | 452.47 | 452.73 | 0.26 | | | SANDSTONE | CG.VWEL.M.GY.THKB.SLD |
| * 70 | 452.73 | 455.34 | 2.61 | | | SANDSTONE | CG.WEL.M.GY.THKB.BRKN CALCITE VEIN AT 0.80; COALY LAMINATIONS AT 1.48,1.60,1.70; 1.76,1.96; CALCITE VEIN AT 2.33; CLYY CLAST AT 2.00 |
| 75 | 455.34 | 455.80 | 0.46 | | | SANDSTONE | CG.WEL.LT-M.GY.THKB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 134

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 76 | 455.80 | 456.16 | 0.36 | | | SANDSTONE | CG.LT-M.GY.THNB.SLD ABUNDANT COALY LAMINATIONS AND CALCITE STRINGER; FREQUENT CLYY CLASTS |
| 78 | 456.16 | 457.06 | 0.90 | | | MUDSTONE | CARB.M.GY.THNB.SSD.SLD 3 CALCITE VEINS; COALY LAMINATIONS; ALS D SLTY AS MODIFIER |
| 80 | 457.06 | 457.13 | 0.07 | | | MUDSTONE | DK.GY.THNB.SLD COALY LAMINATIONS |
| 80 | 457.13 | 457.17 | 0.04 | | | COAL | C-2.BRKN |
| 80 | 457.17 | 457.20 | 0.03 | | | COAL | C-1.BRKN |
| 80 | 457.20 | 457.23 | 0.03 | | | COAL | C-2.VBRKN |
| 80 | 457.23 | 457.25 | 0.02 | | | COAL LOSS | |
| 81 | 457.25 | 457.38 | 0.13 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 135

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 82 | 457.38 | 458.10 | 0.72 | | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD THIN CALCITE STRINGER PERPENDICULAR TO BDG; INFREQUENT WRMBURS; ALSO CLYY AND CARB AS MODIFIERS; ALSO WRMBUR AS SED S TRUX |
| 82 | 458.10 | 458.26 | 0.16 | | | COAL | C-2.VBRKN PROBABLE LOSS; ALSO SHRD AS CORE STATE |
| 82 | 458.26 | 458.35 | 0.09 | | | COAL LOSS | |
| 82 | 458.35 | 458.36 | 0.01 | | | COAL | C-4.BRKN |
| 83 | 458.36 | 458.84 | 0.48 | | | MUDSTONE | DK.GY.THNB.SLD POSSIBLE LOSS AT BASE; COALY LAMINATION S |
| 83 | 458.84 | 458.92 | 0.08 | | | ROCK LOSS | |
| 83 | 458.92 | 459.55 | 0.63 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN POSSIBLE LOSS THROUGHOUT; ABUNDANT COAL Y INCLUSIONS 459.20---459.39; ALSO CARB AS MODIFIER |
| 83 | 459.55 | 459.74 | 0.19 | | | COAL LOSS | |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 136

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 83 | 459.74 | 459.83 | 0.09 | | | ROCK LOSS | |
| 83 | 459.83 | 460.37 | 0.54 | | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD ALSO CLYY AND CARB AS MODIFIERS; ALSO W RMBUR, XBDG, RTB AS SED STRUX |
| 84 | 460.37 | 460.44 | 0.07 | | | COAL LOSS | |
| 84 | 460.44 | 460.49 | 0.05 | | | COAL | C-2.SLD |
| 84 | 460.49 | 460.65 | 0.16 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| * 84 | 460.65 | 461.55 | 0.90 | | | SANDSTONE | SLTY.FG.PR.LT.GY.THNB.SLD MINOR CC VEIN; ALSO CLYY AS MODIFIER |
| 84 | 461.55 | 462.05 | 0.50 | | | SANDSTONE | SLTY.FG.WEL.LT-M.GY.THNB.XBDG.SLD TOP IS UP |
| 85 | 462.05 | 462.11 | 0.06 | | | SILTSTONE | CARB.M.GY.THNB.WRMBU.SLD ALSO CLYY AS MODIFIER |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 137

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 85 | 462.11 | 462.34 | 0.23 | | | SANDSTONE | CLYY.LT-M.GY.THNB.XBDG.SLD ALSO SLTY AS MODIFIER |
| 85 | 462.34 | 463.88 | 1.54 | | | SILTSTONE | CLYY.LT-M.GY.THNB.SSD.SLD ALSO CARB AS MODIFIER; ALSO WRMBUR AS SED STRUX |
| 86 | 463.88 | 464.38 | 0.50 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD COALY LAMINATIONS; ALSO CARB AS MODIFIER |
| | 464.38 | 465.22 | 0.84 | | | MUDSTONE | CARB.DK.GY.THNB.SLD POSSIBLE LOSS AT BASE; LISTRIC SURFACES ; MINOR CALC; ALSO SLTY AS MODIFIER. |
| | 465.22 | 465.42 | 0.20 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD V MINOR CALC PARTING. |
| 87 | 465.42 | 466.44 | 1.02 | | | SILTSTONE | CARB.LT-DK.GY.THNB.SSD.SLD 1.0CM BURROWS PERPENDICULAR TO BDG; ALSO O CLYY AND SSY AS MODIFIERS; ALSO WRMBUR R AND RTB AS SED STRUX |
| * | 466.44 | 467.34 | 0.90 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SSD.SLD MINOR CALC; SKS TOP IS UP; ALSO CLYY AND CARB AS MODIFIERS; ALSO XBDG, WRMBUR AND RTB AS SED STRUX |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 138

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 87 | 467.34 | 468.06 | 0.72 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SSD.SLD MINOR CALC; SKS; TOP IS UP; ALSO CLYY AND CARB AS MODIFIERS; ALSO XBDG, WRMBUR AN D RTB AS SED STRUX |
| 85 | 468.06 | 469.03 | 0.97 | | | SILTSTONE | SSY.LT-DK.GY.THNB.SSD.SLD V ABUNDANT BURROWS PERPENDICULAR BEDDIN G CORKSCREW; 1 MM SPIRAL; ALSO CLYY AND CARB AS MODIFIERS; ALSO XBDG AND WRMBU R AS SED STRUX |
| 84 | 469.03 | 469.08 | 0.05 | | | COAL | C-1.BRKN POSSIBLE LOSS AT BASE |
| 84 | 469.08 | 469.17 | 0.09 | | | COAL LOSS | |
| 84 | 469.17 | 469.25 | 0.08 | | | MUDSTONE | CARB.BLK.THNB.SLD |
| 83 | 469.25 | 469.91 | 0.66 | | | SILTSTONE | SSY.M.GY.THNB.SLD MINOR COALY PARTING; ALSO CARB AND CLYY AS MODIFIERS |
| 83 | 469.91 | 470.17 | 0.26 | | | MUDSTONE | SLTY.BLK.THNB.SLD V MINOR CALCITE PARTING; ABUNDANT PLANT HASH THROUGHOUT; ALSO CARB AS MODIFIER |
| 82 | 470.17 | 470.29 | 0.12 | | | MUDSTONE | CARB.BLK.THNB.SLD AS ABOVE |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 139

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 82 | 470.29 | 470.94 | 0.65 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD ALSO SSY AS MODIFIER; ALSO RTB AND WRMB UR AS SED STRUX |
| 79 | 470.94 | 472.87 | 1.93 | | | SANDSTONE | SLTY.VFG.VPR.LT-M.GY.THNB.SSD.SLD ALSO CLYY AND CARB AS MODIFIERS; ALSO R TB AS SED STRUX; VERY PRONOUNCED SSD |
| 78 | 472.87 | 473.17 | 0.30 | | | SANDSTONE | SLTY.FG.VPR.LT-M.GY.THNB.SSD.SLD PRONOUNCED SSD; MINOR CALCITE PARTING; ALSO CLYY AND CARB AS MODIFIERS |
| 77 | 473.17 | 473.30 | 0.13 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| * 77 | 473.30 | 473.35 | 0.05 | | | SANDSTONE | SLTY.FG.PR.LT.GY.THNB.SSD.SLD ALSO CARB AS MODIFIER |
| 77 | 473.35 | 473.46 | 0.11 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| 77 | 473.46 | 474.03 | 0.57 | | | SANDSTONE | SLTY.FG.VPR.LT-M.GY.THNB.SSD.BRKN COALY INCLUSIONS NEAR BASE; GRANULAR INT ERVAL WHICH MAY BE ANGULAR AND WELL SOR TED RIP UP CLASTS BETWEEN 0.04-0.07; SOM E CALCITE VEINING TOP-0.15; ALSO CLYY, CA RB--MODIFIERS; ALSO WRMBUR AS SED STRUX |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 140

PROJECT: GDR BLOCK: XX DATA SOURCE: ODH81008

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 77 | 474.03 | 474.21 | 0.18 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SSD.SLD ABUNDANT ROUNDED RIP UP CLASTS FROM 0.1 3 TO BASE; ABUNDANT COALY INCLUSIONS; A LSO CLYY AND CARB AS MODIFIERS |
| 77 | 474.21 | 474.57 | 0.36 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN ABUNDANT COALY INCLUSIONS; MINOR CALCIT E AND SKS; ALSO CARB AS MODIFIER |
| 78 | 474.57 | 475.32 | 0.75 | | | SILTSTONE | CLYY.M.GY.THKB.RTB.SLD ALSO CARB AS MODIFIER |
| 78 | 475.32 | 475.50 | 0.18 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD ABUNDANT PLANT HASH; MINOR CALCITE PART ING; ALSO CARB AS MODIFIER |
| 78 | 475.50 | 475.66 | 0.16 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD ABUNDANT PLANT HASH; MINOR CALCITE VEIN ; ALSO CARB AS MODIFIER |
| 78 | 475.66 | 475.93 | 0.27 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD |
| 78 | 475.93 | 476.54 | 0.61 | | | SANDSTONE | SLTY.FG.PR.LT.GY.THNB.WRMBU.SLD 1-2 MM BURROWS PERPENDICULAR TO BDG; AL SO CLYY AS MODIFIER; ALSO SSD AND RTB A S SED STRUX |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 141

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81008

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 79 | 476.54 | 476.78 | 0.24 | | | MUDSTONE | SLTY.M-DK.GY.THNB.SSD.SLD ALSO CARB AS MODIFIER |
| 79 | 476.78 | 477.10 | 0.32 | | | SILTSTONE | SSY.LT-M.GY.THNB.SLD ALSO CLYY AND CARB AS MODIFIERS |
| * 79 | 477.10 | 478.29 | 1.19 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.XBDG.SLD ABUNDANT SMALL SCALE XBDG; TOP IS UP; S OME CALCITE VEINING WITH MINOR SKS; ALS O RTB AS SED STRUX |

* DENOTES MEASURED BCA

DDH 81-09

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81009

HISTORY

 DY MO YR DY MO YR
 START DATE: 07/09/81 END DATE: 14/09/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: A. RAHMANI SURVEYOR: D. WATSON
 REMARKS: NO SAMPLES TAKEN.

LOCATION

 PROVINCE: B.C. ELEVATION: 1409.8
 UTM ZONE: 10 NORTH: 6146075.75 EAST: 542703.70
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: . EAST: . LSD: . SEC: . TWP: . RGE: . MER: .
 NTS-BC NORTH: . EAST: . QUAD: . UNIT: . BLK: . ST: . MUS: . MS: .

DIMENSIONS AND ORIENTATION

LENGTH: 342.60 INCLINATION: 027.0 AZIMUTH: 225.0
 SIZE WIDTH: . SIZE HEIGHT: .
 ROOF STRIKE: . DIP: . FLOOR STRIKE: . DIP: .

DRILL HOLE STATUS

CASING DEPTH: 16.30 CEMENTED: . PLUGGED: . PEIZOMETERS INSTALLED: .
 AQUIFER DEPTHS: . . LOST CIRCULATION DEPTHS: . .

GEOPHYSICAL LOGGING

| LOG | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | --- | --- | --- | X | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | --- | X | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | --- | X | 422AS |
| CALIPER | X | 1:100 | : | --- | --- | --- | X | 20A45 |
| FE-SHORT | X | : | 1:40 | --- | --- | --- | --- | --- |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | --- | 6 |
| DIRECTIONAL DIPMETER | X --- | : | : | --- | --- | X --- | --- | --- |

*** COAL DIVISION ***

DATA SOURCE: DB1-09

INTERVAL OF INTERPOLATION : 10 UNIT(S)

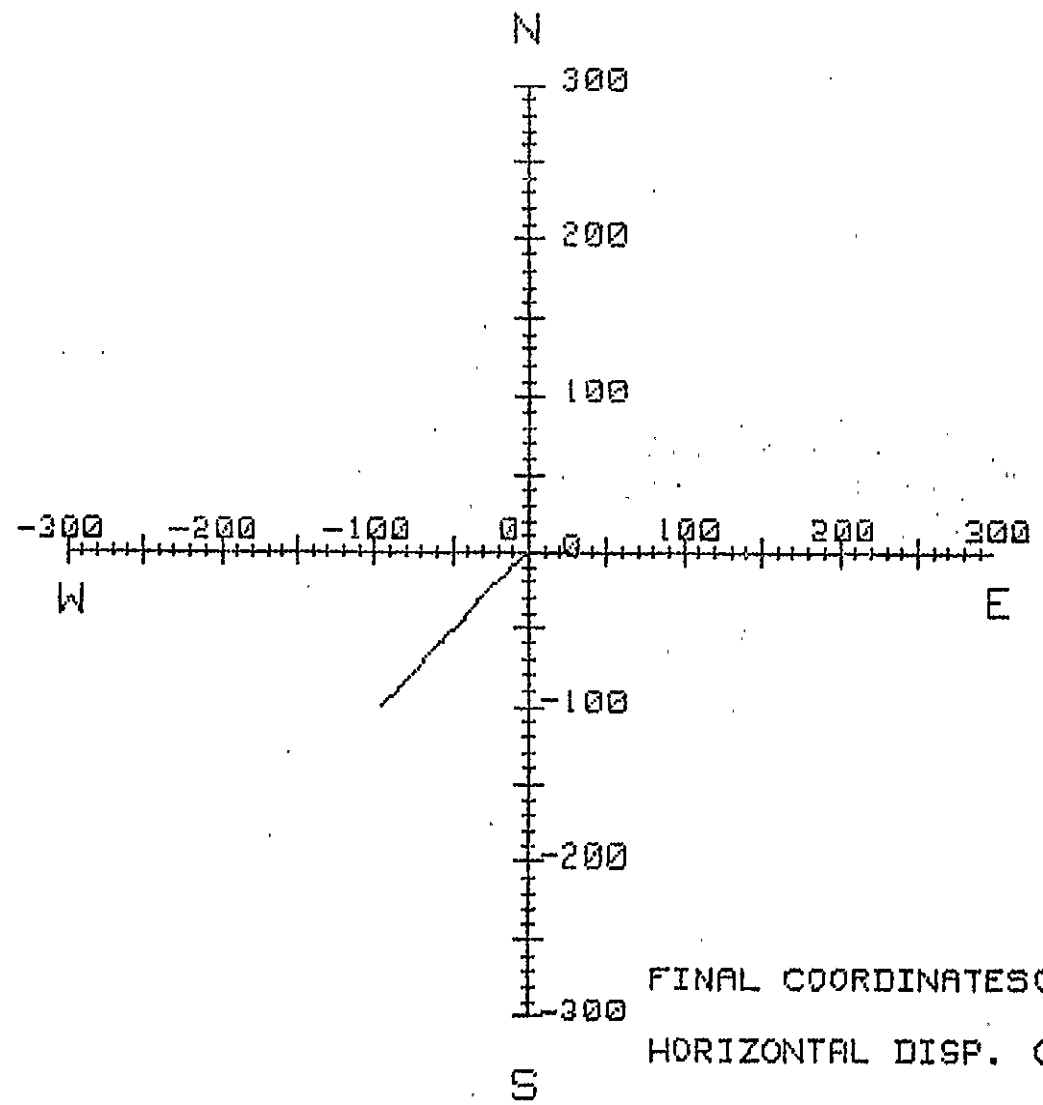
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZINUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 0.00 | 27.20 | 226.40 |
| 30.00 | 27.20 | 226.40 |
| 45.00 | 26.90 | 224.90 |
| 60.00 | 27.40 | 233.20 |
| 75.00 | 27.04 | 223.20 |
| 90.00 | 27.20 | 224.60 |
| 105.00 | 26.20 | 216.00 |
| 120.00 | 27.20 | 223.50 |
| 135.00 | 27.20 | 221.30 |
| 150.00 | 26.25 | 222.50 |
| 165.00 | 27.40 | 225.60 |
| 180.00 | 27.20 | 223.60 |
| 195.00 | 27.20 | 221.40 |
| 210.00 | 27.80 | 220.70 |
| 225.00 | 27.60 | 218.90 |
| 240.00 | 27.70 | 226.80 |
| 255.00 | 27.20 | 224.40 |
| 270.00 | 28.20 | 210.30 |
| 285.00 | 28.20 | 231.00 |
| 300.00 | 28.50 | 227.60 |

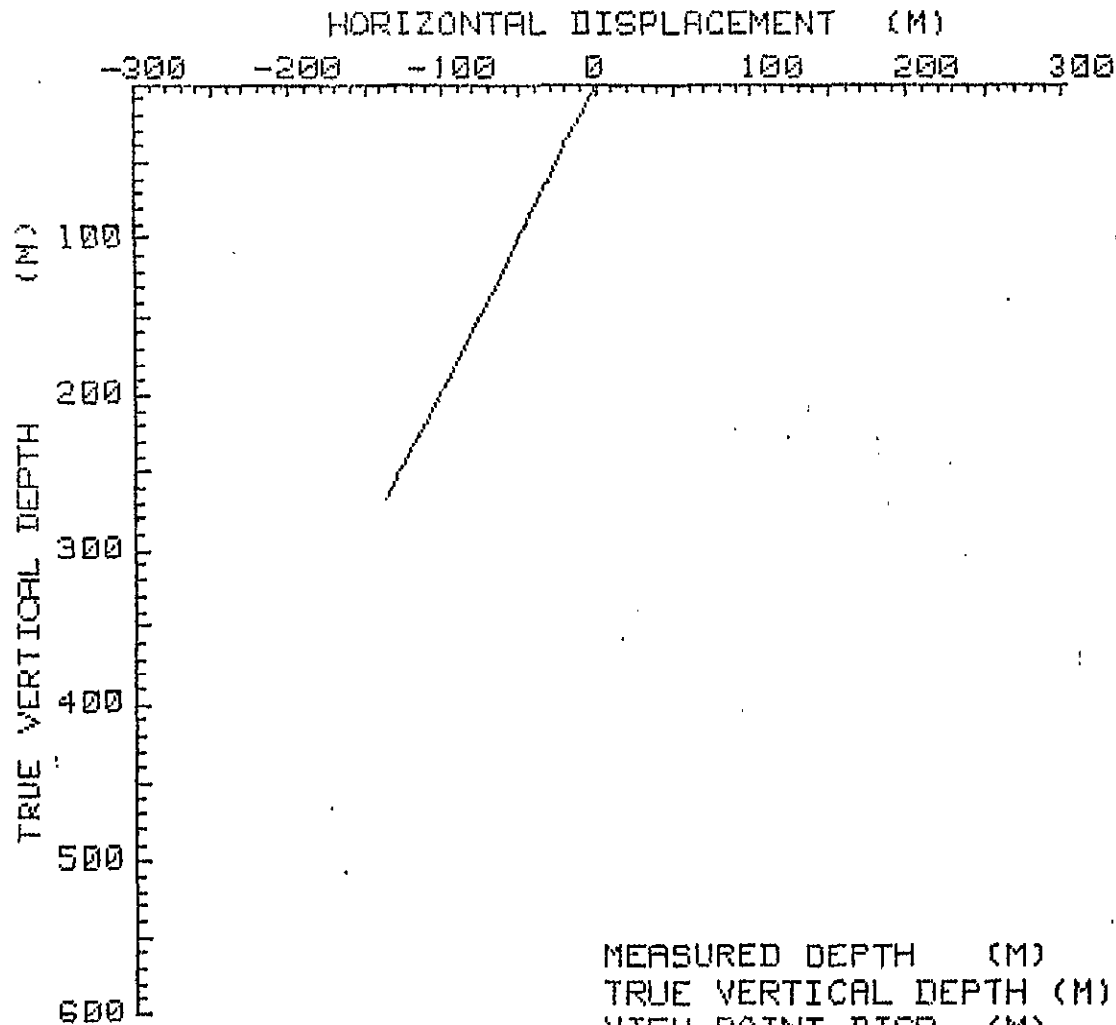
PLAN VIEW

WELL ID NUMBER
D81-09



FINAL COORDINATES (M) N-98.77
E-95.39
HORIZONTAL DISP. (M) -137.29

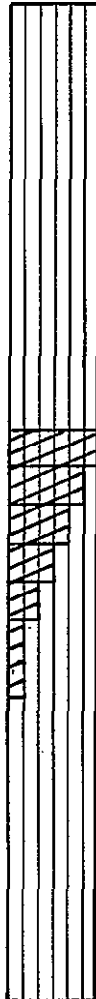
DISPLACEMENT



| | |
|-------------------------|---------|
| MEASURED DEPTH (M) | 300.00 |
| TRUE VERTICAL DEPTH (M) | 266.80 |
| VIEW POINT DISP. (M) | -197.29 |
| SECTION LINE BEARING | 45.00 |

SEAM
COMP

COAL
SEAM
LOG



LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone

- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff

coal

coal-boney, stoney,
coal and bands/rock
- designated "C6"

rock } coal
lithotype uncertain

coal } MISSING
rock } CORE

rock

coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



LEGEND FOR COAL
SEAM DATA SHEETS

PREPARED BY: V.O.

SCALE 1:40

APPROVED BY:

DATE: JAN. 82 DRAWING No.

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

F-267 (12-80)

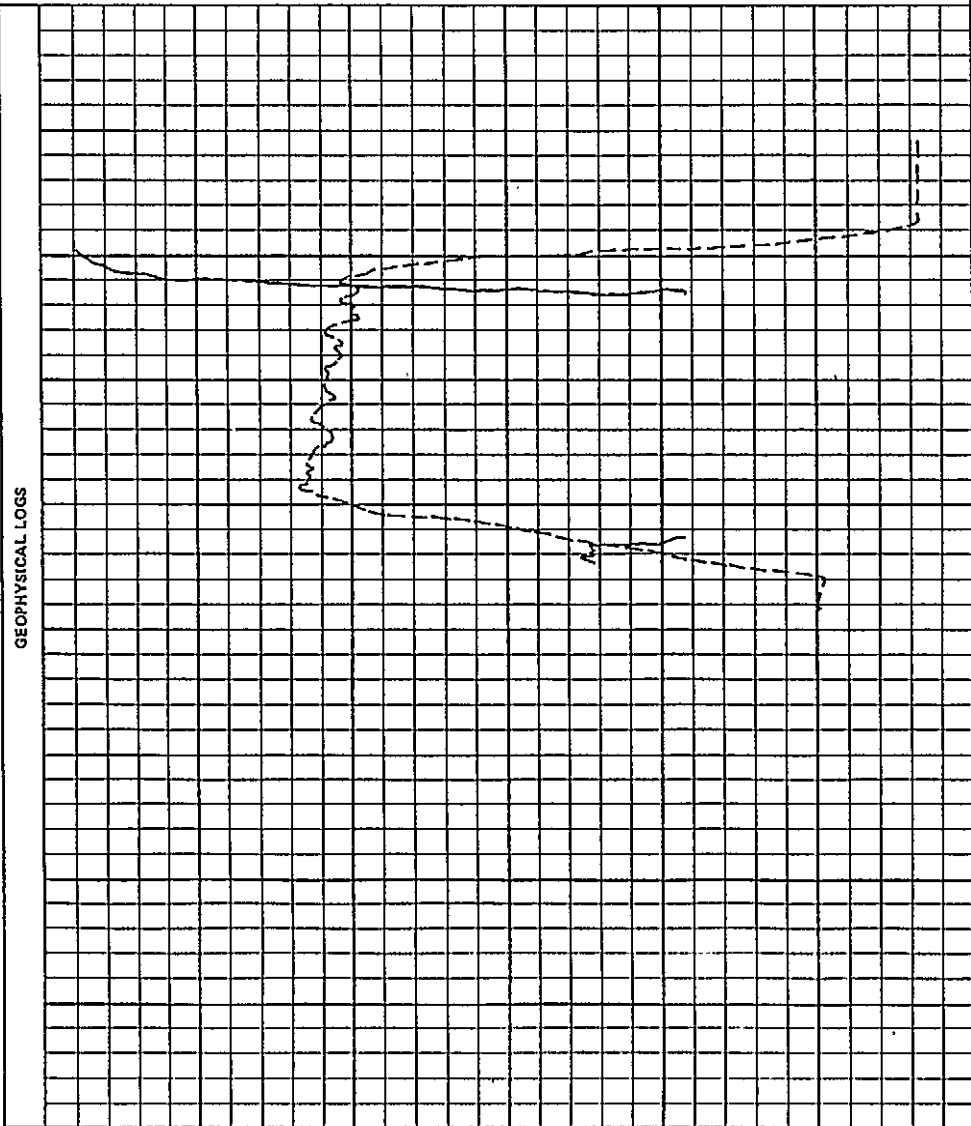
Coal/Coal + Rock (True Thk (m))
1.98/1.98
52.79 - 55.22m

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-09 SEAM _____ SEAM INTERVAL _____
SCALE 1:40

DENSITY SCALE 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80

RESISTIVITY SCALE



GEOPHYSICAL LOGS

| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | |
|------------|-------|---------------|----------|--------|--------|-----------|---------|-------------------------|-----|----|----|---|-----|-----|--|--|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU | FSI | | | | |
| | 52.79 | | | 0.48 | | | | | | | | | | | | | | |
| | | | | (1.95) | 20 | No Sample | | | | | | | | | | | | |
| | 55.22 | | | | | | | | | | | | | | | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

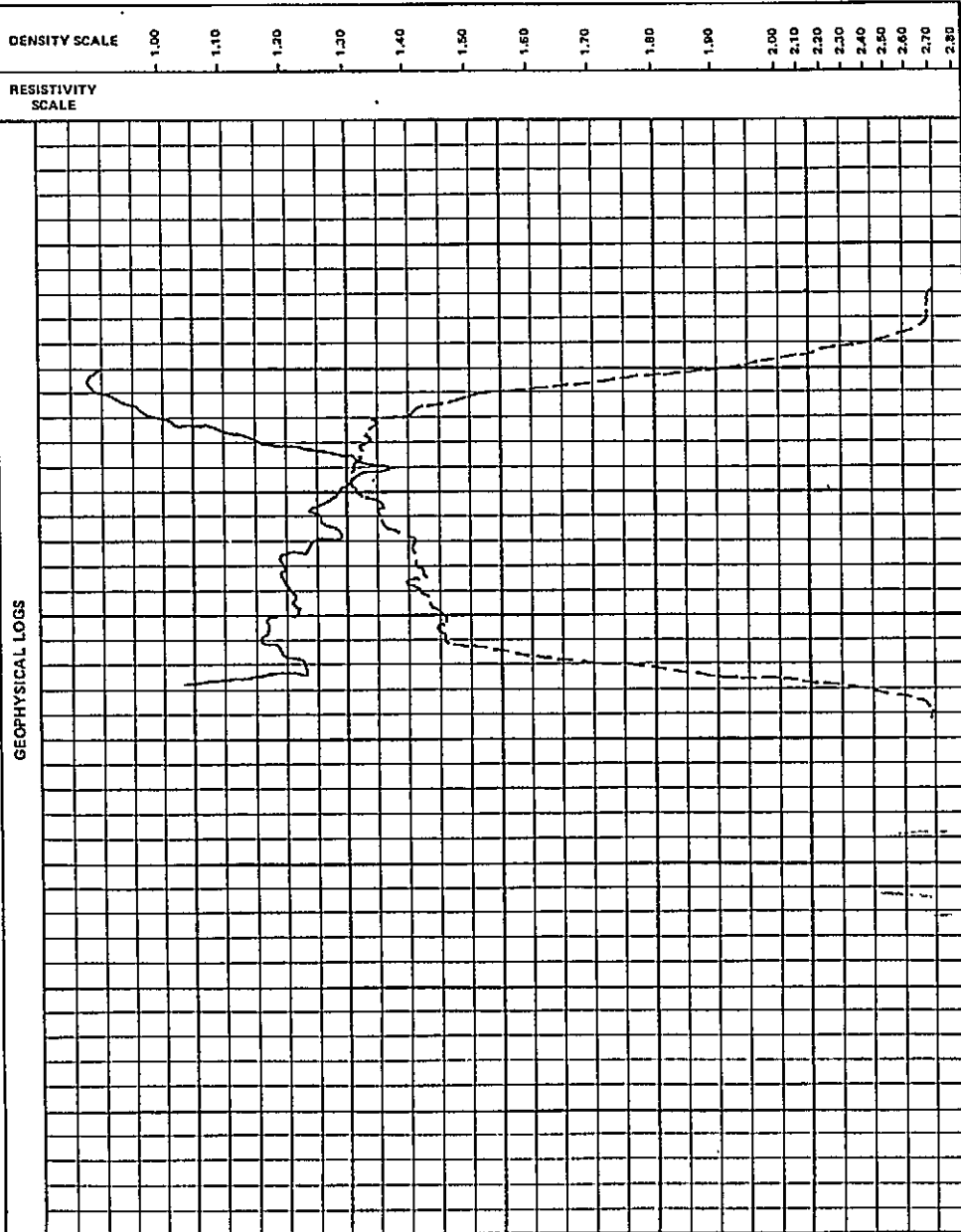
Coal/Coal + Rock (True Thk (m))
1.49/1.49
SEAM INTERVAL 128.31 - 130.74 m

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-09 SEAM _____

SEAM INTERVAL _____

SCALE 1:40



GEOPHYSICAL LOGS

| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | | | |
|----------------------|--------|---------------|----------|------|--------|-----------|---------|-------------------------|-----|----|----|---|-----|-----|--|--|--|--|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU | FSI | | | | | | |
| | 128.31 | | | 0.49 | 38 | No Sample | | | | | | | | | | | | | | |
| | | | (0.65) | | | | | | | | | | | | | | | | | |
| | | | 0.43 | | | | | | | | | | | | | | | | | |
| | | | (0.66) | | | | | | | | | | | | | | | | | |
| | 130.74 | | | | | | | | | | | | | | | | | | | |

18/JAN/82 GULF CANADA RESOURCES INC. - COAL DIVISION
SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CURE | PERCENT REC | RECOVERED COAL | ROCK | MISSING COAL | ROCK |
|----------------|------|--------------|---------------|-------------|-------------|----------------|-------------------|------|-----------------|------|
|----------------|------|--------------|---------------|-------------|-------------|----------------|-------------------|------|-----------------|------|

DDH81009

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE -

NAME OF STANDARD -

| DATA SOURCE | SEAM | SAMPLE INHERENT ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|--------------------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|
|-------------|------|--------------------|--------------------|------|---------------|------------------|----------------|-------------------------------|-----|-----|

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 60 | 0.00 | 17.23 | 17.23 | | NO CORE | CASING, NO CORE. |
| * | 60 | 17.23 | 17.71 | 0.48 | | SANDSTONE | MG.LT.GY.BRKN CORE GROUND. |
| | 60 | 17.71 | 17.92 | 0.21 | | ROCK LOSS | |
| | 59 | 17.92 | 19.56 | 1.64 | | MUDSTONE | CARB.DK.GY.LAM.BRKN WITH NUMEROUS COAL THIN LAYERS AND LAMI NAE. |
| | 58 | 19.56 | 19.80 | 0.24 | | MUDSTONE | SLTY.DK.GY.SLD |
| * | 57 | 19.80 | 21.98 | 2.18 | | SILTSTONE | SSY.GY.THNB.SLD SANDY BANDS OCCASIONALLY; CALC IN PLACE S AND IRON STAINED - OXIDIZED. |
| | 56 | 21.98 | 22.43 | 0.45 | | SILTSTONE | SSY.GY.THKB AS ABOVE; BROKEN IN PLACES. |
| | 56 | 22.43 | 24.55 | 2.12 | | SILTSTONE | SSY.GY.THKB AS ABOVE. |
| * | 55 | 24.55 | 25.03 | 0.48 | | SANDSTONE | SLTY.VFG.GY.THNB IRREGULAR SILTY BANDS AND LAYERS. |
| | 55 | 25.03 | 25.55 | 0.52 | | SANDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 55 | 25.55 | 26.20 | 0.65 | | MUDSTONE | GY.THKB.SLD |
| | 55 | 26.20 | 26.25 | 0.05 | | COAL | PWRD |
| | 55 | 26.25 | 26.34 | 0.09 | | ROCK LOSS | |
| | 55 | 26.34 | 26.37 | 0.03 | | MUDSTONE | VBRKN OXIDIZED - IRON STAINED. |
| | 55 | 26.37 | 26.60 | 0.23 | | COAL | C-3.VBRKN |
| | 55 | 26.60 | 26.91 | 0.31 | | MUDSTONE | CARB.BLK.THNB.VBRKN COALY BANDS AND LAYERS. |
| | 55 | 26.91 | 27.36 | 0.45 | | ROCK LOSS | |
| | 55 | 27.36 | 28.07 | 0.71 | | MUDSTONE | CARB.DK.GY.LAM.SLD THIN COALY LAYERS AND LAMINAE. |
| | 55 | 28.07 | 30.27 | 2.20 | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARBONACEOUS AT TOP; OCCASIONALLY SILTY . |
| | 55 | 30.27 | 30.74 | 0.47 | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GOR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 55 | 30.74 | 31.18 | 0.44 | | SILTSTONE | GY.THNB SOME LAYERS OF VFG SS. |
| * | 55 | 31.18 | 32.39 | 1.21 | | MUDSTONE | AS MUDSTONE ABOVE. |
| | 58 | 32.39 | 33.37 | 0.98 | | SANDSTONE | SLTY.VFG.GY.THNB.XBDG.SLD BROKEN AND OXIDIZED AT BASE. |
| | 60 | 33.37 | 33.84 | 0.47 | | SILTSTONE | GY.THNB.BRKN IRON STAINED IN PLACES. |
| | 60 | 33.64 | 34.00 | 0.16 | | ROCK LOSS | |
| * | 63 | 34.00 | 36.04 | 2.04 | | SILTSTONE | SSY.DK.GY.THNB.RIPMK.SLD SANDY IN PLACES WITH SOME CARBONACEOUS STRINGERS AND INCLUSIONS; MUDDY TOWARD THE BASE; MINOR CALCITE VEINS. |
| * | 66 | 36.04 | 36.97 | 0.93 | | MUDSTONE | DK.GY.THNB.SLD SANDY BANDS IN PLACES; CARBONACEOUS SPE CKS. |
| | 65 | 36.97 | 38.44 | 1.47 | | MUDSTONE | DK.GY.THNB.BRKN SAME AS ABOVE. |
| | 64 | 38.44 | 39.76 | 1.32 | | SILTSTONE | DK.GY.THNB.VBRKN HIGHLY BROKEN; IRON STAINED; CALCITE CR YSTALS; MODIFIER: CALC. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 64 | 39.76 | 40.18 | 0.42 | | | ROCK LOSS | |
| 63 | 40.18 | 41.23 | 1.05 | | | SANDSTONE | VFG.DK.GY.THNB.XBDG.SLD CALCAREOUS WITH MINOR CALCITE CAVITY AND VEINS; IRON STAINED IN PLACES; SILTY IN PLACES; CALCITE AND QUARTZ CRYSTALS; MODIFIER: CALC. |
| 62 | 41.23 | 42.54 | 1.31 | | | SANDSTONE | VFG.GY.THNB.BIOTR.BRKN AS ABOVE; MODIFIER: CALC. |
| 62 | 42.54 | 43.19 | 0.65 | | | ROCK LOSS | |
| 61 | 43.19 | 44.06 | 0.87 | | | SANDSTONE | BRKN AS ABOVE. |
| 60 | 44.06 | 46.01 | 1.95 | | | SANDSTONE | AS ABOVE. |
| 59 | 46.01 | 46.39 | 0.38 | | | ROCK LOSS | |
| 59 | 46.39 | 46.83 | 0.44 | | | SANDSTONE | AS ABOVE. |
| 58 | 46.83 | 49.28 | 2.45 | | | SANDSTONE | AS ABOVE. |
| 57 | 49.28 | 49.32 | 0.04 | | | ROCK LOSS | |
| 57 | 49.32 | 51.46 | 2.14 | | | MUDSTONE | DK.GY.THKB.VBRKN HIGHLY BRUKEN. |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|------------|--------------------------------------|
| | 56 | 51.46 | 51.87 | 0.41 | | ROCK LOSS | |
| | 55 | 51.87 | 52.25 | 0.38 | | MUDSTONE | SAME AS ABOVE. |
| | 55 | 52.25 | 52.79 | 0.54 | | MUDSTONE | CARB.BLK.THKB BROKEN AT THE BASE. |
| | 55 | 52.79 | 53.27 | 0.48 | | COAL | C-5.VBRKN |
| | 54 | 53.27 | 55.22 | 1.95 | | COAL LOSS | |
| | 53 | 55.22 | 55.38 | 0.16 | | STONY COAL | BRKN |
| | 53 | 55.38 | 55.64 | 0.26 | | STONY COAL | VBRKN |
| | 53 | 55.64 | 55.79 | 0.15 | | ROCK LOSS | |
| | 53 | 55.79 | 56.14 | 0.35 | | MUDSTONE | CARB.DK.GY.THKB.SLD CARBONACEOUS. |
| | 53 | 56.14 | 56.82 | 0.68 | | STONY COAL | VBRKN HIGHLY BROKEN. |
| | 52 | 56.82 | 56.86 | 0.04 | | COAL | PWRD |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 52 | 56.86 | 57.61 | 0.75 | | | MUDSTONE | CARB.BLK.THNB NUMEROUS COAL INCLUSIONS AND STRINGERS. |
| 52 | 57.61 | 58.10 | 0.49 | | | ROCK LOSS | |
| 52 | 58.10 | 58.30 | 0.20 | | | COAL | PWRD |
| 52 | 58.30 | 58.55 | 0.25 | | | MUDSTONE | CARB.BLK.THNB.BRKN NUMEROUS COAL INCLUSIONS AND STRINGERS. |
| * 52 | 58.55 | 58.80 | 0.25 | | | SILTSTONE | DK.GY.THNB MODIFIER: MUDDY. |
| 52 | 58.80 | 59.72 | 0.92 | | | MUDSTONE | CARB.DK.GY WITH SOME COALY INCLUSIONS; SILTY IN PL ACES; SOME CALCAREOUS STRINGERS. |
| 51 | 59.72 | 60.87 | 1.15 | | | MUDSTONE | BRKN AS ABOVE. |
| 50 | 60.87 | 61.87 | 1.00 | | | MUDSTONE | CARB.DK.GY.BRKN SAME AS ABOVE. |
| 49 | 61.87 | 62.20 | 0.33 | | | MUDSTONE | CARB AS ABOVE. |
| 49 | 62.20 | 62.76 | 0.56 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|------------|--|
| | 48 | 62.76 | 63.94 | 1.18 | | MUDSTONE | CARB AS ABOVE. |
| | 48 | 63.94 | 64.39 | 0.45 | | ROCK LOSS | |
| * | 47 | 64.39 | 65.89 | 1.50 | | MUDSTONE | CARB AS ABOVE. |
| * | 35 | 65.89 | 67.44 | 1.55 | | MUDSTONE | CARB.DK.GY.THNB WITH SILTY LAMINAE; LUSTROUS SURFACES. |
| | 40 | 67.44 | 68.30 | 0.86 | | MUDSTONE | CARB AS ABOVE. |
| * | 44 | 68.30 | 69.38 | 1.08 | | MUDSTONE | CARB.DK.GY.SLD HIGHLY CARBONACEOUS WITH CARBONACEOUS S TRINGERS AND INCLUSIONS; SILTY TOWARD T HE BASE. |
| | 44 | 69.38 | 69.57 | 0.19 | | COAL LOSS | ROCK TYPE: STONY COAL LOSS. |
| | 44 | 69.57 | 69.76 | 0.19 | | STONY COAL | BLK.VBRKN HIGHLY BROKEN; INTERBEDDING OF MUDSTONE AND COALY STRINGERS; NUMEROUS COAL STR INGERS. |
| | 44 | 69.76 | 70.01 | 0.25 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 44 | 70.01 | 70.23 | 0.22 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS AND INCLUSIONS |
| 44 | 70.23 | 71.23 | 1.00 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARBONACEOUS; SAME AS ABOVE. |
| 44 | 71.23 | 73.35 | 2.12 | | | MUDSTONE | CARB.BLK.VBRKN AS ABOVE. |
| 45 | 73.35 | 73.90 | 0.55 | | | ROCK LOSS | |
| 45 | 73.90 | 74.13 | 0.23 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARBONACEOUS WITH ABUNDANT COALY STRINGERS AND INCLUSIONS. |
| 45 | 74.13 | 74.64 | 0.51 | | | ROCK LOSS | |
| 45 | 74.64 | 76.94 | 2.30 | | | MUDSTONE | CARB.BLK.SLD AS ABOVE. |
| * 45 | 76.94 | 77.21 | 0.27 | | | MUDSTONE | SLTY.BLK.THNB.SLD |
| 49 | 77.21 | 77.84 | 0.63 | | | MUDSTONE | SLTY.BLK.THNB.SLD SOME PLANT FUSSILS WITHIN BEDDING PLANE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-------------|--|
| * 54 | 77.84 | 78.17 | 0.33 | | | SILTSTONE | SSY.DK.GY.THNB.SLD SANDY IN PARTS. |
| 50 | 78.17 | 78.52 | 0.35 | | | MUDSTONE | BLK.THNB.SLD SOME PLANT FOSSILS WITH BEDDING PLANES; COALY STRINGERS AND INCLUSIONS; MORE C ARBONACEOUS TOWARDS THE BASE. |
| 48 | 78.52 | 78.64 | 0.12 | | | COAL | C-6.VBRKN |
| 47 | 78.64 | 78.71 | 0.07 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARBONACEOUS. |
| * 45 | 78.71 | 78.99 | 0.28 | | | SILTSTONE | MODIFIER: MUDDY. |
| 47 | 78.99 | 79.16 | 0.17 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS. |
| 49 | 79.16 | 79.48 | 0.32 | | | COAL & ROCK | BLK.VBRKN SOME C-1 COAL STRINGERS APPROX. 22MM TH ICK; POWDERY AT THE BASE. |
| * 52 | 79.48 | 79.76 | 0.28 | | | SANDSTONE | SLTY.VFG.GY.XBDG.SLD MINOR CALCITE VEINS. |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 52 | 79.76 | 81.08 | 1.32 | | | MUDSTONE | SLTY.BLK.SLD |
| 52 | 81.08 | 81.14 | 0.06 | | | COAL | C-4 |
| 52 | 81.14 | 81.22 | 0.08 | | | MUDSTONE | SLTY.DK.GY.SLD |
| 52 | 81.22 | 81.29 | 0.07 | | | COAL | C-6.BLK |
| 52 | 81.29 | 81.45 | 0.16 | | | ROCK LOSS | |
| 52 | 81.45 | 81.73 | 0.28 | | | COAL | VBRKN COAL RANGE FROM C-4 TO C-6. |
| 52 | 81.73 | 82.57 | 0.84 | | | MUDSTONE | GY.BRKN UNIFORM; SOME COALY INCLUSIONS; SILTY I N PLACES AND CARBONACEOUS TOWARDS THE B ASE. |
| 52 | 82.57 | 82.78 | 0.21 | | | MUDSTONE | AS ABOVE. |
| 52 | 82.78 | 83.20 | 0.42 | | | MUDSTONE | SAME AS ABOVE. |
| * 52 | 83.20 | 83.68 | 0.48 | | | SILTSTONE | DK.GY.THNB.SLD SANDY IN PLACES; CALCITE CAVITY LEACHI NG). |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 52 | 83.68 | 83.75 | 0.07 | | ROCK LOSS | |
| | 53 | 83.75 | 84.27 | 0.52 | | MUDSTONE | BLK.THKB.BRKN |
| | 53 | 84.27 | 84.48 | 0.21 | | SANDSTONE | SLTY.VFG.GY.THNB.SLD ABUNDANT CALCITE CRYSTALS AND VEINS; CA LCITE CAVITY. |
| | 54 | 84.48 | 84.56 | 0.08 | | ROCK LOSS | |
| | 54 | 84.56 | 85.14 | 0.58 | | MUDSTONE | DK.GY.THKB.BRKN CALCITE CRYSTALS AND VEINS; SILTY TOWAR DS THE BASE. |
| | 55 | 85.14 | 85.20 | 0.06 | | ROCK LOSS | |
| | 55 | 85.20 | 85.83 | 0.63 | | MUDSTONE | SLTY.GY.MB.BRKN SILTY TOWARDS THE TOP; SOME CALCITE VEI NS AND SANDY BANDS. |
| * | 56 | 85.83 | 86.45 | 0.62 | | SILTSTONE | DK.GY.THNB.RIPMK.SLD SOME CARBONACEOUS SPECKS AND CARBONACEO US STRINGERS. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 52 | 86.45 | 86.60 | 0.15 | | | MUDSTONE | DK.GY.SLD UNIFORM; MINOR CARBONACEOUS SPECKS AND STRINGERS. |
| * 47 | 86.60 | 87.46 | 0.86 | | | SILTSTONE | SSY.DK.GY.THNB.SLD MINOR CALCITE CAVITY AND VEINS; SOME CARBONACEOUS SPECKS. |
| 47 | 87.46 | 87.71 | 0.25 | | | SANDSTONE | SLTY.LT.GY.LAM.SLD |
| 47 | 87.71 | 88.40 | 0.69 | | | MUDSTONE | SLTY.DK.GY.SLD |
| 47 | 88.40 | 88.85 | 0.45 | | | SANDSTONE | SLTY.GY.XBDG.SLD SLICKENSIDE SURFACE; MINOR CALCITE VEINS. |
| 47 | 88.85 | 88.96 | 0.11 | | | SANDSTONE | AS ABOVE. |
| 47 | 88.96 | 89.21 | 0.25 | | | ROCK LOSS | |
| * 47 | 89.21 | 90.33 | 1.12 | | | SILTSTONE | DK.GY.RIPMK.SLD CALCITE VEINS (MINOR); SOME THINLY BEDDED SANDY MATERIALS TOWARDS THE BASE; MODIFIER: MUDDY |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 49 | 90.33 | 90.47 | 0.14 | | ROCK LOSS | |
| | 51 | 90.47 | 91.24 | 0.77 | | SILTSTONE | DK.GY.MAS.RIPMK.BRKN GETS MUDDY TOWARDS THE BASE; MODIFIER: MUDDY. |
| | 53 | 91.24 | 91.94 | 0.70 | | SANDSTONE | FG.LT.GY.THNB.XBDG.SLD RIPPLE MARKS AND SOME CALCITE VEINS AND CAVITY. |
| | 56 | 91.94 | 92.94 | 1.00 | | MUDSTONE | SLTY.DK.GY.MAS.BRKN UNIFORM; MINOR CARBONACEOUS INCLUSIONS. |
| * | 62 | 92.94 | 95.11 | 2.17 | | SILTSTONE | DK.GY.MAS.XBDG.SLD SOME CARBONACEOUS STRINGERS AND PLANT F OSSILS (LEAF); MODIFIER: MUDDY. |
| | 55 | 95.11 | 95.51 | 0.40 | | MUDSTONE | SILTY TOWARDS THE BASE; COAL STRINGER A ND CARBONACEOUS SPECKS. |
| * | 52 | 95.51 | 96.18 | 0.67 | | SILTSTONE | DK.GY.THNB.RIPMK CALCITE VEINS TOWARDS THE BASE; VERY SM ALL SCALE CROSS-BEDDING. |
| | 52 | 96.18 | 96.59 | 0.41 | | SANDSTONE | SSD CALCITE BRECCIA; ABUNDANT CALCITE VEINS ; MINOR CARBONACEOUS STRINGERS. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|---|
| 52 | 96.59 | 97.20 | 0.61 | | | SILTSTONE | DK.GY.BIOTR PLANT FOSSILS; CARBONACEOUS SPECKS. |
| 52 | 97.20 | 97.98 | 0.78 | | | MUDSTONE | SLTY.GY COALY STRINGERS AND MINOR CALCITE VEINS . |
| 52 | 97.98 | 98.17 | 0.19 | | | ROCK LOSS | |
| 52 | 98.17 | 98.27 | 0.10 | | | COAL & ROCK | BLK.VBRKN COAL MIXED WITH HIGHLY CARBONACEOUS MUD STONE; COAL C-3. |
| 52 | 98.27 | 98.50 | 0.23 | | | ROCK LOSS | |
| 52 | 98.50 | 98.54 | 0.04 | | | COAL | C-5.BRKN |
| 52 | 98.54 | 98.65 | 0.11 | | | COAL LOSS | |
| 52 | 98.65 | 99.68 | 1.03 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS; SHEARED IN PLACES; ABUNDANT COALY STRINGERS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-------------|--|
| 52 | 99.68 | 100.36 | 0.68 | | | COAL & ROCK | CARB.BLK.SHRD. COAL AND ROCK INTERBEDDING, ALMOST ALONG THE CORE AXIS; HIGHLY SHEARED; COAL IN THE RANGE OF C-6. |
| 52 | 100.36 | 100.59 | 0.23 | | | COAL & ROCK | BLK.VBRKN SAME AS ABOVE. |
| 52 | 100.59 | 100.94 | 0.35 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS RUNNING ALONG THE CORE AXIS. |
| 52 | 100.94 | 101.06 | 0.12 | | | COAL | C-5 |
| 52 | 101.06 | 101.47 | 0.41 | | | COAL & ROCK | CARB.BLK.SHRD SAME AS ABOVE. |
| 52 | 101.47 | 102.98 | 1.51 | | | MUDSTONE | SLTY.DK.GY.SLD MINOR CARBONACEOUS SPECKS; SANDY TOWARDS THE BASE. |
| 52 | 102.98 | 103.98 | 1.00 | | | SANDSTONE | FG.GY.SSD BRECCIATED; ABUNDANT CALCITE VEINS AND CALCITE CRYSTALS; HIGHLY DISTURBED; CALCITE CAVITY; CARBONACEOUS TOWARDS THE BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GER BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-------------|---|
| 52 | 103.98 | 104.28 | 0.30 | | | ROCK LOSS | |
| 52 | 104.28 | 104.41 | 0.13 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS WITH SOME COALY STR INGERS. |
| 52 | 104.41 | 105.82 | 1.41 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE. |
| 52 | 105.82 | 105.91 | 0.09 | | | ROCK LOSS | |
| 52 | 105.91 | 106.14 | 0.23 | | | COAL & ROCK | BLK.VBRKN MIXTURE OF MUDSTONE AND COAL; COAL IN T HE RANGE OF C-6 TO C-4. |
| 52 | 106.14 | 107.13 | 0.99 | | | MUDSTONE | DK.GY.SLD MINOR CARBONACEOUS STRINGERS. |
| * 52 | 107.13 | 107.35 | 0.22 | | | SILTSTONE | DK.GY.THNB.SLD MINOR COAL STRINGERS AND INCLUSIONS. |
| 50 | 107.35 | 107.65 | 0.30 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 17

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|------------|---|
| 48 | 107.65 | 108.23 | 0.58 | | | SILTSTONE | THNB.SLD SANDY IN PARTS, MUDDY AND CARBONACEOUS TOWARDS THE BASE; ABUNDANT COAL STRINGE RS TOWARDS THE BASE. |
| 45 | 108.23 | 108.57 | 0.34 | | | COAL LOSS | STONY COAL LOSS. |
| 44 | 108.57 | 108.79 | 0.22 | | | STONY COAL | VBRKN POWDERY IN PLACES. |
| 42 | 108.79 | 109.11 | 0.32 | | | COAL LOSS | STONY COAL LOSS. |
| 38 | 109.11 | 110.21 | 1.10 | | | STONY COAL | CARB.BLK.BRKN HIGHLY CARBONACEOUS AND BROKEN; ABUNDAN T COALY STRINGERS. |
| 34 | 110.21 | 110.54 | 0.33 | | | ??? | |
| 32 | 110.54 | 110.59 | 0.05 | | | COAL | C-5 |
| * 32 | 110.59 | 110.69 | 0.10 | | | MUDSTONE | CARB.BLK.SLD HIGHLY CARBONACEOUS TOWARDS THE TOP. |
| 33 | 110.69 | 110.93 | 0.24 | | | SILTSTONE | DK.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 34 | 110.93 | 111.02 | 0.09 | | COAL LOSS | |
| | 35 | 111.02 | 111.03 | 0.01 | | COAL | PWRD |
| | 35 | 111.03 | 111.20 | 0.17 | | ROCK LOSS | |
| * | 45 | 111.20 | 113.61 | 2.41 | | SANDSTONE | SLTY.VFG.THNB.RIPMK.SLD HIGHLY DISTURBED; BRECCIATED WITH CALCITE VEINS AND CRYSTALS; COALY INCLUSIONS AND STRINGERS; CALCITE CRYSTALS. |
| | 45 | 113.61 | 113.81 | 0.20 | | SANDSTONE | SLTY SAME AS ABOVE. |
| | 45 | 113.81 | 113.96 | 0.15 | | ROCK LOSS | |
| * | 45 | 113.96 | 116.58 | 2.62 | | SANDSTONE | SLTY.DK.GY.SSD.SLD HIGHLY DEFORMED ZONE; BRECCIATED WITH CALCITE VEINS AND CRYSTALS; CARBONACEOUS STRINGERS AND INCLUSIONS; CALCITE CAVITY; FAULT ZONE |
| | 45 | 116.58 | 118.13 | 1.55 | | SANDSTONE | SLTY SAME AS ABOVE. |
| | 45 | 118.13 | 119.29 | 1.16 | | MUDSTONE | SLTY.DK.GY.B10TR.SLD SOME PLANT FOSSILS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|---|
| | 45 | 119.29 | 119.67 | 0.38 | | MUDSTONE | BLK.SLD MINOR CARBONACEOUS STRINGERS. |
| | 45 | 119.67 | 120.37 | 0.70 | | MUDSTONE | SLTY.BLK.MB.BRKN CARBONACEOUS IN PARTS; SOME CALCITE VEINS, WITH A MAJOR ONE APPROX 10MM THICK; ABUNDANT COALY INCLUSIONS AND STRINGERS TOWARDS THE BASE. |
| | 45 | 120.37 | 120.94 | 0.57 | | ROCK & COAL | BLK.VBRKN HIGHLY CARBONACEOUS INTERVAL WITH OCCASIONAL COALY SPLITS. |
| | 45 | 120.94 | 121.05 | 0.11 | | ROCK & COAL | BLK.PHRD PULVERIZED INTERVAL; A MIXTURE OF COAL AND ROCK. |
| | 45 | 121.05 | 121.97 | 0.92 | | SILTSTONE | SSY.LT.GY.XBDG MUDDY IN SOME PLACES; CA VEINS; MINOR COALY STRINGERS AND INCLUSIONS. |
| * | 45 | 121.97 | 122.75 | 0.78 | | SILTSTONE | SSY.DK.GY.SLD MINOR CALCITE VEINS AND CARBONACEOUS STRINGERS. |
| | 44 | 122.75 | 122.92 | 0.17 | | ROCK & COAL | BLK.VBRKN INTERBEDDING OF THIN COAL AND MUDSTONE; COAL IN RANGE OF C-5 TO C-4. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 20

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 40 | 122.92 | 124.68 | 1.76 | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS WITH ABUNDANT COALY STRINGERS. |
| | 37 | 124.68 | 124.93 | 0.25 | | MUDSTONE | CARB.BLK.VBRKN HIGHLY BROKEN INTERVAL; COALY STRINGERS . |
| | 37 | 124.93 | 125.13 | 0.20 | | MUDSTONE | BLK.SLD MINOR CARBONACEOUS SPECKS. |
| | 35 | 125.13 | 125.99 | 0.86 | | MUDSTONE | BLK.SLD MINOR CARBONACEOUS SPECKS. |
| | 33 | 125.99 | 126.32 | 0.33 | | SILTSTONE | BIOTR.SLD MODIFIER: MUDDY. |
| * | 31 | 126.32 | 127.29 | 0.97 | | SANDSTONE | VFG.GY.THNB.BIOTR.SLD CALCITE VEINS. |
| | 33 | 127.29 | 127.47 | 0.18 | | ROCK LOSS | |
| | 34 | 127.47 | 128.31 | 0.84 | | SANDSTONE | THNB SAME AS ABOVE WITH MINOR CARBONACEOUS S TRINGERS; GETS MUDDY AND CARBONACEOUS T WARDS THE BASE. |
| | 36 | 128.31 | 128.80 | 0.49 | | COAL | C-4.VBRKN ROCK SPLITS TOWARDS THE TOP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 21

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|------------|---|
| | 38 | 128.80 | 129.45 | 0.65 | | COAL LOSS | |
| | 39 | 129.45 | 129.88 | 0.43 | | COAL | PWRD |
| | 41 | 129.88 | 130.74 | 0.86 | | COAL LOSS | |
| | 43 | 130.74 | 131.44 | 0.70 | | MUDSTONE | DK.GY.SLD HIGHLY CARBONACEOUS TOWARDS THE TOP; CO ALY INCLUSIONS AND STRINGERS. |
| | 44 | 131.44 | 131.63 | 0.19 | | ROCK LOSS | |
| * | 45 | 131.63 | 131.80 | 0.17 | | MUDSTONE | DK.GY.THNB.BRKN |
| | 44 | 131.80 | 131.90 | 0.10 | | ROCK LOSS | |
| | 43 | 131.90 | 132.12 | 0.22 | | STONY COAL | BLK.VBRKN |
| | 42 | 132.12 | 132.36 | 0.24 | | MUDSTONE | CARB.BLK.MAS.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|--|
| 41 | 132.36 | 132.47 | 0.11 | | | COAL & ROCK | VBRKN COAL RANGE FROM C-5 TO C-4. |
| 40 | 132.47 | 132.70 | 0.23 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS WITH ABUNDANT COALY STRINGERS. |
| 39 | 132.70 | 132.80 | 0.10 | | | COAL & ROCK | VBRKN COAL RANGES FROM C-1 TO C-4. |
| 39 | 132.80 | 132.87 | 0.07 | | | ROCK LOSS | |
| 38 | 132.87 | 133.05 | 0.18 | | | STONY COAL | BLK.BRKN |
| 38 | 133.05 | 133.14 | 0.09 | | | COAL LOSS | |
| 37 | 133.14 | 133.20 | 0.06 | | | COAL | BLK.PWRD |
| 37 | 133.20 | 133.27 | 0.07 | | | COAL LOSS | |
| 36 | 133.27 | 133.35 | 0.08 | | | STONY COAL | BLK.BRKN C-1 COAL STRINGERS. |
| 35 | 133.35 | 133.92 | 0.57 | | | STONY COAL | BRKN BROKEN AND SHEARED ZONE OF HIGHLY CARBO NACEOUS INTERVALS WITH COALY STRINGERS THROUGHOUT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 23

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 33 | 133.92 | 134.01 | 0.09 | | MUDSTONE | CARB.BLK.VBRKN AS ABOVE. |
| * | 31 | 134.01 | 134.64 | 0.63 | | MUDSTONE | CARB.BLK.THNB.BRKN COALY STRINGERS AND INCLUSIONS TOWARDS THE TOP. |
| | 31 | 134.64 | 134.89 | 0.25 | | MUDSTONE | DK.GY.SLD MINOR CARBONACEOUS SPECKS. |
| | 31 | 134.89 | 136.17 | 1.28 | | MUDSTONE | DK.GY.SLD SAME AS ABOVE WITH CALCITE VEINS. |
| | 31 | 136.17 | 136.18 | 0.01 | | COAL | C-1 |
| | 31 | 136.18 | 137.35 | 1.17 | | MUDSTONE | SLTY.DK.GY.SLD SAME AS ABOVE. |
| | 31 | 137.35 | 137.88 | 0.53 | | SILTSTONE | DK.GY.SLD |
| | 31 | 137.88 | 139.98 | 2.10 | | SILTSTONE | SSY.DK.GY.BIOTR.SLD ABUNDANT CALCITE VEINS AND CAVITY; SMAL L SCALE XBUG. |
| | 31 | 139.98 | 141.08 | 1.10 | | MUDSTONE | DK.GY.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 24

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 31 | 141.08 | 142.90 | 1.82 | | | MUDSTONE | DK.GY.THNB.SLD AS ABOVE WITH ABUNDANT CARBONACEOUS AND COAL STRINGERS IN THE MIDDLE. |
| 28 | 142.90 | 143.26 | 0.36 | | | MUDSTONE | DK.GY.THNB.BRKN UNIFORM; CARBONACEOUS TOWARDS THE BASE. |
| 28 | 143.26 | 143.31 | 0.05 | | | COAL | C-4 |
| 27 | 143.31 | 143.97 | 0.66 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS AND INCLUSIONS ; HIGHLY CARBONACEOUS AND COALY AT THE TOP; ALSO SHRD AS CORE STATE. |
| 25 | 143.97 | 144.74 | 0.77 | | | MUDSTONE | CARB.BLK.MAS.SLD COALY INCLUSIONS (C-5) AND STRINGERS. |
| 24 | 144.74 | 145.10 | 0.36 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS; COALY STRINGERS TH ROUGHOUT. |
| 23 | 145.10 | 145.38 | 0.28 | | | MUDSTONE | CARB.BLK.SLD AS ABOVE. |
| 22 | 145.38 | 145.61 | 0.23 | | | SILTSTONE | SSY.GY.THNB.SLD ABUNDANT CALCITE VEINS AND CRYSTALS; CA LCITE CAVITY; COALY INCLUSIONS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 21 | 145.61 | 146.19 | 0.58 | | | SILTSTONE | GY.THNB.BIOTR.BRKN SMALL SCALE RIPPLE MARKS; SANDY TOWARDS THE TOP; CALCITE VEINS AND MINOR CARBU NACEOUS STRINGERS. |
| 24 | 146.19 | 146.96 | 0.77 | | | SANDSTONE | SLTY.GY.SLD ABUNDANT CALCITE VEINS IN ALL DIRECTION S; HIGHLY DISTURBED ZONE; CALCITE CRYST ALS; BRECCIATED. |
| 27 | 146.96 | 147.50 | 0.54 | | | SILTSTONE | SSY.DK.GY.BIOTR.SLD MINOR CARBONACEOUS STRINGERS AND INCLUS IONS. |
| 30 | 147.50 | 148.33 | 0.83 | | | SANDSTONE | SLTY.GY.SLD ABUNDANT CALCITE VEINS IN ALL DIRECTION S; HIGHLY DISTURBED ZONE; CALCITE CRYST ALS; BRECCIATED. |
| 36 | 148.33 | 150.08 | 1.75 | | | SILTSTONE | GY.MAS.SSD.SLD SOME SANDY BANDS RUNNING ALMOST PARALLE L TO THE CORE AXIS; CARBONACEOUS STRING ERS AND INCLUSIONS; FE-STAINED. |
| * 40 | 150.08 | 150.35 | 0.27 | | | SILTSTONE | GY.THNB.SLD MODIFIER: MUDDY. |
| 39 | 150.35 | 151.28 | 0.93 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 38 | 151.28 | 151.92 | 0.64 | | SANDSTONE | SLTY.GY.SLD HIGHLY DISTURBED ZONE; ABUNDANT CALCITE VEINS IN ALL DIRECTIONS. |
| * | 37 | 151.92 | 152.90 | 0.98 | | MUDSTONE | SLTY.DK.GY.THNB.SLD FE-STAINED; CALCITE VEINS AND MINOR CAR BONACEOUS STRINGERS AND INCLUSIONS. |
| | 38 | 152.90 | 153.21 | 0.31 | | SANDSTONE | SLTY.GY.SLD MINOR CARBONACEOUS STRINGERS AND CALCIT E; FE-STAINED. |
| | 39 | 153.21 | 154.59 | 1.38 | | SANDSTONE | SLTY.DK.GY.THNB.SLD SAME AS ABOVE; MORE CARBONACEOUS TOWARD S THE BASE. |
| | 41 | 154.59 | 155.19 | 0.60 | | ROCK LOSS | |
| | 42 | 155.19 | 156.26 | 1.07 | | MUDSTONE | CARB.BLK.THKB.BRKN HIGHLY CARBONACEOUS IN PLACES; ABUNDANT COALY STRINGERS (C-1) IN PLACES; COALY INCLUSIONS THROUGHOUT. |
| | 44 | 156.26 | 157.54 | 1.28 | | MUDSTONE | CARB SAME AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 27

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 45 | 157.54 | 157.78 | 0.24 | | SILTSTONE | GY.SLD MINOR CARBONACEOUS STRINGERS AND INCLUSIONS; CALCITE VEINS. |
| * | 46 | 157.78 | 159.21 | 1.43 | | SILTSTONE | GY.THNB.BIDTR.SLD CARBONACEOUS TOWARDS THE BASE; LAMINATED IN PARTS; CALCITE VEINS AND CRYSTALS. |
| | 46 | 159.21 | 160.36 | 1.15 | | SILTSTONE | GY.SLD AS ABOVE. |
| | 45 | 160.36 | 162.32 | 1.96 | | SILTSTONE | SSY.DK.GY.BRKN CALCITE VEINS WITH CARBONACEOUS INCLUSIONS AND STRINGERS; HIGHLY BROKEN AT THE TOP; SANDY BANDS. |
| | 45 | 162.32 | 162.80 | 0.48 | | SILTSTONE | SSY.GY.SLD HIGHLY DISTURBED ZONE; CALCITE VEINS THROUGHOUT AND IN ALL DIRECTIONS; SOME CARBONACEOUS INCLUSIONS. |
| | 45 | 162.80 | 163.02 | 0.22 | | MUDSTONE | BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 26

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 45 | 163.02 | 164.81 | 1.79 | | | MUDSTONE | SLTY |
| 45 | 164.81 | 165.11 | 0.30 | | | SILTSTONE | SSY.LT.GY.SLD CALCITE VEINS; SANDY BANDS. |
| 45 | 165.11 | 165.49 | 0.38 | | | MUDSTONE | GY.SLD CALCITE VEINS AND CARBONACEOUS SPECKS. |
| 45 | 165.49 | 165.66 | 0.17 | | | SILTSTONE | GY.SLD |
| 44 | 165.66 | 166.02 | 0.36 | | | SILTSTONE | GY.SLD |
| 44 | 166.02 | 166.38 | 0.36 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS AND INCLUSIONS |
| * 44 | 166.38 | 168.46 | 2.08 | | | MUDSTONE | CARB.BLK.SLD CARBONACEOUS INCLUSIONS, THROUGHOUT; COA L STRINGERS; HIGHLY CARBONACEOUS TOWARD S THE BASE. |
| 43 | 168.46 | 171.11 | 2.65 | | | MUDSTONE | CARB.BLK.SLD COALY STRINGERS 10MM THICK IN SEVERAL P LACES; COALY INCLUSIONS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 43 | 171.11 | 171.42 | 0.31 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS WITH PARTING OF COALY STRINGERS. |
| 43 | 171.42 | 171.51 | 0.09 | | | MUDSTONE | CARB.BLK.VBRKN SAME AS ABOVE. |
| 43 | 171.51 | 172.23 | 0.72 | | | MUDSTONE | CARB.BLK.BRKN SAME AS ABOVE WITH LESS COALY STRINGERS |
| 43 | 172.23 | 172.37 | 0.14 | | | COAL | PWRD COAL FROM C-1 TO C-5. |
| 43 | 172.37 | 172.70 | 0.33 | | | MUDSTONE | CARB.BLK HIGHLY CARBONACEOUS WITH SOME THIN COALY STRINGERS. |
| 43 | 172.70 | 172.86 | 0.16 | | | COAL | C-2.VBRKN |
| 42 | 172.86 | 173.01 | 0.15 | | | COAL LOSS | |
| 42 | 173.01 | 173.15 | 0.14 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|--|
| 42 | 173.15 | 173.38 | 0.23 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARBONACEOUS. |
| 42 | 173.38 | 173.52 | 0.14 | | | ROCK LOSS | |
| 42 | 173.52 | 173.99 | 0.47 | | | MUDSTONE | CARB.DK.GY.SLD CARBONACEOUS STRINGERS AND INCLUSIONS. |
| 42 | 173.99 | 174.56 | 0.57 | | | MUDSTONE | DK.GY.SLD COALY INCLUSIONS AND STRINGERS; MINOR C ALCITE VEINS. |
| 42 | 174.56 | 174.95 | 0.39 | | | MUDSTONE | DK.GY.SLD MINOR COALY SPECKS. |
| 42 | 174.95 | 175.13 | 0.18 | | | MUDSTONE | CARB.BLK.BRKN SOME COALY PARTINGS OF C-1 TYPE; COALY STRINGERS. |
| 42 | 175.13 | 175.22 | 0.09 | | | ROCK & COAL | THIN BEDS OF MUDSTONE AND COAL; HIGHLY FRACTURED ZONE. |
| 42 | 175.22 | 175.40 | 0.18 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS; ABUNDANT COALY STR INGERS RUNNING ALONG BEDDING PLANES. |
| 42 | 175.40 | 175.44 | 0.04 | | | COAL | VBRKN THICK COAL STRINGER OF C-2 TYPE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 42 | 175.44 | 175.65 | 0.21 | | ROCK LOSS | |
| | 42 | 175.65 | 175.77 | 0.12 | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARBONACEOUS WITH ABUNDANT COALY STRINGERS. |
| | 42 | 175.77 | 177.01 | 1.24 | | MUDSTONE | BLK.THKB.SLD COALY STRINGERS THROUGHOUT. |
| | 41 | 177.01 | 177.52 | 0.51 | | MUDSTONE | BLK.THNB.SLD SAME AS ABOVE. |
| | 41 | 177.52 | 178.13 | 0.61 | | MUDSTONE | CARB.BLK.SLD AS ABOVE; MODERATLY CARBONACEOUS. |
| | 41 | 178.13 | 178.28 | 0.15 | | ROCK LOSS | |
| | 41 | 178.28 | 178.39 | 0.11 | | MUDSTONE | CARB.BLK.VBRKN AS ABOVE. |
| | 41 | 178.39 | 178.50 | 0.11 | | COAL | C-3.VBRKN |
| | 41 | 178.50 | 179.00 | 0.50 | | COAL LOSS | |
| | 41 | 179.00 | 179.50 | 0.50 | | MUDSTONE | BLK.SLD BROKEN AT THE TOP; COALY TOWARDS THE BA SE; CARBONACEOUS STRINGERS AND INCLUSIO NS THROUGHOUT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 41 | 179.50 | 179.60 | 0.10 | | | COAL | VBRKN |
| 41 | 179.60 | 179.62 | 0.02 | | | ROCK LOSS | |
| 41 | 179.62 | 179.70 | 0.08 | | | COAL | PWRD PULVERIZED COAL. |
| 41 | 179.70 | 180.10 | 0.40 | | | SILTSTONE | GY.THNB.SLD |
| 40 | 180.10 | 180.23 | 0.13 | | | COAL | PWRD PULVERIZED COAL. |
| 40 | 180.23 | 180.34 | 0.11 | | | MUDSTONE | CARB.BLK.BRKN COALY STRINGERS AND INCLUSIONS. |
| 40 | 180.34 | 180.57 | 0.23 | | | MUDSTONE | BLK.SLD AS ABOVE. |
| 40 | 180.57 | 181.00 | 0.43 | | | MUDSTONE | BLK.SLD AS ABOVE. |
| 40 | 181.00 | 181.72 | 0.72 | | | SILTSTONE | GY.MAS.SLD CARBONACEOUS STRINGERS AT THE TOP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|--|
| | 40 | 181.72 | 183.14 | 1.42 | | SANDSTONE | VFG.GY.THNB.XBDG.SLD CALCITE VEINS; UNIFORM; CALCITE CRYSTAL S. |
| | 40 | 183.14 | 183.65 | 0.51 | | SILTSTONE | SSY.GY.THNB.BRKN AS ABOVE. |
| | 39 | 183.65 | 184.53 | 0.88 | | SILTSTONE | DK.GY.THNB.BRKN AS ABOVE; BRECCIATED IN PLACES. |
| | 39 | 184.53 | 185.68 | 1.15 | | MUDSTONE | DK.GY.THKB.SLD |
| | 39 | 185.68 | 186.79 | 1.11 | | MUDSTONE | DK.GY.THNB.SLD AS ABOVE; CARBONACEOUS AT THE BASE. |
| | 39 | 186.79 | 187.68 | 0.89 | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS IN PLACES; WITH COA LY STRINGERS THROUGHOUT. |
| | 38 | 187.68 | 187.81 | 0.13 | | ROCK & COAL | VBRKN MOSTLY ROCK MIXED WITH COAL. |
| | 38 | 187.81 | 188.40 | 0.59 | | SILTSTONE | GY.SLD BROKEN AT THE TOP AND MUDDY; SANDY IN P LACES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 38 | 188.40 | 189.67 | 1.47 | | | SILTSTONE | DK.GY.THNB.SLD MINOR CALCITE VEINS; THIN BANDS OF SAND Y MATERIALS; CALCITE CAVITY AND CRYSTAL ; MINOR CARBONACEOUS STRINGERS. |
| 40 | 189.87 | 191.11 | 1.24 | | | MUDSTONE | SLTY.BLK.THNB.SLD CARBONACEOUS STRINGERS; UNIFORM THROUGH OUT. |
| 42 | 191.11 | 191.71 | 0.60 | | | MUDSTONE | SLTY.BLK.SLD AS ABOVE. |
| 42 | 191.71 | 191.95 | 0.24 | | | SANDSTONE | FG.GY.SLD MINOR CARBONACEOUS STRINGERS AND CALCIT E VEINS. |
| 43 | 191.95 | 192.73 | 0.78 | | | MUDSTONE | BLK.BIOTR.BRKN SILTY TOWARD THE TOP; CARBONACEOUS STRI NGER AND INCLUSIONS THROUGHOUT. |
| 44 | 192.73 | 193.50 | 0.77 | | | MUDSTONE | BLK.SLD AS ABOVE. |
| 46 | 193.50 | 195.13 | 1.63 | | | MUDSTONE | SLTY.BLK.SLD AS ABOVE. |
| * 48 | 195.13 | 195.80 | 0.67 | | | SILTSTONE | SSY.DK.GY.THNB.RIPMK.SLD INTERBEDDING OF SILT AND SANDY; MATERIA LS MINOR CALCT VEINS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 35

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 47 | 195.80 | 196.03 | 0.23 | | | MUDSTONE | BLK.SLD |
| 46 | 196.03 | 197.04 | 1.01 | | | MUDSTONE | CARB.BLK.THKB.SLD CARBONACEOUS WITH 15MM THICK C-5 COAL P ARTINGS. |
| 44 | 197.04 | 197.61 | 0.57 | | | SILTSTONE | GY.SLD |
| 44 | 197.61 | 197.69 | 0.08 | | | MUDSTONE | CARB.BLK.THKB.SLD AS ABOVE. |
| 43 | 197.69 | 198.69 | 1.00 | | | SILTSTONE | GY.THNB.SLD FE STAINED; MINOR CALCITE VEINS. |
| 41 | 198.69 | 198.96 | 0.27 | | | SILTSTONE | SLD AS ABOVE; HIGHLY BROKEN TOWARDS THE BAS E. |
| 41 | 198.96 | 199.61 | 0.65 | | | SILTSTONE | GY.THNB.SLD MINOR CARBONACEOUS STRINGER AND INCLUSI ONS; MODERATE CALCITE VEINS. |
| 39 | 199.61 | 200.88 | 1.27 | | | SILTSTONE | GY.SLD NUMEROUS CALCITE VEINS IN ALL DIRECTION S; DISTURBED ZONE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 36

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 37 | 200.88 | 200.98 | 0.10 | | | MUDSTONE | CARB.BLK.VBRKN POWDERY AND HIGHLY BROKEN. |
| 37 | 200.98 | 201.39 | 0.41 | | | MUDSTONE | CARB.BLK.BRKN POWDERY TOWARDS THE BASE. |
| 36 | 201.39 | 201.64 | 0.25 | | | MUDSTONE | CARB.BLK.SLD BROKEN TOWARDS THE TOP; CARBONACEOUS ST RINGERS. |
| 34 | 201.64 | 203.34 | 1.70 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE. |
| * 32 | 203.34 | 204.06 | 0.72 | | | SILTSTONE | THNB.SLD MINOR CALCITE VEINS; SANDY TOWARDS THE BASE. |
| 32 | 204.06 | 204.49 | 0.43 | | | SILTSTONE | DK.GY.THNB.SLD MINOR CALCITE VEINS. |
| 32 | 204.49 | 204.66 | 0.17 | | | MUDSTONE | CARB.BLK.VBRKN |
| 33 | 204.66 | 204.85 | 0.19 | | | SILTSTONE | GY.MAS.SLD CALCITE VEINS IN ALL DIRECTIONS. |
| 33 | 204.85 | 205.27 | 0.42 | | | SILTSTONE | GY.SLD AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 37

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|--|
| 33 | 205.27 | 205.73 | 0.46 | | | MUDSTONE | SLTY.DK.GY.SLD MINOR CARBONACEOUS INCLUSIONS. |
| 33 | 205.73 | 206.00 | 0.27 | | | MUDSTONE | CARB.BLK.SLD HIGHLY CARBONACEOUS AT THE BASE AND HIGHLY BROKEN. |
| 33 | 206.00 | 206.28 | 0.28 | | | SILTSTONE | BLK.THNB.SLD MUDDY TOWARDS THE BASE. |
| 34 | 206.28 | 206.56 | 0.28 | | | MUDSTONE | CARB.BLK.THNB.BRKN HIGHLY BROKEN AND CARBONACEOUS TOWARDS THE BASE. |
| 34 | 206.56 | 206.66 | 0.10 | | | ROCK & COAL | BLK.PWRD MIXED INTERVAL OF BROKEN ROCK AND POWDERED COAL. |
| 34 | 206.66 | 206.83 | 0.17 | | | SILTSTONE | GY.THNB.SLD NUMEROUS CALCITE VEINS AND CRYSTALS; CALCITE CAVITY. |
| 34 | 206.83 | 207.30 | 0.47 | | | MUDSTONE | CARB.BLK.THKB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 38

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 34 | 207.30 | 207.92 | 0.62 | | | MUDSTONE | CARB.BLK.THKB.BRKN HIGHLY BROKEN TOWARDS THE TOP; HIGHLY C ARBONACEOUS WITH COALY STRINGERS AND IN CLUSIONS. |
| 35 | 207.92 | 209.46 | 1.54 | | | MUDSTONE | CARB.BLK.THKB.SLD AS ABOVE. |
| 36 | 209.46 | 210.50 | 1.04 | | | MUDSTONE | SLTY.BLK.THKB.SLD CARBONACEOUS IN PARTS WITH NUMEROUS CAR BONACEOUS INCLUSIONS AND STRINGERS IN T HE MIDDLE. |
| * 36 | 210.50 | 211.07 | 0.57 | | | SILTSTONE | LT.GY.THNB.RIPMK SMALL SCALE RIPPLE MARKS. |
| 36 | 211.07 | 211.38 | 0.31 | | | SILTSTONE | GY.THNB AS ABOVE. |
| 36 | 211.38 | 211.49 | 0.11 | | | MUDSTONE | SLTY.GY.SLD ABUNDANT PYRITE INCLUSIONS AND THIN BAN DS OF PYRITE; CALCITE CAVITY FILLED WIT H PYRITE; CARBONACEOUS STRINGERS. |
| 36 | 211.49 | 212.11 | 0.62 | | | SILTSTONE | GY.SLD CALCITE VEINS AND CARBONACEOUS STRINGER S. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 39

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|--|
| 36 | 212.11 | 213.05 | 0.94 | | | SILTSTONE | GY.SLD AS ABOVE. |
| 35 | 213.05 | 214.26 | 1.21 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS AND BROKEN. |
| 35 | 214.26 | 214.44 | 0.18 | | | MUDSTONE | CARB.BLK.VBRKN |
| 35 | 214.44 | 214.48 | 0.04 | | | COAL | C-4.VBRKN |
| 35 | 214.48 | 214.63 | 0.15 | | | MUDSTONE | CARB.BLK.BRKN COALY PARTINGS; HIGHLY CARBONACEOUS. |
| 35 | 214.63 | 215.14 | 0.51 | | | MUDSTONE | BLK.SLD CARBUNACEOUS AND BROKEN TOWARDS THE BAS E. |
| 35 | 215.14 | 215.32 | 0.18 | | | COAL & ROCK | VBRKN MODIFIER: C-5. |
| 35 | 215.32 | 216.65 | 1.33 | | | SILTSTONE | GY.THKB.BRKN MUDDY TOWARDS THE TOP. |
| 34 | 216.65 | 217.36 | 0.71 | | | SILTSTONE | GY.THKB.SSD.SLD MINOR CALCITE VEINS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 34 | 217.36 | 217.69 | 0.33 | | SILTSTONE | GY.THNB.SLD AS ABOVE. |
| * | 34 | 217.69 | 218.51 | 0.82 | | SANDSTONE | FG.GY.THKB.SLD MINOR CALCITE VEINS. |
| | 34 | 218.51 | 219.77 | 1.26 | | SILTSTONE | GY.THKB.SLD MODIFIER: MUDDY. |
| | 35 | 219.77 | 220.06 | 0.29 | | SILTSTONE | GY.THKB.SLD |
| | 35 | 220.06 | 222.84 | 2.78 | | SILTSTONE | GY.THKB.SLD AS ABOVE; MINOR SANDY BANDS AND CALCITE VEINS. |
| | 36 | 222.84 | 222.96 | 0.12 | | SILTSTONE | GY.BRKN AS ABOVE. |
| | 36 | 222.96 | 223.45 | 0.49 | | MUDSTONE | CARB.BLK.SLD MINOR CARBONACEOUS STRINGERS AND CALCIT E VEINS. |
| | 37 | 223.45 | 225.60 | 2.15 | | SILTSTONE | BLK.THKB.SLD UNIFORM; MODIFIER: MUDDY. |
| | 37 | 225.60 | 226.10 | 0.50 | | SILTSTONE | GY.THKB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 41

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 38 | 226.10 | 226.23 | 0.13 | | SILTSTONE | GY.THNB.VBRKN |
| * | 38 | 226.23 | 228.37 | 2.14 | | SILTSTONE | GY.THNB.SLD |
| | 35 | 228.37 | 228.71 | 0.34 | | SILTSTONE | BLK.THKB.BRKN MINOR CARBONACEOUS STRINGERS. |
| | 33 | 228.71 | 229.29 | 0.58 | | SHALE | GY.THKB.SLD SLIGHTLY CARBONACEOUS. |
| | 32 | 229.29 | 229.50 | 0.21 | | SHALE | GY.THKB.SLD AS ABOVE. |
| * | 30 | 229.50 | 230.91 | 1.41 | | SILTSTONE | GY.THNB.RIPMK.SLD MINOR SANDY BANDS; MUDDY TOWARD BASE |
| | 30 | 230.91 | 231.42 | 0.51 | | SILTSTONE | GY.THNB.XBDG.SLD INTERBEDDED SHALE AND SILTSTONE; SMALL SCALE RIPPLE MARKS. |
| | 29 | 231.42 | 231.62 | 0.20 | | SHALE | BLK.THNB.BRKN AS ABOVE. |
| | 29 | 231.62 | 232.39 | 0.77 | | SILTSTONE | BLK.THKB.SLD PLANT FOSSILS; MUDDY AND SANDY BANDS IN PLACES; HIGHLY BROKEN TOWARDS THE BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 42

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|---|
| 29 | 232.39 | 232.75 | 0.36 | | | STONY COAL | BLK.VBRKN HIGHLY CARBONACEOUS; ABUNDANT COALY INC LUSIONS. |
| 29 | 232.75 | 232.95 | 0.20 | | | ROCK & COAL | PWRD HIGHLY BROKEN ROCK MIXED WITH POWDERED COAL. |
| 29 | 232.95 | 233.39 | 0.44 | | | SILTSTONE | DK.GY.SLD MINOR CARBONACEOUS STRINGERS AND CALCIT E VEINS. |
| 28 | 233.39 | 233.60 | 0.21 | | | MUDSTONE | VBRKN ALSO STONY COAL AS ROCK TYPE. |
| 28 | 233.60 | 233.98 | 0.38 | | | MUDSTONE | BLK.SLD |
| 28 | 233.98 | 234.36 | 0.38 | | | STONY COAL | CARB.VBRKN HIGHLY CARBONACEOUS INTERVAL WITH MINOR POWDERED COAL THROUGHOUT; ROCK LOSS. |
| 28 | 234.36 | 235.03 | 0.67 | | | MUDSTONE | BLK.SLD BROKEN TOWARDS THE BASE WITH CARBONACEO US SPECKS. |
| 27 | 235.03 | 236.27 | 1.24 | | | MUDSTONE | BLK.SLD AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 27 | 236.27 | 237.91 | 1.64 | | MUDSTONE | DK.GY.THKB |
| * | 26 | 237.91 | 238.96 | 1.05 | | MUDSTONE | SLTY.DK.GY.THNB.XBDG.SLD SILTY TOWARDS THE BASE; SMALL SCALE RIP PLE MARKS; CALCITE CRYSTALS IN PLACES. |
| | 27 | 238.96 | 240.04 | 1.08 | | SILTSTONE | DK.GY.RIPMK.SLD CALCITE VEINING IN ALL DIRECTIONS; PART LY BRECCIATED DISTURBED ZONE. |
| | 28 | 240.04 | 241.29 | 1.25 | | MUDSTONE | BLK.THKB.BRKN HIGHLY BROKEN TOWARDS THE BASE. |
| | 29 | 241.29 | 241.67 | 0.38 | | MUDSTONE | SLTY.GY.MAS.SLD BRECCIATED AT THE BASE; CALCITE VEINS. |
| | 29 | 241.67 | 242.45 | 0.78 | | SILTSTONE | GY.THKB.SLD CALCITE VEINS; CALCAREOUS. |
| | 30 | 242.45 | 243.25 | 0.80 | | SANDSTONE | FG.GY.THKB.SLD MASSIVE AND UNIFORM; CALCITE VEINS; CAL CITE CRYSTAL AND PYRITE INCLUSIONS. |
| | 31 | 243.25 | 243.79 | 0.54 | | SILTSTONE | GY.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 31 | 243.79 | 244.43 | 0.64 | | | SANDSTONE | FG.GY.THKB.SLD CLEAN SANDSTONE WITH OCCASIONAL CALCITE VEINS. |
| 33 | 244.43 | 247.25 | 2.82 | | | SANDSTONE | MG.GY.THKB.SLD CALCITE VEINS UNIFORMLY DISTRIBUTED MUD PEBBLES IN PLACES; A BIT CRYSTALLINE. |
| 34 | 247.25 | 247.43 | 0.18 | | | SANDSTONE | MG.GY.THKB.BRKN AS ABOVE. |
| 35 | 247.43 | 247.80 | 0.37 | | | ROCK LOSS | |
| * 36 | 247.80 | 250.26 | 2.46 | | | SANDSTONE | MG.WEL.GY.THKB.SLD AS ABOVE; WITH MUD PEBBLES IN PLACES; M INOR CARBONACEOUS STRINGERS. |
| 37 | 250.26 | 250.84 | 0.58 | | | SANDSTONE | MG.WEL.GY.THNB.SLD |
| 38 | 250.84 | 252.86 | 2.02 | | | SANDSTONE | MG.GY.THNB.SLD AS ABOVE; WITH CARBONACEOUS INCLUSIONS; CALCITE CRYSTALS AND MINOR FE-STAIN. |
| 40 | 252.86 | 253.97 | 1.11 | | | SANDSTONE | MG.MOD.GY.THKB.SLD AS ABOVE; WITH CARBONACEOUS STRINGERS A ND MUD PEBBLES, ESPECIALLY TOWARDS THE BASE; BROKEN TOWARDS THE BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 40 | 253.97 | 254.37 | 0.40 | | MUDSTONE | SLTY.BLK.SLD |
| | 41 | 254.37 | 255.34 | 0.97 | | SANDSTONE | MOD.GY.THKB.SLD CALCITE CRYSTALS; GETS COARSER TOWARDS THE BASE AND BROKEN; CRYSTALLINE. |
| | 41 | 255.34 | 255.62 | 0.28 | | SANDSTONE | MG.WEL.GY.THKB.SLD |
| * | 42 | 255.62 | 256.92 | 1.30 | | SANDSTONE | MG.WEL.GY.THNB.SLD SINGLE CARBONACEOUS STRINGER APPROX 10M M THICK ALONG BEDDING PLANE; CALCITE CR YSTALS AND VEINS. |
| | 42 | 256.92 | 257.88 | 0.96 | | SANDSTONE | MG.WEL.GY.THNB.SLD CARBONACEOUS OCCASIONALLY; SAME AS ABOVE E; WITH FE-STAIN. |
| | 41 | 257.88 | 258.23 | 0.35 | | SANDSTONE | MG.WEL.GY.THNB.SLD AS ABOVE. |
| | 41 | 258.23 | 258.56 | 0.33 | | SANDSTONE | CG.PR.GY.THKB AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|--------------|---|
| 41 | 258.56 | 259.28 | 0.72 | | | SANDSTONE | MG.PR.GY.THNB.SLD |
| 41 | 259.28 | 259.96 | 0.68 | | | SANDSTONE | MG.PR.GY.THKB.SLD AS ABOVE; WITH COALY INCLUSIONS AND MUD PEBBLES; CALCITE CRYSTALS. |
| 41 | 259.96 | 260.66 | 0.70 | | | SANDSTONE | CARB.CG.VPR.GY.THKB.SLD AS ABOVE; WITH SOME MUD PEBBLES TOWARDS THE TOP. |
| 40 | 260.66 | 263.09 | 2.43 | | | SANDSTONE | CARB.CG.VPR.GY.THKB.BRKN CONGLOMERATE IN PLACES WITH BETWEEN 1M - 35MM MUD; ANGULAR MUD PEBBLES AND HIGHLY CARBONACEOUS IN PLACES. |
| 40 | 263.09 | 263.24 | 0.15 | | | SANDSTONE | MG.PR.GY.SLD GRADED BEDDING WITH MUD PEBBLES, RANGE IN SIZE UP TO 10MM; CALCITE VEINS. |
| 40 | 263.24 | 263.52 | 0.28 | | | SANDSTONE | MG.PR.GY.SLD MINOR ANGULAR MUDSTONE PEBBLES. |
| 40 | 263.52 | 263.65 | 0.13 | | | CONGLOMERATE | PR.GY.SLD PEBBLES RANGE FROM SUB-ANGULAR TO SUB- ROUNDED; SAND AND MUD PEBBLES IN COARSE GRAINED MATRIX. |

* DENOTES MEASURED BCA

XXXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 47

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 39 | 263.65 | 266.04 | 2.39 | | | SANDSTONE | CARB.GRAN.PR.GY.SLD CONGLOMERATIC IN PLACES; ABUNDANT COAL INCLUSIONS AND COALY STRINGERS; CALCITE VEINS; SANDY TOWARDS THE BASE. |
| 39 | 266.04 | 266.12 | 0.08 | | | SANDSTONE | VFG.GY.SLD |
| 39 | 266.12 | 267.60 | 1.48 | | | SANDSTONE | CARB.GRAN.PR.DK.GY.MAS.BRKN HIGHLY CARBONACEOUS WITH ABUNDANT COALY STRINGERS AND INCLUSIONS; BANDED WITH MEDIUM TO COARSE SAND. |
| 38 | 267.60 | 268.53 | 0.93 | | | SANDSTONE | CARB.GRAN.PR.DK.GY.MAS.SLD AS ABOVE. |
| 38 | 268.53 | 269.25 | 0.72 | | | SANDSTONE | CARB.GRAN.PR.GY.MAS.BRKN AS ABOVE; FINER TOWARDS THE BASE; CONGL OMERATIC IN PLACES. |
| 37 | 269.25 | 270.80 | 1.55 | | | SANDSTONE | MG.PR.GY.MAS.SLD GRANULATED IN PLACES WITH MUD PEBBLES; BECOMES SANDY TOWARDS THE BASE; FE-STAI N. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 48

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|---|
| | 37 | 270.80 | 270.99 | 0.19 | | MUDSTONE | BLK.BRKN |
| * | 37 | 270.99 | 272.07 | 1.08 | | SILTSTONE | GY.RIPMK.BRKN BIOTURBATED; FE-STAIN; MINOR MUD PEBBLE S. |
| * | 13 | 272.07 | 273.60 | 1.53 | | SILTSTONE | DK.GY.THNB.BIOTR.SLD |
| | 16 | 273.60 | 275.16 | 1.56 | | SILTSTONE | DK.GY.THNB.BIOTR.SLD AS ABOVE. |
| | 17 | 275.16 | 275.48 | 0.32 | | SILTSTONE | DK.GY.THNB.BIOTR.SLD AS ABOVE. |
| | 18 | 275.48 | 276.32 | 0.84 | | MUDSTONE | SLTY.BLK.THKB.SLD UNIFORM; CARBONACEOUS TOWARDS THE BASE. |
| | 20 | 276.32 | 278.04 | 1.72 | | MUDSTONE | SLTY.BLK.THKB.SLD COALY STRINGERS INCREASE TOWARDS THE BA SE. |
| | 22 | 278.04 | 278.10 | 0.06 | | ROCK & COAL | PWRD |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LUG

PAGE 49

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | DEPTH INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------------|-------------|------------|-------------|---|
| 22 | 278.10 | 278.22 | 0.12 | | | MUDSTONE | SLTY.BLK.SLD AS ABOVE. |
| 23 | 278.22 | 278.91 | 0.69 | | | MUDSTONE | SLTY.BLK.THKB.SLD UNIFORM; AS ABOVE. |
| 24 | 278.91 | 280.16 | 1.25 | | | MUDSTONE | SLTY.BLK.THKB.BRKN CARBONACEOUS IN PLACES; MORE TOWARDS TH E BASE; ALSO BROKEN. |
| 25 | 280.16 | 280.27 | 0.11 | | | COAL & ROCK | VBRKN MOSTLY COAL MIXED WITH ROCKY FRAGMENTS; MODIFIER: C-5. |
| 25 | 280.27 | 280.41 | 0.14 | | | COAL | C-4.VBRKN |
| 26 | 280.41 | 280.61 | 0.20 | | | COAL LOSS | |
| 26 | 280.61 | 280.74 | 0.13 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARBONACEOUS. |
| 26 | 280.74 | 280.85 | 0.11 | | | COAL LOSS | |
| 26 | 280.85 | 281.05 | 0.20 | | | COAL | PWRD SOME ROCK FRAGMENTS. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 50

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 27 | 281.05 | 281.22 | 0.17 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS. |
| 27 | 281.22 | 281.57 | 0.35 | | | MUDSTONE | CARB.BLK.VBRKN COALY PARTINGS; HIGHLY CARBONACEOUS. |
| 28 | 281.57 | 281.93 | 0.36 | | | SILTSTONE | DK.GY.THNB.SLD |
| * 30 | 281.93 | 284.21 | 2.28 | | | SILTSTONE | DK.GY.THNB.XBDG.SLD BIOTURBATED; SMALL SCALE RIPPLE MARKS. |
| * 21 | 284.21 | 284.45 | 0.24 | | | SILTSTONE | DK.GY.THNB.SLD AS ABOVE. |
| * 27 | 284.45 | 287.18 | 2.73 | | | SILTSTONE | DK.GY.THNB.RIPMK.SLD INTERBEDDED WITH SHALE IN PLACES. |
| * 24 | 287.18 | 288.60 | 1.42 | | | SILTSTONE | SSY.GY.THNB.RIPMK.SLD INTERBEDDING OF SANDY AND SILTY MATERIALS; MOSTLY SILT SIZE; FE-STAINED IN PLACES. |
| 24 | 288.60 | 289.92 | 1.32 | | | SANDSTONE | VFG.GY.THNB.BIUTR.BRKN SMALL SCALE RIPPLE MARKS; MINOR CALCITE VEINS; MUDDY TOWARDS THE BASE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 51

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|---|
| 24 | 289.92 | 290.15 | 0.23 | | | SILTSTONE | DK.GY.THNB.SLD |
| 24 | 290.15 | 292.65 | 2.50 | | | SILTSTONE | BLK.THNB.SLD CARBONACEOUS TOWARDS THE BASE; UNIFORM. |
| 23 | 292.65 | 292.93 | 0.28 | | | MUDSTONE | CARB.BLK.SLD HIGHLY CARBONACEOUS. |
| 23 | 292.93 | 293.30 | 0.37 | | | ROCK LOSS | |
| 23 | 293.30 | 294.08 | 0.78 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS AND COALY TOWARDS T HE BASE; COALY STRINGERS AND INCLUSIONS |
| 23 | 294.08 | 294.20 | 0.12 | | | ROCK & COAL | PWRD ROCK FRAGMENTS MIXED WITH POWDERED COAL |
| 23 | 294.20 | 294.60 | 0.40 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS WITH ABUNDANT COALY STRINGERS AND INCLUSIONS. |
| 23 | 294.60 | 294.75 | 0.15 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 52

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 23 | 294.75 | 294.82 | 0.07 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY BROKEN AND CARBONACEOUS WITH SOME POWDERED COAL. |
| 23 | 294.82 | 295.70 | 0.88 | | | MUDSTONE | BLK.SLD CARBONACEOUS STRINGERS THROUGHOUT. |
| 23 | 295.70 | 296.41 | 0.71 | | | SILTSTONE | DK.GY.SLD CALCAREOUS TOWARDS THE BASE WITH SOME CALCITE CAVITY. |
| 23 | 296.41 | 297.11 | 0.70 | | | SILTSTONE | DK.GY.SLD |
| 23 | 297.11 | 297.60 | 0.49 | | | MUDSTONE | BLK.SLD |
| 23 | 297.60 | 298.10 | 0.50 | | | MUDSTONE | GY.VBRKN |
| 23 | 298.10 | 298.17 | 0.07 | | | MUDSTONE | GY.PWRD |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 53

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|---|
| 23 | 298.17 | 298.43 | 0.26 | | | MUDSTONE | GY.VBRKN |
| 23 | 298.43 | 299.33 | 0.90 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY BROKEN TOWARDS THE BASE WITH ABU NDANT COALY STRINGERS. |
| 23 | 299.33 | 299.37 | 0.04 | | | ROCK & COAL | BLK.VBRKN |
| 23 | 299.37 | 299.59 | 0.22 | | | MUDSTONE | CARB.BLK.VBRKN CARBONACEOUS STRINGERS. |
| 23 | 299.59 | 299.73 | 0.14 | | | COAL LOSS | |
| 23 | 299.73 | 299.89 | 0.16 | | | COAL | C-5.VBRKN |
| 23 | 299.89 | 300.35 | 0.46 | | | COAL | C-5.BRKN HIGHLY BROKEN TOWARDS THE BASE. |
| 23 | 300.35 | 300.65 | 0.30 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS WITH NUMEROUS COALY STRINGERS AND INCLUSIONS; ALSO SHRD AS CORE STATE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 54

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 23 | 300.65 | 300.82 | 0.17 | | | COAL | PWRD PULVERIZED COAL. |
| 23 | 300.82 | 301.02 | 0.20 | | | MUDSTONE | CARB.BLK.VBRKN |
| 23 | 301.02 | 301.74 | 0.72 | | | SILTSTONE | GY.THNB.RIPMK.BRKN |
| 22 | 301.74 | 301.95 | 0.21 | | | ROCK LOSS | |
| 22 | 301.95 | 303.33 | 1.38 | | | SILTSTONE | SSY.THNB.RIPMK.BRKN FE-STAINED. |
| 22 | 303.33 | 303.60 | 0.27 | | | MUDSTONE | CARB.BLK.VBRKN COALY IN PART; HIGHLY BROKEN. |
| 22 | 303.60 | 303.81 | 0.21 | | | ROCK LOSS | |
| 22 | 303.81 | 304.99 | 1.18 | | | MUDSTONE | CARB.BLK.SLD CARBONACEOUS INCLUSIONS AND STRINGERS T HROUGHOUT. |
| 22 | 304.99 | 305.47 | 0.48 | | | SILTSTONE | GY.THKB.SLD CALCITE VEINS; MINOR CARBONACEOUS INCLU SIONS. |
| * 22 | 305.47 | 306.42 | 0.95 | | | SILTSTONE | GY.RIPMK.SLD INTERBEDDED WITH MUDSTONE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 55

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-------------|---|
| | 22 | 306.42 | 307.08 | 0.66 | | ROCK LOSS | |
| | 22 | 307.08 | 307.97 | 0.89 | | MUDSTONE | BLK.BRKN SLIGHTLY CARBONACEOUS AND SILTY; HIGHLY CARBONACEOUS TOWARDS THE BASE. |
| | 21 | 307.97 | 308.30 | 0.33 | | ROCK LOSS | |
| * | 21 | 308.30 | 310.02 | 1.72 | | SILTSTONE | GY.THKB.WRMBU BIGTURBATED; ABUNDANT RIPPLE MARKS AND CROSS-BEDDING; MINOR CARBONACEOUS STRIN GERS AND CALCITE VEINS. |
| | 20 | 310.02 | 311.23 | 1.21 | | SILTSTONE | GY.THNB.XBDG.SLD BROKEN TOWARDS THE BASE. |
| | 19 | 311.23 | 311.92 | 0.69 | | SILTSTONE | SLD MINOR CARBONACEOUS STRINGERS AND INCLUS IONS. |
| | 19 | 311.92 | 312.12 | 0.20 | | MUDSTONE | CARB.BLK.BRKN COALY STRINGERS; ALSO SHRD AS CORE STAT E. |
| | 19 | 312.12 | 312.36 | 0.24 | | COAL & ROCK | CARB.BLK.VBRKN HIGHLY BROKEN COAL MIXED WITH ROCK FRAG MENTS; ALSO SHRD AS CORE STATE. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 56

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 18 | 312.36 | 312.62 | 0.26 | | | MUDSTONE | CARB.VBRKN HIGHLY CARBONACEOUS. |
| 18 | 312.62 | 312.79 | 0.17 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARBONACEOUS. |
| 18 | 312.79 | 314.06 | 1.27 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARBONACEOUS ON ONE SIDE AND BONY COAL ON THE OTHER, AS THE BCA ANGLE IS VERY SMALL. |
| 17 | 314.06 | 314.45 | 0.39 | | | ROCK LOSS | |
| 16 | 314.45 | 315.71 | 1.26 | | | MUDSTONE | SLTY.GY.SLD BROKEN TOWARDS THE TOP. |
| * 15 | 315.71 | 317.40 | 1.69 | | | MUDSTONE | SLTY.GY.SLD BROKEN TOWARDS THE BASE; BONY IN PLACES ; CARBONACEOUS STRINGERS. |
| 17 | 317.40 | 318.27 | 0.87 | | | SILTSTONE | GY.THNB.SLD HIGHLY CARBONACEOUS AND BROKEN TOWARDS THE TOP. |
| 19 | 318.27 | 320.50 | 2.23 | | | SILTSTONE | GY.THKB.BIOTR.SLD UNIFORM; CARBONACEOUS STRINGERS. |

* DENOTES MEASURED BCA

XXXXX

82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 57

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 21 | 320.50 | 320.69 | 0.19 | | SILTSTONE | GY.SLD AS ABOVE; CALCITE VEINS AND CAVITY. |
| | 23 | 320.69 | 323.49 | 2.80 | | SILTSTONE | GY.SLD |
| * | 27 | 323.49 | 326.29 | 2.80 | | SILTSTONE | GY.THKB.SLD |
| | 27 | 326.29 | 326.62 | 0.33 | | SILTSTONE | GY.THKB.SLD MINOR CALCITE VEINS. |
| | 27 | 326.62 | 326.65 | 0.03 | | ROCK LOSS | |
| | 27 | 326.65 | 327.62 | 0.97 | | SILTSTONE | GY.THKB.VBRKN CALCITE VEINS AND CAVITY. |
| | 27 | 327.62 | 328.87 | 1.25 | | SILTSTONE | GY.THKB.RIPMK.VBRKN |
| | 28 | 328.87 | 330.97 | 2.10 | | SILTSTONE | SSY.GY.THKB.BIOTR.BRKN CALCITE VEINS; XBDG AND RIPPLE MARKS. |
| | 28 | 330.97 | 331.62 | 0.65 | | SANDSTONE | VFG.GY.MB.BIOTR.VBRKN HIGHLY BROKEN TOWARDS THE BASE. |
| | 28 | 331.62 | 332.06 | 0.44 | | SANDSTONE | VFG.GY.MB.VBRKN |

* DENOTES MEASURED BCA

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82/01/14

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 58

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81009

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 28 | 332.06 | 332.85 | 0.79 | | | SILTSTONE | GY.VBRKN ABUNDANT CALCITE VEINS; BRECCIATED DISTURBED ZONE; MODIFIER: MUDDY. |
| 28 | 332.85 | 334.24 | 1.39 | | | SILTSTONE | GY.THKB.VBRKN AS ABOVE. |
| 28 | 334.24 | 335.24 | 1.00 | | | SILTSTONE | GY.THKB.SLD CALCITE VEINS AND CAVITY; MUDDY IN PLACES; MODIFIER: MUDDY. |
| 29 | 335.24 | 336.66 | 1.42 | | | SILTSTONE | GY.THKB.BIOTR.VBRKN FE-STAINED. |
| 29 | 336.66 | 338.29 | 1.63 | | | SILTSTONE | GY.THKB.BRKN CALCITE VEINS. |
| * 29 | 338.29 | 339.23 | 0.94 | | | SILTSTONE | GY.THKB.BIOTR.SLD |
| 29 | 339.23 | 340.62 | 1.39 | | | SILTSTONE | GY.THNB.XBDG.SLD |
| 29 | 340.62 | 341.28 | 0.66 | | | MUDSTONE | CARB.BLK.THKB.VBRKN CARBONACEOUS STRINGERS. |
| 29 | 341.28 | 341.44 | 0.16 | | | SILTSTONE | GY.THNB.SLD CARBONACEOUS INCLUSIONS. |

* DENOTES MEASURED BCA

OPEN FILE

GULF CANADA RESOURCES INC.
COAL DIVISION

GOODRICH GEOLOGICAL REPORT
1981

APPENDIX B PART 6
DDH 81-10 to DDH 81-13

DDH 81-10

GCRI -- COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81010

HISTORY

START DATE: 15/09/81 END DATE: 17/09/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: C. WILLIAMS SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1309.9
 UTM ZONE: 10 NORTH: 6142022.95 EAST: 547963.68
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: . EAST: . LSD: ___ SEC: ___ TWP: ___ RGE: ___ MER: ___
 NTS-BC NORTH: . EAST: . QUAD: ___ UNIT: ___ BLK: ___ ST: ___ MUS: ___ MS: ___

DIMENSIONS AND ORIENTATION

LENGTH: 280.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: . SIZE HEIGHT: .
 ROOF STRIKE: ___ DIP: ___ FLOOR STRIKE: ___ DIP: ___

DRILL HOLE STATUS

CASING DEPTH: 25.75 CEMENTED: ___ PLUGGED: ___ PEIZOMETERS INSTALLED: ___
 AQUIFER DEPTHS: . . LOST CIRCULATION DEPTHS: . .

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | --- | --- | --- | X | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | --- | X | 125A |
| DENSITY | X | 1:100 | : | --- | --- | X | --- | 422AS |
| CALIPER | X | 1:100 | : | --- | --- | X | --- | 20A45 |
| FE-SHORT | X | : | 1:40 | --- | --- | X | --- | 6 |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | --- | 6 |
| DIRECTIONAL | X | : | : | --- | --- | X | --- | --- |
| DIPMETER | --- | : | : | --- | --- | --- | --- | --- |

*** COAL DIVISION ***

DATA SOURCE: DB1-10

INTERVAL OF INTERPOLATION 10 UNIT(S)

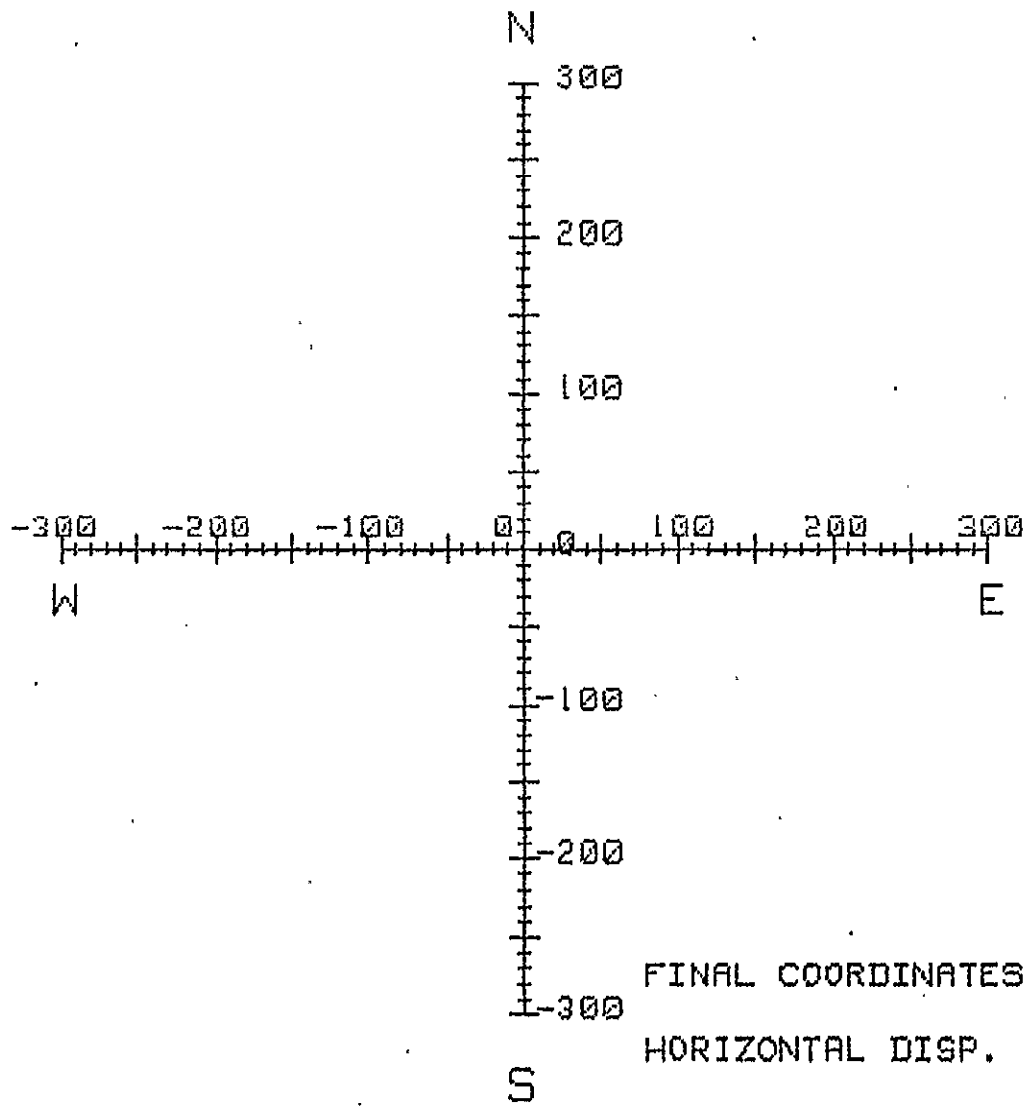
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 0.00 | 1.70 | 282.70 |
| 15.00 | 1.70 | 282.70 |
| 30.00 | 1.73 | 280.50 |
| 45.00 | 1.50 | 300.90 |
| 60.00 | 1.50 | 274.80 |
| 75.00 | .62 | 271.80 |
| 90.00 | .40 | 308.00 |
| 105.00 | .20 | 328.90 |
| 120.00 | .40 | 356.00 |
| 135.00 | .60 | 4.90 |
| 150.00 | .40 | 12.80 |
| 165.00 | .50 | 337.40 |
| 180.00 | .20 | 353.60 |
| 195.00 | .20 | 353.50 |
| 200.00 | 1.73 | 37.20 |

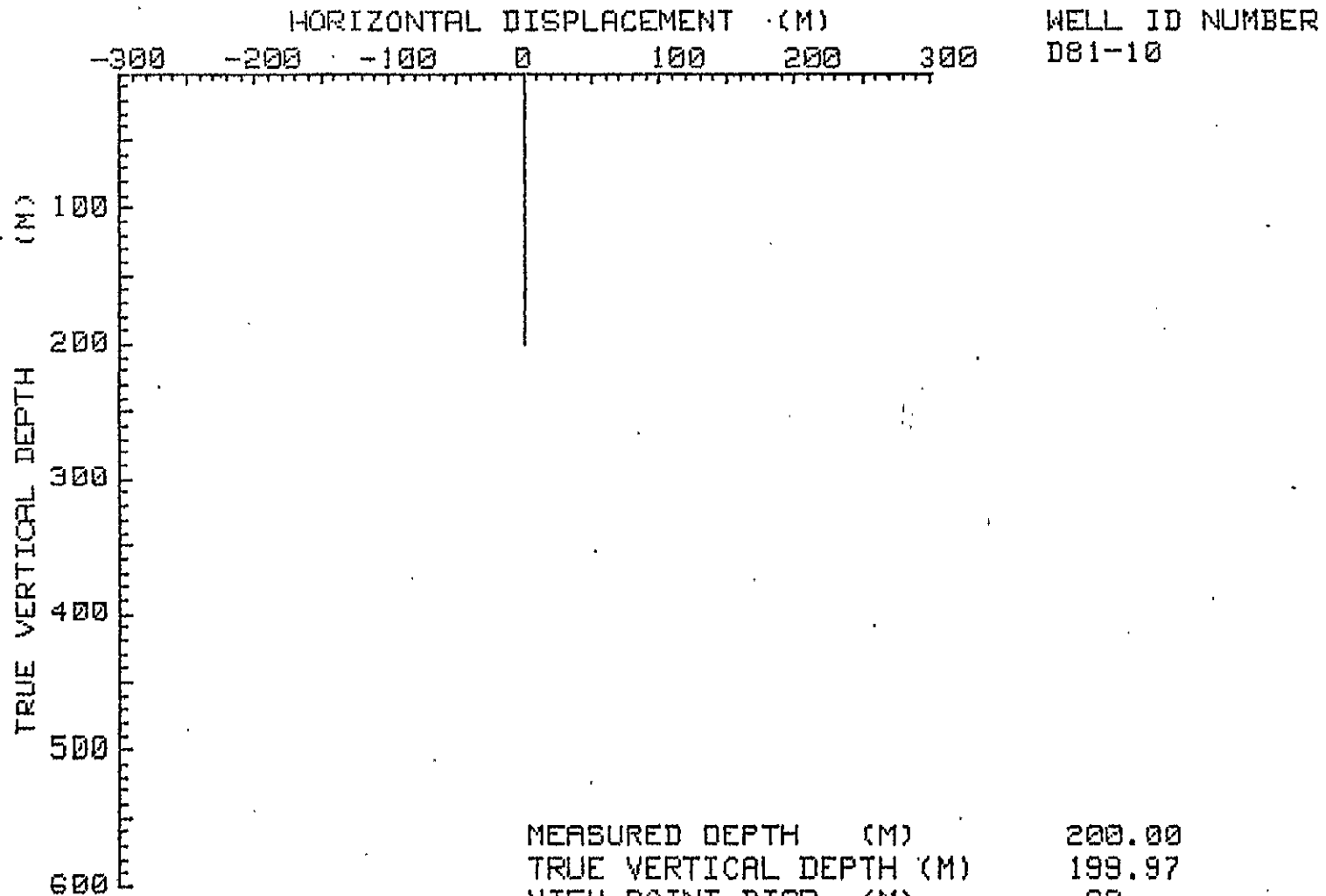
PLAN VIEW

WELL ID NUMBER
D81-10



FINAL COORDINATES(M) N 1.21
E -2.08
HORIZONTAL DISP. (M) .62

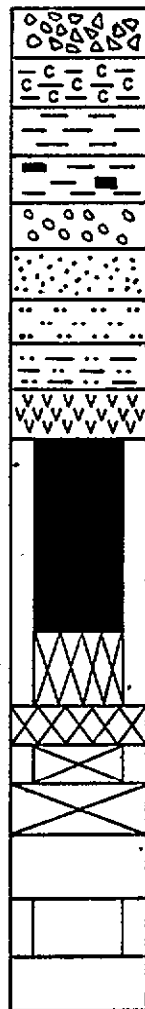
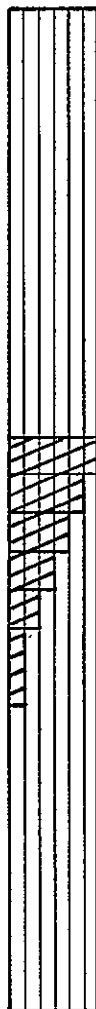
DISPLACEMENT



| | |
|-------------------------|--------|
| MEASURED DEPTH (M) | 200.00 |
| TRUE VERTICAL DEPTH (M) | 199.97 |
| VIEW POINT DISP. (M) | .62 |
| SECTION LINE BEARING | 45.00 |

SEAM
COMP.

COAL
SEAM
LOG



LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80 % Vitrain
- C-3: Dull/Bright 40-60 % Vitrain
- C-4: Dull banded 20-40 % Vitrain
- C-5: Dull 20 % Vitrain
- C-6: Bone

- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff

coal

coal-boney, stoney,
coal and bands/rock
- designated "C6"

rock } coal
lithotype uncertain

coal } MISSING
rock } CORE

rock

coal

CORED HOLE

GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



LEGEND FOR COAL
SEAM DATA SHEETS

PREPARED BY: V.O.

SCALE 1:40

APPROVED BY:

DATE: JAN. 82

DRAWING No.

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

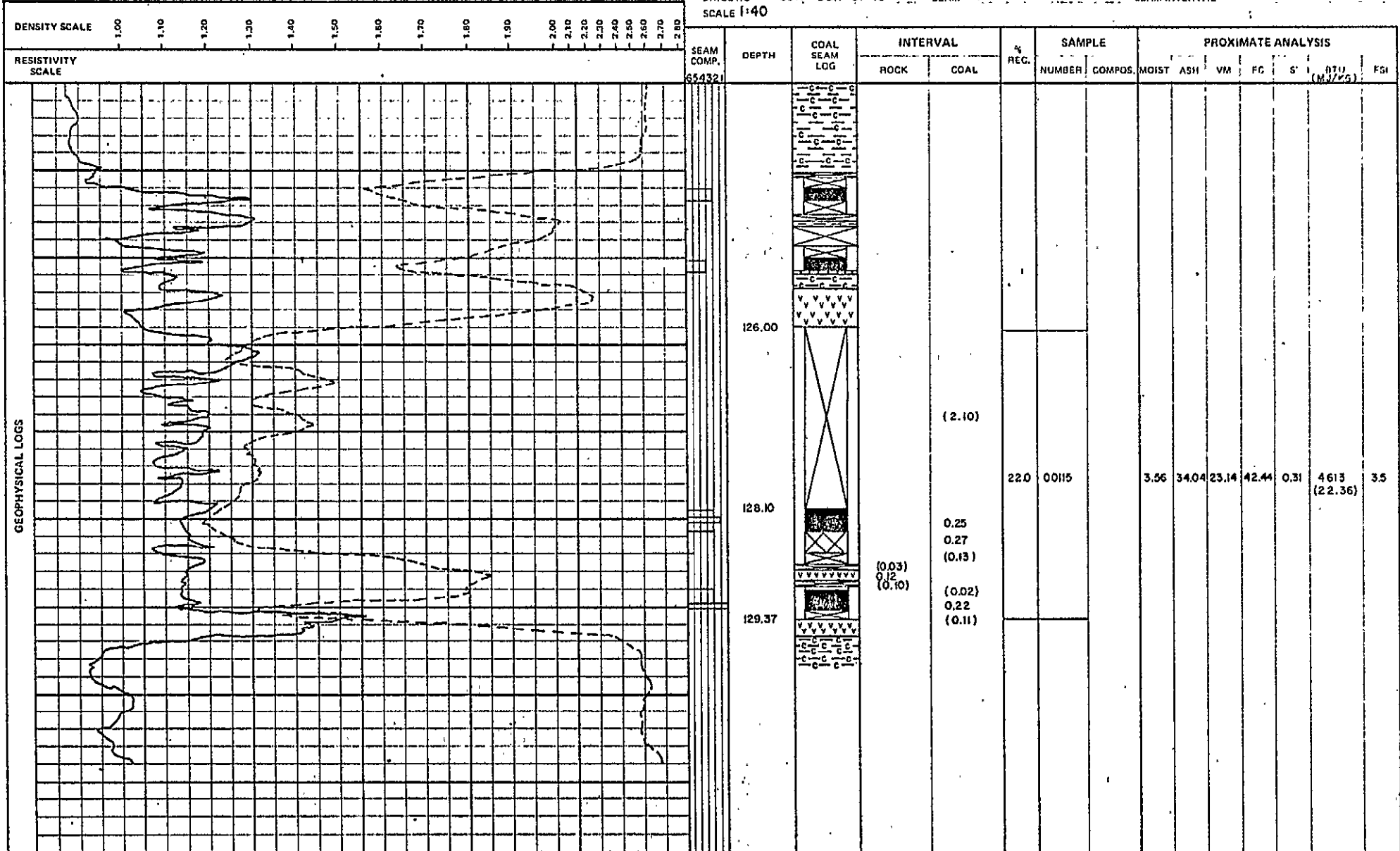
P-267 (12/80)

Coal/Coal + Rock (True Thk (m))
2.43 / 2.64
SEAM INTERVAL 126.00 - 129.37 m

DENSITY RESISTIVITY

DRILL NO GDR- DDH-81-10 SEAM 1
SCALE 1:40

SEAM INTERVAL



GEOPHYSICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

SIMPLE SAMPLE SUMMARY

PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|----------------|--------------|--------------|
| DDH81010 | | 114 | 121.00 | 122.76 | 1.68 | 95.45 | 1.26 | 0.42 | 0.08 | 0.00 |
| | | 115 | 126.00 | 129.37 | 0.86 | 25.52 | 0.74 | 0.12 | 2.36 | 0.15 |
| | | 116 | 187.57 | 189.35 | 1.71 | 96.07 | 1.16 | 0.55 | 0.07 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION
 HEAD ANALYSIS SUMMARY

18/JAN/82

PAGE 1

| PROJ - GDR | | ANALYSIS BASIS TYPE - AD | | | | NAME OF STANDARD - ASTM | | | | |
|-------------|------|--------------------------|--------------------|-------|---------------|-------------------------|----------------|-------------------------------|------|------|
| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
| DDH61010 | | 114 | 0.56 | 30.13 | 49.83 | 19.48 | 0.27 | 24.27 | 1.52 | 1.50 |
| | | 115 | 0.38 | 34.04 | 42.44 | 23.14 | 0.31 | 22.56 | 1.56 | 3.50 |
| | | 116 | 0.44 | 29.97 | 48.03 | 21.56 | 0.31 | 24.08 | 1.50 | 3.50 |

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 55 | 6.63 | 7.66 | 1.03 | | | MUDSTONE | M.GY.MAS.WRMBU.VBRKN CLAM BURROW AT TOP AND BOTTOM OF INTERVAL. |
| 55 | 7.66 | 8.28 | 0.62 | | | MUDSTONE | M.GY.MAS.WRMBU.VBRKN CLAM BURROW; WRMBUR PARALLEL TO BCA'S; WRMBUR 1 TO 2 MM IN DIAMETER. |
| 55 | 8.28 | 9.77 | 1.49 | | | MUDSTONE | SLTY.M.GY.MAS.WRMBU.VBRKN WRMBUR 1-2 MM IN DIAMETER AND GENERALLY PARALLEL TO BCA'S. |
| 55 | 9.77 | 10.31 | 0.54 | | | MUDSTONE | M.GY.MAS.WRMBU.VBRKN AS ABOVE. |
| 55 | 10.31 | 11.24 | 0.93 | | | MUDSTONE | M-DK.GY.MAS.WRMBU.VBRKN AS ABOVE. |
| * 55 | 11.24 | 12.67 | 1.43 | | | MUDSTONE | SLTY.M-DK.GY.MAS.WRMBU.VBRKN AS ABOVE, LARGE CALCITE FILLED FRACTURE AT 1.15 M; PYRITE WRMBUR. |
| 52 | 12.67 | 13.84 | 1.17 | | | MUDSTONE | LT-M.GY.MAS.WRMBU.BRKN |
| * 50 | 13.84 | 15.27 | 1.43 | | | MUDSTONE | SLTY.LT-M.GY.MAS.WRMBU.BRKN PYRITE WRMBUR. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-------------|---|
| 50 | 15.27 | 16.55 | 1.28 | | | MUDSTONE | SLTY.M.GY.MAS.WRMBU.BRKN WRMBUR PARALLEL TO BCA'S. |
| 50 | 16.55 | 17.83 | 1.28 | | | MUDSTONE | M.GY.MAS.WRMBU.BRKN MINOR CALCITE FILLED FRACTURES WITH SLI CKENSIDES. |
| 49 | 17.83 | 19.41 | 1.58 | | | MUDSTONE | M-DK.GY.MAS.WRMBU.BRKN AS ABOVE; 7 MM FILLED PYRITE FRACTURE A T 1.2. |
| 49 | 19.41 | 19.75 | 0.34 | | | MUDSTONE | M-DK.GY.MAS.WRMBU.BRKN |
| 49 | 19.75 | 19.81 | 0.06 | | | IRONST BAND | M.TAN.VTHNB |
| 49 | 19.81 | 20.27 | 0.46 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD MINOR CALCITE FILLED FRACTURES WITH SLI CKENSIDES AT 0.02, 0.13, 0.29 M. |
| * 49 | 20.27 | 22.97 | 2.70 | | | MUDSTONE | DK.GY.MAS.BIOTR.SLD CALCITE FILLED FRACTURES WITH SLICKENSI DES AT 0.0, 0.70, 1.18, 1.98, & 2.30 M, POSSIBLE CORELOSS AT 1.98 M PIECES DON 'T MATCH; LARGE PYRITE BLEBS AT 0.30 TO 0.90M |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 49 | 22.97 | 25.23 | 2.26 | | | MUDSTONE | SLTY.M-DK.GY.MAS.WRMBU.VBRKN POSSIBLE CORELOSS AT 1.20 M. |
| 49 | 25.23 | 25.58 | 0.35 | | | ROCK LOSS | |
| 49 | 25.58 | 25.99 | 0.41 | | | MUDSTONE | M-DK.GY.MAS.WRMBU.VBRKN MINOR CALCITE FILLED FRACTURES AT 0.01, 0.12, AND 0.25 M. |
| 50 | 25.99 | 28.54 | 2.55 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.BRKN ABUNDANT PYRITE FLECKS FROM 0.41M TO EN D OF INTERVAL. |
| 50 | 28.54 | 28.63 | 0.09 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD POSSIBLE CORELOSS AT END OF MEASUREMENT . |
| 50 | 28.63 | 30.36 | 1.73 | | | MUDSTONE | DK.GY.MAS.WRMBU.VBRKN ABUNDANT PYRITE FLECKS AND BLEBS THROUG HOUT; POSSIBLE CORELOSS AT 0.63 M. |
| 50 | 30.36 | 30.45 | 0.09 | | | TUFF | LT.GY.VTHNB.SSD.SLD FEELS SOAPY WHEN RUBBED BETWEEN FINGERS . |
| 50 | 30.45 | 31.11 | 0.66 | | | MUDSTONE | M.GY.MAS.WRMBU.SLD POSSIBLE CORELOSS AT BEGINNING OF INTER VAL. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 50 | 31.11 | 31.19 | 0.08 | | | MUDSTONE | M.GY.MAS.WRMBU.SLD |
| 50 | 31.19 | 33.73 | 2.54 | | | MUDSTONE | SLTY.M-DK.GY.MAS.WRMBU.BRKN POSSIBLE CORELOSS AT 1.72; CALCITE VEIN ING WITH SLICKENSIDES AT 0.28 M, 0.54 M , 0.74 M AND 1.34 M TO 1.70 M; PYRITE FL ECKS AND BLEBS THROUGHOUT-SOME MAY BE W RMBUR; POSSIBLE CORELOSS AT END OF INTE RVAL. |
| 50 | 33.73 | 34.08 | 0.35 | | | ROCK LOSS | |
| 51 | 34.08 | 34.48 | 0.40 | | | MUDSTONE | DK.GY.MAS.WRMBU.BRKN MINOR CALCITE FILLED FRACTURE WITH SLIC KENSIDES AT 0.25 M. |
| 51 | 34.48 | 36.71 | 2.23 | | | MUDSTONE | M-DK.GY.MAS.WRMBU.BRKN ABUNDANT PYRITE WRMBUR, FLECKS AND BLEB S THROUGHOUT; POSSIBLE FOSSIL BIVALVE A T END OF INTERVAL. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 51 | 36.71 | 37.37 | 0.66 | | | MUDSTONE | SLTY.M-DK.GY.MAS.WRMBU.BRKN PYRITE FLECKS AND WRMBUR THROUGHOUT. |
| 51 | 37.37 | 39.48 | 2.11 | | | MUDSTONE | SLTY.M.GY.MAS.WRMBU.SLD AS ABOVE. |
| 51 | 39.48 | 40.39 | 0.91 | | | MUDSTONE | M-DK.GY.MAS.WRMBU.BRKN AS ABOVE; THIN CALCITE VEINING AT 0.10; POSSIBLE CORELOSS AT 0.35M AND END OF INTERVAL-PIECES DON'T MATCH. |
| 51 | 40.39 | 42.14 | 1.75 | | | MUDSTONE | DK.GY.MAS.WRMBU.BRKN POSSIBLE CORELOSS AT 0.61 M, 1.10 PIECE S DON'T MATCH; PYRITE WRMBUR AND FLECKS THROUGHOUT. |
| 51 | 42.14 | 42.34 | 0.20 | | | ROCK LOSS | |
| 52 | 42.34 | 43.23 | 0.89 | | | MUDSTONE | DK.GY.MAS.WRMBU.BRKN PYRITE WRMBUR; POSSIBLE CORELOSS AT 0.5 0 M PIECES DON'T MATCH. |
| 52 | 43.23 | 44.96 | 1.73 | | | MUDSTONE | DK.GY.MAS.WRMBU.BRKN PYRITE WRMBURS AND FLECKS, POSSIBLE COR LOSS AT 0.67 M. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 52 | 44.96 | 45.51 | 0.55 | | ROCK LOSS | |
| * | 52 | 45.51 | 47.91 | 2.40 | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.VBRKN PYRITE WRMBUR AND FLECKS THROUGHOUT; CORE IS VBRKN; POSSIBLE CORELOSS THROUGHOUT; PWRD. |
| | 48 | 47.91 | 49.65 | 1.74 | | MUDSTONE | DK.GY.MAS.WRMBU.BRKN PYRITE WRMBUR AND FLECKS; WHITE CALCAREOUS? FLECKS THROUGHOUT, POSSIBLE FOSSILS? |
| * | 45 | 49.65 | 50.35 | 0.70 | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD SOME CARB DEBRIS. |
| | 45 | 50.35 | 51.02 | 0.67 | | MUDSTONE | SLTY.LT-M.GY.MAS.WRMBU.SLD POSSIBLE ASH FROM 0.59 TO 0.65- LTGY IN COLOR; SSD. |
| | 45 | 51.02 | 51.18 | 0.16 | | TUFF | WEL.LT.GY.THNB.SSD.SLD VERY HARD; SLIGHTLY SOAPY FEELING WHEN SCRATCHED; MINOR CALCITE VEINING. |
| | 46 | 51.18 | 52.02 | 0.84 | | MUDSTONE | SLTY.LT-DK.GY.MAS.WRMBU.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 46 | 52.02 | 52.13 | 0.11 | | | TUFF | LT.GY.THNB.SSD.SLD SOAPY WHEN SCRATCHED. |
| 46 | 52.13 | 52.58 | 0.45 | | | MUDSTONE | SLTY.LT-M.GY.MAS.WRMBU.BRKN POSSIBLE CORELOSS AT END OF INTERVAL. |
| 46 | 52.58 | 52.98 | 0.40 | | | ROCK LOSS | |
| 46 | 52.98 | 53.30 | 0.32 | | | MUDSTONE | SLTY.M-DK.GY.MAS.WRMBU.VBRKN POSSIBLE CORELOSS AT BEGINNING AND END OF INTERVAL. |
| 47 | 53.30 | 55.93 | 2.63 | | | MUDSTONE | SLTY.M-DK.GY.MAS.WRMBU.SLD SOME CARB PLANT DEBRIS. |
| 47 | 55.93 | 56.03 | 0.10 | | | MUDSTONE | DK.GY.MAS.WRMBU.SLD |
| * 48 | 56.03 | 58.62 | 2.59 | | | MUDSTONE | SLTY.M-DK.GY.MAS.WRMBU.SLD LARGE PYRITE LAMINATIONS AT 0.31 M; CAL CITE FILLED FRACTURES WITH SLICKENSIDES AT 0.06 M, 1.55 M; FEW MINOR SLTY LAMI NATIONS; DEGREE OF PLANT HASH INCREASIN G. |
| 50 | 58.62 | 58.85 | 0.23 | | | MUDSTONE | SLTY.M-DK.GY.MAS.WRMBU.SLD WRMBUR ARE STILL 1 TO 3 MM IN DIAMETER AND PARALLEL TO BCA'S. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 52 | 58.85 | 61.11 | 2.26 | | | MUDSTONE | SLTY.M-DK.GY.MAS.WRMBU.SLD AS ABOVE; MINOR CALCITE VEINING AT 0.68 AND 0.78 M, 1.58 M. |
| * 50 | 61.11 | 61.90 | 0.79 | | | MUDSTONE | M-DK.GY.MAS.WRMBU.SLD PYRITE FLECKS THROUGHOUT. |
| 49 | 61.90 | 63.72 | 1.82 | | | MUDSTONE | SLTY.M-DK.GY.MAS.WRMBU.SLD CALCITE VEINING WITH SLICKENSIDES AT 0. 67 M, 1.10 TO 1.66 M- APPROXIMATELY 9 F ILLED FRACTURES. |
| * 47 | 63.72 | 64.92 | 1.20 | | | MUDSTONE | SLTY.M-DK.GY.MAS.WRMBU.BRKN SLTY INTERBED WITH CALCITE FILLED FRACT URES FROM 0.34 M TO 0.42 M; POSSIBLE CO RELOSS AT END OF INTERVAL; SSD. |
| 49 | 64.92 | 66.22 | 1.30 | | | MUDSTONE | M-DK.GY.MAS.BIOTR.SLD CORE BIOTRB IN SOME INTERVALS; CALCITE VEINING ABUNDANT FROM 0.72 TO 1.12 M. |
| 52 | 66.22 | 67.94 | 1.72 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD PYRITE WRMBUR. |
| 54 | 67.94 | 68.77 | 0.83 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD IRONSTONE BAND FROM 0.30 M TO 0.37 M; B IOTRB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 56 | 68.77 | 70.71 | 1.94 | | | MUDSTONE | SLTY.M-DK.GY.MAS.BIOTR.SLD PYRITE FLECKS THROUGHOUT; MINOR CALCITE VEINING THROUGHOUT; POSSIBLE CORELOSS AT END OF INTERVAL;WRMBUR. |
| 56 | 70.71 | 71.42 | 0.71 | | | MUDSTONE | SLTY |
| * 57 | 71.42 | 73.74 | 2.32 | | | MUDSTONE | SLTY.M.GY.MAS.WRMBU.SLD POSSIBLE CORELOSS AT 1.50 M. |
| * 62 | 73.74 | 74.02 | 0.28 | | | MUDSTONE | SLTY.M.GY.MAS.WRMBU.SLD |
| 63 | 74.02 | 76.66 | 2.64 | | | MUDSTONE | SLTY.M.GY.MAS.WRMBU.SLD ABUNDANT CALCITE VEINING 2.22 M TO 2.64 M. |
| 63 | 76.66 | 76.83 | 0.17 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD ABUNDANT PYRITE WRMBUR. |
| 64 | 76.83 | 79.23 | 2.40 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD AS ABOVE. |
| 64 | 79.23 | 79.84 | 0.61 | | | MUDSTONE | SLTY.M-DK.GY.MAS.WRMBU.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 65 | 79.84 | 80.59 | 0.75 | | | MUDSTONE | SLTY.DK.GY.MAS.WRMBU.SLD WHITE FLECKS INCREASING TOWARDS BASE OF INTERVAL; APPROACHING BLUE SKY; CARB P LANT HASH INCREASING; SSY; CARB. |
| * 65 | 80.59 | 81.84 | 1.25 | | | SANDSTONE | SLTY.FG.LT-DK.GY.THNB.WRMBU.SLD PEBBLES CONSIST OF WHITE AND BLACK CHER TS FROM 2 TO 16 MM IN DIAMETER; WRMBUR AVERAGE 5 TO 7 MM IN DIAMETER; TOPS UP; PEBBLY; SLTY; XBDG. |
| 64 | 81.84 | 81.98 | 0.14 | | | SANDSTONE | SLTY.VFG.LT-DK.GY.VTHNB.XBDG.VBRKN INTERBEDDED SS AND MUDST. |
| 64 | 81.98 | 82.23 | 0.25 | | | SANDSTONE | VFG.LT.GY.VTHNB.XBDG.SLD |
| 64 | 82.23 | 82.70 | 0.47 | | | SANDSTONE | CLYY.LT-DK.GY.VTHNB.XBDG.SLD INTERBEDDED WITH SS AND MUDST; WRMBUR. |
| 63 | 82.70 | 84.30 | 1.60 | | | SANDSTONE | SLTY.VFG.PR.LT-DK.GY.VTHNB.XBDG.SLD INTERBEDDED SS AND MUDST BECOMING MORE ARGILLACEOUS TOWARDS BASE; WRMBUR. |
| * 62 | 84.30 | 84.43 | 0.13 | | | SANDSTONE | SLTY.VFG.LT-DK.GY.VTHNB.XBDG.SLD WRMBUR. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 62 | 84.43 | 84.91 | 0.48 | | SANDSTONE | SLTY.VFG.LT-DK.GY.THNB.XBDG.SLD CALCITE VEINING THROUGHOUT. |
| | 61 | 84.91 | 85.69 | 0.78 | | SILTSTONE | SLTY.LT-DK.GY.THNB.SSD.SLD MINOR CALCITE VEINING AND POSSIBLE CORE LOSS AT END OF INTERVAL; SSY AND WRMBUR . |
| | 61 | 85.69 | 86.91 | 1.22 | | SILTSTONE | SLTY.LT-DK.GY.VTHNB.WRMBU.SLD CALCITE VEINING THROUGHOUT, INTERBEDDED SLTST, MUDST, AND MINOR SS; CLYY; XBDG ; SSD. |
| * | 60 | 86.91 | 88.69 | 1.78 | | SILTSTONE | SLTY.LT-DK.GY.VTHNB.WRMBU.SLD AS ABOVE; POSSIBLE CORELOSS AT END OF I NTERVAL; CLYY; XBDG; SSD. |
| | 59 | 88.69 | 89.21 | 0.52 | | ROCK LOSS | |
| | 59 | 89.21 | 90.07 | 0.86 | | SILTSTONE | SLTY.LT-DK.GY.VTHNB.SSD.BRKN POSSIBLE CORELOSS AT END OF INTERVAL; S SY; XBDG; WRMBUR. |
| | 57 | 90.07 | 92.28 | 2.21 | | SILTSTONE | SLTY.LT-DK.GY.VTHNB.SSD.SLD INTERBEDDED SLTST AND MUDST AND MINOR S S; SSY; WRMBUR. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 56 | 92.28 | 92.66 | 0.38 | | | SILTSTONE | SLTY.LT-DK.GY.VTHNB.SSD.SLD AS ABOVE; SSY; WRMBUR. |
| * 55 | 92.66 | 95.28 | 2.62 | | | SILTSTONE | SLTY.LT-DK.GY.VTHNB.WRMBU.SLD AS ABOVE; BECOMING MORE ARGILLACEOUS; N OTE SSY INTERVALS APPEAR TO HAVE A GREE NISH TINGE- POSSIBLE GLAUCONITE; SSY; B IOTRB; XBDG. |
| 55 | 95.28 | 95.37 | 0.09 | | | SILTSTONE | SLTY.LT-DK.GY.VTHNB.WRMBU.SLD SSY; BIOTRB. |
| 55 | 95.37 | 98.16 | 2.79 | | | SILTSTONE | SLTY.LT-DK.GY.VTHNB.WRMBU.SLD SLTST, MUDSTAND MINOR SS INTERBEDDED; W ITH NUMEROUS CALCAREOUS BLEBS THROUGHOU T; SSY; BIOTRB; XBDG. |
| 55 | 98.16 | 98.39 | 0.23 | | | SILTSTONE | CLYY.LT-DK.GY.VTHNB.WRMBU.SLD AS ABOVE; SSY; XBDG. |
| * 55 | 98.39 | 100.85 | 2.46 | | | MUDSTONE | SLTY.M-DK.GY.VTHNB.WRMBU.SLD MINOR CALCITE VEINING; SSY; CARB; BIOTR B. |
| 54 | 100.85 | 101.33 | 0.48 | | | MUDSTONE | SLTY.DK.GY.THNB.WRMBU.SLD AS ABOVE; CARB; BIOTRB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 13

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 53 | 101.33 | 103.51 | 2.18 | | | MUDSTONE | SLTY.DK.GY.THNB.WRMBU.SLD MINOR CALCITE FILLED FRACTURES THROUGHOUT; PYRITE BLEBS; CARB; BIOTRB. |
| * 52 | 103.51 | 104.35 | 0.84 | | | MUDSTONE | DK.GY.THNB.WRMBU.SLD AMOUNT OF PLANT HASH INCREASING; CARB; BIOTRB. |
| 57 | 104.35 | 106.25 | 1.90 | | | MUDSTONE | DK.GY.THNB.WRMBU.SLD AMOUNT OF PLANT HASH INCREASING; SLTY. |
| 63 | 106.25 | 107.36 | 1.11 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU.SLD OIL FILLED FRACTURES; WITH SMOKEY QUARTZ CRYSTALS AT 0.11 M; |
| * 68 | 107.36 | 108.83 | 1.47 | | | MUDSTONE | CARB.DK.GY.THKB.WRMBU.SLD SEVERAL 5 MM BRIGHT COAL BANDS FROM 0.38 TO 0.50 MSLTY |
| * 55 | 108.83 | 109.07 | 0.24 | | | MUDSTONE | CARB.DK.GY.THKB.WRMBU.SLD BECOMING MORE SLTY TOWARDS BASE; OIL STAINING AT TOP OF INTERVAL; SLTY. |
| 54 | 109.07 | 110.33 | 1.26 | | | SANDSTONE | CARB.VFG.PR.DK.GY.THNB.WRMBU.SLD MINOR CALCITE FILLED FRACTURES THROUGHOUT; SLTY; CLYY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 53 | 110.33 | 111.47 | 1.14 | | | SANDSTONE | CARB.VFG.PR.DK.GY.THNB.WRMBU.SLD VERY ARGILLACEOUS FROM 0.0 M TO 0.70 M; NUMEROUS CALCITE FILLED FRACTURES THRO UGHOUT; CLYY. |
| * 52 | 111.47 | 113.27 | 1.80 | | | SANDSTONE | CLYY.VFG.PR.LT-DK.GY.THNB.XBDG.BRKN TOPS UP; ABUNDANT CALCITE VEINING THROU GHOUT; VUG S WITH OIL STAINING; VERY CA RB INTERVAL FROM 0.72 TO 1.00 M; POSSIB LE CORELOSS AT END OF INTERVAL; PIECES DON'T MATCH; CARB. |
| 50 | 113.27 | 113.51 | 0.24 | | | ROCK LOSS | |
| 49 | 113.51 | 114.12 | 0.61 | | | SANDSTONE | CLYY.VFG.PR.LT-DK.GY.THNB.XBDG.SLD SEVERAL 2 MM COALY INCLUSIONS AT 0.07 M AND 0.62 M; CARB. |
| 48 | 114.12 | 114.30 | 0.18 | | | MUDSTONE | SLTY.M-DK.GY.THNB.SLD CARB. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 45 | 114.30 | 116.40 | 2.10 | | | MUDSTONE | SLTY.LT-DK.GY.THNB.SSD.BRKN NUMEROUS COALY INCLUSIONS AND LAMINATIONS FROM 0.63 M TO END OF INTERVAL; VERY SSY FROM 1.40 M TO END OF INTERVAL; SSY; CARB. |
| 47 | 116.40 | 116.73 | 0.33 | | | SILTSTONE | CLYY.LT-M.GY.THNB.SSD.SLD OIL STAINING ON CALCITE VEINS AT 0.13 M ; CARB. |
| 50 | 116.73 | 119.36 | 2.63 | | | SILTSTONE | CLYY.LT-M.GY.THNB.SSD.BRKN TOPS UP; COALY LAMINATIONS AT 0.30 M AND D 2.20 M; CARB; COALY. |
| 53 | 119.36 | 119.45 | 0.09 | | | SILTSTONE | CLYY.M.GY.VTHNB.SSD.SLD ABUNDANT COALY LAMINATIONS AND INCLUSIONS; POSSIBLE CORELOSS AT TOP OF INTERVAL. |
| 53 | 119.45 | 119.80 | 0.35 | | | ROCK LOSS | |
| * 54 | 119.80 | 120.22 | 0.42 | | | MUDSTONE | CARB.M-DK.GY.THNB.SSD.BRKN POSSIBLE CORELOSS AT 0.36 M; PIECES DON'T MATCH; SLICKENSIDES AT THIS POINT; SEVERAL 1 TO 2 M BRIGHT BANDS THROUGHOUT ; SLTY; STONEY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 53 | 120.22 | 120.30 | 0.08 | | | COAL | C-6 POSSIBLE CORELOSS AT END OF INTERVAL. |
| 53 | 120.30 | 120.43 | 0.13 | | | MUDSTONE | CARB.M.GY.VTHNB.SLD POSSIBLE CORELOSS AT END OF INTERVAL. |
| 53 | 120.43 | 120.45 | 0.02 | | | COAL | C-6.BRKN COAL AND BANDS; THREE 1 TO 2 MM COAL BANDS. |
| 53 | 120.45 | 120.47 | 0.02 | | | MUDSTONE | CARB.DK.GY.VTHNB.BRKN |
| 53 | 120.47 | 120.49 | 0.02 | | | COAL | C-6 COAL AND BANDS; TWO 1 TO 2 MM COAL BANDS. |
| 53 | 120.49 | 120.71 | 0.22 | | | MUDSTONE | CARB ABUNDANT BRIGHT COAL FILAMENTS THROUGHOUT |
| 52 | 120.71 | 120.77 | 0.06 | | | COAL | C-6 BONE COAL; TWO 2 MM BRIGHT BANDS AT TOP OF INTERVAL. |
| 52 | 120.77 | 120.79 | 0.02 | | | COAL | C-6 BONE COAL. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 52 | 120.79 | 120.82 | 0.03 | | | MUDSTONE | CARB.DK.GY.VTHNB.VBRKN TWO 2 MM BRIGHT BANDS AT TOP AND BOTTOM OF UNIT. |
| 52 | 120.82 | 120.87 | 0.05 | | | COAL | C-6 STONEY. |
| 52 | 120.87 | 120.94 | 0.07 | | | MUDSTONE | CARB.DK.GY.VTHNB.SLD POSSIBLE CORELOSS AT OP AND BOTTOM OF I NTERVAL; VERY CARB; 1 MM BRIGHT BANDS T HROUGHOUT. |
| 52 | 120.94 | 121.00 | 0.06 | | | MUDSTONE | CARB.DK.GY.VTHNB.SLD AS ABOVE. |
| 52 | 121.00 | 121.04 | 0.04 | 00114 | 1 | COAL | C-6.SLD BONE. |
| 51 | 121.04 | 121.06 | 0.02 | 00114 | 1 | COAL | C-6.SLD |
| 51 | 121.06 | 121.10 | 0.04 | 00114 | 1 | COAL | C-4.SLD |
| 51 | 121.10 | 121.13 | 0.03 | 00114 | 1 | COAL | C-3.SLD |
| 51 | 121.13 | 121.18 | 0.05 | 00114 | 1 | COAL | C-4.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 51 | 121.18 | 121.23 | 0.05 | 00114 | 1 | COAL | C-4.SLD VERY HARD; ALMOST BONEY. |
| 51 | 121.23 | 121.36 | 0.13 | 00114 | 1 | MUDSTONE | CARB.DK.GY.SLD VERY HARD; ABUNDANT BRIGHT FILAMENTS TH ROUGHOUT. |
| 51 | 121.36 | 121.45 | 0.09 | 00114 | 1 | MUDSTONE | CARB.DK.GY.SLD AS ABOVE. |
| 51 | 121.45 | 121.49 | 0.04 | 00114 | 1 | COAL | C-3 |
| 51 | 121.49 | 121.52 | 0.03 | 00114 | 1 | COAL | C-3.SLD POSSIBLE CORELOSS AT TOP. |
| 50 | 121.52 | 121.57 | 0.05 | 00114 | 1 | COAL | C-2.SLD |
| 50 | 121.57 | 121.62 | 0.05 | 00114 | 1 | COAL | C-4.SLD |
| 50 | 121.62 | 121.68 | 0.06 | 00114 | 1 | COAL | C-3.SLD POSSIBLE CORELOSS AT TOP. |
| 50 | 121.68 | 121.70 | 0.02 | 00114 | 1 | COAL | C-2.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 50 | 121.70 | 121.72 | 0.02 | 00114 | 1 | COAL | C-4.SLD |
| 50 | 121.72 | 121.76 | 0.04 | 00114 | 1 | COAL | C-3.SLD POSSIBLE CORELOSS AT TOP OF INTERVAL. |
| 50 | 121.76 | 121.78 | 0.02 | 00114 | 1 | COAL | C-2.SLD |
| 50 | 121.78 | 121.87 | 0.09 | 00114 | 1 | COAL | C-3.SLD POSSIBLE CORELOSS AT END OF INTERVAL; S HRD AT END OFF INTERVAL. |
| 50 | 121.87 | 121.93 | 0.06 | 00114 | 1 | COAL | C-3.SLD |
| 49 | 121.93 | 121.99 | 0.06 | 00114 | 1 | MUDSTONE | CARB.DK.GY.VTHNB.SLD POSSIBLE CORELOSS AT BOTTOM OF INTERVAL . |
| 49 | 121.99 | 122.09 | 0.10 | 00114 | 1 | MUDSTONE | CARB.DK.GY.VTHNB.RTB.SLD AS ABOVE. |
| 49 | 122.09 | 122.11 | 0.02 | 00114 | 1 | MUDSTONE | CARB.DK.GY.VTHNB.SHRD |
| 49 | 122.11 | 122.19 | 0.08 | 00114 | 1 | COAL | C-3.VBRKN PWRD; SHRD. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--------------------------|
| 49 | 122.19 | 122.25 | 0.06 | 00114 | 1 | COAL | C-3.VBRKN PWRD; SHRD. |
| 49 | 122.25 | 122.34 | 0.09 | 00114 | 1 | COAL | C-3.VBRKN |
| 49 | 122.34 | 122.40 | 0.06 | 00114 | 1 | COAL | C-2.VBRKN PWRD; SHRD. |
| 48 | 122.40 | 122.47 | 0.07 | 00114 | 1 | COAL | C-3.VBRKN PWRD. |
| 48 | 122.47 | 122.49 | 0.02 | 00114 | 1 | COAL | C-5.VBRKN PWRD. |
| 48 | 122.49 | 122.51 | 0.02 | 00114 | 1 | MUDSTONE | CARB.VBRKN |
| 48 | 122.51 | 122.57 | 0.06 | 00114 | 1 | COAL | C-2.VBRKN PWRD; SHRD. |
| 48 | 122.57 | 122.60 | 0.03 | 00114 | 1 | COAL | C-2.VBRKN PWRD; SHRD. |
| 48 | 122.60 | 122.63 | 0.03 | 00114 | 1 | COAL | C-3.VBRKN SHRD. |
| 48 | 122.63 | 122.65 | 0.02 | 00114 | 1 | COAL | C-2.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 48 | 122.65 | 122.68 | 0.03 | 00114 | 1 | COAL | C-6.SLD BONE; POSSIBLE CORELOSS AT END OF INTERVAL. |
| 48 | 122.68 | 122.76 | 0.08 | 00114 | 1 | CORE LOSS | |
| * 46 | 122.76 | 124.21 | 1.45 | | | MUDSTONE | CARB.VBRKN SLTY; ONE 2 CM BRIGHT BAND AT 0.34 M; S LICKENSIDES AT 0.11 M, 0.15 M, 0.26 M, 0.34 M, 0.54 M, 0.63 M, 1.09 M, 1.31 M, AND 1.45 M. |
| 47 | 124.21 | 124.26 | 0.05 | | | ROCK LOSS | |
| 47 | 124.26 | 124.40 | 0.14 | | | COAL LOSS | |
| 47 | 124.40 | 124.42 | 0.02 | | | COAL | C-3.SHRD PWRD. |
| 47 | 124.42 | 124.44 | 0.02 | | | COAL | C-4.SHRD VRBKN. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 47 | 124.44 | 124.48 | 0.04 | | | COAL | C-4.VSHRD |
| 48 | 124.48 | 124.51 | 0.03 | | | COAL | C-2.SHRD |
| 48 | 124.51 | 124.67 | 0.16 | | | COAL LOSS | |
| 48 | 124.67 | 124.78 | 0.11 | | | ROCK LOSS | |
| 48 | 124.78 | 124.80 | 0.02 | | | MUDSTONE | CARB.M.GY.VBRKN |
| 48 | 124.80 | 124.82 | 0.02 | | | MUDSTONE | CARB.M.GY.VBRKN |
| 48 | 124.82 | 125.07 | 0.25 | | | ROCK LOSS | |
| 48 | 125.07 | 125.21 | 0.14 | | | COAL LOSS | |
| 49 | 125.21 | 125.35 | 0.14 | | | COAL | C-4.VSHRD PWRD. |
| 49 | 125.35 | 125.38 | 0.03 | | | TUFF | CARB.LT.GY.VBRKN SHRD; SOFT SOAPY FEEL WHEN PWRD. |
| 49 | 125.38 | 125.55 | 0.17 | | | MUDSTONE | CARB.DK.GY.SLD POSSIBLE CORELOSS AT TOP AND BOTTOM OF INTERVALS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 49 | 125.55 | 125.57 | 0.02 | | | TUFF | CARB.DK.GY.BRKN |
| 49 | 125.57 | 125.73 | 0.16 | | | TUFF | DK.GY.VBRKN |
| 50 | 125.73 | 126.00 | 0.27 | | | TUFF | CARB.LT.GY.VBRKN SHRD; CALCITE VEINING TOWARDS BASE; SOFT SOAPY FEELING WHEN RUBBED BETWEEN FINGERS; SHRD SURFACES HAVE TRANSPARENT GLASSY APPEARANCES. |
| 51 | 126.00 | 128.10 | 2.10 | 00115 | 1 | COAL LOSS | |
| 53 | 128.10 | 128.19 | 0.09 | 00115 | 1 | COAL | C-3.VBRKN SHRD; PWRD. |
| 53 | 128.19 | 128.25 | 0.06 | 00115 | 1 | COAL | C-2.VSHRD PWRD. |
| 53 | 128.25 | 128.35 | 0.10 | 00115 | 1 | COAL | C-3.PWRD PWRD. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 53 | 128.35 | 128.62 | 0.27 | 00115 | 1 | COAL | PWRD SOME PWRD TUFF INTERMIXED WITH PWRD COAL. |
| 54 | 128.62 | 128.75 | 0.13 | 00115 | 1 | COAL LOSS | |
| 54 | 128.75 | 128.80 | 0.05 | 00115 | 1 | ROCK LOSS | |
| * 54 | 128.80 | 128.92 | 0.12 | 00115 | 1 | TUFF CARB | M-DK.GY.SLD SANDY TEXTURE; VERY HARD. |
| 53 | 128.92 | 129.02 | 0.10 | 00115 | 1 | ROCK LOSS | |
| 53 | 129.02 | 129.04 | 0.02 | 00115 | 1 | COAL LOSS | |
| 53 | 129.04 | 129.08 | 0.04 | 00115 | 1 | COAL | C-3.VBRKN |
| 52 | 129.08 | 129.13 | 0.05 | 00115 | 1 | COAL | C-3.BRKN POSSIBLE CORELOSS AT TOP AND BOTTOM OF INTERVAL. |
| 52 | 129.13 | 129.16 | 0.03 | 00115 | 1 | COAL | C-3.VBRKN AS ABOVE. |
| 52 | 129.16 | 129.21 | 0.05 | 00115 | 1 | COAL | C-3.VBRKN AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 25

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 52 | 129.21 | 129.26 | 0.05 | 00115 | ↑ | COAL C-1.VBRKN AS ABOVE. |
| | 51 | 129.26 | 129.37 | 0.11 | 00115 | ↑ | COAL LOSS |
| | | 129.37 | 129.41 | 0.04 | | | TUFF CARB.M.GY.SLD SANDY TEXTURE APPEARS TO HAVE GLASS SHA RDS PRESENT. |
| * | 50 | 129.41 | 129.57 | 0.16 | | | TUFF CARB M.GY.SLD AS ABOVE. |
| | 50 | 129.57 | 130.69 | 1.12 | | | MUDSTONE CARB.M-DK.GY.SLD SLTY. |
| | 50 | 130.69 | 131.59 | 0.90 | | | SILTSTONE CARB.M-DK.GY.VTHNB.SSD.SLD FEW MINOR COAL INCLUSIONS TOWARDS BASE OF INTERVAL; CLYY. |
| | 50 | 131.59 | 131.61 | 0.02 | | | MUDSTONE CARB.DK.GY.VTHNB.SLD POSSIBLE CORELOSS AT FOOTAGE BLOCK; PIE CES DON'T MATCH; ALSO SLTY AS MODIFIER. |
| | 50 | 131.61 | 131.71 | 0.10 | | | ROCK LOSS |
| | 50 | 131.71 | 132.03 | 0.32 | | | MUDSTONE CARB.DK.GY.VTHNB.SLD CALCITE FILLED STRUCTURE WITH SLICKENSI DES AT 0.1; ALSO SLTY AS MODIFIER. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 50 | 132.03 | 132.97 | 0.94 | | | MUDSTONE | CARB.DK.GY.VTHNB.SLD COALY INCLUSIONS AND LAMINATIONS ABUNDANT FROM 0.85 TO 0.94 M; ALSO SLTY AS MODIFIER. |
| * 50 | 132.97 | 134.29 | 1.32 | | | SILTSTONE | CARB.LT.GY.SLD HORSETAIL CALCITE VEINING AT 0.16 M TO 0.32 M AND 0.61 APPEARS TO FORM AROUND COALY LAMINATIONS; PLANT FOSSILS AT 0.22 M; ALSO CLYY AS MODIFIER. |
| 53 | 134.29 | 134.57 | 0.28 | | | MUDSTONE | CARB.DK.GY LARGE COALY INCLUSIONS FROM 0.20 TO 0.22 M. |
| * 56 | 134.57 | 135.91 | 1.34 | | | SILTSTONE | CLYY.M.GY.VTHNB.SSD.SLD ABUNDANT PLANT HASH IN CERTAIN INTERVALS; MINOR HORSETAIL CALCITE VEINING THROUGHOUT USUALLY AROUND COALY LAMINATIONS AND INCLUSIONS; ALSO CARB AS MODIFIER. |
| 54 | 135.91 | 136.28 | 0.37 | | | MUDSTONE | SLTY.DK.GY.VTHNB.SSD.SLD ABUNDANT PLANT HASH; ALSO CARB AS MODIFIER. |
| 53 | 136.28 | 137.12 | 0.84 | | | SILTSTONE | CLYY.LT-M.GY.VTHNB.SSD.SLD ABUNDANT HORSETAIL CALCITE VEINING AT 0.36 M; ALSO CARB AS MODIFIER; ALSO RTB AS SED STRUCTURES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 52 | 137.12 | 137.59 | 0.47 | | | SILTSTONE | CLYY.LT-M.GY.VTHNB.SLD POSSIBLE CORELOSS AT FOOTAGE BLOCK; ALS O CARB AS MODIFIER. |
| 52 | 137.59 | 137.99 | 0.40 | | | ROCKLOSS | |
| 49 | 137.99 | 140.23 | 2.24 | | | SILTSTONE | CLYY.DK.GY.THNB.SSD.SLD FROM 1.61 M TO 2.03 M CORE IS VERY CARB WITH SEVERAL 3 TO 5 CM COAL INCLUSIONS ; SEVERAL CALCITE FILLED FRACTURES AT 2 .03 M; ALSO CARB AS MODIFIER. |
| 47 | 140.23 | 140.97 | 0.74 | | | SILTSTONE | CLYY.DK.GY.THNB.SSD.SLD POSSIBLE CORELOSS AT FOOTAGE BLOCK; CAL CITE FILLED FRACTURES WITH SLICKENSIDES AT 0.21 AND 0.40 M; ALSO CARB AS MODIF IER; WRMBUR. |
| 46 | 140.97 | 141.07 | 0.10 | | | ROCK LOSS | |
| 44 | 141.07 | 142.98 | 1.91 | | | SILTSTONE | CLYY.DK.GY.VTHNB.SSD.BRKN 0.02 M FILLED CALCITE INTERVAL AT 1.29 M; SEVERAL 1 TO 3 CM WIDE MUDST INTERBE DS AT 0.16 M AND 0.33 M; ALSO WRMBUR AS SED STRUCTURE; ALSO CARB AS MOODIFIER. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|---------|-----------|--|
| 42 | 142.98 | 143.36 | 0.38 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD CALCITE FILLED FRACTURES AT END OF INTERVAL; ALSO SSY AS MODIFIER. |
| 41 | 143.36 | 144.05 | 0.69 | | | SANDSTONE | CLYY.VFG.PR.LT-M.GY.THNB.SSD.SLD CALCITE VEINING THROUGHOUT INTERVAL; LARGELY NON-PARALLEL TO BEDDING. |
| 40 | 144.05 | 145.01 | 0.96 | | | SANDSTONE | CLYY.FG.MOD.LT-M.GY.THNB.SSD.SLD AS ABOVE. |
| 38 | 145.01 | 145.73 | 0.72 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD ALSO SSY AS MODIFIER. |
| 36 | 145.73 | 147.06 | 1.33 | | | SANDSTONE | SLTY.VFG.PR.LT-M.GY.VTHNB.SLD CALCITE FILLED FRACTURES SUB PARALLEL TO BEDDING AT 0.67 M AND 0.80 M; SEVERAL LARGE COALY INCLUSIONS AT 0.80 AND 0.93 M AND 1.09 M; ALSO CARB AS MODIFIER. |
| * 34 | 147.06 | 148.41 | 1.35 | | | SANDSTONE | SLTY.LT-M.GY.VTHNB.SSD.SLD HORSETAIL CALCITE VEINING AROUND COALY LAMINATIONS; ARE LARGELY PARALLEL TO BDG; AND LOCATED AT 0.24M, 0.40M, 0.92M, 1.14M; BECOMING MORE ARGILLACEOUS TOWARDS BASE; POSSIBLE CORELOSS AT FOOTAGE BLOCK; CLY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 44 | 148.41 | 150.04 | 1.63 | | | MUDSTONE | SLTY.M-DK.GY.VTHNB.SSD.SLD 1 CM WIDE COALY LAMINATION AT 0.08M; HO RSETAIL CALCITE VEINING SUBPARALLEL TO BDG FROM 0.57M TO 0.63M; SEVERAL SSY AN D SLTY INTERBEDS FROM 0.42M TO 0.52M AN D 1.01M TO 1.05M; MODIFIER CARB; WRMBUR . |
| * 51 | 150.04 | 150.48 | 0.44 | | | MUDSTONE | SLTY.M-DK.GY.VTHNB.SSD.SLD ABUNDANT HORSETAIL CALCITE VEINING FROM 0.30M TO 0.40M; ALSO CARB AS MODIFIER. |
| 49 | 150.48 | 150.90 | 0.42 | | | SANDSTONE | CARB.VFG.PR.LT-M.GY.VTHNB.WRMBU.SLD CALCITE FILLED FRACTURES NON PARALLEL T O BEDDING FROM 0.00 TO 0.10 M; ALSO SLT Y AND CLYY AS MODIFIER; RTB. |
| 48 | 150.90 | 151.20 | 0.30 | | | SANDSTONE | CARB.VFG.PR.M.GY.VTHNB.SSD.SLD ALSO CLY AND SLTY AS MODIFIER; ALSO SSD AND RTB AS SED STRUCTURES. |
| * 44 | 151.20 | 152.99 | 1.79 | | | SILTSTONE | CARB.M.GY.VTHNB.WRMBU.SLD SUB PARALLEL HORSETAIL CALCITE VEINING THROUGH CARB LAMINATIONS AT 0.18M, 0.75 M, 1.01M; OIL STAINING ON CALCITE FILLE D FRACTURES AT 0.54M, 1.27M AND 1.57M; ALSO CLYY AND SSY AS MODIFIERS; SSD. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 47 | 152.99 | 153.44 | 0.45 | | MUDSTONE | SLTY.M.GY.VTHNB.SSD.SLD VERY CARB TOWARDS BASE OF INTERVAL; POS SIBLE CORELOSS AT FOOTAGE BLOCK; ALSO W RMBUR AS SED STRUCTURE; ALSO CARB AND S SY AS MODIFIERS. |
| * | 50 | 153.44 | 155.66 | 2.22 | | MUDSTONE | SLTY.M-DK.GY.VTHNB.SSD.SLD POSSIBLE CORELOSS AT END OF INTERVAL; A LSO WRMBUR AS SED STRUCTURE; ALSO CARB AS MODIFIER. |
| | 51 | 155.66 | 156.16 | 0.50 | | ROCK LOSS | |
| | 51 | 156.16 | 156.69 | 0.53 | | MUDSTONE | SLTY.M.GY.VTHNB.SSD.SLD ALSO CARB AS MODIFIER; ALSO WRMBUR AS S ED STRUCTURE. |
| | 51 | 156.69 | 158.18 | 1.49 | | MUDSTONE | CARB.M-DK.GY.VTHNB.SSD.BRKN ABUNDANT PLANT HASH AND COALY INCLUSION S IN UPPER PORTION OF INTERVAL; ABUNDAN T CALCITE FILLED FRACTURES WITH SLICKEN SIDES FROM .00 M TO 0.70 M; ALSO SLTY A S MODIFIER. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 31

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 52 | 158.18 | 158.38 | 0.20 | | | SILTSTONE | CLYY.LT.GY.VTHNB.SSD.SLD |
| 52 | 158.38 | 159.18 | 0.80 | | | MUDSTONE | CARB.M.GY.VTHNB.RTB.SLD ALSO SLTY AS MODIFIER. |
| * 52 | 159.18 | 159.42 | 0.24 | | | MUDSTONE | SLTY.M-DK.GY.VTHNB |
| * 45 | 159.42 | 162.10 | 2.68 | | | MUDSTONE | CARB.M-DK.GY.MB.RTB.BRKN ABUNDANT HORSETAIL CALCITE VEINING THRO UGHOUT; ABUNDANT PLANT HASH THROUGHOUT; ALSO SLTY AS MODIFIER. |
| 41 | 162.10 | 164.10 | 2.00 | | | MUDSTONE | CARB.M-DK.GY.VTHNB SLICKENSIDES AT 1.00 M. |
| 39 | 164.10 | 164.84 | 0.74 | | | SILTSTONE | LT.GY.VTHNB.SSD.SLD |
| 38 | 164.84 | 165.11 | 0.27 | | | SILTSTONE | LT.GY.VTHNB.SSD.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 32

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 36 | 165.11 | 167.31 | 2.20 | | | SILTSTONE | CLYY.LT-M.GY.VTHNB.SSD.SLD BECOMING MORE ARGILLACEOUS TOWARDS BASE . |
| 34 | 167.31 | 167.53 | 0.22 | | | MUDSTONE | CARB.M-DK.GY.SSD.BRKN POSSIBLE CORELOSS AT TOP AND BOTTOM OF INTERVAL; 5 MM COAL LAMINATION AT 0.11 M; SLICKENSIDES AT END OF INTERVAL; ALS O SLTY AS MODIFIER. |
| 34 | 167.53 | 167.63 | 0.10 | | | ROCK LOSS | |
| 33 | 167.63 | 168.17 | 0.54 | | | MUDSTONE | CARB.M-DK.GY.BRKN ABUNDANT COALY INCLUSIONS LAMINATIONS T HROUGHOUT |
| * 31 | 168.17 | 170.02 | 1.85 | | | MUDSTONE | CARB.M-DK.GY.VBRKN SLICKENSIDES AT 0.50M, 0.60M, AND END O F INTERVAL; HORSETAIL CALCITE VEINING F ROM 1.60M TO 1.85 M; PLANT HASH THROUGH OUT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 33

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 37 | 170.02 | 170.22 | 0.20 | | SANDSTONE | CLYY.VFG.MOD.LT.GY.VTHNB.SSD.SLD CALCITE FILLED FRACTURES AT END OF INTE RVAL; ALSO CARB AS MODIFIER; ALSO SSD A S SED STRUCTURE. |
| * | 40 | 170.22 | 171.02 | 0.80 | | SANDSTONE | CLYY.VFG.MUD.LT.GY.VTHNB.SSD.SLD TOP IS UP; ALSO SSD AND WRM BUR AS SED STRUCTURES. |
| | 41 | 171.02 | 171.09 | 0.07 | | MUDSTONE | SLTY.DK.GY.MB.SLD ABUNDANT FINE HORSETAIL CALCITE VEINING THROUGHOUT; ABUNDANT COALY LAMINATIONS AND INCLUSIONS THROUGHOUT; ALSO CARB A S MODIFIER. |
| | 42 | 171.09 | 172.89 | 1.80 | | MUDSTONE | SLTY.DK.GY.MB.BRKN AS ABOVE; ABUNDANT PLANT HASH AND FOSSI LS THROUGHOUT; ALSO CARB AS MODIFIER. |
| | 43 | 172.89 | 174.17 | 1.28 | | MUDSTONE | SLTY.LT-DK.GY.VTHNB.SSD.SLD VERY SLTY AND CARB THROUGHOUT; ABUNDANT PLANT HASH AND FOSSILS; POSSIBLE CORELO SS AT FOOTAGE BLOCK; ALSO CARB AS MODIF IER; ALSO RTB AS SED STRUCTURE; |
| | 44 | 174.17 | 174.31 | 0.14 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 34

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 45 | 174.31 | 175.35 | 1.04 | | | MUDSTONE | SLTY.LT-DK.GY.VTHNB.SSD.SLD AS ABOVE; ALSO RTB AS SED STRUCTURE; AL SO CARB AS MODIFIER; |
| 44 | 175.35 | 175.59 | 0.24 | | | SILTSTONE | CARB.M.GY.VTHNB.SSD.SLD ALSO RTB AS SED STRUCTURE; ALSO CLYY AS MODIFIER. |
| 44 | 175.59 | 175.71 | 0.12 | | | MUDSTONE | CARB.DK.GY.VTHNB.SLD VERY CARB. |
| 43 | 175.71 | 176.39 | 0.68 | | | MUDSTONE | CARB.DK.GY.VTHNB.SLD AS ABOVE; POSSIBLE CORELOSS AT END OF U NIT. |
| 42 | 176.39 | 176.59 | 0.20 | | | ROCK LOSS | |
| 42 | 176.59 | 176.62 | 0.03 | | | COAL | C-4.VBRKN ALSO SHRD AS CORE STATE. |
| 42 | 176.62 | 176.66 | 0.04 | | | COAL | C-4.VBRKN |
| 42 | 176.66 | 176.68 | 0.02 | | | COAL | C-3.VBRKN ALSO SHRD AS CORE STATE. |
| 42 | 176.68 | 176.70 | 0.02 | | | COAL | C-4.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 35

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 42 | 176.70 | 176.77 | 0.07 | | | COAL | C-4.VBRKN ALSO SHRD AS CORE STATE. |
| 42 | 176.77 | 176.79 | 0.02 | | | COAL | C-3.VBRKN |
| 42 | 176.79 | 176.83 | 0.04 | | | MUDSTONE | CARB.DK.GY.VTHNB.VBRKN LISTRIC SURFACES AT END OF INTERVAL. |
| 41 | 176.83 | 176.95 | 0.12 | | | MUDSTONE | CARB.DK.GY.VTHNB.VBRKN |
| 41 | 176.95 | 177.40 | 0.45 | | | SANDSTONE | CARB.VFG.M-DK.GY.VTHNB.SLD VERY ARGILLACEOUS AT TOP OF UNIT; ALSO CLYY AND SLTY AS MODIFIER. |
| * 40 | 177.40 | 178.11 | 0.71 | | | SANDSTONE | SLTY.VFG.MOD.LT-M.GY.VTHNB.WRMBU SLD ALSO CARB AS MODIFIER; ALSO XBDG AS SED STRUCTURE. |
| 43 | 178.11 | 178.28 | 0.17 | | | MUDSTONE | SLTY.M-DK.GY.VTHNB.SLD ALSO CARB AS MODIFIER. |
| * 47 | 178.28 | 179.11 | 0.83 | | | MUDSTONE | CARB.DK.GY.SLD |
| 46 | 179.11 | 179.25 | 0.14 | | | MUDSTONE | CARB.DK.GY.VSHRD VBRKN; POSSIBLE CORELOSS THROUGHOUT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 36

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 45 | 179.25 | 179.43 | 0.18 | | | MUDSTONE | CARB.DK.GY.VBRKN SHRD. |
| 45 | 179.43 | 179.55 | 0.12 | | | MUDSTONE | CARB.DK.GY.VSHRD AS ABOVE; PWRD. |
| 45 | 179.55 | 179.71 | 0.16 | | | MUDSTONE | CARB.DK.GY.VBRKN VSHRD. |
| 44 | 179.71 | 179.74 | 0.03 | | | COAL | C-2 |
| 44 | 179.74 | 179.80 | 0.06 | | | MUDSTONE | CARB.DK.GY.VBRKN |
| 44 | 179.80 | 179.87 | 0.07 | | | COAL | C-3.DK.GY.VSHRD VBRKN. |
| 44 | 179.87 | 179.89 | 0.02 | | | MUDSTONE | CARB.DK.GY.VBRKN |
| 44 | 179.89 | 179.92 | 0.03 | | | MUDSTONE | CARB.DK.GY.PWRD PWRD COAL AND MUDST IN TRAY APPROX 50-50 |
| 43 | 179.92 | 180.30 | 0.38 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 37

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 43 | 180.30 | 180.45 | 0.15 | | | MUDSTONE | CARB.DK.GY.SLD POSSIBLE CORELOSS AT FOOTAGE BLOCK. |
| 42 | 180.45 | 180.73 | 0.28 | | | ROCK LOSS | |
| 41 | 180.73 | 181.21 | 0.48 | | | MUDSTONE | CARB.DK.GY.BRKN ABUNDANT COALY LAMINATIONS AND STRINGERS THROUGHOUT. |
| * 38 | 181.21 | 183.21 | 2.00 | | | MUDSTONE | CARB.DK.GY.VBRKN ABUNDANT COALY STRINGERS AND LAMINATIONS THROUGHOUT. |
| 38 | 183.21 | 183.26 | 0.05 | | | ROCK LOSS | |
| 39 | 183.26 | 183.78 | 0.52 | | | SILTSTONE | CARB.M-DK.GY.VTHNB.SLD ALSO CLYY AS MODIFIER. |
| 39 | 183.78 | 183.85 | 0.07 | | | SILTSTONE | CARB.M-DK.GY.VTHNB.SLD ALSO CLYY AS MODIFIER. |
| 39 | 183.85 | 184.23 | 0.38 | | | SILTSTONE | CARB.M-DK.GY.VTHNB.SLD ALSO CLYY AS MODIFIER. |
| 39 | 184.23 | 186.43 | 2.20 | | | MUDSTONE | CARB.DK.GY.VTHNB.BRKN ABUNDANT COALY LAMINATIONS AND INCLUSIONS THROUGHOUT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 38

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 40 | 186.43 | 186.61 | 0.18 | | | MUDSTONE | CARB.DK.GY.SLD |
| 40 | 186.61 | 187.32 | 0.71 | | | MUDSTONE | CARB.DK.GY.VBRKN ABUNDANT COALY INCLUSIONS AND LAMINATIONS THROUGHOUT. |
| 40 | 187.32 | 187.54 | 0.22 | | | ROCK LOSS | |
| 40 | 187.54 | 187.57 | 0.03 | | | MUDSTONE | CARB.DK.GY.PWRD PWRD COAL IN TRAY. |
| 40 | 187.57 | 187.62 | 0.05 | 00116 | 2 | COAL | C-3.VBRKN ALSO SHRD AS CORE STATE. |
| 40 | 187.62 | 187.79 | 0.17 | 00116 | 2 | MUDSTONE | CARB.DK.GY.SLD ABUNDANT COAL LAMINATIONS AND INCLUSIONS THROUGHOUT. |
| 40 | 187.79 | 187.83 | 0.04 | 00116 | 2 | COAL | C-1.SLD |
| 40 | 187.83 | 188.11 | 0.28 | 00116 | 2 | MUDSTONE | CARB.DK.GY.VBRKN VERY CARB; POSSIBLY JUST A BROKEN UP COALY INCLUSION OR LAMINATION. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 39

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|----------------------------|
| 40 | 188.11 | 188.13 | 0.02 | 00116 | 2 | COAL | C-3.VBRKN |
| 40 | 188.13 | 188.19 | 0.06 | 00116 | 2 | MUDSTONE | CARB.DK.GY.VBRKN VSHRD. |
| 40 | 188.19 | 188.20 | 0.01 | 00116 | 2 | COAL | C-3.VBRKN |
| 40 | 188.20 | 188.21 | 0.01 | 00116 | 2 | MUDSTONE | CARB.DK.GY.VBRKN |
| 40 | 188.21 | 188.31 | 0.10 | 00116 | 2 | COAL | C-3.BRKN |
| 40 | 188.31 | 188.33 | 0.02 | 00116 | 2 | COAL | C-3.VBRKN |
| 41 | 188.33 | 188.40 | 0.07 | 00116 | 2 | COAL | C-3 |
| 41 | 188.40 | 188.45 | 0.05 | 00116 | 2 | COAL | C-2 |
| 41 | 188.45 | 188.64 | 0.19 | 00116 | 2 | COAL | C-3.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 40

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--------------------|
| 41 | 188.64 | 188.67 | 0.03 | 00116 | 2 | COAL | C-3.VBRKN PWRD. |
| 41 | 188.67 | 188.69 | 0.02 | 00116 | 2 | COAL | C-4.VBRKN SHRD. |
| 41 | 188.69 | 188.76 | 0.07 | 00116 | 2 | COAL LOSS | |
| 41 | 188.76 | 188.80 | 0.04 | 00116 | 2 | MUDSTONE | CARB.DK.GY.VBRKN |
| 41 | 188.80 | 188.84 | 0.04 | 00116 | 2 | COAL | C-3.SHRD |
| 41 | 188.84 | 188.90 | 0.06 | 00116 | 2 | COAL | C-3.VBRKN |
| 41 | 188.90 | 188.92 | 0.02 | 00116 | 2 | COAL | C-4.VBRKN |
| 41 | 188.92 | 189.00 | 0.08 | 00116 | 2 | COAL | C-3 |
| 41 | 189.00 | 189.02 | 0.02 | 00116 | 2 | COAL | C-2 |
| 41 | 189.02 | 189.20 | 0.18 | 00116 | 2 | COAL | C-3.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 41

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 41 | 189.20 | 189.26 | 0.06 | 00116 | 2 | COAL | C-4.VBRKN SEVERAL 1 AND 2 MM BRIGHT BANDS. |
| 41 | 189.26 | 189.31 | 0.05 | 00116 | 2 | COAL | C-2.VBRKN |
| 41 | 189.31 | 189.35 | 0.04 | 00116 | 2 | COAL | C-2.VBRKN PWRD; ALSO SOME PWRD ROCK IN TRAY. |
| 41 | 189.35 | 189.37 | 0.02 | | | MUDSTONE | CARB.M.GY.PWRD SLTY. |
| 41 | 189.37 | 189.67 | 0.30 | | | MUDSTONE | CARB.M.GY.SLD POSSIBLE CORELOSS AT FOOTAGE BLOCK; SOM E PLANT HASH; SLTY. |
| 41 | 189.67 | 190.21 | 0.54 | | | MUDSTONE | CARB.M.GY.SLD SLTY. |
| 41 | 190.21 | 190.77 | 0.56 | | | SILTSTONE | CARB.M.GY.VTHNB SLTY |
| 42 | 190.77 | 191.40 | 0.63 | | | MUDSTONE | CARB.M.GY.THNB.SLD |
| * 42 | 191.40 | 192.60 | 1.20 | | | MUDSTONE | CARB.M.GY.THNB.SLD COALY LAMINATIONS AND INCLUSIONS THROUG HOUT; POSSIBLE CORELOSS AT FOOTAGE BLOC K. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 42

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 41 | 192.60 | 193.82 | 1.22 | | | MUDSTONE | CARB.M.GY.THNB.WRMBU.SLD AS ABOVE; SHRD. |
| 39 | 193.82 | 195.39 | 1.57 | | | MUDSTONE | CARB.M.GY.THNB.BRKN NUMEROUS COALY LAMINATIONS AND INCLUSIONS THROUGHOUT; POSSIBLE CORELOSS AT FOOTAGE BLOCK. |
| * 38 | 195.39 | 196.33 | 0.94 | | | MUDSTONE | CARB.DK.GY.SSD.BRKN AS ABOVE. |
| * 43 | 196.33 | 196.85 | 0.52 | | | MUDSTONE | CARB.DK.GY.SSD.BRKN AS ABOVE. |
| 46 | 196.85 | 197.20 | 0.35 | | | SILTSTONE | CARB.M-DK.GY.VTHNB.SLD VERY FINELY LAMINATED WITH MUDST. |
| 48 | 197.20 | 197.40 | 0.20 | | | MUDSTONE | CARB.DK.GY.SLD |
| * 52 | 197.40 | 198.22 | 0.82 | | | SILTSTONE | CARB.M-DK.GY.WRMBU.SLD XBDG. |
| 52 | 198.22 | 198.35 | 0.13 | | | MUDSTONE | CARB.M-DK.GY.SLD SLTY. |
| 52 | 198.35 | 199.02 | 0.67 | | | MUDSTONE | CARB.DK.GY.SLD NUMEROUS COAL LAMINATIONS THROUGHOUT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 43

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81010

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 52 | 199.02 | 200.04 | 1.02 | | | MUDSTONE | CARB.DK.GY.VBRKN |
| 52 | 200.04 | 200.14 | 0.10 | | | TUFF | CARB.M.GY.SLD FORMS SHARP CONTACT WITH OVERLAYING AND UNDERLYING UNITS; SSSY TEXTURE; GLASSY APPEARANCE. |
| 52 | 200.14 | 200.62 | 0.48 | | | MUDSTONE | CARB.DK.GY.VBRKN NUMEROUS COAL LAMINATIONS AND INCLUSION S THROUGHOUT. |

* DENOTES MEASURED BCA

DDH 81-11

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81011

HISTORY

DY MO YR DY MO YR
 START DATE: 18/09/81 END DATE: 22/09/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: I. DELAS SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1335.6
 UTM ZONE: 10 NORTH: 6143919.61 EAST: 545999.50
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 339.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 12.50 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | --- | --- | X | --- | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | X | --- | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | X | --- | 422AS |
| CALIPER | X | 1:100 | : | --- | --- | X | --- | 20A45 |
| FE-SHORT | X | : | 1:40 | --- | --- | X | --- | 6 |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | --- | 6 |
| DIRECTIONAL | X | : | : | --- | --- | X | --- | _____ |
| DIPMETER | --- | : | : | --- | --- | --- | --- | _____ |

*** COAL DIVISION ***

DATA SOURCE: D81-11

INTERVAL OF INTERPOLATION 10 UNIT(S)

VIEWPOINT: 45.0 DEGREES

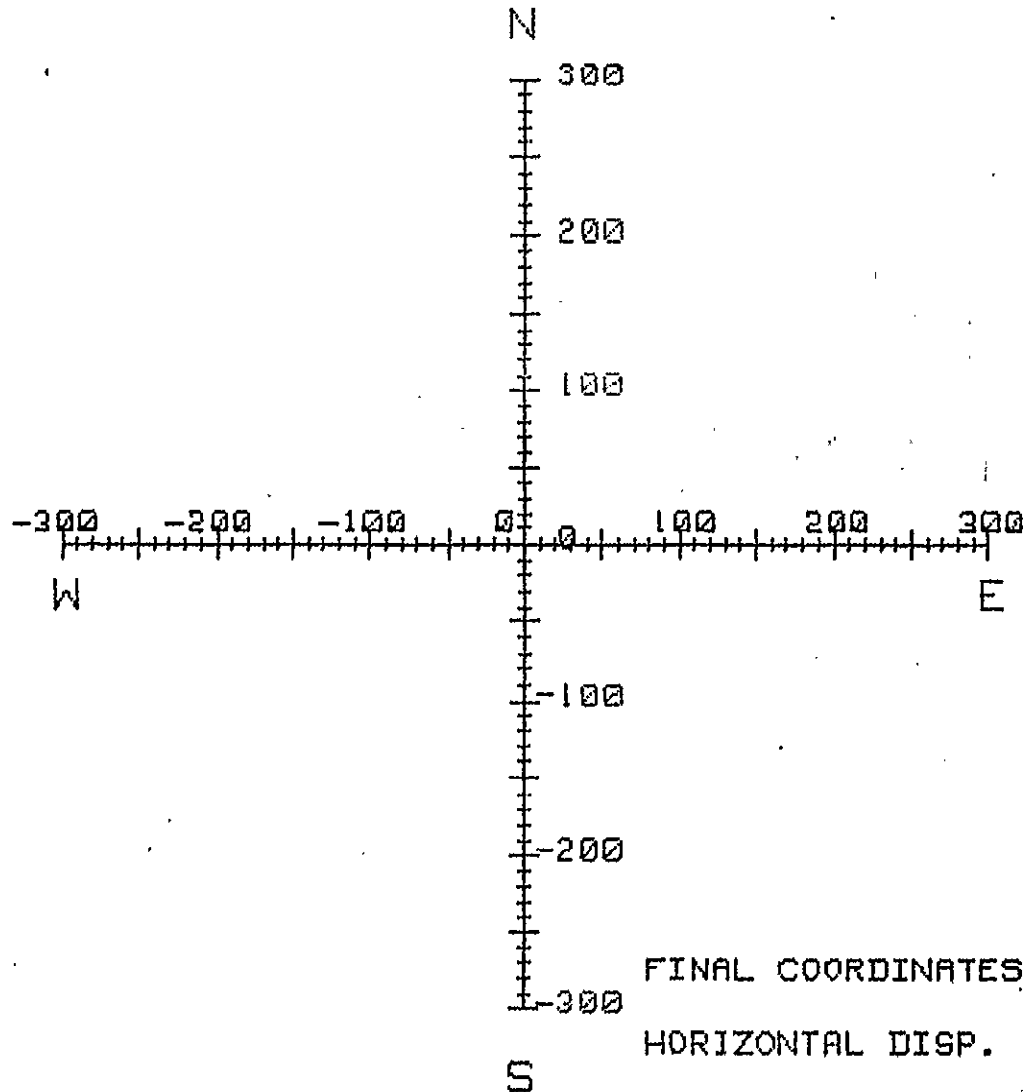
DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 0.00 | 1.20 | 199.10 |
| 15.00 | 1.20 | 199.10 |
| 30.00 | .40 | 202.40 |
| 45.00 | .40 | 160.70 |
| 60.00 | .20 | 208.70 |
| 75.00 | .40 | 282.00 |
| 90.00 | .60 | 252.50 |
| 105.00 | .40 | 262.50 |
| 120.00 | .40 | 272.50 |
| 135.00 | .60 | 282.20 |
| 150.00 | .20 | 301.70 |
| 165.00 | .40 | 303.40 |
| 180.00 | .40 | 312.50 |
| 195.00 | .30 | 324.20 |
| 210.00 | .10 | 232.80 |
| 225.00 | .20 | 303.30 |
| 240.00 | .60 | 308.60 |
| 255.00 | .10 | 252.10 |
| 270.00 | .40 | 330.60 |
| 285.00 | .10 | 315.80 |
| 300.00 | .10 | 3.60 |
| 315.00 | .10 | 5.30 |

PLAN VIEW

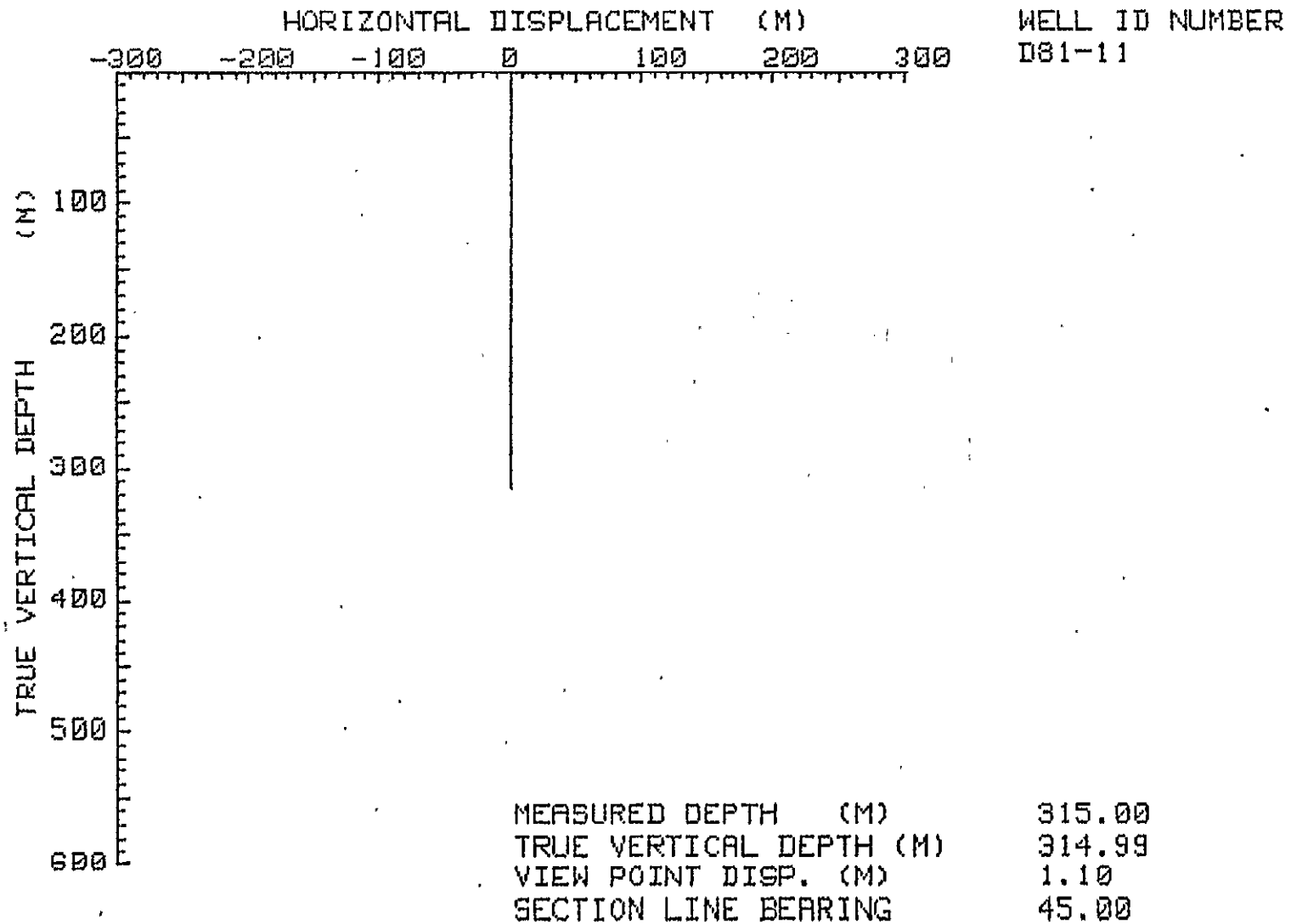
WELL ID NUMBER

081-11



FINAL COORDINATES(M) N-.22
E-1.33
HORIZONTAL DISP. (M) 1.10

DISPLACEMENT

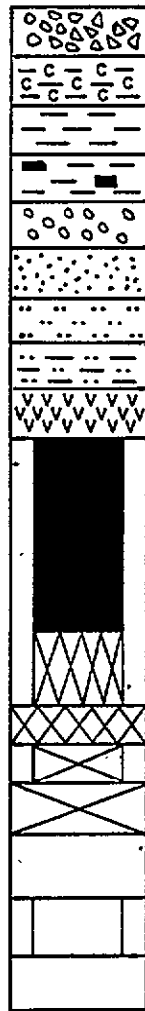
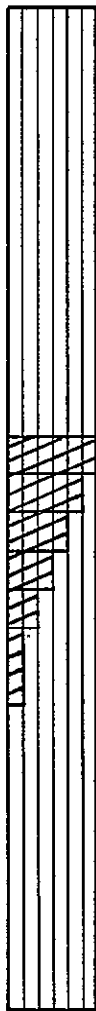


SEAM
COMP.

COAL
SEAM
LOG

LITHOTYPE

| | |
|--------------------|----------------|
| C-1: Bright | 80% Vitrain |
| C-2: Bright banded | 60-80% Vitrain |
| C-3: Dull/Bright | 40-60% Vitrain |
| C-4: Dull banded | 20-40% Vitrain |
| C-5: Dull | 20% Vitrain |
| C-6: Bone | |



breccia
carbonaceous
claystone
claystone
coaly claystone
conglomerate
sandstone
siltstone
silty claystone
tuff

coal

coal-boney, stoney,
coal and bands/rock
- designated "C6"

rock > coal
lithotype uncertain

coal } MISSING
rock } CORE

rock

coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

| | | |
|-----------------------------------|---------|--|
| GULF CANADA RESOURCES INC. | | |
| Coal Division | | |
| CALGARY | ALBERTA | |

**LEGEND FOR COAL
SEAM DATA SHEETS**

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal / Coal + Rock (True Thk (m))
1.21 / 1.44

DENSITY ----- RESISTIVITY -----

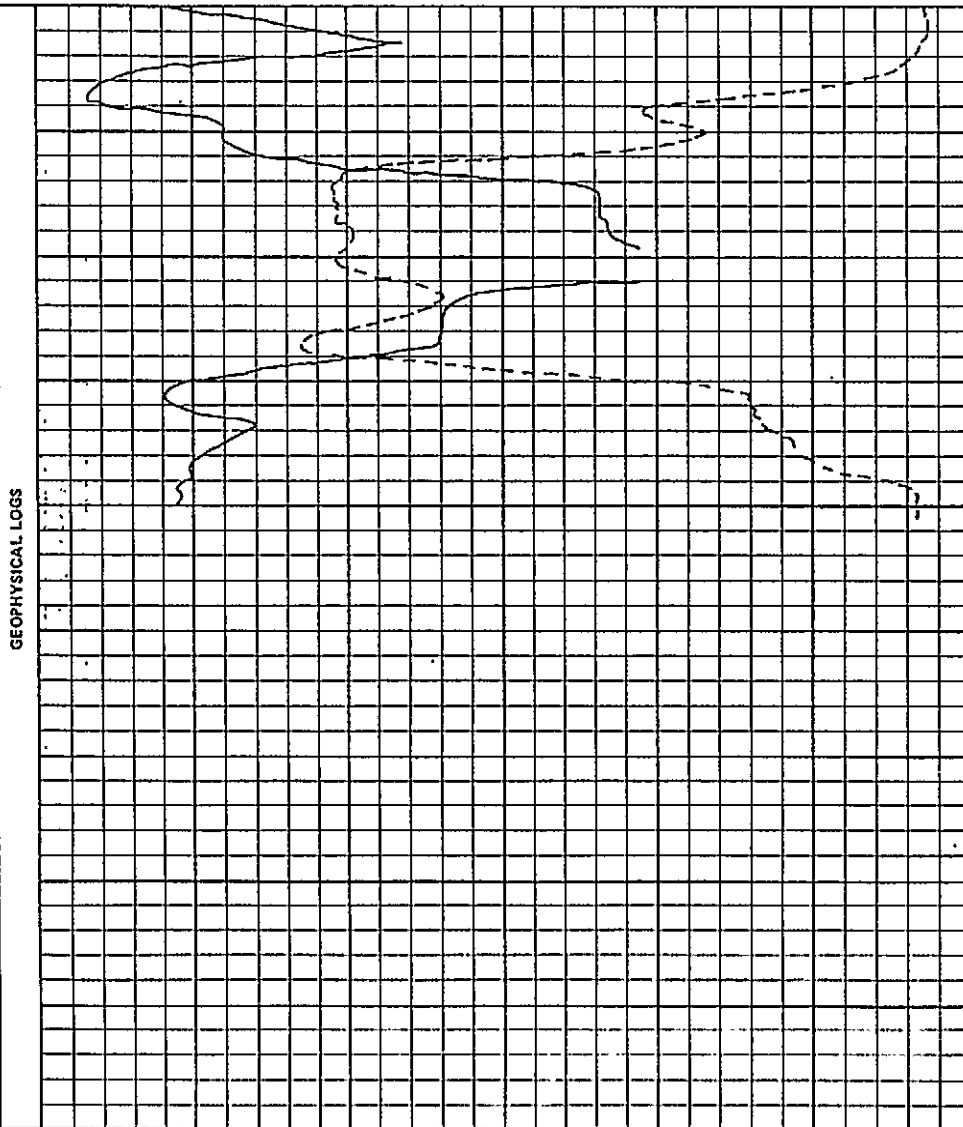
DRILL NO. GDR-DDH-81-11 SEAM _____

SEAM INTERVAL 36.15 - 37.85m

SCALE 1:40

DENSITY SCALE 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80

RESISTIVITY SCALE



GEOPHYSICAL LOGS

SEAM COMP. 654321

| DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|-------|---------------|----------|--------|--------|--------|---------|-------------------------|-------|-------|------|----------------|-------------|-----|--|--|
| | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ^c | BTU (MJ/KG) | FSI | | |
| 35.65 | | | | | | | | | | | | | | | |
| 36.13 | | | 0.55 | | | | | | | | | | | | |
| | | (0.52) | | 32 | 00118 | 0.44 | 7.13 | 19.77 | 72.66 | 0.57 | 14,205 (33.04) | 1.5 | | | |
| | | (0.15) | | | | | | | | | | | | | |
| 37.15 | | | (0.50) | | | | | | | | | | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

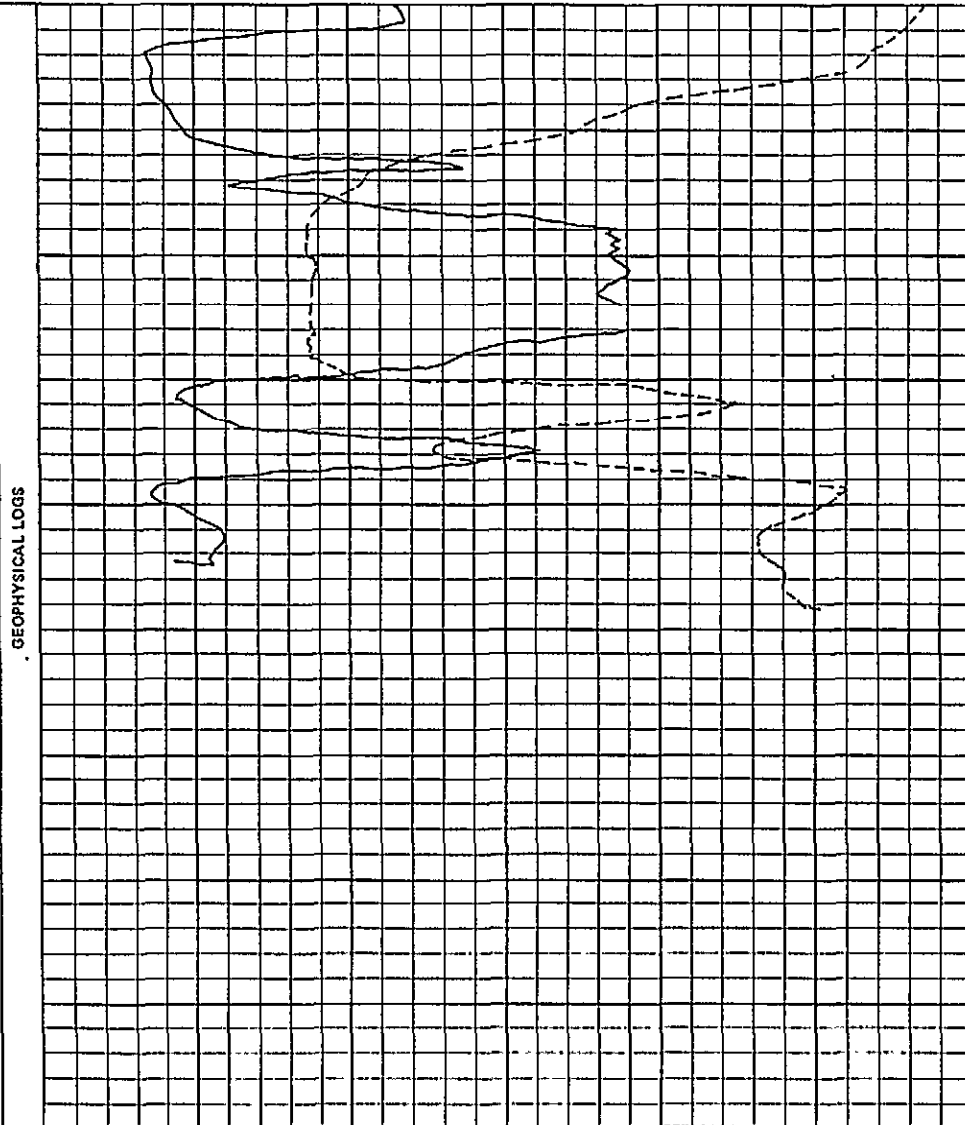
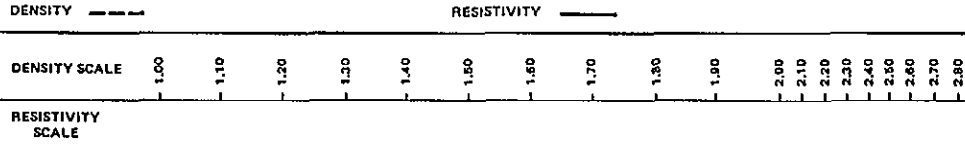
P-267 (12-80)

Coal/Coal+Rock (True Thk (m))
1.04/1.16

DRILL NO. GDR-DDH-BI-11 SEAM

SEAM INTERVAL 44.05-46.90m

SCALE 1:40



SEAM COMP. 654321

| DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | |
|-------|---------------|-------------|--------|--------|--------|---------|-------------------------|-------|-------|------|----------------|-------------|-----|--|--|--|--|
| | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ¹ | BTU (MJ/KG) | FSI | | | | |
| 44.05 | | | (0.85) | | | | | | | | | | | | | | |
| | | | 1.30 | 60 | 00119 | 0.60 | 8.72 | 19.58 | 71.10 | 0.36 | 13,848 (32.21) | 1.5 | | | | | |
| 46.20 | | 0.18 (0.12) | | | | | | | | | | | | | | | |
| 46.50 | | | 0.17 | 60 | 00120 | 1.07 | 76.88 | 9.75 | 12.30 | 0.16 | 2,537 (5.90) | 0.0 | | | | | |
| 46.90 | | | (0.23) | 43 | 00121 | 0.64 | 11.96 | 19.65 | 67.75 | 0.81 | 13,551 (31.52) | 5.0 | | | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal / Coal + Rock (True Thk (m))
1.09 / 1.15

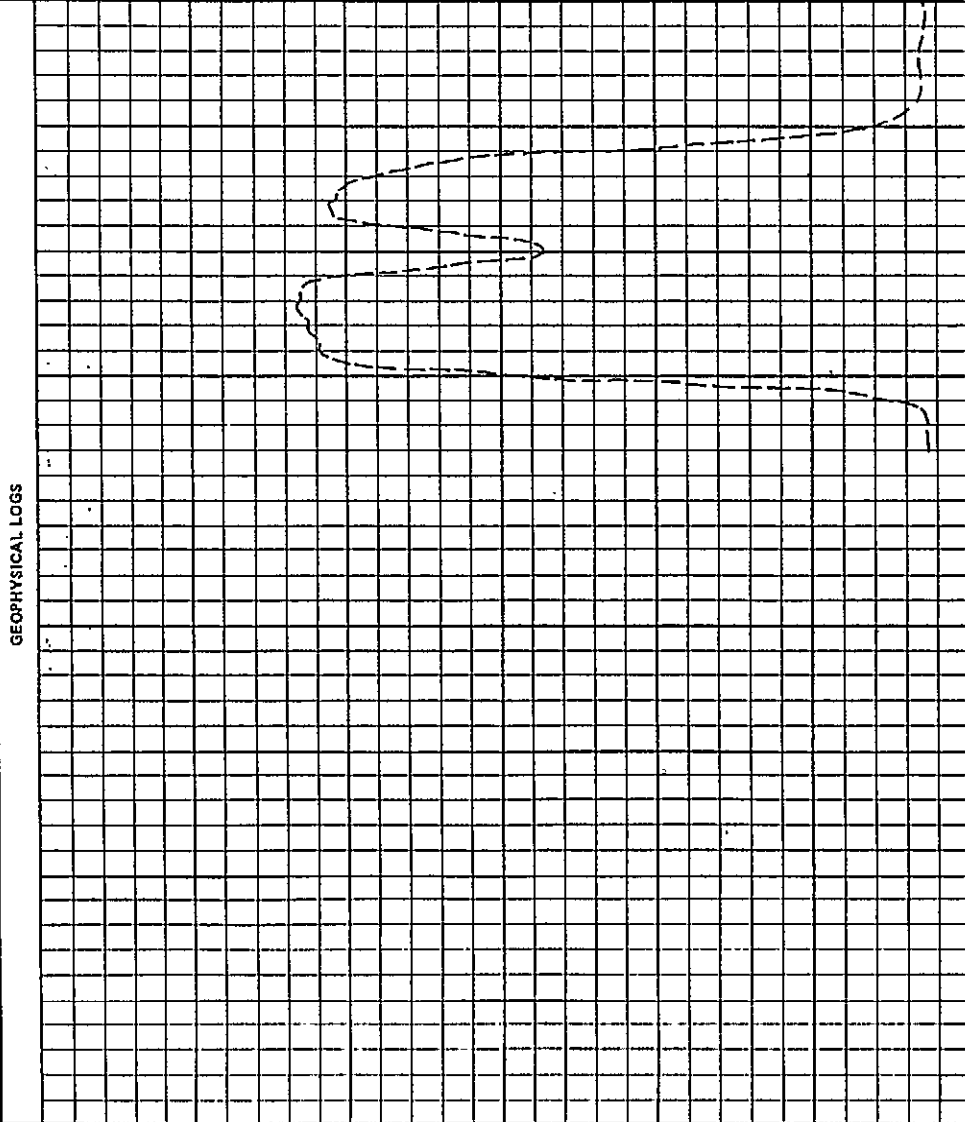
DENSITY ----- RESISTIVITY -----

DRILL NO. GDR-DDH-81-11 SEAM _____ SEAM INTERVAL 186.87 - 188.67 m

SCALE 1:40

DENSITY SCALE 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80

RESISTIVITY SCALE



GEOPHYSICAL LOGS

| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | |
|----------------------|--------|---------------|----------|----------------|--------|--------|---------|-------------------------|-------|-------|-------|----------------|-------------------|-----|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ^c | BTU (MJ/KG) | FSI |
| | 186.87 | | 0.10 | 0.32 (0.38) | 79 | 00122 | | 0.69 | 12.68 | 23.86 | 62.77 | 0.48 | 13,414 (31.20) | 8.5 |
| | 188.67 | | | 1.00 | | | | | | | | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

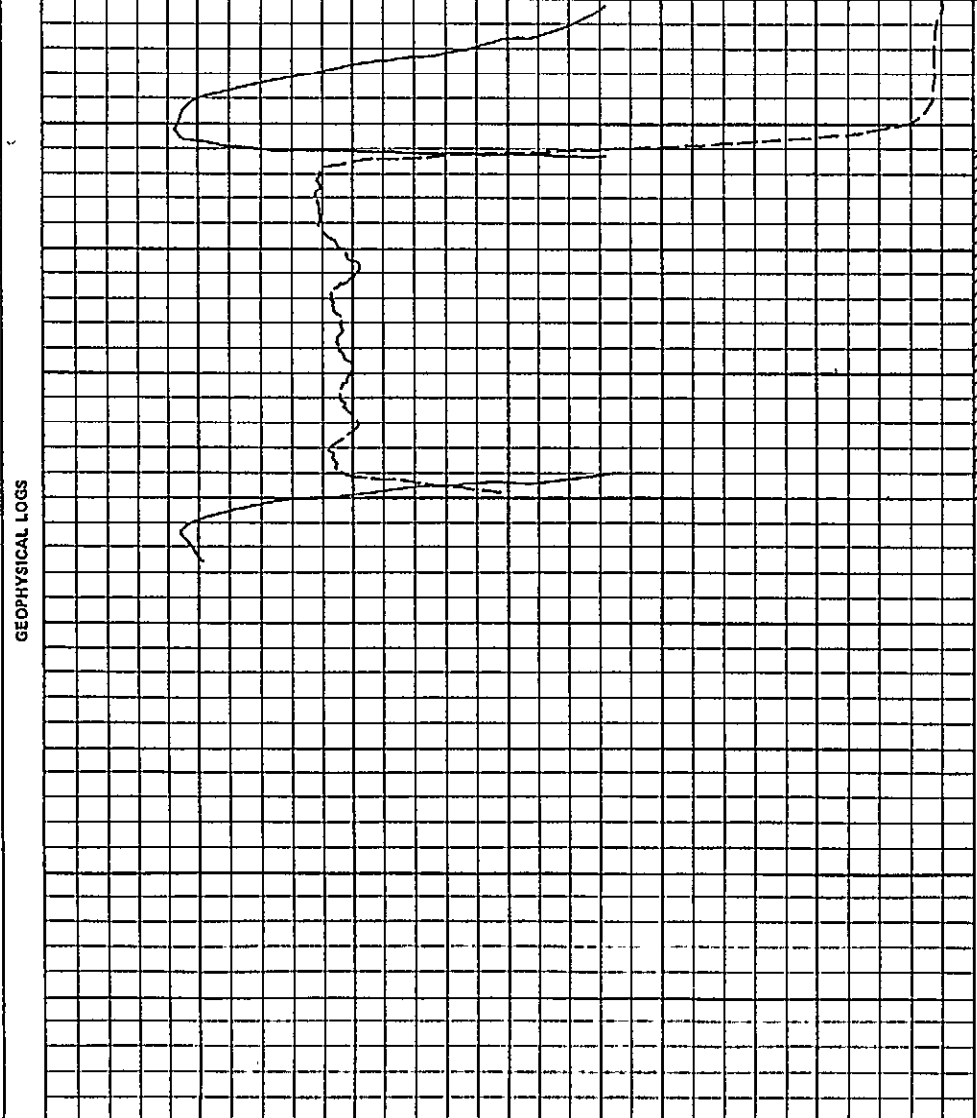
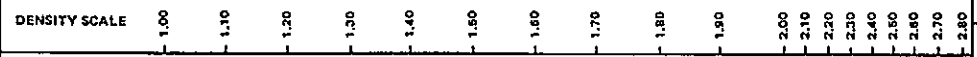
Cool / Coal + Rock (True Thk (m))
2.10 / 2.10

DENSITY ----- RESISTIVITY -----

DRILL NO. GDR-DDH-81-11 SEAM _____

SEAM INTERVAL 310.61 - 313.39 m

SCALE 1:40



GEOPHYSICAL LOGS

| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | |
|----------------------|--------|---------------|----------|------|--------|--------|---------|-------------------------|------|-------|-------|------|----------------|-----|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI | |
| | 310.61 | | | 2.78 | 100 | 00123 | | 0.44 | 6.01 | 18.14 | 75.41 | 0.76 | 14,248 (33.14) | 1.0 | |
| | 313.39 | | | | | | | | | | | | | | |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE - AD

NAME OF STANDARD - ASTM

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|-------|---------------|------------------|----------------|-------------------------------|------|------|
| DDH81011 | | 118 | 0.44 | 7.13 | 72.66 | 19.77 | 0.57 | 33.04 | 1.35 | 1.50 |
| | | 119 | 0.60 | 8.72 | 71.10 | 19.58 | 0.36 | 32.21 | 1.36 | 1.50 |
| | | 120 | 1.07 | 76.88 | 12.30 | 9.75 | 0.16 | 5.90 | 2.22 | 0.60 |
| | | 121 | 0.64 | 11.96 | 67.75 | 19.65 | 0.81 | 31.52 | 1.34 | 5.00 |
| | | 122 | 0.69 | 12.68 | 62.77 | 23.86 | 0.48 | 31.20 | 1.33 | 8.50 |
| | | 123 | 0.44 | 6.01 | 75.41 | 16.14 | 0.76 | 33.14 | 1.34 | 1.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|----------------|--------------|--------------|
| DDH81011 | | 118 | 36.13 | 37.85 | 0.55 | 31.96 | 0.55 | 0.00 | 1.02 | 0.15 |
| | | 119 | 44.05 | 46.20 | 1.30 | 60.47 | 1.30 | 0.00 | 0.85 | 0.00 |
| | | 120 | 46.20 | 46.50 | 0.18 | 60.00 | 0.00 | 0.18 | 0.00 | 0.12 |
| | | 121 | 46.50 | 46.90 | 0.17 | 42.50 | 0.17 | 0.00 | 0.23 | 0.00 |
| | | 122 | 186.87 | 188.67 | 1.47 | 81.67 | 1.37 | 0.10 | 0.33 | 0.00 |
| | | 123 | 310.61 | 313.39 | 2.78 | 100.00 | 2.78 | 0.00 | 0.00 | 0.00 |

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 47 | 12.33 | 13.53 | 1.20 | | | MUDSTONE | CARB.DK.GY.BRKN OCCASIONALLY COALY INCLUSIONS AND SPECK S, VERY CARB |
| 47 | 13.53 | 13.90 | 0.37 | | | MUDSTONE | AS ABOVE |
| | 13.90 | 14.19 | 0.29 | | | COAL | |
| 47 | 14.19 | 14.25 | 0.06 | | | COAL | BLK.PWRD |
| 47 | 14.25 | 15.19 | 0.94 | | | SANDSTONE | SLTY.VFG.DK.GY.THNB.SLD SILTY BANDS & STRINGERS, CARB. |
| 47 | 15.19 | 16.74 | 1.55 | | | SANDSTONE | SLTY.VFG.GY.THNB.XBDG.SLD SOME SILTY LAMINAE AND CARB SPECKS, PYR ITE AT TOP |
| * 47 | 16.74 | 17.64 | 0.90 | | | SANDSTONE | VFG.GY.THNB.XBDG.SLD SILTY LAMINAE AND FEW CaCO3 VEINS |
| * 45 | 17.64 | 19.67 | 2.03 | | | SANDSTONE | BIOTR AS ABOVE SOME BIOTRB IN PLACES |
| * 42 | 19.67 | 20.21 | 0.54 | | | SANDSTONE | SSY.DK.GY.THNB.SLD SANDY LAMINAE THROUGH THE UNIT |
| 47 | 20.21 | 20.93 | 0.72 | | | SILTSTONE | SSY.DK.GY.BIOTR.SLD AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: ODH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 52 | 20.93 | 21.66 | 0.73 | | | SANDSTONE | VFG.GY.LAM.SLD CARB & COALY IN PLACES |
| 52 | 21.66 | 22.77 | 1.11 | | | MUDSTONE | CARB.DK.GY.BRKN SILTY AT TOP VERY CARB & BROKEN AT BASE SOME CALC STRINGERS. |
| 53 | 22.77 | 23.02 | 0.25 | | | MUDSTONE | CARB.DK.GY.SLD COALY STRINGERS OCCASIONALLY |
| * 53 | 23.02 | 24.82 | 1.80 | | | MUDSTONE | DK.GY.BRKN DIP CHANGES RAPIDLY VERY CALC-SOME SLIC K POSSIBLE MINOR FAULT MODIFIER CALC |
| 54 | 24.82 | 25.73 | 0.91 | | | MUDSTONE | DK.GY.THKB.SLD FEW CALC INCLUSIONS |
| 54 | 25.73 | 25.88 | 0.15 | | | MUDSTONE | AS ABOVE |
| 54 | 25.88 | 27.10 | 1.22 | | | MUDSTONE | CARB.BLK.THKB.BRKN COALY IN PLACES |
| 55 | 27.10 | 27.87 | 0.77 | | | SILTSTONE | SSY.DK.GY.THNB.SSD.SLD |
| * 55 | 27.87 | 28.32 | 0.45 | | | SANDSTONE | VFG.GY.THNB.XBDG.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 56 | 28.32 | 28.88 | 0.56 | | | SANDSTONE | SLTY.VFG.GY.THNB.SLD |
| * 57 | 28.88 | 30.96 | 2.08 | | | SANDSTONE | SLTY.VFG.GY.XBDG.SLD SOME CARB SPECKS & LAMINAE |
| 56 | 30.96 | 31.90 | 0.94 | | | SANDSTONE | AS ABOVE |
| * 55 | 31.90 | 33.65 | 1.75 | | | SILTSTONE | DK.GY.THNB.SLD SANDY LAMINATED, SOME SSD AND CALC SPEC S AND STRINGERS |
| 49 | 33.65 | 34.37 | 0.72 | | | MUDSTONE | GY.THKB.SLD SILTY AT TOP VERY CARB AND COALY TOWARD BASE |
| 46 | 34.37 | 34.62 | 0.25 | | | MUDSTONE | AS ABOVE |
| 45 | 34.62 | 35.14 | 0.52 | | | SANDSTONE | SLTY.VFG.DK.GY.BIOTR.SLD |
| 43 | 35.14 | 35.30 | 0.16 | | | MUDSTONE | CARB.BLK.BRKN VERY COALY |
| 42 | 35.30 | 35.65 | 0.35 | | | ROCK LOSS | |
| 40 | 35.65 | 35.90 | 0.25 | | | COAL LOSS | |
| 39 | 35.90 | 36.13 | 0.23 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 37 | 36.13 | 36.68 | 0.55 | 00118 | | COAL | C-5.BRKN PARTLY SHEARED |
| 34 | 36.68 | 37.20 | 0.52 | | | COAL LOSS | NO RECOVERY BETWEEN MARKERS |
| 33 | 37.20 | 37.35 | 0.15 | | | ROCK LOSS | POSSIBLE C-6 |
| 31 | 37.35 | 37.85 | 0.50 | | | COAL LOSS | |
| 26 | 37.85 | 39.25 | 1.40 | | | MUDSTONE | CARB.DK.GY.BRKN CALCAREOUS WITH NUMEROUS CaCO ₃ VEINS AND INCLUSIONS, LISTRIC SURFACES, SILTY TO WARD BASE |
| * 20 | 39.25 | 40.45 | 1.20 | | | SILTSTONE | DK.GY.THNB.SSD.SLD CALCAREOUS MODIFIER MUDDY |
| 21 | 40.45 | 42.41 | 1.96 | | | MUDSTONE | CARB.DK.GY.SLD COALY IN PLACES, CALC |
| 22 | 42.41 | 42.95 | 0.54 | | | SANDSTONE | SLTY.DK.GY.THNB.SSD.SLD CALC VEINS & INCL. |
| 23 | 42.95 | 43.22 | 0.27 | | | MUDSTONE | CARB.BLK.VBRKN COALY |
| 23 | 43.22 | 43.47 | 0.25 | | | ROCK LOSS | |
| 23 | 43.47 | 43.70 | 0.23 | | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-------------|---|
| 23 | 43.70 | 43.75 | 0.05 | | | ROCK & COAL | SHRD MUDSTONE AND COAL SHEARED AND MIXED |
| 23 | 43.75 | 44.05 | 0.30 | | | MUDSTONE | CARB.DK.GY.VBRKN CALC INCLUS. |
| 24 | 44.05 | 44.90 | 0.85 | 00119 | | COAL LOSS | |
| 24 | 44.90 | 46.15 | 1.25 | 00119 | | COAL | BLK.VBRKN HIGHLY SHEARED (POSSIBLE C-5) |
| 25 | 46.15 | 46.20 | 0.05 | 00119 | | COAL | C-4.BLK.BRKN |
| * 25 | 46.20 | 46.38 | 0.18 | 00120 | | MUDSTONE | CARB.BLK.SLD COALY |
| 25 | 46.38 | 46.50 | 0.12 | 00120 | | ROCK LOSS | |
| 25 | 46.50 | 46.67 | 0.17 | 00121 | | COAL | C-4.VBRKN |
| 24 | 46.67 | 46.90 | 0.23 | 00121 | | COAL LOSS | |
| 24 | 46.90 | 48.23 | 1.33 | | | MUDSTONE | CARB.BLK.BRKN PARTLY SHEARED COALY |
| * 22 | 48.23 | 49.58 | 1.35 | | | MUDSTONE | CARB.DK.GY.THKB.SLD SILTY TOWARD BASE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|---|
| 23 | 49.58 | 49.88 | 0.30 | | | MUDSTONE | CARB.DK.GY.THKB.BRKN |
| 24 | 49.88 | 52.03 | 2.15 | | | MUDSTONE | MUDSTONE AS ABOVE |
| 24 | 52.03 | 52.13 | 0.10 | | | ROCK & COAL | PWRD MIXED COAL & ROCK |
| 25 | 52.13 | 53.00 | 0.87 | | | MUDSTONE | SSY.GY.THKB.SLD PARTLY CARB VERY SANDY |
| 26 | 53.00 | 54.95 | 1.95 | | | SANDSTONE | VFG.GY.THKB.SLD FAIRLY UNIFORMED & COMPACT |
| 27 | 54.95 | 55.30 | 0.35 | | | SANDSTONE | AS ABOVE |
| 28 | 55.30 | 56.90 | 1.60 | | | SANDSTONE | AS ABOVE |
| 29 | 56.90 | 57.63 | 0.73 | | | MUDSTONE | CARB.DK.GY.THKB.BRKN THN LAYERS OF COAL, CALCAREOUS SLICKENS IDES |
| 29 | 57.63 | 58.63 | 1.00 | | | SANDSTONE | AS ABOVE |
| 30 | 58.63 | 59.53 | 0.90 | | | SANDSTONE | AS ABOVE |
| 31 | 59.53 | 60.41 | 0.88 | | | SANDSTONE | VFG.GY.THKB.SLD VERY CALC WITH NUMEROUS STRINGERS AND I NCL. OF CaCO ₃ ; MODIFIER: CALC. |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 31 | 60.41 | 60.91 | 0.50 | | SANDSTONE | AS ABOVE |
| | 32 | 60.91 | 62.36 | 1.45 | | MUDSTONE | DK.GY.THKB.BRKN SOME LISTRIC SURFACE |
| | 33 | 62.36 | 62.96 | 0.60 | | MUDSTONE | AS ABOVE |
| | 33 | 62.96 | 63.36 | 0.40 | | MUDSTONE | SSY.DK.GY.VBRKN SOMEWHAT CARB WITH SLICKS. COALY |
| | 34 | 63.36 | 64.16 | 0.80 | | SANDSTONE | VFG.GY.THKB.BRKN |
| | 34 | 64.16 | 64.93 | 0.77 | | MUDSTONE | CARB.DK.GY.THNB.BRKN COALY STRINGERS AND FEW CaCO ₃ VEINS |
| | 35 | 64.93 | 65.22 | 0.29 | | ROCK LOSS | |
| * | 35 | 65.22 | 65.70 | 0.48 | | MUDSTONE | AS ABOVE |
| | 36 | 65.70 | 65.84 | 0.14 | | COAL | C-6.BLK BONEY |
| | 36 | 65.84 | 65.99 | 0.15 | | COAL | C-6.VBRKN BONEY WITH BRIGHT STRINGERS |
| | 36 | 65.99 | 66.30 | 0.31 | | COAL LOSS | BONEY |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 37 | 66.30 | 66.55 | 0.25 | | | MUDSTONE | CARB.BLK.THNB.VBRKN COALY |
| 37 | 66.55 | 66.83 | 0.28 | | | ROCK LOSS | POSSIBLE C-6 LOSS |
| 37 | 66.83 | 66.98 | 0.15 | | | COAL | PWRD |
| 38 | 66.98 | 67.08 | 0.10 | | | MUDSTONE | AS MUDSTONE ABOVE |
| 38 | 67.08 | 67.50 | 0.42 | | | MUDSTONE | DK.GY.THKB.SLD CALC TOWARD BASE |
| 39 | 67.50 | 68.00 | 0.50 | | | MUDSTONE | DK.GY.THKB.SLD CALCAREOUS TOWARDS BASE. |
| 39 | 68.00 | 68.07 | 0.07 | | | COAL & ROCK | PWRD MIXED COAL & ROCK |
| 40 | 68.07 | 68.52 | 0.45 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN LUSTRE SURFACE COALY SPECKS & INCLUSION S |
| 41 | 68.52 | 69.30 | 0.78 | | | MUDSTONE | CARB.BLK.BRKN COALY INCLUSIONS |
| 42 | 69.30 | 69.90 | 0.60 | | | COAL | C-4.VBRKN MIXED WITH PIECES OF ROCK |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 42 | 69.90 | 70.17 | 0.27 | | ROCK LOSS | |
| | 43 | 70.17 | 70.52 | 0.35 | | COAL LOSS | |
| | 44 | 70.52 | 71.17 | 0.65 | | MUDSTONE | CARB.DK.GY.BRKN VERY BROKEN AND COALY AT BASE CALCAREOUS |
| | 45 | 71.17 | 71.90 | 0.73 | | SILTSTONE | GY.SLD CACO3 VEINS & COALY IN PLACES MODIFIER CALC |
| * | 47 | 71.90 | 73.83 | 1.93 | | SANDSTONE | VFG.LT.GY.THNB.SSD.BRKN SILTY AND V BROKEN AT TOP, BRECCIATED I N PLACES WITH NUMEROUS CALC VEINS & STR INGERS MODIFIER CALC |
| | 48 | 73.83 | 74.26 | 0.43 | | ROCK LOSS | |
| | 49 | 74.26 | 74.83 | 0.57 | | SANDSTONE | LT.GY.THNB.SSD.SLD SILTY LAMINATED MODIFIER CALC |
| * | 50 | 74.83 | 76.53 | 1.70 | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB & COALY IN PLACES |
| | 49 | 76.53 | 77.11 | 0.58 | | SANDSTONE | SLTY.GY.THNB.SSD.SLD CALC WITH CACO3 VEINS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| | 49 | 77.11 | 77.51 | 0.40 | | MUDSTONE | CARB.DK.GY.THKB.SLD COALY TOWARD BASE |
| | 48 | 77.51 | 79.84 | 2.33 | | MUDSTONE | CARB.DK.GY.THNB.SLD FAIRLY UNIFORM OCCASIONALLY COALY INCL. & STRINGERS |
| | 48 | 79.84 | 80.11 | 0.27 | | MUDSTONE | AS ABOVE |
| | 47 | 80.11 | 82.01 | 1.90 | | MUDSTONE | CARB.DK.GY.THNB.BRKN VERY COALY TOWARD BASE NUMEROUS COAL ST RINGERS & THIN LAYERS |
| | 46 | 82.01 | 82.58 | 0.57 | | ROCK LOSS | |
| | 46 | 82.58 | 83.18 | 0.60 | | MUDSTONE | CARB.DK.GY.THKB.SLD COMPACT AND UNIFORM, CALC IN PLACES |
| | 46 | 83.18 | 84.03 | 0.85 | | MUDSTONE | AS ABOVE |
| | 45 | 84.03 | 84.27 | 0.24 | | SILTSTONE | GY.THKB.SLD FRACTURED WITH CaCO ₃ (SED DEFORMATION) ; MODIFIER: CALC. |
| * | 45 | 84.27 | 85.42 | 1.15 | | MUDSTONE | DK.GY.THNB.SSD.SLD SILTY LAMINAE OCCASIONALLY SOME CARB. I NCL. AND COALY AT BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 46 | 85.42 | 85.92 | 0.50 | | SANDSTONE | FG.LT.GY.MAS.SLD SILTY AT TOP |
| | 47 | 85.92 | 86.12 | 0.20 | | SANDSTONE | VFG.LT.GY.MAS.SLD COMPACT & UNIFORM |
| | 49 | 86.12 | 88.62 | 2.50 | | SANDSTONE | VFG.LT.GY.THKB.XBDG.SLD SILTY WITH CALC INCLUS TOWARD BASE |
| | 52 | 88.62 | 89.34 | 0.72 | | SANDSTONE | SLTY.VFG.GY.SSD.SLD CALCAREOUS |
| | 54 | 89.34 | 90.66 | 1.32 | | SILTSTONE | SSY.DK.GY.THKB.SSD.SLD OCCASIONALLY SANDLY BANDS CARB IN PLACE S |
| * | 56 | 90.66 | 91.44 | 0.78 | | SANDSTONE | MG.GY.THNB.XBDG.SLD WITH NUMEROUS CALC VEINS & STRINGER.MOD IFIER CALC |
| | 55 | 91.44 | 92.55 | 1.11 | | SANDSTONE | AS ABOVE |
| | 54 | 92.55 | 94.08 | 1.53 | | SANDSTONE | AS ABOVE |
| * | 53 | 94.08 | 95.66 | 1.58 | | SANDSTONE | CG.LT.GY.MAS.SLD CALC AND CARB OCCASIONALLY MODIFIER CAL C |
| | 54 | 95.66 | 96.54 | 0.88 | | SANDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 12

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 55 | 96.54 | 97.20 | 0.66 | | SANDSTONE | SLTY.VFG.GY.THKB.SLD |
| * | 56 | 97.20 | 99.18 | 1.98 | | SANDSTONE | MG.LT.GY.THKB.SLD OCCASIONALLY CARB, STINGERS AND INCLUSIONS |
| | 55 | 99.18 | 99.58 | 0.40 | | SANDSTONE | AS ABOVE |
| | | 99.58 | 101.23 | 1.65 | | SILTSTONE | SSY.GY.SSD.SLD CALCAREOUS, SANDY BANDS IRREGULARLY CARB IN PLACES. |
| * | 54 | 101.23 | 101.97 | 0.74 | | SANDSTONE | MG.LT.GY.MAS.XBDG.SLD |
| * | 52 | 101.97 | 103.22 | 1.25 | | SILTSTONE | GY.THNB.SLD OCCASIONALLY SANDS, BANDS MODIFIER MUDY |
| | 52 | 103.22 | 104.59 | 1.37 | | MUDSTONE | SLTY.DK.GY.THKB.SLD PARTLY CARB WITH SOME COALY INCL. FAIRLY UNIFORM |
| | 51 | 104.59 | 105.19 | 0.60 | | MUDSTONE | AS ABOVE |
| | 51 | 105.19 | 107.17 | 1.98 | | MUDSTONE | AS ABOVE |
| | 50 | 107.17 | 107.69 | 0.52 | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 13

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|---------|-------------|--|
| 50 | 107.69 | 108.25 | 0.56 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY STRINGER & INCL. |
| 50 | 108.25 | 108.45 | 0.20 | | | COAL LOSS | |
| 50 | 108.45 | 108.65 | 0.20 | | | COAL & ROCK | BLK.BRKN MUDSTONE AND COAL MIXED |
| 50 | 108.65 | 109.70 | 1.05 | | | MUDSTONE | CARB.BLK.THKB.SLD WITH THIN COAL LAYERS |
| 50 | 109.70 | 110.05 | 0.35 | | | COAL | PWRD |
| 49 | 110.05 | 110.25 | 0.20 | | | MUDSTONE | CARB.BLK.VBRKN COALY |
| 49 | 110.25 | 110.57 | 0.32 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| 49 | 110.57 | 112.72 | 2.15 | | | MUDSTONE | SLTY.DK.GY.MAS.SLD CARB. COALY INCL. OCCASIONALLY |
| 48 | 112.72 | 113.35 | 0.63 | | | MUDSTONE | AS ABOVE |
| * 48 | 113.35 | 115.47 | 2.12 | | | SILTSTONE | GY.THKB.SSD.SLD BONDS OF VFG SANDSTONE IRREGULARLY FAIR LY COMPACT |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-------------|--|
| | 49 | 115.47 | 116.41 | 0.94 | | SILTSTONE | AS ABOVE |
| | 50 | 116.41 | 118.13 | 1.72 | | SILTSTONE | AS ABOVE |
| | 51 | 118.13 | 118.36 | 0.23 | | MUDSTONE | SLTY.DK.GY.THKB.SLD CALC TOWARD BASE |
| | 51 | 118.36 | 119.49 | 1.13 | | SANDSTONE | SLTY.VFG.GY.THKB.SSD.SLD CALCAREOUS |
| * | 52 | 119.49 | 120.89 | 1.40 | | SILTSTONE | AS ABOVE |
| | 52 | 120.89 | 122.57 | 1.68 | | SANDSTONE | SLTY.FG.GY.THNB.XBDG.SLD SOME SSD, CALCAREOUS |
| | 52 | 122.57 | 123.59 | 1.02 | | SANDSTONE | AS ABOVE |
| | 52 | 123.59 | 124.46 | 0.87 | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARBON IN PLACES |
| | 52 | 124.46 | 124.86 | 0.40 | | SANDSTONE | SLTY.GY.THNB.SLD CALCAREOUS |
| | 52 | 124.86 | 125.30 | 0.44 | | MUDSTONE | SLTY.DK.GY.SLD PARTLY CARB |
| | 52 | 125.30 | 125.46 | 0.16 | | ROCK & COAL | CARB.BLK.PWRD MUDSTONE & COAL MIXED |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 15

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 52 | 125.46 | 126.29 | 0.83 | | | MUDSTONE | SLTY.DK.GY.MAS.SLD CALC, FAIRLY COMPACT |
| 52 | 126.29 | 128.95 | 2.66 | | | MUDSTONE | AS ABOVE SANDY TOWARD BASE |
| 52 | 128.95 | 129.53 | 0.58 | | | SANDSTONE | VFG.DK.GY.MAS.SLD UNIFORM & COMPACT |
| * 52 | 129.53 | 130.03 | 0.50 | | | SANDSTONE | AS ABOVE LAMINATED TOWARD BASE |
| 52 | 130.03 | 131.61 | 1.58 | | | SANDSTONE | SLTY.VFG.GY.THNB.XBDG.SLD SILTY AND MUDY LAMINAE IRREGULARY |
| 52 | 131.61 | 132.08 | 0.47 | | | SANDSTONE | AS ABOVE |
| 51 | 132.08 | 134.12 | 2.04 | | | MUDSTONE | CARB.DK.GY.THKB.BRKN |
| 51 | 134.12 | 134.27 | 0.15 | | | SANDSTONE | FG.GY.THKB.SLD SILTY & CALC INCL. MODIFIER CALC |
| 51 | 134.27 | 135.17 | 0.90 | | | SANDSTONE | SLTY.VFG.DK.GY.SSD.BRKN IRREGULAR INTERBEDS & BANDS OF SILTSTON E, CALC. |
| 51 | 135.17 | 136.80 | 1.63 | | | SANDSTONE | VFG.DK.GY.XBDG.BRKN AS ABOVE SOME XBDGS, VERY CALCAREOUS |
| 50 | 136.80 | 138.40 | 1.60 | | | SANDSTONE | AS ABOVE CARB IN PLACES |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| * 50 | 138.40 | 139.34 | 0.94 | | | SANDSTONE | AS ABOVE MUDY AT TOP |
| 49 | 139.34 | 140.14 | 0.80 | | | SANDSTONE | FG.LT.GY.THKB.XBDG.SLD MODIFIER: CALC. |
| 48 | 140.14 | 140.66 | 0.52 | | | MUDSTONE | SLTY.LT.GY.THKB.SLD VERY CALC AT TOP |
| 48 | 140.66 | 140.85 | 0.19 | | | MUDSTONE | AS ABOVE |
| 48 | 140.85 | 141.26 | 0.41 | | | SANDSTONE | SLTY.VFG.GY.SSD.SLD VERY CALC.-NUMEROUS CaCO3 VEINS AND INC L. |
| 47 | 141.26 | 141.51 | 0.25 | | | MUDSTONE | SLTY.DK.GY.SSD.BRKN CALC, PARTLY CARB. |
| * 47 | 141.51 | 141.91 | 0.40 | | | SANDSTONE | SLTY.VFG.GY.SSD.SLD VERY SLTY TOWARD BASE, CALCAREOUS |
| 47 | 141.91 | 142.02 | 0.11 | | | MUDSTONE | SLTY.GY.THKB.SLD |
| 47 | 142.02 | 142.96 | 0.94 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD AS ABOVE; CARB WITH COALY STRINGERS AT BASE. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 17

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 47 142.96 | 144.41 | 1.45 | | | SILTSTONE | SSY.GY.THKB.SLD MORE SSY TOWARD BASE CALCAREOUS CaCO3 C RYSTALS IOCM FROM BASE |
| | 47 144.41 | 144.59 | 0.18 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| | 47 144.59 | 144.90 | 0.31 | | | MUDSTONE | AS ABOVE SOME CARB SPECKS |
| * | 47 144.90 | 145.50 | 0.60 | | | SANDSTONE | SLTY.VFG.GY.THKB.SLD |
| | 48 145.50 | 147.10 | 1.60 | | | MUDSTONE | DK.GY.MAS.SLD COMPACT & UNIFORM, PARTLY CARB. |
| | 49 147.10 | 147.15 | 0.05 | | | COAL | C-6.BRKN BONEY |
| | 49 147.15 | 147.30 | 0.15 | | | COAL | PWRD POSSIBLE C-1 |
| | 49 147.30 | 147.48 | 0.18 | | | COAL | C-1.PWRD |
| | 49 147.48 | 147.85 | 0.37 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 49 | 147.85 | 147.95 | 0.10 | | COAL | C-1.BRKN |
| * | 50 | 147.95 | 149.82 | 1.87 | | MUDSTONE | CARB.DK.GY.THKB.SLD THIN COALY LAYERS AT TOP CALCAREOUS AND SILTY IN PLACES |
| | 52 | 149.82 | 150.24 | 0.42 | | MUDSTONE | CARB.DK.GY.VBRKN PWRD TOWARD BASE WITH SOME COALS INCLUS ION: |
| | 52 | 150.24 | 150.79 | 0.55 | | MUDSTONE | CARB.BLK.BRKN THIN COAL LAYERS AND STRINGERS |
| | 53 | 150.79 | 151.05 | 0.26 | | MUDSTONE | CARB.DK.GY.THKB.SLD |
| | 53 | 151.05 | 151.07 | 0.02 | | COAL | C-1.BRKN |
| * | 54 | 151.07 | 152.45 | 1.38 | | MUDSTONE | CARB.DK.GY.THNB.SLD CALC WITH STRINGERS OF CaCO3 AND SOME C OALY INCLUSIONS. |
| | 55 | 152.45 | 153.33 | 0.88 | | MUDSTONE | DK.GY.THNB.SLD OCCASIONALLY CARB STRING. AND INCL.; MO DIFIER: CALC. |
| * | 55 | 153.33 | 154.37 | 1.04 | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 54 | 154.37 | 155.19 | 0.82 | | | SANDSTONE | VFG.GY.THKB.SSD.SLD WRMBUR IN UPPER PORTION OF THE UNIT; MO DIFIER: CALC. |
| 54 | 155.19 | 155.47 | 0.28 | | | SANDSTONE | AS ABOVE |
| 53 | 155.47 | 155.74 | 0.27 | | | MUDSTONE | GY.SLD PARTLY CARB MODIFIER CALC |
| 53 | 155.74 | 155.89 | 0.15 | | | SANDSTONE | VFG.GY.WRMBU.SLD FRACTURED WITH CaCO ₃ MODIFIER CALC |
| 53 | 155.89 | 156.47 | 0.58 | | | MUDSTONE | SLTY.DK.GY.THKB.SSD.SLD CALC IN PLACES |
| * 52 | 156.47 | 157.85 | 1.38 | | | MUDSTONE | MUDSTONE AS ABOVE |
| 52 | 157.85 | 158.73 | 0.88 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD FAIRLY UNIFORM AND COMPACT |
| 52 | 158.73 | 158.87 | 0.14 | | | SANDSTONE | FG.GY.MAS.SLD CALC AT BASE |
| 52 | 158.87 | 159.67 | 0.80 | | | MUDSTONE | SLTY.DK.GY.THKB.BRKN |
| 52 | 159.67 | 159.89 | 0.22 | | | MUDSTONE | CARB.BLK.THKB.SLD VERY CALCAREOUS AT BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 20

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 52 | 159.89 | 159.94 | 0.05 | | | COAL | PWRD |
| 52 | 159.94 | 160.59 | 0.65 | | | MUDSTONE | CARB.BLK.THKB.BRKN OCCASSIONALLY COALY STRINGER |
| 52 | 160.59 | 160.62 | 0.03 | | | COAL | PWRD |
| 52 | 160.62 | 160.86 | 0.24 | | | MUDSTONE | CARB.BLK.THKB.SLD SOME COALY INCLUS |
| 52 | 160.86 | 162.77 | 1.91 | | | SANDSTONE | SLTY.VFG.DK.GY.THKB.XBDG.SLD CARB STRINGER AND LAMINAE OCCASIONALLY |
| * 52 | 162.77 | 163.40 | 0.63 | | | SANDSTONE | SANDSTONE AS ABOVE |
| 53 | 163.40 | 165.93 | 2.53 | | | SANDSTONE | AS ABOVE |
| 53 | 165.93 | 166.13 | 0.20 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD PARTLY CARB AND CALC. |
| 53 | 166.13 | 168.08 | 1.95 | | | MUDSTONE | AS ABOVE VERY CARB AT BASE |
| 54 | 168.08 | 168.34 | 0.26 | | | COAL | C-4.VBRKN |
| 54 | 168.34 | 168.88 | 0.54 | | | MUDSTONE | CARB.BLK.THKB.SLD SOME SANDY BANDS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 21

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 54 | 168.88 | 169.46 | 0.58 | | | MUDSTONE | CARB.DK.GY.THKB.SLD SILTY AT TOP V CARB AT BASE |
| 54 | 169.46 | 169.56 | 0.10 | | | COAL | PWRD |
| 54 | 169.56 | 170.22 | 0.66 | | | COAL LOSS | |
| 55 | 170.22 | 171.31 | 1.09 | | | SANDSTONE | SLTY.VFG.DK.GY.THKB.SSD.SLD VERY CALC. |
| * 55 | 171.31 | 172.17 | 0.86 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD OCCASIONALLY CALC AND CARB FAIRLY UNIFORM AND COMPACT |
| 53 | 172.17 | 173.97 | 1.80 | | | MUDSTONE | MUDSTONE AS ABOVE |
| 52 | 173.97 | 174.27 | 0.30 | | | SANDSTONE | VFG.DK.GY.RTB.SLD SILTY BANDS |
| 52 | 174.27 | 174.45 | 0.18 | | | MUDSTONE | DK.GY.THKB.SLD |
| 51 | 174.45 | 174.51 | 0.06 | | | COAL | C-1.PWRD |
| 51 | 174.51 | 174.91 | 0.40 | | | MUDSTONE | DK.GY.THKB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 50 174.91 | 176.44 | 1.53 | | | MUDSTONE | MUDSTONE AS ABOVE, OCCASIONALY CARB AND COALY STRINGERS |
| | 48 176.44 | 177.62 | 1.18 | | | SILTSTONE | SSY.GY.MAS.SLD SANDIER TOWARD TOP |
| * | 47 177.62 | 177.93 | 0.31 | | | SILTSTONE | SSY.DK.GY.THNB.SSD.SLD |
| | 44 177.93 | 178.41 | 0.48 | | | MUDSTONE | CARB.BLK.THNB.BRKN SOME CALC STRINGERS |
| * | 36 178.41 | 180.41 | 2.00 | | | SANDSTONE | FG.GY.MAS.SLD FROM FG AT TOP GRADUALLY CHANGES INTO M G AT BASE; MODIFIER : CALC |
| | 37 180.41 | 181.24 | 0.83 | | | SANDSTONE | MG.GY.MAS.SLD MODIFIER: CALC. |
| * | 38 181.24 | 183.08 | 1.84 | | | SANDSTONE | MG.LT.GY.MAS.SLD DIP CHANGE RAPIDLY , BRECCIATED IN PLAC ES CaCO3 CRYSTALS AND VEINS MODIFIER V CALC |
| | 36 183.08 | 184.33 | 1.25 | | | SANDSTONE | BRKN SANDSTONE AS ABOVE |
| * | 34 184.33 | 185.73 | 1.40 | | | SANDSTONE | SLTY.VFG.GY.THNB.SSD.SLD PARTLY CALC, SILTY LAMINATED |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 37 | 185.73 | 186.78 | 1.05 | | | SANDSTONE | VFG.GY.THNB.SSD.SLD SILTY WITH CaCO ₃ VEINS AND STRINGERS SO ME IRREGULAR CARB STRINGERS; MODIFIER: CALC. |
| 39 | 186.78 | 186.87 | 0.09 | | | ROCK LOSS | |
| 39 | 186.87 | 186.99 | 0.12 | 00122 | | COAL | SHRD |
| 40 | 186.99 | 187.19 | 0.20 | 00122 | | COAL | PWRD |
| 40 | 187.19 | 187.57 | 0.38 | 00122 | | COALLOSS | |
| 41 | 187.57 | 187.67 | 0.10 | 00122 | | MUDSTONE | CARB.VBRKN COALY AND SHEARED |
| 43 | 187.67 | 188.67 | 1.00 | 00122 | | COAL | C-5.VBRKN PARTLY SHEARED |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 45 188.67 | 189.05 | 0.38 | | | SILTSTONE | DK.GY.THKB.SLD CARB & CALC AT TOP MODIFIER MUDY |
| * | 47 189.05 | 190.42 | 1.37 | | | SANDSTONE | SLTY.VFG.GY.THNB.SSD.SLD CALC IN PLACES |
| | 47 190.42 | 191.36 | 0.94 | | | SANDSTONE | SANDSTONE AS ABOVE |
| | 46 191.36 | 193.44 | 2.08 | | | SILTSTONE | SSY.DK.GY.SSD.SLD SANDY BANDS IRREGULAR SOME CALC IN PLACES |
| | 46 193.44 | 194.06 | 0.62 | | | SILTSTONE | SILTSTONE AS ABOVE |
| | 45 194.06 | 194.70 | 0.64 | | | SILTSTONE | AS ABOVE |
| * | 45 194.70 | 196.42 | 1.72 | | | SILTSTONE | DK.GY.THNB.SSD.SLD COMPACT, UNIFORM MODIFIER MUDY |
| | 45 196.42 | 196.61 | 0.19 | | | SILTSTONE | SILTSTONE AS ABOVE |
| | 45 196.61 | 197.27 | 0.66 | | | SANDSTONE | VFG.LT.GY.THKB.WRMBU.SLD MODIFIER: CALC. |
| | 45 197.27 | 198.39 | 1.12 | | | MUDSTONE | DK.GY.THKB.SLD CARB TOWARDS BASE |
| | 45 198.39 | 198.59 | 0.20 | | | MUDSTONE | CARB.BLK.THNB.VBRKN COALY AT TOP |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 25

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 45 | 198.59 | 198.67 | 0.08 | | | COAL | C-4.VBRKN |
| 45 | 198.67 | 199.15 | 0.48 | | | COAL LOSS | |
| 45 | 199.15 | 199.40 | 0.25 | | | ROCK LOSS | |
| 45 | 199.40 | 199.60 | 0.20 | | | COAL LOSS | |
| 45 | 199.60 | 199.93 | 0.33 | | | MUDSTONE | CARB.BLK.THNB.VBRKN COALY STRINGERS AND INCLUSIONS |
| 45 | 199.93 | 200.13 | 0.20 | | | SANDSTONE | DK.GY.THKB.SLD SILTY AND VERY CALC TOWARD BASE MODIFIE R CALC |
| * 45 | 200.13 | 200.75 | 0.62 | | | SILTSTONE | DK.GY.THKB.SLD SANDSTONE AT TOP; GRADUALLY BECOMING SI LTSTONE; SLTY MUDSTONE AND CARB MUDSTON E TOWARDS BASE. |
| 45 | 200.75 | 201.55 | 0.80 | | | MUDSTONE | CARB.BLK.THKB.SLD COALY AT TOP |
| 44 | 201.55 | 202.55 | 1.00 | | | SILTSTONE | DK.GY.MAS.SLD |
| 44 | 202.55 | 202.63 | 0.08 | | | SILTSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 26

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 44 | 202.63 | 202.87 | 0.24 | | SANDSTONE | SLTY.VFG.DK.GY.THNB.XBDG.SLD SOME WRMBUR & SSD |
| | 44 | 202.87 | 203.61 | 0.74 | | SANDSTONE | AS ABOVE CALC. |
| | 44 | 203.61 | 205.49 | 1.88 | | SILTSTONE | DK.GY.THKB.SLD CALC, WITH CACO3 VEINS AND STRINGERS; M ODIFIER: MUDDY. |
| * | 43 | 205.49 | 208.14 | 2.65 | | SILTSTONE | SILTSTONE AS ABOVE, SOME SSD. |
| | 44 | 208.14 | 208.71 | 0.57 | | SILTSTONE | AS ABOVE |
| * | | 208.71 | 210.81 | 2.10 | | SILTSTONE | DK.GY.THKB.SLD AS ABOVE FAIRLY MASSIVE; MUDDY. |
| | 44 | 210.81 | 211.66 | 0.85 | | MUDSTONE | CARB.BLK.THKB.BRKN SLTY AT TOP |
| | 45 | 211.66 | 212.86 | 1.20 | | MUDSTONE | CARB.BLK.THKB.BRKN NUMEROUS COALY STRING. & THIN LAYERS |
| | 45 | 212.86 | 213.40 | 0.54 | | SANDSTONE | SLTY.VFG.GY.MAS.SLD GRADUALLY CHANGES TO SLTSTONE TOWARD BA SE CALC AT TOP |
| | 45 | 213.40 | 214.07 | 0.67 | | SILTSTONE | DK.GY.MAS.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 27

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 45 | 214.07 | 214.47 | 0.40 | | | SANDSTONE | FG.LT.GY.MAS.XBDG.SLD |
| 44 | 214.47 | 214.70 | 0.23 | | | SILTSTONE | SSY.DK.GY.MAS.SLD |
| 43 | 214.70 | 215.04 | 0.34 | | | SILTSTONE | DK.GY.MAS.WRMBU.SLD |
| 42 | 215.04 | 216.08 | 1.04 | | | SANDSTONE | FG.GY.THB.XBDG.SLD BECOME VF G AT BASE MODIFIER CALC |
| 39 | 216.08 | 217.28 | 1.20 | | | SANDSTONE | FG.LT.GY.MAS.XBDG.SLD CALC VEINS & STRINGERS MODIFIER CALC |
| * 37 | 217.28 | 217.54 | 0.26 | | | SILTSTONE | SSY.MAS.SLD |
| 39 | 217.54 | 218.34 | 0.80 | | | SANDSTONE | MG.LT.GY.MAS.XBDG.SLD SOME INCLUSIONS (PEBBLES) OF MUDSTONE T OWARD BASE MODIFIER CALC |
| 41 | 218.34 | 219.24 | 0.90 | | | SANDSTONE | MG.LT.GY.XBDG.BRKN BRECCIATED, VERY CALC, SOME PYRITIC SPE CKS MODIFIER CALC |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 28

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 219.24 | 220.32 | 1.08 | | | SILTSTONE | SSY.GY.THKB.SSD.SLD |
| | 220.32 | 220.61 | 0.29 | | | SILTSTONE | SILTSTONE AS ABOVE |
| | 220.61 | 220.84 | 0.23 | | | SANDSTONE | VFG.GY.THKB.RTB.SLD |
| | 220.84 | 221.39 | 0.55 | | | SANDSTONE | VFG.GY.MAS.SLD MUDY TOWARD BASE |
| * 52 | 221.39 | 223.45 | 2.06 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD VERY SILTY AT TOP CARB WITH COALY STRIN GER AT BASE |
| * 55 | 223.45 | 224.76 | 1.31 | | | SANDSTONE | SLTY.VFG.GY.THKB.SSD.SLD |
| | 224.76 | 224.81 | 0.05 | | | MUDSTONE | CARB.BLK.THNB.BRKN |
| | 224.81 | 225.60 | 0.79 | | | ROCK LOSS | |
| | 225.60 | 226.00 | 0.40 | | | COAL | C-5.VBRKN PARTLY SHEARED |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 29

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 52 | 226.00 | 226.86 | 0.86 | | | SANDSTONE | SLTY.VFG.DK.GY.THKB.SSD.SLD CARB AT TOP |
| 53 | 226.86 | 227.14 | 0.28 | | | SANDSTONE | SLTY.VFG.GY.THNB.SSD.SLD OCCASIONALLY SLTY SANDS |
| 54 | 227.14 | 227.76 | 0.62 | | | SANDSTONE | AS ABOVE |
| * 55 | 227.76 | 228.84 | 1.08 | | | MUDSTONE | CARB.DK.GY.THKB.SLD SOME COAL LAYERS AND INCLUSIONS, SLTY AT TOP |
| 54 | 228.84 | 229.55 | 0.71 | | | SILTSTONE | SSY.DK.GY.WRMBU.SLD SANDS INCLUSIONS AND BANDS |
| 53 | 229.55 | 229.75 | 0.20 | | | MUDSTONE | CARB.THKB.SLD |
| 53 | 229.75 | 230.00 | 0.25 | | | COAL | C-4.VBRKN |
| 53 | 230.00 | 230.32 | 0.32 | | | MUDSTONE | CARB.DK.GY.VBRKN CALC AND SLTY AT TOP |
| 52 | 230.32 | 230.50 | 0.18 | | | ROCK LOSS | |
| 52 | 230.50 | 230.75 | 0.25 | | | COAL | C-5.VBRKN SHEARED |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 30

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 52 | 230.75 | 230.99 | 0.24 | | | MUDSTONE | CARB.BLK.THNB.BRKN SHEARED AT TOP |
| 51 | 230.99 | 231.68 | 0.69 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD PARTLY CARB WITH SOME COALY INLC AT BAS E |
| * 50 | 231.68 | 232.39 | 0.71 | | | SILTSTONE | SSY.DK.GY.THKB.SSD.SLD |
| 50 | 232.39 | 232.95 | 0.56 | | | SANDSTONE | SLTY.VFG.GY.MAS.WRMBU.SLD IRREGULAR SLTY BANDS |
| 52 | 232.95 | 235.13 | 2.18 | | | SILTSTONE | DK.GY.XBDG.SLD OCCASSIONAL BANDS AND LAMINAE OF SANDST ONE AND MUDSTONE, WRMBUR & SSD. AS ABOVE |
| 52 | 235.13 | 235.27 | 0.14 | | | SILTSTONE | |
| 53 | 235.27 | 235.85 | 0.58 | | | MUDSTONE | CARB.DK.GY.THKB.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 54 | 235.85 | 237.86 | 2.01 | | SANDSTONE | SLTY.VFG.DK.GY.MAS.WRMBU SLD |
| | 55 | 237.86 | 238.51 | 0.65 | | SANDSTONE | FG.GY.MAS.SLD |
| * | 55 | 238.51 | 238.70 | 0.19 | | MUDSTONE | CARB.DK.GY.THKB.SLD SILTY AT TOP VERY CARB AND COALY AT BAS E |
| | 54 | 238.70 | 238.88 | 0.18 | | COAL | PWRD SHEARED |
| | 53 | 238.88 | 239.13 | 0.25 | | MUDSTONE | CARB.BLK.VBRKN |
| | 51 | 239.13 | 239.71 | 0.58 | | SANDSTONE | VFG.DK.GY.MAS.SLD |
| | 49 | 239.71 | 240.38 | 0.67 | | SANDSTONE | FG.LT.GY.MAS.XBDG.SLD |
| * | 47 | 240.38 | 240.55 | 0.17 | | SILTSTONE | DK.GY.THNB.SLD |
| | 47 | 240.55 | 242.27 | 1.72 | | SANDSTONE | SLTY.VFG.GY.THKB.WRMBU.SLD SILTY BANDS OCCASIONALLY, SSD & RIPMK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 32

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 46 | 242.27 | 243.23 | 0.96 | | | SILTSTONE | DK.GY.THKB.WRMBU.SLD |
| 46 | 243.23 | 243.37 | 0.14 | | | SANDSTONE | VFG.GY.THKB.SSD.SLD |
| 46 | 243.37 | 244.18 | 0.81 | | | SILTSTONE | DK.GY.MAS.WRMBU.SLD |
| 45 | 244.18 | 244.38 | 0.20 | | | COAL | C-5.VBRKN |
| 45 | 244.38 | 244.56 | 0.18 | | | SILTSTONE | DK.GY.MAS.SLD |
| 45 | 244.56 | 245.36 | 0.80 | | | SANDSTONE | SLTY.VFG.DK.GY.SSD.SLD OCCASIONAL CARB. LAMINAE |
| * 45 | 245.36 | 245.55 | 0.19 | | | MUDSTONE | CARB.DK.GY.THKB.SLD UNIFORM & COMPACT |
| 45 | 245.55 | 245.93 | 0.38 | | | SANDSTONE | MG.LT.GY.MAS.SLD |
| * 43 | 245.93 | 248.33 | 2.40 | | | SANDSTONE | SANDSTONE AS ABOVE SLTY AND CARB. LAMINAE AT BASE |
| 44 | 248.33 | 248.49 | 0.16 | | | SANDSTONE | CARB.VFG.DK.GY.THKB.SLD COALY SPECK AND STRING. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 33

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 44 | 248.49 | 248.64 | 0.15 | | SILTSTONE | DK.GY.MAS.SLD CARB SPECKS MODIFIER MUDY |
| | 45 | 248.64 | 249.45 | 0.81 | | SILTSTONE | DK.GY.MAS.SLD UNIFORM COMPACT SANDY AT TOP |
| | 45 | 249.45 | 249.95 | 0.50 | | SANDSTONE | FG.LT.GY.THKB.SSD.SLD |
| | 46 | 249.95 | 251.38 | 1.43 | | SILTSTONE | DK.GY.MAS.WRMBU.SLD |
| * | 48 | 251.38 | 254.21 | 2.83 | | SILTSTONE | SSY.GY.THKB.SSD.SLD SOME XBDG AND WRMBUR OCCASSIONAL SANDY BANDS |
| | 49 | 254.21 | 254.43 | 0.22 | | SILTSTONE | SSY.DK.GY.THKB.SLD |
| | 49 | 254.43 | 254.85 | 0.42 | | SILTSTONE | SILTSTONE AS ABOVE |
| | 50 | 254.85 | 255.18 | 0.33 | | MUDSTONE | CARB.DK.GY.THNB.BRKN SOME COALY INCLUSIONS |
| | 50 | 255.18 | 256.88 | 1.70 | | SILTSTONE | DK.GY.MAS.SLD UNIFORM, CALCAREOUS AT BASE MODIFIER MU DY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 34

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 51 | 256.88 | 257.51 | 0.63 | | | SILTSTONE | AS ABOVE CALCAREOUS AT TOP |
| * 52 | 257.51 | 259.66 | 2.15 | | | SILTSTONE | DK.GY.MAS.SSD.SLD SOME WRMBUR, OCCASIONALLY SANDY. |
| 53 | 259.66 | 260.62 | 0.96 | | | SANDSTONE | SLTY.VFG.DK.GY.THKB.SSD.SLD SILTY BANDS, WRMBUR, XBDG |
| 53 | 260.62 | 261.92 | 1.30 | | | SANDSTONE | AS ABOVE |
| 54 | 261.92 | 262.36 | 0.44 | | | MUDSTONE | SLTY.DK.GY.MAS.SLD UNIFORM |
| 54 | 262.36 | 262.86 | 0.50 | | | MUDSTONE | MUDSTONE AS ABOVE |
| 54 | 262.86 | 263.37 | 0.51 | | | SANDSTONE | VFG.GY.MAS.SLD |
| 54 | 263.37 | 263.90 | 0.53 | | | SILTSTONE | DK.GY.MAS.SLD MUDY AT TOP, SSY AT BASE |
| 55 | 263.90 | 264.50 | 0.60 | | | MUDSTONE | CARB.BLK.THKB.BRKN |
| 55 | 264.50 | 264.58 | 0.08 | | | COAL | PWRD |
| * 55 | 264.58 | 265.11 | 0.53 | | | SANDSTONE | VFG.GY.MAS.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 35

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 55 | 265.11 | 265.92 | 0.81 | | SANDSTONE | SLTY.VFG.GY.THKB.XBDG.SLD SILTY LAMINAE |
| | 55 | 265.92 | 266.04 | 0.12 | | SANDSTONE | MG.LT.GY.MAS.SLD |
| * | 55 | 266.04 | 266.66 | 0.62 | | SILTSTONE | DK.GY.THKB.SLD |
| | 55 | 266.66 | 266.79 | 0.13 | | MUDSTONE | SLTY.DK.GY.THNB.BRKN SOME CARB FRAGMENTS |
| | 55 | 266.79 | 267.37 | 0.58 | | SANDSTONE | SLTY.VFG.GY.THNB.XBDG.SLD |
| | 55 | 267.37 | 267.64 | 0.27 | | SILTSTONE | DK.GY.MAS.SLD UNIFORM, COMPACT |
| | 55 | 267.64 | 267.82 | 0.18 | | SANDSTONE | MG.LT.GY.MAS.RIPMK.SLD |
| | 55 | 267.82 | 267.94 | 0.12 | | SANDSTONE | MG.LT.GY.MAS.RIPMK.SLD |
| * | 55 | 267.94 | 268.36 | 0.42 | | SANDSTONE | SLTY.GY.THKB.SSD.SLD VERY SLTY SOME WRMBUR |
| | 54 | 268.36 | 269.68 | 1.32 | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARB IN PLACES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 36

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 53 | 269.68 | 270.39 | 0.71 | | MUDSTONE | CARB.BLK.THKB.SLD VERY SILTY |
| | 53 | 270.39 | 270.54 | 0.15 | | COAL | C-4.VBRKN |
| | 53 | 270.54 | 270.59 | 0.05 | | COAL | C-4.VBRKN |
| | 52 | 270.59 | 271.05 | 0.46 | | COAL LOSS | |
| | 52 | 271.05 | 271.48 | 0.43 | | MUDSTONE | CARB.BLK.THKB.SLD SILTY |
| | 52 | 271.48 | 271.51 | 0.03 | | COAL | C-1.BRKN |
| | 51 | 271.51 | 271.76 | 0.25 | | MUDSTONE | CARB.THKB COALY INCLUSIONS, SILTY |
| | 51 | 271.76 | 272.69 | 0.93 | | SILTSTONE | DK.GY.MAS.SLD PARTLY CARB. |
| * | 50 | 272.69 | 273.39 | 0.70 | | SILTSTONE | SSY.GY.THKB.SSD.SLD LAMINAE OF MUDSTONE AND SANDSTONE |
| | 50 | 273.39 | 273.80 | 0.41 | | SANDSTONE | FG.GY.MAS.SLD FEW CALC VEINS AND STRINGERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 37

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 49 | 273.80 | 275.72 | 1.92 | | SANDSTONE | MG.LT.GY.THKB.SLD GRADUALLY FROM FG BECOME MG TOWARD BASE SOME CARB & MUDY INCLUSION. |
| * | 48 | 275.72 | 276.42 | 0.70 | | SANDSTONE | MG.LT.GY.THKB.SLD SOME MUDDY INCLUSIONS AND FEW CaCO3 VEI NS. |
| | 49 | 276.42 | 278.80 | 2.38 | | SILTSTONE | GY.MAS.BIOTR.SLD CALCAREOUS AT TOP |
| | 50 | 278.80 | 279.11 | 0.31 | | SILTSTONE | GY.MAS.BIOTR.SLD FAIRLY UNIFORM & COMPACT |
| | 50 | 279.11 | 281.21 | 2.10 | | SILTSTONE | SILTSTONE AS ABOVE SSY IN PLACES |
| | 51 | 281.21 | 281.85 | 0.64 | | MUDSTONE | DK.GY.THKB.SLD PARTLY CARB TOWARD BASE |
| | 51 | 281.85 | 281.95 | 0.10 | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| | 51 | 281.95 | 282.25 | 0.30 | | SANDSTONE | CARB.FG.LT.GY.THKB.SLD COALY & CARBON STRING AND INCLUSIONS |
| | 51 | 282.25 | 282.57 | 0.32 | | SILTSTONE | DK.GY.MAS.SLD PARTLY CARB |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 38

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-------------|--|
| 52 | 282.57 | 283.26 | 0.69 | | | SANDSTONE | SLTY.VFG.GY.THKB.SLD |
| * 52 | 283.26 | 283.67 | 0.41 | | | SILTSTONE | GY.THNB.SLD |
| 52 | 283.67 | 283.87 | 0.20 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN |
| 51 | 283.87 | 284.63 | 0.76 | | | SANDSTONE | VFG.LT.GY.MAS.SLD OCCASSIONALY CALC |
| * 48 | 284.63 | 287.45 | 2.82 | | | SANDSTONE | SLTY.FG.GY.THKB.XBDG.SLD OCCASSIONALY SILTY LAMINAE |
| 49 | 287.45 | 288.80 | 1.35 | | | SANDSTONE | AS ABOVE CORE BROKEN AT TOP |
| 49 | 288.80 | 289.00 | 0.20 | | | SANDSTONE | MG.LT.GY.MAS.SLD FEW CARB SPECK AND INCLUSIONS |
| 50 | 289.00 | 289.80 | 0.80 | | | SILTSTONE | DK.GY.THNB.BRKN MODIFIER MUDY |
| 50 | 289.80 | 290.02 | 0.22 | | | MUDSTONE | CARB.DK.GY.THNB.VBRKN PARTLY SLICKENSIDED |
| 50 | 290.02 | 290.10 | 0.08 | | | COAL & ROCK | PWRD |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 39

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 50 | 290.10 | 290.25 | 0.15 | | MUDSTONE | CARB.DK.GY.THNB.BRKN SOME COALY STRINGERS |
| | 50 | 290.25 | 290.73 | 0.48 | | SILTSTONE | DK.GY.MAS.SLD |
| | 51 | 290.73 | 291.43 | 0.70 | | SANDSTONE | CARB.MG.LT.GY.MAS.SLD MODIFIER: CALC. |
| * | 51 | 291.43 | 292.66 | 1.23 | | SILTSTONE | CLYY.DK.GY.THNB.SSD.SLD MUDSTONE LAYERS AND LAMINAE OCCASIONALL Y, MORE MUDY TOWARD BASE |
| | 51 | 292.66 | 292.88 | 0.22 | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| | 51 | 292.88 | 293.91 | 1.03 | | SANDSTONE | MG.LT.GY.THKB.XBDG.SLD |
| | 51 | 293.91 | 295.34 | 1.43 | | SANDSTONE | SANDSTONE AS ABOVE, BUT VERY CALCAREOUS TOWARD BASE |
| | 51 | 295.34 | 295.54 | 0.20 | | SANDSTONE | AS ABOVE CALCAREOUS. |
| | 51 | 295.54 | 295.68 | 0.14 | | MUDSTONE | SLTY.DK.GY.THNB.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 40

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 52 | 295.68 | 296.11 | 0.43 | | | SANDSTONE | SLTY.FG.GY.THKB.SSD.BRKN CARB STRINGERS |
| 52 | 296.11 | 296.68 | 0.57 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB TOWARD TOP |
| 52 | 296.68 | 296.98 | 0.30 | | | SILTSTONE | DK.GY.LAM.SLD |
| 52 | 296.98 | 297.30 | 0.32 | | | SILTSTONE | DK.GY.LAM.SLD |
| 52 | 297.30 | 297.47 | 0.17 | | | MUDSTONE | CARB.BLK.THKB.BRKN |
| 52 | 297.47 | 297.70 | 0.23 | | | SANDSTONE | FG.LT.GY.THKB.XBDG.SLD |
| 52 | 297.70 | 297.96 | 0.26 | | | SILTSTONE | DK.GY.LAM.SLD |
| 52 | 297.96 | 298.07 | 0.11 | | | MUDSTONE | DK.GY.THKB.SLD |
| 52 | 298.07 | 298.54 | 0.47 | | | SILTSTONE | GY.MAS.SLD |
| 52 | 298.54 | 299.62 | 1.08 | | | SANDSTONE | MG.LT.GY.THKB.SLD FEW CaCO3 VEINS; MODIFIER: CALC. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 41

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---------------------------------------|
| * 52 | 299.62 | 299.80 | 0.18 | | | SILTSTONE | GY.LAM.SLD |
| 51 | 299.80 | 300.63 | 0.83 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB IN PLACES |
| 50 | 300.63 | 301.65 | 1.02 | | | SILTSTONE | SSY.GY.MAS.SSD.SLD |
| 50 | 301.65 | 301.82 | 0.17 | | | MUDSTONE | DK.GY.THKB.SLD |
| 49 | 301.82 | 302.26 | 0.44 | | | SILTSTONE | DK.GY.THNB.SLD |
| 49 | 302.26 | 302.52 | 0.26 | | | MUDSTONE | CARB.BLK.SLD VERY COALY AT BASE |
| 48 | 302.52 | 302.74 | 0.22 | | | SILTSTONE | DK.GY.MAS.SLD |
| 48 | 302.74 | 302.96 | 0.22 | | | SANDSTONE | FG.LT.GY.THKB.SLD |
| 48 | 302.96 | 303.44 | 0.48 | | | SANDSTONE | FG.LT.GY.THKB.XBDG.SLD |
| * 47 | 303.44 | 304.22 | 0.78 | | | SANDSTONE | SANDSTONE AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 42

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 47 | 304.22 | 305.22 | 1.00 | | | SILTSTONE | DK.GY.THKB.SLD MUDDY TOWARD BASE |
| 47 | 305.22 | 305.59 | 0.37 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| 47 | 305.59 | 306.09 | 0.50 | | | SANDSTONE | SLTY.FG.GY.SSD.SLD |
| 47 | 306.09 | 307.73 | 1.64 | | | MUDSTONE | SLTY.DK.GY.MAS.SLD |
| 48 | 307.73 | 308.89 | 1.16 | | | SILTSTONE | SSY.GY.THNB.RIPMK.SLD OCCASIONAL SANDY BANDS AND THIN LAYERS (SANDSTONE SILTY) |
| 48 | 308.89 | 309.99 | 1.10 | | | SANDSTONE | FG.LT.GY.THKB.XBDG.SLD SILTY LAMINAE TOWARD BASE FEW CALC VEIN S AT TOP |
| * 48 | 309.99 | 310.34 | 0.35 | | | MUDSTONE | DK.GY.THNB.SLD BRKN & CARB. AT BASE |
| 48 | 310.34 | 310.61 | 0.27 | | | ROCK LOSS | |
| 48 | 310.61 | 310.66 | 0.05 | 00123 | | COAL | BRKN SHEARED |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 43

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 48 | 310.66 | 310.99 | 0.33 | 00123 | | COAL | C-5.SLD COAL SOFT, SLIGHTLY SHEARED |
| 49 | 310.99 | 311.64 | 0.65 | 00123 | | COAL | C-5.SLD AS ABOVE |
| 49 | 311.64 | 312.09 | 0.45 | 00123 | | COAL | C-5.BRKN AS ABOVE |
| 49 | 312.09 | 313.06 | 0.97 | 00123 | | COAL | C-5.SLD AS ABOVE |
| 49 | 313.06 | 313.39 | 0.33 | 00123 | | COAL | C-5.VBRKN SHEARED & PWRD |
| 50 | 313.39 | 313.65 | 0.26 | | | MUDSTONE | CARB.DK.GY.THKB.SLD COALY AT TOP |
| 50 | 313.65 | 313.99 | 0.34 | | | MUDSTONE | MUDSTONE AS ABOVE |
| 50 | 313.99 | 314.34 | 0.35 | | | MUDSTONE | MUDSTONE AS ABOVE |
| * 50 | 314.34 | 314.82 | 0.48 | | | SILTSTONE | GY.LAM.SLD SANDY & CARB AT BASE MODIFIER CALC |
| 50 | 314.82 | 314.86 | 0.04 | | | COAL | C-5.BRKN |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 44

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 50 | 314.86 | 315.28 | 0.42 | | | MUDSTONE | DK.GY.THKB.SLD CARB AT TOP SILTY TOWARD BASE |
| 50 | 315.28 | 315.98 | 0.70 | | | SANDSTONE | FG.GY.THKB.SLD SILTY AND VERY CALC BRECCIATED AT BASE MODIFIER CALC |
| 49 | 315.98 | 316.70 | 0.72 | | | MUDSTONE | DK.GY.THKB.SLD CARB WITH COAL STRINGER AT TOP, SILTY AT T BASE |
| 49 | 316.70 | 316.92 | 0.22 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| 49 | 316.92 | 317.62 | 0.70 | | | SILTSTONE | SSY.GY.THKB.SSD.SLD SLIGHTLY BROKEN AT BASE IRREGULAR BANDS & LAYERS OF VFG SS. |
| 49 | 317.62 | 318.74 | 1.12 | | | SUKLTSTONE | SSY.GY.THKB.SSD.SLD AS ABOVE CALCAREOUS IN PLACES |
| 49 | 318.74 | 319.56 | 0.82 | | | SILTSTONE | SSY.GY.THKB.SSD.SLD |
| 48 | 319.56 | 320.36 | 0.80 | | | MUDSTONE | DK.GY.THKB.SLD CARB AT BASE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 45

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 48 | 320.36 | 320.53 | 0.17 | | | SILTSTONE | GY.THKB.SSD.SLD SOME CARB STRINGERS |
| 48 | 320.53 | 321.01 | 0.48 | | | SANDSTONE | SLTY.GY.THNB.SSD.SLD |
| 48 | 321.01 | 321.86 | 0.85 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD OCCASIONAL CARB & CALC STRINGERS, VERY SILTY |
| 47 | 321.86 | 322.73 | 0.87 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD AS ABOVE |
| 47 | 322.73 | 322.91 | 0.18 | | | SANDSTONE | VFG.GY.THKB.SLD |
| 47 | 322.91 | 323.69 | 0.78 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD AS MUDSTONE ABOVE |
| * 47 | 323.69 | 323.76 | 0.07 | | | SANDSTONE | MG.LT.GY.THNB.SLD |
| 47 | 323.76 | 323.96 | 0.20 | | | SILTSTONE | DK.GY.LAM.SLD |
| 47 | 323.96 | 324.38 | 0.42 | | | MUDSTONE | DK.GY.THKB.SLD SILTY AT TOP, CARB TOWARD BASE |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 46

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 47 | 324.38 | 324.80 | 0.42 | | | MUDSTONE | SLTY.DK.GY.MAS.SLD UNIFORM COMPACT |
| 46 | 324.80 | 327.03 | 2.23 | | | MUDSTONE | SLTY.DK.GY.MAS.SLD AS ABOVE |
| 46 | 327.03 | 327.50 | 0.47 | | | SANDSTONE | SLTY.VFG.GY.THKB.SLD VERY CALCAREOUS |
| 46 | 327.50 | 328.22 | 0.72 | | | SANDSTONE | VFG.GY.THNB.SSD.SLD VERY CALC BRECCIATED IN PLACES, SILTY. SOME CARB INCLUSIONS. |
| 46 | 328.22 | 329.14 | 0.92 | | | SANDSTONE | FG.LT.GY.THKB.BRKN CALC VEINS AN STRINGERS |
| 46 | 329.14 | 329.49 | 0.35 | | | MUDSTONE | CARB.BLK.THKB.SLD SLIGHTLY CALCAREOUS |
| 45 | 329.49 | 330.31 | 0.82 | | | SANDSTONE | MG.LT.GY.THKB.SLD CALC VEINS AN INCLUSIONS; MODIFIER: CAL C. |
| 45 | 330.31 | 330.73 | 0.42 | | | SANDSTONE | MG.LT.GY.THKB.SLD AS ABOVE; MODIFIER: CALC. |
| 45 | 330.73 | 331.49 | 0.76 | | | SANDSTONE | MG.LT.GY.THKB.SLD AS ABOVE; MODIFIER: CALC. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 47

PROJECT: GOR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 45 | 331.49 | 332.04 | 0.55 | | | SILTSTONE | DK.GY.LAM.SLD MODIFIER MUDY |
| * 60 | 332.04 | 332.32 | 0.28 | | | MUDSTONE | CARB.BLK.THKB.BRKN SILTY CALC STRINGERS OCCASIONALY |
| 60 | 332.32 | 332.55 | 0.23 | | | SILTSTONE | DK.GY.THKB.SLD |
| 60 | 332.55 | 332.97 | 0.42 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARB AT TOP VERY SLTY AND CALC. AT BASE |
| 59 | 332.97 | 333.97 | 1.00 | | | SILTSTONE | SSY.DK.GY.THKB.SLD |
| 59 | 333.97 | 334.31 | 0.34 | | | MUDSTONE | DK.GY.THKB.SLD CARB AND CALC. AT BASE |
| 58 | 334.31 | 335.61 | 1.30 | | | SANDSTONE | SLTY.VFG.GY.SSD.SLD SOME RIPMK & XBDG SILTIER TOWARD TOP |
| 57 | 335.61 | 336.54 | 0.93 | | | SANDSTONE | SLTY.VFG.GY.THKB.SSD.SLD AS ABOVE |
| 57 | 336.54 | 336.61 | 0.07 | | | MUDSTONE | CARB.BLK.THNB.BRKN SHEARED COALY |
| 57 | 336.61 | 336.66 | 0.05 | | | COAL | VBRKN SHEARED |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 48

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81011

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 57 | 336.66 | 336.91 | 0.25 | | | MUDSTONE | BLK.VBRKN COALY SHEARED |
| | 336.91 | 337.41 | 0.50 | | | MUDSTONE | SLTY.DK.GY.MAS.SLD CARB AT TOP GRADUALLY SILTIER TOWARDS B ASE. |
| 56 | 337.41 | 338.32 | 0.91 | | | SANDSTONE | FG.GY.MAS.RIPMK.SLD |
| 55 | 338.32 | 338.52 | 0.20 | | | SANDSTONE | FG.LT.GY.MAS.SLD |
| * 55 | 338.52 | 339.68 | 1.16 | | | SILTSTONE | SSY.DK.GY.THKB.SSD.SLD |

* DENOTES MEASURED BCA

DDH 81-12

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: _____ DATA SOURCE: DDH81012

HISTORY

START DATE: 18/09/81 END DATE: 23/09/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: A. RAHMANI SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1158.0
 UTM ZONE: 10 NORTH: 6170582.90 EAST: 538839.30
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 227.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 5.50 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | --- | --- | X | --- | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | X | --- | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | X | --- | _____ |
| CALIPER | X | 1:100 | : | --- | --- | X | --- | _____ |
| FE-SHORT | X | : | 1:40 | --- | --- | X | --- | _____ |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | --- | _____ |
| DIRECTIONAL | X | : | : | --- | --- | X | --- | _____ |
| DIPMETER | --- | _____ | _____ | --- | --- | --- | --- | _____ |

*** COAL DIVISION ***

DATA SOURCE: D91-12

INTERVAL OF INTERPOLATION 40 UNIT(S)

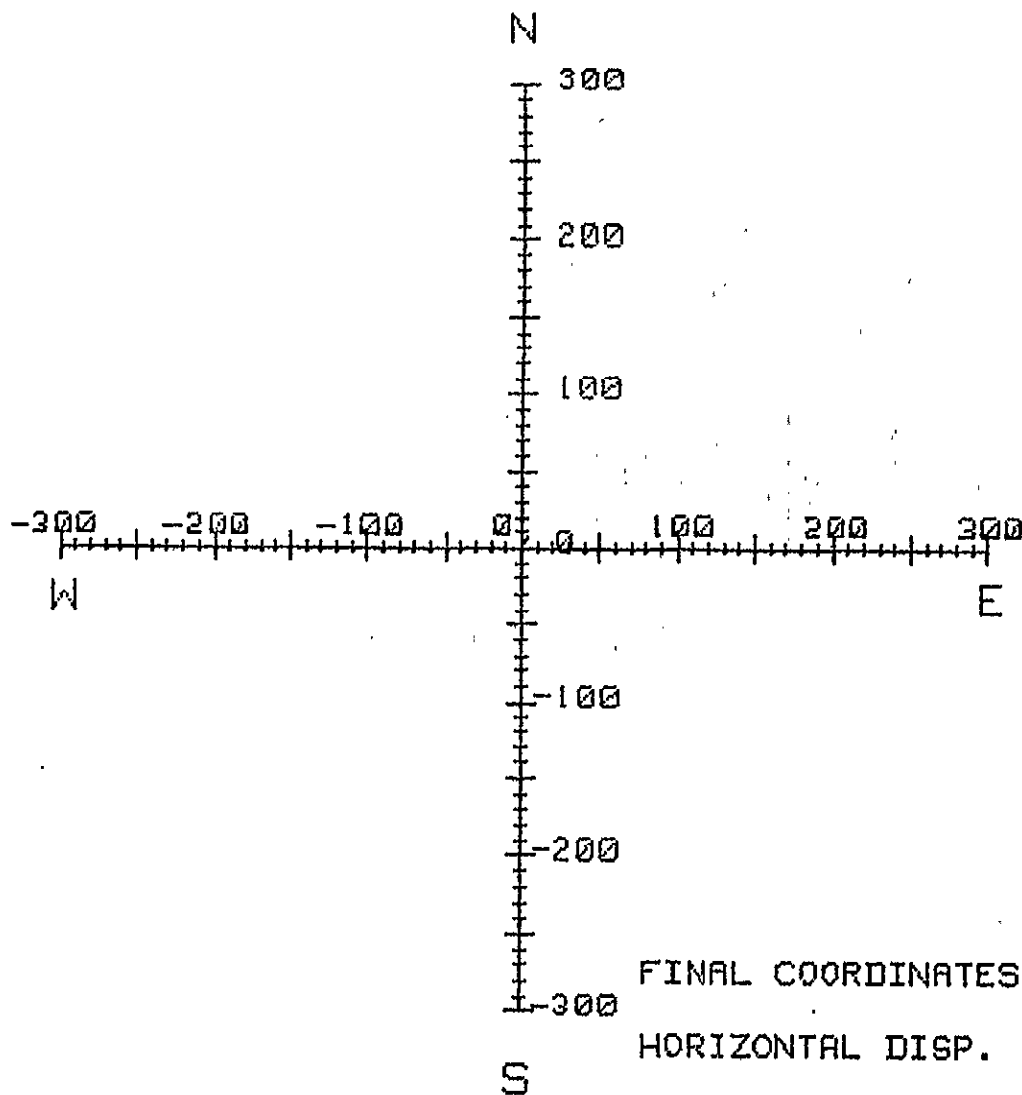
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

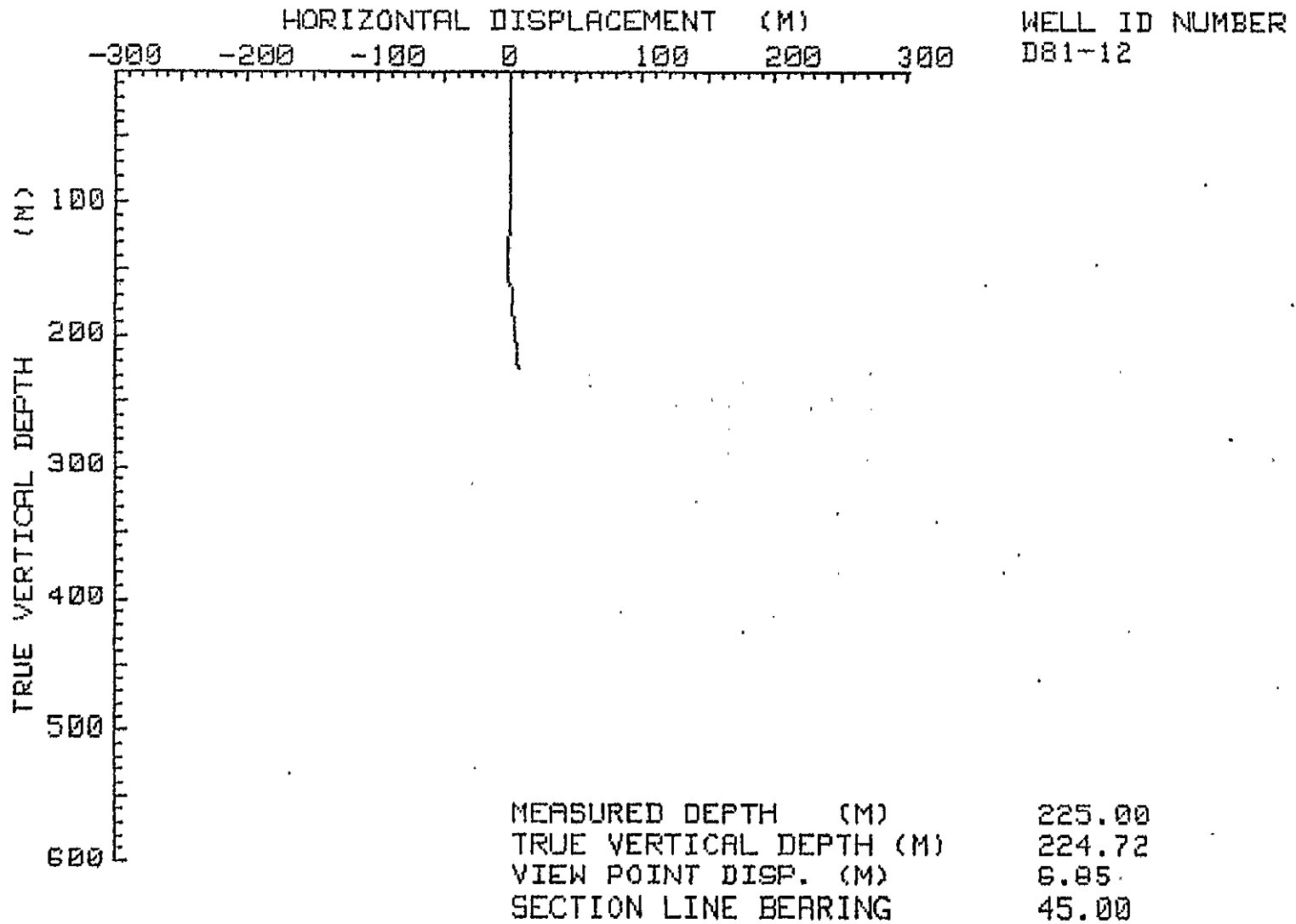
| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 0.00 | .20 | 357.30 |
| 30.00 | .20 | 302.20 |
| 45.00 | .10 | 16.80 |
| 60.00 | .20 | 339.10 |
| 75.00 | .20 | 318.90 |
| 90.00 | .20 | 332.20 |
| 105.00 | .60 | 336.90 |
| 120.00 | 1.60 | 350.50 |
| 135.00 | 1.70 | 2.10 |
| 150.00 | 2.40 | 358.60 |
| 165.00 | 3.80 | 47.90 |
| 180.00 | 4.60 | 32.40 |
| 195.00 | 4.90 | 29.80 |
| 210.00 | 5.90 | 45.00 |
| 225.00 | 6.20 | 25.90 |

PLAN VIEW

WELL ID NUMBER
081-12

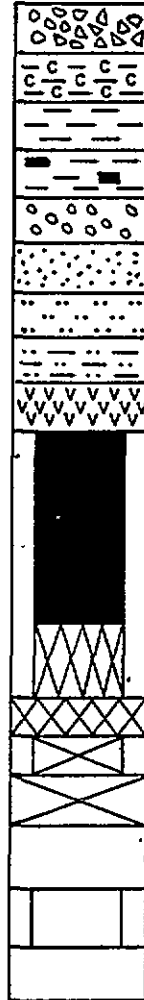
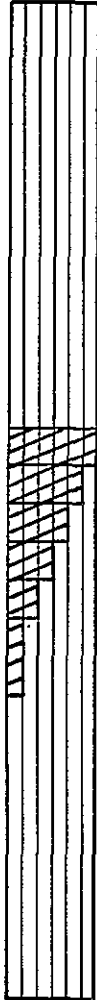


DISPLACEMENT



SEAM
COMP

COAL
SEAM
LOG



- LITHOTYPE
- C-1: Bright 80% Vitrain
 - C-2: Bright banded 60-80 % Vitrain
 - C-3: Dull/Bright 40-60 % Vitrain
 - C-4: Dull banded 20-40 % Vitrain
 - C-5: Dull 20 % Vitrain
 - C-6: Bone

- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff
- coal
- coal-boney, stoney, coal and bands/rock - designated "C6"
- rock } coal lithotype uncertain
- coal } MISSING CORE
- rock }
- rock
- coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

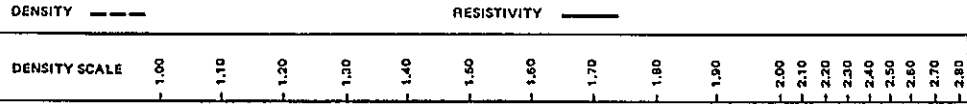
| | | |
|---|---------|---------------------------|
| GULF CANADA RESOURCES INC. | | |
| Coal Division | | |
| CALGARY | ALBERTA | |
| LEGEND FOR COAL SEAM DATA SHEETS | | |
| PREPARED BY: V.O. | | SCALE 1:40 |
| APPROVED BY: | | DATE: JAN. 82 DRAWING No. |

COAL SEAM DATA SHEET

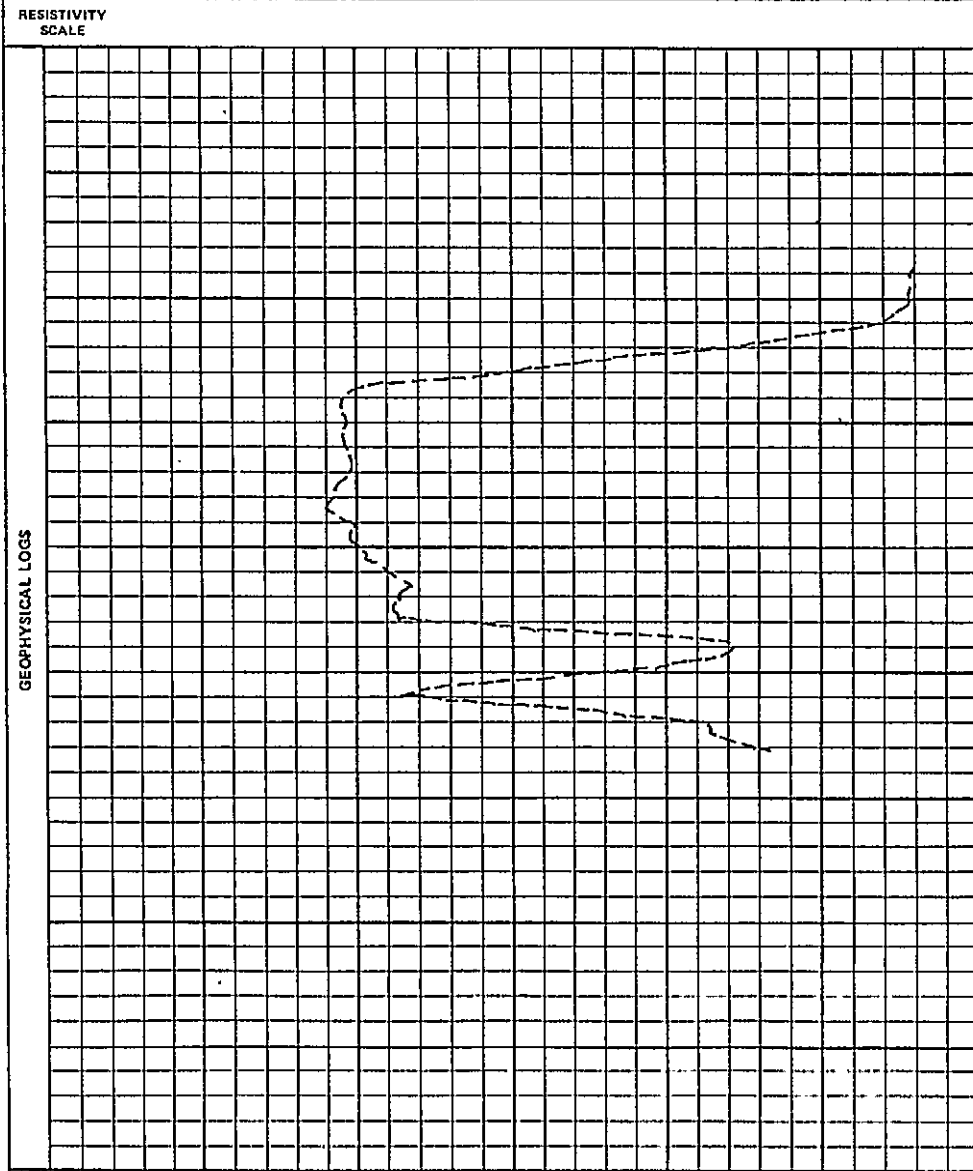
GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal / Coal + Rock (True Thk(m))
2.62 / 3.00
SEAM INTERVAL 9.79 - 12.79 m



DRILL NO. GDR-DDH-81-12 SEAM _____ SEAM INTERVAL _____
SCALE 1:40



| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|-------------------|-------|---------------|----------|-------------|--------|--------|---------|-------------------------|-------|-------|------|----------------|-------------|-----|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI | | |
| | 9.79 | | | (0.49) | | | | | | | | | | | | |
| | | | | 0.18 (0.15) | 64 | 00124 | 0.51 | 7.02 | 18.79 | 73.68 | 0.72 | 14,132 (32.87) | 1.5 | | | |
| | | | | 0.88 (0.15) | | | | | | | | | | | | |
| | 11.96 | | | 0.32 | | | | | | | | | | | | |
| | 12.34 | | 0.38 | | 100 | 00125 | 0.75 | 66.67 | 10.58 | 22.0 | 2.31 | 3,706 (8.62) | 0.5 | | | |
| | 12.79 | | | 0.35 (0.10) | 78 | 00126 | 0.46 | 17.90 | 17.21 | 64.43 | 1.70 | 12,528 (29.14) | 2.0 | | | |

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED. COAL | RECOVERED. ROCK | MISSING COAL | MISSING ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|-----------------|-----------------|--------------|--------------|
| DDH81012 | | 124 | 9.79 | 11.96 | 1.38 | 63.59 | 1.38 | 0.00 | 0.79 | 0.00 |
| | | 125 | 11.96 | 12.34 | 0.38 | 100.00 | 0.00 | 0.38 | 0.00 | 0.00 |
| | | 126 | 12.34 | 12.79 | 0.35 | 77.78 | 0.35 | 0.00 | 0.10 | 0.00 |

| PROJ - GDR | | ANALYSIS BASIS TYPE - | | | | NAME OF STANDARD - | | | | |
|-------------|------|-----------------------|--------------------|-------|---------------|--------------------|----------------|-------------------------------|------|------|
| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
| DDH81012 | | | | | | | | | | |
| | | 124 | 0.51 | 7.02 | 73.68 | 18.79 | 0.72 | 32.57 | 1.25 | 1.50 |
| | | 125 | 0.75 | 66.67 | 22.00 | 10.58 | 2.31 | 6.62 | 2.07 | 0.50 |
| | | 126 | 0.46 | 17.90 | 64.43 | 17.21 | 1.70 | 29.14 | 1.43 | 2.00 |

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 90 | 4.35 | 5.90 | 1.55 | | | MUDSTONE | DK.GY.THKB.SLD BROKEN TOWARD THE TOP; UNIFORM FE STAIN ED IN PLACES. |
| * 90 | 5.90 | 6.79 | 0.89 | | | MUDSTONE | SLTY.DK.GY.RIPMK.BRKN FE STAINED IN PLACES. |
| 90 | 6.79 | 7.16 | 0.37 | | | MUDSTONE | DK.GY.THKB.SLD SILTY TOWARDS THE BASE. |
| * 90 | 7.16 | 7.96 | 0.80 | | | SANDSTONE | VFG.GY.THNB.WRMBU.SLD CARBANACEOUS STRINGERS AND INCLUSIONS; BIOTRB AND CROSS-BEDDED; INTERBEDDING O F VERY THIN AND MINOR MUD BEDS. |
| 89 | 7.96 | 9.32 | 1.36 | | | MUDSTONE | SLTY.DK.GY.XBDG.BRKN FE-STAINED; MORE SILTY TOWARD THE TOP. |
| 88 | 9.32 | 9.56 | 0.24 | | | MUDSTONE | DK.GY.BRKN |
| 88 | 9.56 | 9.66 | 0.10 | | | COAL | C-6.VBRKN STONEY COAL. |
| 88 | 9.66 | 9.79 | 0.13 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARB; PLANT FOSSILS. |
| 87 | 9.79 | 10.28 | 0.49 | 00124 | | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|------------|---|
| 87 | 10.28 | 10.46 | 0.18 | 00124 | | COAL | C-4.VBRKN HIGHLY BROKEN TO PULVERIZED. |
| 87 | 10.46 | 10.61 | 0.15 | 00124 | | COAL LOSS | |
| 86 | 10.61 | 11.49 | 0.88 | 00124 | | COAL | C-4.SLD |
| 85 | 11.49 | 11.64 | 0.15 | 00124 | | COAL LOSS | |
| 85 | 11.64 | 11.96 | 0.32 | 00124 | | COAL | C-4.VBRKN PULVERIZED IN THE MIDDLE. |
| 85 | 11.96 | 12.34 | 0.38 | 00125 | | MUDSTONE | CARB.BRKN HIGH CARB TO STONEY COAL. SHRD. |
| 84 | 12.34 | 12.69 | 0.35 | 00126 | | COAL | C-4.VBRKN HIGHLY BROKEN TO PULVERIZED IN PLACES. |
| 84 | 12.69 | 12.79 | 0.10 | 00126 | | COAL LOSS. | |
| 84 | 12.79 | 12.94 | 0.15 | | | MUDSTONE | CARB.VBRKN HIGH CARB TO STONEY COAL. |
| 83 | 12.94 | 13.80 | 0.86 | | | MUDSTONE | CARB.DK.GY.THKB.BRKN UNIFORM THROUGHOUT |
| 83 | 13.80 | 13.88 | 0.08 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|------------|---|
| 82 | 13.88 | 14.82 | 0.94 | | | MUDSTONE | DK.GY.THKB.BRKN |
| 82 | 14.82 | 14.92 | 0.10 | | | SHALE | CARB.BLK.SLD |
| 82 | 14.92 | 14.96 | 0.04 | | | BONEY COAL | VBRKN |
| 81 | 14.96 | 15.34 | 0.38 | | | COAL | C-4.VBRKN HIGHLY BROKEN TO PULVERIZED COAL. |
| 81 | 15.34 | 15.37 | 0.03 | | | BONY COAL | VBRKN |
| 81 | 15.37 | 15.67 | 0.30 | | | SILTSTONE | GY.SLD CARB STRINGERS AND INCLUSIONS. |
| * 80 | 15.67 | 16.99 | 1.32 | | | SILTSTONE | GY.THNB.BIOTR.BRKN CROSS-BEDDED, MINOR CARB STRINGERS AND INCLUSIONS.MUDDY. |
| 81 | 16.99 | 17.57 | 0.58 | | | ROCK LOSS | |
| 82 | 17.57 | 18.17 | 0.60 | | | MUDSTONE | SLTY.GY.THKB.BIOTR.SLD CARB IN PLACES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 82 | 18.17 | 18.97 | 0.80 | | | SILTSTONE | SSY.GY.THKB.BIOTR.SLD CARB STRINGERS; INTERBEDDED WITH MUDST IN PLACES. |
| 83 | 18.97 | 20.55 | 1.58 | | | SILTSTONE | GY.THKB.BIOTR.SLD CROSS-BEDDED, MINOR CARB STRINGERS, MUD DY IN PLACES. |
| 85 | 20.55 | 21.32 | 0.77 | | | SILTSTONE | SSY.GY.THNB.BIOTR.SLD CROSS-BEDDED AND WORM BURROWS IN PLACES . |
| * 85 | 21.32 | 21.51 | 0.19 | | | SANDSTONE | MG.GY.THNB.XBDG |
| 85 | 21.51 | 21.65 | 0.14 | | | SILTSTONE | SSY.GY.THNB.BIOTR.SLD |
| 85 | 21.65 | 21.76 | 0.11 | | | SILTSTONE | GY.THNB.SLD |
| 84 | 21.76 | 22.84 | 1.08 | | | SANDSTONE | MG.GY.THNB.XBDG.SLD MINOR MUD PEBBLES; ROUNDED TO SUBROUNDE D; RANGE IN SIZE FROM 2MM TO 10MM; ONE MAJOR CALCITE VEIN WITH CALCITE CRYSTAL S AND MINOR PYRITE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 84 | 22.84 | 23.31 | 0.47 | | MUDSTONE | BLK.SLD UNIFORM. |
| | 83 | 23.31 | 24.31 | 1.00 | | MUDSTONE | BLK.BIOTR.SLD |
| | 82 | 24.31 | 26.05 | 1.74 | | MUDSTONE | BLK.BIOTR.SLD ABUNDANT SANDY LENSES; X-BDG |
| | 82 | 26.05 | 26.41 | 0.36 | | SANDSTONE | FG.GY.BIOTR.SLD SMALL SCALE CROSS-BEDDING. |
| | 81 | 26.41 | 26.88 | 0.47 | | SILTSTONE | DK.GY.BIOTR.SLD MINOR SANDY LENSES; INTERBEDDING OF SLT ST AND MUDST. |
| * | 81 | 26.88 | 27.11 | 0.23 | | SILTSTONE | DK.GY.THNB.XBDG.SLD AS ABOVE. |
| | 81 | 27.11 | 28.79 | 1.68 | | MUDSTONE | BLK.BIOTR.SLD UNIFORM THROUGHOUT; BROKEN TOWARDS THE BASE. |
| | 81 | 28.79 | 28.88 | 0.09 | | SANDSTONE | FG.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 81 | 28.88 | 28.93 | 0.05 | | | MUDSTONE | DK.GY.THNB.SLD |
| 81 | 28.93 | 29.04 | 0.11 | | | SANDSTONE | FG.GY.THNB.SLD INTERBEDDED WITH MUDST. |
| 81 | 29.04 | 29.17 | 0.13 | | | MUDSTONE | DK.GY.THNB.SLD INTERBEDDED WITH SAND TOWARD THE TOP. |
| 81 | 29.17 | 29.64 | 0.47 | | | MUDSTONE | SSY.WRMBU INTERBEDDING OF MUDST AND SS. |
| 81 | 29.64 | 32.16 | 2.52 | | | MUDSTONE | SLTY.GY.THNB.WRMBU.BRKN HIGHLY BROKEN TOWARD THE MIDDLE; X-BDG; MINOR THIN LENSES OF SS. |
| * 81 | 32.16 | 34.80 | 2.64 | | | MUDSTONE | SSY.DK.GY.THNB.WRMBU.BRKN HIGHLY BIOTRB, INTERBEDDING OF SS AND M UDST. |
| 81 | 34.80 | 35.37 | 0.57 | | | MUDSTONE | BLK.VBRKN HIGHLY BROKEN. |
| 81 | 35.37 | 35.50 | 0.13 | | | SHALE | CARB.BLK.VBRKN |
| 81 | 35.50 | 35.64 | 0.14 | | | COAL | C-4.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-------------|--|
| 81 | 35.64 | 35.82 | 0.18 | | | COAL LOSS | |
| 81 | 35.82 | 36.10 | 0.28 | | | STONEY COAL | BRKN |
| 81 | 36.10 | 36.22 | 0.12 | | | COAL LOSS | |
| 81 | 36.22 | 36.29 | 0.07 | | | COAL | C-4.VBRKN |
| 81 | 36.29 | 36.49 | 0.20 | | | COAL LOSS | |
| 81 | 36.49 | 36.55 | 0.06 | | | STONEY COAL | SLD |
| 81 | 36.55 | 37.21 | 0.66 | | | MUDSTONE | CARB.BLK.SLD ABUNDANT COALY STRINGERS. |
| 81 | 37.21 | 37.93 | 0.72 | | | SILTSTONE | GY.SSD.SLD BIOTRB; SANDY IN PLACES. |
| 81 | 37.93 | 38.14 | 0.21 | | | SILTSTONE | GY.BIOTR.SLD |
| * 81 | 38.14 | 39.76 | 1.62 | | | SILTSTONE | DK.GY.BIOTR.SLD WORM BURROWS, INTERBEDDING OF MUDDY AND SILTY MATERIALS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| | 80 39.76 | 40.46 | 0.70 | | | MUDSTONE | BLK.SLD UNIFORM THROUGHOUT. |
| | 79 40.46 | 40.57 | 0.11 | | | SILTSTONE | DK.GY.WRMBU.SLD INTERBEDDING OF MUDDY AND SILTY MATERIA LS. |
| | 79 40.57 | 40.81 | 0.24 | | | MUDSTONE | SLTY.DK.GY.WRMBU.SLD AS ABOVE. |
| | 79 40.81 | 41.16 | 0.35 | | | MUDSTONE | SLTY.DK.GY.SLD |
| | 79 41.16 | 41.33 | 0.17 | | | MUDSTONE | SLTY.DK.GY.SLD COAL LOSS. |
| | 79 41.33 | 41.45 | 0.12 | | | COAL | C-2.PWRD PULVERIZED COAL. |
| | 78 41.45 | 41.70 | 0.25 | | | COAL | C-2.VBRKN |
| | 77 41.70 | 43.29 | 1.59 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU.SLD PLANT FOSSILS; CARB TOWARD THE TOP. |
| | 76 43.29 | 44.05 | 0.76 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARB; ABUNDANT COALY STRINGERS A ND VERY MINOR CALCITE VEINS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 75 | 44.05 | 45.99 | 1.94 | | | MUDSTONE | SLTY.DK.GY.WRMBU.SLD ABUNDANT WORM BURROWS, CARB TOWARD THE TOP; BIOTRB. |
| 76 | 45.99 | 47.12 | 1.13 | | | MUDSTONE | SLTY.GY.LAM.SSD.SLD ABUNDANT WORM BURROWS, SANDY IN PLACES. |
| 77 | 47.12 | 47.36 | 0.24 | | | SANDSTONE | MG.LT.GY.THNB.SLD MUDDY TOWARD THE BASE AND THE TOP; CARB STRINGERS. |
| 78 | 47.36 | 48.12 | 0.76 | | | MUDSTONE | BLK.THKB.BIOTR.SLD |
| * 78 | 48.12 | 48.34 | 0.22 | | | SILTSTONE | GY.THNB.BIOTR.SLD ABUNDANT CARB STRINGERS TOWARD THE TOP. MUDDY. |
| 77 | 48.34 | 48.45 | 0.11 | | | SANDSTONE | LT.GY.THNB.WRMBU.SLD SILTY TOWARD THE TOP. |
| 76 | 48.45 | 48.79 | 0.34 | | | MUDSTONE | SLTY.GY.THNB.BIOTR.SLD SILTY TOWARD THE BASE. |
| * 73 | 48.79 | 50.22 | 1.43 | | | SANDSTONE | LT.GY.LAM.WRMBU.SLD X-BDG; INTERBEDDING OF MUDDY AND SANDY MATERIALS. MUDDY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 74 | 50.22 | 50.58 | 0.36 | | | SILTSTONE | DK.GY.THNB.BIOTR.SLD HIGHLY CARB TOWARD THE BASE. MUDDY. |
| 75 | 50.58 | 51.59 | 1.01 | | | COAL | C-3.SLD |
| 76 | 51.59 | 51.95 | 0.36 | | | COAL | C-3.SLD |
| 76 | 51.95 | 52.01 | 0.06 | | | COAL LOSS | |
| 77 | 52.01 | 52.16 | 0.15 | | | COAL | C-3.VBRKN |
| 77 | 52.16 | 52.22 | 0.06 | | | COAL LOSS | VBRKN |
| 77 | 52.22 | 52.33 | 0.11 | | | COAL | C-3.SLD BROKEN TOWARD THE BASE. |
| * 78 | 52.33 | 53.80 | 1.47 | | | MUDSTONE | BLK.THKB.SLD HIGHLY CARB TOWARD THE TOP; CARB SPECKS THROUGHOUT; SILTY TOWARD THE BASE. |
| 68 | 53.80 | 54.50 | 0.70 | | | SANDSTONE | MG.LT.GY.THKB.SLD CARB INCLUSIONS, AS WELL AS MUD PEBBLES PRESENT TOWARD THE BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 61 | 54.50 | 55.22 | 0.72 | | | SANDSTONE | MG.LT.GY.THKB.SLD AS ABOVE. |
| 64 | 55.22 | 55.81 | 0.59 | | | SILTSTONE | DK.GY.THKB.SSD.SLD BROKEN TOWARD THE TOP AND THE BASE. |
| 66 | 55.81 | 56.25 | 0.44 | | | SILTSTONE | DK.GY.BRKN CARB THROUGHOUT; MUDDY. |
| 67 | 56.25 | 56.46 | 0.21 | | | COAL | C-6.VBRKN STONEY COAL. |
| 68 | 56.46 | 56.59 | 0.13 | | | COAL | C-4.VBRKN |
| 68 | 56.59 | 56.60 | 0.01 | | | MUDSTONE | BLK.SLD HIGHLY CARB. |
| 68 | 56.60 | 56.64 | 0.04 | | | COAL | C-3.SLD |
| 68 | 56.64 | 56.69 | 0.05 | | | MUDSTONE | BLK.SLD AS ABOVE. |
| 68 | 56.69 | 56.73 | 0.04 | | | COAL | C-3.SLD |
| 68 | 56.73 | 56.78 | 0.05 | | | MUDSTONE | BLK.SLD AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 56.78 | 56.91 | 0.13 | | | COAL | C-3.SLD INTERBEDDED WITH VERY THIN MUDDY MATERIALS ROUGHLY 2 MM THICK. |
| 69 | 56.91 | 56.99 | 0.08 | | | MUDSTONE | BLK.SLD HIGHLY CARB, WITH COALY STRINGERS. |
| 70 | 56.99 | 57.17 | 0.18 | | | COAL | C-3.VBRKN |
| 71 | 57.17 | 57.40 | 0.23 | | | COAL | C-4.VBRKN |
| 72 | 57.40 | 57.90 | 0.50 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY BROKEN AND CARB; PULVERIZED IN PLACES. |
| 74 | 57.90 | 58.22 | 0.32 | | | COAL | C-3.VBRKN HIGHLY BROKEN; SOME MUDST SPLITS TOWARD THE BASE. |
| 75 | 58.22 | 58.44 | 0.22 | | | COAL | PWRD PULVERIZED COAL. |
| 75 | 58.44 | 58.50 | 0.06 | | | COAL LOSS | |
| 78 | 58.50 | 59.80 | 1.30 | | | MUDSTONE | CARB.BLK.THKB.BRKN HIGHLY CARB TOWARD THE TOP AND THE MIDDLE; COALY IN PLACES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 81 | 59.80 | 59.92 | 0.12 | | MUDSTONE | CARB.BLK.THKB.SLD |
| * | 86 | 59.92 | 62.56 | 2.64 | | SILTSTONE | DK.GY.THKB.WRMBU.SLD MUDDY. |
| | 88 | 62.56 | 62.77 | 0.21 | | MUDSTONE | DK.GY.THKB.SLD |
| | 88 | 62.77 | 63.80 | 1.03 | | MUDSTONE | CARB.BLK.THKB.BRKN HIGHLY CARB TOWARD THE BASE. |
| | 89 | 63.80 | 64.10 | 0.30 | | COAL | C-3.BRKN |
| * | 90 | 64.10 | 65.52 | 1.42 | | SILTSTONE | GY.LAM.XBDG.SLD WORM BURROWS AND RIPPLE MARKS ARE ABUNDANT; SANDY IN PLACES. MUDDY. |
| | 89 | 65.52 | 65.79 | 0.27 | | SILTSTONE | DK.GY.LAM.BIOTR.SLD AS ABOVE; MUDDY. |
| | 89 | 65.79 | 65.94 | 0.15 | | SANDSTONE | SLTY.GY.LAM.SSD.SLD INTERBEDDED WITH MUDST IN PLACES. |
| | 88 | 65.94 | 66.20 | 0.26 | | MUDSTONE | SLTY.DK.GY.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 88 | 66.20 | 66.73 | 0.53 | | | SANDSTONE | MG.LT.GY.THKB.SSD.SLD OCCASIONAL MUD PEBBLES, ELONGATED PARALLEL TO THE BEDDING PLANE, VARIES IN SIZE FROM 2MM TO 20MM. |
| * 87 | 66.73 | 67.23 | 0.50 | | | SANDSTONE | SLTY.GY.LAM.SSD.SLD INTERBEDDING OF SILTY, SAND AND MUDDY MATERIALS. |
| 87 | 67.23 | 68.19 | 0.96 | | | MUDSTONE | GY |
| 86 | 68.19 | 68.51 | 0.32 | | | MUDSTONE | DK.GY.THKB.SLD |
| 86 | 68.51 | 69.34 | 0.83 | | | MUDSTONE | SLTY.BLK.THKB.BIOTR.SLD SILTY TOWARD THE TOP. |
| 86 | 69.34 | 69.56 | 0.22 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARB TO STONEY COAL. |
| 85 | 69.56 | 70.89 | 1.33 | | | MUDSTONE | BLK.THKB.SLD CARB STRINGERS THROUGHOUT, SILTY TOWARD THE BASE. |
| 85 | 70.89 | 71.68 | 0.79 | | | SILTSTONE | DK.GY.THKB.BIOTR.BRKN SOME CARB SPECKS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 84 | 71.68 | 72.60 | 0.92 | | | SANDSTONE | FG.DK.GY.THKB.XBDG.SLD LAM TOWARD THE BASE, PYR PRESENT, MINOR CARB STRINGERS, MORE SILTY TOWARD THE BASE. |
| 84 | 72.60 | 73.21 | 0.61 | | | MUDSTONE | BLK.THKB.BRKN |
| 84 | 73.21 | 73.62 | 0.41 | | | ROCK LOSS | |
| 84 | 73.62 | 73.65 | 0.03 | | | COAL | PWRD PULVERIZED COAL. |
| 83 | 73.65 | 74.05 | 0.40 | | | ROCK LOSS | |
| 83 | 74.05 | 74.25 | 0.20 | | | MUDSTONE | BLK.THKB.SLD |
| 83 | 74.25 | 75.50 | 1.25 | | | MUDSTONE | SLTY.DK.GY.THKB.BIOTR.SLD SILTY TOWARD THE BASE. |
| 82 | 75.50 | 76.35 | 0.85 | | | SILTSTONE | SSY.GY.LAM.WRMBU.SLD INTERBEDDED WITH MUDDY MATERIAL IN PLAC ES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 82 | 76.35 | 76.91 | 0.56 | | | SANDSTONE | FG.LT.GY.LAM.WRMBU.SLD INTERBEDDED WITH MUDDY MATERIALS. |
| 81 | 76.91 | 78.34 | 1.43 | | | SANDSTONE | FG.LT.GY.LAM.WRMBU.SLD X-BDG, INTERBEDDED WITH MUDDY MATERIALS . |
| * 80 | 78.34 | 79.22 | 0.88 | | | SILTSTONE | SSY.GY.LAM.WRMBU.SLD INTERBEDDING OF SANDY, SILTY AND MUDDY MATERIALS. |
| 81 | 79.22 | 79.62 | 0.40 | | | MUDSTONE | SLD BROKEN TOWARD THE BASE. |
| * 82 | 79.62 | 81.54 | 1.92 | | | MUDSTONE | SLTY.BLK.LAM.WRMBU.BRKN |
| 81 | 81.54 | 81.63 | 0.09 | | | MUDSTONE | BLK.SLD |
| 81 | 81.63 | 82.23 | 0.60 | | | SANDSTONE | SLTY.GY.LAM.SSD.SLD ABUNDANT WORM BURROWS, BIVALVE SHALES, CARB STRINGERS, HIGHLY DEFORMED INTERVA L. |
| 81 | 82.23 | 84.33 | 2.10 | | | MUDSTONE | BLK.THKB.SLD BROKEN IN FEW PLACES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|------------|--|
| * 80 | 84.33 | 84.78 | 0.45 | | | SILTSTONE | GY.LAM.WRMBU.SLD MUDDY. |
| 78 | 84.78 | 86.18 | 1.40 | | | SILTSTONE | DK.GY.LAM.BIOTR.BRKN MUDDY TOWARD THE BASE; MUDDY. |
| 77 | 86.18 | 86.80 | 0.62 | | | SANDSTONE | SLTY.GY.LAM.SSD.SLD CARB STRINGERS THROUGHOUT. |
| 75 | 86.80 | 87.45 | 0.65 | | | MUDSTONE | SLTY.BLK.THKB.BIOTR.SLD BIVALVE SHALE PRESENT WITH ABUNDANT BRO KEN SHALES REMAIN. |
| 75 | 87.45 | 87.65 | 0.20 | | | ROCK LOSS. | |
| * 72 | 87.65 | 90.33 | 2.68 | | | SILTSTONE | DK.GY.LAM.SSD.SLD MUDDY; SOME CARB SPECKS. |
| 69 | 90.33 | 90.48 | 0.15 | | | ROCK LOSS | |
| 68 | 90.48 | 91.07 | 0.59 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT CARB STRINGERS TOWARD THE BASE . |
| 65 | 91.07 | 92.91 | 1.84 | | | SANDSTONE | SLTY.GY.LAM.SSD.BRKN MINOR CARB STRINGERS. |
| 63 | 92.91 | 92.96 | 0.05 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 63 | 92.96 | 93.11 | 0.15 | | | ROCK LOSS | |
| 62 | 93.11 | 93.29 | 0.18 | | | SANDSTONE | FG.GY.THKB.BRKN MINOR CALCITE VEINS AND CARB STRINGERS. |
| 61 | 93.29 | 94.39 | 1.10 | | | SANDSTONE | FG.GY.THKB.BRKN CARB TOWARD THE BASE. |
| 60 | 94.39 | 94.59 | 0.20 | | | SANDSTONE | FG.GY.VBRKN AS ABOVE; HIGHLY CARB. |
| 59 | 94.59 | 95.29 | 0.70 | | | SANDSTONE | FG.GY.VBRKN AS ABOVE, WITH COALY INCLUSIONS AND STR INGERS; MUDST PEBBLE INCLUSIONS TOWARD THE BASE. CALCITE VEINS AND CRYSTALS; H IGHLY DISTURBED ZONE. |
| 58 | 95.29 | 95.49 | 0.20 | | | MUDSTONE | BLK.BRKN CARB SPECKS. |
| 57 | 95.49 | 95.69 | 0.20 | | | MUDSTONE | BLK.THKB.SLD AS ABOVE. |
| 57 | 95.69 | 95.81 | 0.12 | | | ROCK LOSS | |
| 54 | 95.81 | 98.20 | 2.39 | | | MUDSTONE | BLK.THKB.BRKN CARB, WITH ABUNDANT COALY STRINGERS TOW ARD THE BASE, THIN AND PULVERIZED; COAL Y STRINGERS TOWARD THE BASE ALSO SILTY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|------------|---|
| 51 | 98.20 | 98.57 | 0.37 | | | SANDSTONE | SLTY.GY.SSD.SLD CALCITE VEINS AND CRYSTALS. |
| * 50 | 98.57 | 98.87 | 0.30 | | | SANDSTONE | SLTY.GY.SSD.SLD AS ABOVE. |
| 49 | 98.87 | 99.10 | 0.23 | | | MUDSTONE | BLK.SSD.BRKN HIGHLY BROKEN TOWARD THE TOP. |
| 48 | 99.10 | 100.86 | 1.76 | | | SILTSTONE. | SSY.DK.GY.SSD.BRKN FEW MAJOR CALCITE VEINS, WITH CRYSTALS; QUARTZ CRYSTALS. |
| * 45 | 100.86 | 101.77 | 0.91 | | | NONE | |
| * 45 | 101.77 | 103.50 | 1.73 | | | SILTSTONE | DK.GY.SLD |
| 45 | 103.50 | 104.52 | 1.02 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| 45 | 104.52 | 104.75 | 0.23 | | | COAL | PWRD HIGHLY BROKEN TO PULVERIZED. |
| 45 | 104.75 | 104.83 | 0.08 | | | COAL | VBRKN |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 45 | 104.83 | 104.95 | 0.12 | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARB. |
| * | 45 | 104.95 | 106.22 | 1.27 | | SILTSTONE | DK.GY.THNB.SSD.SLD LAMINATED IN PLACES. |
| * | 45 | 106.22 | 107.23 | 1.01 | | MUDSTONE | SLTY.BLK.THNB.SLD COALY STRINGERS THROUGHOUT. |
| | 38 | 107.23 | 107.47 | 0.24 | | ROCK LOSS | |
| | 37 | 107.47 | 107.51 | 0.04 | | COAL | VBRKN |
| | 36 | 107.51 | 107.61 | 0.10 | | MUDSTONE | CARB.BLK.SLD CARB. |
| | 35 | 107.61 | 107.70 | 0.09 | | COAL | VBRKN |
| * | 26 | 107.70 | 109.23 | 1.53 | | SILTSTONE | SSY.GY.THNB.XBDG.SLD MINOR CARB INCLUSIONS. |
| * | 30 | 109.23 | 109.70 | 0.47 | | SILTSTONE | DK.GY.THNB.SLD |
| | 29 | 109.70 | 109.83 | 0.13 | | MUDSTONE | CARB.BLK.VBRKN HIGHLY BROKEN; ABUNDANT COALY STRINGERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 29 | 109.83 | 110.10 | 0.27 | | | MUDSTONE | CARB.BLK.SLD ABUNDANT COALY STRINGERS. |
| 28 | 110.10 | 110.25 | 0.15 | | | COAL LOSS | |
| 28 | 110.25 | 110.30 | 0.05 | | | COAL | VBRKN |
| 27 | 110.30 | 110.45 | 0.15 | | | COAL LOSS | |
| 25 | 110.45 | 112.16 | 1.71 | | | SILTSTONE | DK.GY.THKB.SLD CARB SPECKS ARE MINOR; CALCITE VEINS, B RECCIATED IN PLACES. |
| 21 | 112.16 | 113.00 | 0.84 | | | SANDSTONE | VFG.DK.GY.THNB.SLD UNIFORM THROUGHOUT. |
| * 18 | 113.00 | 114.57 | 1.57 | | | SANDSTONE | VFG.DK.GY.THNB.SLD CALCITE VEINS, BRECCIATED IN PLACES, CA LCITE CAVITIES. |
| * 10 | 114.57 | 116.04 | 1.47 | | | SANDSTONE | FG.DK.GY.THNB.SLD BROKEN IN PARTS, DISTURBED ZONE, CALCIT E VEINS, AND BRECCIATED IN PLACES. |
| 17 | 116.04 | 117.06 | 1.02 | | | SANDSTONE | FG.DK.GY.THNB.SLD MUD PEBBLE INCLUSIONS, CALCITE VEINS IN ALL DIRECTIONS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH01012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|------------|--|
| * 26 | 117.06 | 119.16 | 2.10 | | | SANDSTONE | FG.DK.GY.THNB.VBRKN HIGHLY DISTURBED ZONE, ABUNDANT CARB ST RINGERS AND CALCITE VEINS IN ALL DIRECT IONS. COALY INCLUSIONS. |
| 28 | 119.16 | 119.39 | 0.23 | | | SANDSTONE | FG.DK.GY.THNB.VBRKN AS ABOVE. |
| 29 | 119.39 | 120.14 | 0.75 | | | SANDSTONE | FG.DK.GY.THNB.VBRKN HIGHLY BROKEN, CARB STRINGERS, CALCITE VEINS IN ALL DIRECTIONS, COALY INCLUSIO NS. |
| 30 | 120.14 | 121.07 | 0.93 | | | SILTSTONE | DK.GY.LAM.BRKN CALCITE VEINS. |
| 31 | 121.07 | 121.17 | 0.10 | | | ROCK LOSS. | |
| * 32 | 121.17 | 121.76 | 0.59 | | | SILTSTONE | DK.GY.THNB.BRKN |
| 37 | 121.76 | 121.86 | 0.10 | | | ROCK LOSS | |
| * 51 | 121.86 | 123.56 | 1.70 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN |
| 49 | 123.56 | 123.65 | 0.09 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 49 | 123.65 | 124.26 | 0.61 | | SILTSTONE | DK.GY.THNB.SLD BROKEN TOWARD THE TOP, MINOR CARB STRIN GERS. |
| * | | 124.26 | 126.62 | 2.36 | | SILTSTONE | DK.GY.THNB.XBDG.SLD MINOR CALCITE VEINS AND CALCITE CAVITIE S. |
| | 51 | 126.62 | 126.78 | 0.16 | | SILTSTONE | DK.GY.SLD AS ABOVE. |
| * | 53 | 126.78 | 128.01 | 1.23 | | SILTSTONE | DK.GY.THNB.XBDG.SLD MUDDY; ABUNDANT COALY STRINGERS TOWARD THE BASE. |
| | 52 | 128.01 | 128.15 | 0.14 | | ROCK LOSS | |
| | 52 | 128.15 | 128.41 | 0.26 | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARB INTERVAL; FEW MAJOR COALY S TRINGERS. |
| | 51 | 128.41 | 128.57 | 0.16 | | SILTSTONE | CARB.DK.GY.BRKN CALCITE VEIN, COALY STRINGERS. |
| | 51 | 128.57 | 128.66 | 0.09 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 51 | 128.66 | 129.21 | 0.55 | | | MUDSTONE | CARB.BLK.VBRKN PWRDY IN PLACES, INTERBEDDED WITH SLTST , HIGHLY CARB AND ABUNDANT COALY STRING ERS. |
| 49 | 129.21 | 130.99 | 1.78 | | | SILTSTONE | CARB.DK.GY.THNB.BRKN |
| * 47 | 130.99 | 132.22 | 1.23 | | | SILTSTONE | DK.GY.THNB.BRKN SLIGHTLY CARB. |
| 53 | 132.22 | 132.80 | 0.58 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARB, COALY TOWARD THE BASE. |
| 55 | 132.80 | 132.90 | 0.10 | | | ROCK LOSS | |
| 56 | 132.90 | 132.99 | 0.09 | | | MUDSTONE | CARB.BLK.VBRKN |
| 58 | 132.99 | 133.52 | 0.53 | | | MUDSTONE | SLTY.DK.GY.SLD |
| 61 | 133.52 | 133.94 | 0.42 | | | SILTSTONE | DK.GY.LAM.XBDG.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 65 | 133.94 | 134.67 | 0.73 | | | SILTSTONE | SSY.GY.LAM.RIPMK.SLD MORE SILTY TOWARD THE BASE. MINOR CARB STRINGERS. |
| 66 | 134.67 | 135.68 | 1.01 | | | SILTSTONE | DK.GY.LAM.SLD |
| 67 | 135.68 | 135.79 | 0.11 | | | COAL | VBRKN |
| 67 | 135.79 | 136.19 | 0.40 | | | SILTSTONE | GY.SLD |
| 68 | 136.19 | 136.89 | 0.70 | | | SILTSTONE | GY.THKB.BIOTR.SLD UNIFORM THROUGHOUT. |
| * 70 | 136.89 | 139.03 | 2.14 | | | SILTSTONE | SLTY.GY.THKB.BIOTR.SLD |
| 62 | 139.03 | 139.85 | 0.82 | | | SLTS | DK.GY.THNB.BIOTR.SLD MINOR COALY STRINGERS. MUDDY. |
| * 55 | 139.85 | 141.80 | 1.95 | | | SILTSTONE | DK.GY.THNB.BIOTR.SLD AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 51 | 141.80 | 142.09 | 0.29 | | | SILTSTONE | DK.GY.THNB.SLD |
| 49 | 142.09 | 142.40 | 0.31 | | | MUDSTONE | CARB.BLK.SLD HIGHLY CARB THROUGHOUT. |
| 48 | 142.40 | 142.66 | 0.26 | | | COAL | C-4.BRKN |
| 47 | 142.66 | 142.79 | 0.13 | | | MUDSTONE | CARB.BLK.BRKN STONEY COAL TOWARD THE BASE. |
| 47 | 142.79 | 142.87 | 0.08 | | | COAL | BRKN STONEY COAL. |
| 46 | 142.87 | 143.29 | 0.42 | | | COAL | PWRD |
| 43 | 143.29 | 144.51 | 1.22 | | | MUDSTONE | BLK.SLD HIGHLY CARB TOWARD THE TOP AND THE BASE . |
| 40 | 144.51 | 144.55 | 0.04 | | | COAL | BRKN |
| 38 | 144.55 | 145.86 | 1.31 | | | MUDSTONE | CARB.BLK.THKB.SLD HIGHLY CARB, SILTY TOWARD THE TOP. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG \

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| | 32 145.86 | 147.13 | 1.27 | | | MUDSTONE | SLTY.BLK.THKB.SLD SILTY TOWARD THE BASE. |
| * 27 | 147.13 | 148.54 | 1.41 | | | SILTSTONE | DK.GY.THKB.SLD MINOR CALCITE VEINS. |
| | 35 148.54 | 149.12 | 0.58 | | | MUDSTONE | DK.GY.THKB.SLD UNIFORM THROUGHOUT, CARB STRINGER INCLUSIONS. |
| | 39 149.12 | 149.55 | 0.43 | | | SILTSTONE | SSY.GY.LAM.RIPMK.SLD |
| * 44 | 149.55 | 150.23 | 0.68 | | | SILTSTONE | SSY.GY.LAM.WRMBU.SLD CARB STRINGERS AND RIPPLE MARKS ARE ABUNDANT. |
| | 44 150.23 | 150.89 | 0.66 | | | MUDSTONE | SLTY.BLK.THKB.SLD UNIFORM THROUGHOUT. |
| | 44 150.89 | 151.65 | 0.76 | | | SILTSTONE | DK.GY.BIOTR.SLD WORM BURROWS. |
| * 44 | 151.65 | 152.18 | 0.53 | | | SILTSTONE | DK.GY.THNB.BIOTR.SLD |
| | 44 152.18 | 153.11 | 0.93 | | | SILTSTONE | DK.GY.THKB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. -- COAL DIVISION -- DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-------------|---|
| * 45 | 153.11 | 154.80 | 1.69 | | | SILTSTONE | SSY.DK.GY.LAM.XBDG.SLD MINOR CALCITE VEINS AND CARB STRINGERS. |
| * 46 | 154.80 | 155.28 | 0.48 | | | SANDSTONE | SLTY.DK.GY.LAM.XBDG.SLD LARGE SCALE X-BEDDING. |
| 45 | 155.28 | 156.12 | 0.84 | | | SILTSTONE | DK.GY.THKB.BIOTR.SLD |
| 45 | 156.12 | 156.63 | 0.51 | | | SILTSTONE | DK.GY.VBRKN |
| 45 | 156.63 | 156.72 | 0.09 | | | COAL | PWRD |
| 45 | 156.72 | 156.88 | 0.16 | | | MUDSTONE | CARB.BLK.SLD MINOR CARB STRINGERS. |
| 44 | 156.88 | 157.08 | 0.20 | | | ROCK - COAL | VBRKN A MIXTURE OF BROKEN ROCK AND PULVERIZED COAL. |
| 44 | 157.08 | 157.25 | 0.17 | | | SILTSTONE | GY.SLD |
| * 44 | 157.25 | 157.66 | 0.41 | | | SILTSTONE | SSY.DK.GY.THNB.SLD MINOR CARB STRINGERS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 29

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 48 | 157.66 | 159.74 | 2.08 | | SILTSTONE | DK.GY.THKB.SLD |
| | 53 | 159.74 | 160.78 | 1.04 | | SILTSTONE | DK.GY.THKB.BIOTR.SLD MUDDY. |
| * | 56 | 160.78 | 161.99 | 1.21 | | SILTSTONE | DK.GY.THNB.SLD MUDDY. |
| | 54 | 161.99 | 162.43 | 0.44 | | SANDSTONE | SLTY.GY.LAM.SLD BROKEN TOWARD THE BASE. |
| | 52 | 162.43 | 163.63 | 1.20 | | SILTSTONE | DK.GY.SSD.SLD UNIFORM THROUGHOUT MINOR. |
| * | 49 | 163.63 | 164.92 | 1.29 | | SILTSTONE | DK.GY.RIPMK |
| | 49 | 164.92 | 165.07 | 0.15 | | SILTSTONE | GY.SLD CARB TOWARD THE BASE. |
| | 49 | 165.07 | 165.10 | 0.03 | | COAL | C-6.VBRKN BONEY COAL. |
| | 49 | 165.10 | 165.27 | 0.17 | | SILTSTONE | CARB.BLK.SLD MINOR THIN CALCITE VEINS. |
| | 49 | 165.27 | 165.34 | 0.07 | | COAL | C-1.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 50 | 165.34 | 166.41 | 1.07 | | | SILTSTONE | DK.GY.SLD MINOR CARB STRINGERS; HIGHLY CARB TOWAR D THE BASE. |
| * 50 | 166.41 | 167.56 | 1.15 | | | SILTSTONE | DK.GY.THKB.SLD UNIFORM THROUGHOUT, WITH MINOR CARB STR INGERS. |
| 50 | 167.56 | 169.40 | 1.84 | | | SILTSTONE | DK.GY.THKB.BIOTR.SLD AS ABOVE. |
| 50 | 169.40 | 170.32 | 0.92 | | | MUDSTONE | BLK.THKB.SLD MINOR CARB STRINGERS. |
| 50 | 170.32 | 171.21 | 0.89 | | | MUDSTONE | CARB.BLK.THKB.SLD CARB SPECKS THROUGHOUT. |
| * 50 | 171.21 | 171.46 | 0.25 | | | SANDSTONE | CARB.FG.GY.LAM.SLD |
| 51 | 171.46 | 171.70 | 0.24 | | | COAL | C-5.BRKN |
| 52 | 171.70 | 171.77 | 0.07 | | | MUDSTONE | CARB.DK.GY.SLD |
| 53 | 171.77 | 172.22 | 0.45 | | | COAL | C-2.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-------------|---|
| 55 | 172.22 | 172.62 | 0.40 | | | COAL | C-2.BRKN |
| 58 | 172.62 | 173.08 | 0.46 | | | ROCK LOSS. | |
| * 65 | 173.08 | 175.55 | 2.47 | | | SILTSTONE | DK.GY.THNB.BIOTR.SLD |
| 62 | 175.55 | 176.99 | 1.44 | | | SANDSTONE | SLTY.DK.GY.LAM.XBDG.SLD MINOR CALCITE VEINS, RIPPLE MARKS. |
| 60 | 176.99 | 177.14 | 0.15 | | | ROCK LOSS | |
| 60 | 177.14 | 177.33 | 0.19 | | | COAL - ROCK | BLK.BRKN |
| 60 | 177.33 | 177.52 | 0.19 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS. |
| * 59 | 177.52 | 178.41 | 0.89 | | | SILTSTONE | DK.GY.THNB.SSD.SLD |
| 59 | 178.41 | 178.53 | 0.12 | | | SILTSTONE | DK.GY.THNB.BIOTR |
| 60 | 178.53 | 179.36 | 0.83 | | | SILTSTONE | DK.GY.THNB.SLD HIGHLY CARB TOWARD THE BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 60 | 179.36 | 179.48 | 0.12 | | | COAL | PWRD |
| 60 | 179.48 | 179.56 | 0.08 | | | COAL LOSS | |
| 61 | 179.56 | 179.62 | 0.06 | | | MUDSTONE | CARB.BLK.BRKN |
| 61 | 179.62 | 179.92 | 0.30 | | | COAL | C-4.VBRKN PULVERIZED IN PLACES. |
| * 61 | 179.92 | 180.30 | 0.38 | | | SILTSTONE | DK.GY.RIPMK.SLD |
| 62 | 180.30 | 180.41 | 0.11 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARB. |
| 62 | 180.41 | 180.62 | 0.21 | | | COAL | PWRD |
| 63 | 180.62 | 181.00 | 0.38 | | | SILTSTONE | BLK.SLD HIGHLY CARB TOWARD THE TOP AND THE BASE |
| 63 | 181.00 | 181.16 | 0.16 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARB, ABUNDANT COALY STRINGERS. |
| 64 | 181.16 | 181.22 | 0.06 | | | COAL | C-6 BONEY COAL. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 33

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 64 | 181.22 | 181.29 | 0.07 | | | MUDSTONE | CARB.BLK.SLD HIGHLY CARB. |
| 64 | 181.29 | 181.32 | 0.03 | | | COAL | PWRD |
| 64 | 181.32 | 181.45 | 0.13 | | | MUDSTONE | CARB.BLK.SLD HIGHLY CARB. |
| 65 | 181.45 | 181.86 | 0.41 | | | SILTSTONE | DK.GY.RIPMK.SLD MINOR CARB STRINGERS. |
| 66 | 181.86 | 182.19 | 0.33 | | | MUDSTONE | BLK.BRKN |
| 66 | 182.19 | 182.58 | 0.39 | | | ROCK LOSS | |
| * 68 | 182.58 | 183.48 | 0.90 | | | SILTSTONE | SSY.GY.RIPMK.SLD CARB STRINGERS IN PLACES. |
| 68 | 183.48 | 184.22 | 0.74 | | | SILTSTONE | SSY.GY.LAM.XBDG.SLD |
| 68 | 184.22 | 184.40 | 0.18 | | | MUDSTONE | DK.GY.SLD |
| 67 | 184.40 | 184.68 | 0.28 | | | MUDSTONE | DK.GY.SLD |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 34

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|------------|--|
| 67 | 184.68 | 184.95 | 0.27 | | | MUDSTONE | SLTY.DK.GY.SLD SILTY TOWARD THE TOP. |
| 67 | 184.95 | 185.13 | 0.18 | | | COAL | C-5.BRKN |
| 67 | 185.13 | 185.26 | 0.13 | | | ROCK LOSS. | |
| 67 | 185.26 | 186.01 | 0.75 | | | SILTSTONE | SSY.BLK.THKB.SLD SANDY TOWARD THE BASE; CARB SPECKS THRO UGHOUT. |
| 67 | 186.01 | 186.49 | 0.48 | | | COAL | C-4.BRKN SHRD. |
| 67 | 186.49 | 186.86 | 0.37 | | | MUDSTONE | BLK.BIOTR.SLD CARB STRINGERS. |
| 67 | 186.86 | 187.01 | 0.15 | | | COAL LOSS | |
| 67 | 187.01 | 187.02 | 0.01 | | | COAL | PWRD |
| 67 | 187.02 | 187.18 | 0.16 | | | ROCK LOSS | |
| 67 | 187.18 | 187.20 | 0.02 | | | MUDSTONE | BLK.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 35

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 67 | 187.20 | 187.31 | 0.11 | | | COAL | C-6.VBRKN STONE COAL. |
| 66 | 187.31 | 187.44 | 0.13 | | | ROCK LOSS | |
| 66 | 187.44 | 187.60 | 0.16 | | | SILTSTONE | GY.XBDG.SLD SMALL SCALE X-BDG. |
| 66 | 187.60 | 187.76 | 0.16 | | | NONE | |
| 66 | 187.76 | 188.27 | 0.51 | | | MUDSTONE | BLK.SLD MINOR CALCITE VEINS. |
| * 66 | 188.27 | 189.30 | 1.03 | | | SILTSTONE | GY.XBDG.SLD |
| 66 | 189.30 | 189.79 | 0.49 | | | SILTSTONE | LT.GY.VBRKN SHRD.; CALCAREOUS, CALCITE VEINS THROUGH HOUT. |
| 66 | 189.79 | 190.27 | 0.48 | | | MUDSTONE | CARB.BLK.BRKN |
| 66 | 190.27 | 190.77 | 0.50 | | | MUDSTONE | BLK.SLD |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 36

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 66 | 190.77 | 191.17 | 0.40 | | | MUDSTONE | CARB.BLK.BRKN |
| 66 | 191.17 | 191.39 | 0.22 | | | COAL | C-4.VBRKN |
| 66 | 191.39 | 191.52 | 0.13 | | | COAL LOSS | |
| 66 | 191.52 | 191.54 | 0.02 | | | MUDSTONE | CARB.BLK.SLD |
| 66 | 191.54 | 192.92 | 1.38 | | | SILTSTONE | GY.SLD UNIFORM THROUGHOUT. |
| 65 | 192.92 | 193.92 | 1.00 | | | SILTSTONE | DK.GY.SLD MINOR CALCITE VEINS. |
| 65 | 193.92 | 195.68 | 1.76 | | | MUDSTONE | BLK.BIOTR.SLD SILTY TOWARD THE TOP. |
| 65 | 195.68 | 196.94 | 1.26 | | | SILTSTONE | BLK.THKB.WRMBU.SLD MUDDY. |
| * 65 | 196.94 | 198.45 | 1.51 | | | SILTSTONE | SSY.GY.THKB.WRMBU.SLD CROSS-BEDDED. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 37

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 61 | 198.45 | 198.63 | 0.18 | | | SILTSTONE | SSY.GY.THKB.SLD |
| * 58 | 198.63 | 199.85 | 1.22 | | | SILTSTONE | BLK.THKB.BIOTR.SLD UNIFORM THROUGHOUT. |
| 54 | 199.85 | 201.28 | 1.43 | | | SILTSTONE | BLK.THKB.WRMBU.SLD UNIFORM THROUGHOUT. |
| 51 | 201.28 | 202.42 | 1.14 | | | MUDSTONE | SLTY.BLK.THKB.SLD CARB IN PLACES. |
| 48 | 202.42 | 203.21 | 0.79 | | | MUDSTONE | SLTY.BLK.THKB.SLD MORE SILTY TOWARD THE BASE; CARB IN PAR TS. |
| * 46 | 203.21 | 203.95 | 0.74 | | | SANDSTONE | MG.GY.LAM.XBDG.SLD THIN CARB STRINGERS. |
| * 61 | 203.95 | 204.65 | 0.70 | | | SANDSTONE | MG.GY.LAM.XBDG.SLD AS ABOVE. |
| 59 | 204.65 | 205.47 | 0.82 | | | SILTSTONE | DK.GY.THNB.WRMBU.SLD MUDDY. |
| 56 | 205.47 | 206.71 | 1.24 | | | SILTSTONE | BLK.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 38

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 51 | 206.71 | 208.55 | 1.84 | | | SILTSTONE | BLK.THKB MUDDY. |
| 52 | 208.55 | 209.47 | 0.92 | | | SILTSTONE | BLK.THKB.SLD |
| 53 | 209.47 | 210.42 | 0.95 | | | SILTSTONE | BLK.THKB.SLD |
| 53 | 210.42 | 210.50 | 0.08 | | | ROCK LOSS | |
| 53 | 210.50 | 210.88 | 0.38 | | | SILTSTONE | DK.GY.BRKN HIGHLY CARB TOWARD THE TOP. |
| 53 | 210.88 | 210.99 | 0.11 | | | ROCK LOSS | |
| 53 | 210.99 | 211.77 | 0.78 | | | SILTSTONE | GY.THKB.WRMBU.SLD |
| 54 | 211.77 | 211.94 | 0.17 | | | ROCK LOSS | |
| * 54 | 211.94 | 212.41 | 0.47 | | | SILTSTONE | GY.THKB.SLD |
| 61 | 212.41 | 213.29 | 0.88 | | | SANDSTONE | FG.GY.THNB.XBDG.SLD |
| * 66 | 213.29 | 213.38 | 0.09 | | | SILTSTONE | DK.GY.THNB.WRMBU.SLD MUDDY. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 39

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 59 | 213.38 | 214.88 | 1.50 | | | SANDSTONE | MG.LT.GY.THKB.XBDG.SLD MINOR MUD PEBBLES IN PLACES, FINER TOWA RD THE TOP. |
| 52 | 214.88 | 215.21 | 0.33 | | | SANDSTONE | MG.LT.GY.THKB.SLD |
| * 45 | 215.21 | 216.57 | 1.36 | | | SANDSTONE | MG.LT.GY.THKB.SLD UNIFORM THROUGHOUT. |
| 45 | 216.57 | 217.27 | 0.70 | | | SILTSTONE | DK.GY.LAM.SLD |
| 45 | 217.27 | 218.01 | 0.74 | | | SILTSTONE | BLK.SLD MUDDY. |
| 46 | 218.01 | 219.62 | 1.61 ⁿ | | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARB IN PART. |
| 46 | 219.62 | 220.50 | 0.88 | | | COAL | PWRD |
| 46 | 220.50 | 221.11 | 0.61 | | | SILTSTONE | GY.THNB.BIDTR.SLD |
| * 46 | 221.11 | 221.62 | 0.51 | | | SILTSTONE | GY.THNB.WRMBU.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 40

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 48 | 221.62 | 223.00 | 1.38 | | | SILTSTONE | DK.GY.BIOTR.SLD UNIFORM THROUGHOUT. |
| 51 | 223.00 | 223.67 | 0.67 | | | SILTSTONE | BLK |
| 52 | 223.67 | 223.76 | 0.09 | | | COAL | C-6.SLD BONEY COAL. |
| 52 | 223.76 | 223.93 | 0.17 | | | COAL LOSS | |
| 53 | 223.93 | 224.24 | 0.31 | | | COAL | C-5.VBRKN |
| 53 | 224.24 | 224.37 | 0.13 | | | COAL | C-4.VBRKN |
| 54 | 224.37 | 224.72 | 0.35 | | | ROCK LOSS | |
| 55 | 224.72 | 224.79 | 0.07 | | | MUDSTONE | CARB.BLK.SLD |
| 56 | 224.79 | 225.69 | 0.90 | | | SILTSTONE | BLK.THNB.SLD UNIFORM THROUGHOUT. |
| * 59 | 225.69 | 227.25 | 1.56 | | | SILTSTONE | GY.LAM.WRMBU.SLD MUDDY TOWARD THE BASE. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 41

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81012

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--------------------|
| 59 | 227.25 | 227.52 | 0.27 | | | SILTSTONE | BLK.SLD |
| 59 | 227.52 | 228.03 | 0.51 | | | SILTSTONE | BLK.SLD |
| 59 | 228.03 | 228.15 | 0.12 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

DDH 81-13

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81013

HISTORY

DY MO YR DY MO YR
 START DATE: 19/09/81 END DATE: 20/09/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: B. DAVIDSON SURVEYOR: D. WATSON
 REMARKS: NO SAMPLES TAKEN.

LOCATION

PROVINCE: B.C. ELEVATION: 1309.6
 UTM ZONE: 10 NORTH: 6142083.50 EAST: 548022.40
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: . EAST: . LSD: TWP: RGE: MER:
 NTS-BC NORTH: . EAST: . QUAD: UNIT: BLK: ST: MUS: MS:

DIMENSIONS AND ORIENTATION

LENGTH: 130.00 INCLINATION: 066.0 AZIMUTH: 070.0
 SIZE WIDTH: . SIZE HEIGHT: .
 ROOF STRIKE: DIP: FLOOR STRIKE: DIP:

DRILL HOLE STATUS

CASING DEPTH: 4.00 CEMENTED: PLUGGED: PEIZOMETERS INSTALLED:
 AQUIFER DEPTHS: . . LOST CIRCULATION DEPTHS: . .

GEOPHYSICAL LOGGING

| LOG | LOG | SCALE 1 | SCALE 2 | DIGITIZED | TRUE | OPEN | THRU | TOOL |
|-------------|-----|---------|---------|-----------|-----------|------|------|--------|
| RUN | | | | | THICKNESS | HOLE | RODS | NUMBER |
| GAMMA | X | 1:100 | : | -- | -- | -- | X | 125A |
| NEUTRON | X | 1:100 | : | -- | -- | -- | X | 125A |
| DENSITY | X | 1:100 | 1:40 | -- | -- | X | -- | 422AS |
| CALIPER | X | 1:100 | : | -- | -- | X | -- | 20A45 |
| FE-SHORT | X | : | 1:40 | -- | -- | X | -- | 6 |
| FE-LONG | X | 1:100 | 1:40 | -- | -- | X | -- | 6 |
| DIRECTIONAL | X | : | : | -- | -- | X | -- | _____ |
| DIPMETER | -- | : | : | -- | -- | -- | -- | _____ |

*** COAL DIVISION ***

DATA SOURCE: D81-13

INTERVAL OF INTERPOLATION 10 UNIT(S)

VIEWPOINT: 45.0 DEGREES

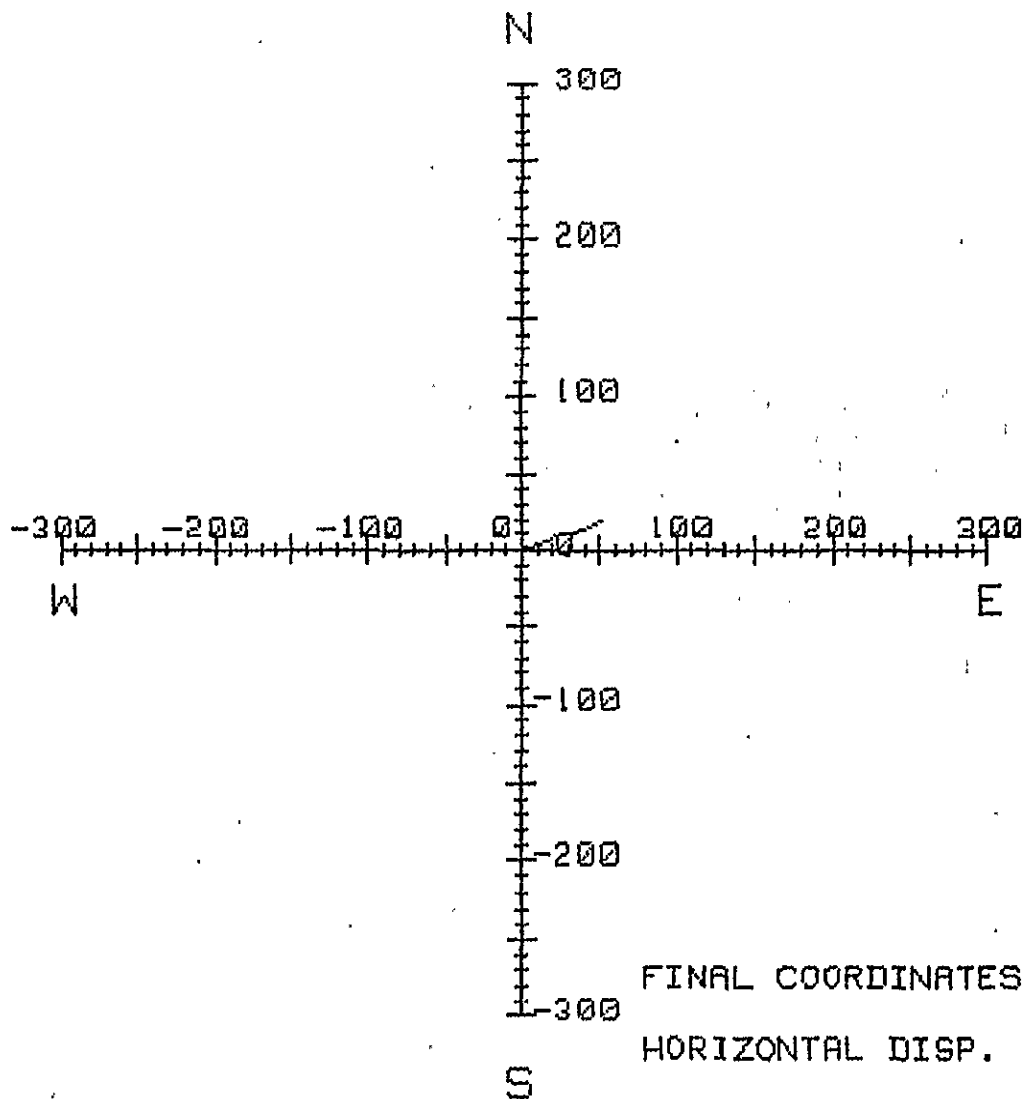
DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| ----- | ----- | ----- |
| 0.00 | 23.20 | 73.20 |
| 15.00 | 23.20 | 73.20 |
| 30.00 | 23.70 | 69.70 |
| 45.00 | 24.50 | 68.10 |
| 60.00 | 25.20 | 67.80 |
| 75.00 | 25.10 | 70.30 |
| 90.00 | 25.80 | 71.40 |
| 105.00 | 25.20 | 65.30 |
| 120.00 | 26.50 | 69.20 |
| 130.00 | 26.20 | 64.70 |

PLAN VIEW

WELL ID NUMBER

D81-13

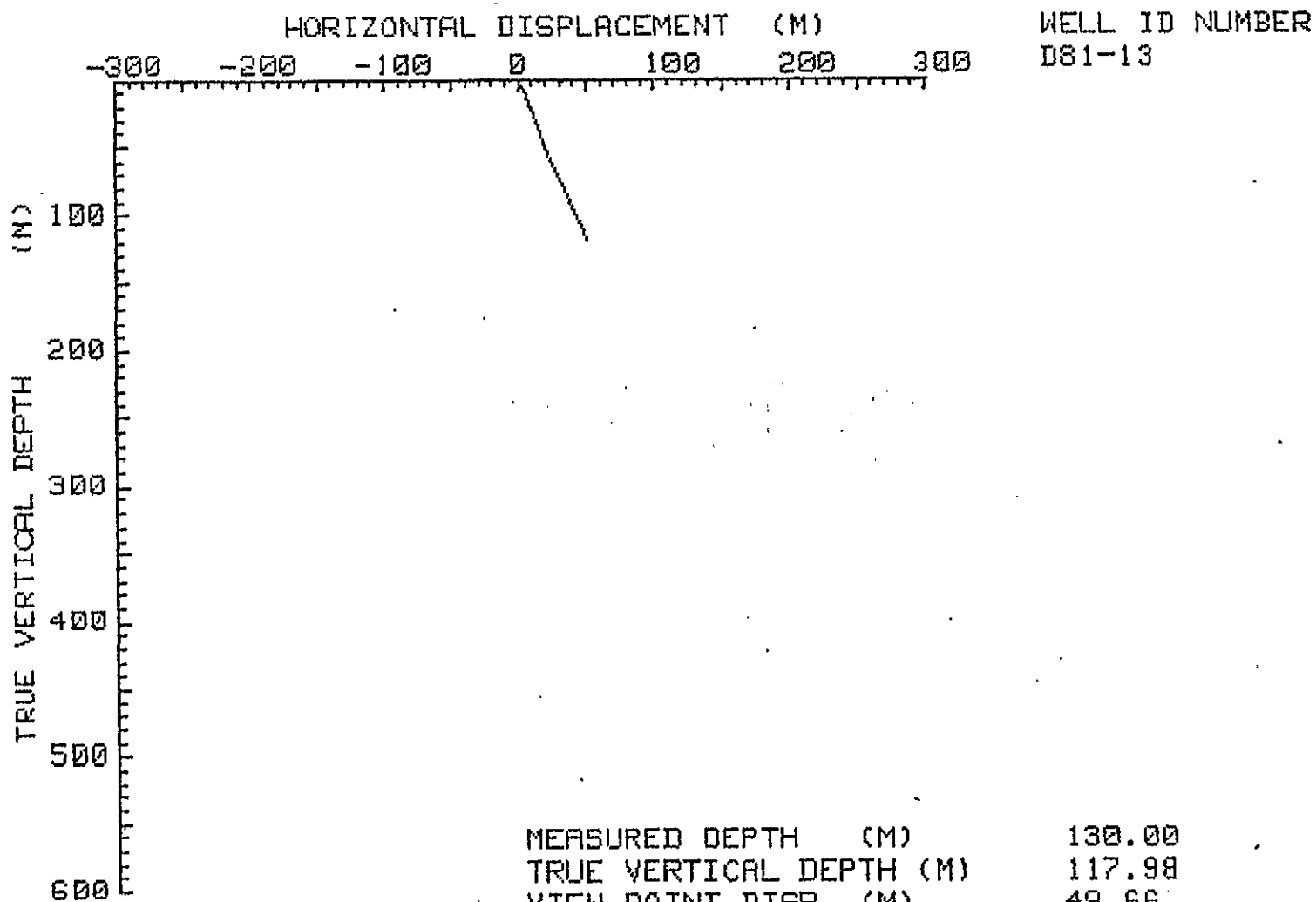


FINAL COORDINATES(M) N 19.21

E 51.02

HORIZONTAL DISP. (M) 49.66

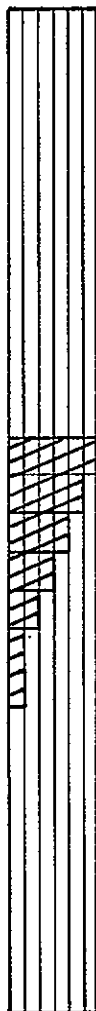
DISPLACEMENT



| | |
|-------------------------|--------|
| MEASURED DEPTH (M) | 130.00 |
| TRUE VERTICAL DEPTH (M) | 117.98 |
| VIEW POINT DISP. (M) | 49.66 |
| SECTION LINE BEARING | 45.00 |

SEAM
COMP

COAL
SEAM
LOG



LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone

- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff

coal

coal-boney, stoney,
coal and bands/rock
- designated "C6"

rock } coal
lithotype uncertain

coal } MISSING
rock } CORE

rock

coal

CORED HOLE

GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



LEGEND FOR COAL
SEAM DATA SHEETS

PREPARED BY: V.O.

SCALE 1:40

APPROVED BY:

DATE: JAN. 82

DRAWING No.

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

DENSITY -----

RESISTIVITY -----

DRILL NO. GDR - DDH - 81 - 13 SEAM _____ SEAM INTERVAL 50.19 - 56.18 m

SCALE 1:40

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | | SEAM COMP. 65432 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|-------------------|------|--------|------|------|------|------|------|------|------|------|------------------|-------|---------------|----------|------|--------|--------|------|-------------------------|------|------|------|------|------|--------|---------|-------|-----|----|----|----|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | 2.00 | | | | 2.10 | 2.20 | | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S* | BTU | FSI | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 50.19 | | | 0.56 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 50.75 | | 0.04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 51.09 | | (0.30) | 0.25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 51.34 | | | 0.87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | (0.16) | 0.25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 52.71 | | (0.07) | 0.27 | 58 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | (0.22) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 53.33 | | (0.77) | 0.13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 0.19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 54.41 | | | 0.12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | (0.60) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 55.05 | | (0.24) | 0.04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 55.30 | | 0.01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 55.43 | | | 0.33 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55.72 | | | 0.09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55.88 | | | 0.16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 56.00 | | | 0.12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 56.18 | | | 0.04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | (0.14) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-00)

DENSITY RESISTIVITY

DRILL NO. GDR-DOH-81-13 SEAM _____ SEAM INTERVAL 117.16-120.01m
SCALE 1:40

| DENSITY SCALE | RESISTIVITY SCALE | SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS(AD) | | | | | | | | |
|---------------|-------------------|-------------------|--------|---------------|----------|----------------|--------|-----------|---------|------------------------|-----|----|----|----|-----|-----|--|--|
| | | | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU | FSI | | |
| 1.00 | 1.10 | | 117.16 | | | 0.15 | | | | | | | | | | | | |
| | | | 117.31 | | | 0.79 | | | | | | | | | | | | |
| | | | 118.10 | | | 0.13 | | | | | | | | | | | | |
| | | | 118.23 | | | 0.32 | | | | | | | | | | | | |
| | | | 118.55 | | | 0.12 (0.13) | 89 | NO SAMPLE | | | | | | | | | | |
| | | | 119.29 | | | 0.24 (0.10) | | | | | | | | | | | | |
| | | | 119.31 | | | 0.15 | | | | | | | | | | | | |
| | | | 119.51 | | | 0.02 | | | | | | | | | | | | |
| | | | 120.01 | | | 0.04 (0.07) | | | | | | | | | | | | |
| | | | | | | 0.40 | | | | | | | | | | | | |
| | | | | | | 0.03 | | | | | | | | | | | | |
| | | | | | | 0.14 | | | | | | | | | | | | |

GEOPHYSICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION
18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | ROCK | MISSING COAL | ROCK |
|----------------|------|--------------|---------------|-------------|-------------|----------------|-------------------|------|-----------------|------|
|----------------|------|--------------|---------------|-------------|-------------|----------------|-------------------|------|-----------------|------|

DDH81013

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE -

NAME OF STANDARD -

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|------|--------------|------------------|----------------|-------------------------------|-----|-----|
|-------------|------|-----------|--------------------|------|--------------|------------------|----------------|-------------------------------|-----|-----|

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| | 3.66 | 5.98 | 2.32 | | | MUDSTONE | DK.GY.THKB.WRMBU.VBRKN 1 MM BURROWS THROUGHOUT PARALLEL TO BEDDING; CORE IS VERY WEATHERED. |
| 63 | 5.98 | 6.04 | 0.06 | | | MUDSTONE | DK.GY.THKB.WRMBU.VBRKN AS ABOVE |
| 63 | 6.04 | 7.32 | 1.28 | | | MUDSTONE | DK.GY.THKB.WRMBU.VBRKN AS ABOVE |
| * 63 | 7.32 | 8.43 | 1.11 | | | MUDSTONE | DK.GY.THKB.WRMBU.BRKN AS ABOVE |
| * 54 | 8.43 | 10.38 | 1.95 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU.BRKN AS ABOVE; PLUS FEW 2-3 MM BURROWS PERPENDICULAR TO BEDDING; 1 MINOR SILTY LAMINATION (1 CM). |
| | 10.38 | 11.08 | 0.70 | | | MUDSTONE | DK.GY.THKB.WRMBU.SLD AS ABOVE; PLUS ABUNDANT PYRITE INCLUSIONS; VERY TINY IS < 1MM DIAMETER. |
| * 58 | 11.08 | 13.40 | 2.32 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU.SLD SILTY LAMINATIONS FROM 0.45 TO 0.56; ABUNDANT PYRITE INCLUSIONS FROM 0.00 TO 0.45 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 58 | 13.40 | 13.72 | 0.32 | | | MUDSTONE | DK.GY.THKB.WRMBU.SLD |
| 58 | 13.72 | 14.02 | 0.30 | | | MUDSTONE | SSY.DK.GY.THKB.WRMBU.SLD VERY MINOR SSY FLECKS INCREASING TOWARD S BASE |
| 58 | 14.02 | 14.57 | 0.55 | | | SANDSTONE | CLYY.FG.VPR.LT-DK.GY.THNB.WRMBU.SLD INTERVAL CHANGES FROM MUDSTONE AT TOP T O SS AT BASE; V FEW LITHIC AND CHERTY F RAGMENTS; SOME CALCITE FILLED FRACTURES ; V MINOR COALY INCLUSION; ALSO SLTY,PB LY,CARB,AS MODIFIERS |
| 58 | 14.57 | 15.05 | 0.48 | | | SANDSTONE | SLTY.FG.WEL.LT.GY.THNB.SLD MODERATE TO ABUNDANT CALCITE FILLED AND BRECCIATED FRACTURES; ALSO PBLY AS MOD IFIER |
| 58 | 15.05 | 15.55 | 0.50 | | | SILTSTONE | SSY.LT-DK.GY.THNB.SSD.SLD TOP IS UP; FINING UP SEQUENCES; ALSO WR MBUR AND XBDG AS SED STRUX; ALSO CYY AS MODIFIER |
| 58 | 15.55 | 15.99 | 0.44 | | | SANDSTONE | SLTY.FG.WEL.LT.GY.THNB.XBDG.SLD MINOR CALCITE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 58 | 15.99 | 16.17 | 0.18 | | | SILTSTONE | SSY.LT-DK.GY.THNB.XBDG.SLD MINOR CALCITE FINING UP SEQUENCES; ALSO SSD AS SED STRUX; ALSO CLYY AS MODIFIE R |
| 57 | 16.17 | 16.29 | 0.12 | | | SANDSTONE | SLTY.WEL.LT.GY.THNB.SLD |
| 56 | 16.29 | 16.44 | 0.15 | | | SILTSTONE | SSY.LT-DK.GY.THNB.SSD.SLD ALSO CLYY AS MODIFIER |
| * 45 | 16.44 | 19.03 | 2.59 | | | SILTSTONE | SSY.LT-DK.GY.THNB.SSD.SLD ABDNT CALC FILLED FRAC AND STRINGERS; S KS AND LISTRIC SURF; FEW SPIRAL HRM BUR S PERPENDICULAR TO BDG; REGULAR FINING UP SEQUENCES; ALSO CLYY AS MODIFIER; AL SO XBDG AND WRMBUR AS SED STRUX. |
| * 55 | 19.03 | 21.66 | 2.63 | | | SILTSTONE | SSY.LT-DK.GY.THNB.WRMBU.BRKN AS ABOVE WITH PYRITE SMEARS ON LISTRIC SURFACES, AND THICKER SSY INTERVALS; AL SO CLYY AS MOFIFIER; ALSO WRMBUR AS SED STRUX |
| 60 | 21.66 | 22.50 | 0.84 | | | SILTSTONE | CLYY.LT-DK.GY.THNB.WRMBU.VBRKN SKS AND MINOR CALCITE; POSSIBLE LOSS AT TOP |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * | 22.50 | 24.39 | 1.89 | | | SILTSTONE | SSY.LT-DK.GY.THNB.WRMBU.SLD ABDNT (1MM) BUR PERPENDICULAR TO BDG; 1 MNR (1CM) BUR PERPENDICULAR TO BDG ; R EGULAR REPETITIONS OF FINING UP SEQUENC ES; ALSO SSD (SED STRUX); ALSO CLYY AS MODIFIER |
| * 64 | 24.39 | 25.63 | 1.24 | | | SILTSTONE | CLYY.LT-DK.GY.THNB.WRMBU.SLD MINOR CALCITE AND SKS; V MINOR PYRITE I NCLUSIONS; ALSO BTRB AND SSD FOR SED ST RUX; ALSO SSY AS MODIFIER |
| 65 | 25.63 | 25.98 | 0.35 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.XBDG.SLD TOP IS UP; ABUNDANT CALCITE FILLED FRAC TURES; DISTURBED (2 CM) MG ZONE AT BASE |
| 65 | 25.98 | 26.78 | 0.80 | | | SILTSTONE | CLYY.LT-DK.GY.THNB.SSD.SLD TINY CURVED BURROWS FROM 0.12 TO 0.45; ALSO SSY AS MODIFIER; ALSO BIOTRB AS SE D STRUX. |
| * 66 | 26.78 | 28.32 | 1.54 | | | SILTSTONE | CLYY.LT-DK.GY.THNB.SSD.VBRKN POSSIBLE LOSS THROUGHOUT MINOR SKS AND CALCITE; ALSO WRMBUR AS SED STRUX; ALSO SSY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 63 | 28.32 | 29.44 | 1.12 | | | SILTSTONE | CLYY.LT-DK.GY.THNB.WRMBU.SLD V MINOR CALCITE SPOTS AND V MINOR PYRITE INCLUSIONS; FEW MINOR LONG (5 MM) BURROWS TO BDG; ALSO SSD FOR SED STRUX; ALSO SSY AS MODIFIER |
| * 61 | 29.44 | 30.97 | 1.53 | | | SILTSTONE | CLYY.M-DK.GY.THNB.WRMBU.BRKN PYRITE FLECKS, MINOR CALCITE BLEBS; ALSO SSD FOR SED STRUX |
| 58 | 30.97 | 32.17 | 1.20 | | | MUDSTONE | SLTY.M-DK.GY.THNB.WRMBU.BRKN POSSIBLE LOSS THROUGHOUT; PROBABLE LOSS AT TOP; ALSO SSD FOR SED STRUX. |
| * 54 | 32.17 | 34.16 | 1.99 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU.SLD |
| 53 | 34.16 | 34.92 | 0.76 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD ABUNDANT PYRITE FLECKS; V MINOR CALCITE AND SKS |
| * 53 | 34.92 | 36.08 | 1.16 | | | MUDSTONE | DK.GY.THKB.SLD V MINOR PYRITE BLEB |
| 53 | 36.08 | 36.29 | 0.21 | | | SILTSTONE | CLYY.M.GY.THNB.SLD MINOR CALCITE FILLED FRACTURES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 53 | 36.29 | 37.30 | 1.01 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN POSSIBLE LOSS THROUGHOUT |
| 53 | 37.30 | 37.52 | 0.22 | | | MUDSTONE | CARB.DK.GY.THNB.SLD SHELLY FRAGMENTS; SMALL 1-2 MM PEBBLES; V CARB FROM 0.16 TO BASE; ALSO SLTY AND PBLY AS MODIFIERS |
| 53 | 37.52 | 37.69 | 0.17 | | | MUDSTONE | CARB.BLK.THNB.BRKN VERY CARBONACEOUS |
| 53 | 37.69 | 38.20 | 0.51 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 53 | 38.20 | 38.76 | 0.56 | | | SILTSTONE | SSY.LT-M.GY.THNB.SSD.SLD ALSO CLYY AND CARB AS MODIFIERS |
| * 53 | 38.76 | 40.17 | 1.41 | | | SANDSTONE | SLTY.VFG.PR.LT-M.GY.THNB.SSD.SLD V MINOR CALCITE AND SKS; ALSO XBDG FOR SED STRUX; ALSO CLYY AND CARB FOR MODIF IERS |
| 52 | 40.17 | 40.95 | 0.78 | | | SILTSTONE | CARB.M-DK.GY.THNB.SSD.BRKN COALY INTERVALS FROM 0.32 TO 0.33; 0.53 TO BASE; ALSO CLYY AS MODIFIER |
| 51 | 40.95 | 41.32 | 0.37 | | | SANDSTONE | CARB.LT-M.GY.THNB.SSD.SLD SOME COALY INCLUSIONS FEW HAIRLINE FRAC TURES; ALSO SLTY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 50 | 41.32 | 42.87 | 1.55 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SSD.BRKN POSSIBLE LOSS THROUGHOUT MODERATE COALY INCLUSIONS; ALSO CARB AND SSY AS MODIF IERS; ALSO WRMBUR AS SED STRUX. |
| 51 | 42.87 | 42.91 | 0.04 | | | ROCK LOSS | |
| 51 | 42.91 | 43.23 | 0.32 | | | SILTSTONE | CARB.M.GY.THNB.BRKN POSSIBLE LOSS THROUGHOUT; MANY COALY IN CLUSIONS; ALSO CLYY AS MODIFIER |
| 52 | 43.23 | 44.87 | 1.64 | | | SILTSTONE | CLYY.M.GY.THNB.BRKN V MINOR CALCITE STRINGERS; POSSIBLE LOS S THROUGHOUT; ALSO CARB AS MODIFIER |
| 53 | 44.87 | 45.42 | 0.55 | | | SANDSTONE | CARB.FG.MOD.LT.GY.THNB.BRKN MINOR CALCITE; ABUNDANT COALY PARTING; ALSO SLTY AS MODIFIER |
| * 54 | 45.42 | 46.33 | 0.91 | | | SANDSTONE | SLTY.FG.MOD.LT.GY.THNB.SSD.BRKN MINOR CALCITE AND SKS; ALSO CARB FOR MO DIFIER |
| 54 | 46.33 | 48.13 | 1.80 | | | SILTSTONE | SSY.M-DK.GY.THNB.SSD.BRKN ABUNDANT CALCITE FROM 0.00 TO 0.04; MIN OR SKS; COALY PARTING THROUGHOUT; ALSO CLYY AND CARB AS MODIFIERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| * 54 | 48.13 | 49.40 | 1.27 | | | SILTSTONE | CARB.M-DK.GY.THNB.BRKN COALY INTERVALS FROM 0.28 TO 0.32; 0.54 TO 0.60; (C-6 STONEY AND VERY SHEARED) AT 0.90 AND AT 1.00 (1CM) INCLUSIONS; ALSO CLYY AS MODIFIER |
| 55 | 49.40 | 50.17 | 0.77 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN VERY CARBONACEOUS; ABUNDANT COALY INCLU SIONS; |
| 55 | 50.17 | 50.19 | 0.02 | | 1 | COAL | C-6.BRKN STONEY |
| 55 | 50.19 | 50.20 | 0.01 | | 1 | COAL | C-1.BRKN |
| 55 | 50.20 | 50.26 | 0.06 | | 1 | COAL | C-6.SLD STONEY |
| 55 | 50.26 | 50.28 | 0.02 | | 1 | COAL | C-3.SLD |
| 55 | 50.28 | 50.29 | 0.01 | | 1 | COAL | C-6.SLD STONEY |
| 55 | 50.29 | 50.33 | 0.04 | | 1 | COAL | C-3.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 55 | 50.33 | 50.36 | 0.03 | | 1 | COAL | C-2.SLD |
| 55 | 50.36 | 50.70 | 0.34 | | 1 | COAL | C-3.BRKN |
| 55 | 50.70 | 50.75 | 0.05 | | 1 | COAL | C-3.VBRKN ALSO SHRD AS MODIFIER |
| 55 | 50.75 | 50.79 | 0.04 | | 1 | MUDSTONE | CARB.BLK.THNB.BRKN SHRD AS MODIFIER |
| 55 | 50.79 | 51.09 | 0.30 | | 1 | ROCK LOSS | |
| 56 | 51.09 | 51.20 | 0.11 | | 1 | COAL | C-3.VBRKN SHRD ALSO AS CORE STATE |
| 56 | 51.20 | 51.29 | 0.09 | | 1 | COAL | C-3.PWRD |
| 56 | 51.29 | 51.34 | 0.05 | | 1 | COAL | C-3.VBRKN ALSO SHRD AS CORE STATE |
| 56 | 51.34 | 52.21 | 0.87 | | . | MUDSTONE | SLTY.DK.GY.THNB.BRKN POSSIBLE LOSS THROUGHOUT; ABUNDANT COAL Y INCLUSIONS; LISTRIC SURFACES; ALSO CA RB AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR / BLOCK: XX DATA SOURCE: DDH81013

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 56 | 52.21 | 52.39 | 0.18 | | | ROCK LOSS | |
| 57 | 52.39 | 52.64 | 0.25 | | | MUDSTONE | CARB. DK. GY. THNB. BRKN POSSIBLE LOSS THROUGHOUT; ABUNDANT COAL Y INCLUSIONS; ALSO SLTY AS MODIFIER |
| 57 | 52.64 | 52.71 | 0.07 | | | ROCK LOSS | |
| 57 | 52.71 | 52.73 | 0.02 | | 1 | COAL | C-3.SLD |
| 57 | 52.73 | 52.74 | 0.01 | | 1 | COAL | C-1.SLD |
| 57 | 52.74 | 52.76 | 0.02 | | 1 | COAL | C-3.SLD |
| 57 | 52.76 | 52.81 | 0.05 | | 1 | COAL | C-6.SLD STONE |
| 57 | 52.81 | 52.84 | 0.03 | | 1 | COAL | C-3.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 11

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 57 | 52.84 | 52.98 | 0.14 | | 1 | COAL | C-4.BRKN |
| 57 | 52.98 | 53.20 | 0.22 | | 1 | COAL LOSS | |
| 57 | 53.20 | 53.33 | 0.13 | | 1 | COAL | C-6.BRKN STONE |
| 57 | 53.33 | 54.10 | 0.77 | | | ROCK LOSS | |
| 58 | 54.10 | 54.29 | 0.19 | | | MUDSTONE | CARB.DK.GY.THNB.SLD V CARBONACEOUS; ABUNDANT COALY INCLUSIONS; |
| 58 | 54.29 | 54.41 | 0.12 | | | SILTSTONE | CLYY.LT-DK.GY.THNB.SLD ALSO SSY AND CARB AS MODIFIERS |
| 58 | 54.41 | 55.01 | 0.60 | | 1 | COAL LOSS | |
| 58 | 55.01 | 55.05 | 0.04 | | 1 | COAL | C-4.PWRD AND SHRD AS CORE STATE |
| 58 | 55.05 | 55.29 | 0.24 | | 1 | ROCK LOSS | |
| 58 | 55.29 | 55.30 | 0.01 | | 1 | TUFF | LT.BRN.VTHNB.BRKN ALSO SHRD AS CORE STATE; LITRIFIC SURFACES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 59 | 55.30 | 55.38 | 0.08 | | 1 | COAL | C-5.VBRKN ALSO VSHRD IN CORE STATE; FLAKEY LISTRI C SURFACES |
| 59 | 55.38 | 55.47 | 0.09 | | 1 | COAL | C-4.PWRD |
| 59 | 55.47 | 55.63 | 0.16 | | 1 | COAL | C-3.VBRKN |
| 59 | 55.63 | 55.72 | 0.09 | | 1 | TUFF | CLYY.FG.PR.M.GY.THNB.SLD BRN QTZ OR GLASS SHARDS IN A CLYY AND C ARB MATRIX; ALSO CARB AS MODIFIER |
| 59 | 55.72 | 55.88 | 0.16 | | 1 | COAL | C-1.SLD LIGHT; BRIGHT, BRITTLE |
| 59 | 55.88 | 56.00 | 0.12 | | 1 | TUFF | CARB.WEL.LT.BRN.THNB.SLD SOMEWHAT WAXY TEXTURE |
| 59 | 56.00 | 56.04 | 0.04 | | 1 | COAL | C-1.SLD |
| 59 | 56.04 | 56.18 | 0.14 | | 1 | COAL LOSS | |
| 59 | 56.18 | 56.87 | 0.69 | | | SILTSTONE | CLYY.DK.GY.THNB.BRKN ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 60 | 56.87 | 57.23 | 0.36 | | ROCK LOSS | |
| * | 60 | 57.23 | 57.72 | 0.49 | | SANDSTONE | SLTY.LT-M.GY.THNB.SLD ALSO CLYY AS MODIFIER |
| | 58 | 57.72 | 58.60 | 0.88 | | SILTSTONE | CLYY.M.GY.THKB.SLD ALSO SSY AS MODIFIER |
| | 56 | 58.60 | 58.70 | 0.10 | | SILTSTONE | CLYY.M.GY.THNB.SLD ALSO CARB AS MODIFIER |
| | 54 | 58.70 | 59.90 | 1.20 | | SILTSTONE | SSY.M-DK.GY.THNB.BRKN ABUNDANT COALY LAMINATIONS AND SOME CAL CITE VEINING FROM 0.77 TO 0.98; ALSO CL YY AND CARB AS MODIFIERS |
| * | 52 | 59.90 | 60.19 | 0.29 | | SANDSTONE | SLTY.FG.MOD.M.GY.THNB.SLD ALSO CARB AS MODIFIER |
| | 54 | 60.19 | 61.02 | 0.83 | | SILTSTONE | CARB.M.GY.THNB.WRMBU.SLD 1 (3MM) BUR PENDICULAR TO BDG; ABDNT CO ALY PARTINGS; ALSO CLYY AS MODIFIER; AL SO SSD AS SED STRUX |
| | 55 | 61.02 | 61.25 | 0.23 | | MUDSTONE | SLTY.DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| | 56 | 61.25 | 61.74 | 0.49 | | SILTSTONE | CLYY.M.GY.THNB.SLD ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 58 | 61.74 | 62.79 | 1.05 | | SILTSTONE | CLYY.DK.GY.THNB.BRKN MINOR SKS AND CALCITE; ALSO CARB AS MODIFIER |
| * | 61 | 62.79 | 63.82 | 1.03 | | SANDSTONE | SLTY.FG.PR.LT-M.GY.THNB.WRMBU.SLD TOP IS UP; ALSO XBDG IN SED STRUX; ALSO CLYY AND CARB AS MODIFIERS |
| | 56 | 63.82 | 64.50 | 0.68 | | SILTSTONE | CLYY.M.GY.THNB.BRKN MINOR CALCITE WITH ABUNDANT COALY PARTING; POSSIBLE LOSS WITHIN INTERVAL; ALSO CARB AS MODIFIER |
| | 55 | 64.50 | 64.55 | 0.05 | | ROCK LOSS | |
| * | 49 | 64.55 | 66.60 | 2.05 | | SILTSTONE | SSY.LT-M.GY.THNB.WRMBU.BRKN POSSIBLE LOSS WITHIN INTERVAL; COALY LAMINATIONS AND CALCITE; ALSO CLYY AND CARB FOR MODIFIERS; RTB IN SED STRUX. |
| * | 67 | 66.60 | 67.61 | 1.01 | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD FEW COALY INCLUSIONS; ALSO CARB AND SSY FOR MODIFIERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 66 | 67.61 | 69.18 | 1.57 | | | SILTSTONE | SSY.LT-M.GY.THNB.BRKN MINOR SMOKEY QTZ IN CALCITE WITHIN FRACTURES, IN SANDY INTERVAL FROM 1.09 TO 1.20 |
| 65 | 69.18 | 70.77 | 1.59 | | | SILTSTONE | SSY.LT-M.GY.THNB.SLD ALSO CLYY AS MODIFIER |
| * 64 | 70.77 | 72.01 | 1.24 | | | SILTSTONE | SSY.M-DK.GY.THNB.WRMBU.BRKN 0.78 TO 1.08--- VERY CARB INTERVAL WITH COALY INCLUSIONS; ALSO CLYY AND CARB AS MODIFIERS |
| * 67 | 72.01 | 73.77 | 1.76 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.BRKN ABUNDANT COALY LAMINATIONS AND INCLUSIONS; ALSO CARB AS MODIFIER |
| 66 | 73.77 | 74.87 | 1.10 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.SLD COALY PARTING; TOP IS UP; ALSO CARB AS MODIFIER; ALSO XBDG AS SED STRUX. |
| * 65 | 74.87 | 76.64 | 1.77 | | | SILTSTONE | CLYY.M.GY.THNB.SLD COALY INCLUSIONS; ALSO CARB AS MODIFIER |
| 64 | 76.64 | 77.55 | 0.91 | | | SILTSTONE | CLYY.M-DK.GY.THNB.BRKN COALY INCLUSION; LISTRIC SURFACES AND KS; ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 16

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| * 62 | 77.55 | 79.78 | 2.23 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SSD.BRKN V MINOR CALCITE PARTING; ALSO RTB AS SE D STRUX.; ALSO CARB AS MODIFIER |
| 67 | 79.78 | 80.26 | 0.48 | | | MUDSTONE | SLTY.M-DK.GY.THNB.SLD COALY PARTING AND ABUNDANT PLANT FRAGME NTS; ALSO CARB AS MODIFIER |
| * 72 | 80.26 | 82.56 | 2.30 | | | SILTSTONE | CLYY.DK.GY.THNB.VBRKN SOME COALY INCLUSIONS; POSSIBLE LOSS TH ROUGHOUT; ALSO CARB AS MODIFIER |
| 68 | 82.56 | 82.66 | 0.10 | | | ROCK LOSS | |
| 67 | 82.66 | 82.87 | 0.21 | | | SILTSTONE | CLYY.M.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 62 | 82.87 | 85.58 | 2.71 | | | SILTSTONE | SSY.M-DK.GY.THKB.SLD ABUNDANT PLANT HASH THROUGHOUT--BECOMIN G MORE CARBONACEOUS TOWARD BASE; ALSO C LYY AND CARB AS MODIFIERS |
| 57 | 85.58 | 85.74 | 0.16 | | | SILTSTONE | CLYY.M.GY.THNB.SLD ABUNDANT PLANT HASH AND COALY INCLUSION S; ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 17

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 55 | 85.74 | 86.80 | 1.06 | | | SILTSTONE | CARB.M.GY.THNB.SSD.BRKN POSSIBLE LOSS AT BASE; ALSO CLYY AS MOD IFIER |
| 56 | 86.80 | 86.83 | 0.03 | | | COAL LOSS | |
| 56 | 86.83 | 86.84 | 0.01 | | | COAL | C-1.PWRD |
| 56 | 86.84 | 86.87 | 0.03 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN |
| 56 | 86.87 | 86.90 | 0.03 | | | COAL LOSS | |
| 57 | 86.90 | 87.03 | 0.13 | | | COAL | C-5.VBRKN ALSO PWRD AS CORE STATE |
| 57 | 87.03 | 87.10 | 0.07 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ALSO SLTY AS MODIFIER |
| 57 | 87.10 | 87.13 | 0.03 | | | COAL | C-3.BRKN |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 18

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 58 | 87.13 | 87.97 | 0.84 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SSD.SLD VERY CARBONACEOUS; WITH ABUNDANT PLANT HASH AND HORSETAIL CALCITE; ALSO CARB A S MODIFIER |
| 59 | 87.97 | 88.21 | 0.24 | | | SANDSTONE | SLTY.VFG.MOD.LT.GY.THNB.SSD.SLD MINOR CALCITE WITH SMOKEY QUARTZ IN FRA CTURES; ALSO CARB AS MODIFIER |
| 60 | 88.21 | 88.89 | 0.68 | | | SANDSTONE | SLTY.FG.PR.LT.GY.THNB.XBDG.BRKN AS ABOVE--SOME PALE YEL MINERALIZATION-- -MM DIAM BALLS COVERED WITH MINUTE FILA MENTS;VERYSOFT;EASILY CRUSHED?--NON-REA CTIVE TO HCL(POSSIBLY A SULPH?)NOTE:CAL CITE& SMOKEY QTZ XTALS ALSO PRESENT |
| 61 | 88.89 | 89.00 | 0.11 | | | ROCK LOSS | |
| * 64 | 89.00 | 91.06 | 2.06 | | | SILTSTONE | SSY.M.GY.THNB.SSD.SLD SANDY(VFG)FROM 0.00--0.20; V CARB FROM 0.61--0.78; ABUNDANT PLANT HASH AND COA LY PARTING; ALSO CLYY AND CARB AS MODIF IERS |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 19

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 58 | 91.06 | 91.91 | 0.85 | | | SILTSTONE | CLYY.M.GY.THNB.SSD.BRKN VERY CARBONACEOUS; ABUNDANT PLANT HASH AND NO COALY PARTING; ALSO CARB AS MODIFIER |
| 58 | 91.91 | 93.52 | 1.61 | | | MUDSTONE | SLTY.M-DK.GY.THNB.BRKN POSSIBLE LOSS THROUGHOUT 1 CM COAL AT 0 .30--0.31 AND 1.51--1.52 ALSO AS ABOVE; ALSO CARB AS MODIFIER |
| 58 | 93.52 | 93.64 | 0.12 | | | COAL | C-6.BRKN STONEY |
| * 58 | 93.64 | 95.09 | 1.45 | | | SILTSTONE | SSY.LT-DK.GY.THNB.SSD.SLD FINING UP; ALSO CLYY AND CARB AS MODIFI ERS; ALSO RTB AS SED STRUX; |
| 59 | 95.09 | 95.73 | 0.64 | | | MUDSTONE | SLTY.M-DK.GY.THNB.VBRKN BECOMES MORE SHEARED AND FLAKEY TO BASE ; ALSO CARB AS MODIFIER |
| 59 | 95.73 | 95.86 | 0.13 | | | COAL | C-5.VSHRD ABUNDANT LISTRIC SURFACES; VERY FLAKEY AND SHEARED; ALSO VBRKN AS CORE STATE |
| 59 | 95.86 | 96.05 | 0.19 | | | MUDSTONE | CARB.DK.GY.THNB.SHRD ALSO SLTY AS MODIFIER; ALSO BRKN AS COR E STATE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 60 | 96.05 | 96.09 | 0.04 | | | COAL | C-6.VSHRD ALSO VBRKN AS CORE STATE; ALSO STONEY |
| 60 | 96.09 | 96.18 | 0.09 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN |
| 60 | 96.18 | 96.24 | 0.06 | | | COAL | C-6.SLD STONEY |
| 60 | 96.24 | 96.25 | 0.01 | | | COAL | C-1.BRKN |
| * | 96.25 | 96.81 | 0.56 | | | SILTSTONE | CLYY.LT-DK.GY.THNB.BRKN V CARB, WITH ABUNDANT COALY PARTING. |
| 66 | 96.81 | 98.21 | 1.40 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN AS ABOVE; ALSO CARB AS MODIFIER |
| 71 | 98.21 | 98.61 | 0.40 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN AS ABOVE; ALSO CARB AS MODIFIER |
| 73 | 98.61 | 98.80 | 0.19 | | | MUDSTONE | CARB.DK.GY.THNB.SLD AS ABOVE; |
| * 78 | 98.80 | 100.52 | 1.72 | | | MUDSTONE | SLTY.LT-DK.GY.THNB.RTB.BRKN COALY PARTING AND PLANT HASH THROUGHOUT ; ALSO SSY AND CARB AS MODIFIERS |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 21

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 72 | 100.52 | 100.55 | 0.03 | | | COAL LOSS | |
| 72 | 100.55 | 100.60 | 0.05 | | | COAL | C-4.VSHRD LISTRIC SURFACES; ALSO VBRKN |
| 72 | 100.60 | 100.70 | 0.10 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN ALSO CARB AS MODIFIER |
| 71 | 100.70 | 100.72 | 0.02 | | | COAL | C-3.SLD |
| 70 | 100.72 | 101.02 | 0.30 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN |
| 69 | 101.02 | 101.07 | 0.05 | | | COAL | C-6.BRKN STONEY |
| 69 | 101.07 | 101.17 | 0.10 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN LISTRIC SURFACES; ALSO SHRD AS CORE STA TE |
| 68 | 101.17 | 101.25 | 0.08 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN |
| 67 | 101.25 | 101.48 | 0.23 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN VERY CARBONACEOUS WITH ABUNDANT COALY I NCLUSIONS |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 22

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 66 | 101.48 | 101.53 | 0.05 | | | COAL | C-2.BRKN |
| 65 | 101.53 | 101.81 | 0.28 | | | COAL | C-3.VBRKN |
| * 58 | 101.81 | 103.77 | 1.96 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN AS ABOVE |
| 59 | 103.77 | 104.28 | 0.51 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN AS ABOVE |
| 59 | 104.28 | 106.08 | 1.80 | | | MUDSTONE | CARB.DK.GY.THNB.SLD AS ABOVE WITH COAL SEAMS AT 1.40 --- 1. 42 AND 1.63---1.64 |
| 60 | 106.08 | 106.21 | 0.13 | | | COAL | C-2.BRKN |
| 60 | 106.21 | 106.26 | 0.05 | | | COAL | C-1.VBRKN |
| 60 | 106.26 | 106.48 | 0.22 | | | MUDSTONE | CARB.DK.GY.THNB.SLD AS ABOVE |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 23

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 61 | 106.48 | 107.38 | 0.90 | | | SILTSTONE | CLYY.LT-DK.GY.THNB.SLD FINING UP; ALSO SSY AND CARB AS MODIFIER |
| 61 | 107.38 | 109.21 | 1.83 | | | MUDSTONE | SLTY.M-DK.GY.THNB.SSD.BRKN ABUNDANT COALY INCLUSIONS; PLANT HASH THROUGHOUT; ALSO CARB AS MODIFIER |
| 62 | 109.21 | 109.69 | 0.48 | | | MUDSTONE | CARB.DK.GY.THNB.VSHRD AS ABOVE; VBRKN ALSO AS CORE STATE |
| 62 | 109.69 | 109.76 | 0.07 | | | COAL | C-6.VSHRD FLAKEY WITH LISTRIC SURFACES; ALSO VBRKN AS CORE STATE |
| 62 | 109.76 | 110.02 | 0.26 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN ABUNDANT COALY INCLUSIONS |
| 62 | 110.02 | 110.09 | 0.07 | | | COAL | C-6.SLD BONEY |
| 63 | 110.09 | 110.31 | 0.22 | | | MUDSTONE | CARB.DK.GY.THNB.SLD AS ABOVE |
| 63 | 110.31 | 110.32 | 0.01 | | | COAL | C-3.PWRD |
| * 63 | 110.32 | 111.61 | 1.29 | | | MUDSTONE | SLTY.M-DK.GY.THNB.SLD AS ABOVE; ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 24

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 65 | 111.61 | 111.85 | 0.24 | | | SILTSTONE | SSY.LT-M.GY.THNB.XBDG.SLD TOP IS UP; ALSO CLYY AND CARB AS MODIFIERS |
| 67 | 111.85 | 113.41 | 1.56 | | | SILTSTONE | CLYY.LT-DK.GY.THNB.RTB.SLD MINOR CALCITE VEINING; ALSO SSY AND CARB AS MODIFIERS |
| * 70 | 113.41 | 114.52 | 1.11 | | | SILTSTONE | CLYY.M-DK.GY.THNB.RTB.SLD AS ABOVE; ALSO SSY AND CARB AS MODIFIERS |
| 64 | 114.52 | 116.43 | 1.91 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD PLANT HASH AND COALY PARTING; ALSO CARB AS MODIFIER |
| * 59 | 116.43 | 117.16 | 0.73 | | | SILTSTONE | CLYY.M.GY.THNB.SLD AS ABOVE; ALSO CARB AS MODIFIER |
| 60 | 117.16 | 117.20 | 0.04 | | | COAL | C-2.VBRKN |
| 60 | 117.20 | 117.31 | 0.11 | | | COAL | C-2.VBRKN |
| 61 | 117.31 | 118.10 | 0.79 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN VERY CARBONACEOUS WITH ABUNDANT COALY INCLUSIONS; |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 25

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 63 | 118.10 | 118.20 | 0.10 | | | COAL | C-6.BRKN COAL AND BANDS OF MUDSTONE |
| 63 | 118.20 | 118.23 | 0.03 | | | COAL | C-1.VBRKN |
| 63 | 118.23 | 118.55 | 0.32 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN ALSO CARB AS MODIFIER |
| 64 | 118.55 | 118.60 | 0.05 | | | COAL | C-3.PWRD |
| 64 | 118.60 | 118.67 | 0.07 | | | COAL | C-2.VBRKN ALSO PWRD AS CORE STATE |
| 64 | 118.67 | 118.80 | 0.13 | | | COAL LOSS | |
| 65 | 118.80 | 118.91 | 0.11 | | | COAL | C-3.PWRD |
| 65 | 118.91 | 119.04 | 0.13 | | | COAL | C-3.VBRKN ALSO PWRD AS CORE STATE |
| 65 | 119.04 | 119.14 | 0.10 | | | COAL LOSS | |
| 66 | 119.14 | 119.29 | 0.15 | | | COAL | C-3.PWRD |
| 66 | 119.29 | 119.31 | 0.02 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 26

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 66 | 119.31 | 119.38 | 0.07 | | | COAL | C-3.BRKN |
| 66 | 119.38 | 119.41 | 0.03 | | | COAL | C-1.SLD |
| 66 | 119.41 | 119.53 | 0.12 | | | COAL | C-2.SLD |
| 67 | 119.53 | 119.71 | 0.18 | | | COAL | C-3.SLD |
| 67 | 119.71 | 119.75 | 0.04 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN ALSO SHRD AS CORE STATE |
| 67 | 119.75 | 119.82 | 0.07 | | | ROCK LOSS | |
| 67 | 119.82 | 119.85 | 0.03 | | | COAL | C-1.SLD |
| 67 | 119.85 | 119.87 | 0.02 | | | MUDSTONE | CARB.BLK.THNB.SLD |
| 67 | 119.87 | 119.96 | 0.09 | | | COAL | C-1.SLD |
| 68 | 119.96 | 120.00 | 0.04 | | | COAL | C-3.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 27

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 68 | 120.00 | 120.01 | 0.01 | | | COAL | C-1.SLD |
| 68 | 120.01 | 120.07 | 0.06 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY INCLUSIONS |
| 68 | 120.07 | 120.16 | 0.09 | | | MUDSTONE | CARB.DK.GY.THNB.SLD AS ABOVE |
| 68 | 120.16 | 120.19 | 0.03 | | | COAL | C-1.BRKN |
| 69 | 120.19 | 120.48 | 0.29 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 69 | 120.48 | 120.51 | 0.03 | | | COAL | C-1.SLD |
| 69 | 120.51 | 120.62 | 0.11 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 69 | 120.62 | 120.66 | 0.04 | | | COAL | C-3.SLD |
| * 70 | 120.66 | 121.06 | 0.40 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 69 | 121.06 | 121.08 | 0.02 | | | COAL | C-1.SLD |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 28

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 68 | 121.08 | 121.33 | 0.25 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 67 | 121.33 | 121.36 | 0.03 | | | COAL | C-1.VBRKN |
| 67 | 121.36 | 121.40 | 0.04 | | | MUDSTONE | CARB.SLD |
| 67 | 121.40 | 121.45 | 0.05 | | | COAL | C-1.BRKN |
| 66 | 121.45 | 121.50 | 0.05 | | | COAL | C-5.SLD |
| 63 | 121.50 | 122.48 | 0.98 | | | MUDSTONE | CARB.DK.GY.THNB.SLD VERY CARBONACEOUS WITH ABUNDANT COALY I NCLUSIONS |
| 60 | 122.48 | 122.65 | 0.17 | | | MUDSTONE | CARB.DK.GY.THNB.SLD AS ABOVE WITH LENS C-1 AT 0.07 |
| 57 | 122.65 | 123.39 | 0.74 | | | MUDSTONE | CARB.DK.GY.THNB.SLD AS ABOVE; ALSO SLTY AS MODIFIER |
| * 54 | 123.39 | 123.79 | 0.40 | | | SILTSTONE | CLYY.M.GY.THNB.SLD AS ABOVE; ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 29

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 55 | 123.79 | 124.47 | 0.68 | | | SANDSTONE | SLTY.VFG.PR.LT.GY.THNB.SLD COALY INCLUSION WITH PYRITE SMEAR; ALSO CARB AS MODIFIER |
| 57 | 124.47 | 125.38 | 0.91 | | | MUDSTONE | SLTY.M-DK.GY.THNB.BRKN ABUNDANT COALY LAMINATIONS AND PLANT HA SH; ALSO CARB AS MODIFIER |
| 58 | 125.38 | 125.52 | 0.14 | | | MUDSTONE | SLTY.M-DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 60 | 125.52 | 127.51 | 1.99 | | | SILTSTONE | CLYY.M-DK.GY.THNB.SLD ALSO CARB AS MODIFIER |
| 62 | 127.51 | 128.09 | 0.58 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 63 | 128.09 | 128.66 | 0.57 | | | SILTSTONE | CLYY.LT-M.GY.THNB.BRKN ALSO CARB AS MODIFIER |
| * 65 | 128.66 | 130.01 | 1.35 | | | MUDSTONE | SLTY.M-DK.GY.THNB.BRKN COALY INCLUSIONS FROM 0.00--0.10; 0.29-- -0.30; 1.03--1.04; ALSO CARB AS MODIFIE R |
| 65 | 130.01 | 130.61 | 0.60 | | | SILTSTONE | SSY.LT-M.GY.THNB.BRKN ALSO CLYY AND CARB AS MODIFIERS |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 30

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81013

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 65 | 130.61 | 131.08 | 0.47 | | | SILTSTONE | SSY.LT.GY.THNB.SLD |
| 65 | 131.08 | 131.52 | 0.44 | | | SANDSTONE | SLTY.FG.PR.LT.GY.THNB.RTB.SLD ALSO CARB AS MODIFIER; ALSO SSD AS SED STRUX; ALSO PROCEEDING IS MARKER 132.89 THEN END OF DRILL HOLE |

* DENOTES MEASURED BCA



P.R. Goodrich 81(3)A-4

OPEN FILE

GULF CANADA RESOURCES INC.

COAL DIVISION

GOODRICH GEOLOGICAL REPORT

1981

APPENDIX B PART 7

DDH 81-14 to DDH 81-17

DDH 81-14

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81014

HISTORY

DY MO YR DY MO YR
 START DATE: 28/09/81 END DATE: 02/10/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: I. DELAS SURVEYOR: D. WATSON
 REMARKS: FIRST ATTEMPT ABANDONED.

LOCATION

PROVINCE: B.C. ELEVATION: 1185.8
 UTM ZONE: 10 NORTH: 6141658.90 EAST: 549233.50
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 303.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 43.30 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | --- | --- | --- | X | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | --- | X | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | X | --- | --- |
| CALIPER | --- | : | : | --- | --- | --- | --- | --- |
| FE-SHORT | --- | : | : | --- | --- | --- | --- | --- |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | --- | 6 |
| DIRECTIONAL | X | : | : | --- | --- | X | --- | --- |
| DIPMETER | --- | : | : | --- | --- | --- | --- | --- |

*** COAL DIVISION ***

DATA SOURCE: DB1-14

INTERVAL OF INTERPOLATION 10 UNIT(S)

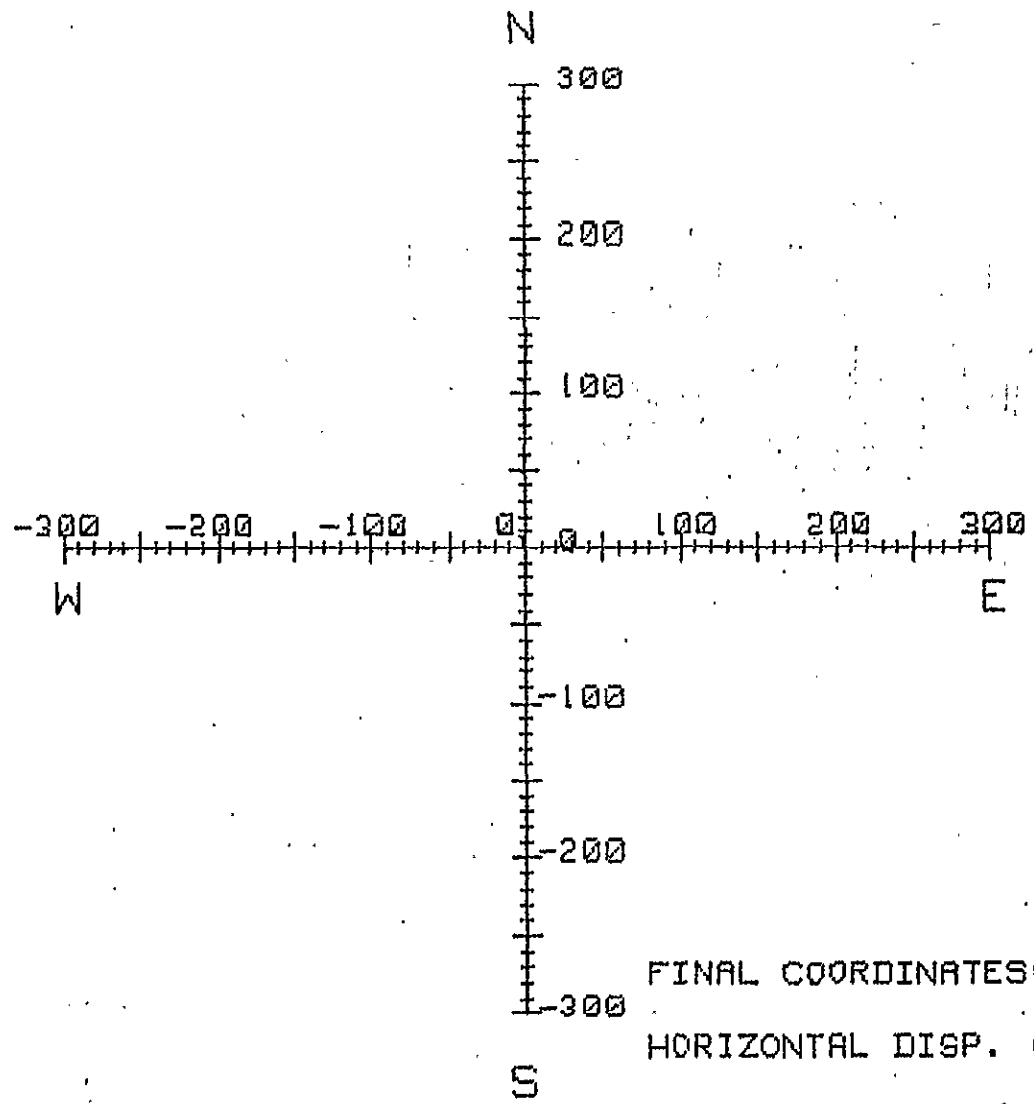
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 0.00 | .70 | 325.60 |
| 45.00 | .70 | 325.60 |
| 60.00 | .70 | 337.40 |
| 75.00 | .80 | 334.70 |
| 90.00 | 1.20 | 334.40 |
| 105.00 | 1.30 | 339.70 |
| 120.00 | 1.30 | 346.50 |
| 135.00 | 1.40 | 341.60 |
| 150.00 | 1.40 | 334.00 |
| 165.00 | 1.70 | 345.40 |
| 180.00 | 1.95 | 343.50 |
| 195.00 | 2.00 | 342.10 |
| 210.00 | 2.20 | 333.40 |
| 225.00 | 2.30 | 342.70 |
| 240.00 | 2.30 | 335.00 |
| 255.00 | 2.50 | 341.70 |
| 270.00 | 2.60 | 334.00 |
| 285.00 | 2.60 | 335.40 |
| 300.00 | 2.70 | 343.60 |

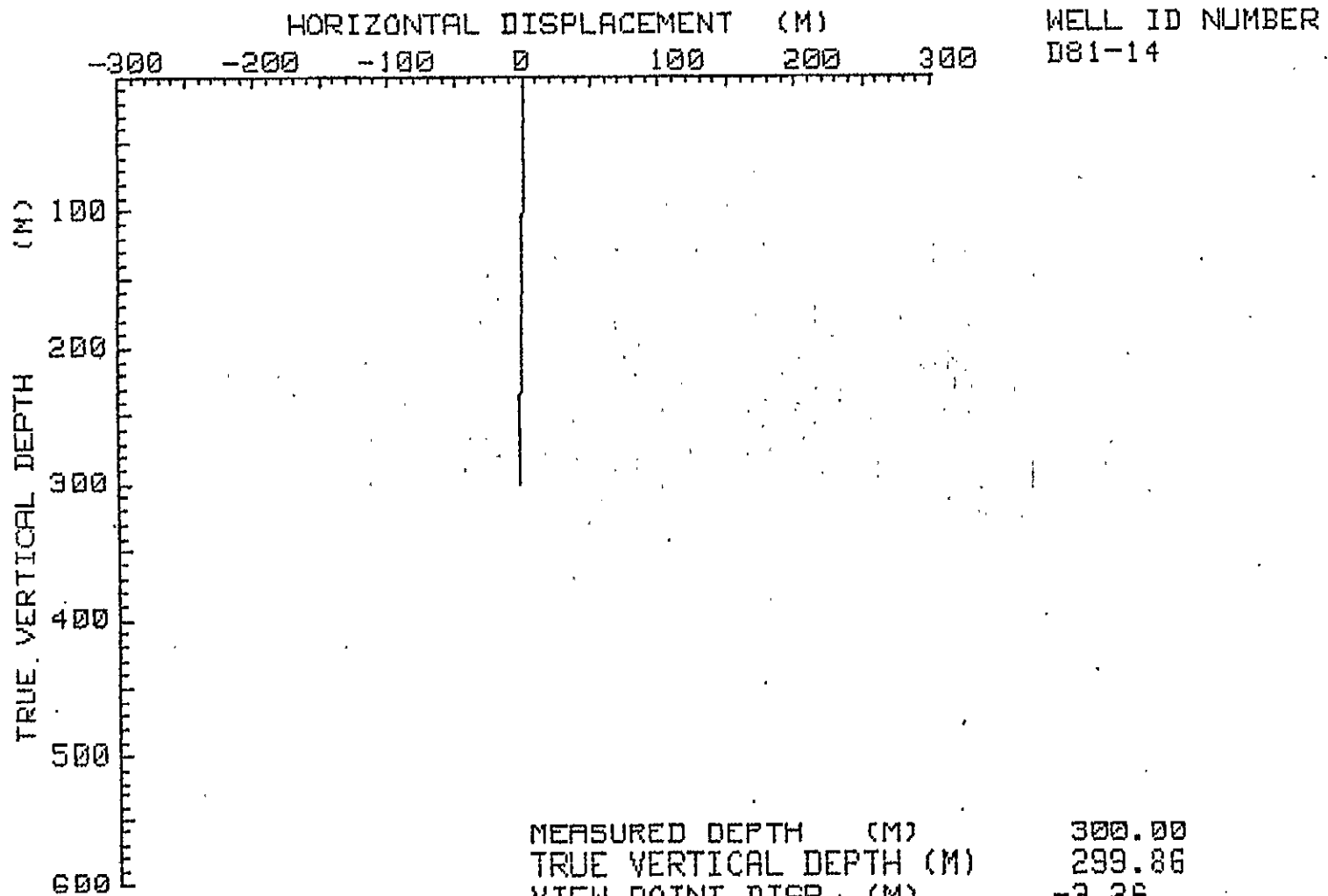
PLAN VIEW

WELL ID NUMBER
D81-14



FINAL COORDINATES(M) N 7.74
E -3.13
HORIZONTAL DISP. (M) -3.26

DISPLACEMENT



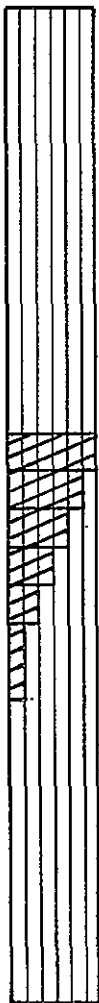
| | |
|-------------------------|--------|
| MEASURED DEPTH (M) | 300.00 |
| TRUE VERTICAL DEPTH (M) | 299.86 |
| VIEW POINT DISP. (M) | -3.26 |
| SECTION LINE BEARING | 45.00 |

SEAM
COMP

COAL
SEAM
LOG

LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone



- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff
- coal
- coal - boney, stoney, coal and bands/rock - designated "C6"
- rock } coal lithotype uncertain
- coal } MISSING CORE
- rock }
- rock
- coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



LEGEND FOR COAL
SEAM DATA SHEETS

PREPARED BY: V.O.

SCALE 1:40

APPROVED BY:

DATE: JAN. 82 DRAWING No.

COAL SEAM DATA SHEET

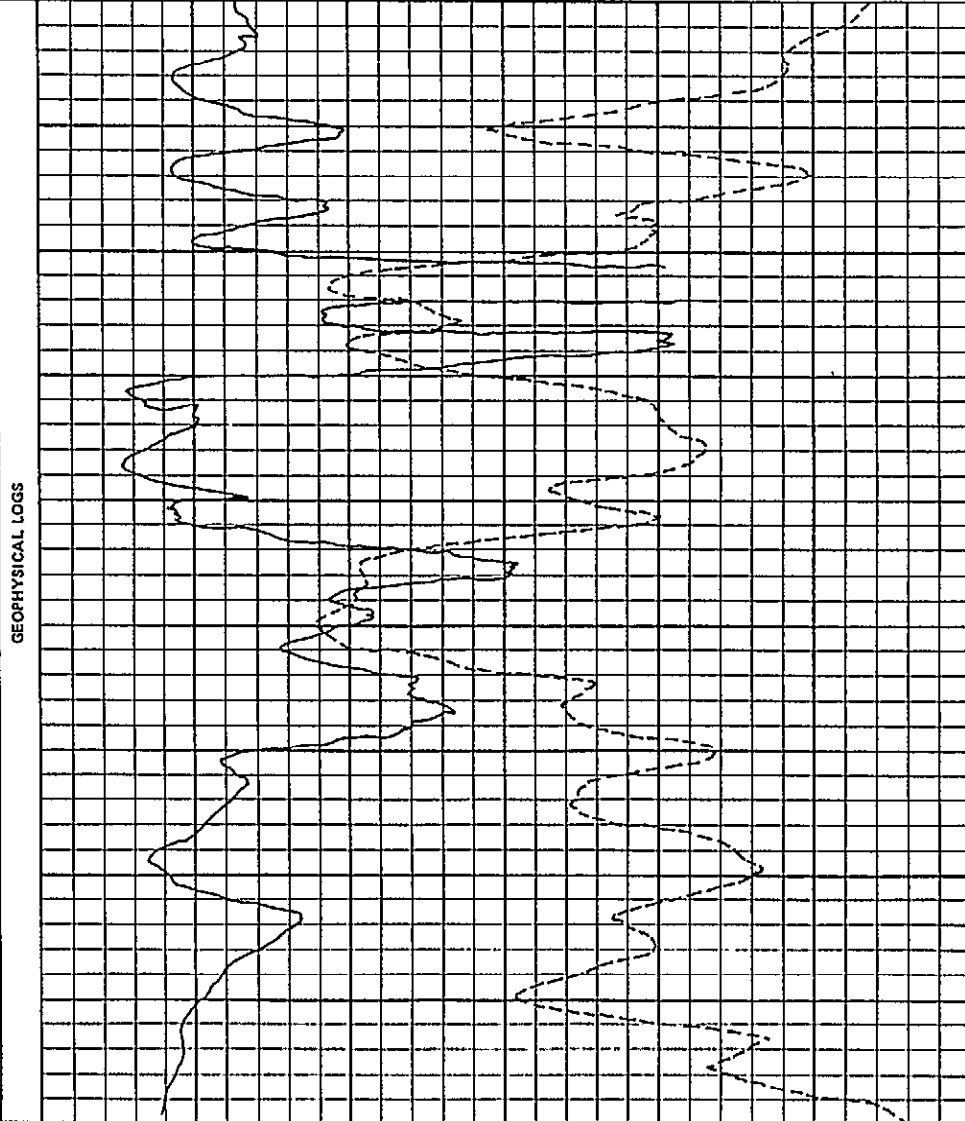
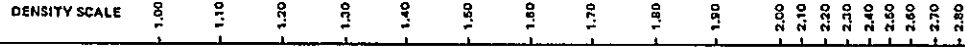
GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal / Coal + Rock (True Thk (m))
0.99 / 1.52
91.20 - 94.60m

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-14 SEAM _____
SCALE 1:40 SEAM INTERVAL _____



GEOPHYSICAL LOGS

| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|----------------------|-------|---------------|----------|----------------|--------|--------|---------|-------------------------|-------|-------|-------|-------|-------------------|-----|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI | | |
| | 91.20 | | | 0.55 | | | | | | | | | | | | |
| | 92.20 | | 0.08 | 0.12 (0.25) | 75 | 00131 | | 0.56 | 18.05 | 22.66 | 58.73 | 12.43 | 12,451 (28.96) | 7.0 | | |
| | 93.50 | | | (0.20) | | | | | | | | | | | | |
| | 94.60 | | | (0.30) | | | | | | | | | | | | |
| | | | | 0.60 | 55 | 00132 | | 0.36 | 10.56 | 25.13 | 63.93 | 0.31 | 13,418 (31.21) | 4.5 | | |
| | | | | (0.50) | | | | | | | | | | | | |

COAL SEAM DATA SHEET

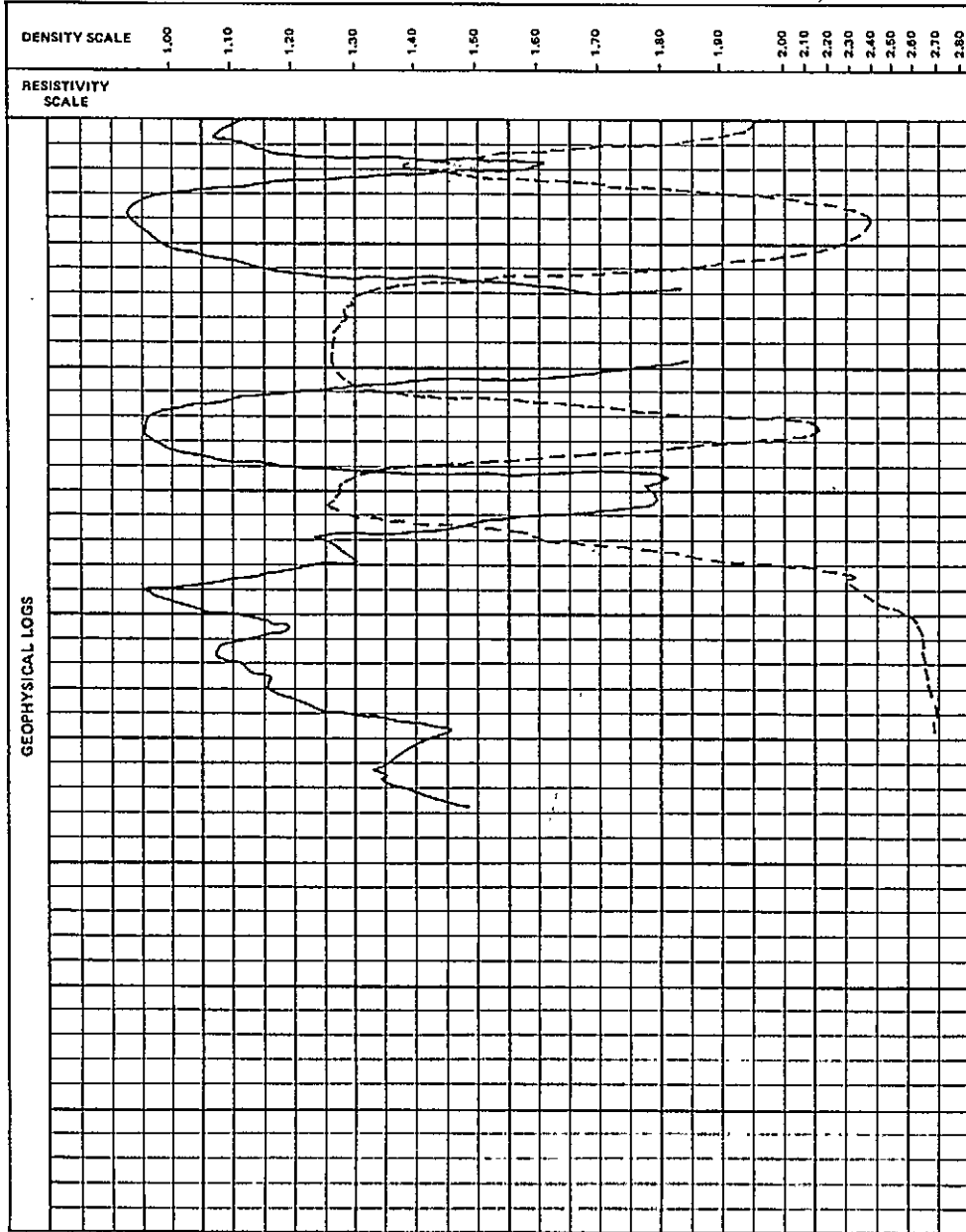
GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal/Coal + Rock (True Thk (m))
1.19 / 1.42
SEAM INTERVAL 208.20 - 210.50m

DENSITY ----- RESISTIVITY -----

DRILL NO. GDR-DDH-81-14 SEAM _____
SCALE 1:40



GEOPHYSICAL LOGS

| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | |
|------------|--------|---------------|----------|--------|--------|--------|---------|-------------------------|-------|-------|-------|------|----------------|-----|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI |
| | 208.20 | | | 1.10 | 100 | 00133 | | 0.51 | 3.67 | 26.20 | 69.42 | 0.57 | 14,536 (33.81) | 8.5 |
| | 209.30 | | 0.38 | | 100 | 00134 | | 0.51 | 84.92 | 7.16 | 7.41 | 0.07 | 1,393 (3.24) | 0.0 |
| | 209.68 | | | 0.35 | 43 | 00135 | | 0.68 | 15.67 | 21.81 | 61.84 | 0.47 | 12,855 (29.90) | 6.5 |
| | 210.50 | | | (0.47) | | | | | | | | | | |

18/JAN/62

GULF CANADA RESOURCES INC. - COAL DIVISION
SIMPLE SAMPLE SUMMARY

PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|----------------|------|--------------|---------------|-------------|-------------|----------------|-------------------|-------------------|-----------------|-----------------|
| UDH8 1014 | | 131 | 91.20 | 92.20 | 0.75 | 75.00 | 0.67 | 0.08 | 0.25 | 0.00 |
| | | 132 | 93.50 | 94.60 | 0.60 | 54.55 | 0.60 | 0.00 | 0.50 | 0.00 |
| | | 133 | 208.20 | 209.30 | 1.10 | 100.00 | 1.10 | 0.00 | 0.00 | 0.00 |
| | | 134 | 209.30 | 209.68 | 0.38 | 100.00 | 0.00 | 0.38 | 0.00 | 0.00 |
| | | 135 | 209.68 | 210.50 | 0.35 | 42.68 | 0.35 | 0.00 | 0.47 | 0.00 |

| PROJ - GDR | | ANALYSIS BASIS TYPE - AD | | | | NAME OF STANDARD - ASTM | | | | |
|-------------|------|--------------------------|--------------------|-------|---------------|-------------------------|----------------|-------------------------------|------|------|
| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTERS | TOTAL SULPHUR% | GRUSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
| DDH81014 | | | | | | | | | | |
| | | 131 | 0.56 | 18.05 | 58.73 | 22.66 | 0.43 | 26.90 | 1.43 | 7.00 |
| | | 132 | 0.36 | 10.58 | 63.93 | 25.13 | 0.31 | 31.21 | 1.30 | 4.50 |
| | | 133 | 0.51 | 3.87 | 69.42 | 26.20 | 0.57 | 35.81 | 1.28 | 8.50 |
| | | 134 | 0.51 | 84.92 | 7.41 | 7.16 | 0.07 | 5.42 | 2.37 | 0.00 |
| | | 135 | 0.68 | 15.67 | 61.84 | 21.81 | 0.47 | 29.90 | 1.38 | 6.50 |

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 63 | 43.84 | 44.50 | 0.66 | | | MUDSTONE | DK.GY.THKB.SLD PARTLY CARB WITH COALY STRINGERS; SOME CA CO3 AT TOP |
| 63 | 44.50 | 45.18 | 0.68 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| 63 | 45.18 | 45.53 | 0.35 | | | MUDSTONE | CARB.DK.GY.THKB.VBRKN COALY STRINGERS AT BASE |
| * 63 | 45.53 | 46.40 | 0.87 | | | SANDSTONE | SLTY.VFG.GY.SSD.SLD OCCASIONAL SLTY LAMINAE AND BANDS |
| * 62 | 46.40 | 47.00 | 0.60 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD FEW COALY STRINGERS; SILTIER AT TOP |
| 62 | 47.00 | 47.35 | 0.35 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY SHEARED |
| 61 | 47.35 | 48.45 | 1.10 | | | MUDSTONE | SLTY.DK.GY.VBRKN PARTLY SHEARED; CALCAREOUS IN PLACES |
| 61 | 48.45 | 48.51 | 0.06 | | | COAL | PWRD |
| 61 | 48.51 | 48.94 | 0.43 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARB AT TOP |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 60 | 48.94 | 49.62 | 0.68 | | | MUDSTONE | DK.GY.THKB.BRKN |
| 59 | 49.62 | 50.92 | 1.30 | | | MUDSTONE | DK.GY.VBRKN FRACTURED; SOME CALC INCLUSIONS |
| 59 | 50.92 | 51.34 | 0.42 | | | SANDSTONE | SLTY.VFG.GY.BRKN |
| 59 | 51.34 | 51.69 | 0.35 | | | SILTSTONE | DK.GY.VBRKN ROCK MOD MUDDY |
| 58 | 51.69 | 52.31 | 0.62 | | | SILTSTONE | DK.GY.LAM.BRKN OCCASIONAL LAMINAE OF MUDSTONE |
| 58 | 52.31 | 53.86 | 1.55 | | | MUDSTONE | SLTY.DK.GY.THKB.BRKN |
| 57 | 53.86 | 54.38 | 0.52 | | | MUDSTONE | SLTY.DK.GY.THKB.BRKN |
| 56 | 54.38 | 55.43 | 1.05 | | | SILTSTONE | SSY.DK.GY.THKB.BRKN FRACTURED WITH SOME CaCO3 STRINGERS AND VEINS |
| 56 | 55.43 | 56.25 | 0.82 | | | SILTSTONE | DK.GY.MAS.SLD FAIRLY UNIFORM AND COMPACT |
| 55 | 56.25 | 56.73 | 0.48 | | | SILTSTONE | AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 56.73 | 58.49 | 1.76 | | | SILTSTONE | DK.GY.MAS.BRKN |
| | 58.49 | 59.54 | 1.05 | | | SILTSTONE | DK.GY.MAS.SLD UNIFORM; COMPACT |
| | 59.54 | 60.90 | 1.36 | | | SILTSTONE | AS ABOVE |
| | 60.90 | 61.57 | 0.67 | | | SILTSTONE | AS ABOVE |
| | 61.57 | 62.49 | 0.92 | | | MUDSTONE | SLTY.DK.GY.MAS.SLD FROM SILTY MUDST AT TOP GRADUALLY BECOM ING CARB MUDSTONE WITH FEW COALY INCLUS IONS TOWARD BASE |
| | 62.49 | 63.52 | 1.03 | | | MUDSTONE | SLTY.DK.GY.MAS.SLD PARTLY CARB AT TOP |
| * 50 | 63.52 | 63.96 | 0.44 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN COALY IN PLACES |
| | 63.96 | 64.91 | 0.95 | | | SILTSTONE | GY.MAS.SLD BECOME SANDY TOWARD BASE |
| | 64.91 | 65.53 | 0.62 | | | SANDSTONE | LT.GY.THKB.BRKN FEW FRACTURES WITH CaCO3 INCLUSIONS AND CRYSTALS |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 54 | 65.53 | 66.22 | 0.69 | | | MUDSTONE | SLTY.DK.GY.MAS.SLD |
| 56 | 66.22 | 67.15 | 0.93 | | | SILTSTONE | DK.GY.MAS.SLD |
| * 58 | 67.15 | 68.17 | 1.02 | | | SILTSTONE | SSY.DK.GY.THKB.SLD |
| 57 | 68.17 | 68.87 | 0.70 | | | SILTSTONE | DK.GY.MAS.SLD MUDDY TOWARD TOP |
| 56 | 68.87 | 70.97 | 2.10 | | | MUDSTONE | SLTY.DK.GY.MAS.SLD VERY UNIFORM |
| 55 | 70.97 | 71.40 | 0.43 | | | MUDSTONE | THKB AS ABOVE; PARTLY CARB |
| 55 | 71.40 | 72.60 | 1.20 | | | MUDSTONE | CARB.DK.GY.THKB.BRKN COALY INCLUSIONS |
| 54 | 72.60 | 72.63 | 0.03 | | | COAL | C-2.VBRKN |
| * 54 | 72.63 | 73.33 | 0.70 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN COALY STRINGERS AND INCLUSIONS |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-----------------------|---------------------|---------------------------|---------------------|--------------------|------------------|---|
| | 55 | 73.33 | 74.04 | 0.71 | | MUDSTONE | SLTY.DK.GY.MAS.SLD |
| | 56 | 74.04 | 75.29 | 1.25 | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| * | 58 | 75.29 | 76.59 | 1.30 | | MUDSTONE | CARB.DK.GY.THNB.SLD SOME COALY STRINGERS; BROKEN TOWARD BAS E |
| | 56 | 76.59 | 77.11 | 0.52 | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| * | 54 | 77.11 | 79.33 | 2.22 | | SILTSTONE | SSY.GY.THKB.SLD OCCASIONAL BANDS AND LAMINAE OF VFG SAN DSTONE |
| | 56 | 79.33 | 80.38 | 1.05 | | SANDSTONE | SLTY.VFG.GY.THNB.XBDG.SLD SILTY BANDED |
| * | 57 | 80.38 | 81.31 | 0.93 | | SANDSTONE | AS ABOVE |
| | 55 | 81.31 | 82.06 | 0.75 | | MUDSTONE | CARB.DK.GY.THKB.SLD OCCASIONALLY COALY; THIN LAYERS AND INCL USIONS |
| | 52 | 82.06 | 83.24 | 1.18 | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 51 | 83.24 | 83.27 | 0.03 | | | COAL | C-2 |
| 50 | 83.27 | 83.61 | 0.34 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| 49 | 83.61 | 84.45 | 0.84 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD PARTLY CARBONCEOUS |
| 46 | 84.45 | 85.55 | 1.10 | | | MUDSTONE | CARB.BLK.THNB.VBRKN SHEARED; COALY |
| 44 | 85.55 | 85.84 | 0.29 | | | MUDSTONE | CARB.BLK.PWRD MIXED WITH PWRD COAL |
| 42 | 85.84 | 86.99 | 1.15 | | | MUDSTONE | CARB.DK.GY.THKB.VBRKN COALY INCLUSIONS |
| 40 | 86.99 | 87.61 | 0.62 | | | MUDSTONE | CARB.DK.GY.BRKN COALY |
| 39 | 87.61 | 87.64 | 0.03 | | | COAL | C-5.VBRKN |
| 39 | 87.64 | 87.90 | 0.26 | | | COAL LOSS | |
| 38 | 87.90 | 88.06 | 0.16 | | | MUDSTONE | CARB.DK.GY.THKB.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 38 | 88.06 | 88.18 | 0.12 | | | COAL | C-6.VBRKN BONEY |
| 37 | 88.18 | 88.38 | 0.20 | | | MUDSTONE | DK.GY.THNB.VBRKN |
| 37 | 88.38 | 88.48 | 0.10 | | | COAL | PWRD MIXED WITH DRILLERS MUD |
| 35 | 88.48 | 89.80 | 1.32 | | | MUDSTONE | CARB.BLK.VBRKN SHEARED; DIP CHANGE RAPIDLY; SLICKENSIDE S; FAULT ZONE |
| 33 | 89.80 | 90.10 | 0.30 | | | MUDSTONE | CARB.BLK.VBRKN |
| 32 | 90.10 | 90.20 | 0.10 | | | COAL | C-5.VBRKN |
| 32 | 90.20 | 90.40 | 0.20 | | | COAL LOSS | |
| 31 | 90.40 | 90.70 | 0.30 | | | MUDSTONE | BLK.VBRKN |
| 30 | 90.70 | 91.20 | 0.50 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|----------------|
| 29 | 91.20 | 91.75 | 0.55 | 00131 | 1 | COAL | C-5.VBRKN |
| 28 | 91.75 | 91.83 | 0.08 | 00131 | 1 | MUDSTONE | PWRD |
| 28 | 91.83 | 91.95 | 0.12 | 00131 | 1 | COAL | PWRD |
| 27 | 91.95 | 92.20 | 0.25 | 00131 | 1 | COAL LOSS | |
| 27 | 92.20 | 92.45 | 0.25 | | | MUDSTONE | CARB.BLK.VBRKN |
| 26 | 92.45 | 93.00 | 0.55 | | | ROCK LOSS | |
| 25 | 93.00 | 93.20 | 0.20 | | | COAL LOSS | |
| 24 | 93.20 | 93.50 | 0.30 | | | ROCK LOSS | |
| 23 | 93.50 | 93.85 | 0.35 | 00132 | 1 | COAL | C-5.VBRKN |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--------------------|
| 22 | 93.85 | 94.10 | 0.25 | 00132 | 1 | COAL | C-5.VBRKN |
| 21 | 94.10 | 94.60 | 0.50 | 00132 | 1 | COAL LOSS | |
| 20 | 94.60 | 94.75 | 0.15 | | | MUDSTONE | CARB.BLK.VBRKN |
| 20 | 94.75 | 94.85 | 0.10 | | | COAL | PWRD |
| 19 | 94.85 | 95.55 | 0.70 | | | MUDSTONE | PWRD |
| 18 | 95.55 | 95.80 | 0.25 | | | ROCK LOSS | |
| 17 | 95.80 | 96.45 | 0.65 | | | MUDSTONE | CARB.BLK.VBRKN |
| 16 | 96.45 | 96.50 | 0.05 | | | COAL | C-2.VBRKN |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 16 | 96.50 | 96.55 | 0.05 | | | MUDSTONE | CARB.BLK.VBRKN |
| 15 | 96.55 | 97.00 | 0.45 | | | MUDSTONE | CARB.BLK.VBRKN SHEARED; SLICKENSIDES; VERY COALY; PART LY PWRD |
| 14 | 97.00 | 97.30 | 0.30 | | | COAL LOSS | |
| 13 | 97.30 | 98.00 | 0.70 | | | MUDSTONE | CARB.BLK.VBRKN VERY SHEARED; COALY SLICKENSIDES |
| * 10 | 98.00 | 99.26 | 1.26 | | | SILTSTONE | DK.GY.MAS.SLD MUDDY AND CARB AT TOP; FEW CALC STRINGE RS |
| 11 | 99.26 | 99.52 | 0.26 | | | SILTSTONE | DK.GY.MAS.SLD |
| * 12 | 99.52 | 101.22 | 1.70 | | | MUDSTONE | DK.GY.THKB.SLD PARTLY SHEARED; COALY SLICKENSIDES |
| 21 | 101.22 | 101.76 | 0.54 | | | MUDSTONE | BLK.BRKN VERY COALY IN PLACES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 24 | 101.76 | 101.83 | 0.07 | | MUDSTONE | CARB.BLK.VBRKN MUDSTONE AND COAL MIXED; HIGHLY SHEARED |
| * | 27 | 101.83 | 102.55 | 0.72 | | SILTSTONE | SSY.DK.GY.THKB.SLD VERY COMPACT |
| | 26 | 102.55 | 102.58 | 0.03 | | COAL | C-5.BRKN |
| | 26 | 102.58 | 102.63 | 0.05 | | COAL | C-3.BRKN |
| | 25 | 102.63 | 102.71 | 0.08 | | COAL | C-5.SLD |
| | 25 | 102.71 | 103.04 | 0.33 | | MUDSTONE | CARB.BLK.THNB.SLD VERY COALY; SLICKENSIDES |
| | 23 | 103.04 | 103.29 | 0.25 | | COAL | C-4.VBRKN |
| | 22 | 103.29 | 103.89 | 0.60 | | MUDSTONE | CARB.BLK.THNB.BRKN COALY INCLUSIONS AND STRING |
| | 21 | 103.89 | 104.01 | 0.12 | | MUDSTONE | AS ABOVE |
| | 20 | 104.01 | 104.41 | 0.40 | | ROCK LOSS | |
| * | 15 | 104.41 | 106.65 | 2.24 | | MUDSTONE | SLTY.DK.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 24 | 106.65 | 107.49 | 0.84 | | MUDSTONE | SLTY.DK.GY.THNB.SLD PARTLY CARBONACEOUS WITH COALY INCL |
| * | 32 | 107.49 | 109.11 | 1.62 | | MUDSTONE | SLTY.DK.GY.THNB.SLD BROKEN AND CARB IN PLACES; SOME COAL IN CLUSIONS |
| | 27 | 109.11 | 110.71 | 1.60 | | MUDSTONE | AS ABOVE; BROKEN AT TOP |
| | 24 | 110.71 | 111.26 | 0.55 | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| * | 23 | 111.26 | 111.66 | 0.40 | | SILTSTONE | GY.THNB.SLD FEW CALC VEINS AND STRING TOWARD TOP; R OCK MOD CALC |
| * | 25 | 111.66 | 112.25 | 0.59 | | SILTSTONE | DK.GY.LAM.SLD LAMINAE OF MUDSTONE; ROCK MOD MUDDY |
| | 25 | 112.25 | 112.70 | 0.45 | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY STRINGERS |
| | 26 | 112.70 | 112.85 | 0.15 | | COAL | C-4.VBRKN |
| | 26 | 112.85 | 113.05 | 0.20 | | MUDSTONE | CARB.BLK.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 13

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 26 113.05 | 113.33 | 0.28 | | | SILTSTONE | CARB.BLK.MAS.SLD |
| | 27 113.33 | 114.20 | 0.87 | | | SILTSTONE | DK.GY.MAS.SLD PARTLY CARB; SOME SLICKENSIDES AT BASE |
| | 28 114.20 | 115.35 | 1.15 | | | SILTSTONE | DK.GY.MAS.SLD COMPACT; UNIFORM |
| | 28 115.35 | 115.85 | 0.50 | | | ROCK LOSS | |
| | 29 115.85 | 116.50 | 0.65 | | | SILTSTONE | DK.GY.MAS.SLD COMPACT |
| | 29 116.50 | 117.34 | 0.84 | | | SILTSTONE | AS ABOVE |
| | 30 117.34 | 117.99 | 0.65 | | | SILTSTONE | GY.THKB.SLD VERY CALC WITH NUMEROUS CA CO3 VEINS ST RINGERS AND INCLUSIONS |
| | 31 117.99 | 119.05 | 1.06 | | | SILTSTONE | DK.GY.MAS.SLD SANDY TOWARD BASE |
| * | 32 119.05 | 120.42 | 1.37 | | | SILTSTONE | DK.GY.THKB.SLD CARB AT TOP |
| | 26 120.42 | 120.91 | 0.49 | | | SILTSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|------------|--|
| | 22 | 120.91 | 121.66 | 0.75 | | MUDSTONE | SLTY.DK.GY.THKB.BRKN SLICK IN PLACES |
| | 19 | 121.66 | 121.88 | 0.22 | | SILTSTONE | DK.GY.SLD ROCK MOD CALC |
| | 17 | 121.88 | 122.05 | 0.17 | | MUDSTONE | BLK.THKB.BRKN SLICKENSIDES |
| * | 12 | 122.05 | 123.57 | 1.52 | | SILTSTONES | DK.GY.THKB.SLD |
| * | 10 | 123.57 | 124.21 | 0.64 | | SILTSTONE | DK.GY.THKB.SLD |
| | 12 | 124.21 | 125.61 | 1.40 | | SILTSTONE | SSY.GY.THNB.SLD CALC AND SOME SLICKENS IN PLACES |
| | 14 | 125.61 | 126.51 | 0.90 | | MUDSTONE | CARB.DK.GY.THKB.BRKN COALY INCLUS AND STRINGERS |
| | 15 | 126.51 | 126.82 | 0.31 | | MUDSTONE | DK.GY.THKB.SLD FAIRLY UNIFORM AND COMPACT |
| | 18 | 126.82 | 129.46 | 2.64 | | MUDSTONE | DK.GY.THKB.SLD AS ABOVE; BECOME CARB AND CALC TOWARDS BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 23 | 129.46 | 131.31 | 1.85 | | | MUDSTONE | CARB.DK.GY.THKB.BRKN COALY AND SLICK IN PLACES |
| 25 | 131.31 | 131.99 | 0.68 | | | MUDSTONE | AS ABOVE |
| 27 | 131.99 | 133.79 | 1.80 | | | MUDSTONE | DK.GY.THKB.SLD SLICKENS AND CARB AT TOP; SLTY TOWARD B ASE |
| * 30 | 133.79 | 134.77 | 0.98 | | | SILTSTONE | SSY.DK.GY.THKB.SSD.SLD SOME MUDDY LAMINAE |
| * 30 | 134.77 | 135.95 | 1.18 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD SILTY AND CALC IN PLACES; OCCASIONAL CO ALY; FEW COALY STRINGERS AT TOP |
| 29 | 135.95 | 137.45 | 1.50 | | | MUDSTONE | DK.GY.THKB.SLD FEW CALC VEINS AND INCLUS |
| * 27 | 137.45 | 138.95 | 1.50 | | | MUDSTONE | DK.GY.THKB.SLD AS ABOVE; SILTY |
| * 27 | 138.95 | 140.05 | 1.10 | | | MUDSTONE | AS ABOVE |
| 30 | 140.05 | 141.40 | 1.35 | | | MUDSTONE | AS ABOVE |
| 32 | 141.40 | 141.83 | 0.43 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY TOWARD BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 33 | 141.83 | 141.85 | 0.02 | | | COAL | C-5.SLD |
| 33 | 141.85 | 141.97 | 0.12 | | | MUDSTONE | CARB.BLK.THNB.BRKN COALY THIN LAYERS |
| 34 | 141.97 | 142.57 | 0.60 | | | MUDSTONE | SLD AS ABOVE |
| * 36 | 142.57 | 143.87 | 1.30 | | | MUDSTONE | CARB.BLK.THNB.BRKN VERY COALY; SLICKENSIDE AT TOP |
| 36 | 143.87 | 143.93 | 0.06 | | | COAL | C-5.SLD |
| 37 | 143.93 | 145.15 | 1.22 | | | MUDSTONE | CARB.BLK.THKB.BRKN COALY STRINGERS |
| 37 | 145.15 | 145.85 | 0.70 | | | MUDSTONE | CARB.BLK.BRKN SLICKENS COALY THIN LAYERS |
| 38 | 145.85 | 147.91 | 2.06 | | | MUDSTONE | CARB.DK.GY.THKB.SLD SOME CALC STRINGERS; FAIRLY UNIFORM |
| 39 | 147.91 | 148.19 | 0.28 | | | MUDSTONE | AS ABOVE |
| 40 | 148.19 | 150.59 | 2.40 | | | MUDSTONE | CARB.DK.GY.BRKN VERY COALY IN PLACES; FEW CALC STRINGER S |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 17

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 41 | 150.59 | 151.27 | 0.68 | | | SILTSTONE | DK.GY.SLD MUDDY OCCASIONALY; WITH CaCO3 VEINS AND STRINGERS; ROCK MOD CALC |
| * 41 | 151.27 | 151.67 | 0.40 | | | SANDSTONE | SLTY.GY.THNB |
| 41 | 151.67 | 152.47 | 0.80 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY STRINGERS AND THIN LAYERS IRREGUL ARELY |
| 41 | 152.47 | 152.77 | 0.30 | | | MUDSTONE | CARB.BLK.THNB.BRKN VERY COALY |
| 41 | 152.77 | 153.10 | 0.33 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| 41 | 153.10 | 154.28 | 1.18 | | | MUDSTONE | AS ABOVE; CaCO3 STRINGERS |
| 42 | 154.28 | 155.53 | 1.25 | | | MUDSTONE | SLTY.DK.GY.SLD CALCAREOUS STRINGERS |
| 42 | 155.53 | 155.88 | 0.35 | | | SILTSTONE | SLTY.DK.GY.SLD VERY CALC AND FRACTURED AT BASE. |
| 42 | 155.88 | 156.20 | 0.32 | | | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 42 | 156.20 | 157.10 | 0.90 | | | MUDSTONE | CARB.BLK.VBRKN VERY COALY; THIN LAYERS; IN PLACES COAL AND MUDSTONE. |
| 42 | 157.10 | 157.40 | 0.30 | | | COAL LOSS | |
| 43 | 157.40 | 158.55 | 1.15 | | | MUDSTONE | CARB.BLK.VBRKN MIXED; POSSIBLE CORE LOSS AS MUDSTONE A BOVE |
| 43 | 158.55 | 158.90 | 0.35 | | | MUDSTONE | CARB.BLK.VBRKN AS MUDSTONE ABOVE |
| 44 | 158.90 | 159.30 | 0.40 | | | ROCK LOSS | |
| 44 | 159.30 | 159.45 | 0.15 | | | COAL LOSS | |
| 44 | 159.45 | 159.90 | 0.45 | | | MUDSTONE | CARB.BLK.THNB.SLD VERY COALY |
| 44 | 159.90 | 160.62 | 0.72 | | | SILTSTONE | CARB.DK.GY.THKB.SLD |
| * 45 | 160.62 | 161.60 | 0.98 | | | MUDSTONE | CARB.DK.GY.THKB.SLD OCCASIONAL COALY STRINGERS AND THIN LAY ERS |
| 45 | 161.60 | 161.77 | 0.17 | | | MUDSTONE | BRKN AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 19

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| | 45 | 161.77 | 161.87 | 0.10 | | COAL | PWRD |
| | 45 | 161.87 | 162.22 | 0.35 | | SILTSTONE | CARB.DK.GY.THNB.BRKN CARB AT TOP; SANDY AND CALC IN PLACES |
| | 46 | 162.22 | 163.99 | 1.77 | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARB; BROKEN AT BASE |
| | 46 | 163.99 | 164.04 | 0.05 | | COAL | C-5.VBRKN |
| * | 46 | 164.04 | 165.32 | 1.28 | | MUDSTONE | SLTY.DK.GY.THNB.SLD OCCASIONAL CARB LAM |
| * | 46 | 165.32 | 166.64 | 1.32 | | MUDSTONE | SLTY.DK.GY.THKB.SSD.SLD SOME SANDY AND SILTY BANDS |
| | 46 | 166.64 | 167.51 | 0.87 | | MUDSTONE | AS ABOVE |
| | 45 | 167.51 | 167.81 | 0.30 | | COAL | C-5.VBRKN |
| | 45 | 167.81 | 167.89 | 0.08 | | COAL | C-6 BONEY |
| | 45 | 167.89 | 168.04 | 0.15 | | MUDSTONE | CARB.BLK.THKB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 45 | 168.04 | 168.14 | 0.10 | | COAL | C-6.SLD STONEY |
| * | 45 | 168.14 | 168.64 | 0.50 | | MUDSTONE | SLTY.DK.GY.THNB.SLD FROM CARB AND COALY AT TOP, GRADUALLY BE COMING SILTY TOWARD BASE |
| | 45 | 168.64 | 169.34 | 0.70 | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARB IN PLACES |
| | 45 | 169.34 | 171.77 | 2.43 | | SILTSTONE | DK.GY.MAS.SLD FAIRLY UNIFORM; ROCK MOD MUDDY |
| | 45 | 171.77 | 172.01 | 0.24 | | SILTSTONE | SSY.DK.GY.MAS.SLD |
| | 45 | 172.01 | 174.81 | 2.80 | | MUDSTONE | SLTY.DK.GY.THKB.SLD PARTLY CARB |
| | 45 | 174.81 | 175.87 | 1.06 | | MUDSTONE | AS ABOVE |
| * | 45 | 175.87 | 176.68 | 0.81 | | SANDSTONE | SLTY.VFG.GY.THNB.XBDG.SLD |
| | 44 | 176.68 | 177.31 | 0.63 | | SILTSTONE | DK.GY.THKB.SLD |
| | 44 | 177.31 | 177.86 | 0.55 | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARB TOWARD BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| | 44 | 177.86 | 177.91 | 0.05 | | COAL | C-5.VBRKN |
| | 44 | 177.91 | 178.02 | 0.11 | | COAL LOSS | |
| | 43 | 178.02 | 178.10 | 0.08 | | COAL | C-4.SLD |
| * | 43 | 178.10 | 178.97 | 0.87 | | MUDSTONE | DK.GY.THKB.SLD OCCASIONALLY CARB AND SILTY; FEW COALY S TRING TOWARDS BASE |
| | 44 | 178.97 | 179.12 | 0.15 | | COAL | C-1.VBRKN |
| | 45 | 179.12 | 180.05 | 0.93 | | SILTSTONE | DK.GY.THKB.SLD CARB AT TOP; ROCK MOD MUDDY |
| * | 47 | 180.05 | 180.99 | 0.94 | | SANDSTONE | SLTY.VFG.DK.GY.THNB.XBDG.SLD MASSIVE IN PLACES |
| | 46 | 180.99 | 182.75 | 1.76 | | SANDSTONE | AS ABOVE |
| | 46 | 182.75 | 183.70 | 0.95 | | SANDSTONE | AS ABOVE |
| | 46 | 183.70 | 184.09 | 0.39 | | MUDSTONE | SLTY.DK.GY.THKB.SLD VERY COMPACT; UNIFORM |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 22

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 45 | 184.09 | 185.50 | 1.41 | | MUDSTONE | SLTY AS ABOVE |
| | 45 | 185.50 | 187.25 | 1.75 | | MUDSTONE | SLTY AS ABOVE; CARB WITH FEW COALY INCL TOWA RD BASE |
| * | 44 | 187.25 | 188.23 | 0.98 | | MUDSTONE | CARB.DK.GY.THNB.BRKN OCCASIONAL COALY THIN LAYERS AND STRING ERS |
| | 39 | 188.23 | 188.77 | 0.54 | | MUDSTONE | AS ABOVE |
| * | 32 | 188.77 | 190.23 | 1.46 | | SILTSTONE | DK.GY.THNB.SLD |
| | 36 | 190.23 | 190.82 | 0.59 | | MUDSTONE | SLTY.DK.GY.THKB.SLD COMPACT; UNIFORM |
| | 42 | 190.82 | 192.82 | 2.00 | | MUDSTONE | AS ABOVE |
| | 47 | 192.82 | 193.28 | 0.46 | | MUDSTONE | CARB.BLK.THKB.BRKN |
| | 48 | 193.28 | 193.50 | 0.22 | | MUDSTONE | CARB.BLK.THKB.SLD COALY, SLICKENSIDES |
| | 49 | 193.50 | 193.88 | 0.38 | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 23

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 50 | 193.88 | 194.00 | 0.12 | | | MUDSTONE | CARB.BLK.VBRKN SHEARED; COALY |
| * 53 | 194.00 | 195.24 | 1.24 | | | MUDSTONE | CARB.BLK.THNB.SLD COALY INCLUS AND STRINGERS |
| 52 | 195.24 | 195.34 | 0.10 | | | COAL | VBRKN COAL AND ROCK MIXED |
| 52 | 195.34 | 196.00 | 0.66 | | | ROCK LOSS | HIGHLY BROKEN |
| 51 | 196.00 | 196.60 | 0.60 | | | MUDSTONE | CARB.DK.GY.THKB.SLD SILTY; THIN COAL LAYERS AND INCLUS |
| 50 | 196.60 | 197.28 | 0.68 | | | MUDSTONE | AS ABOVE |
| 50 | 197.28 | 197.33 | 0.05 | | | COAL | C-4.VBRKN |
| 50 | 197.33 | 198.31 | 0.98 | | | MUDSTONE | CARB.DK.GY.THNB.SLD SILTY; LAMINATED; COALY STRINGERS |
| 49 | 198.31 | 199.04 | 0.73 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD SANDY IN PLACES |
| 48 | 199.04 | 199.62 | 0.58 | | | SANDSTONE | SLTY.VFG.GY.THNB.SSD.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 24

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 47 | 199.62 | 200.67 | 1.05 | | | SILTSTONE | SLTY.GY.LAM.SLD OCCASIONAL SANDY LAYERS; MUDDY TOWARD B ASE |
| 42 | 200.67 | 201.47 | 0.80 | | | MUDSTONE | CARB.BLK.BRKN COALY |
| 40 | 201.47 | 201.57 | 0.10 | | | MUDSTONE | CARB.BLK.VBRKN MIXED WITH COAL |
| 39 | 201.57 | 201.72 | 0.15 | | | MUDSTONE | CARB.BLK.VBRKN |
| * 37 | 201.72 | 202.34 | 0.62 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 38 | 202.34 | 202.44 | 0.10 | | | COAL | PWRD MIXED WITH MUDSTONE |
| 38 | 202.44 | 202.60 | 0.16 | | | MUDSTONE | CARB.BLK.THNB.BRKN COALY STRINGERS |
| 38 | 202.60 | 202.75 | 0.15 | | | MUDSTONE | AS ABOVE |
| 39 | 202.75 | 203.39 | 0.64 | | | MUDSTONE | CARB.DK.GY.THKB.SLD SILTY TOWARD BASE |
| * 40 | 203.39 | 204.14 | 0.75 | | | SANDSTONE | VFG.DK.GY.THKB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 25

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 40 | 204.14 | 204.39 | 0.25 | | | ROCK LOSS | |
| 40 | 204.39 | 204.59 | 0.20 | | | MUDSTONE | CARB.BLK.VBRKN |
| 40 | 204.59 | 204.69 | 0.10 | | | COAL LOSS | |
| 40 | 204.69 | 205.15 | 0.46 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD PARTLY CARB |
| 39 | 205.15 | 205.30 | 0.15 | | | COAL | PWRD MIXED WITH ROCK |
| 39 | 205.30 | 205.50 | 0.20 | | | MUDSTONE | CARB.BLK.VBRKN SHEARED |
| 39 | 205.50 | 206.60 | 1.10 | | | MUDSTONE | CARB.BLK.VBRKN OCCASIONALY COALY |
| 39 | 206.60 | 206.77 | 0.17 | | | MUDSTONE | CARB.BLK.SLD |
| 39 | 206.77 | 206.87 | 0.10 | | | COAL | C-4.VBRKN |
| 39 | 206.87 | 207.00 | 0.13 | | | ROCK LOSS | |
| 39 | 207.00 | 207.30 | 0.30 | | | MUDSTONE | CARB.BLK.VBRKN SOME PULVERIZED COAL MIXED IN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 26

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 39 | 207.30 | 207.48 | 0.18 | | | COAL LOSS | |
| 38 | 207.48 | 208.20 | 0.72 | | | MUDSTONE | CARB.BLK.SLD |
| 38 | 208.20 | 209.30 | 1.10 | 00133 | 1 | COAL | C-4.VBRKN |
| 38 | 209.30 | 209.43 | 0.13 | 00134 | 1 | MUDSTONE | CARB.BLK.BRKN |
| 38 | 209.43 | 209.68 | 0.25 | 00134 | 1 | MUDSTONE | CARB.DK.GY.SLD |
| 38 | 209.68 | 210.03 | 0.35 | 00135 | 1 | COAL | PWRD |
| 38 | 210.03 | 210.50 | 0.47 | 00135 | 1 | COAL LOSS | |
| 37 | 210.50 | 211.03 | 0.53 | | | MUDSTONE | CARB.DK.GY.THKB.SLD COAL INCL AT BASE |
| * 37 | 211.03 | 212.56 | 1.53 | | | SILTSTONE | DK.GY.THNB.SLD CARB IN PLACES |
| 41 | 212.56 | 213.76 | 1.20 | | | MUDSTONE | SLTY.DK.GY.BRKN CARB; COALY SKS |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 27

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 44 | 213.76 | 214.24 | 0.48 | | | SILTSTONE | DK.GY.THKB.SLD |
| 44 | 214.24 | 215.14 | 0.90 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| 44 | 215.14 | 215.29 | 0.15 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| 45 | 215.29 | 215.86 | 0.57 | | | SILTSTONE | SLTY.DK.GY.THNB.SLD OCCASIONAL SANDY BANDS |
| 45 | 215.86 | 216.03 | 0.17 | | | MUDSTONE | CARB.BLK.BRKN |
| 45 | 216.03 | 216.50 | 0.47 | | | COAL | C-5.VBRKN |
| 45 | 216.50 | 216.60 | 0.10 | | | COAL | C-4.BRKN |
| 45 | 216.60 | 217.85 | 1.25 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARB AT TOP |
| 46 | 217.85 | 219.18 | 1.33 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD PARTLY CARB |
| * 46 | 219.18 | 219.72 | 0.54 | | | SILTSTONE | SSY.DK.GY.THKB.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 28

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| | 47 | 219.72 | 220.14 | 0.42 | | SILTSTONE | DK.GY.THKB.SLD |
| | 47 | 220.14 | 220.39 | 0.25 | | SANDSTONE | SLTY.GY.THNB.RIPMK.SLD SOME SSD AND X-BEDS |
| * | 48 | 220.39 | 222.13 | 1.74 | | SANDSTONE | SLTY.VFG.GY.THNB.RIPMK.SLD AS ABOVE |
| | 45 | 222.13 | 222.78 | 0.65 | | MUDSTONE | SLTY.DK.GY.SLD |
| | 45 | 222.78 | 223.05 | 0.27 | | SANDSTONE | VFG.GY.THNB.SSD.SLD |
| * | 43 | 223.05 | 224.23 | 1.18 | | SILTSTONE | SSY.DK.GY.LAM.SLD MUDDY TOWARD BASE |
| | 44 | 224.23 | 225.60 | 1.37 | | MUDSTONE | DK.GY.THKB.SLD FAIRLY UNIFORM; CARB AT BASE |
| | 44 | 225.60 | 225.75 | 0.15 | | COAL | C-2.VBRKN PARTLY PULVERIZED |
| | 44 | 225.75 | 225.82 | 0.07 | | MUDSTONE | CARB.BLK.BRKN VERY COALY; STRINGERS, INCLUSIONS |
| | 45 | 225.82 | 226.30 | 0.48 | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 29

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 45 | 226.30 | 226.38 | 0.08 | | COAL | C-6.SLD STONEY |
| | 45 | 226.38 | 226.43 | 0.05 | | COAL | C-2.VBRKN |
| | 45 | 226.43 | 226.63 | 0.20 | | MUDSTONE | CARB.BLK.BRKN PARTLY SHEARED |
| | 45 | 226.63 | 226.75 | 0.12 | | COAL | C-4 |
| | 45 | 226.75 | 226.91 | 0.16 | | MUDSTONE | CARB.BLK.THKB.SLD STONEY COAL; ROCK MOD VERY CARB |
| | 45 | 226.91 | 227.11 | 0.20 | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| | 46 | 227.11 | 228.29 | 1.18 | | MUDSTONE | CARB.DK.GY.THKB.SLD SILTY TOWARD BASE |
| | 46 | 228.29 | 229.53 | 1.24 | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| | 47 | 229.53 | 229.73 | 0.20 | | SANDSTONE | VFG.GY.THKB.XBDG.SLD CALC AT BASE |
| * | 47 | 229.73 | 230.13 | 0.40 | | SILTSTONE | DK.GY.THKB.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 30

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 46 | 230.13 | 230.84 | 0.71 | | MUDSTONE | SLTY.DK.GY.THKB.SLD PARTLY CARB |
| * | 45 | 230.84 | 233.14 | 2.30 | | MUDSTONE | DK.GY.THKB.SLD |
| | 42 | 233.14 | 233.50 | 0.36 | | MUDSTONE | CARB.DK.GY.THNB.SLD SOME COALY INCLUS |
| | 42 | 233.50 | 233.70 | 0.20 | | MUDSTONE | CARB.DK.GY.THNB.BRKN AS ABOVE |
| | 41 | 233.70 | 234.10 | 0.40 | | MUDSTONE | SLTY.DK.GY.THNB.SLD PARTLY CARB |
| | 40 | 234.10 | 234.84 | 0.74 | | MUDSTONE | DK.GY.THNB.SLD VERY COALY AT TOP |
| * | 38 | 234.84 | 236.01 | 1.17 | | SILTSTONE | DK.GY.THKB.SLD |
| | 38 | 236.01 | 236.47 | 0.46 | | SILTSTONE | DK.GY.THKB.SLD |
| | 37 | 236.47 | 237.29 | 0.82 | | MUDSTONE | SLTY.DK.GY.THNB.SLD VERY CARB TOWARD BASE |
| | 37 | 237.29 | 237.79 | 0.50 | | ROCK LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 31

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 37 | 237.79 | 238.04 | 0.25 | | | COAL | PWRD |
| 37 | 238.04 | 238.24 | 0.20 | | | MUDSTONE | CARB.BLK.VBRKN |
| 37 | 238.24 | 238.34 | 0.10 | | | COAL | PWRD |
| 37 | 238.34 | 238.64 | 0.30 | | | MUDSTONE | CARB.BLK.VBRKN |
| 36 | 238.64 | 239.12 | 0.48 | | | MUDSTONE | CARB.BLK.SLD COALY |
| 36 | 239.12 | 239.32 | 0.20 | | | MUDSTONE | CARB.BLK.VBRKN |
| 36 | 239.32 | 239.62 | 0.30 | | | ROCK LOSS | |
| 36 | 239.62 | 239.77 | 0.15 | | | COAL | C-6.VBRKN |
| 36 | 239.77 | 240.32 | 0.55 | | | MUDSTONE | CARB.BLK.VBRKN SOME POWDERED COAL MIXED |
| 36 | 240.32 | 240.52 | 0.20 | | | COAL | C-6.VBRKN MIXED WITH MUDSTONE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 32

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 35 | 240.52 | 241.37 | 0.85 | | SILTSTONE | CARB.BLK.MAS.SLD |
| * | 35 | 241.37 | 241.82 | 0.45 | | SILTSTONE | CARB.DK.GY.THKB.BRKN SOME CALC STRINGERS; BROKEN AT TOP |
| | 33 | 241.82 | 242.92 | 1.10 | | MUDSTONE | SLTY.DK.GY.THKB.SLD PARTLY CARB |
| | 30 | 242.92 | 243.42 | 0.50 | | MUDSTONE | CARB.BLK.THNB.VBRKN VERY COALY |
| * | 28 | 243.42 | 244.47 | 1.05 | | MUDSTONE | DK.GY.THKB.SLD PARTLY CARB; OCCASIONAL COALY STRINGERS ; THIN LAYERS AND INCLUSIONS; SILTY IN PLACES |
| | 29 | 244.47 | 244.91 | 0.44 | | MUDSTONE | AS ABOVE; VERY CARB TOWARD BASE |
| | 30 | 244.91 | 245.01 | 0.10 | | COAL | VBRKN COAL AND MUDSTONE MIXED |
| | 31 | 245.01 | 246.76 | 1.75 | | MUDSTONE | CARB.BLK.THKB.BRKN HIGHLY CARB AND COALY AT TOP; GRADUALLY SLTY TOWARD BASE |
| | 33 | 246.76 | 247.23 | 0.47 | | MUDSTONE | CARB.DK.GY.THKB.SLD SILTY |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 33

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 35 | 247.23 | 248.59 | 1.36 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARB TOWARD TOP |
| * 37 | 248.59 | 249.89 | 1.30 | | | SANDSTONE | SLTY.GY.THNB.SSD.SLD SILTY BANDS OCCASIONAL; VERY SILTY TOWA RD BASE |
| 38 | 249.89 | 250.41 | 0.52 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| 40 | 250.41 | 252.51 | 2.10 | | | SANDSTONE | SLTY.GY.THKB.SSD.SLD |
| 41 | 252.51 | 253.05 | 0.54 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD OCCASIONAL CARB AND SILTY BANDS; SOME C ARB PLANT FRAGMENTS |
| 43 | 253.05 | 255.05 | 2.00 | | | MUDSTONE | AS ABOVE |
| 44 | 255.05 | 255.28 | 0.23 | | | MUDSTONE | AS ABOVE |
| 45 | 255.28 | 256.15 | 0.87 | | | SILTSTONE | DK.GY.THKB.SLD ROCK MOD MUDDY |
| * 46 | 256.15 | 256.96 | 0.81 | | | SILTSTONE | AS ABOVE |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 34

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 45 | 256.96 | 257.71 | 0.75 | | MUDSTONE | CARB.BLK.VBRKN SOME THIN COALY LAYERS AND INCLUSIONS |
| | 44 | 257.71 | 258.39 | 0.68 | | MUDSTONE | CARB.BLK.THKB.SLD AS ABOVE |
| | 42 | 258.39 | 258.99 | 0.60 | | ROCK LOSS | |
| | 42 | 258.99 | 259.19 | 0.20 | | COAL | PWRD |
| | 42 | 259.19 | 259.34 | 0.15 | | MUDSTONE | CARB.BLK.THNB.BRKN |
| * | 40 | 259.34 | 261.01 | 1.67 | | SILTSTONE | SSY.GY.THKB.XBDG.SLD OCCASIONAL SANDY AND MUDDY BANDS |
| | 40 | 261.01 | 262.16 | 1.15 | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARBONACEOUS |
| | 41 | 262.16 | 262.31 | 0.15 | | MUDSTONE | CARB.BLK.VBRKN COALY |
| | 41 | 262.31 | 262.81 | 0.50 | | ROCK LOSS | |
| | 41 | 262.81 | 264.13 | 1.32 | | SANDSTONE | MG.LT.GY.THKB.SLD BROKEN AT TOP; COALY STRINGERS AND INCL USIONS TOWARD BASE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 35

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 41 | 264.13 | 265.27 | 1.14 | | | SANDSTONE | MG.LT.GY.MAS.SLD CARB STRING AND COALY INCLUSIONS |
| 41 | 265.27 | 266.07 | 0.80 | | | SILTSTONE | DK.GY.SSD.SLD SANDY AND MUDDY PEBBLES AND INCLUSIONS |
| 42 | 266.07 | 266.57 | 0.50 | | | SANDSTONE | SLTY.FG.GY.SSD.BRKN SILTSTONE SANDY |
| * 42 | 266.57 | 269.37 | 2.80 | | | SANDSTONE | FG.LT.GY.THKB.SLD FEW CaCO ₃ VEINS AND SILTY LAMINAE |
| 39 | 269.37 | 269.84 | 0.47 | | | SANDSTONE | FG.LT.GY.SLD AS ABOVE |
| 38 | 269.84 | 270.86 | 1.02 | | | SANDSTONE | MG.LT.GY.MAS.SLD |
| 37 | 270.86 | 271.86 | 1.00 | | | SANDSTONE | CG.LT.GY.MAS.SLD OCCASIONAL COALY INCLUSIONS AND STRINGERS |
| 35 | 271.86 | 272.43 | 0.57 | | | SANDSTONE | MG.GY.THNB.SLD AS ABOVE |
| * 34 | 272.43 | 273.55 | 1.12 | | | SANDSTONE | MG.GY.LAM.SLD CARB LAMINAE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 36

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 34 | 273.55 | 274.43 | 0.88 | | | SANDSTONE | MG.LT.GY.MAS.BRKN SOME MUDDY INCLUSIONS; CALC VEINS AND S TRINGERS |
| 33 | 274.43 | 274.68 | 0.25 | | | SANDSTONE | AS ABOVE |
| 33 | 274.68 | 275.68 | 1.00 | | | SANDSTONE | VCG.LT.GY.VBRKN CARB INCLUS TOWARD BASE; ROCK MOD CALC |
| 33 | 275.68 | 276.17 | 0.49 | | | SANDSTONE | MG.LT.GY.MAS.SLD |
| 32 | 276.17 | 276.73 | 0.56 | | | SANDSTONE | CG.LT.GY.MAS.SLD COALY IN PLACES; CAC03 VEINS |
| * 32 | 276.73 | 277.95 | 1.22 | | | SANDSTONE | AS ABOVE |
| 32 | 277.95 | 278.35 | 0.40 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD UNIFORM AND COMPACT |
| 33 | 278.35 | 279.33 | 0.98 | | | MUDSTONE | AS ABOVE |
| 33 | 279.33 | 279.77 | 0.44 | | | MUDSTONE | AS ABOVE; CARB TOWARD BASE |
| 33 | 279.77 | 279.82 | 0.05 | | | COAL | C-5.VBRKN |
| 34 | 279.82 | 281.82 | 2.00 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN COALY IN PLACES |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 37

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 35 | 281.82 | 284.58 | 2.76 | | MUDSTONE | CARB.DK.GY.THKB.SLD SILTY IN PLACES; FAIRLY COMPACT |
| | 37 | 284.58 | 287.20 | 2.62 | | MUDSTONE | AS ABOVE |
| | 38 | 287.20 | 287.77 | 0.57 | | MUDSTONE | AS ABOVE |
| * | 38 | 287.77 | 288.67 | 0.90 | | MUDSTONE | AS ABOVE; SILTIER TOWARD BASE |
| | 39 | 288.67 | 289.90 | 1.23 | | SANDSTONE | SLTY.VFG.GY.THNB.SSD.SLD |
| | 40 | 289.90 | 290.95 | 1.05 | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| | 41 | 290.95 | 291.50 | 0.55 | | MUDSTONE | SLTY.DK.GY.THKB.SLD PARTLY CARB |
| | 42 | 291.50 | 292.15 | 0.65 | | SANDSTONE | SLTY.VFG.GY.SSD.SLD SILTIER TOWARD BASE |
| | 42 | 292.15 | 292.50 | 0.35 | | MUDSTONE | SLTY.DK.GY.THNB SOME CALC VEINS AND STRINGERS |
| | 43 | 292.50 | 293.60 | 1.10 | | SILTSTONE | SSY.GY.SSD.SLD OCCASIONAL SANDY AND MUDDY BANDS |
| | 44 | 293.60 | 293.96 | 0.36 | | SANDSTONE | SLTY.VFG.GY.THNB |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 38

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 44 | 293.96 | 294.32 | 0.36 | | MUDSTONE | CARB.DK.GY.THNB.SLD FEW COALY STRINGERS |
| * | 45 | 294.32 | 295.01 | 0.69 | | SILTSTONE | DK.GY.THNB.SSD.SLD SSY AND MUDDY;MUDDIER TOWARD BASE |
| | 43 | 295.01 | 295.43 | 0.42 | | SILTSTONE | GY.THNB.SLD |
| * | 42 | 295.43 | 295.76 | 0.33 | | SANDSTONE | VFG.LT.GY.THKB.SLD |
| | 41 | 295.76 | 296.75 | 0.99 | | SILTSTONE | GY.THNB.SLD |
| | 39 | 296.75 | 297.82 | 1.07 | | SILTSTONE | DK.GY.SLD SANDY AND MUDDY BANDS; SANDIER TOWARD B ASE |
| | 38 | 297.82 | 298.24 | 0.42 | | SILTSTONE | SSY.GY.SLD |
| | 37 | 298.24 | 299.32 | 1.08 | | SANDSTONE | VFG.LT.GY.THKB.RIPMK.SLD |
| * | 36 | 299.32 | 299.98 | 0.66 | | MUDSTONE | SLTY.DK.GY.THKB.SLD PARTLY CARB |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 39

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81014

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 35 | 299.98 | 300.47 | 0.49 | | MUDSTONE | AS ABOVE |
| | 35 | 300.47 | 300.60 | 0.13 | | SANDSTONE | VFG.LT.GY.THKB.SLD |
| | 35 | 300.60 | 301.37 | 0.77 | | SANDSTONE | VFG.LT.GY.THKB.SSD.SLD SILTY IN PLACES |
| * | 34 | 301.37 | 302.06 | 0.69 | | SILTSTONE | SSY.GY.LAM.SLD |
| | 34 | 302.06 | 302.82 | 0.76 | | MUDSTONE | SLTY.DK.GY.THNB.SLD FEW COALY STRINGERS |
| | 34 | 302.82 | 303.10 | 0.28 | | SILTSTONE | SSY.GY.SLD |

* DENOTES MEASURED BCA

DDH 81-15

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ____ DATA SOURCE: DDH81015

HISTORY

DY MO YR DY MO YR
 START DATE: 24/09/81 END DATE: 26/09/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: D. DAUPHINEE SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1329.2
 UTM ZONE: 10 NORTH: 6143410.50 EAST: 546520.70
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 193.80 INCLINATION: -66.0 AZIMUTH: 044.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 12.50 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | — | — | X | — | 125A |
| NEUTRON | X | 1:100 | : | — | — | X | — | 125A |
| DENSITY | X | 1:100 | 1:40 | — | — | X | — | 422AS |
| CALIPER | X | 1:100 | : | — | — | X | — | 20A45 |
| FE-SHORT | X | : | 1:40 | — | — | X | — | 6 |
| FE-LONG | X | 1:100 | 1:40 | — | — | X | — | 6 |
| DIRECTIONAL | X | : | : | — | — | X | — | _____ |
| DIPMETER | — | : | : | — | — | — | — | _____ |

*** COAL DIVISION ***

DATA SOURCE: D81-15

INTERVAL OF INTERPOLATION 10 UNIT(S)

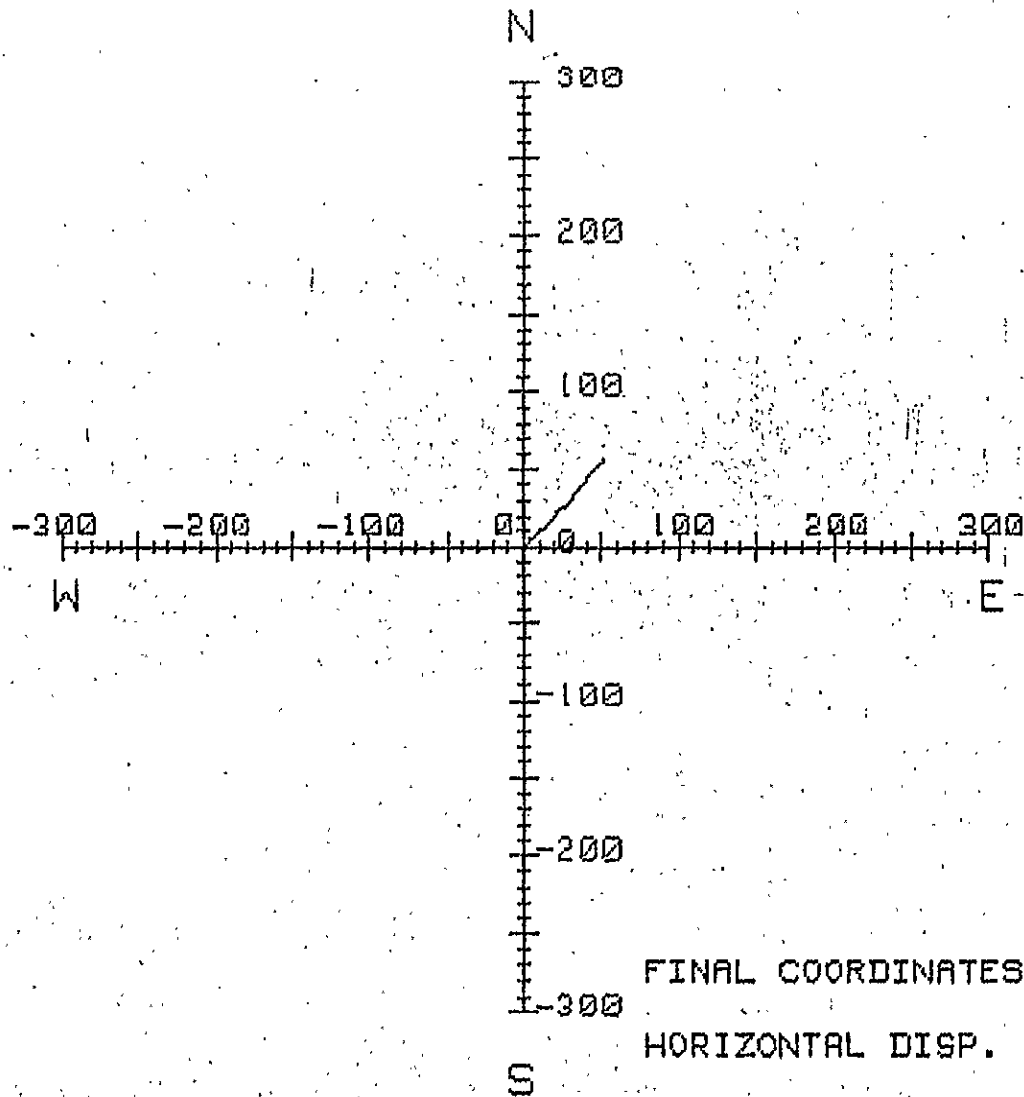
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 0.00 | 24.10 | 44.40 |
| 15.00 | 24.10 | 41.40 |
| 30.00 | 23.80 | 46.20 |
| 45.00 | 24.40 | 45.80 |
| 60.00 | 25.96 | 44.00 |
| 75.00 | 25.96 | 45.10 |
| 90.00 | 25.92 | 41.90 |
| 105.00 | 25.80 | 44.40 |
| 120.00 | 26.55 | 43.50 |
| 135.00 | 26.10 | 37.50 |
| 150.00 | 25.05 | 38.30 |
| 165.00 | 25.20 | 38.00 |
| 180.00 | 24.85 | 40.60 |

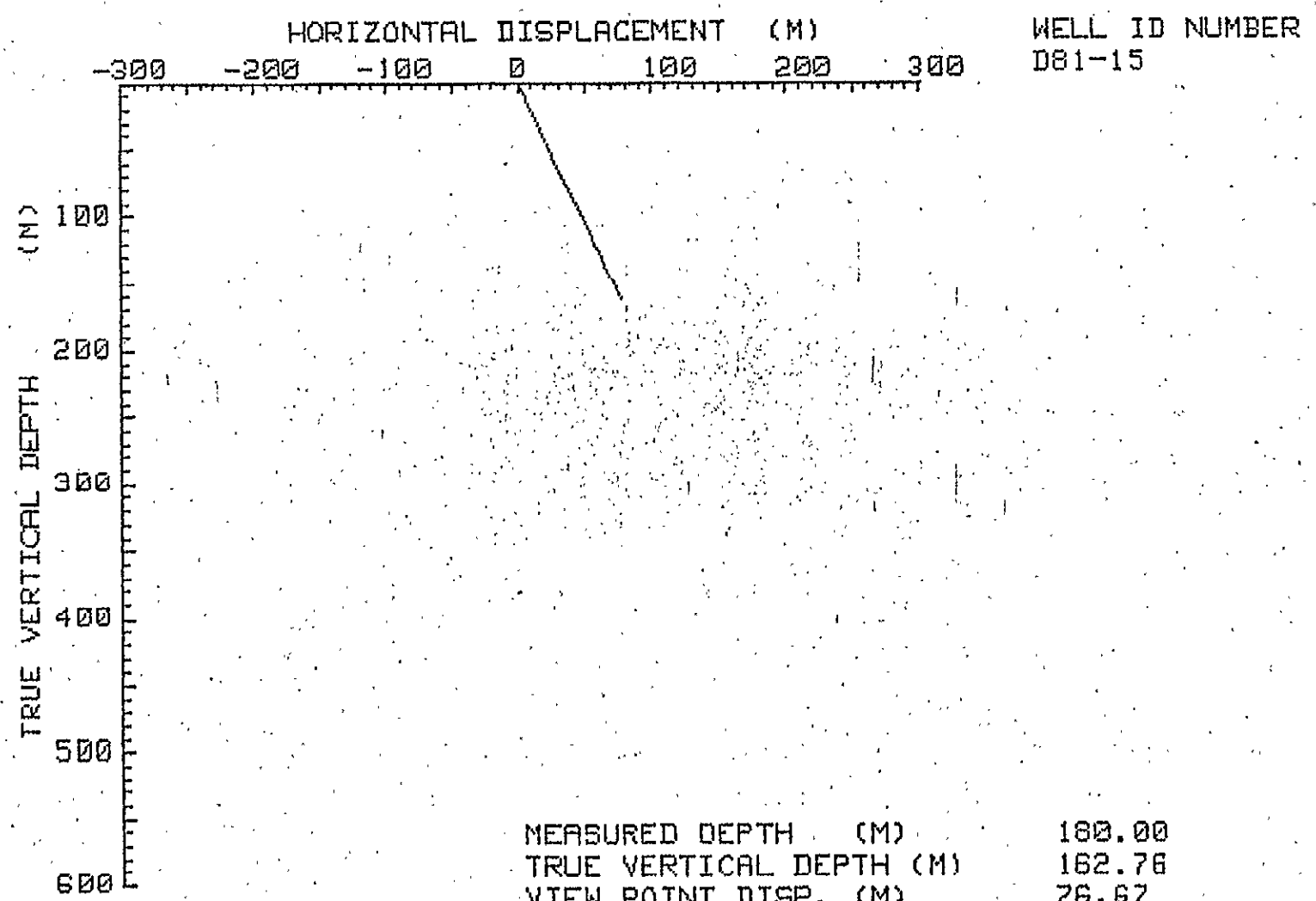
PLAN VIEW

WELL ID NUMBER
D81-15



FINAL COORDINATES(M) N 56.71
E 51.72
HORIZONTAL DISP. (M) 76.67

DISPLACEMENT



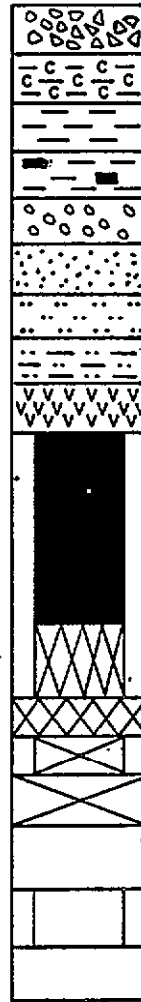
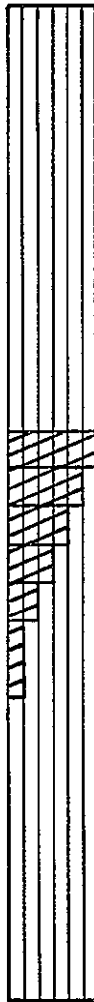
| | |
|-------------------------|--------|
| MEASURED DEPTH (M) | 160.00 |
| TRUE VERTICAL DEPTH (M) | 162.76 |
| VIEW POINT DISP. (M) | 76.97 |
| SECTION LINE BEARING | 45.00 |

SEAM
COMP.

COAL
SEAM
LOG

LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone



- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff
- coal
- coal-boney, stoney, coal and bands/rock - designated "C6"
- rock } coal lithotype uncertain
- coal } MISSING CORE
- rock }
- rock
- coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

| | | |
|---|---------|---------------------------|
| GULF CANADA RESOURCES INC. | | |
| Coal Division | | |
| CALGARY | ALBERTA | |
| LEGEND FOR COAL SEAM DATA SHEETS | | |
| PREPARED BY: V.O. | | SCALE 1:40 |
| APPROVED BY: | | DATE: JAN. 82 DRAWING No. |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-287 (12-80)

DENSITY -----

RESISTIVITY -----

DRILL NO. GDR-DDH-81-15 SEAM _____

SEAM INTERVAL 14.93 - 16.97 m

Coal / Cool + Rock (True Thk (m))
1.59/1.91

SCALE 1:40

| DENSITY SCALE 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80 | RESISTIVITY SCALE | SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|---|-------------------|-------------------|-------|---------------|----------|--------|--------|--------|---------|-------------------------|-------|-------|-------|------|----------------|-----|-----|--|
| | | | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/RG) | FSI | | |
| | | | 14.93 | | | | | | | | | | | | | | | |
| | | | 15.51 | | | (0.23) | | | | | | | | | | | | |
| | | | | | | 0.44 | | | | | | | | | | | | |
| | | | | | | 0.32 | 84 | 00130 | | 0.50 | 21.76 | 19.09 | 58.65 | 0.50 | 11,767 (27.37) | | 2.0 | |
| | | | | | 0.10 | | | | | | | | | | | | | |
| | | | 16.97 | | | 0.37 | | | | | | | | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal / Coal + Rock (True Thk (m))
3.82 / 4.15
SEAM INTERVAL 93.68 - 97.83m

DENSITY ----- RESISTIVITY -----

DRILL NO. GDR-DDH-81-15 SEAM
SCALE 1:40

| DENSITY SCALE RESISTIVITY SCALE | SEAM COMP. 854321 | | | | | | | | | | | | | | | | | |
|------------------------------------|-------------------|---------------|-------------|--------|--------|--------|---------|-------------------------|-------|-------|-------|------|----------------|------|------|------|------|------|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | 2.00 | 2.10 | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 |
| GEOLOGICAL LOGS | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | |
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI | | | | |
| | 93.68 | | | 1.10 | 68 | 00127 | | 0.75 | 7.48 | 22.30 | 69.47 | 0.41 | 14,179 (32.48) | 6.0 | | | | |
| | 95.30 | | 0.25 (0.05) | | 83 | 00128 | | 1.47 | 82.55 | 7.69 | 8.29 | 0.08 | 1,334 (3.58) | 0.0 | | | | |
| | 95.60 | | 0.03 | 0.55 | | | | | | | | | | | | | | |
| | 97.83 | | | 1.30 | 84 | 00129 | | 0.50 | 7.80 | 21.02 | 70.68 | 2.34 | 13,964 (32.48) | 1.5 | | | | |
| | | | | (0.35) | | | | | | | | | | | | | | |

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|----------------|--------------|--------------|
| DDH81015 | | 127 | 93.68 | 95.30 | 1.10 | 87.90 | 1.10 | 0.00 | 0.52 | 0.00 |
| | | 128 | 95.30 | 95.60 | 0.25 | 83.33 | 0.00 | 0.25 | 0.00 | 0.05 |
| | | 129 | 95.60 | 97.83 | 1.88 | 84.30 | 1.85 | 0.05 | 0.35 | 0.00 |
| | | 130 | 15.51 | 16.97 | 1.23 | 84.25 | 1.13 | 0.10 | 0.23 | 0.00 |

| PRUJ - GDR | | ANALYSIS BASIS TYPE - AD | | | | NAME OF STANDARD - ASIM | | | | |
|-------------|------|--------------------------|--------------------|-------|---------------|-------------------------|----------------|-------------------------------|------|------|
| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
| DDHB1015 | | | | | | | | | | |
| | | 127 | 0.75 | 7.48 | 69.47 | 22.30 | 0.41 | 32.98 | 1.35 | 6.00 |
| | | 128 | 1.47 | 82.55 | 8.29 | 7.09 | 0.08 | 3.58 | 2.32 | 0.00 |
| | | 129 | 0.50 | 7.80 | 70.68 | 21.02 | 0.34 | 32.48 | 1.34 | 1.50 |
| | | 130 | 0.50 | 21.76 | 58.65 | 19.09 | 0.50 | 27.37 | 1.43 | 2.00 |

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|------------|---|
| 70 | 0.00 | 12.45 | 12.45 | | | OVERBURDEN | |
| 70 | 12.45 | 13.25 | 0.80 | | | OVERBURDEN | GRAVEL AND DRILL MUD |
| 70 | 13.25 | 14.75 | 1.50 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN PARTLY CARB; COALY STRINGERS |
| 70 | 14.75 | 14.93 | 0.18 | | | MUDSTONE | BLK.VBRKN VERY CARBONACEOUS; MIXED WITH COAL; ROC K MOD COALY |
| 70 | 14.93 | 15.01 | 0.08 | | | COAL | C-3.BRKN |
| 70 | 15.01 | 15.26 | 0.25 | | | COAL LOSS | |
| 70 | 15.26 | 15.51 | 0.25 | | | MUDSTONE | CARB.BLK.BRKN |
| 70 | 15.51 | 15.74 | 0.23 | 00130 | | COAL LOSS | |
| 70 | 15.74 | 16.18 | 0.44 | 00130 | | COAL | C-5.BRKN |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 70 16.18 | 16.50 | 0.32 | 00130 | | COAL | PWRD |
| | 70 16.50 | 16.60 | 0.10 | 00130 | | MUDSTONE | CARB.DK.GY.BRKN |
| | 70 16.60 | 16.97 | 0.37 | 00130 | | COAL | C-4.BRKN DULL BANDED |
| | 70 16.97 | 18.13 | 1.16 | | | SILTSTONE | SSY.GY.SLD CARB AT TOP |
| | 70 18.13 | 18.35 | 0.22 | | | ROCK LOSS | |
| * | 70 18.35 | 19.65 | 1.30 | | | SILTSTONE | SSY.GY.THKB.SLD SSY BANDS |
| | 71 19.65 | 20.53 | 0.88 | | | SILTSTONE | AS ABOVE |
| * | 71 20.53 | 20.91 | 0.38 | | | SANDSTONE | FG.LT.GY.VTHKB.SLD |
| | 71 20.91 | 21.01 | 0.10 | | | SILTSTONE | DK.GY.SLD CARB INCLUSIONS; ROCK MOD MUDDY |
| | 70 21.01 | 21.98 | 0.97 | | | SILTSTONE | SSY.GY.SLD A FEW CALC STRINGERS |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 69 | 21.98 | 22.18 | 0.20 | | | SANDSTONE | VFG.GY.BRKN FRACTURED WITH CALC STRINGERS; ROCK MOD CALC |
| 68 | 22.18 | 22.71 | 0.53 | | | SILTSTONE | SSY.GY.THKB.SLD |
| 67 | 22.71 | 23.69 | 0.98 | | | SILTSTONE | DK.GY.SLD BANDS OF VFG SS AT TOP; ROCK MOD MUDDY |
| 65 | 23.69 | 25.82 | 2.13 | | | SILTSTONE | SSY.GY.THKB.SSD.SLD |
| 63 | 25.82 | 26.43 | 0.61 | | | SILTSTONE | SSY.GY.THKB.SSD.BRKN MORE MUD TOWARD BASE; FEW CARB STRINGER S. |
| 62 | 26.43 | 26.79 | 0.36 | | | ROCK LOSS | FEW CARB STRINGERS |
| 62 | 26.79 | 27.12 | 0.33 | | | SILTSTONE | SSY.GY.SSD.SLD BRKN AT BASE WITH FEW CALC VEINS |
| 61 | 27.12 | 28.17 | 1.05 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN CARB STRINGERS; COALY INCLUSIONS |
| 59 | 28.17 | 28.87 | 0.70 | | | SILTSTONE | SSY.DK.GY.SLD MUDDY IN PLACES |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 58 | 28.87 | 29.27 | 0.40 | | | SILTSTONE | DK.GY.BRKN ROCK MOD MUDDY; SSY IN PLACES |
| * 57 | 29.27 | 30.69 | 1.42 | | | SILTSTONE | SSY.GY.THNB.SLD MUDDY LAYERS IN PLACES; SOME CARB LAYER S |
| 59 | 30.69 | 31.91 | 1.22 | | | MUDSTONE | SLTY.DK.GY.SLD CARB OCCASIONALLY |
| 60 | 31.91 | 34.06 | 2.15 | | | MUDSTONE | CARB.DK.GY.THNB.SLD SILTY; COAL; THN LAYERS AND STRINGERS |
| 62 | 34.06 | 34.09 | 0.03 | | | COAL | VBRKN |
| 62 | 34.09 | 34.39 | 0.30 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 62 | 34.39 | 34.81 | 0.42 | | | ROCKLOSS | |
| 63 | 34.81 | 34.96 | 0.15 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY STRINGERS AND BANDS |
| * 64 | 34.96 | 37.31 | 2.35 | | | MUDSTONE | AS ABOVE |
| 62 | 37.31 | 37.51 | 0.20 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 62 | 37.51 | 38.01 | 0.50 | | MUDSTONE | SLTY.DK.GY.THNB.SLD SOME CARB LAYERS |
| | 61 | 38.01 | 38.16 | 0.15 | | MUDSTONE | BRKN AS ABOVE |
| * | 60 | 38.16 | 39.65 | 1.49 | | SILTSTONE | SSY.GY.THNB |
| | 59 | 39.65 | 40.13 | 0.48 | | MUDSTONE | DK.GY.THKB.SLD BROKEN AT TOP; FEW PLANT CARB FRAGMENTS |
| | 59 | 40.13 | 40.29 | 0.16 | | ROCK LOSS | |
| | 59 | 40.29 | 41.05 | 0.76 | | MUDSTONE | CARB.DK.GY.THKB.BRKN COALY STRINGERS AND INCLUSIONS |
| | 58 | 41.05 | 42.80 | 1.75 | | MUDSTONE | CARB.DK.GY.LAM.BRKN AS ABOVE |
| | 57 | 42.80 | 42.99 | 0.19 | | MUDSTONE | BRKN AS ABOVE |
| | 57 | 42.99 | 43.29 | 0.30 | | ROCK LOSS | |
| | 56 | 43.29 | 44.10 | 0.81 | | SILTSTONE | SSY.DK.GY.THNB.SLD SLICKENSIDES AT TOP |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 56 | 44.10 | 44.63 | 0.53 | | SILTSTONE | DK.GY.THNB.SLD |
| | 55 | 44.63 | 45.14 | 0.51 | | SANDSTONE | FG.GY.THNB.XBDG.SLD |
| * | 55 | 45.14 | 45.54 | 0.40 | | MUDSTONE | SLTY.DK.GY.THNB.BRKN |
| | 57 | 45.54 | 46.00 | 0.46 | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB |
| * | 59 | 46.00 | 46.91 | 0.91 | | SILTSTONE | CARB.DK.GY.THNB.SLD COALY STRINGERS |
| | 59 | 46.91 | 47.15 | 0.24 | | SANDSTONE | SLTY.FG.GY.THNB.XBDG.SLD |
| | 58 | 47.15 | 47.59 | 0.44 | | SANDSTONE | AS ABOVE |
| | 58 | 47.59 | 48.11 | 0.52 | | SILTSTONE | SSY.DK.GY.THNB.SLD |
| * | 57 | 48.11 | 49.41 | 1.30 | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| | 57 | 49.41 | 49.51 | 0.10 | | SANDSTONE | SLTY.LT.GY.THNB.SLD |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 57 | 49.51 | 49.99 | 0.48 | | SILTSTONE | DK.GY.THNB.BRKN ROCK MOD MUDDY |
| | 58 | 49.99 | 50.82 | 0.83 | | SILTSTONE | SSY.DK.GY.THNB.SLD CALC VEINS |
| | 58 | 50.82 | 52.98 | 2.16 | | SILTSTONE | DK.GY.THNB.BRKN MINOR CARB AND CALC VEINS; ROCK MOD MUD DY |
| | 59 | 52.98 | 53.04 | 0.06 | | ROCK LOSS | |
| * | 59 | 53.04 | 53.50 | 0.46 | | SILTSTONE | AS ABOVE |
| | 56 | 53.50 | 53.98 | 0.48 | | MUDSTONE | SLTY.DK.GY.THNB.SLD MINOR CARB STRINGERS |
| | 53 | 53.98 | 54.60 | 0.62 | | SILTSTONE | DK.GY.THNB.SLD ROCK MOD MUDDY |
| | 50 | 54.60 | 55.01 | 0.41 | | SILTSTONE | BRKN AS ABOVE |
| * | 48 | 55.01 | 55.48 | 0.47 | | SILTSTONE | BRKN AS ABOVE; CORE STATE PARTLY BRKN |
| | 50 | 55.48 | 56.06 | 0.58 | | SILTSTONE | BRKN AS ABOVE |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 52 | 56.06 | 56.94 | 0.88 | | | MUDSTONE | CARB.DK.GY.SLD INCREASE CARB TOWARDS BASE |
| 53 | 56.94 | 57.13 | 0.19 | | | COAL | C-3.VBRKN |
| 55 | 57.13 | 58.42 | 1.29 | | | ROCK LOSS | |
| 57 | 58.42 | 58.52 | 0.10 | | | ROCK LOSS | |
| 58 | 58.52 | 58.88 | 0.36 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN COAL STRINGERS; CORE STATE PARTLY BRKN |
| 60 | 58.88 | 59.92 | 1.04 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| 62 | 59.92 | 60.15 | 0.23 | | | SILTSTONE | GY.THNB.SLD ROCK MOD MUDDY |
| 64 | 60.15 | 61.19 | 1.04 | | | SILTSTONE | LT.GY.THNB.BRKN ROCK MOD CALC |
| 67 | 61.19 | 62.00 | 0.81 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COAL STRINGERS |
| * 68 | 62.00 | 62.14 | 0.14 | | | SILTSTONE | LT.GY.THNB.SLD ROCK MOD CALC |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 69 | 62.14 | 62.50 | 0.36 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COAL STRINGERS |
| 70 | 62.50 | 62.79 | 0.29 | | | MUDSTONE | AS ABOVE |
| 70 | 62.79 | 62.85 | 0.06 | | | COAL | C-4.VBRKN |
| 71 | 62.85 | 63.12 | 0.27 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COAL STRINGERS |
| 71 | 63.12 | 63.25 | 0.13 | | | SILTSTONE | DK.GY.THNB.SLD ROCK MOD MUDDY |
| 72 | 63.25 | 63.79 | 0.54 | | | SILTSTONE | SSY.GY.THNB.SLD |
| 75 | 63.79 | 65.26 | 1.47 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN CALC IN PLACES |
| 78 | 65.26 | 65.79 | 0.53 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN COAL STRINGERS |
| 79 | 65.79 | 65.81 | 0.02 | | | COAL | C-4.SLD |
| 80 | 65.81 | 66.18 | 0.37 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COAL STRINGERS |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 81 | 66.18 | 66.41 | 0.23 | | MUDSTONE | AS ABOVE |
| | 81 | 66.41 | 66.45 | 0.04 | | COAL | C-5.SLD HARD |
| | 83 | 66.45 | 67.43 | 0.98 | | MUDSTONE | CARB.DK.GY.THNB.BRKN COAL STRINGERS; SILTIER AT BASE; CORE S TATE PARTLY BRKN |
| * | 85 | 67.43 | 67.94 | 0.51 | | SILTSTONE | GY.THNB.SLD SSY AT BASE; ROCK MOD MUDDY |
| | 86 | 67.94 | 69.01 | 1.07 | | SILTSTONE | SSY.GY.THNB.SSD.SLD MUDDY TOWARDS BASE; CALC |
| | 86 | 69.01 | 70.21 | 1.20 | | MUDSTONE | CARB.DK.GY.THNB.SLD CARB STRINGERS |
| * | 87 | 70.21 | 70.48 | 0.27 | | MUDSTONE | BRKN AS ABOVE |
| | 87 | 70.48 | 71.65 | 1.17 | | MUDSTONE | SLTY.DK.GY.THNB.BRKN CARB |
| | 86 | 71.65 | 71.67 | 0.02 | | COAL | C-5.SLD |
| | 86 | 71.67 | 72.02 | 0.35 | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 11

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 86 | 72.02 | 73.04 | 1.02 | | MUDSTONE | BRKN CORE STATE PARTLY BRKN; AS ABOVE |
| | 86 | 73.04 | 73.60 | 0.56 | | SILTSTONE | DK.GY.THNB.SLD CALC IN FRACTURES; ROCK MOD MUDDY |
| | 85 | 73.60 | 74.06 | 0.46 | | MUDSTONE | CARB.DK.GY.THNB.SLD COAL STRINGERS |
| | 85 | 74.06 | 74.08 | 0.02 | | COAL | C-5.BRKN |
| | 85 | 74.08 | 74.77 | 0.69 | | MUDSTONE | CARB.DK.GY.THNB.BRKN COAL STRINGERS; ROCK MOD VERY CARB |
| | 85 | 74.77 | 74.82 | 0.05 | | MUDSTONE | BLK.BRKN ROCK TYPE IS COAL AND MUDSTONE |
| * | 85 | 74.82 | 74.98 | 0.16 | | SILTSTONE | DK.GY.THNB.SLD ROCK MOD MUDDY |
| | 84 | 74.98 | 75.80 | 0.82 | | SILTSTONE | DK.GY.THNB.SLD SSY AT BASE; CALC IN FRACTURES; ROCK MO D MUDDY |
| | 82 | 75.80 | 76.04 | 0.24 | | SILTSTONE | SSY.GY.THNB.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 12

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 81 | 76.04 | 76.62 | 0.58 | | SANDSTONE | VFG.GY.THNB.XBDG.SLD |
| * | 78 | 76.62 | 78.15 | 1.53 | | MUDSTONE | CARB.DK.GY.THNB.SLD COAL STRINGERS UP TO 1CM THICK |
| | 78 | 78.15 | 78.56 | 0.41 | | MUDSTONE | SLD AS ABOVE |
| | 79 | 78.56 | 80.05 | 1.49 | | MUDSTONE | SLTY.DK.GY.THNB.SLD CALC IN FRACTURES |
| | 79 | 80.05 | 80.15 | 0.10 | | SILTSTONE | GY.THNB.XBDG.SLD ROCK MOD MUDDY |
| | 79 | 80.15 | 81.24 | 1.09 | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| | 80 | 81.24 | 83.57 | 2.33 | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| | 80 | 83.57 | 83.90 | 0.33 | | MUDSTONE | BRKN AS ABOVE |
| * | 80 | 83.90 | 84.24 | 0.34 | | MUDSTONE | SLD AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 82 | 84.24 | 85.91 | 1.67 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB AT BASE; COAL STRINGERS |
| 83 | 85.91 | 86.17 | 0.26 | | | MUDSTONE | VBRKN AS ABOVE. |
| 84 | 86.17 | 86.54 | 0.37 | | | SILTSTONE | DK.GY.THNB.SLD ROCK MOD MUDDY |
| * 85 | 86.54 | 88.00 | 1.46 | | | SANDSTONE | FG.GY.THNB.XBDG.BRKN SILTY |
| 85 | 88.00 | 88.67 | 0.67 | | | SANDSTONE | SLTY.GY.THNB.XBDG.SLD FG FRACTURED CALC |
| 85 | 88.67 | 88.75 | 0.08 | | | SILTSTONE | SSY.GY.THNB.VBRKN |
| 85 | 88.75 | 88.84 | 0.09 | | | SILTSTONE | SSY.GY.THNB.SLD |
| 85 | 88.84 | 89.08 | 0.24 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN |
| 85 | 89.08 | 89.80 | 0.72 | | | MUDSTONE | SLTY.DK.GY.SLD |
| 85 | 89.80 | 90.65 | 0.85 | | | MUDSTONE | CARB.BLK.THNB.VBRKN COALY LAM. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 85 | 90.65 | 90.85 | 0.20 | | | COAL | C-4.VBRKN |
| 85 | 90.85 | 91.02 | 0.17 | | | MUDSTONE | CARB.BLK.BRKN |
| 85 | 91.02 | 91.47 | 0.45 | | | COAL | C-2.VBRKN |
| 85 | 91.47 | 91.57 | 0.10 | | | MUDSTONE | CARB.BLK.THNB.BRKN |
| 85 | 91.57 | 93.55 | 1.98 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD SILTY AT TOP; CARB TOWARD BASE |
| 85 | 93.55 | 93.64 | 0.09 | | | MUDSTONE | CARB.BLK.THKB.SLD |
| 85 | 93.64 | 93.68 | 0.04 | | | ROCK LOSS | |
| 85 | 93.68 | 94.18 | 0.50 | 00127 | | COAL | C-5.VBRKN |
| 85 | 94.18 | 94.78 | 0.60 | 00127 | | COAL | C-5.VBRKN |
| 85 | 94.78 | 95.30 | 0.52 | 00127 | | COAL LOSS | |
| 85 | 95.30 | 95.55 | 0.25 | 00128 | | MUDSTONE | CARB.DK.GY.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--------------------------------------|
| | 85 95.55 | 95.60 | 0.05 | 00128 | | ROCK LOSS | |
| | 85 95.60 | 96.15 | 0.55 | 00129 | | COAL | C-5.VBRKN |
| | 85 96.15 | 96.18 | 0.03 | 00129 | | MUDSTONE | CARB.BLK.VBRKN ALMOST PULVERIZED. |
| | 85 96.18 | 96.98 | 0.80 | 00129 | | COAL | C-5.VBRKN |
| | 85 96.98 | 97.28 | 0.30 | 00129 | | COAL | C-5.VBRKN |
| | 85 97.28 | 97.48 | 0.20 | 00129 | | COAL | C-4.VBRKN |
| | 85 97.48 | 97.83 | 0.35 | 00129 | | COAL LOSS | |
| | 85 97.83 | 98.08 | 0.25 | | | MUDSTONE | CARB.BLK.VBRKN |
| | 85 98.08 | 98.13 | 0.05 | | | COAL | C-4.VBRKN |
| | 85 98.13 | 98.21 | 0.08 | | | MUDSTONE | CARB.BLK.BRKN |
| | 85 98.21 | 98.33 | 0.12 | | | COAL | C-3.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDHB1015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 85 | 98.33 | 98.73 | 0.40 | | | MUDSTONE | CARB.BLK.VBRKN COALY |
| 85 | 98.73 | 98.75 | 0.02 | | | COAL | C-5.BRKN |
| 85 | 98.75 | 98.95 | 0.20 | | | MUDSTONE | CARB.BLK.BRKN |
| 85 | 98.95 | 99.03 | 0.08 | | | ROCK LOSS | |
| 85 | 99.03 | 99.05 | 0.02 | | | COAL | C-1.VBRKN |
| 85 | 99.05 | 100.01 | 0.96 | | | MUDSTONE | CARB.BLK.BRKN COALY INCLUSIONS AND STRINGERS |
| 85 | 100.01 | 100.07 | 0.06 | | | MUDSTONE | CARB.DK.GY.THNB.VBRKN COAL STRINGERS |
| 85 | 100.07 | 100.51 | 0.44 | | | MUDSTONE | CARB.BLK.THNB.BRKN COAL STRINGERS; ROCK MOD VERY CARB |
| 85 | 100.51 | 100.55 | 0.04 | | | COAL | C-1.VBRKN |
| 85 | 100.55 | 101.38 | 0.83 | | | MUDSTONE | CARB.BLK.THNB.BRKN COAL STRINGERS; ROCK MOD VERY CARB |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 85 | 101.38 | 101.68 | 0.30 | | | ROCK LOSS | |
| 85 | 101.68 | 102.25 | 0.57 | | | MUDSTONE | BRKN AS ABOVE |
| 85 | 102.25 | 102.39 | 0.14 | | | COAL | C-1.VBRKN |
| 85 | 102.39 | 102.51 | 0.12 | | | MUDSTONE | CARB.BLK.THNB.SLD ROCK MOD VERY CARB |
| 85 | 102.51 | 102.54 | 0.03 | | | COAL | PWRD |
| 85 | 102.54 | 102.56 | 0.02 | | | COAL | C-5.SLD |
| 85 | 102.56 | 102.90 | 0.34 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD VERY CARB AT BASE |
| 85 | 102.90 | 103.35 | 0.45 | | | MUDSTONE | CARB.BLK.THNB.SLD COAL STRINGERS PLENTIFUL; ROCK MOD VERY CARB |
| 85 | 103.35 | 103.42 | 0.07 | | | COAL | PWRD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 85 | 103.42 | 103.58 | 0.16 | | | MUDSTONE | CARB.BLK.THNB.SLD COAL STRINGERS |
| 85 | 103.58 | 103.62 | 0.04 | | | COAL | PWRD |
| 85 | 103.62 | 104.49 | 0.87 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COAL STRINGERS; SLTY AT BASE |
| 85 | 104.49 | 104.72 | 0.23 | | | ROCK LOSS | |
| 85 | 104.72 | 105.12 | 0.40 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| * 85 | 105.12 | 105.49 | 0.37 | | | SILTSTONE | SSY.GY.THNB.SLD |
| 85 | 105.49 | 105.64 | 0.15 | | | SANDSTONE | FG.GY.THNB.XBDG.SLD |
| 85 | 105.64 | 105.80 | 0.16 | | | SILTSTONE | SSY.GY.THNB.SLD |
| 86 | 105.80 | 105.96 | 0.16 | | | MUDSTONE | CARB.BLK.THNB.SLD COAL STRINGERS; ROCK MOD VERY CARB |
| 86 | 105.96 | 106.05 | 0.09 | | | COAL | C-5.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 86 | 106.05 | 106.12 | 0.07 | | | MUDSTONE | CARB.BLK.THNB.BRKN ROCK MOD VERY CARB |
| 86 | 106.12 | 106.20 | 0.08 | | | COAL | C-3.BRKN |
| 86 | 106.20 | 106.28 | 0.08 | | | MUDSTONE | BRKN AS ABOVE |
| 86 | 106.28 | 106.35 | 0.07 | | | COAL | PWRD |
| 86 | 106.35 | 106.93 | 0.58 | | | MUDSTONE | CARB.DK.GY.THNB.SLD SILTY AT BASE |
| * 87 | 106.93 | 107.73 | 0.80 | | | SILTSTONE | DK.GY.THNB.SLD ROCK MOD MUDDY |
| 86 | 107.73 | 108.29 | 0.56 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COAL STRINGERS |
| 86 | 108.29 | 108.40 | 0.11 | | | SILTSTONE | DK.GY.THNB.SLD ROCK MOD MUDDY |
| 85 | 108.40 | 109.73 | 1.33 | | | SILTSTONE | CLYY.DK.GY.THNB.SLD SSY AT BASE. |
| 84 | 109.73 | 110.72 | 0.99 | | | SILTSTONE | SSY.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 83 | 110.72 | 110.78 | 0.06 | | ROCKLOSS | |
| | 83 | 110.78 | 111.24 | 0.46 | | SILTSTONE | SLD AS ABOVE |
| | 82 | 111.24 | 112.18 | 0.94 | | SANDSTONE | FG.LT.GY.THNB.XBDG.SLD |
| | 82 | 112.18 | 112.46 | 0.28 | | SILTSTONE | DK.GY.THNB.SLD ROCK MOD MUDDY |
| | 81 | 112.46 | 113.81 | 1.35 | | SANDSTONE | FG.LT.GY.THNB.XBDG.SLD MUDDY PARTINGS |
| * | 79 | 113.81 | 116.36 | 2.55 | | SANDSTONE | SLD AS ABOVE |
| | 80 | 116.36 | 116.49 | 0.13 | | SILTSTONE | SSY.GY.THNB.XBDG.SLD |
| | 80 | 116.49 | 116.74 | 0.25 | | SILTSTONE | SLD AS ABOVE |
| | 80 | 116.74 | 117.11 | 0.37 | | SILTSTONE | DK.GY.THNB.SLD ROCK MOD MUDDY |
| | 80 | 117.11 | 117.72 | 0.61 | | SANDSTONE | SLTY.GY.THNB.XBDG.BRKN FRACTURED ZONE; CALC AND QTZ |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 21

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 81 | 117.72 | 119.19 | 1.47 | | SILTSTONE | SSY.DK.GY.THNB.XBDG.SLD MUDDY PARTINGS; CALC PARTINGS |
| * | 81 | 119.19 | 119.86 | 0.67 | | SILTSTONE | SLD AS ABOVE |
| | 79 | 119.86 | 121.83 | 1.97 | | SILTSTONE | SLD AS ABOVE |
| * | 77 | 121.83 | 122.96 | 1.13 | | SILTSTONE | SSY.DK.GY.THNB.SLD MUDDY AT BASE |
| | 78 | 122.96 | 124.68 | 1.72 | | SILTSTONE | SLD AS ABOVE |
| | 79 | 124.68 | 124.87 | 0.19 | | ROCK LOSS | |
| | 79 | 124.87 | 125.43 | 0.56 | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| | 80 | 125.43 | 125.70 | 0.27 | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY INCLUSIONS |
| | 80 | 125.70 | 125.87 | 0.17 | | COAL | C-3.VBRKN |
| * | 80 | 125.87 | 126.02 | 0.15 | | MUDSTONE | CARB.BLK.THNB.SLD COAL STRINGERS; ROCK MOD VERY CARB |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 22

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 80 | 126.02 | 126.12 | 0.10 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 80 | 126.12 | 126.88 | 0.76 | | | COAL | C-3.VBRKN |
| 81 | 126.88 | 126.90 | 0.02 | | | MUDSTONE | CARB.BLK.BRKN ROCK MOD VERY CARB |
| 81 | 126.90 | 127.05 | 0.15 | | | COAL | C-5.VBRKN |
| 81 | 127.05 | 127.46 | 0.41 | | | MUDSTONE | CARB.BLK.THNB.BRKN COAL PARTINGS; ROCK MOD VERY CARB |
| 81 | 127.46 | 127.65 | 0.19 | | | COAL | C-6.SLD BANDS OF C-1. |
| 81 | 127.65 | 127.68 | 0.03 | | | MUDSTONE | CARB.BLK.THNB.SLD |
| 82 | 127.68 | 127.71 | 0.03 | | | COAL | C-1.BRKN |
| 82 | 127.71 | 127.83 | 0.12 | | | MUDSTONE | CARB.BLK.THNB.BRKN COAL PARTINGS |
| 82 | 127.83 | 127.89 | 0.06 | | | COAL | C-3.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 23

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--------------------|
| 82 | 127.89 | 127.93 | 0.04 | | | COAL | C-6.BRKN |
| 82 | 127.93 | 127.96 | 0.03 | | | MUDSTONE | CARB.BLK.THNB.SLD |
| 82 | 127.96 | 128.02 | 0.06 | | | COAL | C-3.BRKN |
| * 82 | 128.02 | 128.47 | 0.45 | | | MUDSTONE | CARB.BLK.THNB.BRKN |
| 82 | 128.47 | 128.51 | 0.04 | | | COAL | C-3.BRKN |
| 82 | 128.51 | 128.57 | 0.06 | | | COAL | PWRD |
| 82 | 128.57 | 128.69 | 0.12 | | | ROCK LOSS | |
| 83 | 128.69 | 128.80 | 0.11 | | | MUDSTONE | CARB.BLK.THNB.SLD |
| 83 | 128.80 | 129.06 | 0.26 | | | COAL | C-4.BRKN |
| 83 | 129.06 | 129.15 | 0.09 | | | COAL | PWRD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 24

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 83 | 129.15 | 129.21 | 0.06 | | | COAL | C-5.BRKN |
| 83 | 129.21 | 129.30 | 0.09 | | | COAL | C-5.SLD |
| 84 | 129.30 | 130.25 | 0.95 | | | MUDSTONE | CARB.BLK.THNB.BRKN COAL PARTINGS; CORE STATE PARTLY BRKN |
| 85 | 130.25 | 130.51 | 0.26 | | | MUDSTONE | BRKN AS ABOVE |
| 85 | 130.51 | 130.76 | 0.25 | | | COAL | C-3.VBRKN PYRITE ABUNDANT |
| * 86 | 130.76 | 132.32 | 1.56 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB AT TOP; COAL STRINGERS |
| 85 | 132.32 | 132.43 | 0.11 | | | MUDSTONE | SLD AS ABOVE |
| 84 | 132.43 | 132.84 | 0.41 | | | SILTSTONE | SSY.GY.THNB.SLD |
| 84 | 132.84 | 132.94 | 0.10 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COAL PARTINGS |
| 84 | 132.94 | 132.98 | 0.04 | | | COAL | C-5.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 25

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 84 | 132.98 | 133.34 | 0.36 | | | COAL | C-5.BRKN |
| 83 | 133.34 | 133.39 | 0.05 | | | COAL | C-1.VBRKN |
| 83 | 133.39 | 133.48 | 0.09 | | | COAL LOSS | |
| 83 | 133.48 | 133.65 | 0.17 | | | MUDSTONE | CARB.BLK.THNB.SLD COAL PARTINGS AND FOSSIL FERN; ROCK MOD VERY CARB |
| 83 | 133.65 | 133.68 | 0.03 | | | COAL | C-5.SLD |
| 83 | 133.68 | 133.84 | 0.16 | | | MUDSTONE | CARB.BLK.THNB.SLD COAL PARTINGS; ROCK MOD VERY CARB |
| 82 | 133.84 | 134.09 | 0.25 | | | COAL | C-5.BRKN |
| 82 | 134.09 | 134.33 | 0.24 | | | MUDSTONE | SLTY.DK.GY.THNB |
| 81 | 134.33 | 135.22 | 0.89 | | | SILTSTONE | SSY.DK.GY.THNB.SLD CARB INCLUSIONS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 80 | 135.22 | 135.71 | 0.49 | | | SILTSTONE | SSY.SLD AS ABOVE; INCREASINGLY SSY AT BASE |
| 77 | 135.71 | 136.48 | 0.77 | | | SANDSTONE | FG.DK.GY.THNB.XBDG.SLD PYRITES CALC IN VEINS |
| * 71 | 136.48 | 138.46 | 1.98 | | | SANDSTONE | MG.GY.THNB.XBDG.SLD COAL PARTINGS; PYRITE |
| 80 | 138.46 | 140.29 | 1.83 | | | SANDSTONE | SLD AS ABOVE |
| * 86 | 140.29 | 141.03 | 0.74 | | | SILTSTONE | CARB.DK.GY.THNB.SLD SSY AT TOP |
| 86 | 141.03 | 141.19 | 0.16 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD MORE SLTY AT TOP |
| 86 | 141.19 | 141.41 | 0.22 | | | ROCK LOSS | |
| 85 | 141.41 | 142.54 | 1.13 | | | MUDSTONE | SLD AS ABOVE |
| 85 | 142.54 | 142.69 | 0.15 | | | SILTSTONE | DK.GY.THNB.SLD ROCK MOD MUDDY |
| 84 | 142.69 | 143.11 | 0.42 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 84 | 143.11 | 143.37 | 0.26 | | | SANDSTONE | VFG.GY.THNB.XBDG.SLD RIGHT WAY UP |
| 84 | 143.37 | 144.03 | 0.66 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB; COALY PARTINGS; BRKN AT BASE |
| 83 | 144.03 | 144.50 | 0.47 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD CARB; COALY PARTINGS(MINOR) |
| 83 | 144.50 | 145.67 | 1.17 | | | MUDSTONE | SLD AS ABOVE |
| * 82 | 145.67 | 146.86 | 1.19 | | | SILTSTONE | DK.GY.THNB.XBDG.SLD MINOR SS(FG); ROCK MOD MUDDY |
| 81 | 146.86 | 147.47 | 0.61 | | | SILTSTONE | XBDG.SLD AS ABOVE |
| 80 | 147.47 | 148.22 | 0.75 | | | SILTSTONE | SLD AS ABOVE |
| 78 | 148.22 | 149.24 | 1.02 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD MINOR CALC IN FRACTURES |
| 77 | 149.24 | 149.55 | 0.31 | | | SILTSTONE | DK.GY.THNB.SLD SSY(VFG); ROCK MOD MUDDY |
| 76 | 149.55 | 150.39 | 0.84 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| | 76 150.39 | 150.51 | 0.12 | | | ROCK LOSS | |
| | 75 150.51 | 150.72 | 0.21 | | | MUDSTONE | BRKN AS ABOVE |
| * | 75 150.72 | 151.04 | 0.32 | | | MUDSTONE | SLD AS ABOVE |
| | 79 151.04 | 152.36 | 1.32 | | | SILTSTONE | DK.GY.THNB.SLD SSY(FG) AT BASE; MINOR CARB PARTINGS; R OCK MOD MUDDY |
| * | 86 152.36 | 153.60 | 1.24 | | | SILTSTONE | SSY.GY.THNB.XBDG.SLD |
| * | 76 153.60 | 155.17 | 1.57 | | | SILTSTONE | BRKN AS ABOVE; CORE STATE PARTLY BROKEN |
| * | 80 155.17 | 155.26 | 0.09 | | | SANDSTONE | FG.GY.THNB.XBDG.SLD RIGHT WAY UP; |
| | 79 155.26 | 156.04 | 0.78 | | | SILTSTONE | DK.GY.THNB.BRKN SSY AT TOP; CORE STATE PARTLY BRKN; ROC K MOD MUDDY |
| | 78 156.04 | 156.63 | 0.59 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD COAL PARTINGS |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 29

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 76 | 156.63 | 157.40 | 0.77 | | | SILTSTONE | DK.GY.THNB.SLD ROCK MOD MUDDY |
| 76 | 157.40 | 157.42 | 0.02 | | | COAL | C-5.SLD |
| 76 | 157.42 | 157.84 | 0.42 | | | SILTSTONE | DK.GY.THNB.BRKN COAL INCLUSIONS AT BASE; ROCK MOD VERY MUDDY |
| * 77 | 157.84 | 158.99 | 1.15 | | | SILTSTONE | DK.GY.THNB.SLD SSY(FG)NEAR CENTER; COAL PARTINGS NEAR BASE; ROCK MOD MUDDY |
| 76 | 158.99 | 159.54 | 0.55 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COAL PARTINGS |
| 75 | 159.54 | 160.90 | 1.36 | | | MUDSTONE | SLD AS ABOVE |
| 74 | 160.90 | 161.71 | 0.81 | | | MUDSTONE | BRKN AS ABOVE; BUT SLTY AT TOP |
| 74 | 161.71 | 161.74 | 0.03 | | | COAL | C-5.BRKN |
| 74 | 161.74 | 161.80 | 0.06 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COAL PARTING |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 30

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 74 | 161.80 | 162.31 | 0.51 | | SILTSTONE | SSY.DK.GY.THNB.SLD MUDDY BANDS |
| * | 73 | 162.31 | 162.90 | 0.59 | | SANDSTONE | FG.GY.THNB.XBDG.SLD SLTY, RIGHT WAY UP |
| | 74 | 162.90 | 163.10 | 0.20 | | SILTSTONE | DK.GY.THNB.BRKN MORE MUDDY NEAR BASE; ROCK MOD MUDDY |
| | 75 | 163.10 | 163.65 | 0.55 | | MUDSTONE | CARB.DK.GY.THNB.SLD SLTY NEAR TOP; COAL PARTINGS |
| | 77 | 163.65 | 165.02 | 1.37 | | SANDSTONE | FG.GY.THNB.SLD MUDDY NEAR BASE |
| | 79 | 165.02 | 165.86 | 0.84 | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY PLANT REMAINS |
| | 80 | 165.86 | 166.49 | 0.63 | | MUDSTONE | CARB.DK.GY.THNB.BRKN COALY PARTINGS; SLTY NEAR CENTRE; CORE STATE PARTLY BRKN |
| * | 81 | 166.49 | 166.58 | 0.09 | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY PARTINGS |
| | 83 | 166.58 | 168.83 | 2.25 | | SILTSTONE | SSY.GY.THNB.SLD MUDDY BANDS; MINOR COAL PARTINGS |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 31

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 85 | 168.83 | 169.07 | 0.24 | | | SILTSTONE | DK.GY.THNB.SLD SLTY NEAR TOP; ROCK MOD MUDDY |
| 85 | 169.07 | 169.24 | 0.17 | | | SANDSTONE | FG.GY.THNB.XBDG.SLD COARSENING TOWARD BASE |
| 86 | 169.24 | 169.79 | 0.55 | | | SANDSTONE | FG.GY.THNB.XBDG.SLD MUDDY BANDS |
| 86 | 169.79 | 170.02 | 0.23 | | | SILTSTONE | DK.GY.THNB.SLD ROCK MOD MUDDY |
| * 87 | 170.02 | 170.51 | 0.49 | | | SANDSTONE | SLTY.GY.THNB.XBDG.SLD SSD |
| 85 | 170.51 | 171.90 | 1.39 | | | SILTSTONE | DK.GY.THNB.XBDG.SLD COAL PARTINGS; SSY BANDS; ROCK MOD MUDDY |
| 83 | 171.90 | 172.05 | 0.15 | | | SILTSTONE | GY.THNB.SLD |
| 83 | 172.05 | 172.32 | 0.27 | | | SILTSTONE | SSY.GY.THNB.SLD |
| 82 | 172.32 | 173.01 | 0.69 | | | SILTSTONE | DK.GY.THNB.SLD SSY(FG) BANDS; ROCK MOD MUDDY |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 32

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 81 | 173.01 | 173.44 | 0.43 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN |
| * 79 | 173.44 | 174.82 | 1.38 | | | SANDSTONE | FG.GY.THNB.SSD.SLD SILTY BANDS |
| 79 | 174.82 | 174.95 | 0.13 | | | SANDSTONE | SLD AS ABOVE |
| 79 | 174.95 | 177.56 | 2.61 | | | SILTSTONE | SSY.DK.GY.THNB.SLD |
| 80 | 177.56 | 177.97 | 0.41 | | | SILTSTONE | DK.GY.THNB.SLD SSY NEAR TOP; ROCK MOD MUDDY |
| 80 | 177.97 | 178.58 | 0.61 | | | SILTSTONE | SSY.GY.THNB.SLD MUDDY BANDS |
| 80 | 178.58 | 179.04 | 0.46 | | | SANDSTONE | MG.GY.THNB.XBDG.SLD SLTY NEAR BASE; CALC IN FRACTURES |
| 80 | 179.04 | 179.73 | 0.69 | | | SILTSTONE | DK.GY.THNB.SLD ROCK MOD MUDDY |
| * 80 | 179.73 | 180.38 | 0.65 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| 80 | 180.38 | 180.76 | 0.38 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 33

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 80 | 180.76 | 183.07 | 2.31 | | | MUDSTONE | CARB.DK.GY.THNB.SLD BRKN AT BASE; COALY PARTINGS; MORE CARB TOWARD BASE |
| 80 | 183.07 | 183.11 | 0.04 | | | COAL | C-6 |
| 80 | 183.11 | 183.14 | 0.03 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN |
| 80 | 183.14 | 183.34 | 0.20 | | | MUDSTONE | BLK.THNB.BRKN COALY PARTINGS; ROCK MOD COALY |
| 80 | 183.34 | 183.36 | 0.02 | | | COAL | C-5.BRKN |
| 80 | 183.36 | 183.65 | 0.29 | | | MUDSTONE | BLK.THNB.VBRKN COALY PARTINGS; ROCK MOD COALY |
| 80 | 183.65 | 184.23 | 0.58 | | | MUDSTONE | BRKN AS ABOVE |
| 80 | 184.23 | 184.25 | 0.02 | | | COAL | C-5.BRKN |
| 80 | 184.25 | 184.48 | 0.23 | | | MUDSTONE | BRKN AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 34

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 80 | 184.48 | 184.50 | 0.02 | | | COAL | C-5.BRKN |
| 80 | 184.50 | 184.63 | 0.13 | | | MUDSTONE | BRKN AS ABOVE |
| 80 | 184.63 | 184.69 | 0.06 | | | COAL | C-5.BRKN |
| 80 | 184.69 | 185.61 | 0.92 | | | MUDSTONE | CARB.DK.GY.THNB.SLD COALY PARTINGS |
| 80 | 185.61 | 185.63 | 0.02 | | | COAL | C-1.SLD |
| 80 | 185.63 | 185.74 | 0.11 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| 80 | 185.74 | 186.40 | 0.66 | | | MUDSTONE | CARB.DK.GY.THNB.SLD MINOR COALY PARTINGS |
| 80 | 186.40 | 186.78 | 0.38 | | | ROCKLOSS | |
| * 80 | 186.78 | 188.91 | 2.13 | | | SILTSTONE | DK.GY.THNB.SLD SSY TOWARD BASE; ROCK MOD MUDDY |
| 72 | 188.91 | 189.76 | 0.85 | | | SILTSTONE | GY.THNB.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 35

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81015

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 67 | 189.76 | 190.79 | 1.03 | | | SILTSTONE | SSY.GY.THKB.SLD |
| 62 | 190.79 | 191.67 | 0.88 | | | SANDSTONE | FG.GY.THKB.SLD BEDDING APPROACHING MASSIVE |
| * 56 | 191.67 | 192.84 | 1.17 | | | SANDSTONE | FG.GY.THKB.SLD SLT-RICH BANDS |
| 56 | 192.84 | 194.37 | 1.53 | | | SANDSTONE | FG.GY.THKB.SLD MINOR SLTY BANDS |

* DENOTES MEASURED BCA

DDH 81-16

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81016

HISTORY

DY MO YR DY MO YR
 START DATE: 26/09/81 END DATE: 02/10/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: A. RAHMANI SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1342.0
 UTM ZONE: 10 NORTH: 6142588.40 EAST: 548104.50
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 374.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 7.50 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | --- | --- | X | --- | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | X | --- | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | X | --- | 422AS |
| CALIPER | | : | : | --- | --- | | --- | |
| FE-SHORT | X | : | 1:40 | --- | --- | X | --- | 6 |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | --- | 6 |
| DIRECTIONAL | X | : | : | --- | --- | X | --- | |
| DIPMETER | | : | : | --- | --- | | --- | |

*** COAL DIVISION ***

INTERVAL OF INTERPOLATION 10 UNIT(S)

DATA SOURCE: DB1-16

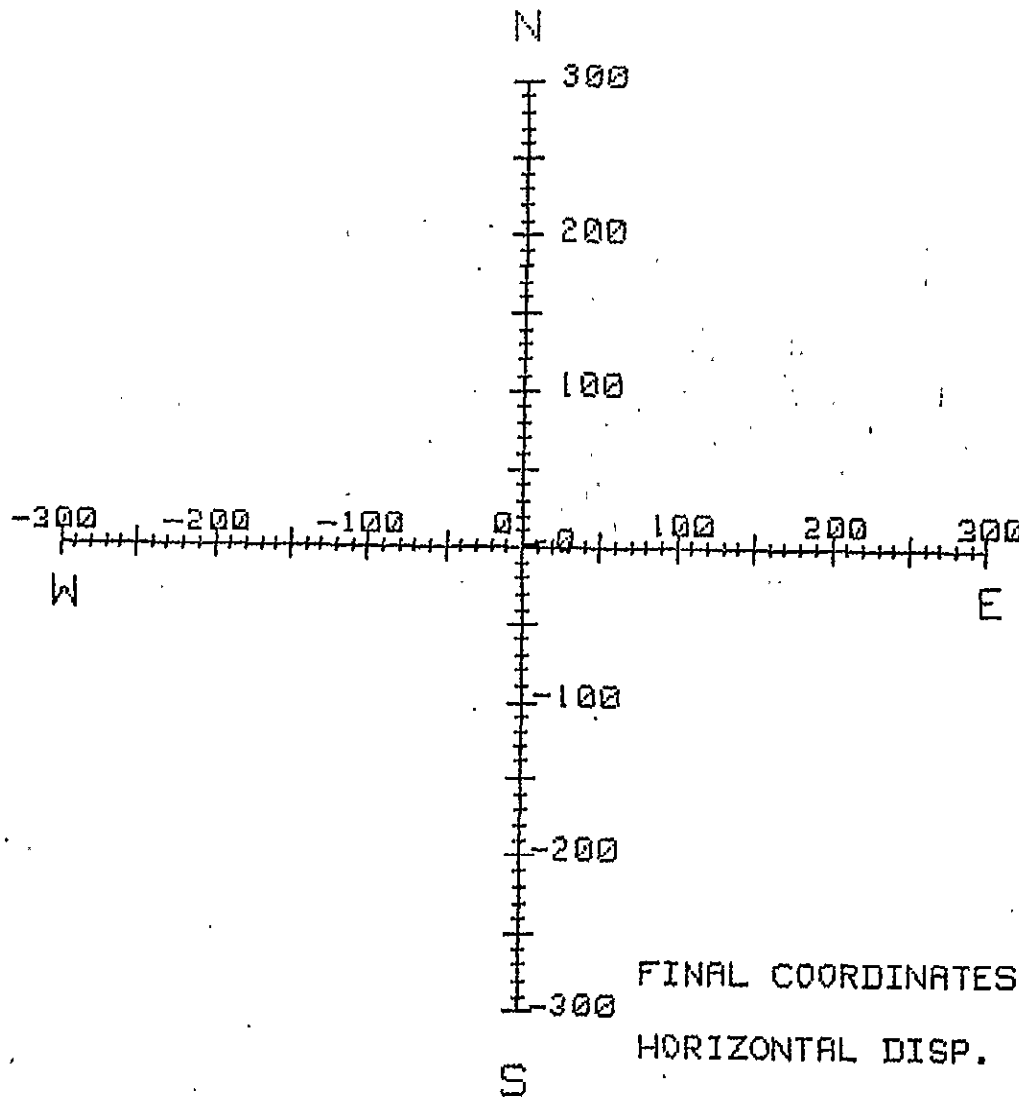
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 0.00 | .40 | 74.90 |
| 15.00 | .40 | 74.90 |
| 30.00 | .40 | 79.50 |
| 45.00 | .70 | 39.50 |
| 60.00 | 1.10 | 66.30 |
| 75.00 | 1.20 | 71.70 |
| 90.00 | 1.10 | 72.30 |
| 105.00 | 1.40 | 71.60 |
| 120.00 | 1.60 | 74.40 |
| 135.00 | 1.60 | 76.20 |
| 150.00 | 1.74 | 73.90 |
| 165.00 | 1.85 | 69.40 |
| 180.00 | 2.20 | 71.40 |
| 195.00 | 2.20 | 73.80 |
| 210.00 | 2.40 | 76.20 |
| 225.00 | 2.60 | 75.20 |
| 240.00 | 2.60 | 71.30 |
| 255.00 | 3.10 | 71.30 |
| 270.00 | 3.00 | 73.00 |
| 285.00 | 3.10 | 74.10 |
| 300.00 | 3.50 | 74.80 |
| 315.00 | 3.40 | 76.20 |
| 330.00 | 3.90 | 75.00 |
| 345.00 | 4.10 | 72.70 |
| 360.00 | 4.20 | 74.10 |
| 370.00 | 4.80 | 75.20 |

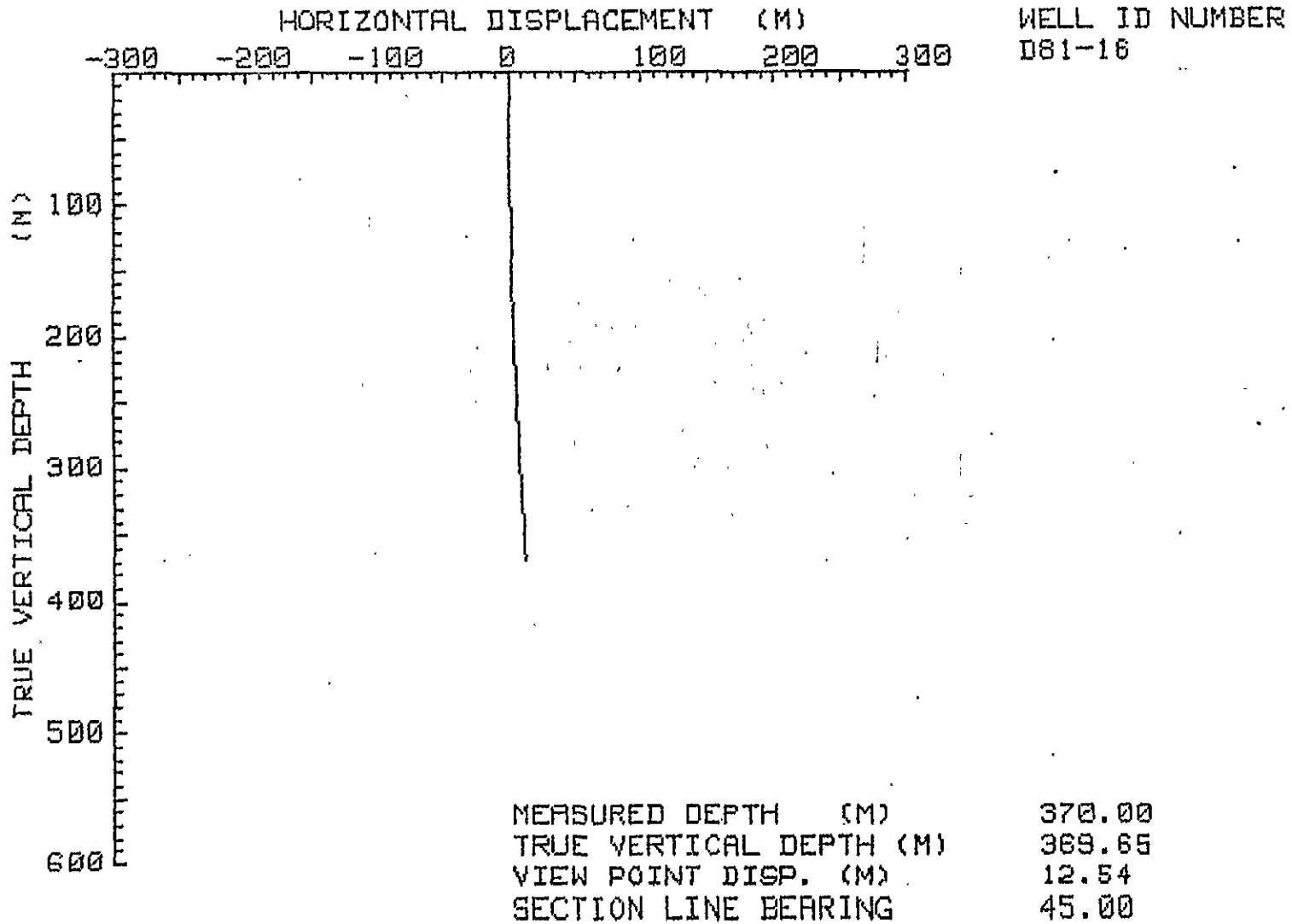
PLAN VIEW

WELL ID NUMBER
081-16



FINAL COORDINATES (M) N 4.13
E 13.61
HORIZONTAL DISP. (M) 12.54

DISPLACEMENT

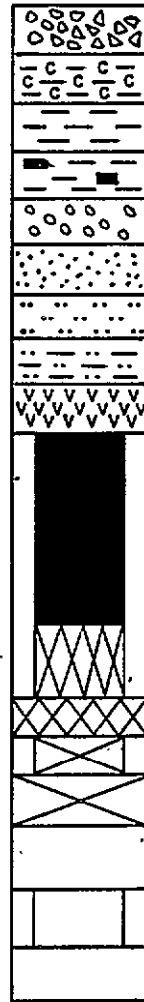
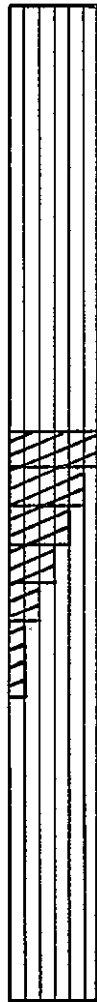


SEAM
COMP.

COAL
SEAM
LOG

LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone



- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff
- coal
- coal-boney, stoney, coal and bands/rock - designated "C6"
- rock } coal lithotype uncertain
- coal } MISSING CORE
- rock }
- rock
- coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



LEGEND FOR COAL
SEAM DATA SHEETS

PREPARED BY: V.O.

SCALE 1:40

APPROVED BY:

DATE: JAN. 82 DRAWING No.

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal / Coal + Rock (True Thk (m))
0.92 / 0.97

DENSITY _____ RESISTIVITY _____

DRILL NO. GDR-DDH-81-16 SEAM _____ SEAM INTERVAL 137.98 - 139.33 m
SCALE 1:40

| DENSITY SCALE RESISTIVITY SCALE | GEOLOGICAL LOG | | | | | | | | | | | | | | | | | |
|------------------------------------|----------------|--------|---------------|----------|----------------------------------|--------|--------|---------|---------------------------|-------|-------|-------|------|-------------------|------|------|------|------|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | 2.00 | 2.10 | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 |
| SEAM COMP. 654321 | | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | |
| | | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | 137.98 | | | 0.05 (0.10) 0.02 (0.10) | | 85 | 00150 | 0.54 | 16.42 | 25.64 | 57.40 | 0.44 | 12,700 (29.54) | 7.0 | | | |
| | | 139.33 | | | 0.04 (0.20) | | | | | | | | | | | | | |

COAL SEAM DATA SHEET

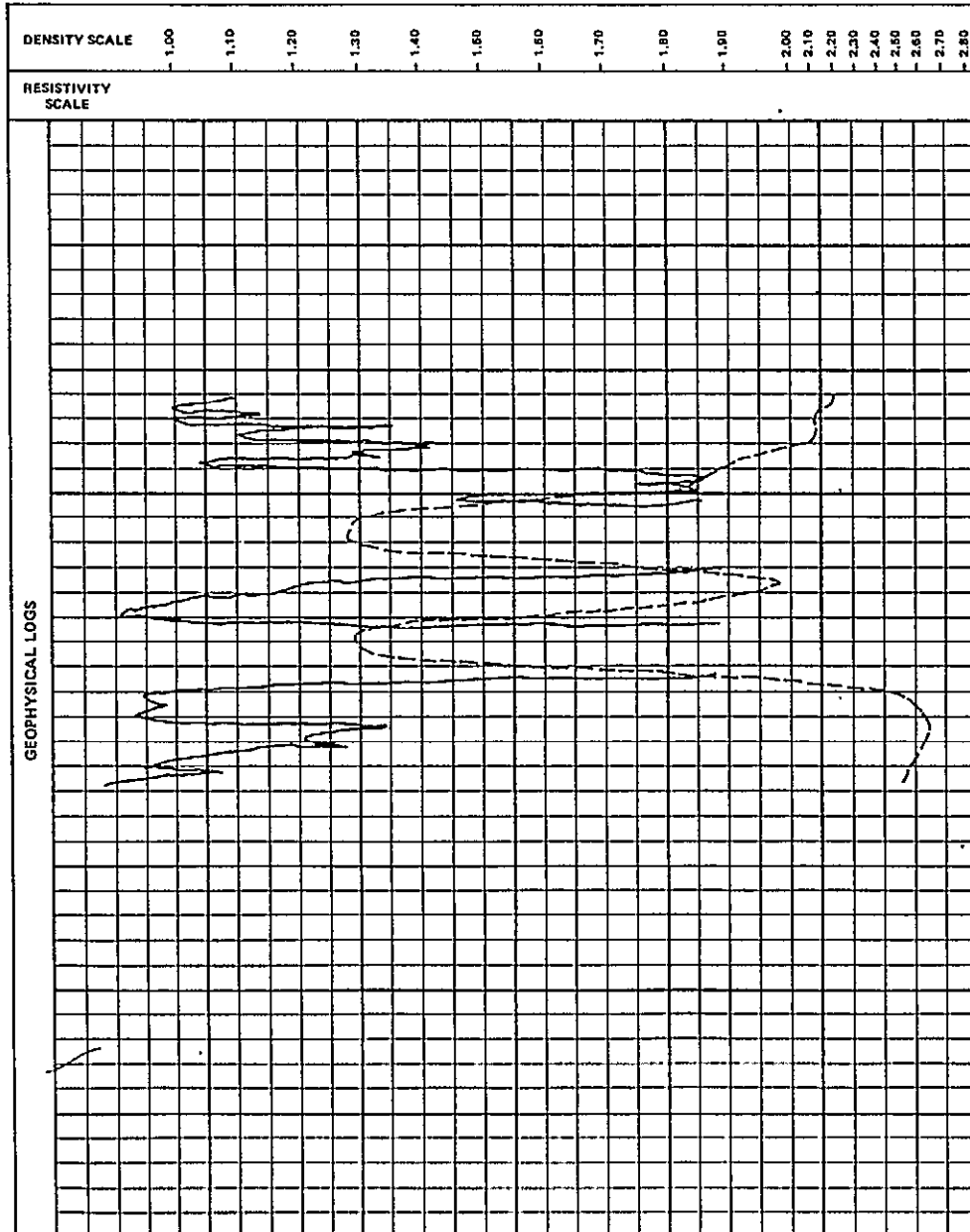
GULF CANADA RESOURCES INC.
COAL DIVISION

F-267 (12-80)

Coal/Coal + Rock (True Thk (m))
0.89/1.20
SEAM INTERVAL 209.05 - 210.42 m

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-16 SEAM _____
SCALE 1:40



GEOPHYSICAL LOGS

| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | |
|----------------------|--------|---------------|----------------|----------------------|--------|--------|---------|-------------------------|-------|-------|-------|----------------|-------------------|-----|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ^c | BTU (MJ/KG) | FSI |
| | 209.05 | | | 0.20 (0.33) | 47 | 00151 | | 0.34 | 13.77 | 23.66 | 62.23 | 0.57 | 13,168 (30.63) | 5.0 |
| | 209.48 | | 0.18 (0.26) | | 41 | 00152 | | 0.50 | 75.52 | 9.49 | 14.49 | 0.16 | 3,009 (7.00) | 0.0 |
| | 209.92 | | | 0.25 0.19 0.06 | 100 | 00153 | | 0.48 | 5.68 | 26.71 | 67.13 | 0.68 | 14,243 (33.13) | 7.5 |
| | 210.42 | | | | | | | | | | | | | |

COAL SEAM DATA SHEET

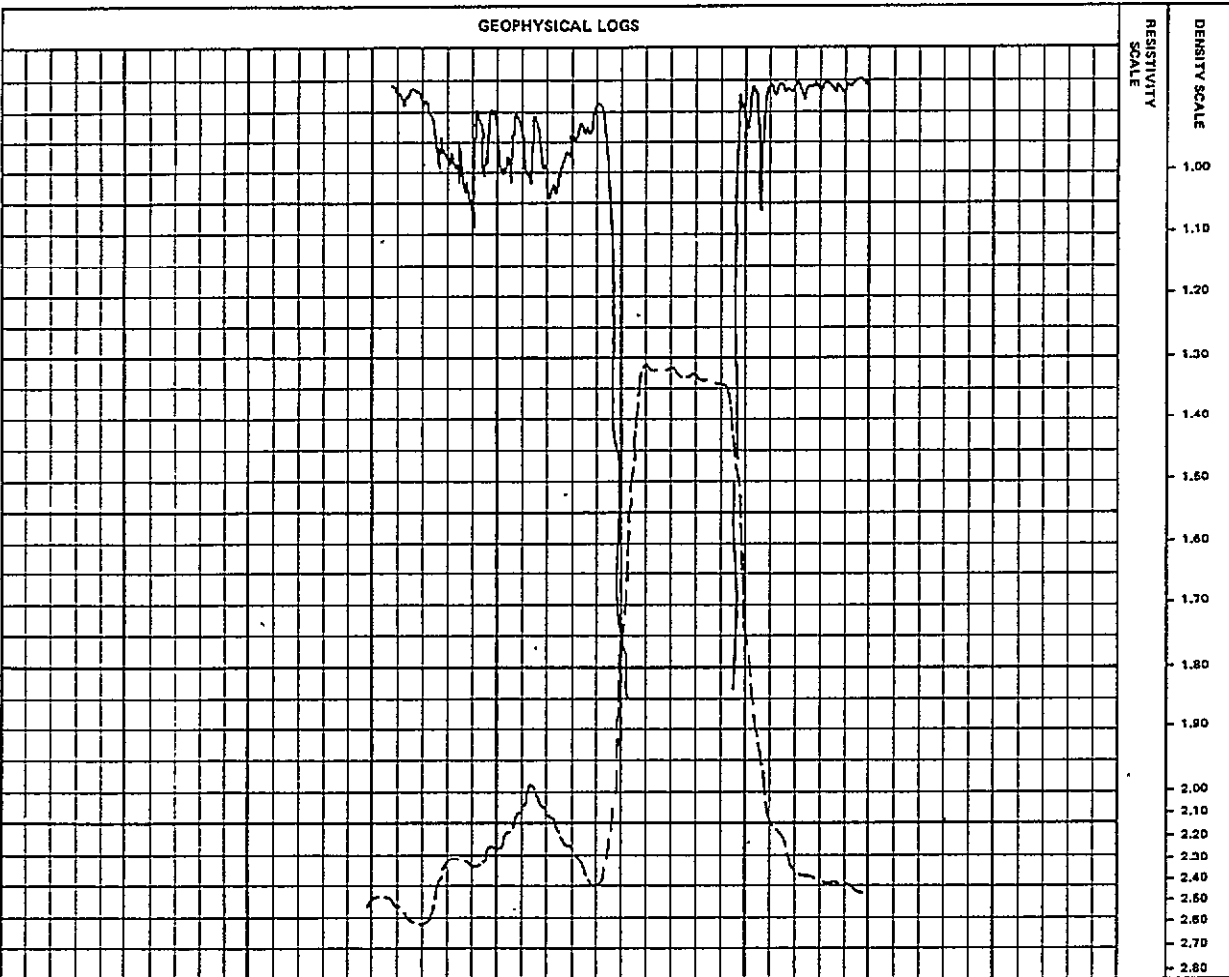
GULF CANADA RESOURCES INC.
COAL DIVISION

DRILL NO. GDR-DDH-81-16

SEAM

SEAM INTERVAL 254.98 - 255.95m

P-267 (1280)
Coal / Coal + Rock (True Thk (m))
0.90 / 0.90



| SEAM COMF. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE NUMBER | PROXIMATE ANALYSIS (AD) | | | | | | |
|------------|--------|---------------|----------|--------------------------|--------|---------------|-------------------------|------|-------|-------|------|-------------------|-----|
| | | | ROCK | COAL | | | MOIST | ASH | VM | FC | S | BTU (kJ/Kg) | FSI |
| 543721 | 254.98 | | | (0.20) 0.10 (0.27) | 52 | 00154 | 0.47 | 4.47 | 19.42 | 75.64 | 0.54 | 14,553 (33,89) | 1.0 |
| | 255.95 | | | 0.40 | | | | | | | | | |

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED RUCK | MISSING COAL | MISSING RUCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|----------------|--------------|--------------|
| DDH81016 | | 150 | 137.98 | 139.33 | 1.15 | 85.19 | 0.95 | 0.20 | 0.20 | 0.00 |
| | | 151 | 209.05 | 209.48 | 0.20 | 46.51 | 0.20 | 0.00 | 0.23 | 0.00 |
| | | 152 | 209.48 | 209.92 | 0.18 | 40.91 | 0.00 | 0.18 | 0.00 | 0.26 |
| | | 153 | 209.92 | 210.42 | 0.50 | 100.00 | 0.50 | 0.00 | 0.00 | 0.00 |
| | | 154 | 254.98 | 255.95 | 0.50 | 51.55 | 0.50 | 0.00 | 0.47 | 0.00 |

PROJ - GDR ANALYSIS BASIS TYPE - NAME OF STANDARD -

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|-------|---------------|------------------|----------------|-------------------------------|------|------|
| DDH81016 | | 150 | 0.54 | 16.42 | 57.40 | 25.64 | 0.44 | 29.54 | 1.42 | 1.00 |
| | | 151 | 0.34 | 13.77 | 62.23 | 23.66 | 0.57 | 30.63 | 1.38 | 5.00 |
| | | 152 | 0.50 | 75.52 | 14.49 | 9.49 | 0.16 | 7.00 | 2.01 | 0.00 |
| | | 153 | 0.48 | 5.68 | 67.13 | 26.71 | 0.68 | 33.13 | 1.35 | 7.50 |
| | | 154 | 0.47 | 4.47 | 75.64 | 19.42 | 0.54 | 33.65 | 1.34 | 1.00 |

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 50 | 6.09 | 6.88 | 0.79 | | | ROCK LOSS | |
| 50 | 6.88 | 9.02 | 2.14 | | | SILTSTONE | DK.GY.VBRKN IRON STAIN; MINOR CARBONACEOUS |
| 50 | 9.02 | 9.82 | 0.80 | | | ROCK LOSS | |
| 50 | 9.82 | 10.96 | 1.14 | | | SILTSTONE | DK.GY.VBRKN MINOR CARBONACEOUS STRINGERS |
| 50 | 10.96 | 11.02 | 0.06 | | | ROCK LOSS | |
| * 50 | 11.02 | 12.26 | 1.24 | | | SILTSTONE | DK.GY.VBRKN MINOR COAL STRINGERS |
| 49 | 12.26 | 12.66 | 0.40 | | | ROCK LOSS | |
| 49 | 12.66 | 13.72 | 1.06 | | | SILTSTONE | DK.GY.BRKN |
| 48 | 13.72 | 13.93 | 0.21 | | | SILTSTONE | |
| 48 | 13.93 | 15.14 | 1.21 | | | SANDSTONE | SLTY.GY.BRKN DISTURBED ZONE; FAULT BRECCIA, NUMEROUS C ALCITE VEINS THROUGHOUT; MINOR CARBONACE OUS STRINGERS; IRON STAINING; WELL DEVELO PED CALCITE CRYSTALS |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 47 | 15.14 | 15.44 | 0.30 | | ROCK LOSS | |
| * | 47 | 15.44 | 16.02 | 0.58 | | SANDSTONE | SLTY.GY AS ABOVE WITH LESS CALCITE VEINING |
| | 45 | 16.02 | 17.42 | 1.40 | | SANDSTONE | SLTY.GY.BRKN AS ABOVE WITH ABUNDANT CALCITE VEINING |
| | 43 | 17.42 | 17.65 | 0.23 | | SILTSTONE | SSY.GY.SLD MINOR CARBONACEOUS STRINGERS; MINOR CALCITE VEINING |
| | 42 | 17.65 | 18.32 | 0.67 | | SILTSTONE | DK.GY.BRKN MINOR CALCITE VEINING; TRACE IRON STAIN ; SLIGHTLY BROKEN |
| | 39 | 18.32 | 20.09 | 1.77 | | SILTSTONE | SSY.DK.GY.BRKN BIOTURBATED; CALCITE VEINING |
| | 37 | 20.09 | 20.24 | 0.15 | | ROCK LOSS | |
| | 36 | 20.24 | 20.50 | 0.26 | | SILTSTONE | DK.GY.BRKN CALCITE VEINING |
| | 36 | 20.50 | 20.60 | 0.10 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 33 | 20.60 | 23.14 | 2.54 | | | SILTSTONE | DK.GY.BRKN MINOR CALCITE VEINING; MINOR IRON STAINING |
| 35 | 23.14 | 25.14 | 2.00 | | | SILTSTONE | SLD BROKEN TOWARDS BASE; BECOMING MUDDY TOWARDS BASE |
| 36 | 25.14 | 25.24 | 0.10 | | | ROCK LOSS | |
| 36 | 25.24 | 25.82 | 0.58 | | | MUDSTONE | DK.GY.VBRKN SILTY TOWARDS TOP; CARBONACEOUS STRINGERS |
| 37 | 25.82 | 25.92 | 0.10 | | | ROCK LOSS | |
| * 37 | 25.92 | 26.34 | 0.42 | | | SILTSTONE | SSY.DK.GY.THNB.SLD |
| 53 | 26.34 | 28.60 | 2.26 | | | SILTSTONE | DK.GY.THNB.SLD MUDDY IN PARTS; MINOR COAL LENSES AND CALCITE STRINGERS; OCCASIONALLY CARBONACEOUS. |

* DENOTES MEASURED BCA.

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 72 | 28.60 | 29.44 | 0.84 | | | SILTSTONE | SSY.DK.GY.SLD OCCASIONAL INTERBEDDING OF MUDSTONE AND SANDSTONE; CALCITE VEINING BROKEN TOWARD THE TOP; COALY STRINGERS AND PARTINGS |
| 68 | 29.44 | 31.45 | 2.01 | | | SILTSTONE | SSY.DK.GY.SLD AS ABOVE |
| 65 | 31.45 | 31.60 | 0.15 | | | SILTSTONE | SSY.DK.GY.SLD AS ABOVE |
| 64 | 31.60 | 32.27 | 0.67 | | | SANDSTONE | VFG.DK.GY.THNB.SLD MINOR CALCITE VEINING AND THINLY INTERBEDDED |
| * 63 | 32.27 | 32.48 | 0.21 | | | SILTSTONE | SSY.DK.GY.THNB.SLD THIN COAL STRINGERS |
| 60 | 32.48 | 34.20 | 1.72 | | | SILTSTONE | DK.GY.THNB.SLD |
| 55 | 34.20 | 35.32 | 1.12 | | | SILTSTONE | DK.GY.THNB.BRKN PARTLY MUDDY |
| 50 | 35.32 | 36.84 | 1.52 | | | SILTSTONE | DK.GY.THKB.BRKN TRACE OF CALCITE; AS ABOVE |
| * 45 | 36.84 | 38.26 | 1.42 | | | SILTSTONE | DK.GY.THNB.SLD AS ABOVE, WITH TRACE OF COAL STRINGERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 47 | 38.26 | 39.45 | 1.19 | | SILTSTONE | DK.GY.THNB.SLD MUDDY TOWARD THE BOTTOM |
| * | 48 | 39.45 | 40.61 | 1.16 | | MUDSTONE | DK.GY.THNB.SLD SLTY TOWARD THE TOP, WITH COALY STRINGERS TOWARD THE BOTTOM; ALSO CARBONACEOUS |
| | 49 | 40.61 | 40.78 | 0.17 | | COAL | BRKN |
| | 49 | 40.78 | 40.86 | 0.08 | | MUDSTONE | DK.GY.THNB.SLD AS ABOVE |
| | 49 | 40.86 | 40.96 | 0.10 | | ROCK LOSS | |
| | 50 | 40.96 | 42.08 | 1.12 | | MUDSTONE | DK.GY.THNB.BRKN HIGHLY BROKEN TOWARDS THE TOP |
| | 51 | 42.08 | 42.18 | 0.10 | | ROCK LOSS | |
| * | 52 | 42.18 | 43.61 | 1.43 | | MUDSTONE | DK.GY.THNB.VBRKN SILTY; AS ABOVE |
| | 49 | 43.61 | 44.50 | 0.89 | | MUDSTONE | DK.GY.THNB.BRKN |
| | 48 | 44.50 | 44.70 | 0.20 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 48 | 44.70 | 44.80 | 0.10 | | | MUDSTONE | DK.GY.THNB.BRKN |
| * 45 | 44.80 | 47.34 | 2.54 | | | SILTSTONE | SSY.GY.THKB.BRKN CALCITE VEINS THROUGHOUT; CALCITE CRYSTALS |
| 40 | 47.34 | 47.58 | 0.24 | | | SILTSTONE | GY |
| 38 | 47.58 | 48.07 | 0.49 | | | SILTSTONE | GY |
| * 34 | 48.07 | 49.94 | 1.87 | | | SANDSTONE | SLTY.GY.THNB.SLD MINOR CALCITE VEINS, CALCITE CRYSTALS |
| 44 | 49.94 | 50.60 | 0.66 | | | SILTSTONE | GY.BRKN MINOR CALCITE |
| 49 | 50.60 | 51.00 | 0.40 | | | ROCK LOSS | |
| * 55 | 51.00 | 52.07 | 1.07 | | | SANDSTONE | SLTY.GY.THNB.SLD |
| 50 | 52.07 | 53.01 | 0.94 | | | SILTSTONE | GY.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 45 | 53.01 | 54.02 | 1.01 | | | SANDSTONE | SLTY.DK.GY.THNB.XBDG.SLD MINOR CALCITE VEINING |
| 47 | 54.02 | 55.87 | 1.85 | | | SILTSTONE | DK.GY.THNB.BIOTR.SLD MINOR COAL STRINGER |
| * 48 | 55.87 | 56.50 | 0.63 | | | SANDSTONE | VFG.LT.GY.LAM.XBDG.SLD |
| 48 | 56.50 | 56.99 | 0.49 | | | SILTSTONE | GY.SLD |
| 48 | 56.99 | 58.58 | 1.59 | | | SANDSTONE | SLTY.DK.GY.LAM.XBDG.SLD CARBONACEOUS STRINGERS |
| 47 | 58.58 | 59.55 | 0.97 | | | SANDSTONE | SLTY.DK.GY.LAM.XBDG.SLD CARBONACEOUS STRINGERS; SOFT SEDIMENT D EFORMATION |
| 47 | 59.55 | 59.95 | 0.40 | | | SILTSTONE | DK.GY.THNB.SLD |
| * 47 | 59.95 | 61.06 | 1.11 | | | SILTSTONE | GY.THNB.XBDG.SLD SANDY TOWARDS BASE; CARBONACEOUS STRING ERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 45 | 61.06 | 62.16 | 1.10 | | | SILTSTONE | THNB.SLD CARBONACEOUS STRINGERS AND INCLUSIONS; COALY PARTINGS TOWARDS THE BASE |
| 47 | 62.16 | 62.78 | 0.62 | | | MUDSTONE | DK.GY.SLD SANDY TOWARDS BASE; CARBONACEOUS SPECKS |
| 48 | 62.78 | 62.90 | 0.12 | | | ROCK LOSS | |
| 50 | 62.90 | 63.63 | 0.73 | | | MUDSTONE | SLTY.DK.GY.BRKN CARBONACEOUS IN PLACES |
| 51 | 63.63 | 63.71 | 0.08 | | | ROCK LOSS | |
| 51 | 63.71 | 63.89 | 0.18 | | | MUDSTONE | DK.GY.BRKN |
| 52 | 63.89 | 63.99 | 0.10 | | | ROCK LOSS | |
| 52 | 63.99 | 64.19 | 0.20 | | | MUDSTONE | CARB.BLK.VBRKN BRIGHT COAL STRINGERS AT TOP TO BONY COAL AT BASE |
| 53 | 64.19 | 64.42 | 0.23 | | | SILTSTONE | DK.GY.THNB.SLD CARBONACEOUS SPECKS; ALSO MODIFIER STATES MUDDY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 54 | 64.42 | 65.19 | 0.77 | | | SILTSTONE | SSY.DK.GY.SSD.BRKN ABUNDANT CARBONACEOUS STRINGERS AND INCLUSIONS THROUGHOUT; CALCITE STRINGER; COAL LENS AT THE BASE |
| * 56 | 65.19 | 65.87 | 0.68 | | | SILTSTONE | DK.GY.THNB.BRKN BECOMING SANDY AND LIGHTER GRAY TOWARD THE BOTTOM |
| 53 | 65.87 | 66.29 | 0.42 | | | SILTSTONE | DK.GY.SLD |
| * 45 | 66.29 | 68.78 | 2.49 | | | MUDSTONE | DK.GY.SLD SILTY IN PARTS; COALY PARTINGS; CARBONACEOUS STRINGERS THROUGHOUT |
| 44 | 68.78 | 68.90 | 0.12 | | | MUDSTONE | SLTY.DK.GY.SLD |
| 44 | 68.90 | 69.71 | 0.81 | | | SILTSTONE | DK.GY.SLD HIGHLY CARBONACEOUS AND BROKEN TOWARDS THE BASE |
| 44 | 69.71 | 69.76 | 0.05 | | | COAL | VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 69.76 | 71.22 | 1.46 | | | SILTSTONE | DK.GY.THKB.SLD COALY LENS; CARBONACEOUS IN PARTS |
| | 71.22 | 71.82 | 0.60 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| * 42 | 71.82 | 73.73 | 1.91 | | | SILTSTONE | DK.GY.THNB.SLD MUDDY IN PLACES |
| * 39 | 73.73 | 74.83 | 1.10 | | | SILTSTONE | DK.GY.THNB.SLD CARBONACEOUS STRINGERS; MINOR COALY PARTING |
| | 74.83 | 76.08 | 1.25 | | | MUDSTONE | BLK.THNB.SLD MINOR CARBONACEOUS STRINGERS |
| | 76.08 | 77.07 | 0.99 | | | MUDSTONE | BLK.SLD BROKEN TOWARDS THE BASE; CARBONACEOUS IN PLACES |
| | 77.07 | 77.34 | 0.27 | | | MUDSTONE | BLK.VBRKN TOO PWRD; COALY PARTING TOWARD THE BASE |
| | 77.34 | 77.99 | 0.65 | | | SILTSTONE | BLK.THKB.SLD MODIFIER SHOWS MUDDY |
| | 77.99 | 78.28 | 0.29 | | | SILTSTONE | DK.GY.THKB.SLD BROKEN TOWARDS THE TOP |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 44 | 78.28 | 78.41 | 0.13 | | ROCK LOSS | |
| | 45 | 78.41 | 78.66 | 0.25 | | MUDSTONE | CARB.BLK.BRKN |
| | 45 | 78.66 | 78.76 | 0.10 | | ROCK LOSS | |
| * | 45 | 78.76 | 80.24 | 1.48 | | MUDSTONE | SLTY.BLK.THNB.SLD CARBONACEOUS SPECKS THROUGHOUT. |
| | 47 | 80.24 | 81.00 | 0.76 | | MUDSTONE | DK.GY.THKB.BRKN COALY LENSES, CARBONACEOUS IN PLACES. |
| | 48 | 81.00 | 81.22 | 0.22 | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS, MINOR COALY PARTIN GS. |
| | 48 | 81.22 | 81.37 | 0.15 | | ROCK LOSS | |
| | 49 | 81.37 | 81.76 | 0.39 | | MUDSTONE | CARB.BLK.BRKN |
| | 49 | 81.76 | 81.86 | 0.10 | | ROCK LOSS | |
| | 49 | 81.86 | 82.07 | 0.21 | | MUDSTONE | CARB.BLK.VBRKN POWDERY TOWARD THE BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| | 49 | 82.07 | 82.22 | 0.15 | | ROCK LOSS | |
| | 50 | 82.22 | 82.64 | 0.42 | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARBONACEOUS |
| | 50 | 82.64 | 82.99 | 0.35 | | ROCK LOSS | |
| * | 51 | 82.99 | 84.23 | 1.24 | | SILTSTONE | LT.GY.THNB.SSD.SLD CARBONACEOUS TOWARD THE TOP. |
| | 49 | 84.23 | 86.97 | 2.74 | | SILTSTONE | GY.THKB.SLD |
| | 47 | 86.97 | 87.13 | 0.16 | | SILTSTONE | DK.GY.THKB.SLD AS ABOVE. |
| * | 46 | 87.13 | 89.68 | 2.55 | | SILTSTONE | DK.GY.THKB.SLD AS ABOVE. |
| | 51 | 89.68 | 90.24 | 0.56 | | SILTSTONE | SSY.DK.GY.THNB.XBDG.SLD |
| * | 56 | 90.24 | 92.25 | 2.01 | | SANDSTONE | FG.GY.THNB.XBDG.SLD |
| | 46 | 92.25 | 93.28 | 1.03 | | SANDSTONE | SLTY.DK.GY.THNB.SLD SANDY TOWARD THE BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 39 | 93.28 | 94.64 | 1.36 | | | SANDSTONE | FG.GY.THNB.BRKN CALCITE VEINING AND CRYSTALS. |
| * 33 | 94.64 | 96.04 | 1.40 | | | SANDSTONE | FG.DK.GY.THNB.XBDG |
| 36 | 96.04 | 96.26 | 0.22 | | | SANDSTONE | MG.DK.GY.BRKN COALY LENSES. |
| 37 | 96.26 | 96.41 | 0.15 | | | ROCK LOSS | |
| 40 | 96.41 | 97.45 | 1.04 | | | SANDSTONE | CG.LT.GY.THKB.BRKN ABUNDANT COAL INCLUSIONS AND STRINGERS THROUGHOUT; BRECCIATED IN PLACES, WITH ABUNDANT CALCITE VEINING. |
| * 43 | 97.45 | 98.03 | 0.58 | | | SANDSTONE | CG.DK.GY.THNB.SLD UNIFORM THROUGHOUT. |
| 44 | 98.03 | 98.81 | 0.78 | | | SANDSTONE | CARB.CG.GY.THNB.SLD BROKEN TOWARD THE TOP; ABUNDANT CARBONA CEOUS STRINGERS AND INCLUSIONS THROUGH UT; NUMEROUS CALCITE VEINS. |
| 45 | 98.81 | 99.31 | 0.50 | | | SANDSTONE | SSY.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 45 | 99.31 | 100.09 | 0.78 | | | SANDSTONE | SSY.GY.THNB.SSD.SLD |
| * 47 | 100.09 | 101.79 | 1.70 | | | SILTSTONE | DK.GY.THKB.SLD MINOR CALCITE VEINING. |
| 42 | 101.79 | 101.84 | 0.05 | | | SILTSTONE | CARB.BLK.BRKN CARBONACEOUS STRINGERS. |
| 40 | 101.84 | 102.41 | 0.57 | | | SILTSTONE | GY.SLD |
| 37 | 102.41 | 102.76 | 0.35 | | | SILTSTONE | GY.THKB.SLD |
| * 32 | 102.76 | 103.98 | 1.22 | | | SILTSTONE | GY.THNB.SLD MINOR CALCITE VEINING. |
| 33 | 103.98 | 104.19 | 0.21 | | | MUDSTONE | CARB.BLK.BRKN COALY INCLUSIONS. |
| 34 | 104.19 | 105.19 | 1.00 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| 35 | 105.19 | 105.41 | 0.22 | | | MUDSTONE | BLK.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 36 | 105.41 | 106.16 | 0.75 | | | MUDSTONE | CARB.BLK.SLD HIGHLY CARB AND BRKN TOWARD THE TOP. |
| 36 | 106.16 | 106.23 | 0.07 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARB TO COALY; PWRDY IN PLACES. |
| 36 | 106.23 | 106.47 | 0.24 | | | ROCK LOSS | |
| 37 | 106.47 | 106.58 | 0.11 | | | MUDSTONE | CARB.BLK.BRKN |
| 37 | 106.58 | 106.80 | 0.22 | | | ROCK LOSS | |
| 37 | 106.80 | 106.85 | 0.05 | | | TUFF | DK.GY.SLD FLAKEY, SOFT, BLUISH STREAK WHEN SCRATC HED; ALSO POWDERY AND WAXY. |
| 37 | 106.85 | 106.94 | 0.09 | | | MUDSTONE | CARB.BLK.BRKN |
| 38 | 106.94 | 107.89 | 0.95 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARB TO COALY IN PARTS; POWDERY IN PLACES. |
| 39 | 107.89 | 108.09 | 0.20 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 40 | 108.09 | 109.98 | 1.89 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY BROKEN AND CARB; COALY INTERBEDS MIXED WITH ROCK. |
| 42 | 109.98 | 110.20 | 0.22 | | | ROCK LOSS | |
| 42 | 110.20 | 110.34 | 0.14 | | | MUDSTONE | CARB.BLK.VBRKN HIGHLY CARB. |
| 42 | 110.34 | 110.59 | 0.25 | | | ROCK LOSS | |
| 43 | 110.59 | 111.09 | 0.50 | | | SANDSTONE | MG.GY.SLD CALCITE VEINING THROUGHOUT. |
| 44 | 111.09 | 111.90 | 0.81 | | | SANDSTONE | MG.GY.SLD AS ABOVE. |
| * 46 | 111.90 | 113.84 | 1.94 | | | SANDSTONE | MG.GY.SLD AS ABOVE, WITH ANGULAR MUD PEBBLES; RAN GE IN SIZE 1MM - 15MM THROUGHOUT. |
| 46 | 113.84 | 114.35 | 0.51 | | | SANDSTONE | GY.THKB.SLD WITH ABUNDANT CALCITE VEINING AND CARB STRINGERS. |
| 45 | 114.35 | 114.94 | 0.59 | | | SILTSTONE | SSY.DK.GY.SLD CALCITE VEINING. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 45 | 114.94 | 115.28 | 0.34 | | | SILTSTONE | SSY.DK.GY.THNB.SLD CALCITE VEINING IN ALL DIRECTIONS. |
| * 45 | 115.28 | 116.59 | 1.31 | | | SANDSTONE | MG.DK.GY.THKB.SLD ABUNDANT CALCITE VEINS, BRECCIATED TOWA RD THE TOP, THIN CARB STRINGERS. |
| 45 | 116.59 | 117.82 | 1.23 | | | SANDSTONE | MG.DK.GY.THKB.SLD AS ABOVE. |
| * 46 | 117.82 | 119.39 | 1.57 | | | SANDSTONE | MG.DK.GY.THKB.SLD AS ABOVE WITH MINOR CARB STRINGERS. |
| * 53 | 119.39 | 119.66 | 0.27 | | | SANDSTONE | MG.DK.GY.THKB.SLD MINOR CARB STRINGERS; MUD PEBBLES TOWAR D THE BASE. |
| 57 | 119.66 | 120.77 | 1.11 | | | SANDSTONE | SLTY.DK.GY.THNB.SSD.SLD COALY LENSES, CALCITE VEINING, SILTY TO WARD THE BASE. |
| 65 | 120.77 | 122.22 | 1.45 | | | SILTSTONE | SSY.DK.GY.THNB.BIOTR.SLD INTERBEDDED WITH MUD IN PLACES; X-BD; M INOR CALCITE VEINING. |
| 71 | 122.22 | 122.79 | 0.57 | | | SILTSTONE | DK.GY.THNB.XBDG.SLD UNIFORM THROUGHOUT. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 75 | 122.79 | 123.46 | 0.67 | | | SILTSTONE | DK.GY.THNB.XBDG.SLD MUDDY; INTERBEDDING OF MUD AND SILT. |
| 71 | 123.46 | 123.61 | 0.15 | | | ROCK LOSS | |
| 65 | 123.61 | 124.91 | 1.30 | | | MUDSTONE | CARB.BLK.THKB.BRKN HIGHLY CARB TOWARD THE BASE. |
| 58 | 124.91 | 124.99 | 0.08 | | | ROCK LOSS | |
| 57 | 124.99 | 125.13 | 0.14 | | | ROCK-COAL | THKB.VBRKN POWDERY COAL MIXED WITH BROKEN ROCK. |
| 56 | 125.13 | 125.20 | 0.07 | | | ROCK LOSS | |
| 53 | 125.20 | 125.83 | 0.63 | | | MUDSTONE | CARB.BLK.THKB.BRKN NUMEROUS CARB STRINGERS AND INCLUSIONS. |
| 48 | 125.83 | 126.33 | 0.50 | | | SILTSTONE | GY.THNB.SLD BROKEN AND CARB TOWARD THE TOP. |
| 44 | 126.33 | 126.60 | 0.27 | | | SILTSTONE | GY.THNB.SLD |
| * 40 | 126.60 | 127.28 | 0.68 | | | MUDSTONE | CARB.BLK.THNB.SLD ABUNDANT COALY INCLUSIONS. |
| 42 | 127.28 | 127.91 | 0.63 | | | SILTSTONE | GY.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 45 | 127.91 | 129.02 | 1.11 | | SANDSTONE | GY.THKB.XBDG.SLD |
| | 49 | 129.02 | 130.57 | 1.55 | | SILTSTONE | DK.GY.THKB.SLD MINOR CALCITE VEINING. |
| | 53 | 130.57 | 131.76 | 1.19 | | SILTSTONE | GY.THNB.BIOTR.SLD |
| * | 56 | 131.76 | 132.67 | 0.91 | | SILTSTONE | SSY.DK.GY.THKB.XBDG.SLD |
| * | 46 | 132.67 | 134.97 | 2.30 | | SANDSTONE | FG.BLK.LAM.XBDG.SLD BIOTRB; SMALL SCALE RIPMKS. |
| | 46 | 134.97 | 135.97 | 1.00 | | ROCK LOSS | |
| | 46 | 135.97 | 136.14 | 0.17 | | MUDSTONE | CARB.BLK.BRKN |
| | 46 | 136.14 | 136.43 | 0.29 | | MUDSTONE | BLK.SLD |
| | 46 | 136.43 | 137.98 | 1.55 | | MUDSTONE | CARB.BLK.THKB.SLD COALY PARTINGS IN PLACES. |
| | 46 | 137.98 | 138.03 | 0.05 | 00150 | COAL | BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 46 | 138.03 | 138.13 | 0.10 | 00150 | 1 | COAL LOSS | |
| 46 | 138.13 | 138.15 | 0.02 | 00150 | 1 | COAL | C-6 STONY COAL. |
| 46 | 138.15 | 138.25 | 0.10 | 00150 | 1 | COAL LOSS | |
| 46 | 138.25 | 138.30 | 0.05 | 00150 | 1 | COAL | C-6 BONY COAL. |
| 46 | 138.30 | 138.49 | 0.19 | 00150 | 1 | COAL | C-5.BRKN |
| 46 | 138.49 | 138.99 | 0.50 | 00150 | 1 | COAL | C-4.VBRKN |
| 46 | 138.99 | 139.24 | 0.25 | 00150 | 1 | COAL | C-4.BRKN |
| 46 | 139.24 | 139.33 | 0.09 | 00150 | 1 | COAL | C-3.BRKN |
| 46 | 139.33 | 139.53 | 0.20 | | | ROCK LOSS | |
| 46 | 139.53 | 139.85 | 0.32 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS; ABUNDANT COALY PAR TINGS OF LENSES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 46 | 139.85 | 140.05 | 0.20 | | | ROCK LOSS | |
| 46 | 140.05 | 140.08 | 0.03 | | | TUFF | |
| 46 | 140.08 | 141.20 | 1.12 | | | MUDSTONE | CARB |
| 46 | 141.20 | 142.02 | 0.82 | | | MUDSTONE | BLK.THKB.SLD |
| 46 | 142.02 | 143.35 | 1.33 | | | MUDSTONE | CARB.BLK.THKB.SLD MINOR CALCITE VEINS |
| * 46 | 143.35 | 144.74 | 1.39 | | | SILTSTONE | DK.GY.THNB.BIOTR.SLD |
| * 46 | 144.74 | 147.52 | 2.78 | | | SILTSTONE | DK.GY.THKB.SLD CARBONACEOUS SPECKS THROUGHOUT |
| 51 | 147.52 | 147.92 | 0.40 | | | SANDSTONE | FG.DK.GY.LAM.XBDG.SLD |
| 53 | 147.92 | 148.47 | 0.55 | | | MUDSTONE | GY.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 54 | 148.47 | 148.79 | 0.32 | | | SANDSTONE | FG.LAM.BIOTR.SLD |
| 54 | 148.79 | 149.14 | 0.35 | | | MUDSTONE | CARB.BLK CARBONACEOUS STRINGERS |
| 54 | 149.14 | 149.17 | 0.03 | | | COAL | VBRKN |
| 53 | 149.17 | 149.62 | 0.45 | | | MUDSTONE | SLTY |
| 53 | 149.62 | 149.65 | 0.03 | | | COAL | VBRKN |
| 53 | 149.65 | 150.24 | 0.59 | | | MUDSTONE | SLTY.BLK.SLD ABUNDANT CARBONACEOUS STRINGERS; MINOR CALCITE VEINING TOWARD THE TOP |
| 52 | 150.24 | 150.80 | 0.56 | | | MUDSTONE | SLTY.DK.GY.BRKN COALY PARTINGS |
| 52 | 150.80 | 151.40 | 0.60 | | | ROCK LOSS | |
| * 51 | 151.40 | 152.55 | 1.15 | | | SILTSTONE | DK.GY.SLD ROCK MOD MUDDY; CARBONACEOUS SPECKS THR OUGHOUT; COALY LENSES OF STRINGERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 54 | 152.55 | 153.16 | 0.61 | | | SANDSTONE | VFG.DK.GY.XBDG.SLD |
| 56 | 153.16 | 153.46 | 0.30 | | | MUDSTONE | BLK.SLD CARBONACEOUS SPECKS THROUGHOUT |
| 58 | 153.46 | 154.30 | 0.84 | | | SANDSTONE | FG.DK.GY.SSD.SLD |
| * 60 | 154.30 | 154.41 | 0.11 | | | SANDSTONE | FG.GY.LAM.SLD |
| 59 | 154.41 | 155.38 | 0.97 | | | SILTSTONE | DK.GY.THNB.BRKN MINOR CARBONACEOUS STRINGERS OF LENSES. |
| * 56 | 155.38 | 157.32 | 1.94 | | | SANDSTONE | VFG.DK.GY.THKB.XBDG.SLD |
| 59 | 157.32 | 157.71 | 0.39 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| * 63 | 157.71 | 159.85 | 2.14 | | | SILTSTONE | DK.GY.THKB.SLD |
| 64 | 159.85 | 160.38 | 0.53 | | | SANDSTONE | VFG.DK.GY.THNB.SSD.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 64 | 160.38 | 161.78 | 1.40 | | | SILTSTONE | DK.GY.THKB.SLD |
| 65 | 161.78 | 161.98 | 0.20 | | | ROCK LOSS | |
| 65 | 161.98 | 162.03 | 0.05 | | | MUDSTONE | CARB.BLK.BRKN |
| 65 | 162.03 | 162.23 | 0.20 | | | ROCK LOSS | |
| 65 | 162.23 | 162.36 | 0.13 | | | MUDSTONE | CARB.BLK.SLD |
| 65 | 162.36 | 162.51 | 0.15 | | | ROCK | BLK.VBRKN ROCK TYPE ROCK AND COAL; MIXTURE OF ROCK AND COAL |
| 65 | 162.51 | 163.37 | 0.86 | | | SILTSTONE | DK.GY.SLD |
| * 66 | 163.37 | 165.83 | 2.46 | | | SILTSTONE | SSY.DK.GY.SLD UNIFORM THROUGHOUT |
| 65 | 165.83 | 166.50 | 0.67 | | | SILTSTONE | DK.GY.THKB.SLD |
| 64 | 166.50 | 168.33 | 1.83 | | | SILTSTONE | GY.THKB.SLD UNIFORM THROUGHOUT |

* DENDTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 63 | 168.33 | 169.60 | 1.27 | | SILTSTONE | GY.THKB.SLD AS ABOVE |
| | 62 | 169.60 | 170.95 | 1.35 | | SANDSTONE | SLTY.DK.GY.THKB.SLD AS ABOVE |
| * | 61 | 170.95 | 172.68 | 1.73 | | SANDSTONE | SLTY.DK.GY.SLD AS ABOVE |
| | 59 | 172.68 | 173.67 | 0.99 | | SANDSTONE | SLTY.DK.GY.SLD AS ABOVE |
| | 57 | 173.67 | 175.68 | 2.01 | | SANDSTONE | VFG.DK.GY.THKB.XBDG.SLD BRECCIATED CALCITE VEINING; MUD PEBBLES ; CARBONACEOUS STRINGERS |
| * | 55 | 175.68 | 176.51 | 0.83 | | SANDSTONE | FG.DK.GY.THNB.SLD CARBONACEOUS STRINGERS THROUGHOUT |
| * | 56 | 176.51 | 178.55 | 2.04 | | SANDSTONE | MG.LT.GY.THKB.SLD MINOR CALCITE VEINING; CARBONACEOUS STR INGERS OF COALY LENSES; MUD PEBBLES RAN GE IN SIZE FROM 1MM TO 30MM IN PLACES C ALCITE CRYSTALS |
| | 60 | 178.55 | 179.25 | 0.70 | | SANDSTONE | MG.LT.GY.THKB.SLD AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 61 | 179.25 | 179.47 | 0.22 | | | SANDSTONE | FG.GY.THKB.BRKN |
| 65 | 179.47 | 181.72 | 2.25 | | | SANDSTONE | MG.GY.THKB.SLD |
| 69 | 181.72 | 182.04 | 0.32 | | | SANDSTONE | MG.GY.THKB.SLD |
| * 72 | 182.04 | 184.14 | 2.10 | | | SANDSTONE | MG.GY.THKB.SLD MUD PEBBLES TOWARD THE BASE |
| 69 | 184.14 | 184.48 | 0.34 | | | SANDSTONE | VFG.DK.GY.THNB.SLD MUD PEBBLES TOWARD THE BASE |
| 69 | 184.48 | 184.63 | 0.15 | | | SANDSTONE | MG.GY.THKB.SLD MINOR CARBONACEOUS STRINGERS |
| 69 | 184.63 | 184.81 | 0.18 | | | SANDSTONE | MG.GY.THKB.BRKN MUD PEBBLES IN PLACES; C-1 COAL LENS |
| 67 | 184.81 | 186.47 | 1.66 | | | SANDSTONE | CG.LT.GY.THKB.SLD MUD PEBBLES IN PLACES; CARBONACEOUS STR INGERS AND LENSES; MINOR CALCITE VEININ G |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 64 | 186.47 | 187.21 | 0.74 | | | SANDSTONE | MG.GY.THKB.SLD |
| 64 | 187.21 | 187.34 | 0.13 | | | SILTSTONE | SSY.GY.THNB.SLD ABUNDANT CALCITE VEINING; MINOR SANDY LENSES |
| 64 | 187.34 | 187.64 | 0.30 | | | SANDSTONE | MG.GY.BRKN ABUNDANT CALCITE VEINING BRECCIATED; CALCITE CRYSTALS; SILTY TOWARD THE BASE |
| 64 | 187.64 | 188.04 | 0.40 | | | ROCK LOSS | |
| 63 | 188.04 | 188.36 | 0.32 | | | SANDSTONE | MG.GY.THKB.SSD.SLD ABUNDANT CARBONACEOUS STRINGERS AND CALCITE VEINING |
| 63 | 188.36 | 189.06 | 0.70 | | | BRECCIA | GRAN.DK.GY.THNB.SLD SANDY LENSES THROUGHOUT |
| * 63 | 189.06 | 189.18 | 0.12 | | | SANDSTONE | MG.GY.THNB.SLD ABUNDANT CARBONACEOUS STRINGERS |
| 58 | 189.18 | 190.75 | 1.57 | | | MUDSTONE | DK.GY.THKB.SLD CARBONACEOUS STRINGERS; CALCITE VEINS IN PLACES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 53 | 190.75 | 191.08 | 0.33 | | MUDSTONE | SLTY.DK.GY.THNB.SLD ABUNDANT CALCITE VEINING OF CARBONACEOUS STRINGERS |
| * | 45 | 191.08 | 193.45 | 2.37 | | MUDSTONE | DK.GY.THKB.SLD COALY PARTINGS; CARBONACEOUS LENSED STRINGERS; SILTY TOWARD THE BASE |
| | 59 | 193.45 | 193.92 | 0.47 | | MUDSTONE | DK.GY.THKB.SLD |
| * | 72 | 193.92 | 196.22 | 2.30 | | MUDSTONE | DK.GY.THKB.SLD |
| | 67 | 196.22 | 196.90 | 0.68 | | SILTSTONE | DK.GY.THKB.SLD CARBONACEOUS STRINGERS |
| * | 63 | 196.90 | 199.02 | 2.12 | | SILTSTONE | DK.GY.THKB.SLD AS ABOVE |
| | 66 | 199.02 | 199.91 | 0.89 | | SILTSTONE | DK.GY.THKB.SLD AS ABOVE |
| * | 69 | 199.91 | 201.77 | 1.86 | | SILTSTONE | DK.GY.THKB.SLD AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 29

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 65 | 201.77 | 202.94 | 1.17 | | | SILTSTONE | DK.GY.THKB.SLD AS ABOVE |
| * 62 | 202.94 | 204.38 | 1.44 | | | SILTSTONE | DK.GY.THKB.XBDG.SLD AS ABOVE |
| * 62 | 204.38 | 205.93 | 1.55 | | | SILTSTONE | SSY.DK.GY.THKB.SLD BROKEN TOWARD THE BASE |
| 62 | 205.93 | 206.79 | 0.86 | | | MUDSTONE | CARB.BLK.THKB.RIPMK.SLD COALY PARTINGS AND LENSES |
| 62 | 206.79 | 207.09 | 0.30 | | | ROCK LOSS | |
| 62 | 207.09 | 207.84 | 0.75 | | | MUDSTONE | CARB.BLK.THKB.VBRKN HIGHLY CARBONACEOUS; ABUNDANT COALY LENSES OF PARTINGS |
| 62 | 207.84 | 208.14 | 0.30 | | | ROCK LOSS | |
| 62 | 208.14 | 208.90 | 0.76 | | | MUDSTONE | CARB.BLK.THKB.VBRKN AS ABOVE |
| 61 | 208.90 | 209.05 | 0.15 | | | MUDSTONE | CARB.BLK.THKB.BRKN AS ABOVE |
| 61 | 209.05 | 209.25 | 0.20 | 00151 | | COAL | C-4.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|------------|---|
| 61 | 209.25 | 209.48 | 0.23 | 00151 | | COAL LOSS | |
| 61 | 209.48 | 209.66 | 0.18 | 00152 | | MUDSTONE | CARB.BLK.THKB.BRKN AS ABOVE |
| 61 | 209.66 | 209.92 | 0.26 | 00152 | | ROCK LOSS | |
| 61 | 209.92 | 210.17 | 0.25 | 00153 | | COAL | C-4.BRKN |
| 61 | 210.17 | 210.36 | 0.19 | 00153 | | COAL | C-1.SLD |
| 61 | 210.36 | 210.42 | 0.06 | 00153 | | COAL | C-4.SLD |
| 61 | 210.42 | 211.82 | 1.40 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD HIGHLY CARBONACEOUS TOWARD THE BASE; AB UNDANT COAL LENSES AND INCLUSIONS TOWAR DS THE BASE. |
| * 61 | 211.82 | 212.78 | 0.96 | | | SILTSTONEQ | DK.GY.THKB.SSD.SLD COALY PARTINGS |
| 62 | 212.78 | 214.49 | 1.71 | | | SILTSTONE | DK.GY.THKB.SSD.SLD CARBONACEOUS STRINGERS; MINOR COALY LEN SES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 62 | 214.49 | 214.54 | 0.05 | | | COAL | C-1.BRKN |
| 62 | 214.54 | 214.60 | 0.06 | | | COAL LOSS | |
| 62 | 214.60 | 214.61 | 0.01 | | | MUDSTONE | CARB.BLK.BRKN |
| 63 | 214.61 | 214.81 | 0.20 | | | ROCK LOSS | |
| 63 | 214.81 | 214.85 | 0.04 | | | ROCK | BLK.BRKN A MIXTURE OF ROCK AND COAL |
| 63 | 214.85 | 215.05 | 0.20 | | | COAL LOSS | |
| 63 | 215.05 | 215.22 | 0.17 | | | COAL | C-4.VBRKN |
| 63 | 215.22 | 215.52 | 0.30 | | | COAL LOSS | |
| 63 | 215.52 | 215.56 | 0.04 | | | MUDSTONE | CARB.BLK.BRKN |
| 63 | 215.56 | 215.62 | 0.06 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 63 | 215.62 | 215.67 | 0.05 | | | COAL | C-5.BRKN |
| 63 | 215.67 | 216.03 | 0.36 | | | MUDSTONE | CARB.BLK.SLD COALY PARTINGS AND LENSES |
| 63 | 216.03 | 216.29 | 0.26 | | | MUDSTONE | CARB.BLK.BRKN |
| 64 | 216.29 | 216.46 | 0.17 | | | MUDSTONE | BLK.SLD |
| 64 | 216.46 | 216.70 | 0.24 | | | MUDSTONE | BLK.SLD MINOR COAL STRINGERS |
| * 64 | 216.70 | 217.30 | 0.60 | | | MUDSTONE | SLTY.LAM.SLD |
| 64 | 217.30 | 218.12 | 0.82 | | | MUDSTONE | BLK.THKB.SLD MINOR COALY LENSES |
| 64 | 218.12 | 218.17 | 0.05 | | | MUDSTONE | BLK.SLD |
| 64 | 218.17 | 218.21 | 0.04 | | | TUFF | LT.BLU.MAS.SLD BLOCKY SLIGHTLY WAXY. |
| 64 | 218.21 | 218.50 | 0.29 | | | MUDSTONE | CARB.BLK.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 64 | 218.50 | 219.06 | 0.56 | | | ROCK LOSS | |
| 64 | 219.06 | 221.19 | 2.13 | | | SILTSTONE | BLK.SLD |
| 63 | 221.19 | 221.52 | 0.33 | | | SILTSTONE | BLK.SLD |
| 63 | 221.52 | 221.80 | 0.28 | | | MUDSTONE | BLK.SLD |
| 63 | 221.80 | 222.35 | 0.55 | | | MUDSTONE | BLK.SLD CARBONACEOUS STRINGERS |
| * 63 | 222.35 | 224.26 | 1.91 | | | SILTSTONE | DK.GY.THKB.SLD |
| 65 | 224.26 | 224.62 | 0.36 | | | SILTSTONE | BLK.THKB.SLD |
| 67 | 224.62 | 227.08 | 2.46 | | | MUDSTONE | CARB.BLK.THKB.SLD COAL PARTINGS THROUGHOUT; CARBONACEOUS STRINGERS AND INCLUSIONS |
| 69 | 227.08 | 227.16 | 0.08 | | | COAL | BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 69 | 227.16 | 227.28 | 0.12 | | | MUDSTONE | CARB.BLK.SLD COALY PARTINGS |
| * 70 | 227.28 | 228.05 | 0.77 | | | MUDSTONE | CARB.BLK.THKB.SLD CARBONACEOUS SPECKS |
| 70 | 228.05 | 228.35 | 0.30 | | | ROCK LOSS | |
| 69 | 228.35 | 228.51 | 0.16 | | | COAL | VBRKN |
| 69 | 228.51 | 229.31 | 0.80 | | | MUDSTONE | CARB.BLK.SLD NUMEROUS COALY STRINGERS AND LENSES THR OUGHOUT |
| 68 | 229.31 | 230.31 | 1.00 | | | SILTSTONE | DK.GY.SLD ABUNDANT CARBONACEOUS SPECKS |
| 67 | 230.31 | 233.12 | 2.81 | | | MUDSTONE | BLK.SLD UNIFORM THROUGHOUT |
| 65 | 233.12 | 233.37 | 0.25 | | | MUDSTONE | CARB.BLK.BRKN |
| 65 | 233.37 | 233.77 | 0.40 | | | ROCK LOSS | |
| 64 | 233.77 | 235.48 | 1.71 | | | SILTSTONE | BLK.SLD |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 63 | 235.48 | 236.33 | 0.85 | | | SILTSTONE | SSY.DK.GY.SLD |
| 62 | 236.33 | 236.79 | 0.46 | | | SILTSTONE | SSY.GY.SLD |
| 62 | 236.79 | 238.20 | 1.41 | | | SILTSTONE | SSY.GY.SLD ABUNDANT COALY STRINGERS TOWARD THE BASE |
| 61 | 238.20 | 238.54 | 0.34 | | | MUDSTONE | BLK |
| 61 | 238.54 | 238.55 | 0.01 | | | COAL | C-5 |
| 61 | 238.55 | 238.81 | 0.26 | | | MUDSTONE | BLK.SLD |
| 60 | 238.81 | 239.10 | 0.29 | | | SILTSTONE | SSY.GY.SLD |
| * 60 | 239.10 | 239.72 | 0.62 | | | SANDSTONE | FG.GY.SLD |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 36

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 61 | 239.72 | 240.08 | 0.36 | | | SANDSTONE | FG.GY.SLD |
| 63 | 240.08 | 240.48 | 0.40 | | | ROCK LOSS | |
| 65 | 240.48 | 241.75 | 1.27 | | | MUDSTONE | CARB.BLK.BRKN |
| 68 | 241.75 | 242.23 | 0.48 | | | SANDSTONE | FG.GY.XBDG.SLD |
| 70 | 242.23 | 243.05 | 0.82 | | | MUDSTONE | SLTY.BLK.SLD |
| * 74 | 243.05 | 245.06 | 2.01 | | | MUDSTONE | SLTY.BLK.SLD MINOR CALCITE VEINING |
| 71 | 245.06 | 246.14 | 1.08 | | | MUDSTONE | SLTY.BLK.SLD |
| 69 | 246.14 | 246.80 | 0.66 | | | MUDSTONE | BLK.SLD MINOR CARBONACEOUS STRINGERS |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 37

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 67 | 246.80 | 247.79 | 0.99 | | | SANDSTONE | FG.DK.GY.SSD.SLD |
| * 63 | 247.79 | 248.71 | 0.92 | | | MUDSTONE | SLTY.BLK.SLD SILTY TOWARD THE BASE |
| 63 | 248.71 | 249.14 | 0.43 | | | SANDSTONE | LT.GY.LAM.XBDG.SLD MUD PEBBLES IN PLACES |
| 63 | 249.14 | 250.55 | 1.41 | | | MUDSTONE | SLTY.BLK.LAM.XBDG.SLD |
| 63 | 250.55 | 251.27 | 0.72 | | | MUDSTONE | SLTY.BLK.SLD |
| | 251.27 | 251.47 | 0.20 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONCEOUS; COALY PARTINGS |
| 64 | 251.47 | 251.61 | 0.14 | | | COAL | C-5.SLD |
| 64 | 251.61 | 251.68 | 0.07 | | | COAL | C-4.SLD |
| 64 | 251.68 | 251.75 | 0.07 | | | COAL LOSS | |
| 64 | 251.75 | 251.83 | 0.08 | | | COAL | BRKN |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 38

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 64 | 251.83 | 251.91 | 0.08 | | | COAL LOSS | |
| 64 | 251.91 | 251.93 | 0.02 | | | MUDSTONE | CARB.BRKN |
| 64 | 251.93 | 252.02 | 0.09 | | | ROCK LOSS | |
| 64 | 252.02 | 252.13 | 0.11 | | | MUDSTONE | CARB.BLK.BRKN |
| 64 | 252.13 | 253.38 | 1.25 | | | MUDSTONE | BLK.SLD |
| 64 | 253.38 | 254.61 | 1.23 | | | MUDSTONE | BLK.SLD MINOR COALY PARTINGS |
| 64 | 254.61 | 254.80 | 0.19 | | | MUDSTONE | BLK.SLD AS ABOVE |
| 64 | 254.80 | 254.98 | 0.18 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS; ABUNDANT COALY LENS SES AND INCLUSIONS |
| 64 | 254.98 | 255.18 | 0.20 | 00154 | | COAL LOSS | |
| 64 | 255.18 | 255.28 | 0.10 | 00154 | | COAL | C-5.BRKN |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 39

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 64 | 255.28 | 255.55 | 0.27 | 00154 | | COAL LOSS | |
| 64 | 255.55 | 255.95 | 0.40 | 00154 | | COAL | C-5.VBRKN |
| 64 | 255.95 | 256.33 | 0.38 | | | MUDSTONE | BLK.SLD |
| 64 | 256.33 | 257.39 | 1.06 | | | MUDSTONE | CARB.BLK.BRKN CARBONACEOUS STRINGERS THROUGHOUT |
| 65 | 257.39 | 257.88 | 0.49 | | | ROCK LOSS | |
| 65 | 257.88 | 259.13 | 1.25 | | | MUDSTONE | BLK.SLD COALY LENSES IN PLACES |
| 65 | 259.13 | 259.88 | 0.75 | | | MUDSTONE | CARB.BLK.SLD NUMEROUS COALY STRINGERS AND LENSES |
| * 65 | 259.88 | 260.61 | 0.73 | | | SANDSTONE | SLTY.GY.LAM.WRMBU.SLD LAMINATED IN PLACES |
| 66 | 260.61 | 261.67 | 1.06 | | | SANDSTONE | VFG.DK.GY.LAM.XBDG.SLD SANDY LENSES IN PLACES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 68 | 261.67 | 263.53 | 1.86 | | | SANDSTONE | FG.DK.GY.THKB.RIPMK.SLD |
| 67 | 263.53 | 264.22 | 0.69 | | | SANDSTONE | FG.DK.GY.THKB.SSD.SLD |
| * 66 | 264.22 | 266.45 | 2.23 | | | SANDSTONE | FG.GY.THKB.SSD.SLD WORM BURROWS IN PLACES; SILTY TOWARD THE BASE |
| 67 | 266.45 | 266.88 | 0.43 | | | SANDSTONE | FG.GY.THKB.SSD.SLD |
| 68 | 266.88 | 267.60 | 0.72 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| * 69 | 267.60 | 269.52 | 1.92 | | | SANDSTONE | SLTY.DK.GY.THKB.SLD |
| 69 | 269.52 | 272.20 | 2.68 | | | MUDSTONE | SLTY.DK.GY.THKB.SSD.SLD CARBONACEOUS STRINGERS THROUGHOUT |
| 70 | 272.20 | 272.34 | 0.14 | | | SILTSTONE | DK.GY.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 70 | 272.34 | 273.47 | 1.13 | | | MUDSTONE | SLTY.DK.GY.SLD |
| 70 | 273.47 | 273.88 | 0.41 | | | MUDSTONE | SLTY.DK.GY.SLD |
| 70 | 273.88 | 274.78 | 0.90 | | | SILTSTONE | DK.GY.SLD BROKEN TOWARD THE TOP; COALY LENSES IN PLACES; ROCK MOD MUDDY |
| 70 | 274.78 | 275.29 | 0.51 | | | SANDSTONE | SLTY.DK.GY.SSD.SLD |
| 70 | 275.29 | 277.55 | 2.26 | | | SILTSTONE | SLTY.DK.GY.SSD.SLD UNIFORM THROUGHOUT |
| 70 | 277.55 | 277.60 | 0.05 | | | MUDSTONE | CARB.BLK.SLD |
| 70 | 277.60 | 277.70 | 0.10 | | | ROCK LOSS | |
| 70 | 277.70 | 278.43 | 0.73 | | | ROCK LOSS | |
| 71 | 278.43 | 278.60 | 0.17 | | | COAL | C-5.BRKN |
| 71 | 278.60 | 278.85 | 0.25 | | | COAL | PWRD |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 42

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 71 | 278.85 | 279.31 | 0.46 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY BROKEN; ABUNDANT COALY PARTINGS |
| 71 | 279.31 | 280.18 | 0.87 | | | MUDSTONE | BLK.SLD CARBONACEOUS TOWARD THE TOP |
| 71 | 280.18 | 280.29 | 0.11 | | | COAL | C-5.BRKN |
| 71 | 280.29 | 280.49 | 0.20 | | | COAL LOSS | |
| 71 | 280.49 | 280.52 | 0.03 | | | MUDSTONE | CARB.BLK.SLD HIGHLY CARBONACEOUS |
| 71 | 280.52 | 280.56 | 0.04 | | | COAL | C-5.BRKN |
| 71 | 280.56 | 281.12 | 0.56 | | | MUDSTONE | SLTY.BLK.SLD CARBONACEOUS IN PARTS |
| * 71 | 281.12 | 282.13 | 1.01 | | | SILTSTONE | BLK.THKB.SLD CARBONACEOUS SPECKS THROUGHOUT |
| 71 | 282.13 | 283.26 | 1.13 | | | MUDSTONE | SLTY.BLK.SLD UNIFORM THROUGHOUT |
| 70 | 283.26 | 283.42 | 0.16 | | | COAL | C-2 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|----------------|
| 70 | 283.42 | 283.88 | 0.46 | | | MUDSTONE | CARB.BLK.BRKN |
| 70 | 283.88 | 283.98 | 0.10 | | | ROCK LOSS | |
| 70 | 283.98 | 284.19 | 0.21 | | | MUDSTONE | CARB.BLK.VBRKN |
| 70 | 284.19 | 284.39 | 0.20 | | | ROCK LOSS | |
| 70 | 284.39 | 284.74 | 0.35 | | | MUDSTONE | CARB.BLK.BRKN |
| 70 | 284.74 | 285.04 | 0.30 | | | ROCK LOSS | |
| 70 | 285.04 | 285.16 | 0.12 | | | MUDSTONE | CARB.BLK.BRKN |
| 70 | 285.16 | 285.21 | 0.05 | | | ROCK LOSS | |
| 70 | 285.21 | 285.71 | 0.50 | | | MUDSTONE | CARB.BLK.BRKN |
| 69 | 285.71 | 285.96 | 0.25 | | | ROCK LOSS | |
| 69 | 285.96 | 286.31 | 0.35 | | | MUDSTONE | CARB.BLK.BRKN |
| 69 | 286.31 | 286.51 | 0.20 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 44

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 69 | 286.51 | 286.65 | 0.14 | | | ROCK | BLK.VBRKN MIXTURE OF COAL AND ROCK |
| 69 | 286.65 | 287.05 | 0.40 | | | ROCK LOSS | |
| 69 | 287.05 | 287.76 | 0.71 | | | MUDSTONE | CARB.BLK.SLD |
| 69 | 287.76 | 288.32 | 0.56 | | | MUDSTONE | CARB.BLK.SLD COALY LENSES AND STRINGERS |
| 68 | 288.32 | 288.56 | 0.24 | | | MUDSTONE | CARB.BLK.BRKN |
| 68 | 288.56 | 288.65 | 0.09 | | | COAL | C-2.BRKN |
| 68 | 288.65 | 288.82 | 0.17 | | | COAL | C-6.BRKN BONY COAL WITH BRIGHT THIN BAND |
| 68 | 288.82 | 288.87 | 0.05 | | | COAL | C-2.SLD |
| 68 | 288.87 | 288.91 | 0.04 | | | COAL | C-3.SLD |
| 68 | 288.91 | 289.11 | 0.20 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS WITH ABUNDANT COALY STRINGERS |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 45

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 68 | 289.11 | 289.49 | 0.38 | | | ROCK LOSS | |
| 68 | 289.49 | 289.54 | 0.05 | | | COAL | VBRKN |
| 68 | 289.54 | 289.68 | 0.14 | | | COAL | C-5.BRKN |
| 68 | 289.68 | 290.75 | 1.07 | | | SILTSTONE | GY.SLD ABUNDANT CARBONACEOUS STRINGERS |
| 68 | 290.75 | 291.05 | 0.30 | | | MUDSTONE | CARB.BLK.SLD |
| 67 | 291.05 | 291.28 | 0.23 | | | SANDSTONE | FG.LT.GY.SSD.SLD |
| * 67 | 291.28 | 293.26 | 1.98 | | | SILTSTONE | DK.GY.SLD UNIFORM THROUGHOUT |
| | 293.26 | 294.22 | 0.96 | | | SILTSTONE | DK.GY.SSD.SLD CARBONACEOUS SPECKS. |
| * 62 | 294.22 | 295.98 | 1.76 | | | SANDSTONE | FG.DK.GY.SSD.SLD |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 64 | 295.98 | 297.20 | 1.22 | | | SANDSTONE | SLTY.DK.GY.SSD.SLD CALCITE VEINING IN PLACES |
| 66 | 297.20 | 298.79 | 1.59 | | | SILTSTONE | DK.GY.BIGTR.SLD UNIFORM THROUGHOUT |
| 67 | 298.79 | 299.13 | 0.34 | | | MUDSTONE | BLK.SLD CARBONACEOUS SPECKS |
| * 68 | 299.13 | 300.23 | 1.10 | | | SANDSTONE | FG.DK.GY.LAM.SSD.SLD |
| 70 | 300.23 | 300.87 | 0.64 | | | SANDSTONE | FG.DK.GY.LAM.SSD.SLD |
| 71 | 300.87 | 301.11 | 0.24 | | | MUDSTONE | BLK.SLD |
| 71 | 301.11 | 301.41 | 0.30 | | | ROCK LOSS | |
| 72 | 301.41 | 301.51 | 0.10 | | | COAL | C-5.BRKN |
| 72 | 301.51 | 301.56 | 0.05 | | | COAL | C-4.SLD |
| 72 | 301.56 | 301.64 | 0.08 | | | COAL | C-6.SLD BONEY COAL WITH BRIGHT THIN BANDS. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 47

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 72 | 301.64 | 301.71 | 0.07 | | | MUDSTONE | CARB.BLK.BRKN |
| 72 | 301.71 | 301.79 | 0.08 | | | MUDSTONE | CARB.BLK.SLD |
| 73 | 301.79 | 301.94 | 0.15 | | | COAL | C-5.SLD |
| 73 | 301.94 | 302.44 | 0.50 | | | MUDSTONE | SLTY.BLK.SLD |
| 75 | 302.44 | 303.36 | 0.92 | | | SANDSTONE | FG.LT.GY.THKB.SSD.SLD MINOR CALCITE VEINS |
| * 77 | 303.36 | 304.41 | 1.05 | | | SANDSTONE | FG.LT.GY.THKB.SSD.SLD |
| * 78 | 304.41 | 306.18 | 1.77 | | | SANDSTONE | SLTY.BLK.SSD.SLD |
| 76 | 306.18 | 307.10 | 0.92 | | | SANDSTONE | SLTY.BLK.SSD.SLD |
| 75 | 307.10 | 307.65 | 0.55 | | | MUDSTONE | SLTY.BLK.SSD.SLD |
| * 74 | 307.65 | 309.16 | 1.51 | | | SANDSTONE | FG.GY.SSD.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 48

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 72 | 309.16 | 309.85 | 0.69 | | | SANDSTONE | SLTY.GY.SSD.SLD |
| * 69 | 309.85 | 312.16 | 2.31 | | | MUDSTONE | SLTY.BLK.SSD.SLD |
| 69 | 312.16 | 312.58 | 0.42 | | | SHALE | BLK.SLD |
| 68 | 312.58 | 314.76 | 2.18 | | | MUDSTONE | BLK.SLD HIGHLY CARBONACEOUS IN PLACES |
| 68 | 314.76 | 315.02 | 0.26 | | | MUDSTONE | CARB.BLK.SLD AS ABOVE |
| 67 | 315.02 | 316.65 | 1.63 | | | MUDSTONE | DK.GY.SLD CARBONACEOUS SPECKS THROUGHOUT MINOR CA LCITE VEINING |
| 67 | 316.65 | 316.80 | 0.15 | | | MUDSTONE | BRKN UNCONSOLIDATED MUDSTONE MIXED WITH MUDS TONE FRAGMENTS |
| 67 | 316.80 | 317.53 | 0.73 | | | MUDSTONE | DK.GY.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 49

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 67 | 317.53 | 317.73 | 0.20 | | | MUDSTONE | DK.GY.SLD |
| 67 | 317.73 | 318.50 | 0.77 | | | MUDSTONE | SLTY.DK.GY.SLD |
| 66 | 318.50 | 318.62 | 0.12 | | | MUDSTONE | GY.BRKN HIGHLY CALCAREOUS ABUNDANT CALCITE VEIN ING. |
| 66 | 318.62 | 319.18 | 0.56 | | | ROCK LOSS | |
| * 66 | 319.18 | 320.53 | 1.35 | | | MUDSTONE | BLK.SLD |
| 64 | 320.53 | 321.04 | 0.51 | | | MUDSTONE | BLK.SLD CARBONACEOUS SPECKS THROUGHOUT |
| 62 | 321.04 | 321.74 | 0.70 | | | ROCK LOSS | |
| 61 | 321.74 | 321.79 | 0.05 | | | MUDSTONE | CARB.BLK.BRKN |
| 61 | 321.79 | 322.19 | 0.40 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| | 322.19 | 323.50 | 1.31 | | | MUDSTONE | BLK.SLD CARBONACEOUS SPECKS THROUGHOUT. |
| 57 | 323.50 | 323.53 | 0.03 | | | COAL | C-4.SLD |
| 56 | 323.53 | 324.15 | 0.62 | | | MUDSTONE | CARB MINOR COALY STRINGERS. |
| 54 | 324.15 | 324.66 | 0.51 | | | SILTSTONE | |
| * 51 | 324.66 | 326.88 | 2.22 | | | SANDSTONE | SLTY.GY.LAM.XBDG SOFT SEDIMENT DEFORMATION. |
| 51 | 326.88 | 327.70 | 0.82 | | | MUDSTONE | SLTY.GY.SLD |
| 52 | 327.70 | 328.45 | 0.75 | | | SANDSTONE | SLTY.GY.THNB.SSD.SLD MUDDY TOWARD THE TOP |
| 52 | 328.45 | 328.97 | 0.52 | | | MUDSTONE | DK.GY.SLD BROKEN TOWARD THE BASE |
| * 52 | 328.97 | 329.44 | 0.47 | | | SILTSTONE | GY.SLD |
| * 56 | 329.44 | 329.77 | 0.33 | | | SILTSTONE | DK.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---------------------------|
| 56 | 329.77 | 330.26 | 0.49 | | | MUDSTONE | DK.GY.SLD |
| 57 | 330.26 | 330.59 | 0.33 | | | MUDSTONE | CARB.BLK.BRKN |
| 57 | 330.59 | 330.69 | 0.10 | | | ROCK LOSS | |
| 57 | 330.69 | 331.03 | 0.34 | | | MUDSTONE | CARB.BLK.BRKN |
| 58 | 331.03 | 331.33 | 0.30 | | | ROCK LOSS | |
| 58 | 331.33 | 331.40 | 0.07 | | | COAL | BRKN |
| 58 | 331.40 | 332.43 | 1.03 | | | MUDSTONE | DK.GY.THKB.SLD |
| 60 | 332.43 | 334.04 | 1.61 | | | MUDSTONE | DK.GY.THKB.SLD PYRITIC |
| 60 | 334.04 | 334.31 | 0.27 | | | MUDSTONE | CARB.DK.GY.THNB.SLD |
| * 61 | 334.31 | 335.13 | 0.82 | | | SILTSTONE | SSY.DK.GY.LAM.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * | 335.13 | 337.10 | 1.97 | | | SANDSTONE | SLTY.GY.THNB.RIPMK.SLD INTERBEDDING OF SILT, SAND MUD. LAMINATED IN PARTS SOFT SEDIMENT DEFORMATION IN PLACES. |
| 55 | 337.10 | 337.68 | 0.58 | | | SANDSTONE | SLTY.DK.GY.THNB.SLD EROSIONAL SURFACES |
| 56 | 337.68 | 340.03 | 2.35 | | | SANDSTONE | FG.GY.LAM.WRMBU.SLD |
| 56 | 340.03 | 340.43 | 0.40 | | | SILTSTONE | DK.GY.THNB.SLD |
| 57 | 340.43 | 340.96 | 0.53 | | | MUDSTONE | DK.GY.THNB.SLD SILTY TOWARD THE TOP. |
| 57 | 340.96 | 341.33 | 0.37 | | | MUDSTONE | CARB.BLK.VBRKN |
| 57 | 341.33 | 342.43 | 1.10 | | | MUDSTONE | BLK.THNB.SLD THIN SHELL BED ROUGHLY 2.3CM THICK |
| * 58 | 342.43 | 342.98 | 0.55 | | | SANDSTONE | FG.DK.GY.LAM.SLD |
| * 56 | 342.98 | 345.10 | 2.12 | | | SANDSTONE | FG.DK.GY.WRMBU.SLD INTERBEDDING OF SAND, SILT & MUD BRECCIATED TOWARD THE BASE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 53

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-------------|---|
| 56 | 345.10 | 345.57 | 0.47 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS; CORE STATE: SHRD. |
| 56 | 345.57 | 345.77 | 0.20 | | | ROCK LOSS | |
| 56 | 345.77 | 345.93 | 0.16 | | | ROCK & COAL | PWRD |
| 56 | 345.93 | 346.23 | 0.30 | | | ROCK LOSS | |
| * 56 | 346.23 | 348.29 | 2.06 | | | SANDSTONE | FG.DK.GY.SSD.SLD MINOR CALCITE VEINING |
| 53 | 348.29 | 348.62 | 0.33 | | | SANDSTONE | FG.GY.LAM.SSD.SLD CALCITE VEINS |
| 51 | 348.62 | 349.68 | 1.06 | | | SANDSTONE | SLTY.DK.GY.LAM.SSD.SLD MUDDY TOWARD THE BASE MINOR CARBONACEOU S STRINGERS. |
| 48 | 349.68 | 350.38 | 0.70 | | | MUDSTONE | SLTY.DK.GY.LAM.SLD |
| 47 | 350.38 | 350.79 | 0.41 | | | MUDSTONE | BLK.THNB.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 54

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| * 46 | 350.79 | 351.08 | 0.29 | | | SANDSTONE | SLTY.DK.GY.THNB.SLD |
| 46 | 351.08 | 351.26 | 0.18 | | | SANDSTONE | SLTY.DK.GY.THNB.SLD |
| 46 | 351.26 | 351.76 | 0.50 | | | ROCK LOSS | |
| 46 | 351.76 | 351.97 | 0.21 | | | MUDSTONE | CARB.BLK.VBRKN |
| 46 | 351.97 | 352.34 | 0.37 | | | ROCK LOSS | |
| 46 | 352.34 | 353.69 | 1.35 | | | MUDSTONE | CARB.BLK.THKB.SSD.BRKN HIGHLY CARBONACEOUS |
| 45 | 353.69 | 353.99 | 0.30 | | | ROCK LOSS | |
| 45 | 353.99 | 354.51 | 0.52 | | | MUDSTONE | BLK.SSD.SLD |
| 45 | 354.51 | 354.71 | 0.20 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 55

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 45 | 354.71 | 355.95 | 1.24 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS IN PLACES |
| 45 | 355.95 | 356.30 | 0.35 | | | ROCK LOSS | |
| 45 | 356.30 | 356.50 | 0.20 | | | MUDSTONE | BLK.SSD.BRKN HIGHLY CARBONACEOUS |
| 45 | 356.50 | 357.60 | 1.10 | | | MUDSTONE | DK.GY.SLD CALCITE VEINS |
| 45 | 357.60 | 358.40 | 0.80 | | | MUDSTONE | CARB.BLK.SLD CALCITE VEINS PARALLEL TO CORE AXIS. |
| 44 | 358.40 | 359.39 | 0.99 | | | SILTSTONE | DK.GY.SLD |
| 44 | 359.39 | 359.69 | 0.30 | | | ROCK LOSS | |
| 44 | 359.69 | 360.19 | 0.50 | | | ROCK & COAL | PWRD MIXTURE OF COAL & MUD FRAGMENTS |
| 44 | 360.19 | 360.49 | 0.30 | | | ROCK LOSS | |
| 44 | 360.49 | 360.80 | 0.31 | | | MUDSTONE | BLK.BRKN |
| * 44 | 360.80 | 362.06 | 1.26 | | | MUDSTONE | SLTY.BLK.THKB.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 56

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 44 | 362.06 | 362.11 | 0.05 | | COAL | C-6.VBRKN |
| | 44 | 362.11 | 363.03 | 0.92 | | SILTSTONE | SSY.DK.GY.THKB.SLD CLUSTER OF FEST XTALS SCATTERED IN PLACES, SANDY BAND TOWARD THE BASE |
| * | 44 | 363.03 | 363.90 | 0.87 | | SANDSTONE | FG.DK.GY.LAM.WRMBU.SLD PYRITIC |
| | 41 | 363.90 | 365.53 | 1.63 | | SANDSTONE | FG.DK.GY.LAM.SSD.SLD |
| * | 37 | 365.53 | 366.69 | 1.16 | | SANDSTONE | FG.LT.GY.LAM.SSD.SLD |
| | 38 | 366.69 | 367.22 | 0.53 | | MUDSTONE | SLTY.DK.GY.SLD |
| | 39 | 367.22 | 367.94 | 0.72 | | MUDSTONE | BLK.THKB.SLD CARB SPECKS THROUGHOUT |
| | 41 | 367.94 | 369.57 | 1.63 | | MUDSTONE | SLTY.DK.GY.THKB.SLD |
| | 44 | 369.57 | 370.47 | 0.90 | | MUDSTONE | CARB.BLK.THKB.VBRKN TO POWDERY, MUD AND COAL MIXTURE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 57

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81016

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 45 | 370.47 | 371.20 | 0.73 | | | MUDSTONE | CARB.BLK.BRKN |
| 46 | 371.20 | 371.52 | 0.32 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARBONACEOUS |
| 47 | 371.52 | 371.92 | 0.40 | | | MUDSTONE | CARB.BLK.SLD |
| 47 | 371.92 | 372.09 | 0.17 | | | COAL | PWRD PULVERIZED COAL |
| * 48 | 372.09 | 373.09 | 1.00 | | | MUDSTONE | SLTY.BLK.SLD CARBONACEOUS SPECKS THROUGHOUT |
| 48 | 373.09 | 373.34 | 0.25 | | | MUDSTONE | BLK.SLD |
| 48 | 373.34 | 373.64 | 0.30 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

DDH 81-17

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81017

HISTORY

START DATE: 28/09/81 END DATE: 03/10/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: V. TAPLEY SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1372.2
 UTM ZONE: 10 NORTH: 6142726.60 EAST: 547126.40
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 412.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 9.00 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

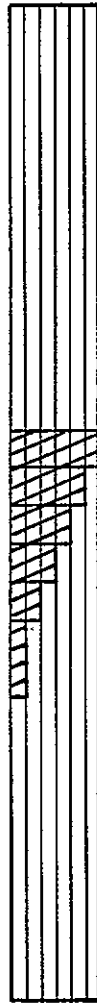
| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|---------|---------|---------|-----------|----------------|-----------|-----------|-------------|
| GAMMA | X | 1:100 | : | -- | -- | X | -- | 125A |
| NEUTRON | X | 1:100 | : | -- | -- | X | -- | 125A |
| DENSITY | X | 1:100 | 1:40 | -- | -- | X | -- | 422AS |
| CALIPER | -- | : | : | -- | -- | -- | -- | _____ |
| FE-SHORT | -- | : | : | -- | -- | -- | -- | _____ |
| FE-LONG | X | 1:100 | 1:40 | -- | -- | X | -- | 6 |
| DIRECTIONAL | -- | : | : | -- | -- | -- | -- | _____ |
| DIPMETER | -- | : | : | -- | -- | -- | -- | _____ |

SEAM
COMP.

COAL
SEAM
LOG

LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone



breccia
carbonaceous
claystone
claystone
coaly claystone
conglomerate
sandstone
siltstone
silty claystone
tuff

coal

coal-boney, stoney,
coal and bands/rock
-designated "C6"

rock > coal
lithotype uncertain

coal } MISSING
rock } CORE

rock

coal

CORED HOLE

GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



LEGEND FOR COAL
SEAM DATA SHEETS

PREPARED BY: V.O.

SCALE 1:40

APPROVED BY:

DATE: JAN. 82

DRAWING No.

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

DRILL NO. GOR-DDH-81-17

SEAM

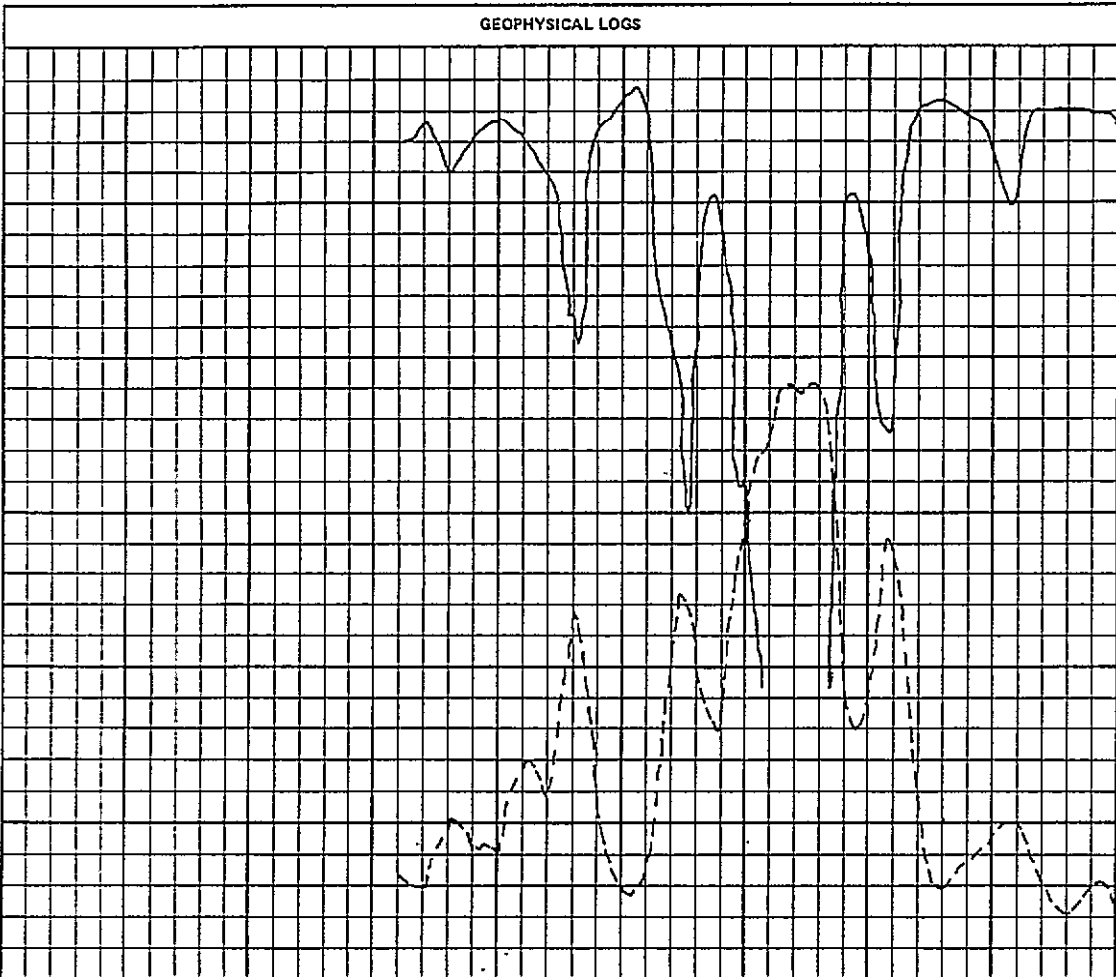
SEAM INTERVAL 133.71 - 135.70 m

P-267 (12-88)
Coal/Coal, Rock(Thu Thk (m))
0.87 / 1.14 (Int:134.22 - 135.70)

DENSITY --- RESISTIVITY

DENSITY SCALE 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80

RESISTIVITY SCALE



| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE NUMBER | PROXIMATE ANALYSIS (AD) | | | | | | |
|------------|--------|---------------|----------|----------------------------------|--------|---------------|-------------------------|------|-------|-------|------|-------------------|-----|
| | | | ROCK | COAL | | | MOIST | ASH | VM | FC | S | BTU (MJ)/KG | FSI |
| 65.332 | 133.71 | | | 0.15 (0.12) 0.06 (0.45) | 31 | 00141 | 0.47 | 30.4 | 20.27 | 48.85 | 0.28 | 10,357 (24,04) | 2.0 |
| | 134.22 | | | 0.05 | | | | | | | | | |
| | 135.05 | | | | | | | | | | | | |
| | 135.70 | | | | | | | | | | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal/Coal + Rock (True Thk (m))
0.50 / 0.50
SEAM INTERVAL 214.57 - 215.28 m

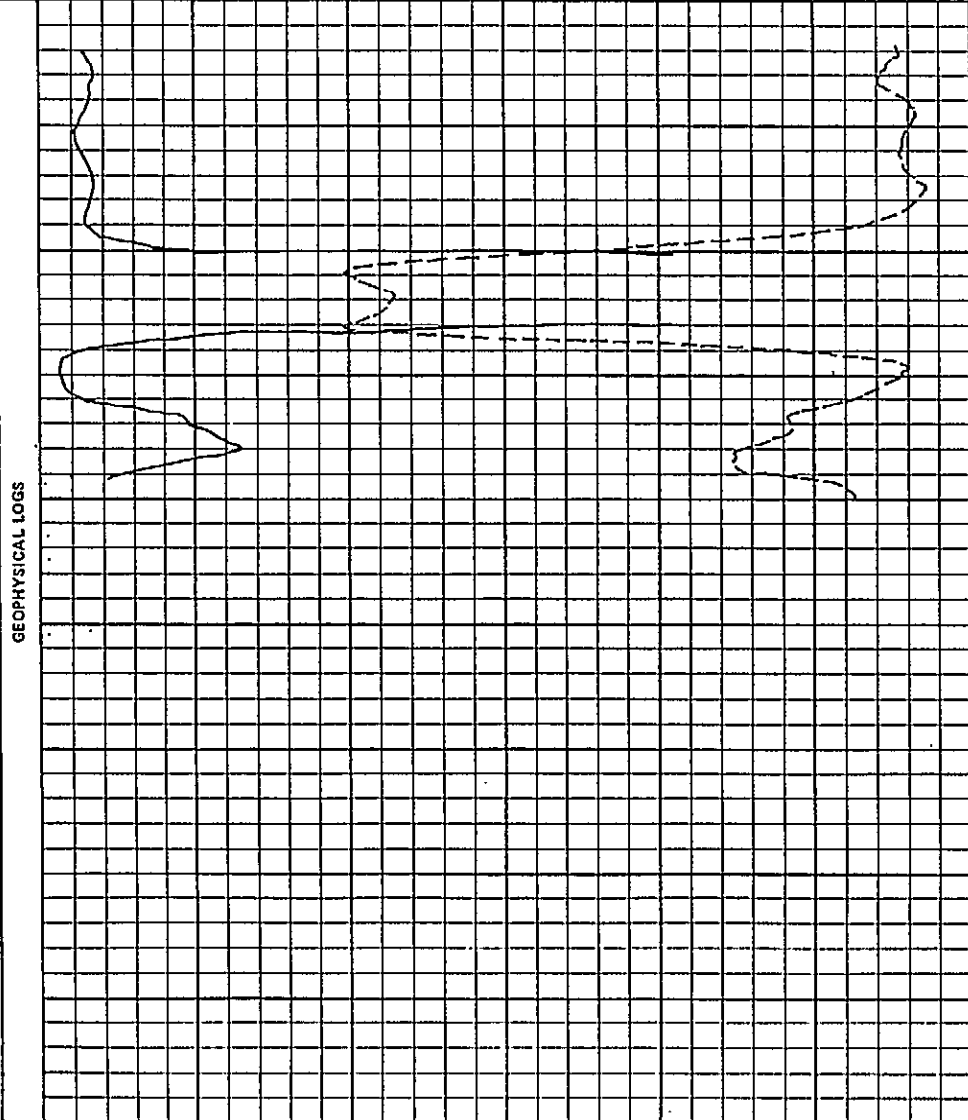
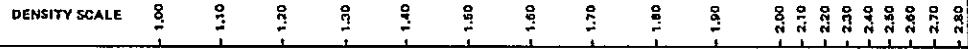
DENSITY

RESISTIVITY

DRILL NO. GDR-DDH-81-17 SEAM

SEAM INTERVAL 214.57 - 215.28 m

SCALE 1:40



SEAM COMP. 654321

| DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | |
|--------|---------------|----------|----------------|--------|--------|---------|-------------------------|-------|-------|------|-------------------|---------------|-----|--|--|--|--|
| | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ) / KG | FSI | | | | |
| 214.57 | | | 0.30 | | | | | | | | | | | | | | |
| 215.28 | | | (0.14) 0.27 | 80 | 00142 | 0.43 | 12.38 | 28.98 | 58.23 | 0.42 | 13,581 (31.59) | 8.5 | | | | | |

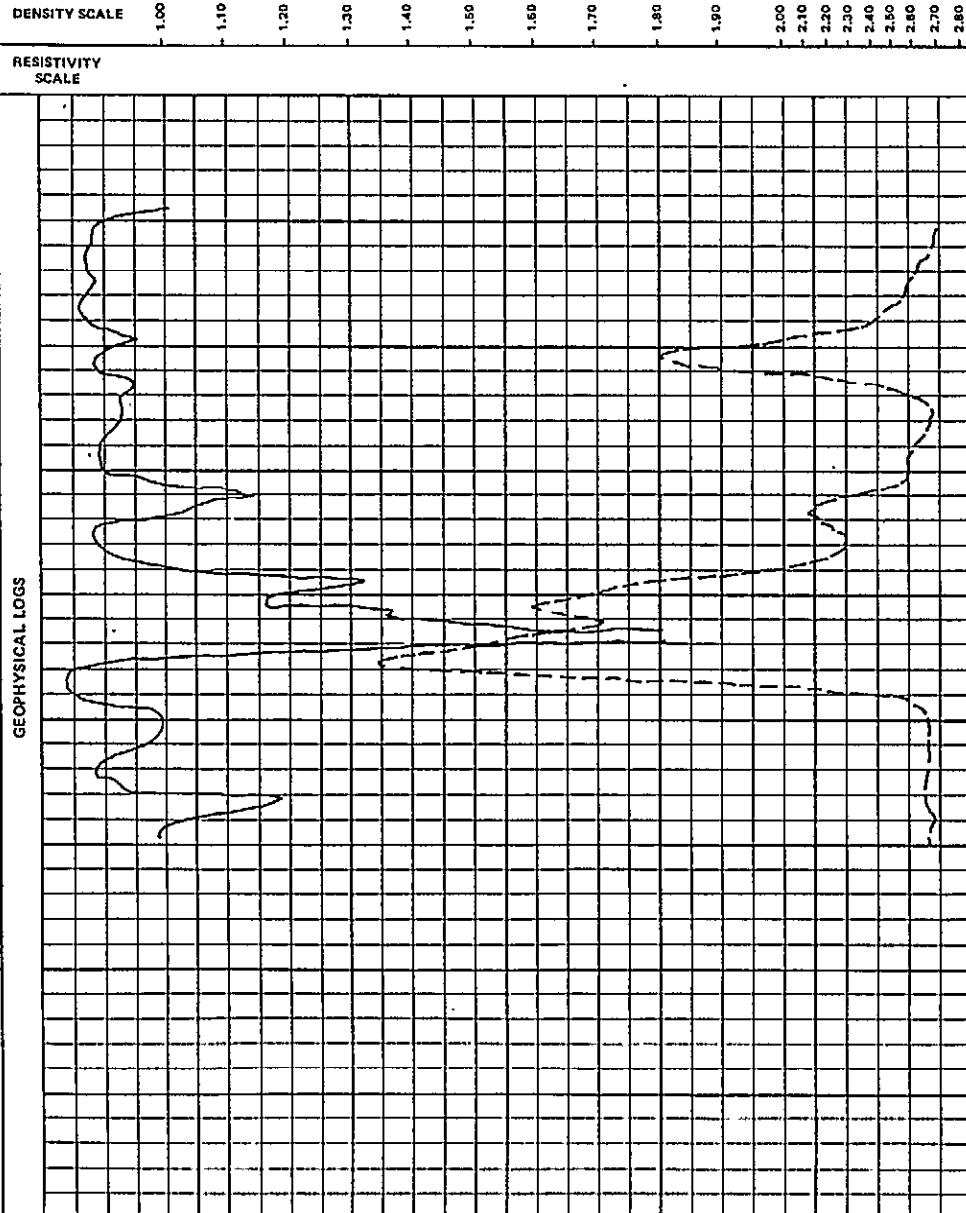
COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-17 SEAM _____ SEAM INTERVAL 300.68 - 303.70 m
SCALE 1:40



GEOPHYSICAL LOGS

| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | |
|----------------------|--------|---------------|----------------|----------------|--------|--------|---------|-------------------------|-------|-------|------|-------------------|-------------|-----|--|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI | | | |
| | 300.68 | | | | | | | | | | | | | | | | |
| | 302.86 | | (0.21) 0.03 | 0.15 (0.07) | 66 | 00143 | 0.63 | 25.44 | 21.28 | 52.65 | 0.77 | 11,488 (26.72) | 6.5 | | | | |
| | 303.70 | | | 0.38 | | | | | | | | | | | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

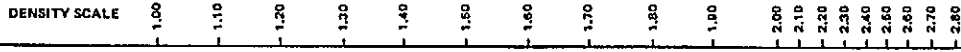
Coal/Coal + Rock (True Thk (m))
2.80/3.46

DENSITY RESISTIVITY

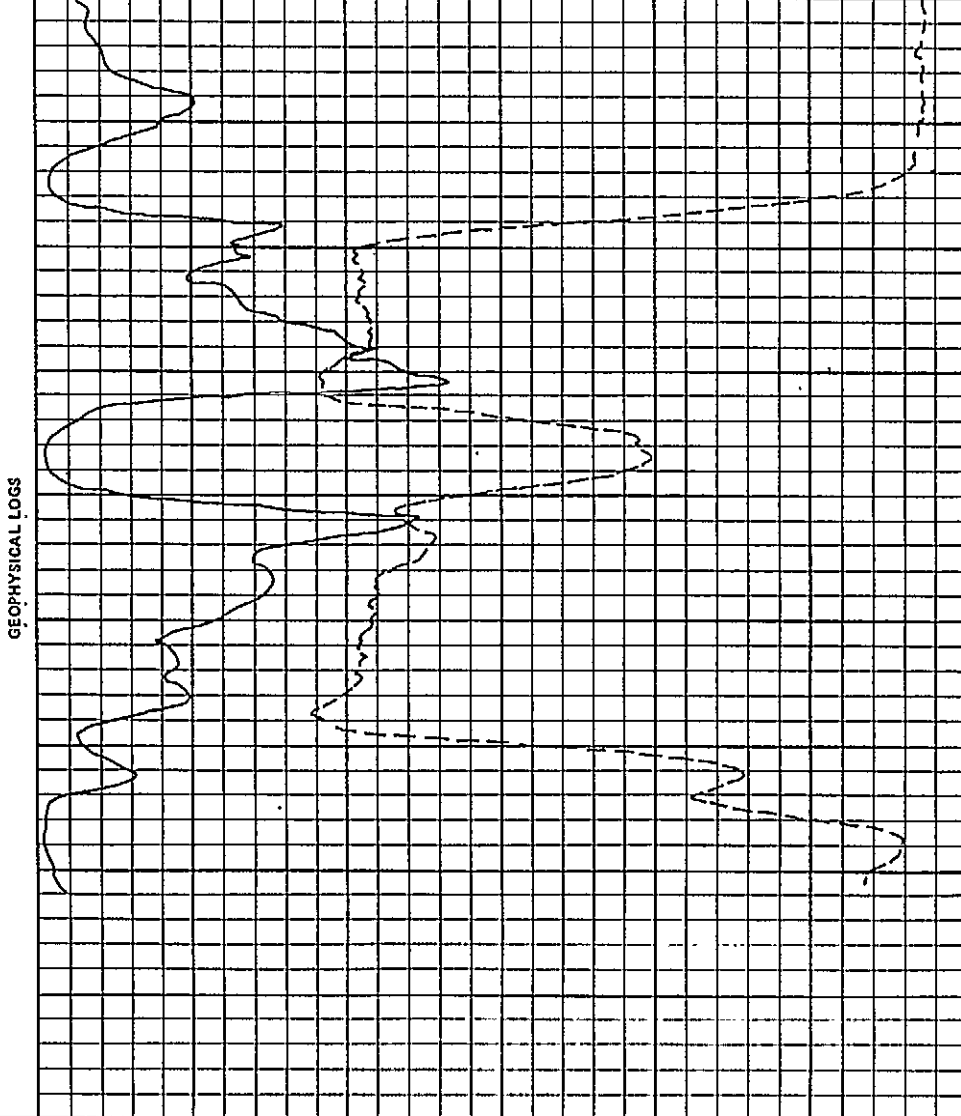
DRILL NO. GDR - DDH - 81 - 17 SEAM

SEAM INTERVAL 312.76 - 316.96 m

SCALE 1:40



SEAM COMP. 654321



GEOPHYSICAL LOGS

| DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | |
|--------|---------------|----------------|--------------------------------|--------|--------|---------|-------------------------|-------|-------|------|-------------------|-------------|-----|
| | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI |
| 312.76 | | | 1.43 (0.13) | 92 | 00144 | 0.63 | 5.29 | 21.84 | 72.24 | 0.57 | 14,484 (33.69) | 2.0 | |
| 314.32 | | 0.27 (0.39) | | 41 | 00145 | 0.88 | 73.47 | 10.66 | 14.99 | 0.15 | 2,296 (5.34) | 0.0 | |
| 314.98 | | | 0.15 0.07 0.17 (1.29) | 30 | 00146 | 0.97 | 63.37 | 13.17 | 22.49 | 0.17 | 4,979 (11.58) | 0.0 | |
| 316.96 | | | | | | | | | | | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal/Coal + Rock (True Thk (m)
1.27/1.49

DENSITY --- RESISTIVITY ---

DRILL NO. GDR - DDH - 81 - 17 SEAM _____

SEAM INTERVAL 348.88 - 351.30

SCALE 1:40

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | |
|---------------|-------------------|------|------|------|------|------|------|------|------|------|-------------------|--------|---------------|----------|------|--------|--------|-------|-------------------------|-------|-------|----------------|----------------|------|------|--------|---------|-------|-----|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | | | | 2.00 | 2.10 | | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | NUMBER | COMPOS. | MOIST | ASH |
| | | | | | | | | | | | | 348.88 | | ROCK | COAL | 100 | 00147 | 0.63 | 7.57 | 22.68 | 69.12 | 0.84 | 14,084 (32.76) | 5.3 | | | | | |
| | | | | | | | | | | | | 349.17 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 349.45 | | 1.25 | 100 | 00149 | 0.63 | 20.67 | 20.80 | 57.90 | 0.61 | 11,943 (27.78) | 3.5 | | | | | | |
| | | | | | | | | | | | | 350.77 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 351.30 | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED. COAL | ROCK | MISSING COAL | ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|-----------------|------|--------------|------|
| DLH81017 | | 141 | 134.22 | 135.05 | 0.26 | 31.33 | 0.21 | 0.05 | 0.57 | 0.00 |
| | | 142 | 214.57 | 215.28 | 0.57 | 80.28 | 0.57 | 0.00 | 0.14 | 0.00 |
| | | 143 | 302.86 | 303.70 | 0.56 | 66.67 | 0.53 | 0.03 | 0.07 | 0.21 |
| | | 144 | 312.76 | 314.32 | 1.43 | 91.67 | 1.43 | 0.00 | 0.13 | 0.00 |
| | | 145 | 314.32 | 314.98 | 0.27 | 40.91 | 0.00 | 0.27 | 0.00 | 0.39 |
| | | 146 | 314.98 | 316.96 | 0.60 | 30.30 | 0.45 | 0.15 | 1.38 | 0.00 |
| | | 147 | 348.58 | 349.17 | 0.29 | 100.00 | 0.29 | 0.00 | 0.00 | 0.00 |
| | | 148 | 349.17 | 349.95 | 0.19 | 24.36 | 0.00 | 0.19 | 0.00 | 0.59 |
| | | 149 | 349.95 | 350.77 | 0.82 | 100.00 | 0.82 | 0.00 | 0.00 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE - AD

NAME OF STANDARD - ASTM

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|-------|---------------|------------------|----------------|-------------------------------|------|------|
| DDHE1017 | | 141 | 0.47 | 30.41 | 48.85 | 20.27 | 0.28 | 24.09 | 1.47 | 2.00 |
| | | 142 | 0.43 | 12.38 | 58.23 | 28.98 | 0.42 | 31.59 | 1.32 | 6.50 |
| | | 143 | 0.63 | 25.44 | 52.65 | 21.28 | 0.77 | 26.72 | 1.42 | 6.50 |
| | | 144 | 0.63 | 5.29 | 72.24 | 21.64 | 0.57 | 33.89 | 1.30 | 2.00 |
| | | 145 | 0.88 | 73.47 | 14.99 | 10.66 | 0.15 | 9.54 | 2.04 | 0.00 |
| | | 146 | 0.97 | 65.37 | 22.49 | 13.17 | 0.17 | 11.58 | 1.91 | 0.00 |
| | | 147 | 0.63 | 7.57 | 69.12 | 22.68 | 0.84 | 32.76 | 1.30 | 5.50 |
| | | 148 | 0.93 | 86.58 | 5.18 | 7.31 | 0.12 | 2.43 | 2.35 | 0.00 |
| | | 149 | 0.63 | 20.67 | 57.90 | 20.80 | 0.61 | 27.78 | 1.38 | 3.50 |

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| 45 | 0.00 | 5.45 | 5.45 | | | CASING | CASING 20" |
| 45 | 5.45 | 7.42 | 1.97 | | | MUDSTONE | DK.GY.VBRKN FE-STAINING; MNR PYR - POSSIBLE CORE LO SS. |
| 45 | 7.42 | 8.03 | 0.61 | | | MUDSTONE | DK.GY.VBRKN AS ABOVE. |
| 45 | 8.03 | 10.01 | 1.98 | | | MUDSTONE | DK.GY.WRMBU.VBRKN AS ABOVE, MNR CALC VEINING. |
| * 45 | 10.01 | 10.71 | 0.70 | | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE, PYR BLEBS. |
| 45 | 10.71 | 13.10 | 2.39 | | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| 45 | 13.10 | 13.36 | 0.26 | | | MUDSTONE | DK.GY.BRKN PYR BELBS, MNR CALC VEINING. |
| 45 | 13.36 | 14.48 | 1.12 | | | MUDSTONE | DK.GY.WRMBU.VBRKN AS ABOVE, SKS. |
| 45 | 14.48 | 16.13 | 1.65 | | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| 45 | 16.13 | 16.51 | 0.38 | | | MUDSTONE | DK.GY.BRKN AS ABOVE. |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 45 | 16.51 | 18.63 | 2.12 | | | MUDSTONE | DK.GY.BRKN AS ABOVE; CALC FILLED FRACTURE AT 0.04M |
| 45 | 18.63 | 18.89 | 0.26 | | | MUDSTONE | DK.GY.WRMBU.VBRKN AS ABOVE; CALC FILLED FRACTURE AT 0.08M |
| 45 | 18.89 | 19.57 | 0.68 | | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| 45 | 19.57 | 21.59 | 2.02 | | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE; SKS; LISTRIC SURFACES, CALC F ILLED FRACTURE AT 0.62M. |
| 45 | 21.59 | 22.62 | 1.03 | | | MUDSTONE | DK.GY.WRMBU.BRKN PYR BLEBS, MNR CALCT VEINING. |
| 45 | 22.62 | 24.12 | 1.50 | | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE, CARROT? AT 1.10M; CALC FILLED FRACTURE AT 1.28 |
| 45 | 24.12 | 24.51 | 0.39 | | | MUDSTONE | DK.GY.BRKN PYR BLEBS; CALC VEINING. |
| 45 | 24.51 | 24.65 | 0.14 | | | SILTSTONE | LT.GY.SLD PYR BLEBS HORSETAIL CALC VEINING, CALC FILLED FRACTURE AT 0.07M. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 45 | 24.65 | 25.26 | 0.61 | | | MUDSTONE | DK.GY.BRKN CALC BLEBS, AND CALC VEINING. |
| 45 | 25.26 | 25.36 | 0.10 | | | SILTSTONE | LT.GY.BRKN HORSETAIL CALC VEINING. |
| 45 | 25.36 | 25.65 | 0.29 | | | MUDSTONE | DK.GY.BRKN MNR CALC VEINING. |
| 45 | 25.65 | 26.71 | 1.06 | | | MUDSTONE | DK.GY.WRMBU.BRKN CALC VEINING; CALC FILLED FRACTURES AT 0.39M AND 0.41M. |
| 45 | 26.71 | 28.76 | 2.05 | | | MUDSTONE | DK.GY.VBRKN MNR CALC VEINING, SKS, PYR BLEBS. |
| 45 | 28.76 | 29.33 | 0.57 | | | MUDSTONE | DK.GY.VBRKN AS ABOVE. |
| 45 | 29.33 | 29.74 | 0.41 | | | MUDSTONE | DK.GY.VBRKN AS ABOVE. |
| 45 | 29.74 | 29.83 | 0.09 | | | SILTSTONE | LT.GY.VBRKN PYR BLEBS, CALC VEINING. |
| 45 | 29.83 | 30.22 | 0.39 | | | MUDSTONE | DK.GY.VBRKN CALC VEINING, SKS, PYR BLEBS. |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 45 | 30.22 | 30.34 | 0.12 | | SILTSTONE | LT.GY.BRKN MNR CALC, PYR. |
| | 45 | 30.34 | 32.02 | 1.68 | | MUDSTONE | DK.GY.VBRKN CALC VEINING, SKS, PYR BLEBS - POSSIBLE CORE LOSS. |
| | 45 | 32.02 | 34.80 | 2.78 | | MUDSTONE | DK.GY.BRKN AS ABOVE. |
| | 45 | 34.80 | 35.19 | 0.39 | | MUDSTONE | DK.GY.BRKN AS ABOVE. |
| | 45 | 35.19 | 37.24 | 2.05 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| * | 45 | 37.24 | 37.40 | 0.16 | | TUFF | LT.GY.BRKN CALC VEINING. |
| | 45 | 37.40 | 37.52 | 0.12 | | MUDSTONE | DK.GY.SLD MNR CALC, LISTRIC SURF. |
| | 45 | 37.52 | 38.01 | 0.49 | | MUDSTONE | DK.GY.BRKN AS ABOVE; CALC FILLED FRACTURE AT 0.42M |
| * | 45 | 38.01 | 38.38 | 0.37 | | TUFF | LT.GY.BRKN HORSETAIL CALC VEINING SKS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| 46 | 38.38 | 38.67 | 0.29 | | | TUFF | LT.GY.BRKN AS ABOVE. |
| 48 | 38.67 | 40.13 | 1.46 | | | MUDSTONE | DK.GY.BRKN CALC VEINING, SKS. |
| 52 | 40.13 | 41.36 | 1.23 | | | MUDSTONE | DK.GY.BRKN AS ABOVE. |
| 55 | 41.36 | 42.40 | 1.04 | | | MUDSTONE | DK.GY.BRKN AS ABOVE, CALC FILLED FRACTURE AT 1.00M . |
| 57 | 42.40 | 42.73 | 0.33 | | | TUFF | LT.GY.BRKN CALC VEINING. |
| 60 | 42.73 | 44.16 | 1.43 | | | MUDSTONE | DK.GY.WRMBU.VBRKN MNR CALC VEINING, MNR PYR. |
| 62 | 44.16 | 44.63 | 0.47 | | | MUDSTONE | LT.GY.WRMBU.BRKN CALC FILLED FRACTURE AT 0.46M. |
| 64 | 44.63 | 45.39 | 0.76 | | | MUDSTONE | DK.GY CALC VEINING, SKS. |
| 68 | 45.39 | 47.29 | 1.90 | | | MUDSTONE | DK.GY.VBRKN CALC VEINING, SKS, MNR PYR BLEBS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GUR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 71 | 47.29 | 48.01 | 0.72 | | | MUDSTONE | DK.GY.BRKN AS ABOVE. |
| 75 | 48.01 | 50.29 | 2.28 | | | MUDSTONE | DK.GY.BRKN AS ABOVE. |
| 79 | 50.29 | 50.52 | 0.23 | | | MUDSTONE | DK.GY.SLD AS ABOVE. |
| 82 | 50.52 | 52.46 | 1.94 | | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| * 85 | 52.46 | 52.75 | 0.29 | | | MUDSTONE | SLTY.DK.GY.WRMBU.BRKN INTBD SILTS. CALC VEINING SKS. |
| 86 | 52.75 | 52.94 | 0.19 | | | MUDSTONE | DK.GY.VBRKN CALC VEINING, SKS. |
| * 87 | 52.94 | 53.12 | 0.18 | | | TUFF | LT.GY.BRKN CALC FILLED FRACTURE AT 0.01M. SKS. |
| 83 | 53.12 | 55.85 | 2.73 | | | MUDSTONE | DK.GY.WRMBU.BRKN CALC VEINING, SKS, PYR BLEBS. |
| 79 | 55.85 | 56.24 | 0.39 | | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| 75 | 56.24 | 58.40 | 2.16 | | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 72 | 58.40 | 59.06 | 0.66 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| | 68 | 59.06 | 61.16 | 2.10 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| | 64 | 61.16 | 62.12 | 0.96 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| * | 60 | 62.12 | 63.83 | 1.71 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| | 59 | 63.83 | 64.20 | 0.37 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| | 59 | 64.20 | 64.48 | 0.28 | | SILTSTONE | LT.GY.WRMBU.SLD CALC VEINING, SKS. |
| | 59 | 64.48 | 65.21 | 0.73 | | MUDSTONE | DK.GY.WRMBU.BRKN CALC VEINING, SKS, PYR BLEBS. |
| | 58 | 65.21 | 66.46 | 1.25 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| | 57 | 66.46 | 68.25 | 1.79 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE, CALC FILLED FRACTURE AT 0.12M . |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 56 | 68.25 | 69.18 | 0.93 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| | 55 | 69.18 | 71.35 | 2.17 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE - SLTST CLAST AT 1.04M. |
| | 54 | 71.35 | 71.96 | 0.61 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| | 53 | 71.96 | 74.10 | 2.14 | | MUDSTONE | DK.GY.WRMBU.BRKN CALC VEINING, PYR BLEBS, SKS, CALCITE F ILLED FRACTURE AT 1.98M AND 2.13M. |
| | 52 | 74.10 | 74.68 | 0.58 | | MUDSTONE | DK.GY.WRMBU.VBRKN SLTST INTBD AT 0.25M. SAME AS ABOVE. |
| | 51 | 74.68 | 77.35 | 2.67 | | MUDSTONE | DK.GY.WRMBU.BRKN CALC VEINING, SKS, PYR BLEBS, LISTRIC S URFACES. |
| | 50 | 77.35 | 77.68 | 0.33 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| | 49 | 77.68 | 79.99 | 2.31 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE, SMOKEY QUARTZ AT 0.19M. |
| | 48 | 79.99 | 80.60 | 0.61 | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-----------------------|---------------------|---------------------------|---------------------|--------------------|------------------|--|
| 47 | 80.60 | 82.74 | 2.14 | | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| 46 | 82.74 | 83.90 | 1.16 | | | MUDSTONE | DK.GY.WRMBU.BRKN AS ABOVE. |
| 46 | 83.90 | 84.04 | 0.14 | | | MUDSTONE | SLTY.DK.GY.WRMBU.SLD CALC VEINING, LISTRIC SURF, GLAUCONITE PEBBLES. |
| 46 | 84.04 | 84.78 | 0.74 | | | SANDSTONE | FG.GY.BRKN CALC VEINING, SKS, GLAUCONITE AND CALC PEBBLES UP TO 10 CM. |
| 45 | 84.78 | 84.88 | 0.10 | | | ROCK LOSS | |
| * 45 | 84.88 | 85.42 | 0.54 | | | MUDSTONE | SLTY.DK.GY.LAM.BIOTR.BRKN INTBD SLTST, CALC VEINING, SKS, LISTRIC SURF, TOP IS UP. |
| * 60 | 85.42 | 86.94 | 1.52 | | | MUDSTONE | DK.GY.LAM.BIOTR.VBRKN AS ABOVE, PYR BLEBS. CALC FILLED FRACTU RE AT 1.09M. |
| * 70 | 86.94 | 87.95 | 1.01 | | | MUDSTONE | DK.GY.LAM.BIOTR.BRKN AS ABOVE, CALC FILLED FRACTURE AT 0.62M . |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 45 | 87.95 | 89.73 | 1.78 | | | MUDSTONE | DK.GY.LAM.BIDTR.BRKN AS ABOVE, CALC FILLED FRACTURES AT 0.44 , 1.04, 1.18, 1.41 AND 1.47M. |
| * 50 | 89.73 | 89.94 | 0.21 | | | SANDSTONE | SLTY.FG.GY.VBRKN INTBD MUDS, CALC VEINING SKS, LISTRIC S URF, PYR BLEBS. |
| * 60 | 89.94 | 90.58 | 0.64 | | | MUDSTONE | SLTY.DK.GY.LAM.BIDTR.BRKN CALC VEINING, SKS, PYR BLEBS, LISTRIC S URF, TOP IS UP, INTBD SILTST, ALSO XBDG AS SED STRUX. |
| * 70 | 90.58 | 92.53 | 1.95 | | | MUDSTONE | SLTY.DK.GY.LAM.BIDTR.BRKN AS ABOVE. |
| 67 | 92.53 | 92.63 | 0.10 | | | SILTSTONE | GY.WRMBU.SLD MNR CALC VEINING, SKS, |
| 66 | 92.63 | 93.00 | 0.37 | | | MUDSTONE | SLTY.DK.GY.LAM.BIDTR.BRKN CARB, XBDG, INTBD SLTST, CALC VEINING, SKS, LISTRIC SURF, MNR COALY INCLUSIONS |
| 66 | 93.00 | 93.04 | 0.04 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 65 | 93.04 | 93.37 | 0.33 | | | MUDSTONE | CARB.DK.GY.LAM.BIOTR.BRKN AS ABOVE. |
| * 50 | 93.37 | 94.90 | 1.53 | | | MUDSTONE | SLTY.DK.GY.LAM.BIOTR.BRKN CARB, XBDG, AS ABOVE, CALC FILLED FRACT URE AT 0.15M. |
| * 50 | 94.90 | 95.82 | 0.92 | | | MUDSTONE | CARB.DK.GY.LAM.BIOTR CALC VEINING, SKS, LISTRIC SURF, PYR BL EBS. |
| 53 | 95.82 | 96.13 | 0.31 | | | MUDSTONE | CARB.DK.GY.LAM.BIOTR AS ABOVE. |
| 59 | 96.13 | 98.45 | 2.32 | | | MUDSTONE | SLTY.DK.GY.LAM.BIOTR AS ABOVE, MNR SLTST BANDS. |
| 66 | 98.45 | 99.18 | 0.73 | | | MUDSTONE | CARB AS ABOVE, SLTY. |
| * 70 | 99.18 | 100.00 | 0.82 | | | MUDSTONE | CARB.DK.GY.WRMBU.BRKN SILTY, AS ABOVE. |
| 69 | 100.00 | 100.16 | 0.16 | | | SILTSTONE | CARB.GY MNR CALC VEINING, SKS, LISTRIC SURF. |
| 67 | 100.16 | 101.15 | 0.99 | | | MUDSTONE | CARB.DK.GY.WRMBU SILTY, CALC VEINING, SKS, LISTRIC SURF, PYR. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 65 | 101.15 | 101.49 | 0.34 | | | MUDSTONE | CARB COALY INCLUSIONS. |
| 64 | 101.49 | 101.54 | 0.05 | | | COAL | C-2.VBRKN SHEARED. |
| 64 | 101.54 | 101.61 | 0.07 | | | COAL | C-3 SHEARED. |
| 64 | 101.61 | 101.65 | 0.04 | | | COAL | C-2 |
| 64 | 101.65 | 101.69 | 0.04 | | | COAL | C-3.BRKN |
| 64 | 101.69 | 101.71 | 0.02 | | | COAL | C-4 |
| 64 | 101.71 | 101.76 | 0.05 | | | MUDSTONE | CARB.DK.GY LISTRIC SURF, PYR BLEBS, COALY INCLUSIO NS. |
| 64 | 101.76 | 101.94 | 0.18 | | | SANDSTONE | CARB.GY.VBRKN COALY STRINGERS AND INCLUSIONS THROUGH UT, LISTRIC SURF, SKS. |
| 63 | 101.94 | 102.17 | 0.23 | | | MUDSTONE | CARB.DK.GY.BRKN COALY INCLUSIONS, LISTRIC SURF, SKS, MN R CALC. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 63 | 102.17 | 102.23 | 0.06 | | ROCK LOSS | |
| | 62 | 102.23 | 102.59 | 0.36 | | MUDSTONE | CALC VEINING, PYR SMEARS, COALY INCLUSIONS, SKS. |
| * | 60 | 102.59 | 103.55 | 0.96 | | SILTSTONE | CARB.GY.WRMBU.BRKN MUDDY, INTBD MUDST, CARB FLECKS, CALC VEINING, SKS, COALY INCLUSIONS, PLANT FRAGS. |
| | 58 | 103.55 | 103.72 | 0.17 | | SANDSTONE | SLTY.FG.WEL.GY.XBDG INTBD MUDS AND SILTS, CALC VEINING, SKS, TOP IS UP. |
| * | 55 | 103.72 | 105.19 | 1.47 | | SILTSTONE | GY.WRMBU INTBD MUDS AND SANDS, CALC VEINING, SKS, PYR FILLED WRMBUR, COALY INCLUSIONS AND STRINGERS. |
| | 50 | 105.19 | 105.28 | 0.09 | | ROCK LOSS | |
| | 48 | 105.28 | 105.79 | 0.51 | | MUDSTONE | CARB.DK.GY INTBD SLTST, CALC VEINING, SKS, PYR, COALY STRINGERS, CARB FLECKS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 45 | 105.79 | 106.29 | 0.50 | | | SANDSTONE | FG.GY AS ABOVE. |
| 45 | 106.29 | 106.46 | 0.17 | | | MUDSTONE | DK.GY AS ABOVE, CALC FILLED FRACTURE AT 0.08M . |
| 45 | 106.46 | 106.55 | 0.09 | | | MUDSTONE | CARB.DK.GY.BRKN AS ABOVE. |
| 45 | 106.55 | 107.08 | 0.53 | | | SANDSTONE | GY INTBD MUDST AND SLTST, CALC VEINING, SK S, COALY INCLUSIONS. |
| 45 | 107.08 | 107.14 | 0.06 | | | SANDSTONE | BRECCIATED - ABUNDANT CALC FILLED FRACT URES - COALY INCLUSIONS. |
| * 45 | 107.14 | 107.71 | 0.57 | | | SILTSTONE | CARB.GY INTBD MUDST AND SS, ABUN HORSETAIL CALC VEINING, SKS, COALY INCLUSIONS. |
| 47 | 107.71 | 108.34 | 0.63 | | | MUDSTONE | CARB.DK.GY.WRMBU INTBD SLTST, CALC VEINING, SKS, COALY S TRINGERS, SILTY. |
| * 50 | 108.34 | 109.24 | 0.90 | | | MUDSTONE | CARB.DK.GY.LAM.WRMBU.BRKN AS ABOVE, SILTY. |
| * 55 | 109.24 | 110.36 | 1.12 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 53 | 110.36 | 110.65 | 0.29 | | | SILTSTONE | CARB.GY INTBD MUDST, CALC VEINING, SKS, COALY I NCLUSIONS. |
| 51 | 110.65 | 111.50 | 0.85 | | | MUDSTONE | CARB.DK.GY.LAM INTBD SLTST, CALC VEINING, COALY INCLUS IONS, SKS, CARB FLECKS, SILTY. |
| 49 | 111.50 | 111.96 | 0.46 | | | MUDSTONE | AS ABOVE. |
| * 45 | 111.96 | 113.63 | 1.67 | | | MUDSTONE | CARB.DK.GY.BRKN SILTY, AS ABOVE, PYR SMEARS. |
| 47 | 113.63 | 114.50 | 0.87 | | | SANDSTONE | FG.GY.LAM INTBD MUDST, CALC VEINING, SKS, CARB PL FRAG, CALC FILLED FRAC AT 0.01M. |
| * 50 | 114.50 | 117.21 | 2.71 | | | SILTSTONE | CARB.GY.LAM.WRMBU INTBD MUDST AND SS CALC VEINING, SKS, P YR BLEBS. |
| * 70 | 117.21 | 117.57 | 0.36 | | | SILTSTONE | AS ABOVE, COALY INCLUSIONS. |
| * 30 | 117.57 | 118.16 | 0.59 | | | MUDSTONE | CARB.DK.GY.LAM.BRKN SILTY, CALC VEINING, SKS, COALY STRINGE R, INTBD SLTST, CARB PL FRAG, LISTRIC SU RF. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 44 | 118.16 | 118.79 | 0.63 | | | SILTSTONE | GY.LAM INTBD MUDST AND SS, CALC VEINING, SKS, COALY INCLUSIONS, CARB FLECKS. |
| * 55 | 118.79 | 119.08 | 0.29 | | | SANDSTONE | GY.LAM.SSD INTBD MUDS AND SILTS, CALC VEINING, SKS , CARB FLECKS. |
| * 45 | 119.08 | 119.92 | 0.84 | | | SILTSTONE | GY.LAM.WRMBU INTBD MUDST AND SS, CARB FLECKS, CALC V EINING, SKS, |
| * 57 | 119.92 | 120.36 | 0.44 | | | SILTSTONE | GY.WRMBU.SLD AS ABOVE. |
| 56 | 120.36 | 120.57 | 0.21 | | | MUDSTONE | CARB.DK.GY.BIOTR CALC FILLED FRACTURE AT 0.03M, COALY IN CLUSIONS, CARB PL FRAGS, SKS. |
| 54 | 120.57 | 122.60 | 2.03 | | | MUDSTONE | BRKN AS ABOVE, CALC FILLED FRAC AT 0.41, 1.0 5M, COALY STRINGERS. |
| * 50 | 122.60 | 123.62 | 1.02 | | | MUDSTONE | AS ABOVE. |
| 49 | 123.62 | 124.23 | 0.61 | | | MUDSTONE | MNR CALC VEINING, CARB FLECKS, PL FRAG. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 47 | 124.23 | 125.22 | 0.99 | | MUDSTONE | CARB.DK.GY.THKB.WRMBU.BRKN VBRKN TOWARDS THE TOP, COALY STRINGERS AND INCLUSIONS, MNR CALC VEINING, LISTR IC SURF. |
| | 46 | 125.22 | 125.50 | 0.28 | | ROCK LOSS | |
| * | 45 | 125.50 | 126.67 | 1.17 | | MUDSTONE | CARB.WRMBU SSD, SILTY, INTBD SLTST, CARB FLECKS, C OALY STRINGERS BECOMING MORE ABUNDANT T OWARD THE BASE, CARB PL FRAG. |
| | 48 | 126.67 | 126.85 | 0.18 | | MUDSTONE | CARB.WRMBU CARB PL FRAGS, COALY STRINGERS, SKS, CA LC FILLED FRACTURE AT 0.16M. |
| * | 50 | 126.85 | 127.88 | 1.03 | | MUDSTONE | SLTY CARB, INTBD SILTS, CALC VEINING, SKS, P YR SMEARS. |
| | 50 | 127.88 | 128.90 | 1.02 | | MUDSTONE | CARB.DK.GY.WRMBU.BRKN AS ABOVE, SILTY. |
| | 50 | 128.90 | 129.05 | 0.15 | | MUDSTONE | CARB.DK.GY.WRMBU.BRKN ABUNDANT COALY STRINGERS, CARB PL FRAGS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 50 | 129.05 | 129.12 | 0.07 | | | COAL | C-3.VSHRD |
| 50 | 129.12 | 129.25 | 0.13 | | | COAL | C-2.VSHRD |
| 50 | 129.25 | 129.36 | 0.11 | | | COAL | C-3.PWRD |
| 50 | 129.36 | 129.66 | 0.30 | | | MUDSTONE | CARB.DK.GY.VSHRD CALC VEINING, ABUNDANT COALY INCLUSIONS , LISTRIC SURF. |
| 50 | 129.66 | 130.25 | 0.59 | | | MUDSTONE | CARB.DK.GY.VBRKN SILTY, MNR SLTST INTBDS. CARB PL FRAG. COALY INCLUSIONS, CALC VEINING, SKS, LI STRIC SURF. |
| 50 | 130.25 | 130.86 | 0.61 | | | SILTSTONE | CARB.GY.WRMBU.BRKN ABUNDANT CALC VEINING, SKS, CALC FILLED FRACTURE AT 0.39M. LISTRIC SURFS, CARB PL FRAG, COALY INCLUSIONS, MUDST INTBD S. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|------------|--|
| 50 | 130.86 | 131.09 | 0.23 | | | SILTSTONE | CARB.GY.WRMBU.BRKN BRECCIATED - W ROUNDED FRAG. GROUND AND CEMENTED CALC FILLED FRACTURES. LISTRI C SURF. POSSIBLE FAULT. |
| * 50 | 131.09 | 131.58 | 0.49 | | | SILTSTONE | CARB.GY.WRMBU HORSETAIL CALC VEINING, CARB PL FRAG. S KS, COAL STRINGERS, LISTRIC SURFACES. |
| * 45 | 131.58 | 131.82 | 0.24 | | | SANDSTONE | FG.GY.WRMBU.BRKN ABUND. CALC VEINING, MNR COAL STRINGERS , LISTRIC SURFACES. |
| 46 | 131.82 | 132.50 | 0.68 | | | MUDSTONE | CARB.DK.GY CALC VEINING, LISTRIC SURFACES, COALY I NCLUSIONS AND STRINGERS, PYR, CARB PL F RAG. VBRKN TOWARD THE BASE. |
| 46 | 132.50 | 133.04 | 0.54 | | | MUDSTONE | VBRKN AS ABOVE. |
| 47 | 133.04 | 133.71 | 0.67 | | | MUDSTONE | BRKN AS ABOVE. |
| 47 | 133.71 | 133.83 | 0.12 | | | COAL | C-5.PWRD |
| 48 | 133.83 | 133.93 | 0.10 | | | COAL LOSS. | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|----------------------------------|
| 48 | 133.93 | 134.13 | 0.20 | | 1 | ROCK LOSS | |
| 48 | 134.13 | 134.22 | 0.09 | | 1 | TUFF | BF.VBRKN SOAPY. |
| 48 | 134.22 | 134.31 | 0.09 | 00141 | 1 | COAL | C-4.SHRD |
| 48 | 134.31 | 134.37 | 0.06 | 00141 | 1 | COAL | C-3 |
| 48 | 134.37 | 134.49 | 0.12 | 00141 | 1 | COAL LOSS | |
| 48 | 134.49 | 134.54 | 0.05 | 00141 | 1 | MUDSTONE | CARB.DK.GY BRIGHT COAL BANDS. |
| 48 | 134.54 | 134.60 | 0.06 | 00141 | 1 | COAL | C-3 |
| 49 | 134.60 | 135.05 | 0.45 | 00141 | 1 | COAL LOSS | |
| 49 | 135.05 | 135.30 | 0.25 | | | ROCK LOSS | |
| 49 | 135.30 | 135.34 | 0.04 | | | MUDSTONE | CARB.DK.GY BRIGHT COAL BANDS. |
| 49 | 135.34 | 135.43 | 0.09 | | | COAL | C-4.PWRD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 50 | 135.43 | 135.67 | 0.24 | | | COAL LOSS | |
| 50 | 135.67 | 135.74 | 0.07 | | | MUDSTONE | CARB.DK.GY.BRKN COALY STRINGERS. |
| 50 | 135.74 | 136.71 | 0.97 | | | MUDSTONE | CARB.DK.GY.BRKN ABUNDANT COALY STRINGERS, LISTRIC SURFACES, CARB PL FRAGS. |
| 51 | 136.71 | 137.39 | 0.68 | | | MUDSTONE | CARB.DK.GY.BRKN AS ABOVE. |
| 53 | 137.39 | 138.59 | 1.20 | | | MUDSTONE | CARB.DK.GY.WRMBU.BRKN MNR SLTST INTBDS, CARB FLECKS, COALY INCLUSIONS, MNR CALC VEINING, CARB PL FRAG. |
| 54 | 138.59 | 139.23 | 0.64 | | | MUDSTONE | CARB.DK.GY.WRMBU.BRKN AS ABOVE, LISTRIC SURF. |
| 54 | 139.23 | 139.54 | 0.31 | | | MUDSTONE | AS ABOVE, CALC FILLED FRACTURE AT 0.24M |
| 54 | 139.54 | 139.60 | 0.06 | | | COAL | C-6.VSHRD COAL AND BANDS - BT COAL. |
| 55 | 139.60 | 139.77 | 0.17 | | | MUDSTONE | CARB.VBRKN MNR CALC VEINING, COALY INCLUSIONS AND STRINGERS, CARB PL FRAG. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 55 | 139.77 | 140.27 | 0.50 | | | MUDSTONE | CARB.BRKN SILTY, SLTST INTBD, COALY INCLUSIONS AN D STRINGERS, CARB PL FRAG. |
| 52 | 140.27 | 140.37 | 0.10 | | | MUDSTONE | CARB.DK.GY.BRKN COAL STRINGERS THROUGHOUT, CARB PL FRAG |
| 52 | 140.37 | 140.41 | 0.04 | | | COAL | C-3 |
| 51 | 140.41 | 140.62 | 0.21 | | | COAL | C-4 |
| 50 | 140.62 | 140.69 | 0.07 | | | COAL | C-4.PWRD |
| * 45 | 140.69 | 141.66 | 0.97 | | | MUDSTONE | CARB.BRKN SILTY, MNR CALC VEINING, COALY INCLUSIO NS AND STRINGERS, SKS, CARB PL FRAG. |
| 50 | 141.66 | 141.85 | 0.19 | | | MUDSTONE | CARB AS ABOVE. |
| 51 | 141.85 | 141.96 | 0.11 | | | MUDSTONE | CARB.DK.GY.BRKN AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 52 | 141.96 | 142.00 | 0.04 | | | COAL | C-6.SLD BONY - FEW BT COAL BANDS. |
| 53 | 142.00 | 142.18 | 0.18 | | | COAL LOSS | |
| 54 | 142.18 | 142.31 | 0.13 | | | ROCK LOSS | |
| 55 | 142.31 | 142.33 | 0.02 | | | MUDSTONE | CARB.DK.GY.PWRD |
| 55 | 142.33 | 142.41 | 0.08 | | | COAL | C-5.PWRD |
| 57 | 142.41 | 142.72 | 0.31 | | | COAL LOSS | |
| 59 | 142.72 | 142.87 | 0.15 | | | MUDSTONE | CARB.DK.GY.VBRKN COALY STRINGERS AND INCLUSIONS, CARB PL FRAG, SHEARED. |
| 61 | 142.87 | 143.16 | 0.29 | | | SILTSTONE | GY.WRMBU.BRKN MUDDY, MNR CALC VEINING, SKS, COALY INC LUSIONS AND PARTINGS INTBD MUDST. |
| 63 | 143.16 | 143.23 | 0.07 | | | MUDSTONE | CARB.DK.GY.BRKN COALY INCLUSIONS, CARB PL FRAG. LISTRIC SURF. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 70 | 143.23 | 144.86 | 1.63 | | | SILTSTONE | GY.LAM.BRKN MUDDY, INTBD MUDST AND SS, MNR CALC VEI NING, SKS, COALY INCLUSIONS, BECOMING M UDDIER TOWARDS BASE. |
| 67 | 144.86 | 144.96 | 0.10 | | | MUDSTONE | CARB.DK.GY CALC VEINING, SKS, CARB FLECKS, SILTY. |
| 67 | 144.96 | 145.35 | 0.39 | | | MUDSTONE | AS ABOVE, CALC FILLED FRACTURE AT 0.14M . |
| 66 | 145.35 | 145.46 | 0.11 | | | ROCK LOSS | |
| 65 | 145.46 | 145.94 | 0.48 | | | MUDSTONE | CARB.DK.GY.BRKN COALY STRINGERS AND INCLUSIONS THROUGH UT, CALC VEINING, SKS, SANDY CLASTS - B ECOMING GRITTIER TOWARDS BASE. SILTY. |
| 62 | 145.94 | 146.98 | 1.04 | | | SANDSTONE | CARB.MG.LT.GY CALC VEINING, SKS, COALY INCLUSIONS, PY R SMEARS, CARB PL FRAG. |
| * 60 | 146.98 | 147.55 | 0.57 | | | MUDSTONE | SLTY.DK.GY.SSD.SLD INTBD SLTST, CALC VEINING, SKS, CARB PL FRAG. |
| 56 | 147.55 | 147.98 | 0.43 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| * 45 | 147.98 | 150.15 | 2.17 | | | SILTSTONE | GY.SLD MUDDY, INTBD MUDST, CALC VEINING, THROU GHOUT, SKS, PYR SMEARS, COALY INCLUSION S. |
| * 45 | 150.15 | 151.00 | 0.85 | | | MUDSTONE | SLTY.DK.GY.WRMBU.BRKN XBDG, INTBD SILTS, CALC VEINING, SKS, T OP IS UP, CARB PL FRAG, COALY INCLUSION S. |
| 47 | 151.00 | 152.74 | 1.74 | | | MUDSTONE | AS ABOVE, PYR SMEARS. |
| 49 | 152.74 | 152.98 | 0.24 | | | MUDSTONE | AS ABOVE. |
| * 50 | 152.98 | 153.48 | 0.50 | | | SILTSTONE | GY.WRMBU.SLD MUDDY, SSD, INTBD MUDST, CALC VEINING, SKS, PYR BLEBS. |
| * 80 | 153.48 | 154.85 | 1.37 | | | MUDSTONE | SLTY.DK.GY INTBD SLTST, CALC FILLED FRACTURE AT 0. 97M. CARB PL FRAG. |
| 75 | 154.85 | 155.57 | 0.72 | | | MUDSTONE | CARB.BRKN CARB PL FRAG, COALY INCLUSIONS. |
| 72 | 155.57 | 156.01 | 0.44 | | | MUDSTONE | CARB HORSETAIL CALC VEINING, SLTST INTBDS, C OALY INCLUSIONS, SKS, LISTRIC SURF, SIL TY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|------------|---|
| * 70 | 156.01 | 156.45 | 0.44 | | | SILTSTONE | GY MUDDY, MUDST INTBDS, CALC VEINING, SKS, COALY INCLUSIONS, PYR. |
| 65 | 156.45 | 156.53 | 0.08 | | | ROCK LOSS | |
| * 60 | 156.53 | 157.06 | 0.53 | | | SANDSTONE | SLTY.FG.GY.THNB.BRKN MUDDY, COALY STRINGERS AND INCLUSIONS, CALC VEINING, SKS, LISTRIC SURF, INTBD MUDST AND SLTST, CARB FLECKS. |
| 60 | 157.06 | 157.41 | 0.35 | | | SANDSTONE | AS ABOVE. |
| * 60 | 157.41 | 158.19 | 0.78 | | | SILTSTONE | GY INTBD MUDST, CALC VEINING, SKS, COALY S TRINGS TOWARDS BASE, CARB PL FRAGS. MUD DY. |
| 62 | 158.19 | 158.36 | 0.17 | | | ROCK LOSS. | |
| 62 | 158.36 | 158.46 | 0.10 | | | SANDSTONE | FG.GY.XBDG TOP IS UP, INTBD MUDS, HORSETAIL CALC V EINING, COALY INCLUSIONS, SKS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. -- COAL DIVISION -- DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 65 | 158.46 | 159.81 | 1.35 | | SANDSTONE | MG.GY.LAM.BRKN HORSETAIL CALC VEINING, COALY STRINGERS , BECOMING COARSER TOWARDS BASE. CARB M UDST AND MUDST CLASTS ANGULAR UP TO 0.0 IM. ABUND AT 0.72M AND 0.99M, SKS. |
| * | 70 | 159.81 | 160.95 | 1.14 | | SANDSTONE | MG MUDDY, CALC VEINING, SKS, COALY STRINGE RS THROUGHOUT, CARB PL FRAG. |
| | 70 | 160.95 | 161.01 | 0.06 | | ROCK LOSS | |
| * | 70 | 161.01 | 161.83 | 0.82 | | SANDSTONE | SLD AS ABOVE. |
| | 65 | 161.83 | 162.78 | 0.95 | | SANDSTONE | SLTY.MG.GY.THKB.SLD CALC VEINING, SKS, MUDST AND SLTST INTB DS, COALY INCLUSIONS TOWARDS BASE, BECO MING COARSER TOWARDS BASE. |
| | 61 | 162.78 | 162.85 | 0.07 | | SANDSTONE | CG ABUND CALC VEINING, COALY INCLUSIONS AN D PARTING SKS, PYR SMEARS. |
| * | 60 | 162.85 | 163.27 | 0.42 | | SANDSTONE | AS ABOVE, SLTST INTBD AT 0.08M. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|------------|---|
| 60 | 163.27 | 163.82 | 0.55 | | | MUDSTONE | SLTY.DK.GY CALC VEINING, SKS, CARB PL FRAGS, MNR COALY INCLUSIONS. |
| 60 | 163.82 | 163.93 | 0.11 | | | ROCK LOSS. | |
| * 60 | 163.93 | 164.33 | 0.40 | | | SILTSTONE | GY.LAM.SLD INTBD MUDS, CALC VEINING, COALY STRINGERS, SKS, LITRIC SURF, PYR SMEARS. MUDDY. |
| 59 | 164.33 | 165.16 | 0.83 | | | MUDSTONE | SLTY.DK.GY.BRKN INTBD SILTS, COALY INCLUSIONS AND STRINGERS CALC VEINING, CALC FILLED FRACTURE AT 0.02M. CARB PL FRAG. CARB. |
| 58 | 165.16 | 165.90 | 0.74 | | | MUDSTONE | CARB.THKB.VBRKN COALY INCLUSIONS, CARB PL FRAG, SKS, LITRIC SURFACES MNR CALC VEINING, |
| 57 | 165.90 | 166.41 | 0.51 | | | MUDSTONE | BRKN AS ABOVE. |
| 55 | 166.41 | 168.64 | 2.23 | | | MUDSTONE | CARB.DK.GY.BRKN AS ABOVE. |
| 53 | 168.64 | 168.73 | 0.09 | | | MUDSTONE | PWRD AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 53 | 168.73 | 168.94 | 0.21 | | | MUDSTONE | VBRKN AS ABOVE. |
| 52 | 168.94 | 169.02 | 0.08 | | | MUDSTONE | AS ABOVE. |
| 52 | 169.02 | 169.77 | 0.75 | | | MUDSTONE | AS ABOVE. |
| 51 | 169.77 | 169.93 | 0.16 | | | COAL | C-5.VBRKN MNR BT BANDS. |
| 51 | 169.93 | 170.09 | 0.16 | | | COAL | C-6.SLD MNR BT BANDS. |
| 50 | 170.09 | 170.68 | 0.59 | | | MUDSTONE | CARB.DK.GY.THKB.SLD CARB PL FRAG AND COALY INCLUSIONS AND S TRINGERS. |
| 49 | 170.68 | 171.75 | 1.07 | | | SILTSTONE | GY MUDDY, CALC VEINING, COALY STRINGERS, C ARB PL FRAG, SKS, |
| 48 | 171.75 | 172.01 | 0.26 | | | SILTSTONE | AS ABOVE. |
| 47 | 172.01 | 173.06 | 1.05 | | | SILTSTONE | AS ABOVE, CALC FILLED FRACTURE AT 0.71M BECOMING SANDIER TOWARDS BASE. |
| * 45 | 173.06 | 174.54 | 1.48 | | | SANDSTONE | FG.GY CALC VEINING, SKS, INTBD MUDS, CARB PL FRAG. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 45 | 174.54 | 174.73 | 0.19 | | | ROCK LOSS | |
| 45 | 174.73 | 175.10 | 0.37 | | | SILTSTONE | GY.SLD MUDDY, MUDST INTBDS, CALC VEINING, SKS, CARB PL FRAG. |
| * 45 | 175.10 | 175.26 | 0.16 | | | SANDSTONE | FG.GY CALC VEINING. |
| 47 | 175.26 | 175.75 | 0.49 | | | SANDSTONE | AS ABOVE. |
| * 50 | 175.75 | 176.46 | 0.71 | | | SANDSTONE | MG.GY.LAM.HRMBU INTBD MUDS CALC VEINING, SKS, CARB PL F RAG. |
| * 20 | 176.46 | 177.48 | 1.02 | | | SANDSTONE | MNR MUDST INTBDS AND MUDDY CLASTS, CALC VEINING, SKS, COALY LAMINAE AND PARTIN GS. |
| * 32 | 177.48 | 178.36 | 0.88 | | | SANDSTONE | MG.GY.BRKN AS ABOVE, COALY INCLUSIONS AND PARTINGS BECOMING MORE FREQUENT, PYR SMEARS. |
| 34 | 178.36 | 180.24 | 1.88 | | | SANDSTONE | AS ABOVE. |
| 36 | 180.24 | 181.25 | 1.01 | | | SANDSTONE | AS ABOVE, CALC FILLED FRACTURE AT 0.83M AND 0.96M. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 37 | 181.25 | 181.41 | 0.16 | | | ROCK LOSS | |
| 39 | 181.41 | 183.12 | 1.71 | | | SANDSTONE | MG.GY AS ABOVE. |
| 40 | 183.12 | 183.17 | 0.05 | | | ROCK LOSS | |
| 41 | 183.17 | 184.45 | 1.28 | | | SANDSTONE | MG.GY AS ABOVE. |
| 43 | 184.45 | 185.75 | 1.30 | | | SANDSTONE | MG.GY.BRKN AS ABOVE. |
| 44 | 185.75 | 185.77 | 0.02 | | | ROCK LOSS | |
| * 45 | 185.77 | 186.53 | 0.76 | | | SANDSTONE | MG.GY AS ABOVE. |
| 71 | 186.53 | 186.79 | 0.26 | | | SANDSTONE | MUDDY, MUDDY CLASTS UP TO 0.02M. COALY PARTINGS CALC VEINING, SKS. |
| * 85 | 186.79 | 187.10 | 0.31 | | | MUDSTONE | SLTY.DK.GY.SLD SSY, CALC VEINING, SKS, SS BANDS TOWARD S BASE, COALY INCLUSIONS. |
| 82 | 187.10 | 187.50 | 0.40 | | | SANDSTONE | MG.GY.THKB CALC VEINING, COALY INCLUSIONS AND PART INGS 0.01M, COAL BAND AT 0.02M. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 76 | 187.50 | 188.29 | 0.79 | | SANDSTONE | MG.GY.THKB.BRKN CALC VEINING, SKS, ABUNDANT COALY INCLUSIONS AND PARTINGS, LISTRIC SURF. |
| | 70 | 188.29 | 188.58 | 0.29 | | ROCK LOSS | |
| | 65 | 188.58 | 189.46 | 0.88 | | SANDSTONE | AS ABOVE. |
| * | 55 | 189.46 | 190.55 | 1.09 | | MUDSTONE | SSY.DK.GY SS INTBDS, CALC VEINING, SKS, CARB STRINGERS. |
| * | 40 | 190.55 | 191.26 | 0.71 | | SANDSTONE | MG.GY.THKB CALC VEINING, SKS, COALY INCLUSIONS AND PARTINGS, MNR MUDDY CLASTS. |
| | 57 | 191.26 | 192.84 | 1.58 | | SANDSTONE | AS ABOVE. |
| * | 75 | 192.84 | 193.73 | 0.89 | | SILTSTONE | GY.THKB.SLD MUDDY, MUDST INTBDS, CALC VEINING, SKS, CALC FILLED FRACT AT 0.61M. |
| | 72 | 193.73 | 194.03 | 0.30 | | SILTSTONE | AS ABOVE. |
| | 64 | 194.03 | 196.77 | 2.74 | | SILTSTONE | AS ABOVE, MUDST BANDS AT 0.84 AND 1.70M |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| * 50 | 196.77 | 199.59 | 2.82 | | | SILTSTONE | AS ABOVE, BECOMING MUDDIER TOWARDS BASE , 0.14M MUDST BAND AT 1.91M COALY STRIN GERS. |
| 48 | 199.59 | 199.64 | 0.05 | | | ROCK LOSS | |
| 48 | 199.64 | 199.81 | 0.17 | | | SILTSTONE | AS ABOVE. |
| 47 | 199.81 | 201.19 | 1.38 | | | SANDSTONE | MG.GY.THKB.SLD MUDDY, AS ABOVE COALY PARTINGS BECOMING MORE ABUNDANT. |
| * 45 | 201.19 | 202.35 | 1.16 | | | MUDSTONE | SLTY.DK.GY.LAM SLTST AND SS INTBDS, CALC VEINING, SKS, COALY PARTINGS. |
| 50 | 202.35 | 202.62 | 0.27 | | | SILTSTONE | GY MUDDY INTBDS, CALC VEINING, SKS, CALC F ILLED FRACTURE AT 0.26M. |
| 51 | 202.62 | 202.85 | 0.23 | | | SANDSTONE | MG.GY.THKB CALC VEINING, MNR COALY INCLUSIONS. |
| 53 | 202.85 | 203.16 | 0.31 | | | SANDSTONE | AS ABOVE, CALC FILLED FRACTURE AT 0.27M . |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 55 | 203.16 | 203.49 | 0.33 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD SLTST INTBDS, CALC VEINING, PYR FLECKS, SKS. |
| 47 | 203.49 | 203.91 | 0.42 | | | SANDSTONE | MG.GY CALC VEINING, COALY PARTINGS, SKS, PYR FLECKS. MUDDY. |
| * 40 | 203.91 | 204.12 | 0.21 | | | MUDSTONE | SLTY.DK.GY CALC VEINING, LISTRIC SURF, CARB PL FRA G. |
| * 45 | 204.12 | 204.24 | 0.12 | | | SANDSTONE | MG.GY CALC VEININGS. |
| 45 | 204.24 | 205.07 | 0.83 | | | MUDSTONE | SLTY.DK.GY CALC VEININGS, SKS, CARB PL FRAG, PYR S MEARS. |
| 45 | 205.07 | 205.13 | 0.06 | | | ROCK LOSS | |
| 44 | 205.13 | 205.90 | 0.77 | | | MUDSTONE | SLTY.DK.GY.THKB.BRKN AS ABOVE. |
| 44 | 205.90 | 207.77 | 1.87 | | | MUDSTONE | AS ABOVE. |
| 43 | 207.77 | 208.90 | 1.13 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 208.90 | 208.95 | 0.05 | | | ROCK LOSS | |
| | 208.95 | 210.54 | 1.59 | | | MUDSTONE | SLTY AS ABOVE, CARB. |
| | 210.54 | 211.87 | 1.33 | | | MUDSTONE | AS ABOVE. |
| | 211.87 | 211.90 | 0.03 | | | ROCKLOSS | |
| | 211.90 | 213.29 | 1.39 | | | MUDSTONE | CARB.DK.GY.THKB.BRKN SILTY, CARB PL FRAGS, LISTRIC SURF, COA LY INCLUSIONS, MNR CALC VEINING. |
| * | 213.29 | 214.57 | 1.28 | | | MUDSTONE | AS ABOVE. |
| | 214.57 | 214.87 | 0.30 | 00142 | 2 | COAL | C-4.PWRD |
| | 214.87 | 215.01 | 0.14 | 00142 | 2 | COAL LOSS | |
| | 215.01 | 215.06 | 0.05 | 00142 | 2 | COAL | C-4 |
| | 215.06 | 215.28 | 0.22 | 00142 | 2 | COAL | C-4.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 43 | 215.28 | 215.93 | 0.65 | | | MUDSTONE | SLTY.DK.GY.VBRKN CARB. MNR SLST INTBDS, SKS, BECOMING MO RE CARB TOWARDS BASE, COALY INCLUSIONS BECOMING MORE ABUNDANT, MNR CALC VEININ G. |
| 43 | 215.93 | 215.98 | 0.05 | | | ROCK LOSS | |
| 44 | 215.98 | 216.19 | 0.21 | | | MUDSTONE | SLTY.DK.GY.VBRKN CARB. AS ABOVE, LISTRIC SURF. |
| * 45 | 216.19 | 217.68 | 1.49 | | | MUDSTONE | AS ABOVE. |
| 45 | 217.68 | 217.88 | 0.20 | | | ROCK LOSS | |
| 45 | 217.88 | 218.02 | 0.14 | | | COAL | C-5.PWRD |
| 45 | 218.02 | 218.75 | 0.73 | | | MUDSTONE | SLTY.BRKN CARB. SLTST INTBDS, ABUNDANT COALY STRI NGERS, SKS, LISTRIC SURF. |
| 45 | 218.75 | 220.22 | 1.47 | | | MUDSTONE | CARB.DK.GY.THKB.WRMBU.VBRKN SILTY, AS ABOVE, PWRD TOWARDS BASE. |
| 45 | 220.22 | 220.31 | 0.09 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| | 45 220.31 | 220.85 | 0.54 | | | MUDSTONE | CARB.DK.GY.THKB.WRMBU.VBRKN SITLY. AS ABOVE. |
| * | 45 220.85 | 221.34 | 0.49 | | | SILTSTONE | CARB.GY.LAM.BIOTR.BRKN MUDDY INTBD, CALC VEINING, CARB INCLUSI ONS, SKS, COALY STRINGERS. |
| * | 50 221.34 | 223.35 | 2.01 | | | SILTSTONE | AS ABOVE. |
| | 50 223.35 | 224.02 | 0.67 | | | SILTSTONE | AS ABOVE, CALC FILLED FRACTURE AT 0.57M . |
| | 50 224.02 | 224.14 | 0.12 | | | ROCK LOSS | |
| * | 50 224.14 | 226.55 | 2.41 | | | MUDSTONE | CARB.DK.GY.THKB.BIOTR.SLD SILTY, MNR CALC VEINING, SKS, COALY PAR TINGS, CARB PL FRAG, SILTY INTBDS, PYR SMEARS. |
| | 62 226.55 | 226.69 | 0.14 | | | MUDSTONE | AS ABOVE. |
| * | 70 226.69 | 228.32 | 1.63 | | | SILTSTONE | GY MUDDY INTBDS, CALC VEINING, SKS, COALY INCLUSIONS. |
| | 72 228.32 | 228.88 | 0.56 | | | MUDSTONE | CARB.DK.GY.BRKN MNR CALC VEINING, COALY STRINGERS AND I NCLUSIONS, CARB PL FRAG, PYR FLECKS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 73 | 228.88 | 229.18 | 0.30 | | | ROCK LOSS | |
| 74 | 229.18 | 229.63 | 0.45 | | | ROCK LOSS | |
| 75 | 229.63 | 230.06 | 0.43 | | | MUDSTONE | CARB.DK.GY.THKB.WRMBU.BRKN SILTY, COALY STRINGERS AND PARTINGS, CA RB PL FRAG. |
| 76 | 230.06 | 231.02 | 0.96 | | | MUDSTONE | AS ABOVE. |
| * 78 | 231.02 | 231.80 | 0.78 | | | SILTSTONE | GY MUDDY, MNR CALC VEINING, COALY INCLUSIO NS, SKS, MNR PL FRAG. |
| * 60 | 231.80 | 232.67 | 0.87 | | | SANDSTONE | SLTY.FG.GY CALC VEINING, SKS, COALY INCLUSIONS. |
| 57 | 232.67 | 233.11 | 0.44 | | | SANDSTONE | FG.THKB.SLD CALC VEINING, SKS, CARB INCLUSIONS, MUD ST INTBDS. |
| * 50 | 233.11 | 235.45 | 2.34 | | | SANDSTONE | FG.GY.THKB.SSD.BRKN MUDDY, AS ABOVE, PYR. |
| 50 | 235.45 | 236.16 | 0.71 | | | SANDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 50 | 236.16 | 238.10 | 1.94 | | | SANDSTONE | WRMBU CALC FILLED FRACTURE AT 0.01M, MUDST IN TBDS, SKS, CALC VEINING THROUGHOUT. |
| 63 | 238.10 | 238.25 | 0.15 | | | ROCK LOSS | |
| * 70 | 238.25 | 239.21 | 0.96 | | | SANDSTONE | AS ABOVE. |
| 69 | 239.21 | 239.33 | 0.12 | | | SANDSTONE | AS ABOVE. |
| 67 | 239.33 | 240.71 | 1.38 | | | MUDSTONE | SLTY.DK.GY.WRMBU.BRKN CALC VEINING, SKS, CARB PL FRAG, LISTRI C SURF, MNR SLTST INTBDS. |
| 63 | 240.71 | 242.21 | 1.50 | | | MUDSTONE | AS ABOVE. |
| * 60 | 242.21 | 243.21 | 1.00 | | | SILTSTONE | GY.WRMBU CALC VEINING, SKS, INTBD MUDST, CALC FI LLED FRACTURES AT 0.64, 0.88 AND 1.01M. MUDDY. |
| 60 | 243.21 | 243.32 | 0.11 | | | MUDSTONE | SLTY.DK.GY CALC FILLED FRACTURE AT 0.05M CARB PL F RAG, SKS. |
| 60 | 243.32 | 244.78 | 1.46 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 60 | 244.78 | 245.30 | 0.52 | | | SILTSTONE | GY.LAM.WRMBU.BRKN CAL VEINING; MUDSTONE INTBDS; CARB INCL USIONS CALC FILLED FRACTURE AT 0.25 M |
| 59 | 245.30 | 245.98 | 0.68 | | | SILTSTONE | AS ABOVE; CALC FILLED FRACTURE AT 0.34, 0.43 M |
| 57 | 245.98 | 247.38 | 1.40 | | | SILTSTONE | AS ABOVE |
| * 55 | 247.38 | 248.27 | 0.89 | | | SANDSTONE | FG.GY INTBDD MUDSTONE; HORSETAIL CALCITE VEIN ING; CARB & COALY STRINGERS AND INCLUSI ONS; LISTRIC SURFACES; SKS; ALSO MODIFI ER SHOWED MUDDY |
| 55 | 248.27 | 248.53 | 0.26 | | | SANDSTONE | AS ABOVE |
| * 55 | 248.53 | 250.22 | 1.69 | | | SANDSTONE | SLTY.MG.GY.THKB.WRMBU.BRKN AS ABOVE; ALSO MUDDY SHOWN MODIFIER |
| * 78 | 250.22 | 250.64 | 0.42 | | | SILTSTONE | GY MUDDY INTBDS; CALC VEINING SKS; COALY S TRINGERS; MUDDY SHOWN AS MODIFIER |
| 75 | 250.64 | 250.88 | 0.24 | | | SILTSTONE | AS ABOVE |
| 71 | 250.88 | 251.47 | 0.59 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 60 | 251.47 | 253.21 | 1.74 | | | SILTSTONE | WRMBU AS ABOVE; ALSO RIP UP CLASTS SHOWN IN SED STRUC COLUMN |
| * 50 | 253.21 | 253.90 | 0.69 | | | SANDSTONE | FG.GY CALC VEINING; SKS; COALY STRINGERS; LITRIC SURFACES; PYR SMEARS |
| * 45 | 253.90 | 254.73 | 0.83 | | | SANDSTONE | FG.GY.THKB.WRMBU CALC VEINING; COALY STRINGERS; SKS; LITRIC SURFACES; PYR SMEARS; ALSO MODIFIED R SHOWS MUDDY |
| 47 | 254.73 | 255.48 | 0.75 | | | SANDSTONE | AS ABOVE |
| * 50 | 255.48 | 256.53 | 1.05 | | | SANDSTONE | AS ABOVE; ABUNDANT MUDSTONE INTBDS |
| 60 | 256.53 | 256.80 | 0.27 | | | SANDSTONE | MG.WRMBU CALC VEINING; COALY STRINGERS; SKS; LITRIC SURF; PYR SMEARS; ALSO RIP UP CLASTS SHOWN SED STRUC |
| * 70 | 256.80 | 257.79 | 0.99 | | | SANDSTONE | AS ABOVE; BECOMING MUDDIER TOWARDS BASE |
| 64 | 257.79 | 258.49 | 0.70 | | | SILTSTONE | GY.WRMBU.SLD CAL VEINING; SKS; CARB INCLUSIONS; ALSO MODIFIER SHOWS MUDDY; ALSO RIP UP CLASTS IN SED STRUC |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 58 | 258.49 | 259.52 | 1.03 | | | SANDSTONE | MG.GY.WRMBU CALC VEINING; COALY INCLUSIONS; AND PARTING; SKS; MINOR CARB FRAGMENTS; |
| 50 | 259.52 | 260.83 | 1.31 | | | SANDSTONE | AS ABOVE; MUDSTONE INTBD AT 0.84 |
| 41 | 260.83 | 262.17 | 1.34 | | | SANDSTONE | AS ABOVE; CALC FILLED FRACTURE AT 0.95 AND 1.28 M |
| 34 | 262.17 | 262.86 | 0.69 | | | SANDSTONE | AS ABOVE; CALC FILLED FRACTURE AT 0.14 AND 0.26 M |
| * 30 | 262.86 | 263.44 | 0.58 | | | MUDSTONE | SLTY.DK.GY.WRMBU.VBRKN CALC VEINING BRECCIATED AT TOP; COALY INCLUSION; ALSO CARB AS MODIFIER; ALSO RIP UP CLASTS IN SED STRUX |
| 42 | 263.44 | 264.33 | 0.89 | | | MUDSTONE | BRKN MINOR CALC VEINING; COALY INCLUSIONS; SKS; LISTRIC SURF; BECOMING MORE CARB TOWARDS BASE |
| 51 | 264.33 | 264.51 | 0.18 | | | COAL | BRKN BRIGHT BANDS THROUGHOUT CARB MUDSTONE; DULL COAL |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 54 | 264.51 | 264.66 | 0.15 | | | MUDSTONE | CARB.DK.GY.BRKN LISTRIC SURF; COALY STRINGERS THROUGHOUT; MINOR CALC VEINS; ALSO SILTY AS MODIFIER |
| 56 | 264.66 | 264.72 | 0.06 | | | ROCK LOSS | |
| 57 | 264.72 | 264.83 | 0.11 | | | COAL | ABUNDANT BT COALY INCLUSIONS AND STRINGERS; MUDSTONE BAND THROUGHOUT DULL COAL |
| 60 | 264.83 | 265.04 | 0.21 | | | COAL LOSS | |
| 63 | 265.04 | 265.20 | 0.16 | | | ROCK LOSS | |
| 65 | 265.20 | 265.23 | 0.03 | | | MUDSTONE | CARB.DK.GY.PWRD ALSO SILTY AS MODIFIER |
| 67 | 265.23 | 265.47 | 0.24 | | | COAL | C-5.PWRD |
| * 80 | 265.47 | 266.77 | 1.30 | | | SILTSTONE | GY.THNB.WRMBU.BRKN INTBD MUDSTONE CALC VEINING SKS; LISTRIC SURFACES; TOP IS UP; MINOR COALY INCLUSIONS; ALSO MUDDY AS MODIFIER; ALSO XBDG AS SED STRUX |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 45 | 266.77 | 267.91 | 1.14 | | | SILTSTONE | AS ABOVE |
| 45 | 267.91 | 269.72 | 1.81 | | | SILTSTONE | GY.THKB.WRMBU CALC VEINING; SKS; CARB INCLUSIONS AND PL FRAG BECOMING MUDDIER TOWARDS BASE; |
| * 45 | 269.72 | 270.36 | 0.64 | | | SILTSTONE | GY.WRMBU.BRKN INTBD MUDSTONE; CALC VEINING SKS; LISTR IC SURF; ALSO MUDDY AS MODIFIER; ALSO S SD AS SED STRUX |
| 51 | 270.36 | 270.77 | 0.41 | | | SANDSTONE | FG.GY.THNB MUDSTONE INTBDS ABUNDANT CALC VEINING; SKS; LISTRIC SURF MINOR BRECCIATION; AL SO MUDDY AS MODIFIER |
| * 55 | 270.77 | 271.02 | 0.25 | | | SANDSTONE | WRMBU AS ABOVE |
| 55 | 271.02 | 272.73 | 1.71 | | | MUDSTONE | CARB.DK.GY.THKB.BIOTR CALC VEINING; SKS; COALY INCLUSIONS; LI STRIC SURF; CARB PL FRAG; ALSO SILTY AS MODIFIER |
| * 55 | 272.73 | 273.19 | 0.46 | | | SILTSTONE | GY.BIOTR INTBD MUDSTONE CALC VEINING; SKS; LISTR IC SURF; ALSO MUDDY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 50 | 273.19 | 275.74 | 2.55 | | | SILTSTONE | GY.THKB.BIOTR.BRKN MINOR MUDSTONE INTBDS; CALC VEINING; SK S; MINOR COALY INCLUSIONS; CARB PL FRAG ; ALSO MUDDY AS MODIFIER |
| * 60 | 275.74 | 278.47 | 2.73 | | | SILTSTONE | AS ABOVE; BECOMING MUDDIER |
| 53 | 278.47 | 278.73 | 0.26 | | | SILTSTONE | AS ABOVE |
| * 47 | 278.73 | 280.97 | 2.24 | | | SANDSTONE | FG.GY.BIOTR INTBD MUDS; CALC VEINING; SKS; COALY IN CLUSIONS AND STRINGERS; CARB PL. FRAGS; BECOMING SILTIER TOWARDS BASE; ALSO MU DDY AS MODIFIER |
| 55 | 280.97 | 281.65 | 0.68 | | | MUDSTONE | SLTY.DK.GY.BIOTR.BRKN HORSETAIL CALC VEINING; SKS; CARB FLECK ; |
| * 60 | 281.65 | 282.71 | 1.06 | | | SILTSTONE | GY.WRMBU INTBD MUDS; HORSETAIL CALC VEINING; CAL C FILLED FRACTURES AT 0.09,0.28;0.30M; BRECCIATED ZONE AT 0.65 M; COALY INCLUS IONS; ALSO MUDDY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 58 | 282.71 | 283.58 | 0.87 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU ABUNDANT CALC VEINING; SKS; COALY INCLU SIONS AND STRINGER; CARB PL FRAG; ALSO CARB AS MODIFIER; ALSO BIOTRB AS SED ST RUX |
| 55 | 283.58 | 284.55 | 0.97 | | | MUDSTONE | CARB AS ABOVE |
| 52 | 284.55 | 286.20 | 1.65 | | | MUDSTONE | CARB.DK.GY.WRMBU.VBRKN AS ABOVE; COALY STRINGERS BECOMING MORE FREQUENT |
| 49 | 286.20 | 286.83 | 0.63 | | | MUDSTONE | AS ABOVE |
| 48 | 286.83 | 286.90 | 0.07 | | | COAL | C-5.VBRKN |
| 48 | 286.90 | 286.91 | 0.01 | | | MUDSTONE | CARB |
| 48 | 286.91 | 286.99 | 0.08 | | | COAL | C-4.SHRD |
| 48 | 286.99 | 287.03 | 0.04 | | | COAL | C-5 PYRITE |
| 47 | 287.03 | 287.05 | 0.02 | | | MUDSTONE | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 47 | 287.05 | 287.15 | 0.10 | | | COAL | C-5.PWRD PYRITE |
| 47 | 287.15 | 287.34 | 0.19 | | | MUDSTONE | CARB.DK.GY.BIOTR.BRKN ABUNDANT COALY INCLUSIONS; CALC VEINING ; PYR; CARB PL FRAG |
| * 45 | 287.34 | 288.66 | 1.32 | | | MUDSTONE | CARB ALSO SLTY AS MODIFIER; AS ABOVE; BECOMI NG SILTIER TOWARDS BASE |
| 51 | 288.66 | 289.38 | 0.72 | | | MUDSTONE | AS ABOVE |
| 54 | 289.38 | 289.51 | 0.13 | | | COAL | C-4.VBRKN |
| 55 | 289.51 | 289.66 | 0.15 | | | COAL | C-5.PWRD |
| 55 | 289.66 | 289.76 | 0.10 | | | MUDSTONE | CARB.DK.GY.SHRD CALC VEINS COALY STRINGERS |
| 56 | 289.76 | 289.86 | 0.10 | | | COAL | C-5.PWRD |
| 57 | 289.86 | 290.07 | 0.21 | | | MUDSTONE | CARB.DK.GY.BIOTR.SLD CALC VEINING; SKS; COALY INCLUSIONS AND STRINGER; LISTRIC SURFACES; ALSO SLTY AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 61 | 290.07 | 291.23 | 1.16 | | MUDSTONE | SLTY AS ABOVE BECOMING SILTIER TOWARDS BASE |
| * | 70 | 291.23 | 292.94 | 1.71 | | MUDSTONE | WRMBU.BRKN AS ABOVE; CALC FILLED FRACTURES FROM 0.84 TO 0.97 |
| | 67 | 292.94 | 293.78 | 0.84 | | MUDSTONE | AS ABOVE; CALC VEINING AND COALY STRINGERS BECOMING MORE FREQUENT |
| | 63 | 293.78 | 295.82 | 2.04 | | MUDSTONE | SLTY.DK.GY.WRMBU.BRKN AS ABOVE; SLTST INTBD AT 0.31 M |
| * | 60 | 295.82 | 296.31 | 0.49 | | MUDSTONE | AS ABOVE; SILTST INTBD AT 0.35 M |
| * | 70 | 296.31 | 297.28 | 0.97 | | MUDSTONE | CARB AS ABOVE; ALSO SLTY AS MODIFIER |
| | 69 | 297.28 | 298.82 | 1.54 | | SILTSTONE | GY.WRMBU ALSO MUDDY AS MODIFIER; ALSO BIOTRB AS SED STRUX; ALSO INTBD MUDSTONE; CALC VEINING; SKS; COALY INCLUSIONS; CARB PL FRAG |
| | 68 | 298.82 | 298.95 | 0.13 | | MUDSTONE | SLTY.DK.GY CALC VEINING; CARB PL FRAGS; COALY STRINGERS; ALSO CARB AS MODIFIER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 67 | 298.95 | 300.32 | 1.37 | | | MUDSTONE | CARB.DK.GY.WRMBU.BRKN MINOR CALC VEINING; SKS; CARB PL FRAG; COALY INCLUSIONS AND PARTINGS; ALSO SLT Y AS MODIFIER; ALSO RIP UP CLASTS IN SE D STRUX |
| 66 | 300.32 | 300.88 | 0.56 | | | MUDSTONE | AS ABOVE |
| 66 | 300.88 | 301.15 | 0.27 | | | COAL LOSS | |
| 66 | 301.15 | 301.26 | 0.11 | | | COAL | C-6 STONE |
| 66 | 301.26 | 301.34 | 0.08 | | | MUDSTONE | CARB.DK.GY ABUNDANT COALY STRINGERS CARB PL FRAG |
| 65 | 301.34 | 302.86 | 1.52 | | | ROCK LOSS | |
| 64 | 302.86 | 302.96 | 0.10 | 00143 | | COAL | C-4.VBRKN |
| 64 | 302.96 | 303.01 | 0.05 | 00143 | | COAL | C-3 |
| 64 | 303.01 | 303.08 | 0.07 | 00143 | | COAL LOSS | |
| 64 | 303.08 | 303.29 | 0.21 | 00143 | | ROCK LOSS | |
| 64 | 303.29 | 303.32 | 0.03 | 00143 | | MUDSTONE | CARB.DK.GY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 64 | 303.32 | 303.37 | 0.05 | 00143 | | COAL | C-4.VBRKN |
| 64 | 303.37 | 303.42 | 0.05 | 00143 | | COAL | C-5 |
| 64 | 303.42 | 303.60 | 0.18 | 00143 | | COAL | C-3.BRKN |
| 64 | 303.60 | 303.64 | 0.04 | 00143 | | COAL | C-1.VBRKN |
| 64 | 303.64 | 303.70 | 0.06 | 00143 | | COAL | C-3 |
| 63 | 303.70 | 303.88 | 0.18 | | | MUDSTONE | CARB.BRKN MINOR CALC VEINING; CARB PL FRAG; SKS; COALY STRINGERS |
| 63 | 303.88 | 304.02 | 0.14 | | | ROCK LOSS | |
| * 62 | 304.02 | 306.58 | 2.56 | | | SILTSTONE | GY.THNB.WRMBU.BRKN CALC VEINING; INTBD MUDSTONE; SKS; COAL Y INCLUSIONS; PYR; ALSO BIOTURB IN SED STRUX; ALSO MUDDY IN MODIFIER |
| 66 | 306.58 | 306.65 | 0.07 | | | SILTSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR. BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 70 | 306.65 | 309.26 | 2.61 | | | SANDSTONE | GY.THNB.WRMBU INTBD MUDS;CALC VEINING; SKS; COALY INC LUSIONS AND STRINGERS; LISTRIC SURF; TO P IS UP; ABUNDANT CALC FRACTURES; ALSO XBDG AS SED STRUX; ALSO MUDDY AS MODIFI ER |
| * 70 | 309.26 | 309.57 | 0.31 | | | SANDSTONE | AS ABOVE |
| 62 | 309.57 | 310.78 | 1.21 | | | SANDSTONE | AS ABOVE |
| * 50 | 310.78 | 311.97 | 1.19 | | | SILTSTONE | GY.THNB.BIOTR.BRKN INTBD MUDST CALC VEINING; SKS;COALY STR INGERS; LISTRIC SURF; ALSO RIP UP CLAST S IN CORE STATE; ALSO MUDDY AS MODIFIER |
| 52 | 311.97 | 312.42 | 0.45 | | | SILTSTONE | AS ABOVE |
| 52 | 312.42 | 312.60 | 0.18 | | | MUDSTONE | CARB.DK.GY.THKB.WRMBU.BRKN COALY STRINGERS; CARB PL FRAG |
| 53 | 312.60 | 312.64 | 0.04 | | | ROCK LOSS | |
| 53 | 312.64 | 312.76 | 0.12 | | | MUDSTONE | CARB AS ABOVE |
| 53 | 312.76 | 312.87 | 0.11 | 00144 | 3 | COAL | C-5.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|-------------|
| 53 | 312.87 | 312.97 | 0.10 | 00144 | 3 | COAL | C-4 |
| 53 | 312.97 | 313.13 | 0.16 | 00144 | 3 | COAL | C-5 |
| 54 | 313.13 | 313.19 | 0.06 | 00144 | 3 | COAL | C-4 |
| 54 | 313.19 | 313.23 | 0.04 | 00144 | 3 | COAL | C-5.VBRKN |
| 54 | 313.23 | 313.31 | 0.08 | 00144 | 3 | COAL | C-4 |
| 54 | 313.31 | 313.53 | 0.22 | 00144 | 3 | COAL | C-5 |
| 55 | 313.53 | 313.61 | 0.08 | 00144 | 3 | COAL | C-4 |
| 55 | 313.61 | 313.66 | 0.05 | 00144 | 3 | COAL | C-3 |
| 55 | 313.66 | 313.70 | 0.04 | 00144 | 3 | COAL | C-5 |
| 55 | 313.70 | 313.79 | 0.09 | 00144 | 3 | COAL | C-3 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 55 | 313.79 | 313.83 | 0.04 | 00144 | 3 | COAL | C-4 |
| 55 | 313.83 | 313.88 | 0.05 | 00144 | 3 | COAL | C-4.SHRD |
| 55 | 313.88 | 313.96 | 0.08 | 00144 | 3 | COAL | C-5 |
| 55 | 313.96 | 314.02 | 0.06 | 00144 | 3 | COAL | C-4 |
| 56 | 314.02 | 314.07 | 0.05 | 00144 | 3 | COAL | C-4.VBRKN |
| 56 | 314.07 | 314.19 | 0.12 | 00144 | 3 | COAL | C-4.PWRD |
| 56 | 314.19 | 314.32 | 0.13 | 00144 | 3 | COAL LOSS | |
| 56 | 314.32 | 314.48 | 0.16 | 00145 | 3 | MUDSTONE | CARB.SHRD ABUNDANT COALY STRINGERS. |
| 57 | 314.48 | 314.52 | 0.04 | 00145 | 3 | MUDSTONE | PWRD AS ABOVE |
| 57 | 314.52 | 314.59 | 0.07 | 00145 | 3 | MUDSTONE | VBRKN AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 57 | 314.59 | 314.98 | 0.39 | 00145 | 3 | ROCK LOSS | |
| 58 | 314.98 | 315.07 | 0.09 | 00146 | 3 | COAL LOSS | |
| 58 | 315.07 | 315.21 | 0.14 | 00146 | 3 | COAL | C-5.PWRD |
| 58 | 315.21 | 315.28 | 0.07 | 00146 | 3 | COAL | C-4 |
| 58 | 315.28 | 315.43 | 0.15 | 00146 | 3 | MUDSTONE | CARB.DK.GY.WRMBU.BRKN COALY STRINGERS THROUGHOUT |
| 59 | 315.43 | 315.50 | 0.07 | 00146 | 3 | COAL | C-6.VBRKN DULL COAL WITH MUDSTONE INTBDS(THIN); M UDST INTBDS. |
| 59 | 315.50 | 315.67 | 0.17 | 00146 | 3 | COAL | C-6 STONEY WITH BRIGHT COAL BANDS |
| 61 | 315.67 | 316.96 | 1.29 | 00146 | 3 | COAL LOSS | |
| 62 | 316.96 | 317.37 | 0.41 | | | MUDSTONE | CARB.DK.GY.THKB.WRMBU.BRKN COALY INCLUSIONS AND STRINGERS |
| 63 | 317.37 | 317.66 | 0.29 | | | MUDSTONE | CARB.DK.GY.THKB.WRMBU.VBRKN ABUNDANT COALY INCLUSIONS AND STRINGERS |
| 64 | 317.66 | 318.26 | 0.60 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 65 | 318.26 | 318.50 | 0.24 | | | COAL | CARB MUDST WITH DULL COAL BANDS AND BRIGHT STRINGERS THROUGHOUT |
| 65 | 318.50 | 318.89 | 0.39 | | | ROCK LOSS | |
| 66 | 318.89 | 319.55 | 0.66 | | | MUDSTONE | CARB.DK.GY.THKB.WRMBU.BRKN COALY INCLUSIONS CARB PL FRAG |
| 67 | 319.55 | 319.72 | 0.17 | | | MUDSTONE | AS ABOVE |
| 68 | 319.72 | 319.99 | 0.27 | | | ROCK LOSS | |
| * 70 | 319.99 | 321.94 | 1.95 | | | SILTSTONE | CARB.GY.THNB.SSD.BRKN MUDST INTBDS; CALC VEINING SKS; CARB PL FRAG; ALSO CARB AS MODIFIER;ALSO WRMBU R AS SED STRUX |
| 66 | 321.94 | 322.48 | 0.54 | | | SILTSTONE | AS ABOVE |
| * 60 | 322.48 | 325.00 | 2.52 | | | MUDSTONE | CARB.DK.GY.THKB.BIOTR.BRKN CALC VEINING; SKS; COALY INCLUSIONS; SI LTY CLASTS; CARB PL FRAG; ALSO SLTY AS MODIFIER |
| 50 | 325.00 | 325.14 | 0.14 | | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 45 | 325.14 | 326.31 | 1.17 | | | MUDSTONE | SLTY.DK.GY.WRMBU.BRKN CALC VEINING; SKS SILTST INTBDS; CARB P L FRAG; COALY INCLUSIONS AND STRINGERS VBRKN AT BASE; ALSO CARB AS MODIFIER |
| 47 | 326.31 | 327.27 | 0.96 | | | MUDSTONE | AS ABOVE |
| 48 | 327.27 | 327.31 | 0.04 | | | COAL | C-5 |
| 48 | 327.31 | 327.85 | 0.54 | | | SILTSTONE | GY.WRMBU.BRKN MUDST INTBDS; CALC VEINING SKS; COALY I NCLUSIONS CARB PL FRAG; ALSO SSD AS SED STRUX; ALSO MUDDY AS MODIFIER. |
| 49 | 327.85 | 328.03 | 0.18 | | | SILTSTONE | AS ABOVE |
| * 50 | 328.03 | 329.15 | 1.12 | | | SILTSTONE | GY.SSD.SLD CALC VEINING; SKS; CARB PL FRAG; MINOR COALY INCLUSIONS; TOP IS UP; ALSO WRMBU R AND XBDG AS SED STRUX; ALSO MUDDY AS MODIFIER |
| 54 | 329.15 | 330.53 | 1.38 | | | SANDSTONE | GY AS ABOVE; ALSO MUDDY AS MODIFIER |
| * 57 | 330.53 | 331.04 | 0.51 | | | SANDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 74 | 331.04 | 331.92 | 0.88 | | | SANDSTONE | XBDG AS ABOVE; BECOMING MUDDIER TOWARDS BASE ; TOP IS UP; |
| 66 | 331.92 | 333.28 | 1.36 | | | MUDSTONE | CARB.DK.GY.WRMBU CALC VEINING;SKS; LISTRIC SURF; MINOR S ILTST INTBDS CARB PL FRAGS; COALY INCLU SIONS AND STRINGERS; ALSO SSD AS SED ST RUX; ALSO SILTY AS MODIFIER |
| 57 | 333.28 | 334.16 | 0.88 | | | MUDSTONE | SLTY.DK.GY.WRMBU.BRKN CALC VEINING; SKS; SILTST INTBDS; CARB PL FRAG COALY INCLUSIONS; ALSO CARB AS MODIFIER |
| * 50 | 334.16 | 335.28 | 1.12 | | | MUDSTONE | AS ABOVE; BECOMING SILTIER |
| 45 | 335.28 | 335.43 | 0.15 | | | ROCK LOSS | |
| * 42 | 335.43 | 336.12 | 0.69 | | | SANDSTONE | FG.GY.WRMBU MUDST INTBDS CALC VEINING; SKS; COALY I NCLUSIONS; MINOR CARB PL FRAG; TOP IS U P; ALSO SSD AND XBDG AS SED STRUX; ALSO MUDDY AS MODIFIER |
| 49 | 336.12 | 337.26 | 1.14 | | | SANDSTONE | AS ABOVE |
| * 60 | 337.26 | 338.80 | 1.54 | | | SANDSTONE | AS ABOVE; BECOMING FINER TOWARDS BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 45 | 338.80 | 340.30 | 1.50 | | | SILTSTONE | GY.WRMBU.SLD INTBD MUDS; CALC VEINING SKS; MINOR PL FRAG; MINOR COALY INCLUSIONS; ALSO SSD AS SED STRUX; ALSO MUDDY AS MODIFIER |
| 53 | 340.30 | 341.32 | 1.02 | | | MUDSTONE | CARB.DK.GY.VBRKN MINOR CALC VEINING; SKS; CARB PL FRAG; AB UNDANT COALY INCLUSION AND STRINGERS; |
| 58 | 341.32 | 341.69 | 0.37 | | | ROCK LOSS | |
| * 65 | 341.69 | 343.34 | 1.65 | | | MUDSTONE | CARB.WRMBU.SLD SILTY INTBDS; CALC VEINING SKS; CARB PL FRAGS; MINOR COALY INCLUSIONS; ALSO SS D AS SED STRUX; ALSO SLTY AS MODIFIER |
| * 50 | 343.34 | 344.41 | 1.07 | | | MUDSTONE | AS ABOVE |
| * 60 | 344.41 | 346.27 | 1.86 | | | SILTSTONE | GY.XBDG.BRKN TOP IS UP; MUDST INTBDS CALC VEINING SK S; LISTRIC SURFACES CARB FLECKS; ALSO M UDDY AS MODIFIER; ALSO BIOTRB AND SSD A S SED STRUX |
| 57 | 346.27 | 347.13 | 0.86 | | | SILTSTONE | AS ABOVE |
| * 55 | 347.13 | 348.88 | 1.75 | | | SILTSTONE | AS ABOVE; BECOMING MUDDIER TOWARDS BASE + MORE CARBONACEOUS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 56 | 348.88 | 349.03 | 0.15 | 00147 | 4 | COAL | C-4.BRKN |
| 56 | 349.03 | 349.17 | 0.14 | 00147 | 4 | COAL | C-5.VSHRD |
| 56 | 349.17 | 349.26 | 0.09 | 00148 | 4 | MUDSTONE | CARB.DK.GY.BIOTR.SLD COALY INCLUSIONS CARB FLECKS |
| 56 | 349.26 | 349.35 | 0.09 | 00148 | 4 | ROCK LOSS | |
| 56 | 349.35 | 349.45 | 0.10 | 00148 | 4 | MUDSTONE | AS ABOVE |
| 56 | 349.45 | 349.51 | 0.06 | 00149 | 4 | COAL | C-5.VBRKN |
| 56 | 349.51 | 349.56 | 0.05 | 00149 | 4 | COAL | C-4 |
| 56 | 349.56 | 349.66 | 0.10 | 00149 | 4 | COAL | C-5 |
| 56 | 349.66 | 349.72 | 0.06 | 00149 | 4 | COAL | C-4 |
| 56 | 349.72 | 349.77 | 0.05 | 00149 | 4 | COAL | C-5.VSHRD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|-------------|
| 56 | 349.77 | 349.86 | 0.09 | 00149 | 4 | COAL | C-4 |
| 56 | 349.86 | 349.94 | 0.08 | 00149 | 4 | COAL | C-5.VSHRD |
| 56 | 349.94 | 349.96 | 0.02 | 00149 | 4 | COAL | C-4 |
| 57 | 349.96 | 350.05 | 0.09 | 00149 | 4 | COAL | C-4 |
| 57 | 350.05 | 350.08 | 0.03 | 00149 | 4 | COAL | C-3 |
| 57 | 350.08 | 350.13 | 0.05 | 00149 | 4 | COAL | C-4 |
| 57 | 350.13 | 350.16 | 0.03 | 00149 | 4 | COAL | C-3 |
| 57 | 350.16 | 350.20 | 0.04 | 00149 | 4 | COAL | C-4 |
| 57 | 350.20 | 350.25 | 0.05 | 00149 | 4 | COAL | C-5 |
| 57 | 350.25 | 350.31 | 0.06 | 00149 | 4 | COAL | C-4 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 57 | 350.31 | 350.40 | 0.09 | 00149 | 4 | COAL | C-3 |
| 57 | 350.40 | 350.50 | 0.10 | 00149 | 4 | COAL | C-4.VSHRD |
| 57 | 350.50 | 350.59 | 0.09 | 00149 | 4 | COAL | C-5.PWRD |
| 57 | 350.59 | 350.65 | 0.06 | 00149 | 4 | COAL | C-4.VSHRD |
| 57 | 350.65 | 350.70 | 0.05 | 00149 | 4 | COAL | C-5 |
| 57 | 350.70 | 350.77 | 0.07 | | | MUDSTONE | CARB.BRKN COALY INCLUSIONS AND STRINGERS THROUGHOUT LISTRIC SURFACES |
| 57 | 350.77 | 350.85 | 0.08 | | | MUDSTONE | AS ABOVE |
| 57 | 350.85 | 351.10 | 0.25 | | | ROCK LOSS | |
| 57 | 351.10 | 351.21 | 0.11 | | | COAL LOSS | |
| 57 | 351.21 | 351.25 | 0.04 | | | COAL | C-4.VSHRD |
| 58 | 351.25 | 351.30 | 0.05 | | | COAL | C-5 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 58 | 351.30 | 352.24 | 0.94 | | | MUDSTONE | CARB.DK.GY.WRMBU.VBRKN ABUNDANT COALY STRINGERS AND PARTINGS; CALC VEINING SKS; LISTRIC SURF CARB PL FRAG |
| 58 | 352.24 | 352.36 | 0.12 | | | MUDSTONE | AS ABOVE |
| 59 | 352.36 | 354.20 | 1.84 | | | MUDSTONE | AS ABOVE; PYR SMEARS |
| * 60 | 354.20 | 354.84 | 0.64 | | | SILTSTONE | WRMBU ABUNDANT CALC VEINING; SKS; LISTRIC SUR F; MINOR COALY INCLUSIONS; BECOMING MUD DIER TOWARDS BASE; ALSO SSD AS SED STRU X |
| 55 | 354.84 | 354.92 | 0.08 | | | ROCK LOSS | |
| 52 | 354.92 | 355.28 | 0.36 | | | MUDSTONE | SLTY.DK.GY CALC VEINING; COALY INCLUSIONS AND PART INGS; SKS; LISTRIC SURF; ALSO CARB AS M ODIFIER |
| 48 | 355.28 | 355.36 | 0.08 | | | MUDSTONE | AS ABOVE |
| 45 | 355.36 | 355.70 | 0.34 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 42 | 355.70 | 355.80 | 0.10 | | COAL | C-5.VSHRD |
| | 39 | 355.80 | 356.08 | 0.28 | | MUDSTONE | CARB.DK.GY CALC VEINING; SKS; LISTRIC SURF; COALY I NCLUSIONS AND STRINGERS; |
| * | 30 | 356.08 | 357.08 | 1.00 | | SILTSTONE | GY.WRMBU.BRKN COALY INCLUSIONS; CALC VEINING; SKS; CA RB PL FRAG; CALC FILLED FRACT AT 0.01,0 .28 AND 0.63 M; ALSO SSD AS SED STRUX; ALSO MUDDY AS MODIFIER |
| | 40 | 357.08 | 357.66 | 0.58 | | MUDSTONE | SLTY.DK.GY AS ABOVE; CALC FILLED FRACTURE AT 0.30 M; |
| * | 47 | 357.66 | 358.27 | 0.61 | | SILTSTONE | GY INTBD MUDST; CALC VEINING CALC FILLED F RACTURE AT 0.26 M; COALY INCLUSIONS AND STRINGERS; CARB PL FRAG; BECOMING CARB TOWARDS BASE; ALSO MUDDY AS MODIFIER |
| | 47 | 358.27 | 358.33 | 0.06 | | COAL | C-6.SHRD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| 46 | 358.33 | 360.35 | 2.02 | | | MUDSTONE | CARB.DK.GY.THKB.WRMBU.BRKN CALC VEINING; SKS; CARB FLECKS; COALY I NCLUSIONS AND STRINGERS; LISTRIC SURF; ALSO SLTY AS MODIFIER |
| 46 | 360.35 | 361.40 | 1.05 | | | MUDSTONE | AS ABOVE |
| 45 | 361.40 | 362.66 | 1.26 | | | MUDSTONE | WRMBU AS ABOVE; SILTY CLAST AT 0.53 M; ALSO R IP UP CLASTS AND SSD IN SED STRUX |
| * 45 | 362.66 | 362.93 | 0.27 | | | SILTSTONE | WRMBU CALC VEINING; SKS; CARB STRINGERS; ALSO MUDDY AS MODIFIER; ALSO SSD AS SED STR UX |
| 46 | 362.93 | 363.03 | 0.10 | | | ROCK LOSS | |
| * 50 | 363.03 | 364.45 | 1.42 | | | SILTSTONE | GY.WRMBU.BRKN MUDST INTBDS; CALC VEINING; SKS; CARB I NCLUSIONS; CALC FILLED FRACTURE AT 0.04 M AND 1.33 M; ALSO MUDDY AS MODIFIER |
| * 45 | 364.45 | 365.77 | 1.32 | | | SILTSTONE | WRMBU AS ABOVE; CALC FILLED FRACTURES AT 0.46 AND 1.22 M; TOP IS UP; ALSO SSD, RIP UP CLASTS, AND XBDG AS SED STRUX |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 65

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 47 | 365.77 | 366.17 | 0.40 | | | ROCK LOSS | |
| * 50 | 366.17 | 367.49 | 1.32 | | | SILTSTONE | AS ABOVE BRECCIATED ZONE AT 0.56; CALC FILLED FRACTURE AT 0.93, RIP UP CLASTS THROUGHOUT; |
| 48 | 367.49 | 368.88 | 1.39 | | | SILTSTONE | AS ABOVE |
| 46 | 368.88 | 370.37 | 1.49 | | | SANDSTONE | SLTY.FG.GY.WRMBU.BRKN INTBD MUDST AND SILTS; CALC VEINING; SK S; COALY STRINGER AND PARTINGS; LISTRIC SURF; BECOMING COARSER TOWARDS BASE; ALSO MUDDY AS MODIFIER; ALSO RIP UP CLASTS AS SED STRUX |
| * 45 | 370.37 | 371.26 | 0.89 | | | SANDSTONE | AS ABOVE; RIP UP CLASTS MORE ABUNDANT BECOMING MUDDIER TOWARDS BASE |
| 54 | 371.26 | 371.41 | 0.15 | | | ROCK LOSS | |
| * 72 | 371.41 | 373.42 | 2.01 | | | SANDSTONE | AS ABOVE |
| 70 | 373.42 | 374.09 | 0.67 | | | SANDSTONE | BIOTR AS ABOVE; ALSO RIP UP CLASTS IN SED STRUX |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 66

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 69 | 374.09 | 374.33 | 0.24 | | | SANDSTONE | MG.GY.BIDTR.BRKN CALC FILLED FRACTURE AT 0.19 M; COALY S TRINGERS; ALSO MUDDY AS MODIFIER; ALSO RIP UP CLASTS IN SED STRUX |
| 67 | 374.33 | 376.07 | 1.74 | | | MUDSTONE | SLTY.DK.GY.WRMBU MINOR CALC VEINING; COALY STRINGERS; CA RB PL FRAG |
| 65 | 376.07 | 376.46 | 0.39 | | | ROCK LOSS | |
| 65 | 376.46 | 377.13 | 0.67 | | | MUDSTONE | AS ABOVE; COALY STRINGERS; MORE ABUNDAN T CALC FILLED FRACTURE AT 0.16 M |
| * 62 | 377.13 | 379.48 | 2.35 | | | MUDSTONE | AS ABOVE; CALC FILLED FRACTURE AT 1.63 M |
| 53 | 379.48 | 379.83 | 0.35 | | | MUDSTONE | AS ABOVE |
| * 45 | 379.83 | 381.96 | 2.13 | | | MUDSTONE | SLTY.DK.GY.WRMBU.BRKN CALC VEINING; SKS; CARB FLECKS; BRECCIA TED ZONE AT 1.63 M; ALSO XBDG AS SED ST RUX |
| 61 | 381.96 | 382.57 | 0.61 | | | MUDSTONE | CARB.WRMBU COALY INCLUSIONS AND STRINGERS THROUGH UT CALC VEINING CALC FILLED FRACTURE AT 0.30 M; |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 67

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 80 | 382.57 | 385.21 | 2.64 | | | MUDSTONE | CARB AS ABOVE |
| 49 | 385.21 | 385.88 | 0.67 | | | ROCK LOSS | |
| * 30 | 385.88 | 387.19 | 1.31 | | | MUDSTONE | VBRKN AS ABOVE; COALY STRINGERS AND INCLUSION S BECOMING MORE ABUNDANT CORE IS POWDER ED TOWARDS BOX MARKER |
| 36 | 387.19 | 388.32 | 1.13 | | | ROCK LOSS | |
| * | 388.32 | 389.10 | 0.78 | | | MUDSTONE | CARB.DK.GY.VBRKN CALC VEINING; SKS; LISTRIC SURF; COALY STRINGERS THROUGHOUT; CARB PL FRAG |
| 42 | 389.10 | 389.54 | 0.44 | | | ROCK LOSS | |
| * 45 | 389.54 | 391.67 | 2.13 | | | MUDSTONE | BIOTR AS ABOVE |
| 47 | 391.67 | 391.86 | 0.19 | | | MUDSTONE | AS ABOVE |
| 48 | 391.86 | 392.89 | 1.03 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 68

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 50 | 392.89 | 395.03 | 2.14 | | | MUDSTONE | CARB AS ABOVE; BECOMING SILTY; ALSO SILTY A S MODIFIER |
| 54 | 395.03 | 395.15 | 0.12 | | | MUDSTONE | AS ABOVE |
| * 60 | 395.15 | 397.84 | 2.69 | | | MUDSTONE | SLTY.GY.BIOTR.BRKN SILTY INTBDS; CALC VEINING SKS; LISTRIC SURF; |
| 52 | 397.84 | 397.99 | 0.15 | | | ROCK LOSS | |
| 51 | 397.99 | 398.07 | 0.08 | | | MUDSTONE | AS ABOVE |
| * 45 | 398.07 | 400.04 | 1.97 | | | SILTSTONE | GY.BIOTR.BRKN INTBD MUDS; CALC VEINING SKS; COALY INC LUSIONS AND STRINGERS; ALSO MUDDY AS MO DIFIER |
| * 80 | 400.04 | 400.60 | 0.56 | | | SANDSTONE | FG.GY CALC VEINING; SKS; COALY INCLUSIONS AND PARTINGS; PYR SMEARS; ALSO RIP UP CLAS TS IN SED STRUX; ALSO MUDDY AS MODIFIER |
| 62 | 400.60 | 401.03 | 0.43 | | | SANDSTONE | AS ABOVE |
| 52 | 401.03 | 401.12 | 0.09 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 69

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 40 | 401.12 | 401.69 | 0.57 | | | SANDSTONE | FG.GY.WRMBU.SLD AS ABOVE; ALSO MUDDY AS MODIFIER |
| 44 | 401.69 | 403.31 | 1.62 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU.SLD CALC VEINING SKS; CARB PL FRAG; CARB FL ECKS; ALSO SSD AS SED STRUX |
| 47 | 403.31 | 403.42 | 0.11 | | | ROCK LOSS | |
| 48 | 403.42 | 404.17 | 0.75 | | | MUDSTONE | AS ABOVE |
| * 48 | 404.17 | 404.58 | 0.41 | | | SANDSTONE | FG.GY.THNB.WRMBU CALC VEINING MUDST INTBDS; ALSO MUDDY AS MODIFIER |
| 70 | 404.58 | 405.60 | 1.02 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU.BRKN CALC VEINING; SKS; LISTRIC SURF; CARB P L FRAG; |
| * 90 | 405.60 | 405.97 | 0.37 | | | SILTSTONE | GY.SSD.SLD MUDST INTBDS; CALC VEINING; SKS; STRING ERS; LISTRIC SURF; ALSO WRMBUR AND RIP UP CLASTS IN SED STRUX; ALSO MUDDY AS M ODIFIER |
| * 45 | 405.97 | 408.44 | 2.47 | | | SILTSTONE | AS ABOVE; CALC VEINING BECOMING MORE AB UNDANT |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 70

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81017

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| | 48 | 408.44 | 408.78 | 0.34 | | ROCK LOSS | |
| * | 50 | 408.78 | 410.27 | 1.49 | | SILTSTONE | AS ABOVE; CALC VEINING LESS ABUNDANT BE COMING MUDDIER TOWARDS BASE |
| | 52 | 410.27 | 411.38 | 1.11 | | MUDSTONE | SLTY.DK.GY.WRMBU CALC VEINING SKS; CARB PL FRAG; ALSO CA RB AS MODIFIER |
| * | 55 | 411.38 | 413.19 | 1.81 | | MUDSTONE | SLTY.DK.GY.BIOTR.SLD CALC VEINING; SKS; SILTY INTBDS CARB PL FRAG,MINOR COALY INCLUSIONS; CALC FILL ED FRACTURE AT 0.19 M; PYR FILLED WRMBU R; ALSO SSD AS SEU STRUX |

* DENOTES MEASURED BCA

OPEN FILE

GULF CANADA RESOURCES INC.

COAL DIVISION

GOODRICH GEOLOGICAL REPORT

1981

APPENDIX B PART 8

DDH 81-18 to DDH 81-22

DDH 81-18

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81018

HISTORY

DY MO YR DY MO YR
 START DATE: 04/10/81 END DATE: 10/10/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: I. DELAS SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1118.4
 UTM ZONE: 10 NORTH: 6140416.80 EAST: 550034.60
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 384.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 15.90 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

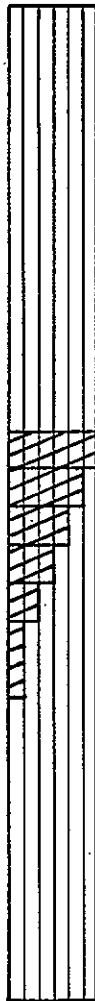
| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | --- | --- | --- | X | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | --- | X | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | --- | X | 422AS |
| CALIPER | X | 1:100 | : | --- | --- | --- | X | 20A45 |
| FE-SHORT | --- | : | : | --- | --- | --- | --- | --- |
| FE-LONG | --- | : | : | --- | --- | --- | --- | --- |
| DIRECTIONAL | --- | : | : | --- | --- | --- | --- | --- |
| DIPMETER | --- | : | : | --- | --- | --- | --- | --- |

SEAM
COMP

COAL
SEAM
LOG

LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone



- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff
- coal
- coal-boney, stoney, coal and bands/rock - designated "C6"
- rock > coal lithotype uncertain
- coal } MISSING CORE
- rock }
- rock
- coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

| | | |
|---|---------|---------------------------|
| GULF CANADA RESOURCES INC. | | |
| Coal Division | | |
| CALGARY | ALBERTA | |
| LEGEND FOR COAL SEAM DATA SHEETS | | |
| PREPARED BY: V.O. | | SCALE 1:40 |
| APPROVED BY: | | DATE: JAN. 82 DRAWING No. |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal/Coal+Rock (True Thk (m))
5.20/6.01 [Int: 45.70 - 68.96]

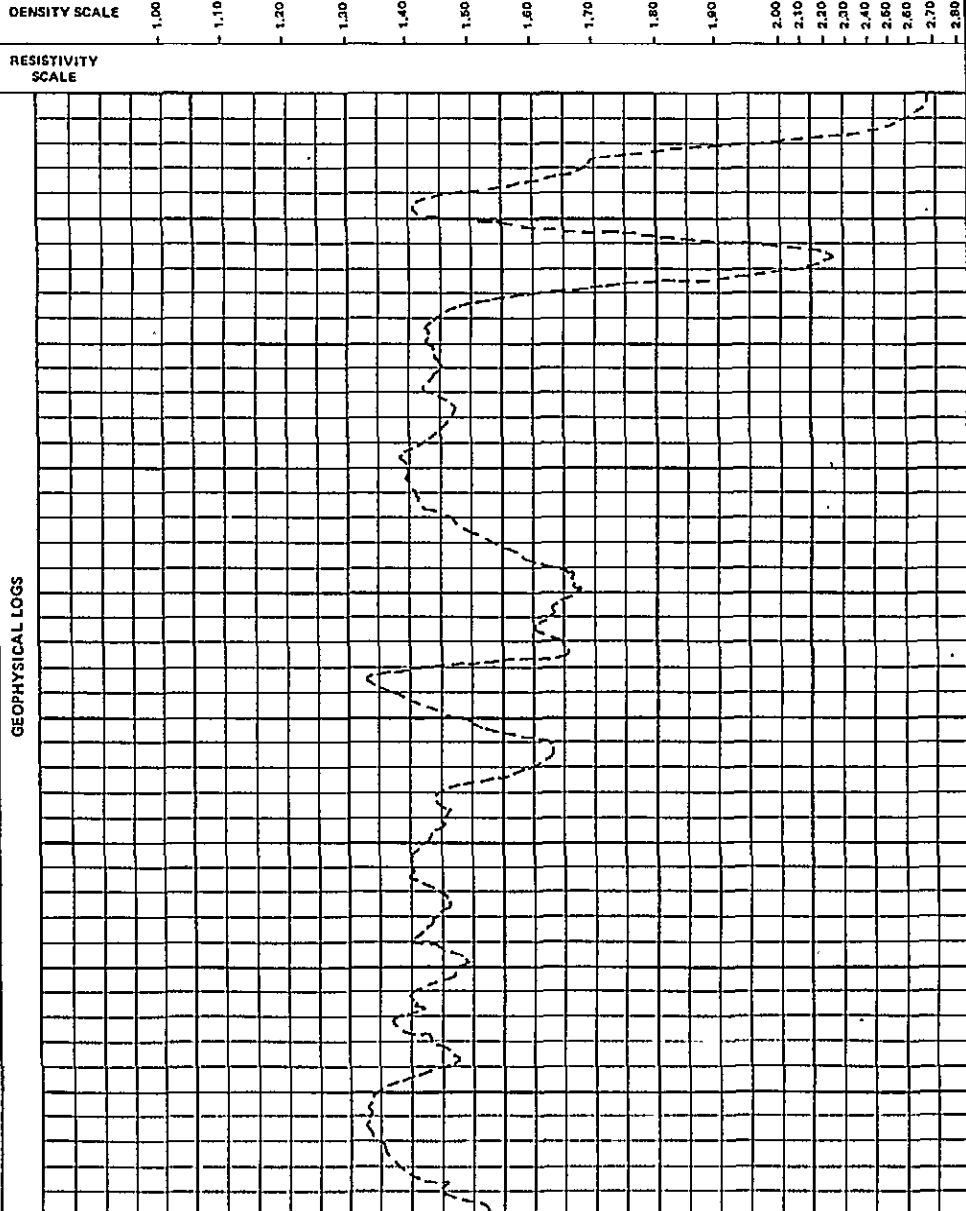
DENSITY ---

RESISTIVITY ---

DRILL NO. GDR-DDH-81-18 SEAM

SEAM INTERVAL 45.70 - 83.15m

SCALE 1:40



GEOPHYSICAL LOGS

| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | |
|-------------------|-------|---------------|----------------|------------------------|--------|--------|---------|-------------------------|-------|-------|-------|------|-------------------|-----|-----|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI | | | |
| | 45.70 | [Symbol] | | | | | | | | | | | | | | | |
| | 46.80 | [Symbol] | | (0.20) 0.10 0.02 | | | | | | | | | | | | | |
| | | [Symbol] | (1.00) | | | | | | | | | | | | | | |
| | | [Symbol] | | (0.15) 0.25 | 63 | 00155 | | 1.02 | 11.13 | 25.43 | 62.42 | 0.22 | 13.117 (30.51) | | 1.5 | | |
| | | [Symbol] | (0.40) 0.05 | | | | | | | | | | | | | | |
| | | [Symbol] | | 0.55 | | | | | | | | | | | | | |
| | | [Symbol] | (0.50) | | | | | | | | | | | | | | |
| | | [Symbol] | | 1.30 | | | | | | | | | | | | | |
| | 53.20 | [Symbol] | | 0.10 | | | | | | | | | | | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-18 SEAM _____ SEAM INTERVAL 45.70-83.15 m
SCALE 1:40

| DENSITY SCALE | RESISTIVITY SCALE | SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|---------------|-------------------|------------|-------|---------------|----------|--------|--------|--------|---------|-------------------------|-------|-------|-------|------|----------------|-----|-----|--|
| | | | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI | | |
| 1.00 | 1.00 | 554321 | 53.20 | | | (2.20) | | | | | | | | | | | | |
| 1.10 | 1.10 | | | | | 0.70 | | | | | | | | | | | | |
| 1.20 | 1.20 | | | | | (0.50) | 63 | 00155 | | 1.02 | 11.13 | 25.43 | 62.42 | 0.22 | 13,117 (30.51) | | 1.5 | |
| 1.30 | 1.30 | | | | | 0.07 | | | | | | | | | | | | |
| 1.40 | 1.40 | | | | | 3.91 | | | | | | | | | | | | |
| 1.50 | 1.50 | | 60.58 | | | | | | | | | | | | | | | |

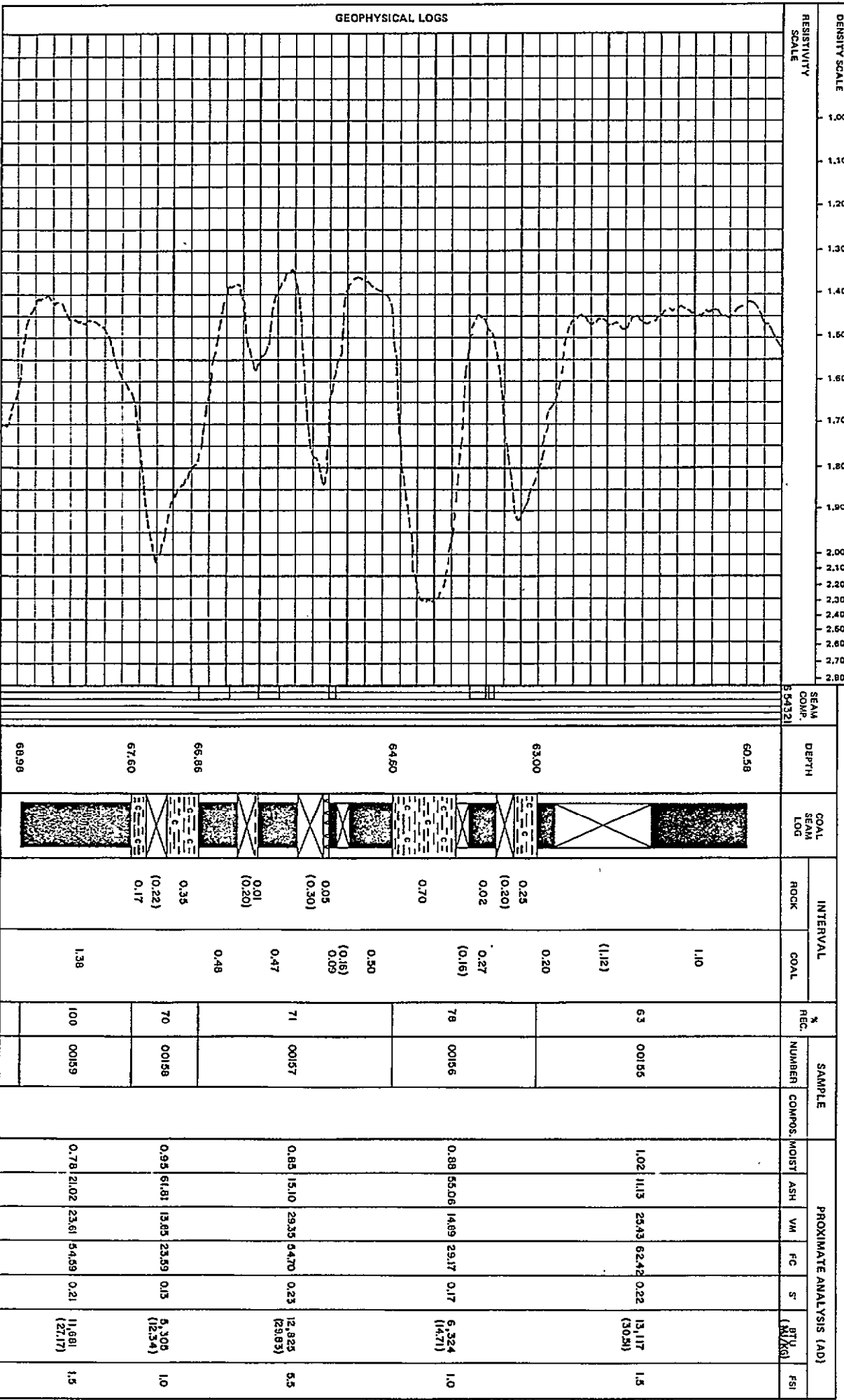
GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-307 (12-80)

DENSITY SCALE --- RESISTIVITY ---
 DRILL NO. GDR - DDH - 81 - 18 SEAM SEAM SEAM INTERVAL 45.70 - 83.15m
 SCALE 1:40



| SEAM COMP. B 54321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE NUMBER | PROXIMATE ANALYSIS (AO) | | | | | | | | | |
|--------------------|-------|---------------|----------------|------|--------|---------------|-------------------------|-------|-------|-------|-------|------|-----------|--------|---------|-----|
| | | | ROCK | COAL | | | COMPOS. | MOIST | ASH | VM | FC | S | BTU (LHV) | FSI | | |
| | 60.58 | | | 1.10 | 63 | 00155 | | 1.02 | 11.15 | 25.83 | 62.42 | 0.22 | | 13.117 | (30.8) | 1.5 |
| | 63.00 | | 0.25 (0.20) | 0.20 | 78 | 00156 | | 0.88 | 55.06 | 14.69 | 29.17 | 0.17 | | 5.324 | (14.71) | 1.0 |
| | 64.50 | | 0.70 | 0.50 | | | | 0.85 | 15.10 | 29.35 | 54.70 | 0.23 | | 12.825 | (29.83) | 5.5 |
| | 66.86 | | 0.35 (0.22) | 0.48 | 71 | 00157 | | 0.95 | 64.81 | 13.85 | 23.59 | 0.15 | | 5.306 | (15.34) | 1.0 |
| | 67.50 | | 0.17 | 1.38 | 100 | 00159 | | 0.78 | 21.02 | 23.61 | 54.59 | 0.21 | | 11.681 | (27.17) | 1.5 |
| | 68.98 | | | | | | | | | | | | | | | |

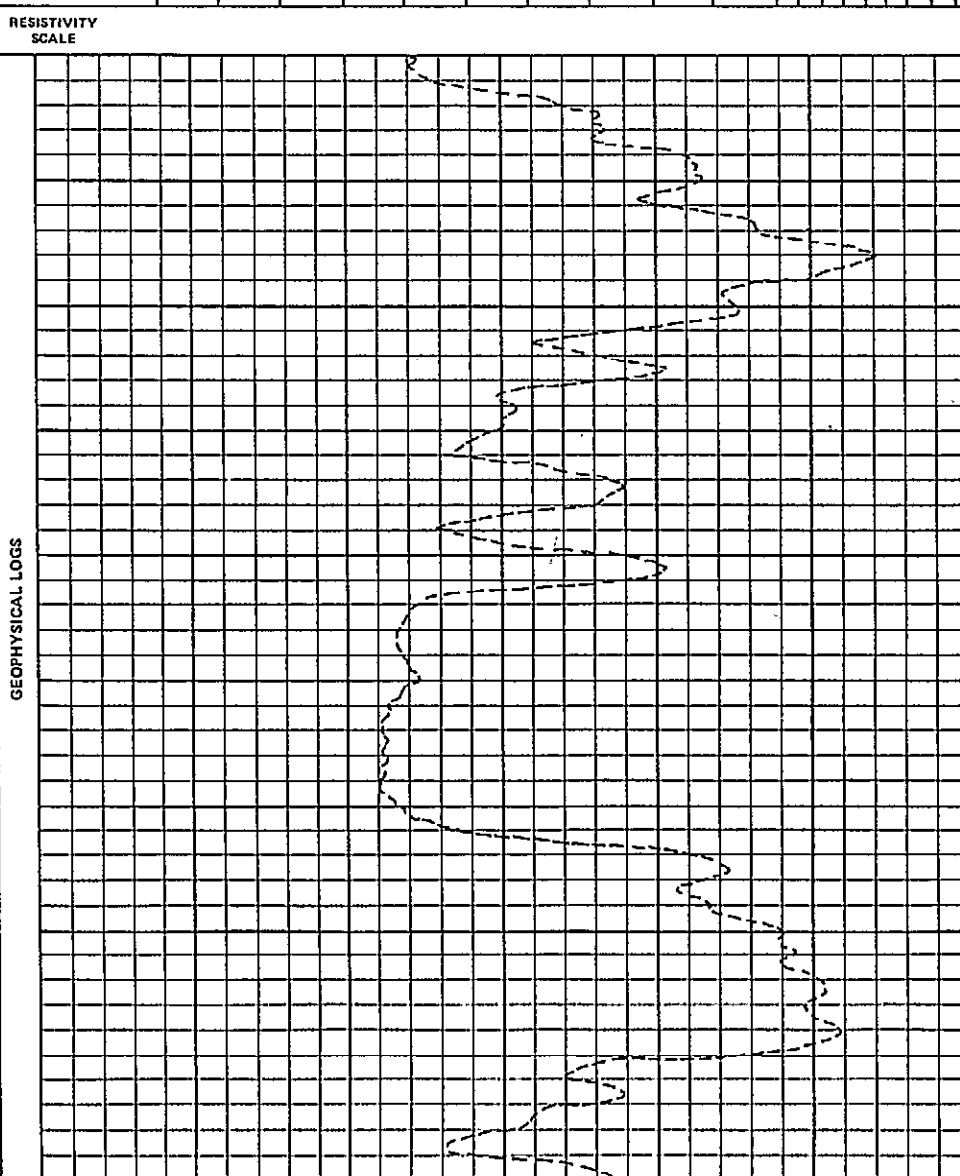
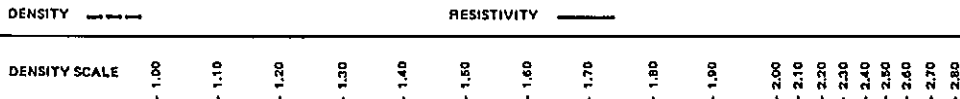
COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)
Coal/Coal + Rock (True Thk (m))
0.85/1.05 (Int: 70.90 - 75.00 m)
SEAM INTERVAL 45.70 - 83.15 m

DRILL NO. GDR-DDH-81-18 SEAM _____
SCALE 1:40

SEAM INTERVAL 45.70 - 83.15 m

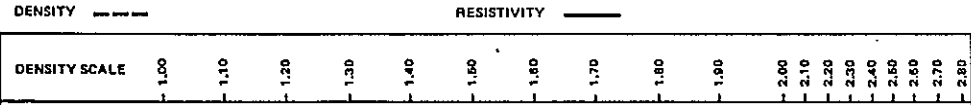


| SEAM COMP. 65432 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|---------------------|-------|---------------|----------|--------|--------|--------|---------|-------------------------|-------|-------|-------|------|----------------|-----|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI | | |
| | 68.98 | | (0.34) | 0.08 | | | | | | | | | | | | |
| | | | 0.40 | (0.10) | | | | | | | | | | | | |
| | | | (0.29) | 0.36 | | | | | | | | | | | | |
| | | | (0.25) | 0.05 | 51 | 00160 | | 0.87 | 55.59 | 17.93 | 25.61 | 0.15 | 5,830 (13.56) | 1.0 | | |
| | | | 0.05 | (0.18) | | | | | | | | | | | | |
| | | | 0.12 | 0.05 | | | | | | | | | | | | |
| | | | | 0.75 | | | | | | | | | | | | |
| | | | (0.35) | (0.20) | | | | | | | | | | | | |
| | | | (0.22) | 0.05 | | | | | | | | | | | | |
| | 72.90 | | (0.22) | 0.08 | | | | | | | | | | | | |
| | | | | 2.10 | 100 | 00161 | | 0.67 | 5.55 | 33.27 | 60.51 | 0.26 | 14,501 (33.73) | 8.0 | | |
| | | | | | | | | | | | | | | | | |
| | | | 0.15 | (0.15) | | | | | | | | | | | | |
| | | | (0.10) | | | | | | | | | | | | | |
| | | | 1.00 | | 68 | 00162 | | 0.85 | 62.86 | 15.11 | 21.18 | 0.13 | 4,764 (11.08) | 1.0 | | |
| | | | (0.35) | | | | | | | | | | | | | |
| | 76.90 | | | 0.15 | | | | | | | | | | | | |

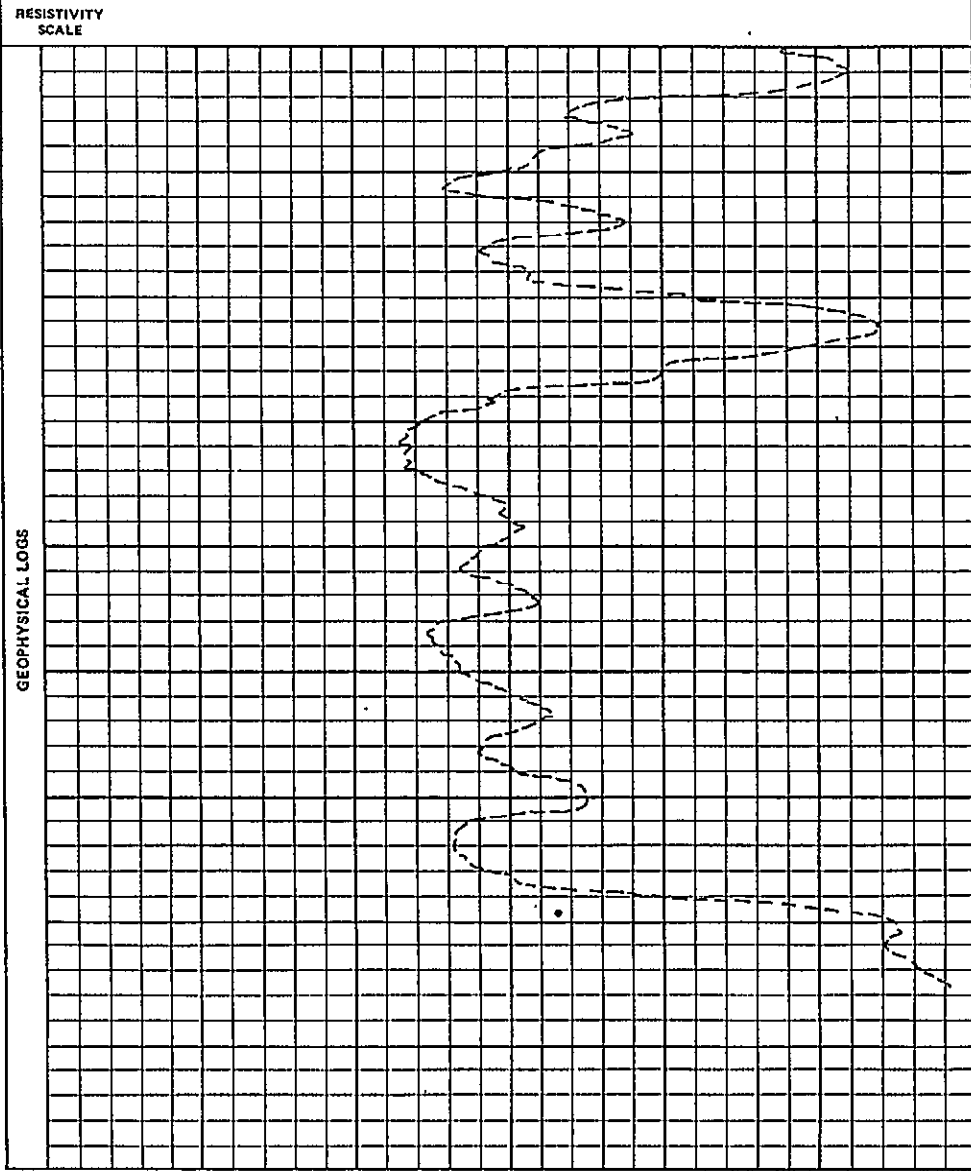
COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-287 (12-80)
Coal/Coal+Rock (True Thk (m))
1.08/1.08 [Int.: 78.96 - 83.15m]
SEAM INTERVAL 45.70 - 83.15 m



DRILL NO. GDR-DDH-81-18 SEAM _____
SCALE 1:40 SEAM INTERVAL 45.70 - 83.15 m



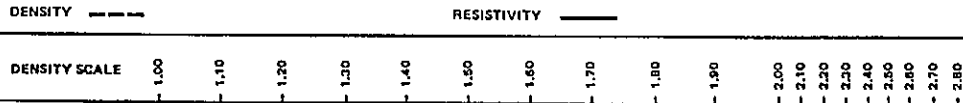
GEOPHYSICAL LOGS

| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|------------|-------|-----------------|----------------|----------------|--------|--------|---------|-------------------------|-------|-------|-------|----------------|-------------------|-----|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ^c | BTH (M/KG) | FSI | | |
| 654321 | 76.90 | V V V V V V | 0.15 | 0.10 (0.35) | | | | | | | | | | | | |
| | | X | | | | | | | | | | | | | | |
| | | V V V V V V | 0.20 (0.10) | 0.20 | 68 | 00162 | | 0.85 | 62.86 | 15.11 | 21.18 | 0.13 | 4,764 (11.08) | 1.0 | | |
| | | X | | 0.05 (0.20) | | | | | | | | | | | | |
| | | V V V V V V | 0.22 (0.23) | 0.05 | | | | | | | | | | | | |
| | 78.96 | V V V V | 0.11 | 0.10 | | | | | | | | | | | | |
| | | [Patterned Log] | | 1.93 | | | | | | | | | | | | |
| | | X | | (0.86) | | | | | | | | | | | | |
| | | [Patterned Log] | | 1.40 | | | | | | | | | | | | |
| | 83.15 | [Patterned Log] | | | 79 | 00163 | | 0.81 | 14.70 | 24.79 | 69.70 | 0.25 | 12,644 (29.41) | 1.5 | | |

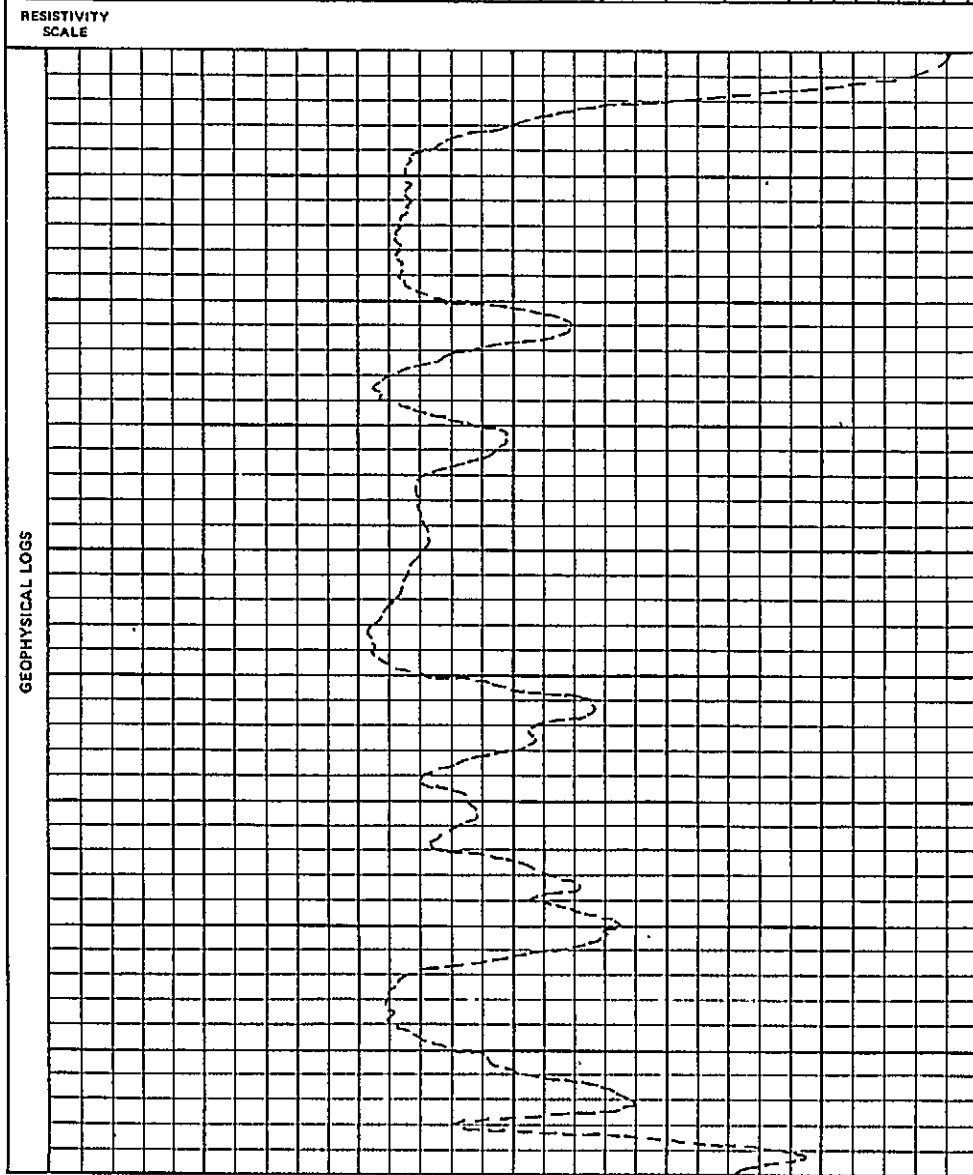
COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)
Coal/Coal+Rock (True Thk (m))
4.77 / 5.97 (Int:337.05-344.80m)



DRILL NO. GDR-DDH-81-18 SEAM _____ SEAM INTERVAL 337.05 - 350.85m
SCALE 1:40



| SEAM COMP. 65432 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|------------------|--------|---------------|----------------|--------------|--------|--------|---------|-------------------------|-------|-------|-------|----------------|-------------------|-----|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ^r | BTU (MJ/KG) | FSI | | |
| | 337.05 | | | 1.70 | | | | | | | | | | | | |
| | | | (0.25) | (0.20) | | | | | | | | | | | | |
| | | | (0.23) 0.02 | 0.50 | | | | | | | | | | | | |
| | | | | 0.55 | 70 | 00164 | | 0.96 | 18.41 | 23.52 | 57.11 | 0.26 | 12,360 (28.75) | 2.0 | | |
| | | | | (1.25) | | | | | | | | | | | | |
| | | | (0.25) 0.10 | 0.10 | | | | | | | | | | | | |
| | | | | 0.90 | | | | | | | | | | | | |
| | | | 0.60 | | | | | | | | | | | | | |
| | | | | 1.00 | | | | | | | | | | | | |
| | | | (0.34) 0.02 | 0.15 0.03 | | | | | | | | | | | | |
| | 345.34 | | | | | | | | | | | | | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

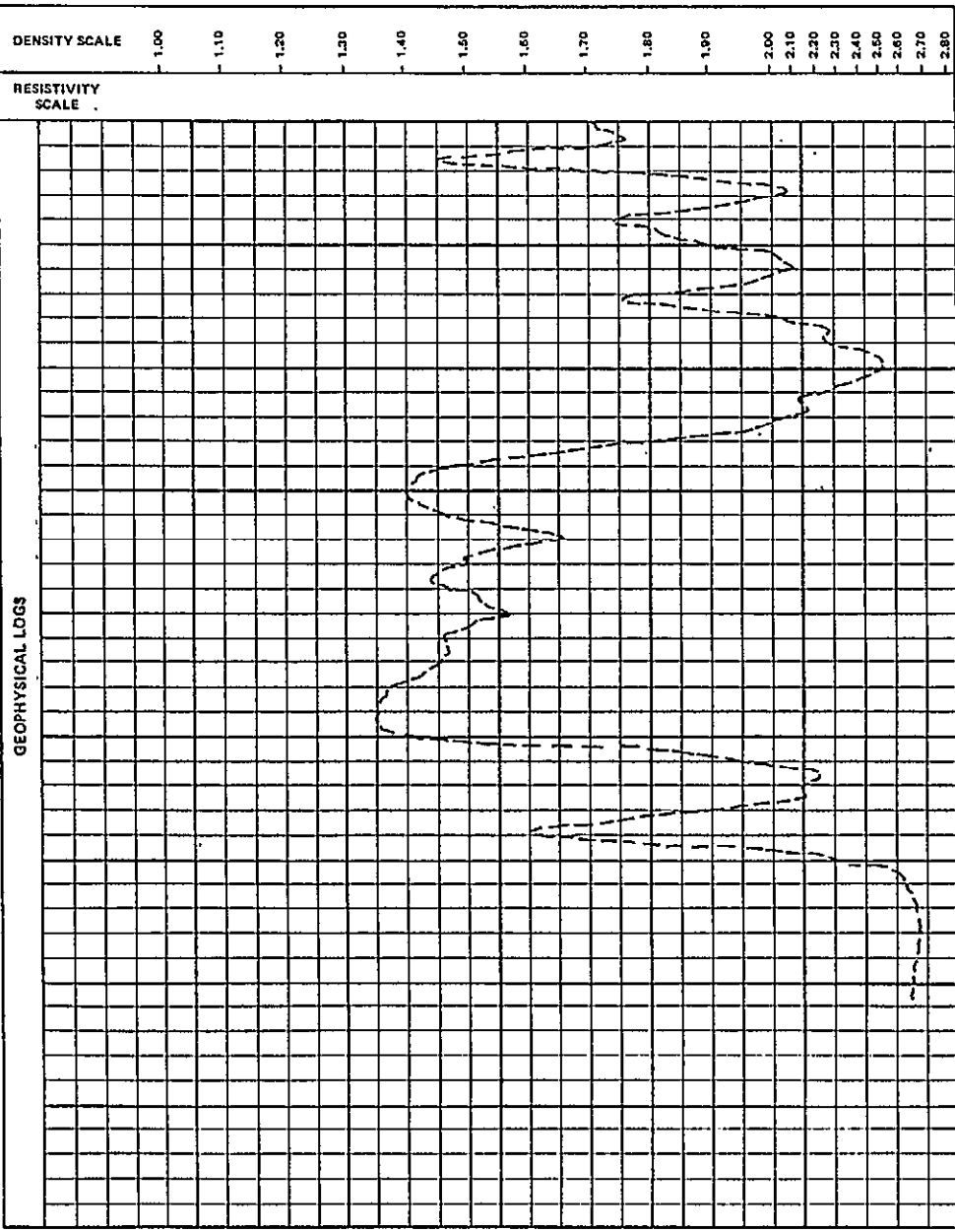
P-267 (12-80)

Coal / Coal + Rock (True Thk (m))
1.45/1.65 [Int = 347.65 - 349.93 m]

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-18 SEAM _____
SCALE 1:40

SEAM INTERVAL 337.05-350.85 m



| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | |
|------------|--------|---------------|----------------|--------------|--------|--------|---------|-------------------------|-------|-------|-------|------|-------------------|-----|--|--|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI | | | | |
| 654321 | 345.34 | | (0.18) 0.10 | 0.25 | | | | | | | | | | | | | | |
| | | | 0.43 | | | | | | | | | | | | | | | |
| | | | 0.05 | 0.15 0.05 | 76 | 00165 | | 1.06 | 64.18 | 16.80 | 17.96 | 0.12 | 4,729 (11.00) | 1.0 | | | | |
| | | | (0.37) 0.16 | 0.02 | | | | | | | | | | | | | | |
| | | | 0.55 | | | | | | | | | | | | | | | |
| | 347.65 | | (0.40) 0.10 | 0.10 | | | | | | | | | | | | | | |
| | | | 0.10 | 0.55 | 79 | 00166 | | 0.87 | 18.41 | 27.19 | 53.53 | 0.23 | 12,313 (28.64) | 7.0 | | | | |
| | | | 0.10 | 0.95 | | | | | | | | | | | | | | |
| | 349.93 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | 350.85 | | | | | | | | | | | | | | | | | |

GEOLOGICAL LOGS

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|----------------|--------------|--------------|
| DDH81018 | | 155 | 46.80 | 63.00 | 10.13 | 62.53 | 9.79 | 0.34 | 4.67 | 1.40 |
| | | 156 | 63.00 | 64.60 | 1.24 | 77.50 | 0.27 | 0.97 | 0.16 | 0.20 |
| | | 157 | 64.60 | 66.86 | 1.60 | 70.80 | 1.54 | 0.06 | 0.16 | 0.50 |
| | | 158 | 66.86 | 67.60 | 0.52 | 70.27 | 0.00 | 0.52 | 0.00 | 0.22 |
| | | 159 | 67.60 | 68.98 | 1.38 | 100.00 | 1.38 | 0.00 | 0.00 | 0.60 |
| | | 160 | 68.98 | 72.90 | 1.99 | 50.77 | 0.98 | 1.01 | 0.46 | 1.45 |
| | | 161 | 72.90 | 75.00 | 2.10 | 100.00 | 2.10 | 0.00 | 0.00 | 0.00 |
| | | 162 | 75.00 | 78.96 | 2.71 | 68.43 | 0.60 | 2.11 | 0.65 | 0.60 |
| | | 163 | 78.96 | 83.15 | 3.33 | 79.47 | 3.33 | 0.00 | 0.86 | 0.00 |
| | | 164 | 337.05 | 345.34 | 5.77 | 69.60 | 4.93 | 0.84 | 1.45 | 1.07 |
| | | 165 | 345.34 | 347.65 | 1.70 | 76.19 | 0.47 | 1.29 | 0.00 | 0.55 |
| | | 166 | 347.65 | 349.93 | 1.80 | 78.95 | 1.60 | 0.20 | 0.40 | 0.08 |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE - AD

NAME OF STANDARD - ASTM

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|-------------|-----------|--------------------|-------|---------------|------------------|----------------|-------------------------------|------|------|
| DDH81018 | | | | | | | | | | |
| | <i>Seam</i> | 155 | 1.02 | 11.13 | 62.42 | 25.43 | 0.22 | 30.51 | 1.36 | 1.50 |
| | | 156 | 0.88 | 55.06 | 29.17 | 14.89 | 0.17 | 14.71 | 1.79 | 1.00 |
| | | 157 | 0.85 | 15.10 | 54.70 | 29.35 | 0.23 | 29.63 | 1.37 | 5.50 |
| | | 158 | 0.95 | 61.81 | 23.59 | 13.65 | 0.13 | 12.34 | 1.91 | 1.00 |
| | | 159 | 0.76 | 21.02 | 54.59 | 23.61 | 0.21 | 27.17 | 1.44 | 1.50 |
| | | 160 | 0.67 | 55.59 | 25.61 | 17.93 | 0.15 | 13.96 | 1.82 | 1.00 |
| | | 161 | 0.67 | 5.55 | 60.51 | 33.27 | 0.26 | 33.73 | 1.29 | 8.00 |
| | | 162 | 0.85 | 62.86 | 21.18 | 15.11 | 0.13 | 11.08 | 1.92 | 1.00 |
| | | 163 | 0.81 | 14.70 | 59.70 | 24.79 | 0.25 | 29.41 | 1.36 | 1.50 |
| | | 164 | 0.96 | 18.41 | 57.11 | 23.52 | 0.26 | 26.15 | 1.41 | 2.00 |
| | <i>IR</i> | 165 | 1.06 | 64.18 | 17.96 | 16.80 | 0.12 | 11.00 | 1.93 | 1.00 |
| | | 166 | 0.87 | 18.41 | 53.53 | 27.19 | 0.23 | 26.64 | 1.38 | 7.00 |

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 32 | 0.00 | 16.87 | 16.87 | | | OVERBURDEN | |
| 32 | 16.87 | 17.72 | 0.85 | | | MUDSTONE | SLTY.DK.GY.VBRKN MIXED WITH MUD |
| | 17.72 | 19.52 | 1.80 | | | SANDSTONE | FG.DK.GY.THNB.VBRKN MODIFIER: CALC; CARB LAMINAE, MUDDY IN PLACES; CALC STRINGERS AND INCLUSIONS, S KS |
| 32 | 19.52 | 20.69 | 1.17 | | | SANDSTONE | MG.LT.GY.MAS.SLD |
| * | 20.69 | 21.94 | 1.25 | | | SANDSTONE | FG.LT.GY.LAM.SLD LUSTROUS SURFACES, FAIRLY UNIFORM, OVER TURNED |
| 34 | 21.94 | 22.82 | 0.88 | | | SANDSTONE | FG.LT.GY.MAS.SLD |
| 34 | 22.82 | 23.09 | 0.27 | | | SANDSTONE | FG.WEL.LT.GY.MAS.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 35 | 23.09 | 23.84 | 0.75 | | | BRECCIA | SSY.VPR.GY.SLD SANDY MATRIX , MUDDY AND SLTY INCLUSION S, SOME CARB. SPECKS |
| * 36 | 23.84 | 24.16 | 0.32 | | | SANDSTONE | MG.WEL.LT.GY.THNB.SLD |
| 36 | 24.16 | 24.41 | 0.25 | | | BRECCIA | SSY.VPR.GY.SLD AS BRECCIA ABOVE |
| 35 | 24.41 | 25.11 | 0.70 | | | BRECCIA | AS ABOVE |
| 33 | 25.11 | 26.86 | 1.75 | | | SANDSTONE | MG.LT.GY.MAS.SLD CARB STRINGERS AND INCLUSIONS OCCASIONA LLY |
| 31 | 26.86 | 27.51 | 0.65 | | | SANDSTONE | AS ABOVE |
| * 29 | 27.51 | 28.89 | 1.38 | | | SANDSTONE | FG.LT.GY.THNB.SLD |
| 29 | 28.89 | 29.35 | 0.46 | | | SANDSTONE | FG.LT.GY.THNB.SLD FAIRLY UNIFORM, COMPACT |
| 30 | 29.35 | 30.58 | 1.23 | | | SANDSTONE | AS ABOVE |
| 30 | 30.58 | 31.30 | 0.72 | | | SANDSTONE | MG.LT.GY.MAS.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 30 | 31.30 | 31.94 | 0.64 | | | SANDSTONE | SLTY.VFG.GY.THKB.SLD |
| 30 | 31.94 | 32.60 | 0.66 | | | SANDSTONE | SLTY.VFG.GY.THKB.SLD |
| | 32.60 | 34.60 | 2.00 | | | SANDSTONE | VFG.GY.THKB.SLD MASIV. IN PLACES, FAIRLY COMPACT AND UNI FORM. |
| 31 | 34.60 | 35.54 | 0.94 | | | SANDSTONE | AS ABOVE |
| * 32 | 35.54 | 37.09 | 1.55 | | | SANDSTONE | AS ABOVE |
| 31 | 37.09 | 38.66 | 1.57 | | | SANDSTONE | AS ABOVE |
| 31 | 38.66 | 39.80 | 1.14 | | | SANDSTONE | AS ABOVE |
| | 39.80 | 41.66 | 1.86 | | | SANDSTONE | AS ABOVE, GRADUALLY BECOME SLTST TOWARD S BASE. |
| 30 | 41.66 | 42.29 | 0.63 | | | SILTSTONE | SSY.GY.MAS.SLD |
| 30 | 42.29 | 42.99 | 0.70 | | | SILTSTONE | GY.MAS.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---------------------------------|
| 29 | 42.99 | 44.34 | 1.35 | | | MUDSTONE | SLTY.DK.GY.THKB.BRKN |
| | 44.34 | 44.64 | 0.30 | | | SILTSTONE | CLYY.GY.MAS.SLD VERY UNIFORM |
| 29 | 44.64 | 45.70 | 1.06 | | | SILTSTONE | GY.MAS.SLD BRKN AT BASE |
| 29 | 45.70 | 46.40 | 0.70 | | ↑ | COAL LOSS | |
| 28 | 46.40 | 46.80 | 0.40 | | ↑ | ROCK LOSS | |
| 28 | 46.80 | 47.00 | 0.20 | 00155 | ↑ | COAL LOSS | |
| 28 | 47.00 | 47.20 | 0.20 | 00155 | ↑ | COAL | SHRD |
| 28 | 47.20 | 47.30 | 0.10 | 00155 | ↑ | COAL | C-6.SLD |
| 28 | 47.30 | 47.33 | 0.03 | 00155 | ↑ | COAL | C-5.SLD |
| 28 | 47.33 | 47.35 | 0.02 | 00155 | ↑ | COAL | C-6.SLD |
| 28 | 47.35 | 48.05 | 0.70 | 00155 | ↑ | COAL | C-5.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|------------------------|
| 28 | 48.05 | 48.20 | 0.15 | 00155 | 1 | COAL | C-5.BRKN |
| 28 | 48.20 | 48.90 | 0.70 | 00155 | 1 | COAL | PWRD |
| 27 | 48.90 | 49.90 | 1.00 | 00155 | 1 | ROCK LOSS | |
| 27 | 49.90 | 50.05 | 0.15 | 00155 | 1 | COAL LOSS | |
| 27 | 50.05 | 50.30 | 0.25 | 00155 | 1 | COAL | PWRD |
| 27 | 50.30 | 50.70 | 0.40 | 00155 | 1 | ROCK LOSS | |
| 27 | 50.70 | 50.75 | 0.05 | 00155 | 1 | MUDSTONE | CARB.BLK.BRKN |
| 27 | 50.75 | 51.30 | 0.55 | 00155 | 1 | COAL | SHRD PWRD |
| 27 | 51.30 | 51.80 | 0.50 | 00155 | 1 | COAL LOSS | |
| 27 | 51.80 | 52.00 | 0.20 | 00155 | 1 | COAL | SHRD PWRD |
| 26 | 52.00 | 52.25 | 0.25 | 00155 | 1 | COAL | C-5.SLD PARTLY SHRD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|-------------------------|
| 26 | 52.25 | 52.75 | 0.50 | 00155 | 1 | COAL | C-5.SLD PARTLY SHRD |
| 26 | 52.75 | 53.10 | 0.35 | 00155 | 1 | COAL | C-5.VBRKN |
| 26 | 53.10 | 53.20 | 0.10 | 00155 | 1 | COAL | C-6.SLD PARTLY SHRD |
| 26 | 53.20 | 55.40 | 2.20 | 00155 | 1 | COAL LOSS | |
| 25 | 55.40 | 56.10 | 0.70 | 00155 | 1 | COAL | PWRD |
| 25 | 56.10 | 56.60 | 0.50 | 00155 | 1 | COAL LOSS | |
| 25 | 56.60 | 56.80 | 0.20 | 00155 | 1 | COAL C-5 | VBRKN |
| 25 | 56.80 | 56.90 | 0.10 | 00155 | 1 | COAL | C-5.BRKN PARTLY SHRD |
| 25 | 56.90 | 57.53 | 0.63 | 00155 | 1 | COAL | C-5.SLD PARTLY SHRD |
| 25 | 57.53 | 57.60 | 0.07 | 00155 | 1 | COAL | C-6.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-----------------------|---------------------|---------------------------|---------------------|--------------------|------------------|------------------------|
| 24 | 57.60 | 57.84 | 0.24 | 00155 | 1 | COAL | C-4.SLD |
| 24 | 57.84 | 57.96 | 0.12 | 00155 | 1 | COAL | C-5.SLD |
| 24 | 57.96 | 58.16 | 0.20 | 00155 | 1 | COAL | C-4.SLD |
| 24 | 58.16 | 59.36 | 1.20 | 00155 | 1 | COAL | SHRD PWRD, VBRKN |
| 24 | 59.36 | 59.73 | 0.37 | 00155 | 1 | COAL | SHRD BRKN |
| 24 | 59.73 | 59.98 | 0.25 | 00155 | 1 | COAL | C-5.VBRKN SHRD |
| 24 | 59.98 | 60.28 | 0.30 | 00155 | 1 | COAL | C-5.SLD PARTLY SHRD |
| 23 | 60.28 | 60.58 | 0.30 | 00155 | 1 | COAL | C-5.VBRKN |
| 23 | 60.58 | 61.68 | 1.10 | 00155 | 1 | COAL | PWRD |
| 23 | 61.68 | 62.80 | 1.12 | 00155 | 1 | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 23 | 62.80 | 63.00 | 0.20 | 00155 | 1 | COAL | SHRD PWRD |
| 23 | 63.00 | 63.25 | 0.25 | 00156 | 1 | MUDSTONE | CARB.BLK.SHRD VBRKN WITH COAL AT TOP |
| 22 | 63.25 | 63.45 | 0.20 | 00156 | 1 | ROCK LOSS | |
| 22 | 63.45 | 63.50 | 0.05 | 00156 | 1 | COAL | PWRD |
| 22 | 63.50 | 63.56 | 0.06 | 00156 | 1 | COAL | C-5.SLD PARTLY SHRD |
| 22 | 63.56 | 63.58 | 0.02 | 00156 | 1 | COAL | C-6.SLD |
| 22 | 63.58 | 63.64 | 0.06 | 00156 | 1 | COAL | C-5.SLD PARTLY SHRD |
| 22 | 63.64 | 63.74 | 0.10 | 00156 | 1 | COAL | C-5.VBRKN |
| 22 | 63.74 | 63.90 | 0.16 | 00156 | 1 | COAL LOSS | |
| 22 | 63.90 | 63.95 | 0.05 | 00156 | 1 | MUDSTONE | CARB.BLK.SHRD VBRKN, MIXED WITH COAL |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|----------------------------|
| 22 | 63.95 | 64.60 | 0.65 | 00156 | 1 | MUDSTONE | CARB.BLK.SHRD VBRKN |
| 22 | 64.60 | 65.10 | 0.50 | 00157 | 1 | COAL | PWRD |
| 22 | 65.10 | 65.26 | 0.16 | 00157 | 1 | COAL LOSS | |
| 22 | 65.26 | 65.35 | 0.09 | 00157 | 1 | COAL | C-5.SLD |
| | 65.35 | 65.40 | 0.05 | 00157 | 1 | TUFF | SSY.YEL.BRKN BENTONITIC |
| 22 | 65.40 | 65.70 | 0.30 | 00157 | 1 | ROCK LOSS | |
| 22 | 65.70 | 65.90 | 0.20 | 00157 | 1 | COAL | SHRD |
| 22 | 65.90 | 66.07 | 0.17 | 00157 | 1 | COAL | C-5.SHRD PARTLY SHRD |
| 21 | 66.07 | 66.17 | 0.10 | 00157 | 1 | COAL | C-5.VBRKN SHRD |
| 21 | 66.17 | 66.18 | 0.01 | 00157 | 1 | MUDSTONE | CARB.BLK.SHRD |
| 21 | 66.18 | 66.38 | 0.20 | 00157 | 1 | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|-----------------------------|
| 21 | 66.38 | 66.48 | 0.10 | 00157 | 1 | COAL | PWRD MIXED WITH MUDST |
| 21 | 66.48 | 66.66 | 0.18 | 00157 | 1 | COAL | C-5.SLD |
| 21 | 66.66 | 66.86 | 0.20 | 00157 | 1 | COAL | C-5.VBRKN |
| 21 | 66.86 | 67.21 | 0.35 | 00158 | 1 | MUDSTONE | CARB.BLK.SHRD VERY COALY |
| 21 | 67.21 | 67.43 | 0.22 | 00158 | 1 | ROCK LOSS | |
| 21 | 67.43 | 67.60 | 0.17 | 00158 | 1 | MUDSTONE | CARB.BLK.SLD |
| 21 | 67.60 | 68.15 | 0.55 | 00159 | 1 | COAL | PWRD |
| 21 | 68.15 | 68.55 | 0.40 | 00159 | 1 | COAL | PWRD |
| 21 | 68.55 | 68.63 | 0.08 | 00159 | 1 | COAL | C-5.SLD |
| 21 | 68.63 | 68.98 | 0.35 | 00159 | 1 | COAL | PWRD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 11

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|------------------------------------|
| 20 | 68.98 | 69.32 | 0.34 | 00160 | | ROCK LOSS | |
| 20 | 69.32 | 69.40 | 0.08 | 00160 | | COAL | C-5.SLD |
| 20 | 69.40 | 69.50 | 0.10 | 00160 | | MUDSTONE | BLK.VBRKN COALY MIXED WITH COAL |
| 20 | 69.50 | 69.80 | 0.30 | 00160 | | MUDSTONE | CARB.BLK.BRKN |
| 20 | 69.80 | 69.85 | 0.05 | 00160 | | COAL LOSS | |
| 20 | 69.85 | 69.90 | 0.05 | 00160 | | COAL | PWRD MIXED WITH MUDST |
| 20 | 69.90 | 70.19 | 0.29 | 00160 | | ROCK LOSS | |
| 20 | 70.19 | 70.45 | 0.26 | 00160 | | MUDSTONE | CARB.BLK.SLD |
| 20 | 70.45 | 70.55 | 0.10 | 00160 | | MUDSTONE | CARB.BLK.VBRKN PARTLY SHRD |
| 20 | 70.55 | 70.60 | 0.05 | 00160 | | COAL | PWRD |
| 20 | 70.60 | 70.85 | 0.25 | 00160 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 12

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--------------------------|
| 20 | 70.85 | 70.90 | 0.05 | 00160 | | MUDSTONE | CARB.BLK.VBRKN |
| 20 | 70.90 | 71.08 | 0.18 | 00160 | 1 | COAL LOSS | |
| 20 | 71.08 | 71.13 | 0.05 | 00160 | 1 | COAL | PWRD |
| 20 | 71.13 | 71.25 | 0.12 | 00160 | 1 | MUDSTONE | CARB.BLK.SLD |
| 20 | 71.25 | 72.00 | 0.75 | 00160 | 1 | COAL | C-5.VBRKN PARTLY SHRD |
| 19 | 72.00 | 72.35 | 0.35 | 00160 | 1 | ROCK LOSS | |
| 19 | 72.35 | 72.55 | 0.20 | 00160 | 1 | COAL LOSS | |
| 19 | 72.55 | 72.60 | 0.05 | 00160 | 1 | COAL | PWRD |
| 19 | 72.60 | 72.82 | 0.22 | 00160 | 1 | ROCK LOSS | |
| 19 | 72.82 | 72.90 | 0.08 | 00160 | 1 | TUFF | BRKN |
| 19 | 72.90 | 74.35 | 1.45 | 00161 | 1 | COAL | C-5.VBRKN |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH ID | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 19 | 74.35 | 74.55 | 0.20 | 00161 | 1 | COAL | C-5.SLD |
| 18 | 74.55 | 75.00 | 0.45 | 00161 | 1 | COAL | C-5.SHRD BRKN |
| 18 | 75.00 | 75.15 | 0.15 | 00162 | | MUDSTONE | BLK.SHRD VBRKN, MIXED WITH SOME COAL |
| 18 | 75.15 | 75.30 | 0.15 | 00162 | | ROCK LOSS | |
| 18 | 75.30 | 75.40 | 0.10 | 00162 | | COAL LOSS | 0 |
| 18 | 75.40 | 75.80 | 0.40 | 00162 | | MUDSTONE | CARB.BLK.SHRD VBRKN WITH SOME COAL (PWRD) |
| 18 | 75.80 | 76.40 | 0.60 | 00162 | | MUDSTONE | CARB.BLK.VBRKN |
| 18 | 76.40 | 76.75 | 0.35 | 00162 | | ROCK LOSS | |
| 18 | 76.75 | 76.90 | 0.15 | 00162 | | COAL | PWRD |
| 18 | 76.90 | 77.05 | 0.15 | 00162 | | TUFF | BRKN |
| 18 | 77.05 | 77.15 | 0.10 | 00162 | | COAL | PWRD |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--------------|
| 18 | 77.15 | 77.50 | 0.35 | 00162 | | COAL LOSS | |
| 17 | 77.50 | 77.70 | 0.20 | 00162 | | TUFF | BRKN |
| 17 | 77.70 | 77.80 | 0.10 | 00162 | | ROCK LOSS | |
| 17 | 77.80 | 78.00 | 0.20 | 00162 | | COAL | VBRKN |
| 17 | 78.00 | 78.05 | 0.05 | 00162 | | MUDSTONE | CARB.BLK.SLD |
| 17 | 78.05 | 78.10 | 0.05 | 00162 | | COAL | C-5.VBRKN |
| 17 | 78.10 | 78.30 | 0.20 | 00162 | | COAL LOSS | |
| 17 | 78.30 | 78.40 | 0.10 | 00162 | | TUFF | BRKN |
| 17 | 78.40 | 78.52 | 0.12 | 00162 | | TUFF | BRKN |
| 17 | 78.52 | 78.75 | 0.23 | 00162 | | ROCK LOSS | |
| 17 | 78.75 | 78.85 | 0.10 | 00162 | | COAL | PWRD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|-----------------------|
| 17 | 78.85 | 78.96 | 0.11 | 00162 | | TUFF | BRKN |
| 17 | 78.96 | 79.91 | 0.95 | 00163 | ↑ | COAL | PWRD |
| 17 | 79.91 | 80.56 | 0.65 | 00163 | ↑ | COAL | PWRD |
| 16 | 80.56 | 80.74 | 0.18 | 00163 | ↑ | COAL | C-5.SLD |
| 16 | 80.74 | 80.89 | 0.15 | 00163 | ↑ | COAL | PWRD |
| 16 | 80.89 | 81.75 | 0.86 | 00163 | ↑ | COAL LOSS | |
| 16 | 81.75 | 83.15 | 1.40 | 00163 | ↑ | COAL | PWRD |
| 15 | 83.15 | 83.25 | 0.10 | | | MUDSTONE | CARB.BLK.SHRD BRKN |
| 15 | 83.25 | 83.40 | 0.15 | | | ROCK LOSS | |
| 15 | 83.40 | 83.45 | 0.05 | | | COAL | SHRD BRKN |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 15 | 83.45 | 83.90 | 0.45 | | | MUDSTONE | CARB.BLK.BRKN |
| * 15 | 83.90 | 85.18 | 1.28 | | | SILTSTONE | SSY.DK.GY.THKB.SLD MUDDY TOWARD BASE |
| 19 | 85.18 | 85.88 | 0.70 | | | MUDSTONE | CARB.BLK.THKB.SLD SOME COALY SPECK AND INCLUSIONS |
| 21 | 85.88 | 86.55 | 0.67 | | | MUDSTONE | CARB.BLK.VBRKN SKS, THIN COALY LAYERS |
| 23 | 86.55 | 86.90 | 0.35 | | | COAL LOSS | |
| 25 | 86.90 | 87.65 | 0.75 | | | MUDSTONE | CARB.BLK.THKB.SLD COAL INCLUSIONS AND STRINGERS IN PLACES |
| 29 | 87.65 | 88.76 | 1.11 | | | MUDSTONE | AS ABOVE |
| 32 | 88.76 | 89.26 | 0.50 | | | MUDSTONE | CARB.BLK.VBRKN SOME PULVERIZED COAL MIXED |
| 34 | 89.26 | 89.91 | 0.65 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN CALC. VEINS AND STRINGERS, SKS |
| 35 | 89.91 | 90.16 | 0.25 | | | BRECCIA | BRKN MODIFIER: CALC; FAULT BRECCIA |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 37 | 90.16 | 90.56 | 0.40 | | MUDSTONE | SLTY.DK.GY.BRKN VERY CALC |
| | 39 | 90.56 | 91.46 | 0.90 | | MUDSTONE | SLTY.DK.GY.THNB.WRMBU.SLD MUDST AND SLTST INTERBEDDED |
| | 41 | 91.46 | 91.61 | 0.15 | | SILTSTONE | GY.MAS.SLD |
| | 42 | 91.61 | 91.83 | 0.22 | | SILTSTONE | GY.MAS.SLD |
| * | 44 | 91.83 | 92.89 | 1.06 | | MUDSTONE | SLTY.DK.GY.LAM.WRMBU.SLD MUDST AND SLTST INTERBEDDED, SOME SSD |
| | 45 | 92.89 | 94.26 | 1.37 | | MUDSTONE | AS ABOVE |
| | 46 | 94.26 | 95.86 | 1.60 | | MUDSTONE | AS ABOVE, FEW CaCO ₃ VEINS |
| | 47 | 95.86 | 96.31 | 0.45 | | MUDSTONE | AS ABOVE |
| * | 48 | 96.31 | 97.06 | 0.75 | | SANDSTONE | GY.THNB.SLD MODIFIER:CALC; NUMEROUS CaCO ₃ VEINS AND STRINGERS, SOME MUDDY AND SLTY INTERB EDS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 97.06 | 98.42 | 1.36 | | | MUDSTONE | SLTY.DK.GY.LAM.SLD MUDST AND SLTST INTERBEDDED, VERY CALC , NUMEROUS CaCO ₃ VEINS, STRING AND INCL USIONS |
| | 98.42 | 98.96 | 0.54 | | | MUDSTONE | SLTY.DK.GY.LAM.SSD.SLD LAMINAE OF MUDST AND SLTST INTERBEDDED |
| * 52 | 98.96 | 99.28 | 0.32 | | | MUDSTONE | AS ABOVE |
| | 99.28 | 99.62 | 0.34 | | | SANDSTONE | VFG.LT.GY.THNB.XBDG.SLD PARTLY CALC, SED STRUX: OVERTURNED |
| * 50 | 99.62 | 100.22 | 0.60 | | | MUDSTONE | SLTY.DK.GY.LAM.SLD CALC; MUDST AND SLTST INTERBEDDED |
| | 100.22 | 101.67 | 1.45 | | | SANDSTONE | VFG.LT.GY.BRKN MODIFIER:CALC; PARTLY BRECCIATED |
| | 101.67 | 102.17 | 0.50 | | | MUDSTONE | SLTY.DK.GY.LAM.SLD CALC |
| * 45 | 102.17 | 104.84 | 2.67 | | | MUDSTONE | SLTY.DK.GY.LAM.WRMBU.SLD MUDST ANS SLTST LAMINATED, CALC AT FEW PLACES, BEDS OVERTURNED |
| | 104.84 | 107.19 | 2.35 | | | MUDSTONE | SLTY.DK.GY.LAM.WRMBU.SLD CALC IN PLACES DIP CHANGE RAPIDLY FROM 45-0-20. CORE PARTLY BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 20 | 107.19 | 107.44 | 0.25 | | | MUDSTONE | SLTY.DK.GY.LAM.BRKN CALC |
| * 52 | 107.44 | 108.12 | 0.68 | | | MUDSTONE | SLTY.DK.GY.LAM.SLD MUDST AND SLTST INTERBEDDED |
| 51 | 108.12 | 110.09 | 1.97 | | | MUDSTONE | AS ABOVE |
| 50 | 110.09 | 111.13 | 1.04 | | | MUDSTONE | AS ABOVE |
| 50 | 111.13 | 112.85 | 1.72 | | | MUDSTONE | AS ABOVE |
| 49 | 112.85 | 112.93 | 0.08 | | | MUDSTONE | AS ABOVE |
| 49 | 112.93 | 113.45 | 0.52 | | | SANDSTONE | SLTY.GY.THNB.SLD |
| 49 | 113.45 | 113.60 | 0.15 | | | MUDSTONE | SLTY.DK.GY.LAM.SLD INTERBEDS OF MUDST AND SLTST |
| 49 | 113.60 | 114.02 | 0.42 | | | SANDSTONE | VFG.GY.THNB.SLD |
| 49 | 114.02 | 114.22 | 0.20 | | | MUDSTONE | SLTY.DK.GY.LAM.SLD AS MUDST ABOVE |
| 48 | 114.22 | 114.37 | 0.15 | | | SANDSTONE | FG.GY.THNB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 48 | 114.37 | 115.13 | 0.76 | | MUDSTONE | SLTY.DK.GY.LAM.SLD AS ABOVE |
| * | 48 | 115.13 | 115.25 | 0.12 | | SANDSTONE | FG.GY.THNB.SLD |
| * | 52 | 115.25 | 115.63 | 0.38 | | MUDSTONE | SLTY.DK.GY.LAM.SLD MUDST AND SLTST INTERBEDDED TOP OF GETH ING |
| | 54 | 115.63 | 115.83 | 0.20 | | SANDSTONE | SLTY.FG.LT.GY.VBRKN VERY CALC BASE OF BLUESKY |
| | 56 | 115.83 | 116.29 | 0.46 | | SANDSTONE | FG.LT.GY.THKB.XBDG.SLD MODIFIER:CALC |
| | 59 | 116.29 | 116.49 | 0.20 | | MUDSTONE | SLTY.DK.GY.THKB.BRKN |
| * | 63 | 116.49 | 117.57 | 1.08 | | SANDSTONE | FG.LT.GY.XBDG.SLD UNIFORM CALC AT TOP |
| * | 47 | 117.57 | 119.22 | 1.65 | | SANDSTONE | FG.LT.GY.MAS.SLD MODIFIER:CALC; CaCO3 VEINS AND CRYSTALS TOWARD TOP CORE PARTLY BRKN |
| | 47 | 119.22 | 120.14 | 0.92 | | SANDSTONE | FG.LT.GY.MAS.SLD PARTLY CALC |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 47 | 120.14 | 120.54 | 0.40 | | | SANDSTONE | AS ABOVE |
| | 120.54 | 120.90 | 0.36 | | | SANDSTONE | SLTY.DK.GY.MAS ROCK TYPE: CONGLOMERATE FEW PEBBLES DIFFERENT SIZES-TYPICAL FOR BLUESKY IN THE AREA. |
| 47 | 120.90 | 121.10 | 0.20 | | | SANDSTONE | SLTY.DK.GY.VBRKN AS ABOVE; TOP OF BLUESKY |
| 47 | 121.10 | 122.43 | 1.33 | | | MUDSTONE | DK.GY.SLD VERY UNIFORM, OCCASIONALLY PYRITIC PEBBLES AND SPECKS BASE OF MOOSEBAR |
| 47 | 122.43 | 122.90 | 0.47 | | | MUDSTONE | AS ABOVE |
| 47 | 122.90 | 125.64 | 2.74 | | | MUDSTONE | AS ABOVE |
| 47 | 125.64 | 126.58 | 0.94 | | | MUDSTONE | AS ABOVE |
| 47 | 126.58 | 126.73 | 0.15 | | | SILTSTONE | GY.MAS.SLD VERY COMPACT |
| 47 | 126.73 | 128.51 | 1.78 | | | MUDSTONE | DK.GY.SLD AS MUDST ABOVE |
| 47 | 128.51 | 128.68 | 0.17 | | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 128.68 | 128.84 | 0.16 | | | SILTSTONE | GY.MAS.SLD PYRITIC PEBBLES;VERY COMPACT |
| 47 | 128.84 | 131.29 | 2.45 | | | MUDSTONE | DK.GY.SLD AS MUDST ABOVE |
| | 131.29 | 131.60 | 0.31 | | | MUDSTONE | SLTY.DK.GY.SLD VERY UNIFORM, PYRITIC PEBBLES SPECKS IN PLACES |
| 47 | 131.60 | 134.03 | 2.43 | | | MUDSTONE | AS ABOVE |
| 47 | 134.03 | 134.63 | 0.60 | | | MUDSTONE | BRKN AS ABOVE, FEW CALC VEINS |
| 47 | 134.63 | 136.78 | 2.15 | | | MUDSTONE | SLTY.DK.GY.SLD UNIFORM , SOLID CORE PYRITE |
| 47 | 136.78 | 137.90 | 1.12 | | | MUDSTONE | AS ABOVE |
| 47 | 137.90 | 139.68 | 1.78 | | | MUDSTONE | AS ABOVE. |
| 47 | 139.68 | 141.13 | 1.45 | | | MUDSTONE | AS ABOVE. |
| 47 | 141.13 | 142.46 | 1.33 | | | MUDSTONE | AS ABOVE. |
| 47 | 142.46 | 144.22 | 1.76 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|--|
| 47 | 144.22 | 145.20 | 0.98 | | | MUDSTONE | SLTY.DK.GY.SLD VERY CALC, BRKN AT BASE, SOME SLICKENSI DES. |
| 47 | 145.20 | 145.99 | 0.79 | | | MUDSTONE | SLTY.DK.GY.SLD PARTLY CALCAREOUS, FEW STRINGERS. |
| * 47 | 145.99 | 146.09 | 0.10 | | | SILTSTONE | LT.GY.BRKN BENTONITIC (POSSIBLE MARKER). |
| | 146.09 | 146.55 | 0.46 | | | MUDSTONE | SLTY.DK.GY.BRKN SOME SLICKENSIDES AND CaCO3 VEINS. |
| 47 | 146.55 | 147.39 | 0.84 | | | MUDSTONE | SLTY.DK.GY.SLD |
| | 147.39 | 147.81 | 0.42 | | | MUDSTONE | SLTY.DK.GY.SLD VERY UNIFORM, PYR SPECKS. |
| 48 | 147.81 | 148.57 | 0.76 | | | MUDSTONE | SLTY.DK.GY.BRKN CALCAREOUS. |
| 48 | 148.57 | 149.37 | 0.80 | | | MUDSTONE | DK.GY.VBRKN VERY CALC, HIGHLY BRKN, POSSIBLE SOME F AULTING, MODIFIER: CALC. |
| 49 | 149.37 | 150.42 | 1.05 | | | MUDSTONE | SLTY.DK.GY.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 49 | 150.42 | 151.02 | 0.60 | | | MUDSTONE | SLTY.DK.GY.SLD OCCASIONALY FEW CALC VEINS AND STRINGER S. |
| 49 | 151.02 | 153.12 | 2.10 | | | MUDSTONE | AS ABOVE. |
| 50 | 153.12 | 153.29 | 0.17 | | | MUDSTONE | AS ABOVE. |
| 50 | 153.29 | 153.74 | 0.45 | | | MUDSTONE | DK.GY.BRKN SLICKENSIDES AND CaCO ₃ VEINS AND STRING ERS, MODIFIER: CALC. |
| 50 | 153.74 | 154.16 | 0.42 | | | MUDSTONE | SLTY.DK.GY.SLD |
| | 154.16 | 155.90 | 1.74 | | | MUDSTONE | SLTY.DK.GY.SLD PYR SPECKS OCCASSIONALY, VERY UNIFORM, CALC AT TOP. |
| 51 | 155.90 | 157.22 | 1.32 | | | MUDSTONE | AS ABOVE. |
| 52 | 157.22 | 158.52 | 1.30 | | | MUDSTONE | AS ABOVE. |
| | 158.52 | 160.09 | 1.57 | | | MUDSTONE | AS ABOVE; FEW ASTEROSOMA BURROWS. |
| | 160.09 | 161.21 | 1.12 | | | MUDSTONE | SLTY.DK.GY.SLD PYRITE SPECKS OCCASIONAL; VERY UNIFORM. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 54 | 161.21 | 163.17 | 1.96 | | | MUDSTONE | AS ABOVE. |
| 54 | 163.17 | 163.89 | 0.72 | | | MUDSTONE | AS ABOVE. |
| 55 | 163.89 | 166.04 | 2.15 | | | MUDSTONE | SLTY.DK.GY.SLD CALCAREOUS IN PLACES. |
| 55 | 166.04 | 166.49 | 0.45 | | | MUDSTONE | SLTY.DK.GY.SLD VERY UNIFORMED; SOME PYRITIC SPECKS. |
| 56 | 166.49 | 169.23 | 2.74 | | | MUDSTONE | AS ABOVE. |
| 57 | 169.23 | 172.10 | 2.87 | | | MUDSTONE | AS ABOVE. |
| 58 | 172.10 | 174.82 | 2.72 | | | MUDSTONE | SLTY.DK.GY.SLD MUDSTONE AS ABOVE WITH FEW CALCITE STRI NGERS AND VEINS. |
| | 174.82 | 177.61 | 2.79 | | | MUDSTONE | SLTY.DK.GY.SLD VERY UNIFORM WITH PYRITIC SPECKS. |
| 60 | 177.61 | 178.26 | 0.65 | | | MUDSTONE | AS ABOVE. |
| 60 | 178.26 | 180.35 | 2.09 | | | MUDSTONE | AS ABOVE; ASTEROSOMA BURROWS. |
| 61 | 180.35 | 181.25 | 0.90 | | | MUDSTONE | AS ABOVE. |
| 62 | 181.25 | 183.03 | 1.78 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 62 | 183.03 | 184.41 | 1.38 | | | MUDSTONE | AS ABOVE. |
| 63 | 184.41 | 185.52 | 1.11 | | | MUDSTONE | SLTY.DK.GY.SLD AS ABOVE. |
| 63 | 185.52 | 185.76 | 0.24 | | | SILTSTONE | GY.SLD VERY COMPACT; WITH A CaCO ₃ VEIN. |
| | 185.76 | 187.31 | 1.55 | | | MUDSTONE | DK.GY.SLD VERY UNIFORM, WITH SOME PYRITE SPECKS; AST. BURROWS. |
| 64 | 187.31 | 188.61 | 1.30 | | | MUDSTONE | AS ABOVE. |
| 65 | 188.61 | 190.48 | 1.87 | | | MUDSTONE | AS ABOVE; AST BURROWS. |
| 65 | 190.48 | 191.41 | 0.93 | | | MUDSTONE | AS ABOVE. |
| 66 | 191.41 | 193.29 | 1.88 | | | MUDSTONE | AS ABOVE. |
| 66 | 193.29 | 194.07 | 0.78 | | | MUDSTONE | AS ABOVE. |
| | 194.07 | 196.45 | 2.38 | | | MUDSTONE | SLTY.DK.GY.SLD VERY UNIFORM; PYRITIC SPECKS; FEW AST B URROWS AT TOP. |
| 67 | 196.45 | 196.91 | 0.46 | | | MUDSTONE | AS ABOVE. |
| 68 | 196.91 | 199.54 | 2.63 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---------------------------------------|
| 69 | 199.54 | 202.40 | 2.86 | | | MUDSTONE | AS ABOVE; FEW AST BURROWS. |
| 70 | 202.40 | 202.75 | 0.35 | | | MUDSTONE | AS ABOVE. |
| 70 | 202.75 | 205.25 | 2.50 | | | MUDSTONE | AS ABOVE. |
| 72 | 205.25 | 208.15 | 2.90 | | | MUDSTONE | AS ABOVE. |
| 72 | 208.15 | 208.47 | 0.32 | | | MUDSTONE | AS ABOVE. |
| 73 | 208.47 | 210.69 | 2.22 | | | MUDSTONE | AS ABOVE. |
| 73 | 210.69 | 211.29 | 0.60 | | | MUDSTONE | AS ABOVE. |
| 74 | 211.29 | 213.43 | 2.14 | | | MUDSTONE | AS ABOVE; VERY PYRITIC. |
| 74 | 213.43 | 214.54 | 1.11 | | | MUDSTONE | AS ABOVE. |
| 75 | 214.54 | 216.23 | 1.69 | | | MUDSTONE | AS ABOVE. |
| 76 | 216.23 | 217.69 | 1.46 | | | MUDSTONE | AS ABOVE. |
| 76 | 217.69 | 219.13 | 1.44 | | | MUDSTONE | AS ABOVE; CALCAREOUS AT BASE. |
| 77 | 219.13 | 220.86 | 1.73 | | | MUDSTONE | SLTY.DK.GY.BRKN FEW CALCITE VEINS. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 77 | 220.86 | 221.73 | 0.87 | | | MUDSTONE | SLTY.DK.GY.SLD PARTLY CALCAREOUS; VEINS AND STRINGERS OF CaCO ₃ . |
| | 221.73 | 223.97 | 2.24 | | | MUDSTONE | DK.GY.SLD VERY UNIFORM; COMPACT OCCASIONAL PYRITI C SPECKS. |
| 79 | 223.97 | 224.60 | 0.63 | | | MUDSTONE | AS ABOVE. |
| 79 | 224.60 | 227.10 | 2.50 | | | MUDSTONE | AS ABOVE. |
| 80 | 227.10 | 227.33 | 0.23 | | | MUDSTONE | AS ABOVE. |
| 80 | 227.33 | 230.24 | 2.91 | | | MUDSTONE | AS ABOVE. |
| 82 | 230.24 | 232.96 | 2.72 | | | MUDSTONE | AS ABOVE. |
| 82 | 232.96 | 233.34 | 0.38 | | | MUDSTONE | SLTY.DK.GY.SLD AS ABOVE. |
| 83 | 233.34 | 235.62 | 2.28 | | | MUDSTONE | AS ABOVE. |
| 83 | 235.62 | 236.29 | 0.67 | | | MUDSTONE | AS ABOVE. |
| 84 | 236.29 | 238.45 | 2.16 | | | MUDSTONE | AS ABOVE. |
| 85 | 238.45 | 239.45 | 1.00 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|------------|--|
| 85 | 239.45 | 240.01 | 0.56 | | | MUDSTONE | AS ABOVE. |
| * | 240.01 | 240.18 | 0.17 | | | BENTONITIC | SLTY.LT.GY.SLD TIME MARKER; BENTONITIC LAYER. |
| 84 | 240.18 | 241.15 | 0.97 | | | MUDSTONE | SLTY.DK.GY.SLD VERY UNIFORMED; COMPACT. |
| 82 | 241.15 | 242.45 | 1.30 | | | MUDSTONE | AS ABOVE. |
| 80 | 242.45 | 243.87 | 1.42 | | | MUDSTONE | SLTY.DK.GY.SLD AS ABOVE. |
| 78 | 243.87 | 245.48 | 1.61 | | | MUDSTONE | AS ABOVE. |
| 76 | 245.48 | 246.65 | 1.17 | | | MUDSTONE | AS ABOVE. |
| 73 | 246.65 | 248.53 | 1.88 | | | MUDSTONE | AS ABOVE. |
| 71 | 248.53 | 249.32 | 0.79 | | | MUDSTONE | AS ABOVE. |
| 69 | 249.32 | 251.59 | 2.27 | | | MUDSTONE | AS ABOVE. |
| 66 | 251.59 | 252.07 | 0.48 | | | MUDSTONE | AS ABOVE. |
| 64 | 252.07 | 254.05 | 1.98 | | | MUDSTONE | AS ABOVE. |
| | 254.05 | 254.10 | 0.05 | | | BENTONITIC | SLTY.LT.GY.SLD TIME MARKER; BENTONITIC LAYER. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|------------|---|
| | 254.10 | 254.77 | 0.67 | | | MUDSTONE | SLTY.DK.GY.SLD VERY COMPACT; UNIFORM. |
| 60 | 254.77 | 257.53 | 2.76 | | | MUDSTONE | AS ABOVE; PYRITIC; CALCITE TOWARD BASE. |
| 57 | 257.53 | 258.25 | 0.72 | | | MUDSTONE | SLTY.DK.GY.SLD VERY CALC IN PLACES; CaCO ₃ VEINS AND ST RINGERS. |
| 56 | 258.25 | 258.47 | 0.22 | | | BENTONITIC | SLTY.LT.GY.SLD TIME MARKER; BENTONITIC LAYER. |
| * 55 | 258.47 | 259.53 | 1.06 | | | MUDSTONE | SLTY.DK.GY.BIOTR.SLD |
| 55 | 259.53 | 259.63 | 0.10 | | | BENTONITIC | SLTY.LT.GY.SLD TIME MARKER; BENTONITIC LAYER. |
| 55 | 259.63 | 260.32 | 0.69 | | | MUDSTONE | SLTY.DK.GY.SLD UNIFORMED; COMPACT; FEW CALCITE STRINGE RS. |
| 55 | 260.32 | 260.92 | 0.60 | | | MUDSTONE | AS ABOVE. |
| 55 | 260.92 | 262.90 | 1.98 | | | MUDSTONE | AS ABOVE. |
| 55 | 262.90 | 263.88 | 0.98 | | | MUDSTONE | SLTY.DK.GY.SLD AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 55 | 263.88 | 265.51 | 1.63 | | | MUDSTONE | SLD AS ABOVE. |
| 55 | 265.51 | 266.99 | 1.48 | | | MUDSTONE | AS ABOVE. |
| 55 | 266.99 | 268.16 | 1.17 | | | MUDSTONE | AS ABOVE. |
| 55 | 268.16 | 270.11 | 1.95 | | | MUDSTONE | BIOTR AS ABOVE. |
| 55 | 270.11 | 270.84 | 0.73 | | | MUDSTONE | AS ABOVE. |
| 55 | 270.84 | 273.10 | 2.26 | | | MUDSTONE | AS ABOVE. |
| 55 | 273.10 | 273.57 | 0.47 | | | MUDSTONE | AS ABOVE. |
| 55 | 273.57 | 273.90 | 0.33 | | | SILTSTONE | DK.GY.SLD VERY HARD; COMPACT WITH FEW CALCAREOUS STRINGERS. |
| | 273.90 | 276.33 | 2.43 | | | MUDSTONE | DK.GY.SLD VERY UNIFORM; FEW CaCO ₃ STRINGERS. |
| 55 | 276.33 | 279.01 | 2.68 | | | MUDSTONE | AS ABOVE. |
| 54 | 279.01 | 281.77 | 2.76 | | | MUDSTONE | AS ABOVE. |
| 54 | 281.77 | 282.23 | 0.46 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| 54 | 282.23 | 284.49 | 2.26 | | | MUDSTONE | AS ABOVE. |
| 54 | 284.49 | 285.24 | 0.75 | | | MUDSTONE | AS ABOVE. |
| 54 | 285.24 | 287.16 | 1.92 | | | MUDSTONE | AS ABOVE. |
| 54 | 287.16 | 288.36 | 1.20 | | | MUDSTONE | AS ABOVE. |
| 54 | 288.36 | 289.91 | 1.55 | | | MUDSTONE | SLTY.DK.GY.SLD AS ABOVE. |
| 54 | 289.91 | 290.29 | 0.38 | | | MUDSTONE | AS ABOVE; VERY SILTY AND CALCITE AT BASE. |
| 54 | 290.29 | 290.99 | 0.70 | | | MUDSTONE | SLTY.DK.GY.VBRKN SLICKENSIDED; PARTLY CALCAREOUS. |
| | 290.99 | 291.65 | 0.66 | | | MUDSTONE | SLTY.DK.GY.SLD UNIFORM; VERY PYRITIC. |
| 54 | 291.65 | 292.57 | 0.92 | | | MUDSTONE | AS ABOVE. |
| 54 | 292.57 | 294.60 | 2.03 | | | MUDSTONE | AS ABOVE. |
| 54 | 294.60 | 295.10 | 0.50 | | | MUDSTONE | AS ABOVE. |
| 54 | 295.10 | 296.47 | 1.37 | | | MUDSTONE | AS ABOVE - BASE OF MOOSEBAR. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| | 296.47 | 297.12 | 0.65 | | | SANDSTONE | VFG.DK.GY.SLD MUDSTONE INCLUSIONS AND PEBBLES DIFFERENT SIZES; CALCAREOUS AND BROKEN TOWARD BASE; TOP OF BLUESKY; CONGLOMERATION; MODIFIER: MUDDY. |
| 54 | 297.12 | 299.72 | 2.60 | | | SANDSTONE | FG.LT.GY.MAS.SLD PARTLY CALCAREOUS AND BROKEN IN PLACES. |
| 54 | 299.72 | 300.07 | 0.35 | | | SANDSTONE | FG.LT.GY.THKB.SLD SOME CaCO ₃ VEINS AND STRINGERS. |
| * 54 | 300.07 | 300.58 | 0.51 | | | SANDSTONE | AS ABOVE; BASE OF BLUESKY. |
| 54 | 300.58 | 301.08 | 0.50 | | | MUDSTONE | SLTY.DK.GY.LAM.BRKN MUDSTONE AND SILTSTONE INTERBEDDED; SLICKENSIDES; TOP OF GETTING. |
| 53 | 301.08 | 301.53 | 0.45 | | | SANDSTONE | FG.LT.GY.THKB.SLD |
| 53 | 301.53 | 302.08 | 0.55 | | | MUDSTONE | DK.GY.LAM.VBRKN AS MUDSTONE ABOVE. |
| 53 | 302.08 | 302.33 | 0.25 | | | SANDSTONE | VFG.LT.GY.THKB.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 53 | 302.33 | 302.44 | 0.11 | | | SANDSTONE | VFG.LT.GY.THKB.SLD |
| 52 | 302.44 | 303.04 | 0.60 | | | SANDSTONE | FG.LT.GY.THKB.SLD FEW THIN LAMINAE OF MUDSTONE AND CALCIT E STRINGERS. |
| 52 | 303.04 | 303.19 | 0.15 | | | MUDSTONE | DK.GY.SLD SLICKENSIDES. |
| * 52 | 303.19 | 303.77 | 0.58 | | | SANDSTONE | FG.LT.GY.THKB.SLD AS SANDSTONE ABOVE. |
| 52 | 303.77 | 304.19 | 0.42 | | | SILTSTONE | GY.LAM.SLD SILTSTONE AND MUDSTONE INTERBEDDED; MOD IFIER: MUDDY. |
| 51 | 304.19 | 304.51 | 0.32 | | | SANDSTONE | FG.LT.GY.THKB.SLD |
| * 51 | 304.51 | 304.99 | 0.48 | | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| 52 | 304.99 | 305.14 | 0.15 | | | MUDSTONE | DK.GY.VBRKN SLICKENSIDED. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 52 | 305.14 | 305.30 | 0.16 | | | SANDSTONE | FG.LT.GY.THKB.SLD CACO3 STRINGERS AND INCLUSIONS; MODIFIED R: CALC. |
| 53 | 305.30 | 306.90 | 1.60 | | | MUDSTONE | SLTY.DK.GY.LAM.SLD MUDSTONE AND SILTSTONE INTERBEDDED. |
| 55 | 306.90 | 307.29 | 0.39 | | | SANDSTONE | VFG.LT.GY.THKB.SLD |
| * 56 | 307.29 | 307.61 | 0.32 | | | MUDSTONE | SLTY.DK.GY.LAM.SLD MUDSTONE AND SILTSTONE INTERBEDDED (LAM INATED). |
| 56 | 307.61 | 308.71 | 1.10 | | | MUDSTONE | AS ABOVE. |
| 55 | 308.71 | 310.19 | 1.48 | | | MUDSTONE | SLTY.BIOTR.SLD AS ABOVE. |
| * 54 | 310.19 | 311.77 | 1.58 | | | MUDSTONE | AS ABOVE. |
| 53 | 311.77 | 312.87 | 1.10 | | | MUDSTONE | BIOTR AS ABOVE. |
| * 52 | 312.87 | 315.00 | 2.13 | | | MUDSTONE | AS ABOVE. |
| 53 | 315.00 | 315.68 | 0.68 | | | MUDSTONE | AS ABOVE. |
| * 55 | 315.68 | 318.30 | 2.62 | | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 55 | 318.30 | 320.97 | 2.67 | | | MUDSTONE | DK.GY.LAM.BIOTR.SLD MUDSTONE AND SILTSTONE INTERBEDDED (LAM INATED). |
| * 55 | 320.97 | 323.73 | 2.76 | | | MUDSTONE | AS ABOVE. |
| 56 | 323.73 | 324.28 | 0.55 | | | MUDSTONE | AS ABOVE. |
| * 57 | 324.28 | 326.43 | 2.15 | | | MUDSTONE | AS ABOVE. |
| * 57 | 326.43 | 327.33 | 0.90 | | | SILTSTONE | DK.GY.THNB.SLD FEW INTERBEDS OF MUDSTONE TOWARD TOP. |
| | 327.33 | 329.11 | 1.78 | | | SILTSTONE | DK.GY.THKB.SLD GRADUALLY BECOMING SILTY; MUDSTONE TOWA RD BASE; VERY UNIFORM; MUDDY. |
| | 329.11 | 330.48 | 1.37 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD VERY UNIFORM. |
| 55 | 330.48 | 331.81 | 1.33 | | | MUDSTONE | AS ABOVE; SILTIER TOWARD TOP. |
| 54 | 331.81 | 333.75 | 1.94 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARB AT BASE. |
| 54 | 333.75 | 334.35 | 0.60 | | | MUDSTONE | CARB.BLK.SHRD VBRKN; MIXED WITH COAL. |

* DENOTES MEASURED BCA

XXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 53 | 334.35 | 335.00 | 0.65 | | | MUDSTONE | CARB.BLK.VBRKN MIXED WITH SOME COAL. |
| 53 | 335.00 | 335.34 | 0.34 | | | ROCK LOSS | |
| 53 | 335.34 | 336.85 | 1.51 | | | MUDSTONE | SLTY.DK.GY.SLD COALY STRINGERS. |
| 52 | 336.85 | 337.05 | 0.20 | | | MUDSTONE | CARB.BLK.VBRKN |
| 52 | 337.05 | 338.75 | 1.70 | 00164 | | COAL | C-5.VBRKN |
| 51 | 338.75 | 339.00 | 0.25 | 00164 | | ROCK LOSS | |
| 51 | 339.00 | 339.20 | 0.20 | 00164 | | COAL LOSS | |
| 51 | 339.20 | 339.40 | 0.20 | 00164 | | COAL | PWRD SOME MUDSTONE CHIPS MIXED IN. |
| 51 | 339.40 | 339.70 | 0.30 | 00164 | | COAL | C-5.VBRKN |
| 51 | 339.70 | 339.93 | 0.23 | 00164 | | ROCK LOSS | |
| 51 | 339.93 | 339.95 | 0.02 | 00164 | | MUDSTONE | CARB.BLK.VBRKN GROUND UP BY DRILLING. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 51 | 339.95 | 340.15 | 0.20 | 00164 | | COAL | C-5.VBRKN |
| 51 | 340.15 | 340.25 | 0.10 | 00164 | | COAL | C-5.VBRKN |
| 50 | 340.25 | 340.50 | 0.25 | 00164 | | COAL | PWRD |
| 50 | 340.50 | 341.75 | 1.25 | 00164 | | COAL LOSS | |
| 50 | 341.75 | 342.00 | 0.25 | 00164 | | ROCK LOSS | |
| 50 | 342.00 | 342.10 | 0.10 | 00164 | | SANDSTONE | CARB.VFG.DK.GY.VBRKN SHEARED. |
| 50 | 342.10 | 342.20 | 0.10 | 00164 | | COAL | SHRD |
| 50 | 342.20 | 342.30 | 0.10 | 00164 | | MUDSTONE | CARB.BLK.SHRD |
| 49 | 342.30 | 343.20 | 0.90 | 00164 | | COAL | SHRD VBRKN. |
| 49 | 343.20 | 343.80 | 0.60 | 00164 | | MUDSTONE | CARB.BLK.SHRD VBRKN; WITH SOME COAL. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|------------------------------|
| 49 | 343.80 | 344.80 | 1.00 | 00164 | | COAL | C-5.VBRKN PARTLY SHEARED. |
| 48 | 344.80 | 345.14 | 0.34 | 00164 | | ROCK LOSS | |
| 48 | 345.14 | 345.16 | 0.02 | 00164 | | MUDSTONE | CARB.BLK.SHRD |
| 48 | 345.16 | 345.31 | 0.15 | 00164 | | COAL LOSS | |
| 48 | 345.31 | 345.34 | 0.03 | 00164 | | COAL | C-5.VBRKN |
| 48 | 345.34 | 345.52 | 0.18 | 00165 | | ROCK LOSS | |
| 48 | 345.52 | 345.62 | 0.10 | 00165 | | SANDSTONE | CARB.VFG.DK.GY.SHRD |
| 48 | 345.62 | 345.87 | 0.25 | 00165 | | COAL | C-5.VBRKN |
| 48 | 345.87 | 346.30 | 0.43 | 00165 | | MUDSTONE | CARB.BLK.BRKN |
| 48 | 346.30 | 346.45 | 0.15 | 00165 | | COAL | C-5.SLD |
| 47 | 346.45 | 346.50 | 0.05 | 00165 | | COAL | C-6.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--------------------|
| 47 | 346.50 | 346.55 | 0.05 | 00165 | | COAL | C-5.SLD |
| 47 | 346.55 | 346.92 | 0.37 | 00165 | | ROCK LOSS | |
| 47 | 346.92 | 346.98 | 0.06 | 00165 | | MUDSTONE | CARB.BLK.SLD |
| 47 | 346.98 | 347.08 | 0.10 | 00165 | | MUDSTONE | CARB.BLK.SLD |
| 47 | 347.08 | 347.10 | 0.02 | 00165 | | COAL | C-1.VBRKN |
| 47 | 347.10 | 347.65 | 0.55 | 00165 | | MUDSTONE | CARB.BLK.BRKN |
| 47 | 347.65 | 348.05 | 0.40 | 00166 | | COAL LOSS | |
| 47 | 348.05 | 348.15 | 0.10 | 00166 | | COAL | PWRD |
| 47 | 348.15 | 348.23 | 0.08 | 00166 | | ROCK LOSS | |
| 47 | 348.23 | 348.33 | 0.10 | 00166 | | MUDSTONE | CARB.BLK.BRKN |
| 46 | 348.33 | 348.88 | 0.55 | 00166 | | COAL | C-5.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 46 | 348.88 | 348.98 | 0.10 | 00166 | | MUDSTONE | CARB.BLK.VBRKN |
| 46 | 348.98 | 349.48 | 0.50 | 00166 | | COAL | C-5.VBRKN |
| 46 | 349.48 | 349.53 | 0.05 | 00166 | | COAL | C-6.VBRKN WITH MUDSTONE STRINGERS. |
| 46 | 349.53 | 349.73 | 0.20 | 00166 | | COAL | C-5.SLD PARTLY SHEARED. |
| 46 | 349.73 | 349.93 | 0.20 | 00166 | | COAL | C-5.VBRKN |
| 46 | 349.93 | 350.33 | 0.40 | | | MUDSTONE | CARB.BLK.VBRKN PARTLY SHEARED; COALY. |
| 46 | 350.33 | 350.35 | 0.02 | | | COAL | PWRD |
| 46 | 350.35 | 350.55 | 0.20 | | | MUDSTONE | CARB.BLK.SLD |
| 45 | 350.55 | 350.85 | 0.30 | | | COAL | PWRD |
| 45 | 350.85 | 351.00 | 0.15 | | | MUDSTONE | CARB.BLK.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 45 | 351.00 | 352.22 | 1.22 | | | MUDSTONE | SLTY.DK.GY.SLD |
| * 48 | 352.22 | 352.84 | 0.62 | | | MUDSTONE | CARB.BLK.THKB.SLD GRADUALLY SILTY TOWARD BASE. |
| 48 | 352.84 | 353.57 | 0.73 | | | MUDSTONE | SLTY.DK.GY.VTHKB.SLD PARTLY CARBONACEOUS. |
| 49 | 353.57 | 354.70 | 1.13 | | | SILTSTONE | DK.GY.MAS.SLD |
| 49 | 354.70 | 355.32 | 0.62 | | | SILTSTONE | DK.GY.MAS.SLD |
| 50 | 355.32 | 357.30 | 1.98 | | | SILTSTONE | DK.GY.MAS.SLD SANDY TOWARD BASE. |
| * 51 | 357.30 | 358.93 | 1.63 | | | SILTSTONE | SSY.DK.GY.MAS.SLD FEW CaCO ₂ VEINS. |
| 52 | 358.93 | 359.91 | 0.98 | | | SILTSTONE | SSY.DK.GY.MAS.SLD VERY CALCAREOUS. |
| 52 | 359.91 | 360.49 | 0.58 | | | SILTSTONE | AS ABOVE. |
| 52 | 360.49 | 360.64 | 0.15 | | | SILTSTONE | SSY.DK.GY.BRKN BRECCIATED; VERY CALC; SLICKENSIDES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 52 | 360.64 | 361.44 | 0.80 | | MUDSTONE | SLTY.DK.GY.VBRKN SLICKENSIDED; CALCAREOUS IN PLACES. |
| | 52 | 361.44 | 361.89 | 0.45 | | MUDSTONE | CARB.BLK.THNB.BRKN COALY TOWARD BASE. |
| | 53 | 361.89 | 361.94 | 0.05 | | COAL | C-4.VBRKN |
| | 53 | 361.94 | 362.44 | 0.50 | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARB AT TOP. |
| * | 53 | 362.44 | 363.60 | 1.16 | | MUDSTONE | SLTY.DK.GY.THKB.SLD BECOME CARB TOWARD BASE. |
| | 51 | 363.60 | 364.45 | 0.85 | | MUDSTONE | CARB.BLK.BRKN COALY IN PLACES. |
| | 49 | 364.45 | 365.05 | 0.60 | | MUDSTONE | CARB.BLK.THKB.SLD BECOME SILTY TOWARD BASE. |
| * | | 365.05 | 367.42 | 2.37 | | MUDSTONE | SLTY.DK.GY.THKB.SLD FAIRLY UNIFORM; PARTLY CARBONACEOUS. |
| | 46 | 367.42 | 367.76 | 0.34 | | MUDSTONE | AS ABOVE. |
| | 46 | 367.76 | 368.02 | 0.26 | | MUDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 44

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 46 | 368.02 | 369.47 | 1.45 | | | MUDSTONE | CARB.BLK.BRKN OCCASIONAL COALY STRINGERS. |
| 46 | 369.47 | 369.49 | 0.02 | | | COAL | C-5.VBRKN PARTLY POWDERED. |
| 46 | 369.49 | 369.99 | 0.50 | | | ROCK LOSS | |
| 46 | 369.99 | 370.39 | 0.40 | | | MUDSTONE | CARB.BLK.THNB.SLD COALY STRINGERS AND INCLUSIONS. |
| 45 | 370.39 | 373.02 | 2.63 | | | MUDSTONE | SLTY.DK.GY.THKB.SLD CARBONACEOUS AND COALY IN PLACES. |
| 45 | 373.02 | 373.47 | 0.45 | | | MUDSTONE | DK.GY.THKB.SLD CARB TOWARD BASE. |
| 45 | 373.47 | 374.52 | 1.05 | | | MUDSTONE | CARB.BLK.THNB.BRKN COALY THIN LAYERS AND STRINGERS. |
| 45 | 374.52 | 374.60 | 0.08 | | | COAL | C-5.BRKN |
| * 45 | 374.60 | 375.50 | 0.90 | | | MUDSTONE | CARB.BLK.THNB.BRKN AS MUDSTONE ABOVE. |
| 45 | 375.50 | 375.55 | 0.05 | | | MUDSTONE | CARB.VBRKN MUDSTONE AND POWDERED COAL MIXED. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 45

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 45 | 375.55 | 375.80 | 0.25 | | ROCK LOSS | |
| * | 45 | 375.80 | 376.75 | 0.95 | | MUDSTONE | CARB.BLK.THNB.BRKN COALY IN PLACES. |
| | 45 | 376.75 | 377.00 | 0.25 | | SILTSTONE | GY.SLD MODIFIER: CALC. |
| | 45 | 377.00 | 377.55 | 0.55 | | COAL | C-5.VBRKN |
| | 46 | 377.55 | 378.20 | 0.65 | | MUDSTONE | CARB.BLK.THKB.SLD SILTY TOWARD BASE. |
| | | 378.20 | 379.00 | 0.80 | | SILTSTONE | GY.MAS.SLD UNIFORM AND COMPACT. |
| | 47 | 379.00 | 380.91 | 1.91 | | SILTSTONE | AS ABOVE. |
| | 47 | 380.91 | 382.17 | 1.26 | | SILTSTONE | AS ABOVE. |
| | 48 | 382.17 | 383.65 | 1.48 | | SILTSTONE | SSY.GY.MAS.SLD AS ABOVE; GRADUALLY BECOMING VERY FINE GRAIN SANDSTONE TOWARD BASE. |
| | | 383.65 | 385.27 | 1.62 | | SANDSTONE | VFG.GY.MAS.SLD VERY UNIFORM. |
| | 49 | 385.27 | 386.42 | 1.15 | | SANDSTONE | AS ABOVE. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 46

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81018

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 50 | 386.42 | 386.67 | 0.25 | | | SANDSTONE | AS ABOVE. |
| * 50 | 386.67 | 387.94 | 1.27 | | | SANDSTONE | SLTY.VFG.DK.GY.THNB.SLD CARBONACEOUS OCCASIONALLY WITH SILTY BANDS; SOME COAL STRINGERS TOWARD BASE. |

* DENOTES MEASURED BCA

DDH 81-19

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81019

HISTORY

START DATE: 04/10/81 END DATE: 10/10/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: V. ODEGAARD SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1223.3
 UTM ZONE: 10 NORTH: 6141437.50 EAST: 548935.40
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NIS-BC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 380.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 29.00 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | --- | --- | --- | X | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | --- | X | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | X | --- | 422AS |
| CALIPER | X | 1:100 | : | --- | --- | X | --- | 20A45 |
| FE-SHORT | --- | : | : | --- | --- | --- | --- | --- |
| FE-LONG | X | 1:100 | 1:40 | --- | --- | X | --- | 6 |
| DIRECTIONAL | X | : | : | --- | --- | X | --- | --- |
| DIPMETER | --- | : | : | --- | --- | --- | --- | --- |

*** COAL DIVISION ***

INTERVAL OF INTERPOLATION 10 UNIT(S)

DATA SOURCE: DB1-19

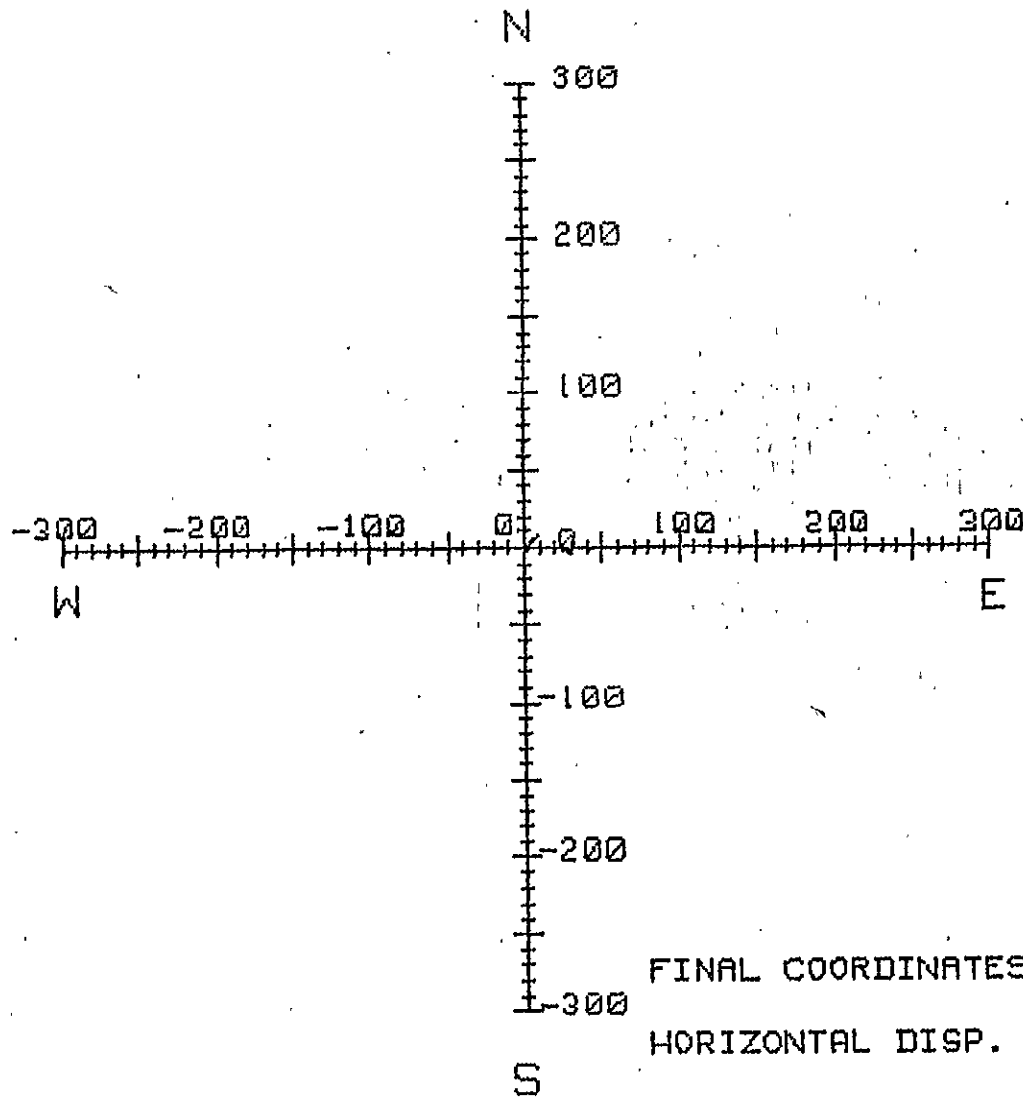
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY -- INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 0.00 | .90 | 141.00 |
| 45.00 | .90 | 141.00 |
| 60.00 | .80 | 159.00 |
| 75.00 | .80 | 208.00 |
| 90.00 | .50 | 165.00 |
| 105.00 | 1.00 | 85.00 |
| 120.00 | 1.10 | 75.00 |
| 135.00 | 1.10 | 95.00 |
| 150.00 | 1.20 | 16.00 |
| 165.00 | 1.10 | 277.00 |
| 180.00 | 1.60 | 16.00 |
| 195.00 | 2.20 | 21.00 |
| 210.00 | 2.80 | 35.00 |
| 225.00 | 3.10 | 40.00 |
| 240.00 | 3.10 | 46.00 |
| 255.00 | 3.20 | 50.00 |
| 270.00 | 3.20 | 47.00 |
| 285.00 | 3.20 | 48.00 |
| 300.00 | 3.40 | 53.00 |
| 315.00 | 3.60 | 51.00 |
| 330.00 | 3.40 | 51.00 |
| 345.00 | 3.40 | 51.00 |
| 360.00 | 3.20 | 47.00 |
| 375.00 | 3.50 | 48.00 |
| 377.00 | 3.10 | 52.00 |

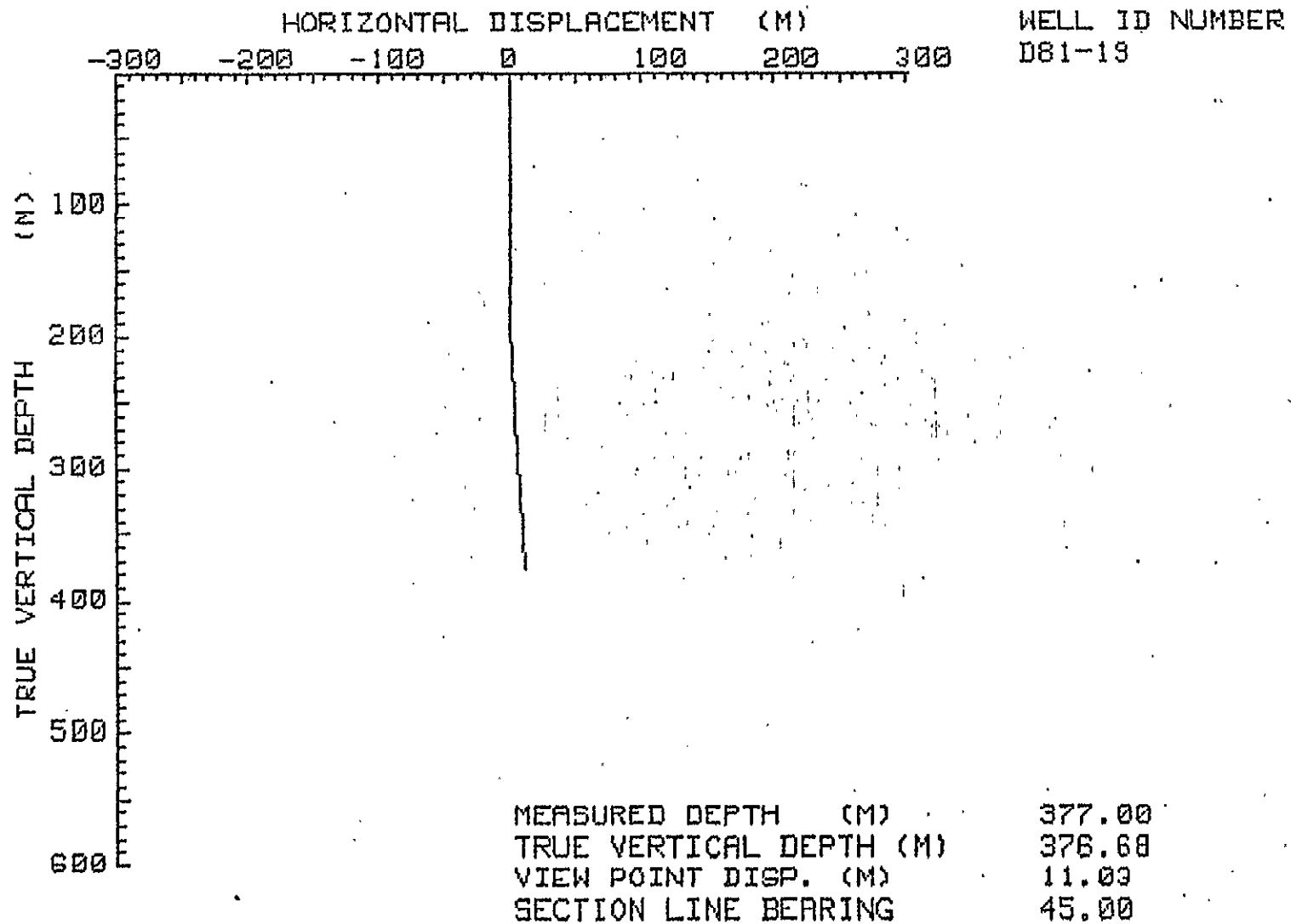
PLAN VIEW

WELL ID NUMBER
D81-19



FINAL COORDINATES(M) N 6.86
E 8.74
HORIZONTAL DISP. (M) 11.03

DISPLACEMENT

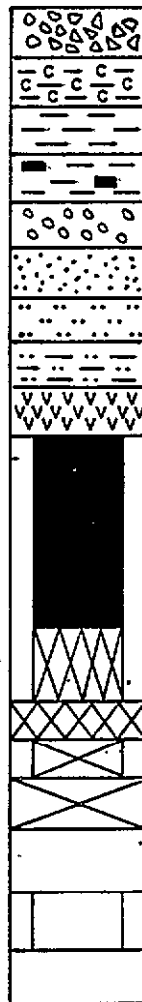
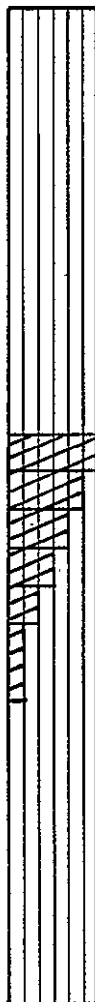


SEAM
COMR

COAL
SEAM
LOG

LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone



- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff
- coal
- coal - boney, stoney, coal and bands/rock - designated C6
- rock } coal lithotype uncertain
- coal } MISSING CORE
- rock }
- rock
- coal

CORED HOLE

GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



LEGEND FOR COAL
SEAM DATA SHEETS

PREPARED BY: V.O.

SCALE 1:40

APPROVED BY:

DATE: JAN. 82 DRAWING No.

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-00)

Coal/Coal + Rock (True Thk (m)
1.05/1.50
68.98 - 70.50 m

DENSITY --- RESISTIVITY ---

DRILL NO. GDR - DDH - 81 - 19 SEAM
SCALE 1:40 SEAM INTERVAL

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|-------------------|------|------|------|------|------|------|------|------|------|-------------------|-------|---------------|----------|------|--------|--------|------|-------------------------|-------|-------|------|----------------|------|------|--------|---------|-------|-----|----|----|----|-------------|-----|--|--|--|--|--|--|--|--|--|--|--|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | | | | 2.00 | 2.10 | | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 | 2.80 | ROCK | COAL | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI | | | | | | | | | | | |
| | | | | | | | | | | | | 68.27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 68.98 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 69.41 | | (0.16) | 0.43 | 100 | 00136 | 0.81 | 73.57 | 11.62 | 14.00 | 0.20 | 3,113 (7.24) | 1.0 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 69.86 | | 0.29 | 0.64 | 64 | 00138 | 0.57 | 9.20 | 27.31 | 62.92 | 0.46 | 13,822 (32.15) | 8.0 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 70.50 | | | 0.64 | 97 | 00139 | 0.25 | 81.99 | 8.21 | 9.55 | 0.09 | 1,879 (4.37) | 0.0 | | | | | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

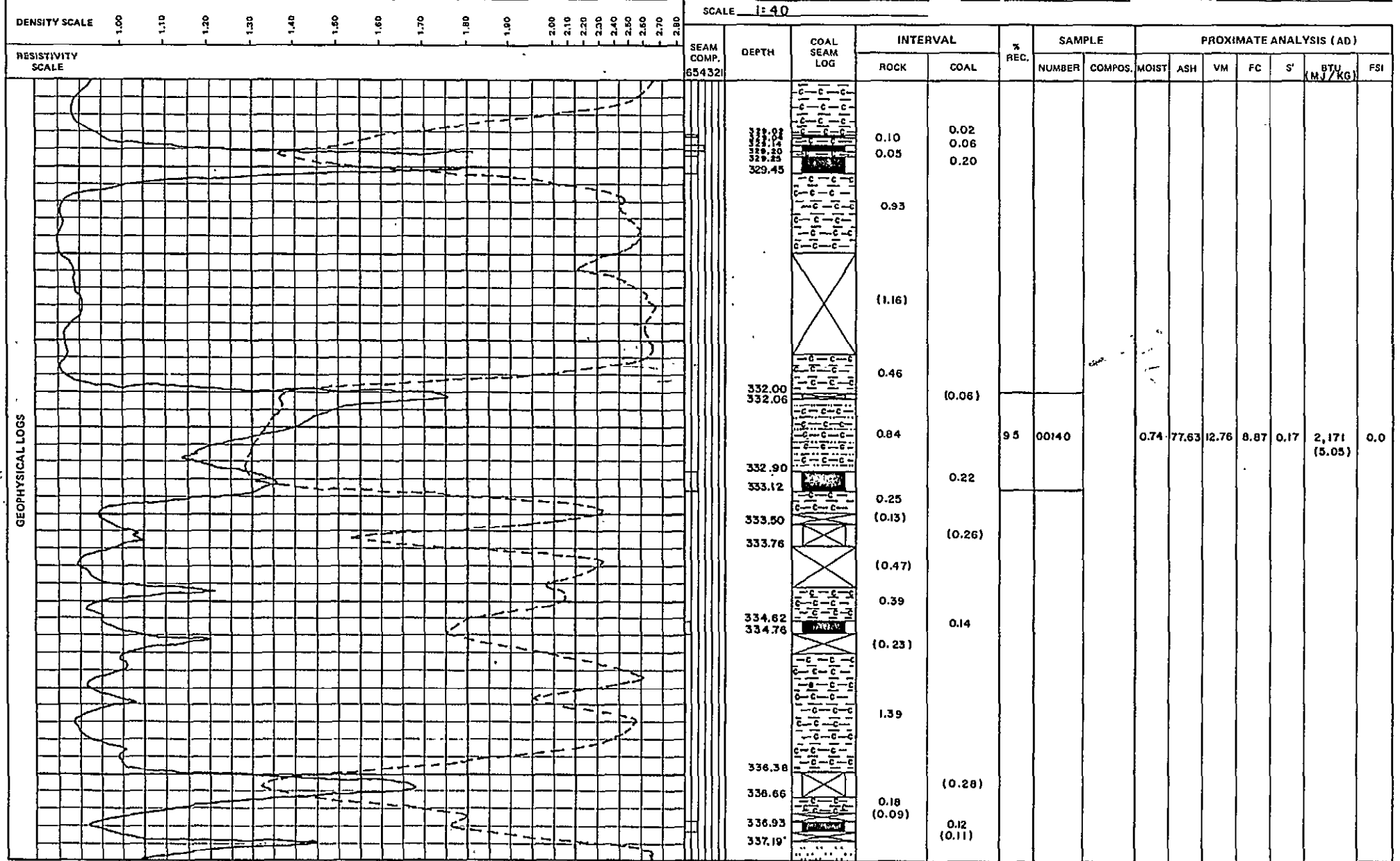
COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

DENSITY ----- RESISTIVITY -----

DRILL NO. GDR - DDH - 81 - 19 SEAM _____ SEAM INTERVAL 326.62 - 337.16 m
SCALE 1:40



GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECUVERED COAL | ROCK | MISSING COAL | ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|------|--------------|------|
| DLH81019 | | 136 | 68.27 | 68.98 | 0.71 | 100.00 | 0.00 | 0.71 | 0.00 | 0.00 |
| | | 137 | 68.98 | 69.41 | 0.43 | 100.00 | 0.43 | 0.00 | 0.00 | 0.00 |
| | | 138 | 69.41 | 69.86 | 0.29 | 64.44 | 0.00 | 0.29 | 0.00 | 0.16 |
| | | 139 | 69.86 | 70.50 | 0.62 | 96.88 | 0.62 | 0.00 | 0.02 | 0.00 |
| | | 140 | 332.00 | 333.12 | 1.06 | 94.64 | 0.22 | 0.84 | 0.06 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE - AD

NAME OF STANDARD - ASTM

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|-------|---------------|------------------|----------------|-------------------------------|------|------|
| DDH81019 | | 136 | 0.81 | 73.57 | 14.00 | 11.62 | 0.20 | 7.24 | 2.03 | 1.00 |
| | | 137 | 0.57 | 9.20 | 62.92 | 27.31 | 0.46 | 32.15 | 1.30 | 8.00 |
| | | 138 | 0.25 | 81.99 | 9.55 | 8.21 | 0.09 | 4.37 | 2.29 | 0.00 |
| | | 139 | 0.53 | 5.14 | 66.97 | 27.36 | 0.56 | 33.51 | 1.28 | 7.50 |
| | | 140 | 0.74 | 77.63 | 8.87 | 12.76 | 0.17 | 5.05 | 2.21 | 0.00 |

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|------------|--|
| | 80 | 0.00 | 27.75 | 27.75 | | OVERBURDEN | |
| | 80 | 27.75 | 30.09 | 2.34 | | SILTSTONE | DK.GY.VBRKN OCCASIONAL MUDDY INTERVALS; MINOR COALY AND CARBONACEOUS PARTINGS AND STRINGER S. |
| * | 80 | 30.09 | 30.80 | 0.71 | | SILTSTONE | DK.GY.THNB.WRMBU.BRKN MINOR CARBONACEOUS PARTINGS AND PLANT F RAGMENTS. |
| | 80 | 30.80 | 31.67 | 0.87 | | SILTSTONE | DK.GY.THNB.XBDG.BRKN AS ABOVE. |
| | 80 | 31.67 | 32.80 | 1.13 | | MUDSTONE | SLTY.DK.GY.THNB.WRMBU.BRKN |
| | 80 | 32.80 | 33.82 | 1.02 | | MUDSTONE | SLTY.DK.GY.BRKN MINOR CARBONACEOUS STRINGERS. |
| | 80 | 33.82 | 34.15 | 0.33 | | ROCK LOSS | |
| | 80 | 34.15 | 35.64 | 1.49 | | MUDSTONE | DK.GY.THNB.BRKN BECOMING VERY CARBONACEOUS TOWARD BASE; OCCASIONAL THIN COALY STRINGER. |
| | 80 | 35.64 | 35.77 | 0.13 | | MUDSTONE | CARB.BLK.BRKN MINOR BRIGHT COAL WISPS. |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 80 | 35.77 | 36.20 | 0.43 | | | MUDSTONE | CARB.BLK.VBRKN TRACE BRIGHT COAL LENSES. |
| 80 | 36.20 | 37.20 | 1.00 | | | MUDSTONE | DK.GY.VBRKN TRACE IRON STAINING; OCCASIONALLY SILTY |
| 80 | 37.20 | 37.77 | 0.57 | | | MUDSTONE | DK.GY.VBRKN |
| 80 | 37.77 | 40.09 | 2.32 | | | MUDSTONE | DK.GY.VBRKN OCCASIONAL COAL AND CARBONACEOUS STRING ERS AND LENSES UP TO 0.05 M THICK; MINO R IRON STAIN. |
| 80 | 40.09 | 40.21 | 0.12 | | | MUDSTONE | SLTY.DK.GY.WRMBU.SLD |
| 80 | 40.21 | 40.25 | 0.04 | | | ROCK LOSS | |
| 80 | 40.25 | 42.32 | 2.07 | | | MUDSTONE | SLTY.DK.GY.BRKN TRACE CARBONACEOUS FLECKS. |
| 80 | 42.32 | 42.38 | 0.06 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 80 | 42.38 | 42.45 | 0.07 | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| | 80 | 42.45 | 42.72 | 0.27 | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| * | 80 | 42.72 | 45.02 | 2.30 | | SILTSTONE | DK.GY.THNB.BIOTR.BRKN MINOR CARBONACEOUS PLANT REMAINS; MINOR COAL PARTINGS AND STRINGERS; TRACE SAND STONE LENSES; OCCASIONAL MUDDY INTERVALS. |
| | 78 | 45.02 | 45.23 | 0.21 | | ROCK LOSS | |
| | 78 | 45.23 | 45.43 | 0.20 | | SILTSTONE | CLYY.DK.GY.BRKN TRACE CALCITE VEINING. |
| | 77 | 45.43 | 45.73 | 0.30 | | SILTSTONE | SSY.GY.THNB.BRKN MINOR CARBONACEOUS PARTINGS. |
| | 76 | 45.73 | 46.53 | 0.80 | | SANDSTONE | FG.DK.GY.THNB.BRKN ABUNDANT COALY AND CARBONACEOUS WISPS AND NO STRINGERS. |
| | 76 | 46.53 | 46.72 | 0.19 | | SANDSTONE | MG.DK.GY.THNB.BRKN AS ABOVE. |

* DENOTES MEASURED BCA

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82/01/11 .

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 75 | 46.72 | 46.95 | 0.23 | | ROCK LOSS | |
| | 75 | 46.95 | 47.25 | 0.30 | | SANDSTONE | MG.GY.THNB.BRKN AS ABOVE. |
| * | 74 | 47.25 | 47.89 | 0.64 | | SILTSTONE | DK.GY.THNB.BRKN BECOMING SANDY AND CARBONACEOUS TOWARDS BASE. |
| | 74 | 47.89 | 48.04 | 0.15 | | MUDSTONE | SLTY.DK.GY.BRKN MINOR COALY AND CARBONACEOUS STRINGERS. |
| | 74 | 48.04 | 48.10 | 0.06 | | ROCK LOSS | |
| | | 48.10 | 50.00 | 1.90 | | SANDSTONE | MG.GY.THNB.XBDG.BRKN SILTY AT TOP TO MEDIUM GRAINED; CONTAIN S SEVERAL FINING UPWARD CYCLES; MINOR T HIN GRIT BEDS; CALC VEINING; COALY AND CARBONACEOUS LENSES AND PLANT FRAGMENTS ; TRACE LARGE (2 CM) CLASTS OF LT BRN M UDST. |
| | 75 | 50.00 | 50.39 | 0.39 | | SANDSTONE | MG.LT.GY.THNB.XBDG.BRKN COARSENING DOWNWARD; SLIGHTLY CARBONACE OUS AT BASE; MINOR IRON STAIN. |
| | 76 | 50.39 | 51.63 | 1.24 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 76 | 51.63 | 53.05 | 1.42 | | | SANDSTONE | MG.LT.GY.THNB.XBDG.BRKN COARSENING DOWNWARD CYCLES TO VERY COARSE GRAINED; MINOR CARBONACEOUS AND COALY STRINGERS AND LENSES; SILTSTONE CLASTS IN COARSE AND COALY FRACTION TOWARD BASE; MAJOR BED 0.47 M OF COARSE GRAINED SS. |
| 77 | 53.05 | 53.19 | 0.14 | | | SANDSTONE | MG.DK.GY.THNB.BRKN SLIGHTLY CARBONACEOUS; COALY WISPS. |
| 77 | 53.19 | 53.39 | 0.20 | | | ROCK LOSS | |
| 77 | 53.39 | 55.49 | 2.10 | | | SANDSTONE | FG.GY.THNB.XBDG.BRKN BECOMING COARSER GRAINED TOWARD BASE; EVIDENCE OF SOFT SEDIMENT DEFORMATION; THIN BEDS (5 CM) OF RIP-UP CLASTS; CARBONACEOUS WISPS TOWARDS BASE. |
| 78 | 55.49 | 55.85 | 0.36 | | | SANDSTONE | MG.DK.GY.THNB.XBDG.BRKN ABUNDANT COALY STRINGERS. |
| 78 | 55.85 | 58.08 | 2.23 | | | SANDSTONE | FG.DK.GY.THNB.XBDG.VBRKN OCCASIONAL BEDS OF MEDIUM GRAIN; ABUNDANT CARBONACEOUS AND COALY STRINGERS AND WISPS; MINOR INTERBEDS CONTAINING RIP-UP CLASTS |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 79 | 58.08 | 58.47 | 0.39 | | | ROCK LOSS | |
| 79 | 58.47 | 58.54 | 0.07 | | | SANDSTONE | CG.DK.GY.THNB.SLD AS ABOVE. |
| 79 | 58.54 | 58.71 | 0.17 | | | SANDSTONE | MG.DK.GY.THNB.BRKN AS ABOVE. |
| 79 | 58.71 | 59.00 | 0.29 | | | SANDSTONE | SLTY.DK.GY.THNB.XBDG.BRKN THIN BED (10 CM) RIP-UP CLASTS AT BASE; EVIDENCE OF SOFT SEDIMENT DEFORMATION; MINOR COALY LENSES. |
| 80 | 59.00 | 59.72 | 0.72 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.BRKN MINOR CARBONACEOUS STRINGERS; MINOR IRON STAIN ALONG FRACTURE; ALSO ? METALLIC LUSTRE. |
| * 80 | 59.72 | 61.09 | 1.37 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN EVIDENCE OF SOFT SEDIMENT DEFORMATION; MODIFIER: MUDDY. |
| 80 | 61.09 | 61.33 | 0.24 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 80 | 61.33 | 61.89 | 0.56 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN INTERBEDS OF MUDSTONE AND VERY FINE GRA INED SANDSTONE; VERY SLIGHTLY CARBONACE OUS. |
| 80 | 61.89 | 61.94 | 0.05 | | | ROCK LOSS | |
| * 80 | 61.94 | 63.02 | 1.08 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE. |
| 80 | 63.02 | 63.95 | 0.93 | | | MUDSTONE | DK.GY CARBONACEOUS THROUGHOUT WITH MINOR COAL Y LENSES AND STRINGERS; COLOR MODE: VER Y DARK. |
| 80 | 63.95 | 64.46 | 0.51 | | | MUDSTONE | CARB.BLK.BRKN CONTAINS TWO COALY STRINGERS: ONE 2 CM WIDE, THE SECOND 4 CM. |
| 80 | 64.46 | 64.54 | 0.08 | | | COAL | C-4.VBRKN |
| 80 | 64.54 | 64.62 | 0.08 | | | MUDSTONE | CARB.BLK.VBRKN COULD POSSIBLY BE ABOVE THE COAL DESCRI BED ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 80 | 64.62 | 64.70 | 0.08 | | | COAL | C-2.VBRKN PROBABLY JUST A LENS - DUE TO NATURE OF CONTACT WITH UNDERLYING MUDSTONE. |
| 80 | 64.70 | 64.75 | 0.05 | | | MUDSTONE | CARB.BLK.BRKN |
| 80 | 64.75 | 64.94 | 0.19 | | | COAL | C-6.VBRKN STONEY. |
| 80 | 64.94 | 65.08 | 0.14 | | | ROCK LOSS | |
| 80 | 65.08 | 65.32 | 0.24 | | | MUDSTONE | CARB.BLK.VBRKN ABUNDANT THIN BRIGHT COAL STRINGERS. |
| 80 | 65.32 | 65.68 | 0.36 | | | MUDSTONE | SLTY.BLK.VBRKN QUITE CARBONACEOUS WITH MINOR BRIGHT CO AL STRINGERS. |
| 80 | 65.68 | 65.93 | 0.25 | | | MUDSTONE | CARB.BLK.VBRKN ABUNDANT BRIGHT COAL STRINGERS AND LENS ES UP TO 2 CM WIDE. |
| 80 | 65.93 | 66.26 | 0.33 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 80 | 66.26 | 66.74 | 0.48 | | | MUDSTONE | CARB.BLK.BRKN OCCASIONAL BRIGHT COAL STRINGERS; ABUNDANT COALY WISPS THROUGHOUT. |
| 81 | 66.74 | 68.27 | 1.53 | | | MUDSTONE | DK.GY.THNB.BRKN OCCASIONALLY CARBONACEOUS AND BLACK; TRACE SOFT SEDIMENT DEFORMATION. |
| 81 | 68.27 | 68.98 | 0.71 | 00136 | | MUDSTONE | CARB.BLK.THNB.VBRKN OCCASIONAL THIN BRIGHT COAL STRINGERS. |
| 81 | 68.98 | 69.26 | 0.28 | 00137 | 3 | COAL | C-3.VBRKN |
| 81 | 69.26 | 69.41 | 0.15 | 00137 | 3 | COAL | C-3.BRKN |
| 81 | 69.41 | 69.57 | 0.16 | 00138 | 3 | ROCK LOSS | |
| 81 | 69.57 | 69.86 | 0.29 | 00138 | 3 | MUDSTONE | CARB.BLK.BRKN BRIGHT COAL STRINGERS AND LENSES. |
| 81 | 69.86 | 69.88 | 0.02 | 00139 | 3 | COAL LOSS | |
| 81 | 69.88 | 70.50 | 0.62 | 00139 | 3 | COAL | C-4.VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 81 | 70.50 | 71.32 | 0.82 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN CARBONACEOUS PLANT FRAGMENTS AND SLIGHT LY MUDDY AT TOP; CROSS BEDDING THROUGHOUT. |
| 81 | 71.32 | 71.96 | 0.64 | | | SILTSTONE | DK.GY.THNB.SSD.SLD MINOR CROSS BEDDING. |
| 82 | 71.96 | 72.54 | 0.58 | | | SILTSTONE | DK.GY.THNB.SSD.SLD OCCASIONAL CARBONACEOUS AND PYRITIC PLANT FRAGMENTS AND PARTINGS; MINOR CROSS BEDDING. |
| 82 | 72.54 | 72.88 | 0.34 | | | SILTSTONE | DK.GY.THNB.SSD.SLD |
| 83 | 72.88 | 73.43 | 0.55 | | | MUDSTONE | DK.GY.SLD VERY CARBONACEOUS IN PLACES WITH BRIGHT COAL STRINGERS AT BASE. |
| 83 | 73.43 | 73.68 | 0.25 | | | ROCK LOSS | |
| 83 | 73.68 | 74.10 | 0.42 | | | COAL | C-4.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 83 | 74.10 | 74.77 | 0.67 | | MUDSTONE | CARB.BLK.BRKN OCCASIONAL DARK GRAY SLIGHTLY SILTY BANDS. |
| | 84 | 74.77 | 75.17 | 0.40 | | MUDSTONE | CARB.BLK.SLD ABUNDANT COALY AND CARBONACEOUS STRINGERS AND PLANT FRAGMENTS. |
| * | 84 | 75.17 | 75.50 | 0.33 | | SILTSTONE | CLYY.DK.GY.THNB.XBDG.SLD COALY PARTINGS; TRACE PYRITE. |
| | 83 | 75.50 | 76.02 | 0.52 | | MUDSTONE | SLTY.DK.GY.BRKN ABUNDANT COALY WISPS AND VERY THIN STRINGERS. |
| | 81 | 76.02 | 76.20 | 0.18 | | MUDSTONE | CARB.BLK.BRKN ABUNDANT THIN BRIGHT COAL STRINGERS. |
| | 81 | 76.20 | 76.39 | 0.19 | | ROCK LOSS | |
| | 79 | 76.39 | 77.12 | 0.73 | | MUDSTONE | CARB.BLK.BRKN TRACE THIN COAL STRINGER. |
| | 78 | 77.12 | 77.20 | 0.08 | | COAL | C-2.VBRKN ALMOST COMPLETELY BROKEN. |
| | 77 | 77.20 | 77.29 | 0.09 | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS AND WISPS; SLIGHTLY SILTY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 12

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 77 | 77.29 | 77.41 | 0.12 | | | SILTSTONE | GY.THNB.BRKN MINOR CARBONACEOUS FLECKS. |
| * 75 | 77.41 | 78.46 | 1.05 | | | SILTSTONE | DK.GY.XBDG.BRKN THINLY BEDDED AT BASE; EVIDENCE OF SOFT SEDIMENT DEFORMATION; RIP-UP CLASTS; T RACE CARBONACEOUS WISPS. |
| 75 | 78.46 | 78.52 | 0.06 | | | MUDSTONE | CARB.BLK.BRKN MINOR COAL STRINGERS AND WISPS. |
| 75 | 78.52 | 80.00 | 1.48 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN MINOR THIN COALY PARTINGS; TRACE CALCIT E VEINING; CROSS BEDDING; THIN (3 CM) F INE GRAINED SANDSTONE; STRINGER NEAR TO P. |
| 75 | 80.00 | 80.20 | 0.20 | | | ROCK LOSS | |
| 75 | 80.20 | 80.46 | 0.26 | | | SILTSTONE | DK.GY.VBRKN AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 75 | 80.46 | 82.78 | 2.32 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN INTERBEDDED WITH MUDSTONE TOWARDS TOP; INTERBEDDED WITH SANDSTONE TOWARD BASE; OCCASIONAL BANDS OF RIP-UP CLASTS; EVIDENCE OF SOFT SEDIMENT DEFORMATION; MINOR CARBONACEOUS WISPS AND PARTINGS. |
| 72 | 82.78 | 83.51 | 0.73 | | | SANDSTONE | MG.DK.GY.THNB.XBDG.BRKN EVIDENCE TO FINING UPWARD SEQUENCES; NUMEROUS CARBONACEOUS AND COALY PARTINGS; STRINGERS AND WISPS; TRACE BED OF RIP-UP CLASTS; TRACE CALCITE VEINS. |
| * 70 | 83.51 | 85.44 | 1.93 | | | SANDSTONE | MG.DK.GY.THNB.XBDG.BRKN AS ABOVE. |
| * 65 | 85.44 | 86.30 | 0.86 | | | SANDSTONE | FG.DK.GY.THNB.XBDG.SLD AS ABOVE; MEDIUM GRAINED TOWARD BASE; OCCASIONALLY SILTY. |
| 64 | 86.30 | 86.56 | 0.26 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN INTERBEDDED WITH SANDSTONE; MINOR BRIGHT COAL STRINGERS AND WISPS OF CARBONACEOUS MATERIAL THROUGHOUT. |
| 64 | 86.56 | 86.76 | 0.20 | | | SILTSTONE | DK.GY.THNB.SLD AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 64 | 86.76 | 87.42 | 0.66 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD TRACE CARBONACEOUS. |
| 63 | 87.42 | 88.05 | 0.63 | | | MUDSTONE | CARB.BLK.THNB.SSD.BRKN ABUNDANT COALY AND CARBONACEOUS PLANT FRAGMENTS. |
| 62 | 88.05 | 88.13 | 0.08 | | | SILTSTONE | DK.GY.THNB.SLD ABUNDANT CARBONACEOUS MATERIAL; MODIFIED: MUDDY. |
| 62 | 88.13 | 89.53 | 1.40 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN INTERBEDS OF FINE GRAINED SS AND MUDST; EVIDENCE OF SOFT SEDIMENT DEFORMATION; TRACES OF CARB MUDST AND PLANT FRAGMENTS. |
| 61 | 89.53 | 89.61 | 0.08 | | | ROCK LOSS | |
| * 60 | 89.61 | 90.96 | 1.35 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN AS ABOVE. |
| 61 | 90.96 | 91.36 | 0.40 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD SLIGHTLY CARBONACEOUS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 61 | 91.36 | 91.94 | 0.58 | | | MUDSTONE | CARB.BLK.BRKN |
| 61 | 91.94 | 92.13 | 0.19 | | | COAL LOSS | |
| 61 | 92.13 | 92.19 | 0.06 | | | COAL | C-1.BRKN |
| 61 | 92.19 | 92.36 | 0.17 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT BRIGHT COAL BANDS |
| 61 | 92.36 | 92.48 | 0.12 | | | COAL | C-3.BRKN |
| 61 | 92.48 | 92.53 | 0.05 | | | COAL LOSS | |
| 62 | 92.53 | 92.66 | 0.13 | | | MUDSTONE | CARB.BLK.SLD ABUNDANT BRIGHT COAL STRINGERS AND LENSES. |
| 62 | 92.66 | 93.85 | 1.19 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT BRIGHT COAL STRINGERS AND LENSES; BECOMING LESS CARBONACEOUS TOWARD BASE. |
| 63 | 93.85 | 94.16 | 0.31 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 63 | 94.16 | 95.73 | 1.57 | | | MUDSTONE | CARB.BLK.BRKN BECOMING LESS CARBONACEOUS AND SLIGHTLY SILTY TOWARD BASE; NUMEROUS COAL LENSE S AND STRINGERS; TRACE CALCITE VEINING. |
| 64 | 95.73 | 96.80 | 1.07 | | | MUDSTONE | SLTY.DK.GY.BRKN CARBONACEOUS IN PART; COALY LENSES. |
| 65 | 96.80 | 97.91 | 1.11 | | | SILTSTONE | DK.GY.BRKN COALY STRINGERS AND CALCITE VEINING OCC URS TOWARD BASE; CARBONACEOUS TOWARD BA SE. |
| 65 | 97.91 | 98.47 | 0.56 | | | SILTSTONE | DK.GY.BRKN |
| 66 | 98.47 | 98.93 | 0.46 | | | ROCK LOSS | |
| 66 | 98.93 | 99.63 | 0.70 | | | SILTSTONE | GY.SLD BECOMING SANDY WITH CARBONACEOUS WISPS TOWARDS BASE. |
| 66 | 99.63 | 99.73 | 0.10 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 17

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 67 | 99.73 | 101.07 | 1.34 | | SILTSTONE | DK.GY.THNB.SSD.SLD BECOMING INCREASINGLY SANDY TOWARD BASE WITH CARBONACEOUS AND COALY STRINGERS AND WISPS ASSOCIATED WITH THE SANDSTONE INTERBEDS. |
| | 67 | 101.07 | 101.41 | 0.34 | | SILTSTONE | DK.GY.THNB.SSD.BRKN ABUNDANT RIP-UP CLASTS WHICH APPEAR QUI TE ROUNDED; MINOR BRIGHT COAL LENSES. |
| | 68 | 101.41 | 101.98 | 0.57 | | SILTSTONE | DK.GY.THNB.XBDG.BRKN MINOR PYRITE PARTINGS; SLIGHTLY SANDY. |
| * | 68 | 101.98 | 102.38 | 0.40 | | SILTSTONE | DK.GY.THNB.XBDG.SLD |
| | 70 | 102.38 | 102.89 | 0.51 | | SILTSTONE | DK.GY.THNB.XBDG.BRKN EVIDENCE OF SOFT SEDIMENT DEFORMATION; BECOMING SANDY WITH CARBONACEOUS PARTIN GS AT BASE. |
| * | 75 | 102.89 | 104.87 | 1.98 | | SANDSTONE | FG.GY.THNB.XBDG.BRKN INTERBEDDED WITH MEDIUM GRAINED SANDSTO NE; ALSO ZONES OF COALY AND CARBONACEOU S STRINGERS. |
| | 69 | 104.87 | 105.03 | 0.16 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 66 | 105.03 | 105.88 | 0.85 | | | SANDSTONE | MG.GY.THNB.BRKN OCCASIONAL COARSE GRAINED AND GRIT BEDS ; NUMEROUS COALY STRINGERS; MINOR CALCITE VEINING; BECOMING CARBONACEOUS TOWARD BASE. |
| 63 | 105.88 | 106.00 | 0.12 | | | MUDSTONE | CARB.BLK.SLD NUMEROUS SANDY AND COALY INCLUSIONS. |
| 63 | 106.00 | 106.09 | 0.09 | | | SANDSTONE | FG.GY.THNB.SLD GRITTY BED AT TOP. |
| 58 | 106.09 | 107.60 | 1.51 | | | MUDSTONE | CARB.BLK.BRKN NUMEROUS COALY STRINGERS; MINOR VERY THIN IN CALCITE VEINLETS. |
| 54 | 107.60 | 107.79 | 0.19 | | | MUDSTONE | CARB.BLK.THNB.BRKN TWO > 2 CM COAL STRINGERS. |
| 52 | 107.79 | 108.22 | 0.43 | | | MUDSTONE | CARB.DK.GY.VBRKN THIN COAL STRINGERS NEAR TOP. |
| 50 | 108.22 | 108.30 | 0.08 | | | COAL | C-5.VBRKN |
| | 108.30 | 109.45 | 1.15 | | | MUDSTONE | DK.GY.VBRKN OCCASIONAL COAL STRINGERS BECOMING SLIGHTLY SILTY. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 19

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 44 | 109.45 | 109.50 | 0.05 | | | MUDSTONE | CARB.BLK.BRKN |
| 42 | 109.50 | 110.17 | 0.67 | | | ROCK LOSS | |
| 39 | 110.17 | 110.37 | 0.20 | | | COAL | C-4.VBRKN |
| 38 | 110.37 | 110.52 | 0.15 | | | COAL | C-5.VBRKN |
| 38 | 110.52 | 110.60 | 0.08 | | | COAL | C-6.BRKN STONEY. |
| 37 | 110.60 | 110.67 | 0.07 | | | COAL | C-4.VBRKN |
| 37 | 110.67 | 110.72 | 0.05 | | | COAL | C-6.VBRKN STONEY. |
| 36 | 110.72 | 110.83 | 0.11 | | | COAL | C-4.VBRKN |
| 35 | 110.83 | 111.13 | 0.30 | | | COAL | C-6.VBRKN STONEY AND OCCASIONAL BRIGHT WISPS. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 20

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 34 | 111.13 | 111.19 | 0.06 | | | MUDSTONE | CARB.BLK.VBRKN WITH COAL STRINGERS. |
| 33 | 111.19 | 111.47 | 0.28 | | | COAL | C-4.VBRKN BADLY CRUSHED; DIFFICULT TO CLASSIFY. |
| 32 | 111.47 | 111.54 | 0.07 | | | MUDSTONE | CARB.BLK.BRKN OCCASIONAL BRIGHT COAL STRINGER. |
| 32 | 111.54 | 111.64 | 0.10 | | | COAL | C-4.VBRKN |
| 30 | 111.64 | 112.01 | 0.37 | | | COAL LOSS | |
| 29 | 112.01 | 112.07 | 0.06 | | | COAL | C-6.PWRD DIFFICULT TO CLASSIFY. |
| 28 | 112.07 | 112.53 | 0.46 | | | MUDSTONE | CARB.BLK.BRKN MINOR COAL STRINGERS. |
| 25 | 112.53 | 113.21 | 0.68 | | | SILTSTONE | DK.GY.THNB.SSD.SLD SLIGHTLY CARBONACEOUS WITH MINOR COALY WISPS; MINOR CROSS BEDDING. |
| * 20 | 113.21 | 114.18 | 0.97 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN MINOR CALCITE VEINING; BCA BECOMING O T OWARDS BASE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 20 | 114.18 | 115.86 | 1.68 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE. |
| * | 115.86 | 116.62 | 0.76 | | | SILTSTONE | DK.GY.THNB.VBRKN CALCITE VEINING INCREASING WITH WELL DE VELOPED CALCITE CRYSTALS AND PYRITE ALO NG FRACTURE SURFACES. |
| * | 116.62 | 118.33 | 1.71 | | | SILTSTONE | AS ABOVE. |
| 19 | 118.33 | 118.51 | 0.18 | | | ROCKLOSS | |
| | 118.51 | 119.91 | 1.40 | | | SILTSTONE | GY.THNB.VBRKN BECOMING MUDDY TOWARDS BASE; MINOR CALC ITE VEINING; CARB FLK. |
| | 119.91 | 119.97 | 0.06 | | | MUDSTONE | SLTY.DK.GY.BRKN |
| * | 119.97 | 121.09 | 1.12 | | | MUDSTONE | SLTY.DK.GY.BRKN CARB; MINOR COALY WISPS; WELL DEVELOPED QUARTZ CRYSTALS IN CALCITE FILLED FRAC TURES. |
| 18 | 121.09 | 121.24 | 0.15 | | | ROCKLOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * | 121.24 | 123.02 | 1.78 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN OCCASIONALLY MUDDY EVIDENCE OF MINOR FA ULTING ALONG CALCITE FILLED FRACTURES T RACE COAL LENSES; WISPS; TRACE OIL STAI N IN CALCITE VEINS |
| 17 | 123.02 | 123.83 | 0.81 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN BECOMING MUDDY; TRACE COALY LENSES; WIS PS; TRACE CALCITE VEINING |
| * 17 | 123.83 | 126.07 | 2.24 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN MINOR CALCITE VEINING; TRACE CARBONACEO US FLECKS; TRACE OIL STAIN ALONG CALCIT E VEINS; SLIGHTLY MUDDY. |
| 16 | 126.07 | 126.44 | 0.37 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE |
| 16 | 126.44 | 126.69 | 0.25 | | | ROCK LOSS | |
| * 16 | 126.69 | 129.12 | 2.43 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE; COALY LENSES INCREASING; SLIG HTLY MUDDY BECOMING CARBONACEOUS; TRACE SANDY AT BASE |
| 15 | 129.12 | 129.35 | 0.23 | | | SILTSTONE | SSY.DK.GY.THNB.SLD AS ABOVE; DISSEMINATED PYRITE ASSOCIATE D WITH CALCITE VEINING; INCREASING CARB ONACEOUS MATERIAL |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 15 | 129.35 | 129.54 | 0.19 | | | SILTSTONE | SSY.DK.GY.THNB.SSD.BRKN AS ABOVE |
| * 15 | 129.54 | 130.07 | 0.53 | | | SANDSTONE | VFG.GY.THNB.XBDG.BRKN SLIGHTLY CARBONACEOUS AT TOP |
| 15 | 130.07 | 131.04 | 0.97 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN CROSSBEDDING INDICATES BEDS ARE NOT OVE RTURNED HERE; MINOR CARBONACEOUS BANDS; MINOR CALCITE VEINING GENERALLY PARALL EL TO BEDDING |
| 15 | 131.04 | 131.72 | 0.68 | | | MUDSTONE | SLTY.DK.GY.VBRKN BECOMING VERY CARBONACEOUS TOWARDS BASE ; MINOR COALY STRINGERS; MINOR CALCITE VEINING |
| 15 | 131.72 | 131.90 | 0.18 | | | MUDSTONE | SLTY.DK.GY.VBRKN AS ABOVE |
| 15 | 131.90 | 132.16 | 0.26 | | | SILTSTONE | DK.GY.THNB.BRKN |
| 15 | 132.16 | 132.73 | 0.57 | | | SILTSTONE | GY.BRKN VERY SLIGHTLY SANDY; TRACE THIN CALCITE VEINING; TRACE THIN COAL STRINGERS |
| 15 | 132.73 | 132.77 | 0.04 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 15 | 132.77 | 132.88 | 0.11 | | | SILTSTONE | GY.SLD AS ABOVE |
| 15 | 132.88 | 132.95 | 0.07 | | | MUDSTONE | DK.GY.BRKN MINOR CALCITE VEINING |
| * 15 | 132.95 | 134.15 | 1.20 | | | MUDSTONE | CARB.BLK.BRKN MINOR THIN COALY STRINGERS |
| 15 | 134.15 | 135.18 | 1.03 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT THIN COALY LENSES AND WISPS; S LIGHTLY SILTY |
| 14 | 135.18 | 135.52 | 0.34 | | | ROCK LOSS | |
| 14 | 135.52 | 137.16 | 1.64 | | | MUDSTONE | CARB.BLK.BRKN BECOMING LESS CARBONACEOUS TOWARD BASE; NUMEROUS COAL STRINGERS AND LENSES; MI NOR CALCITE VEINING WITH OCCASIONAL OIL STAIN AND PETROLIFEROUS ODOR; OCCASION AL SILTY BED |
| 14 | 137.16 | 137.23 | 0.07 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 13 | 137.23 | 137.35 | 0.12 | | | MUDSTONE | DK.GY.BRKN |
| 13 | 137.35 | 137.61 | 0.26 | | | MUDSTONE | DK.GY.BRKN SLIGHTLY SILTY AND CARBONACEOUS |
| 13 | 137.61 | 137.83 | 0.22 | | | MUDSTONE | DK.GY.SHRD ABUNDANT BRIGHT COAL BANDS |
| 13 | 137.83 | 139.45 | 1.62 | | | SILTSTONE | DK.GY.BRKN MUDDY AT TOP; CALCITE VEINING; WELL DEV ELOPED CALCITE CRYSTALS LINING VUGS; OI LSTAIN AROUND VUGS |
| 13 | 139.45 | 139.68 | 0.23 | | | MUDSTONE | CARB.BLK.VBRKN BRIGHT COAL BANDS |
| 12 | 139.68 | 140.08 | 0.40 | | | MUDSTONE | SLTY.DK.GY.BRKN CARBONACEOUS INTERBEDS; ABUNDANT CALCIT E VEINLETS; MINOR COALY LENSES |
| * 12 | 140.08 | 140.46 | 0.38 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN MINOR CALCITE VEINING; TRACE OILSTAIN; CARBONACEOUS WISPS; INPART SLIGHTLY SAN DY |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 12 | 140.46 | 142.41 | 1.95 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE; RIPUP CLASTS |
| 11 | 142.41 | 143.61 | 1.20 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN MINOR CROSSBEDDING; MINOR OIL STAINED C ALCITE VEINING; ABUNDANT CALCITE VEININ G AT BASE |
| 11 | 143.61 | 144.91 | 1.30 | | | SILTSTONE | DK.GY.XBDG.VBRKN AS ABOVE; ABUNDANT CALCITE; BEDS DO NOT APPEAR TO BE OVERTURNED; SLIGHTLY MUDDY IN MIDDLE OF SECTION |
| 10 | 144.91 | 144.94 | 0.03 | | | ROCK LOSS | |
| * 10 | 144.94 | 146.54 | 1.60 | | | SILTSTONE | DK.GY.XBDG.VBRKN AS ABOVE; MUDDY INTERBEDS; BEDS DO NOT APPEAR TO BE OVERTURNED; SOME SOFT SEDI MENT DEFORMATION |
| 11 | 146.54 | 147.56 | 1.02 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN AS ABOVE; TRACE CARBONACEOUS BEDS |
| 11 | 147.56 | 147.65 | 0.09 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 12 | 147.65 | 149.18 | 1.53 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN AS ABOVE; PYRITE IN CALCITE VEINS; SOME SOFT SEDIMENT DEFORMATION; ABUNDANT CA LCITE VEINING AT BASE |
| 12 | 149.18 | 149.27 | 0.09 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN AS ABOVE |
| 12 | 149.27 | 150.05 | 0.78 | | | MUDSTONE | CARB.BLK.THNB.BRKN SILTY; ABUNDANT THIN COALS STRINGERS AN D LENSES; TRACE SAND STRINGERS |
| 13 | 150.05 | 152.31 | 2.26 | | | MUDSTONE | CARB.BLK.BRKN SILTY; OCCASIONAL CALCITE VEINING; TRAC E COALY WISPS |
| 13 | 152.31 | 152.73 | 0.42 | | | ROCK LOSS | |
| 13 | 152.73 | 153.15 | 0.42 | | | MUDSTONE | DK.GY.BRKN SLIGHTLY CARBONACEOUS |
| 14 | 153.15 | 155.10 | 1.95 | | | MUDSTONE | DK.GY.BRKN MINOR CALCITE VEINING; OCCASIONAL SILTY INTERBED; EVIDENCE OF SOFT SEDIMENT DE FORMATION |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 14 | 155.10 | 155.53 | 0.43 | | | ROCK LOSS | |
| 14 | 155.53 | 155.67 | 0.14 | | | MUDSTONE | DK.GY.BRKN AS ABOVE |
| 14 | 155.67 | 156.18 | 0.51 | | | MUDSTONE | CARB.BLK.BRKN MINOR COALY STRINGERS; WISPS ; MINOR CALCITE VEINING |
| 14 | 156.18 | 157.49 | 1.31 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COAL STRINGERS AND WISPS; SHEAR RED; MINOR CALCITE |
| 14 | 157.49 | 157.56 | 0.07 | | | COAL | C-5.PWRD |
| 14 | 157.56 | 158.04 | 0.48 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE |
| 15 | 158.04 | 158.16 | 0.12 | | | MUDSTONE | CARB.BLK.VBRKN AS ABOVE |
| 15 | 158.16 | 158.32 | 0.16 | | | ROCK LOSS | |
| 15 | 158.32 | 158.63 | 0.31 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 15 | 158.63 | 158.74 | 0.11 | | | COAL | C-3.BRKN |
| 15 | 158.74 | 159.84 | 1.10 | | | MUDSTONE | DK.GY.BRKN MINOR CARBONACEOUS WISPS; MINOR CALCITE |
| 15 | 159.84 | 159.92 | 0.08 | | | MUDSTONE | DK.GY AS ABOVE |
| 15 | 159.92 | 160.00 | 0.08 | | | COAL | C-6.SHRD STONEY |
| 15 | 160.00 | 160.51 | 0.51 | | | MUDSTONE | SLTY.DK.GY.VBRKN COAL STRINGER AT BASE |
| 15 | 160.51 | 160.77 | 0.26 | | | ROCK LOSS | |
| * 15 | 160.77 | 161.37 | 0.60 | | | SILTSTONE | DK.GY.THNB.VBRKN CARBONACEOUS SLIGHTLY MUDDY; MINOR CALC ITE VEINING; THIN COALY INTERBEDS |
| 15 | 161.37 | 161.53 | 0.16 | | | SILTSTONE | DK.GY.SHRD NUMEROUS COALY PARTINGS AND STRINGERS |
| * 16 | 161.53 | 161.93 | 0.40 | | | SILTSTONE | CLYY.DK.GY.SHRD BECOMING CARBONACEOUS AND BLACK; MINOR CALCITE VEINING. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. -- COAL DIVISION -- DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 16 | 161.93 | 162.18 | 0.25 | | | MUDSTONE | SLTY.DK.GY.SHRD BECOMING MORE CARBONACEOUS; MINOR COAL STRINGERS |
| 16 | 162.18 | 162.93 | 0.75 | | | MUDSTONE | CARB.BLK.VBRKN ABUNDANT COALY STRINGERS; WISPS; LENSES |
| 16 | 162.93 | 163.30 | 0.37 | | | ROCK LOSS | |
| 16 | 163.30 | 163.36 | 0.06 | | | COAL | C-4.PWRD CRUSHED BEYOND RECOGNITION |
| 16 | 163.36 | 163.80 | 0.44 | | | MUDSTONE | SLTY.DK.GY.VBRKN BECOMING LESS SILTY TOWARD BASE; MINOR CALCITE VEINING DECREASING TOWARD BASE |
| * 16 | 163.80 | 165.69 | 1.89 | | | MUDSTONE | DK.GY.BRKN SLIGHTLY SILTY AT TOP; MINOR CALCITE VE INING AT TOP DECREASING TO TRACE AT BAS E; OCCASIONAL CARBONACEOUS FLECK; BECOM ING CARBONACEOUS WITH COALY PARTINGS AT BASE |
| 17 | 165.69 | 165.83 | 0.14 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 17 | 165.83 | 165.94 | 0.11 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY PARTINGS |
| 17 | 165.94 | 168.46 | 2.52 | | | MUDSTONE | DK.GY.BRKN SLIGHTLY CARBONACEOUS; MINOR CALCITE VEINING WITH SOME WELL DEVELOPED CALCITE CRYSTALS; TRACE COALY AND CARBONACEOUS WISPS; TRACE COAL STRINGER; OCCASIONALLY SLIGHTLY SILTY |
| 17 | 168.46 | 168.99 | 0.53 | | | MUDSTONE | DK.GY.BRKN MINOR CARBONACEOUS STRINGERS AND COALY WISPS; MINOR THIN CALCITE VEINING |
| 18 | 168.99 | 171.16 | 2.17 | | | MUDSTONE | DK.GY.BRKN MINOR CALCITE VEINING; TRACE CARBONACEOUS AND COALY FRAGMENTS |
| 18 | 171.16 | 171.85 | 0.69 | | | MUDSTONE | SLTY.DK.GY.BRKN TRACE CALCITE VEINING; TRACE CARBONACEOUS AND COALY PARTINGS |
| 18 | 171.85 | 172.03 | 0.18 | | | ROCK LOSS | |
| 18 | 172.03 | 173.38 | 1.35 | | | MUDSTONE | SLTY.DK.GY.BRKN AS ABOVE |
| 19 | 173.38 | 173.64 | 0.26 | | | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 19 | 173.64 | 174.28 | 0.64 | | | MUDSTONE | DK.GY.BRKN ONE 2CM BRIGHT COAL SEAM NEAR TOP; SLIGHTLY CARBONACEOUS; TRACE CALCITE VEINING |
| 19 | 174.28 | 174.97 | 0.69 | | | MUDSTONE | CARB.BLK.BRKN BRIGHT COAL WISPS AND THIN STRINGERS THROUGHOUT |
| * 19 | 174.97 | 175.14 | 0.17 | | | COAL | C-3.BRKN BECAUSE OF STEEP BCA DIFFICULT TO ACCURATELY ASSESS COAL TYPE |
| 19 | 175.14 | 175.34 | 0.20 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT BRIGHT COAL PARTINGS; STRINGERS WISPS |
| 19 | 175.34 | 175.41 | 0.07 | | | COAL | C-2.VBRKN |
| 19 | 175.41 | 175.51 | 0.10 | | | COAL | C-6.VBRKN STONEY |
| * 19 | 175.51 | 176.66 | 1.15 | | | MUDSTONE | DK.GY.THNB.SSD.BRKN MINOR SILTY INTERBEDS; EVIDENCE OF SOFT SEDIMENT DEFORMATION |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|---|
| * 20 | 176.66 | 178.13 | 1.47 | | | MUDSTONE | DK.GY.BRKN VERY SLIGHTLY SILTY; SLIGHTLY CARBONACEOUS WITH CARBONACEOUS AND COALY STRINGERS (APPROX) AT BASE; MINOR CALCITE VEINING |
| * | 178.13 | 179.23 | 1.10 | | | MUDSTONE | DK.GY.BRKN MINOR SILTY INTERBEDS BECOMING CARBONACEOUS WITH ABUNDANT COALY WISPS AND STRINGERS; CORE PARTING (AT 20 DEGREES) ALONG COAL PARTING; COALY STRINGER AT BASE. |
| 23 | 179.23 | 179.40 | 0.17 | | | MUDSTONE | CARB.BLK.SLD ABUNDANT COALY STRINGER AND WISPS |
| 24 | 179.40 | 179.58 | 0.18 | | | COAL | C-5.VBRKN POWDERED AND BROKEN |
| 25 | 179.58 | 179.74 | 0.16 | | | MUDSTONE | CARB.BLK.BRKN |
| 26 | 179.74 | 180.19 | 0.45 | | | MUDSTONE | DK.GY.VBRKN SILTY; MINOR CALCITE VEINING; MINOR CARBONACEOUS AND COALY WISPS |
| 28 | 180.19 | 180.44 | 0.25 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 29 | 180.44 | 180.59 | 0.15 | | | COAL | C-5.PWRD |
| 30 | 180.59 | 181.18 | 0.59 | | | MUDSTONE | DK.GY.BRKN SILTY; CALCITE VEINING; COALY WISPS AND THIN STRINGERS |
| 33 | 181.18 | 181.57 | 0.39 | | | ROCK LOSE | |
| 35 | 181.57 | 182.26 | 0.69 | | | MUDSTONE | DK.GY.SLD AS ABOVE |
| * 38 | 182.26 | 182.95 | 0.69 | | | MUDSTONE | SLTY.DK.GY.SLD ABUNDANT CARBONACEOUS WISPS; BCA STEEP |
| 42 | 182.95 | 183.76 | 0.81 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY PARTINGS AND WISPS |
| 45 | 183.76 | 184.23 | 0.47 | | | COAL | C-5.VBRKN OCCASIONAL MUDSTONE INTERBED |
| 47 | 184.23 | 184.83 | 0.60 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS AND PARTINGS |
| 51 | 184.83 | 185.76 | 0.93 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 55 | 185.76 | 186.66 | 0.90 | | | MUDSTONE | SLTY.DK.GY.BRKN BECOMING CARBONACEOUS TOWARD BASE WITH THIN COALY WISPS; MINOR THIN CALCITE VE INING |
| 59 | 186.66 | 187.29 | 0.63 | | | MUDSTONE | SLTY.DK.GY.BRKN AS ABOVE |
| * 61 | 187.29 | 187.63 | 0.34 | | | MUDSTONE | SLTY.DK.GY.BRKN AS ABOVE. |
| 61 | 187.63 | 187.73 | 0.10 | | | ROCK LOSS | |
| 61 | 187.73 | 189.81 | 2.08 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS AND PARTINGS; MINOR CALCITE VEINING |
| 62 | 189.81 | 189.95 | 0.14 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE |
| 62 | 189.95 | 192.66 | 2.71 | | | MUDSTONE | DK.GY.BRKN SLIGHTLY SILTY TOWARDS TOP; MINOR CARBO NACEOUS AND COALY STRINGERS; MINOR CALC ITE VEINING; BECOMING VERY CARBONACEOUS TOWARD BASE |
| 63 | 192.66 | 192.94 | 0.28 | | | MUDSTONE | CARB.BLK.BRKN COALY STRINGERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 63 | 192.94 | 193.18 | 0.24 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE; BECOMING SLIGHTLY SILTY AND LESS CARBONACEOUS TOWARD BASE |
| * 63 | 193.18 | 193.41 | 0.23 | | | ROCKLOSS | |
| * 62 | 193.41 | 193.89 | 0.48 | | | MUDSTONE | DK.GY.BRKN SLIGHTLY SILTY; STEEP BCA |
| 61 | 193.89 | 195.28 | 1.39 | | | SANDSTONE | VFG.GY.BRKN ABUNDANT COALY STRINGERS AND WISPS; MIN OR RIP UP CLASTS; CALCITE VEINING WITH WELL DEVELOPED CALCITE CRYSTALS LINING FRACTURE SURFACE |
| 59 | 195.28 | 195.64 | 0.36 | | | SANDSTONE | VFG.GY.BRKN AS ABOVE |
| 59 | 195.64 | 195.96 | 0.32 | | | MUDSTONE | SLTY.DK.GY.BRKN CALCITE VEINING WITH WELL DEVELOPED CALCITE CRYSTALS; CARBONACEOUS FLECKS |
| 58 | 195.96 | 196.21 | 0.25 | | | ROCK LOSS | |
| 57 | 196.21 | 197.57 | 1.36 | | | SILTSTONE | DK.GY.THNB.BRKN CALCITE VEINING AND SLIGHTLY CARBONACEOUS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 55 | 197.57 | 197.87 | 0.30 | | | MUDSTONE | SLTY.DK.GY.BRKN SLIGHTLY CARBONACEOUS |
| 54 | 197.87 | 198.52 | 0.65 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN SOME RIP UP CLASTS; MINOR COALY PARTING S; STEEP BCA |
| 53 | 198.52 | 199.06 | 0.54 | | | ROCK LOSS | |
| 52 | 199.06 | 199.57 | 0.51 | | | SILTSTONE | SSY.DK.GY.THNB.SSD.BRKN ABUNDANT COAL STRINGERS; WISPS; MINOR C ALCITE; THIN SANDSTONE INTERBEDS |
| * 51 | 199.57 | 200.97 | 1.40 | | | SILTSTONE | SSY.DK.GY.THNB.SSD.BRKN AS ABOVE |
| 49 | 200.97 | 201.47 | 0.50 | | | SILTSTONE | PBLY.DK.GY.THNB.SSD.BRKN PEBBLES ARE OF MUDSTONE; MAY BE SLIGHTL Y TRANSPORTED RIP UP CLASTS |
| 47 | 201.47 | 202.67 | 1.20 | | | SILTSTONE | DK.GY.BRKN SLIGHTLY CARBONACEOUS NEAR TOP WITH BRI GHT COAL STRINGER(CRUSHED); MINOR CALCI TE VEINING |
| 46 | 202.67 | 203.43 | 0.76 | | | MUDSTONE | SLTY.DK.GY.BRKN MINOR CALCITE VEINING |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| | 45 | 203.43 | 203.48 | 0.05 | | ROCK LOSS | |
| | 43 | 203.48 | 205.72 | 2.24 | | SILTSTONE | DK.GY.BRKN MINOR CARBONACEOUS FLECKS; CALCITE VEINING WITH CRYSTAL LINED VUGS; ALSO SMOKEY QUARTZ CRYSTALS; OIL STAIN; BECOMING SLIGHTLY MUDDY TOWARDS BASE |
| | 40 | 205.72 | 206.15 | 0.43 | | SILTSTONE | DK.GY.BRKN AS ABOVE |
| | 39 | 206.15 | 206.86 | 0.71 | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE |
| | 37 | 206.86 | 208.81 | 1.95 | | SILTSTONE | DK.GY.THNB.BRKN SANDY INTERBEDS AND LENSES; COALY AND CARBONACEOUS STRINGERS THROUGHOUT TOP AND MIDDLE ZONES; MINOR CALCITE VEINING |
| | | 208.81 | 211.42 | 2.61 | | SILTSTONE | DK.GY.BRKN VERY SANDY IN PLACES; ABUNDANT VUGGY CALCITE VEINING TOWARDS TOP WITH WELL DEVELOPED CALCITE CRYSTALS LINING VUGS; OIL STAIN; PETROLIFEROUS ODOR; VERY SLIGHTLY CARBONACEOUS IN PLACES |
| | 30 | 211.42 | 211.75 | 0.33 | | SILTSTONE | DK.GY.SLD AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 29 | 211.75 | 212.65 | 0.90 | | | SILTSTONE | DK.GY.SLD AS ABOVE; MINOR STRINGERS OF KAOLINITE AND/OR BENTONITE-WHITE |
| 28 | 212.65 | 213.45 | 0.80 | | | SILTSTONE | DK.GY.VBRKN BROKEN ALONG KAO-FILLED FACTURES |
| 27 | 213.45 | 213.49 | 0.04 | | | ROCK LOSS | |
| 26 | 213.49 | 214.20 | 0.71 | | | SILTSTONE | DK.GY.BRKN MINOR THIN CALCITE VEINLETS; VERY SLIGH TLY CARBONACEOUS AT BASE WITH THIN COAL Y WISPS |
| | 214.20 | 214.34 | 0.14 | | | BRECCIA | MUDDY SILTSTONE ANGULAR CLASTS WITH PRE -BRECCIATION; CALCITE VEINING SURROUNDE D BY MUD TOP OF UNIT IS A THREE CM THIC K CALCITE VEIN CONTAIN MUDSTONE CLASTS- FAULT- 45 BCA(CALCITE VEIN) |
| 25 | 214.34 | 214.38 | 0.04 | | | ROCK LOSS | |
| 24 | 214.38 | 216.03 | 1.65 | | | SILTSTONE | DK.GY.THNB.BRKN MINOR CARBONACEOUS PARTINGS |

* DENOTES MEASURED BCA

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 20 | 216.03 | 218.68 | 2.65 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE; TRACE CALCITE VEINING; TRACE OIL STAIN |
| 21 | 218.68 | 218.77 | 0.09 | | | SILTSTONE | DK.GY.BRKN AS ABOVE |
| 22 | 218.77 | 221.35 | 2.58 | | | SILTSTONE | DK.GY.BRKN AS ABOVE; WELL DEVELOPED CALCITE CRYSTA LS LINING VUGS |
| 24 | 221.35 | 221.79 | 0.44 | | | SILTSTONE | DK.GY.SLD AS ABOVE |
| 24 | 221.79 | 222.38 | 0.59 | | | SILTSTONE | DK.GY.SSD.SLD (PEBBLY APPEARANCE) SILTSTONE ROUNDED C LASTS IN MUDSTONE MATRIX; IMBRICATION E VIDENT; COALY AND CARBONACEOUS WISPS AN D LENSES |
| 25 | 222.38 | 223.98 | 1.60 | | | SILTSTONE | CARB.DK.GY.SSD.BRKN SHEARED ABUNDANT COAL STRINGERS; SANDY INTERBEDS |
| 26 | 223.98 | 224.73 | 0.75 | | | SILTSTONE | DK.GY.THNB.SLD IN PART SLIGHTLY CARBONACEOUS; SANDY IN TERBEDS (MINOR) |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 27 | 224.73 | 225.30 | 0.57 | | SILTSTONE | GY.VBRKN AS ABOVE; ABUNDANT KAO-FILLED FRACTURES |
| | 27 | 225.30 | 226.62 | 1.32 | | SILTSTONE | GY.SLD AS ABOVE; NO KAO; MINOR CALCITE VEINING ; SLIGHTLY SANDY |
| | 28 | 226.62 | 227.00 | 0.38 | | SILTSTONE | GY.SLD AS ABOVE; OIL STAIN IN CALCITE VUGS |
| | 29 | 227.00 | 229.33 | 2.33 | | SILTSTONE | DK.GY.SLD AS ABOVE; CALCT VEINING DECREASING TO A BSENT QUARTZ CRYSTALS IN CALCT VEINS |
| | 30 | 229.33 | 229.94 | 0.61 | | SILTSTONE | DK.GY.BRKN AS ABOVE |
| | 31 | 229.94 | 230.05 | 0.11 | | ROCK LOSS | |
| | 31 | 230.05 | 231.39 | 1.34 | | SILTSTONE | DK.GY.BRKN AS ABOVE |
| | 32 | 231.39 | 231.88 | 0.49 | | SILTSTONE | DK.GY.VBRKN ABUNDANT KAO-FILLED VEINS; SLIGHTLY SAN DY |
| | 32 | 231.88 | 232.06 | 0.18 | | SILTSTONE | DK.GY.SLD SLIGHTLY SANDY AND CARBONACEOUS; KAO LE NS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 33 | 232.06 | 232.38 | 0.32 | | SILTSTONE | DK.GY.BRKN MINOR KAO AND CALCITE FILLED VEINS |
| | 33 | 232.38 | 232.46 | 0.08 | | BRECCIA | GY.BRKN SILTSTONE ANGULAR CLASTS UP TO 2 CM IN A CALCITE AND KAOLINITE MATRIX |
| | 33 | 232.46 | 232.56 | 0.10 | | ROCK LOSS | |
| | 33 | 232.56 | 233.09 | 0.53 | | SILTSTONE | DK.GY.BRKN MINOR CALCITE VEINING; MINOR CARBONACED US FLECKS; IN PART SLIGHTLY SANDY |
| | 33 | 233.09 | 233.11 | 0.02 | | BRECCIA | GY.SLD SILTSTONE ANGULAR CLASTS UP TO 5CM SET IN CALCITE MATRIX |
| | 34 | 233.11 | 234.92 | 1.81 | | SILTSTONE | DK.GY.BRKN AS ABOVE; ABUNDANT CALCITE VEINS IN MID DLE OF UNIT |
| | 35 | 234.92 | 236.07 | 1.15 | | SILTSTONE | DK.GY.BRKN AS ABOVE; SLIGHTLY SANDY STEEP BCA |
| | 36 | 236.07 | 236.12 | 0.05 | | ROCK LOSS | |
| | 37 | 236.12 | 237.76 | 1.64 | | SILTSTONE | DK.GY.BRKN AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 38 | 237.76 | 239.19 | 1.43 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE; STEEP BCA |
| 39 | 239.19 | 240.50 | 1.31 | | | SILTSTONE | DK.GY.BRKN AS ABOVE |
| 40 | 240.50 | 240.52 | 0.02 | | | ROCK LOSS | |
| 40 | 240.52 | 242.24 | 1.72 | | | SILTSTONE | DK.GY.BRKN AS ABOVE; SOME SOFT SEDIMENT DEFORMATIO N |
| 42 | 242.24 | 243.26 | 1.02 | | | SILTSTONE | DK.GY.BRKN AS ABOVE |
| 42 | 243.26 | 243.32 | 0.06 | | | ROCK LOSS | |
| 43 | 243.32 | 245.29 | 1.97 | | | SILTSTONE | DK.GY.BRKN AS ABOVE |
| 44 | 245.29 | 246.01 | 0.72 | | | SILTSTONE | DK.GY.BRKN AS ABOVE |
| 44 | 246.01 | 246.05 | 0.04 | | | ROCK LOSS | |
| 45 | 246.05 | 248.33 | 2.28 | | | SILTSTONE | DK.GY.BRKN AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 47 | 248.33 | 248.82 | 0.49 | | | SILTSTONE | DK.GY.BRKN AS ABOVE |
| 48 | 248.82 | 251.32 | 2.50 | | | SILTSTONE | DK.GY.BRKN AS ABOVE; MINOR CALCITE VEINING; ZONE S OFT SEDIMENT DEFORMATION |
| 49 | 251.32 | 251.38 | 0.06 | | | ROCK LOSS | |
| 49 | 251.38 | 251.65 | 0.27 | | | SILTSTONE | DK.GY.BRKN AS ABOVE |
| 50 | 251.65 | 253.90 | 2.25 | | | SILTSTONE | DK.GY.BRKN AS ABOVE; CARBONACEOUS FLECKS INCREASIN G BECOMING SLIGHTLY MUDDY |
| 51 | 253.90 | 254.39 | 0.49 | | | MUDSTONE | SLTY.BLK.BRKN CARBONACEOUS; MINOR COALY WISPS |
| 52 | 254.39 | 254.43 | 0.04 | | | ROCK LOSS | |
| 52 | 254.43 | 254.48 | 0.05 | | | MUDSTONE | SLTY.BLK.SLD AS ABOVE |
| 53 | 254.48 | 257.15 | 2.67 | | | MUDSTONE | SLTY.DK.GY.BRKN AS ABOVE; CARBONACEOUS AND COALY STRING ERS; WISPS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 54 | 257.15 | 257.28 | 0.13 | | ROCK LOSS | |
| | 54 | 257.28 | 257.49 | 0.21 | | MUDSTONE | DK.GY.SLD SLIGHTLY SILTY; AS ABOVE |
| * | | 257.49 | 260.12 | 2.63 | | MUDSTONE | SLTY.DK.GY.BRKN AS ABOVE; STEEP BCA; BOXES MISNUMBERED- 88 AND 89 MISSING BUT MARKERS JIVE |
| | 56 | 260.12 | 260.23 | 0.11 | | ROCK LOSS | |
| | 57 | 260.23 | 260.52 | 0.29 | | ROCK LOSS | |
| | 58 | 260.52 | 262.65 | 2.13 | | SILTSTONE | CLYY.DK.GY.BRKN SLIGHTLY CARBONACEOUS THROUGHOUT; MINOR CALCITE VEINING BECOMING MUDDIER TOWAR DS BASE; ROCK MOD MUDDY |
| | 59 | 262.65 | 263.22 | 0.57 | | MUDSTONE | SLTY.DK.GY.BRKN AS ABOVE |
| | 60 | 263.22 | 265.72 | 2.50 | | SILTSTONE | CLYY.DK.GY.BRKN AS ABOVE. |
| | 61 | 265.72 | 265.95 | 0.23 | | SILTSTONE | CLYY.DK.GY.SLD AS ABOVE. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 265.95 | 267.38 | 1.43 | | | SILTSTONE | CLYY.DK.GY.BRKN AS ABOVE; MINOR VUGGY CALCITE VEINING W ITH OIL STAIN. |
| 63 | 267.38 | 268.28 | 0.90 | | | MUDSTONE | SLTY.DK.GY.BRKN AS ABOVE; BECOME SLIGHTLY CARBONACEOUS |
| 64 | 268.28 | 268.68 | 0.40 | | | MUDSTONE | CARB.BLK.SHRD ABUNDANT BRIGHT COAL BANDS; MINOR THIN CALCITE VEINING |
| 64 | 268.68 | 268.78 | 0.10 | | | MUDSTONE | CARB.BLK.MAS.SHRD AS ABOVE |
| 65 | 268.78 | 271.16 | 2.38 | | | SILTSTONE | GY.MAS.BRKN AS ABOVE; MINOR CALCITE VEINING; THIN 2 CM BRECCIA BAND |
| 66 | 271.16 | 271.35 | 0.19 | | | ROCK LOSS | |
| 66 | 271.35 | 271.82 | 0.47 | | | SILTSTONE | GY.MAS.BRKN AS ABOVE |
| 67 | 271.82 | 272.47 | 0.65 | | | SILTSTONE | GY.MAS.SLD AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 47

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 68 | 272.47 | 273.84 | 1.37 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN ABUNDANT COALY STRINGERS; WISPS; SANDY I N PART; PEBBLY ZONE AT BASE |
| 68 | 273.84 | 274.06 | 0.22 | | | SILTSTONE | |
| 68 | 274.06 | 274.29 | 0.23 | | | SILTSTONE | CLYY.DK.GY.SLD AS ABOVE; SLIGHTLY CARBONACEOUS. |
| 69 | 274.29 | 275.11 | 0.82 | | | SILTSTONE | CLYY.DK.GY.THNB.BRKN AS ABOVE; NUMEROUS COALY AND CARBONACED US STRINGERS. |
| 69 | 275.11 | 275.15 | 0.04 | | | SILTSTONE | GY.THNB.SSD.SLD THIN SLIGHTLY SANDY INTERBEDS; MINOR CR OSS BEDDING; MINOR COALY STRINGERS; ZON ES OF RIPUP CLASTS |
| * 70 | 275.15 | 276.90 | 1.75 | | | SILTSTONE | GY.THNB.SSD.BRKN AS ABOVE |
| 70 | 276.90 | 278.23 | 1.33 | | | SILTSTONE | GY.THNB.XBDG.BRKN AS ABOVE; CARBONACEOUS WISPS; SOME SOFT SEDIMENT DEFORMATION AND BIOTURBATIONS ; NUMEROUS SANDY INTERBED |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 70 | 278.23 | 278.82 | 0.59 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN AS ABOVE; MINOR CALCITE VEINING; BECOMI NG SLIGHTLY CARBONACEOUS |
| 70 | 278.82 | 279.20 | 0.38 | | | SILTSTONE | CLYY.DK.GY.THNB.SSD.SLD AS ABOVE. |
| 69 | 279.20 | 279.58 | 0.38 | | | MUDSTONE | CARB.BLK.SLD COALY STRINGERS |
| 69 | 279.58 | 279.98 | 0.40 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS |
| 69 | 279.98 | 280.05 | 0.07 | | | ROCK LOSS | |
| 68 | 280.05 | 280.10 | 0.05 | | | COAL | PWRD |
| 68 | 280.10 | 280.55 | 0.45 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS AND PARTINGS |
| 68 | 280.55 | 281.28 | 0.73 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN COALY AND CARBONACEOUS STRINGERS AND LE NSES; MINOR CALCITE VEINING |
| 67 | 281.28 | 281.72 | 0.44 | | | MUDSTONE | SLTY.DK.GY.BRKN AS ABOVE |
| 67 | 281.72 | 281.83 | 0.11 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 66 | 281.83 | 282.20 | 0.37 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS; SLIGHTLY SILTY |
| 66 | 282.20 | 282.67 | 0.47 | | | MUDSTONE | CARB.BLK.BRKN WITH 3 CM COAL STRINGER AT TOP |
| * 65 | 282.67 | 284.33 | 1.66 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN SLIGHTLY CARBONACEOUS AND MUDDY AT TOP; OCCASIONALLY SANDY; CARBONACEOUS AND COALY PARTINGS; EVIDENCE OF BIOTURBATION AND SOFT SEDIMENT DEFORMATION; MINOR CALCITE |
| 68 | 284.33 | 284.68 | 0.35 | | | SILTSTONE | CLYY.DK.GY.THNB.SSD.BRKN AS ABOVE. |
| 70 | 284.68 | 286.12 | 1.44 | | | SILTSTONE | CLYY.DK.GY.THNB.SSD.BRKN AS ABOVE; TRACE COALY FRAGMENTS. |
| 73 | 286.12 | 286.38 | 0.26 | | | ROCK LOSS | |
| * 75 | 286.38 | 287.68 | 1.30 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN AS ABOVE; SLIGHTLY CARBONACEOUS WITH COALY AND CALCITE STRINGERS TOWARD THE BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 75 | 287.68 | 290.50 | 2.82 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN THIN SANDY INTERBEDS; MINOR CALCITE VEINING; MINOR CARBONACEOUS FLECKS AND COALY WISPS; SOFT SEDIMENT DEFORMATION; TRACE WORM BURROW |
| 74 | 290.50 | 290.74 | 0.24 | | | ROCK LOSS | |
| 74 | 290.74 | 291.03 | 0.29 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN AS ABOVE |
| 73 | 291.03 | 292.85 | 1.82 | | | SILTSTONE | CLYY.DK.GY.THNB.SSD.BRKN AS ABOVE. |
| 72 | 292.85 | 293.28 | 0.43 | | | MUDSTONE | SLTY.DK.GY.SLD TRACE COALY STRINGERS |
| 72 | 293.28 | 294.16 | 0.88 | | | SILTSTONE | DK.GY.BRKN AS ABOVE; BECOMING MUDDY TOWARD BASE |
| 71 | 294.16 | 294.22 | 0.06 | | | ROCK LOSS | |
| 71 | 294.22 | 295.99 | 1.77 | | | MUDSTONE | CARB.BLK.BRKN NUMEROUS COALY FRAGMENT AND STRINGERS; MINOR CALCITE VEINING |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-----------------------|---------------------|---------------------------|---------------------|--------------------|------------------|---|
| 70 | 295.99 | 297.13 | 1.14 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE |
| 69 | 297.13 | 297.29 | 0.16 | | | ROCK LOSS | |
| 69 | 297.29 | 297.52 | 0.23 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE |
| 69 | 297.52 | 297.60 | 0.08 | | | COAL | C-6.BRKN STONEY |
| 69 | 297.60 | 297.77 | 0.17 | | | MUDSTONE | CARB.BLK.SLD AS ABOVE |
| 69 | 297.77 | 298.30 | 0.53 | | | SILTSTONE | CLYY.DK.GY.THNB.SSD.BRKN MINOR CALCITE. |
| 68 | 298.30 | 298.72 | 0.42 | | | MUDSTONE | CARB.BLK.BRKN 3CM COAL STRINGER AT BASE |
| 68 | 298.72 | 298.85 | 0.13 | | | COAL | C-5.BRKN |
| 68 | 298.85 | 299.11 | 0.26 | | | MUDSTONE | SLTY.DK.GY.SLD CARBONACEOUS; COALY FLECKS |
| 68 | 299.11 | 299.14 | 0.03 | | | BRECCIA | SLD ANGULAR SILTSTONE CLASTS IN A CALCITE A ND MUD MATRIX |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 67 | 299.14 | 300.18 | 1.04 | | | SILTSTONE | CLYY.DK.GY.THNB.SSD.BRKN CARBONACEOUS WITH COALY FLECKS THROUGHOUT. |
| 67 | 300.18 | 301.08 | 0.90 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN |
| 66 | 301.08 | 301.24 | 0.16 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN |
| 66 | 301.24 | 301.83 | 0.59 | | | SILTSTONE | DK.GY.THNB.XBDG.SLD THIN CARBONACEOUS MUDSTONE INTERBEDS; S OFT SEDIMENT DEFORMATION |
| 66 | 301.83 | 302.60 | 0.77 | | | MUDSTONE | SLTY.DK.GY.BRKN SLIGHTLY CARBONACEOUS |
| 65 | 302.60 | 302.69 | 0.09 | | | ROCK LOSS | |
| * 65 | 302.69 | 303.23 | 0.54 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN MINOR CALCITE VEINING; SOFT SEDIMENT DE FORMATION |
| 65 | 303.23 | 304.07 | 0.84 | | | MUDSTONE | SLTY.DK.GY.BRKN MINOR CALCITE; CARBONACEOUS FLECKS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 66 | 304.07 | 304.24 | 0.17 | | | MUDSTONE | SLTY.DK.GY.SLD AS ABOVE |
| 66 | 304.24 | 304.35 | 0.11 | | | SILTSTONE | DK.GY.THNB.XBDG.SLD |
| 66 | 304.35 | 305.45 | 1.10 | | | MUDSTONE | DK.GY.THNB.WRMBU.BRKN MINOR SILTSTONE INTERBEDS |
| 66 | 305.45 | 305.82 | 0.37 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN BIOTURBATED |
| 66 | 305.82 | 306.28 | 0.46 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.VBRKN |
| 67 | 306.28 | 306.75 | 0.47 | | | MUDSTONE | SLTY.DK.GY.BRKN |
| 67 | 306.75 | 306.80 | 0.05 | | | ROCK LOSS | |
| 67 | 306.80 | 308.05 | 1.25 | | | MUDSTONE | SLTY.DK.GY.BRKN MINOR CALCITE VEINING |
| 68 | 308.05 | 309.33 | 1.28 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN BIOTURBATED |
| 68 | 309.33 | 309.48 | 0.15 | | | SILTSTONE | DK.GY.THNB.XBDG.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 69 | 309.48 | 312.03 | 2.55 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN BECOMING SANDY TOWARDS BASE; EVIDENCE O F WORM BURROWS; RIPUP CLASTS; THIN PEBB LY BED(4CM) |
| 69 | 312.03 | 312.22 | 0.19 | | | ROCK LOSS | |
| 69 | 312.22 | 312.38 | 0.16 | | | SANDSTONE | SLTY.DK.GY.THNB.SLD |
| * 70 | 312.38 | 314.83 | 2.45 | | | SILTSTONE | SSY.DK.GY.THNB.SSD.BRKN MINOR CALCITE VEINING; VERY FINE GRAINE D SANDSTONE INTERBED |
| 74 | 314.83 | 314.99 | 0.16 | | | ROCK LOSS | |
| 75 | 314.99 | 315.43 | 0.44 | | | SILTSTONE | SSY.DK.GY.THNB.SSD.BRKN AS ABOVE |
| 78 | 315.43 | 317.09 | 1.66 | | | SILTSTONE | SSY.DK.GY.THNB.XBDG.BRKN THIN SLIGHTLY CARBONACEOUS MUDSTONE INT ERBEDS; SOFT SEDIMENT DEFORMATION; MIND R CALCITE VEINING; BAND OF RIP' UP CLAST S AT BASE |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 55

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 82 | 317.09 | 317.70 | 0.61 | | | SANDSTONE | VFG.DK.GY.THNB.XBDG.BRKN NUMEROUS CARBONACEOUS INTERBEDS; CALCITE VEINING WITH DISSEMINATED PYRITE |
| 84 | 317.70 | 318.48 | 0.78 | | | SANDSTONE | VFG.DK.GY.THNB.BRKN TWO CARBONACEOUS TO COALY INTERBEDS AT LEAST 5 CM THICK NEAR TOP AND NEAR BASE ; AS ABOVE |
| * 85 | 318.48 | 318.69 | 0.21 | | | SANDSTONE | VFG.DK.GY.THNB.SLD AS ABOVE; NO COALY INTERBEDS |
| 84 | 318.69 | 319.89 | 1.20 | | | SANDSTONE | FG.DK.GY.THNB.SSD.BRKN BANDS OF RIPUP CLASTS; LARGE CALCITE ST RINGER; POSSIBLE COALY INTERBED; NUMERO US COALY WISPS AND STRINGERS; 2CM COAL (5) 40 CM FROM BASE |
| 84 | 319.89 | 319.95 | 0.06 | | | ROCK LOSS | |
| 83 | 319.95 | 320.25 | 0.30 | | | MUDSTONE | DK.GY.BRKN SLIGHTLY SILTY IN PLACES; CARBONACEOUS FLECKS |
| 83 | 320.25 | 321.31 | 1.06 | | | MUDSTONE | DK.GY.BRKN BECOMING CARBONACEOUS AND SILTY |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 56

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 82 | 321.31 | 321.52 | 0.21 | | | SILTSTONE | DK.GY.THNB.XBDG.SLD SOFT SEDIMENT DEFORMATION |
| 81 | 321.52 | 322.16 | 0.64 | | | MUDSTONE | SLTY.DK.GY.BRKN |
| 81 | 322.16 | 322.99 | 0.83 | | | MUDSTONE | DK.GY.BRKN SLIGHTLY SILTY |
| 80 | 322.99 | 323.01 | 0.02 | | | ROCK LOSS | |
| 79 | 323.01 | 324.51 | 1.50 | | | SILTSTONE | CLYY.DK.GY.THNB.BRKN MINOR CARBONACEOUS FLECKS AND MUDSTONE STRINGERS; BECOMING MUDDY TOWARD BASE. |
| 78 | 324.51 | 325.72 | 1.21 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN |
| 77 | 325.72 | 325.85 | 0.13 | | | ROCK LOSS | |
| 77 | 325.85 | 326.62 | 0.77 | | | MUDSTONE | SLTY.DK.GY.BRKN BECOMING CARBONACEOUS AND LESS SILTY TO WARD BASE; MINOR CALCITE VEINING |
| 76 | 326.62 | 326.73 | 0.11 | | 4 | COAL | C-6.BRKN STONEY |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 57

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 76 | 326.73 | 326.79 | 0.06 | 4 | COAL LOSS | |
| | 76 | 326.79 | 326.82 | 0.03 | 4 | COAL | C-5.BRKN |
| | 76 | 326.82 | 326.93 | 0.11 | 4 | COAL LOSS | |
| | 76 | 326.93 | 327.19 | 0.26 | | ROCK LOSS | |
| | 76 | 327.19 | 327.21 | 0.02 | | MUDSTONE | CARB.BLK.BRKN |
| | 75 | 327.21 | 327.40 | 0.19 | | ROCK LOSS | |
| | 75 | 327.40 | 327.57 | 0.17 | | COAL | C-6.BRKN BONEY |
| | 75 | 327.57 | 327.93 | 0.36 | | MUDSTONE | CARB.BRKN ABUNDANT COAL STRINGERS |
| | 74 | 327.93 | 328.80 | 0.87 | | MUDSTONE | CARB.BLK.BRKN COAL STRINGERS |
| | 74 | 328.80 | 329.02 | 0.22 | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY COALY WISPS |
| | 74 | 329.02 | 329.04 | 0.02 | 4 | COAL | C-5.PWRD |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 58

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 73 | 329.04 | 329.14 | 0.10 | | 4 | MUDSTONE | CARB.BLK.VBRKN |
| 73 | 329.14 | 329.20 | 0.06 | | 4 | COAL | C-4.VBRKN |
| 73 | 329.20 | 329.25 | 0.05 | | 4 | MUDSTONE | CARB.BLK.BRKN |
| 73 | 329.25 | 329.45 | 0.20 | | 4 | COAL | C-5.VBRKN |
| 73 | 329.45 | 330.38 | 0.93 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS AND PARTINGS |
| 71 | 330.38 | 331.54 | 1.16 | | | ROCK LOSS | |
| 71 | 331.54 | 332.00 | 0.46 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE |
| 70 | 332.00 | 332.06 | 0.06 | 00140 | | COAL LOSS | |
| * 70 | 332.06 | 332.46 | 0.40 | 00140 | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD CARBONACEOUS; COALY STRINGERS |
| 70 | 332.46 | 332.90 | 0.44 | 00140 | | MUDSTONE | SLTY.DK.GY.THNB.BRKN CARBONACEOUS; COALY STRINGERS; MINOR CA LCITE |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 59

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|---|
| 70 | 332.90 | 333.12 | 0.22 | 00140 | | COAL | C-5.PWRD |
| 70 | 333.12 | 333.37 | 0.25 | | | MUDSTONE | CARB.BLK.VBRKN AS ABOVE |
| 70 | 333.37 | 333.50 | 0.13 | | | ROCK LOSS | |
| 70 | 333.50 | 333.76 | 0.26 | | | COAL LOSS | |
| 70 | 333.76 | 334.23 | 0.47 | | | ROCK LOSS | |
| 70 | 334.23 | 334.62 | 0.39 | | | MUDSTONE | CARB.BLK.VBRKN |
| 70 | 334.62 | 334.76 | 0.14 | | | COAL | C-6.VBRKN BONEY |
| 70 | 334.76 | 334.99 | 0.23 | | | ROCK LOSS | |
| 70 | 334.99 | 335.51 | 0.52 | | | MUDSTONE | CARB.BLK.VBRKN ABUNDANT COAL STRINGERS AND WISPS |
| 70 | 335.51 | 336.38 | 0.87 | | | MUDSTONE | CARB.BLK.VBRKN AS ABOVE |
| 70 | 336.38 | 336.66 | 0.28 | | | COAL LOSS | |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 60

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 70 | 336.66 | 336.84 | 0.18 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE |
| 70 | 336.84 | 336.93 | 0.09 | | | ROCK LOSS | |
| 70 | 336.93 | 337.05 | 0.12 | | | COAL | C-5.VBRKN |
| 70 | 337.05 | 337.16 | 0.11 | | | COAL LOSS | |
| 70 | 337.16 | 338.59 | 1.43 | | | SILTSTONE | DK.GY.THNB.BRKN SOME SOFT SEDIMENT DEFORMATION; MINOR PY RITE FILLED VUGS |
| 70 | 338.59 | 339.81 | 1.22 | | | SILTSTONE | DK.GY.THNB.BRKN AS ABOVE; NO PYRITE |
| 70 | 339.81 | 341.23 | 1.42 | | | SILTSTONE | DK.GY.THNB.WRMBU.BRKN AS ABOVE |
| 70 | 341.23 | 341.35 | 0.12 | | | ROCK LOSS | |
| * 70 | 341.35 | 342.86 | 1.51 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN MINOR CALCITE VEINING; MINOR CROSS-BEDD ING; MINOR THIN CARBONACEOUS BEDS |
| 73 | 342.86 | 344.01 | 1.15 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN MINOR THIN COAL STRINGERS |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 61

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 77 | 344.01 | 345.91 | 1.90 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN MINOR WORM BURROWS; MINOR CROSSBEDDING; CARBONACEOUS STRINGERS AND WISPS |
| 76 | 345.91 | 346.32 | 0.41 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE |
| 76 | 346.32 | 346.52 | 0.20 | | | MUDSTONE | DK.GY.BRKN MINOR CALCITE |
| 75 | 346.52 | 346.84 | 0.32 | | | SILTSTONE | DK.GY.THNB.XBDG.SLD AS ABOVE |
| 74 | 346.84 | 348.79 | 1.95 | | | SILTSTONE | DK.GY.THNB.BRKN AS ABOVE; OCCASIONAL MUDDY INTERBEDS |
| 73 | 348.79 | 348.86 | 0.07 | | | ROCK LOSS | |
| * 73 | 348.86 | 349.55 | 0.69 | | | SILTSTONE | DK.GY.THNB.BRKN AS ABOVE |
| 62 | 349.55 | 351.77 | 2.22 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN ABUNDANT CALCITE VEINING; BCA STEEP CHANGING TO APPROX 45 TOWARDS BASE; NUMEROUS CARBONACEOUS AND COALY PARTINGS; SANDY INTERBEDS; OIL STAIN IN VEINS |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 62

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 54 | 351.77 | 351.91 | 0.14 | | ROCK LOSS | |
| | 53 | 351.91 | 352.13 | 0.22 | | SILTSTONE | DK.GY.THNB.SLD SANDY |
| * | 42 | 352.13 | 354.83 | 2.70 | | SILTSTONE | SSY.DK.GY.THNB.SSD.BRKN MINOR CROSSBEDDING; CALCITE VEINING; TR ACE CARBONACEOUS; TRACE MUDDY INTERBEDS ; THIN BRECCIATED VEINS; WORM BURROWS |
| | 36 | 354.83 | 354.90 | 0.07 | | ROCK LOSS | |
| | 36 | 354.90 | 354.96 | 0.06 | | SILTSTONE | SSY.DK.GY.THNB.SLD MINOR CALCITE VEINING |
| * | 30 | 354.96 | 357.37 | 2.41 | | SANDSTONE | SLTY.DK.GY.THNB.XBDG.BRKN THIN CARBONACEOUS INTERBEDS; TRACE CALC ITE VEINS; COALY STRINGERS TOWARD BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 63

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 357.37 | 357.78 | 0.41 | | | SILTSTONE | SSY.DK.GY.THNB.SSD.BRKN ABUNDANT COALY AND CARBONACEOUS WISPS; STRINGERS AND PARTINGS; ABUNDANT CALCIT E VEINING; BCA VARIES; IS STEEP.RIPUP M UDSTONE CLASTS;PYRITE IN CALCITE VEININ G |
| 33 | 357.78 | 358.01 | 0.23 | | | ROCK LOSS | |
| 36 | 358.01 | 360.06 | 2.05 | | | SILTSTONE | SSY.DK.GY.THNB.SSD.BRKN AS ABOVE |
| 38 | 360.06 | 360.32 | 0.26 | | | SILTSTONE | SSY.DK.GY.THNB.SSD.BRKN AS ABOVE |
| 38 | 360.32 | 360.40 | 0.08 | | | ROCK LOSS | |
| 39 | 360.40 | 361.06 | 0.66 | | | SILTSTONE | DK.GY.THNB.BRKN |
| 40 | 361.06 | 361.20 | 0.14 | | | BRECCIA | ANGULAR SILTSTONE CLASTS IN CALCITE MAT RIX; BRECCIA BCA IS 16 |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 64

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 40 | 361.20 | 361.55 | 0.35 | | SILTSTONE | SSY.DK.GY.THNB.SSD.BRKN RIPUP CLASTS; ABUNDANT CARBONACEOUS WIS PS; ABUNDANT CALCITE VEINING. |
| | 41 | 361.55 | 361.73 | 0.18 | | ROCK LOSS | ABUNDANT CALCITE VEINING |
| | 42 | 361.73 | 362.59 | 0.86 | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE; MINOR CROSS BEDDING; WORM BUR ROWS; STEEP BCA |
| | 43 | 362.59 | 362.71 | 0.12 | | SILTSTONE | SSY.DK.GY.SLD AS ABOVE |
| | 44 | 362.71 | 363.44 | 0.73 | | SILTSTONE | SSY.DK.GY.THNB.BRKN AS ABOVE; BRECCIATED ZONE AT BASE |
| * | | 363.44 | 364.11 | 0.67 | | SILTSTONE | DK.GY.THNB.BRKN AS ABOVE; CALCITE DECREASING, CARBONACEO US AND MUDDY INTERBEDS. |
| | 51 | 364.11 | 365.19 | 1.08 | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE |
| * | 62 | 365.19 | 367.13 | 1.94 | | SILTSTONE | DK.GY.THNB.BRKN ABUNDANT CALCITE VEINING; WORM BURROWS; SLIGHTLY MUDDY AND CARBONACEOUS INTERB EDS |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 65

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 61 | 367.13 | 367.16 | 0.03 | | | ROCK LOSS | |
| 61 | 367.16 | 367.92 | 0.76 | | | SILTSTONE | DK.GY.THNB.BRKN AS ABOVE; SLIGHTLY MUDDY; MINOR CROSSBEDDING |
| 61 | 367.92 | 368.03 | 0.11 | | | ROCK LOSS | |
| * 60 | 368.03 | 370.19 | 2.16 | | | SILTSTONE | DK.GY.THNB.BRKN WORM BURROWS; CARBONACEOUS AT TOP; MUDDY INTERBEDS; MINOR CALCITE VEINING; CARBONACEOUS WISPS; SLIGHTLY SANDY INTERBEDS |
| 60 | 370.19 | 370.50 | 0.31 | | | SILTSTONE | CLYY.DK.GY.BRKN TRACE CALCITE VEINING. |
| * 60 | 370.50 | 371.51 | 1.01 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN SLIGHTLY SANDY, MINOR CALCITE VEINING, CARB WISPS. |
| 60 | 371.51 | 371.62 | 0.11 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 66

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 61 | 371.62 | 372.79 | 1.17 | | | MUDSTONE | DK.GY.THNB.BRKN SLIGHTLY CARB, ABUNDANT CALCITE VEINING TOWARD BASE. |
| 61 | 372.79 | 373.24 | 0.45 | | | BRECCIA | BRKN SLTST CLASTS IN A CALCITE AND LEACHED M ATRIX, CLASTS UP TO 3CM AND ANGULAR. |
| 61 | 373.24 | 373.50 | 0.26 | | | BRECCIA | AS ABOVE. |
| * 62 | 373.50 | 375.85 | 2.35 | | | SANDSTONE | SSY.DK.GY.THNB.XBDG.BRKN CALCITE VEINING, BAND OF RIP UP CLASTS, CARB AND COALY PARTINGS, WISPS PYRITE ASSOCIATED WITH CALCITE VEINING. |
| 63 | 375.85 | 375.99 | 0.14 | | | SILTSTONE | BRKN AS ABOVE. |
| 63 | 375.99 | 376.14 | 0.15 | | | ROCK LOSS | |
| 64 | 376.14 | 376.29 | 0.15 | | | SILTSTONE | DK.GY.THNB.SLD MINOR XBDG, INTERBEDS WRMBUR, TRACE CAL CITE VEINING. |
| * 65 | 376.29 | 378.68 | 2.39 | | | SILTSTONE | DK.GY.THNB.BRKN AS ABOVE. |
| 65 | 378.68 | 378.83 | 0.15 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 67

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81019

| <u>BCA</u> | <u>DEPTH</u> <u>FROM</u> | <u>DEPTH</u> <u>TO</u> | <u>INTRVAL</u> <u>THICK.</u> | <u>SAMP.</u> <u>ID</u> | <u>SEAM</u> <u>ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-----------------------------|---------------------------|---------------------------------|---------------------------|--------------------------|------------------|--|
| 65 | 378.83 | 379.34 | 0.51 | | | SILTSTONE | DK.GY.THNB.BRKN AS ABOVE. END OF HOLE.... 380.09 (MARKE R) |

* DENOTES MEASURED BCA

DDH 81-20

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81020

HISTORY

DY MO YR DY MO YR
 START DATE: 05/10/81 END DATE: 08/10/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: D. DAUPHINEE SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1039.5
 UTM ZONE: 10 NORTH: 6139699.80 EAST: 550778.20.
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-BC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 248.00 INCLINATION: 065.0 AZIMUTH: 045.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 46.30 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|------------|---------|---------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : | — | — | — | X | 125A |
| NEUTRON | X | 1:100 | : | — | — | — | X | 125A |
| DENSITY | X | 1:100 | 1:40 | — | — | X | — | 422AS |
| CALIPER | X | 1:100 | : | — | — | X | — | 20A45 |
| FE-SHORT | | : | : | — | — | — | — | — |
| FE-LONG | X | 1:100 | 1:40 | — | — | X | — | 6 |
| DIRECTIONAL | X | : | : | — | — | X | — | — |
| DIPMETER | — | : | : | — | — | — | — | — |

*** COAL DIVISION ***

DATA SOURCE: D81-20

INTERVAL OF INTERPOLATION 10 UNIT(S)

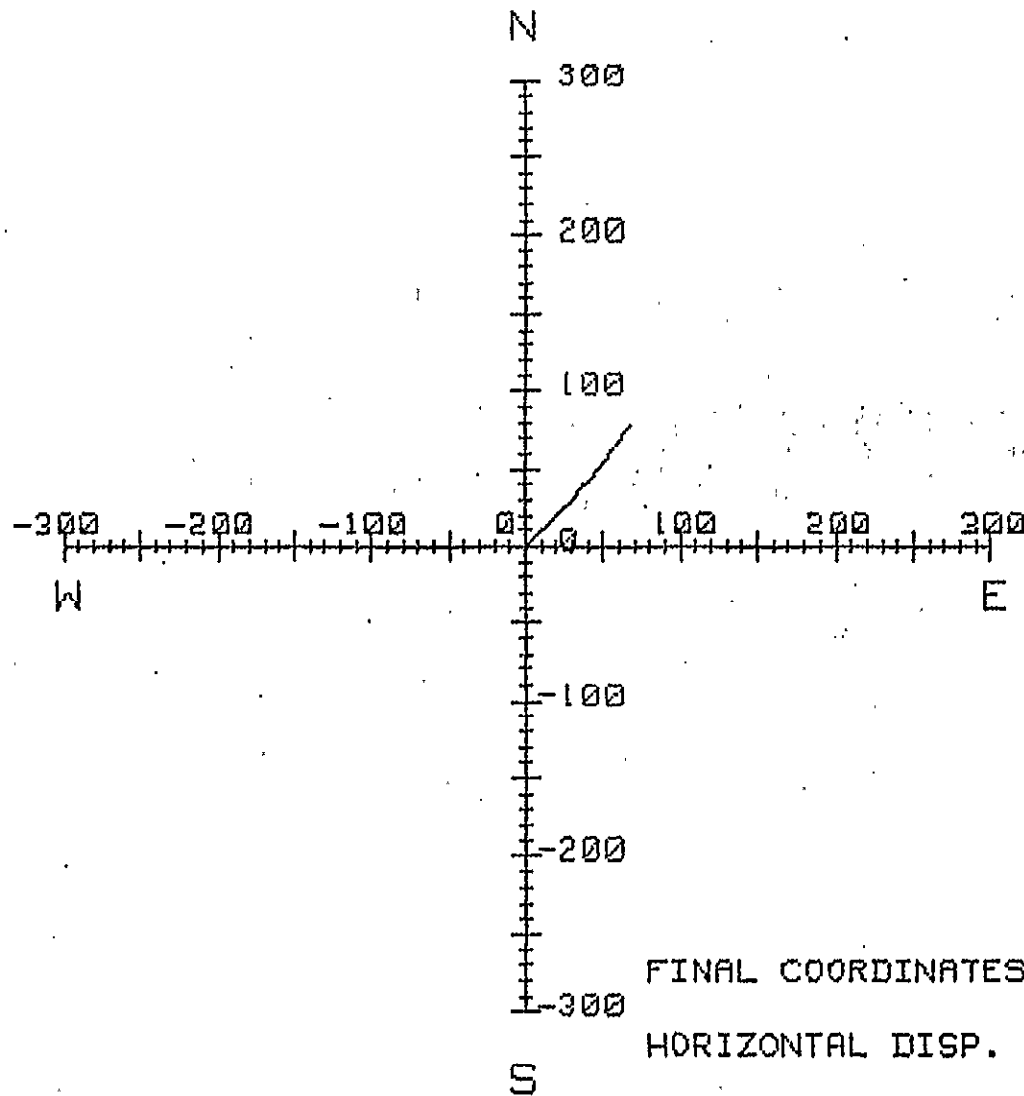
VIEWPOINT: 45.0 DEGREES

DIRECTIONAL SURVEY - INPUT PARAMETERS

| MEAS. DEPTH(M) | SLANT | AZIMUTH |
|-------------------|-------|---------|
| 0.00 | 23.50 | 45.00 |
| 60.00 | 23.50 | 45.00 |
| 75.00 | 23.50 | 45.00 |
| 90.00 | 24.10 | 44.00 |
| 105.00 | 24.20 | 41.00 |
| 120.00 | 25.10 | 40.00 |
| 135.00 | 25.10 | 39.00 |
| 150.00 | 25.40 | 39.00 |
| 165.00 | 25.20 | 37.00 |
| 180.00 | 25.90 | 37.00 |
| 195.00 | 25.80 | 36.00 |
| 210.00 | 25.90 | 37.00 |
| 225.00 | 25.80 | 37.00 |
| 240.00 | 25.70 | 36.00 |
| 245.00 | 25.20 | 37.00 |

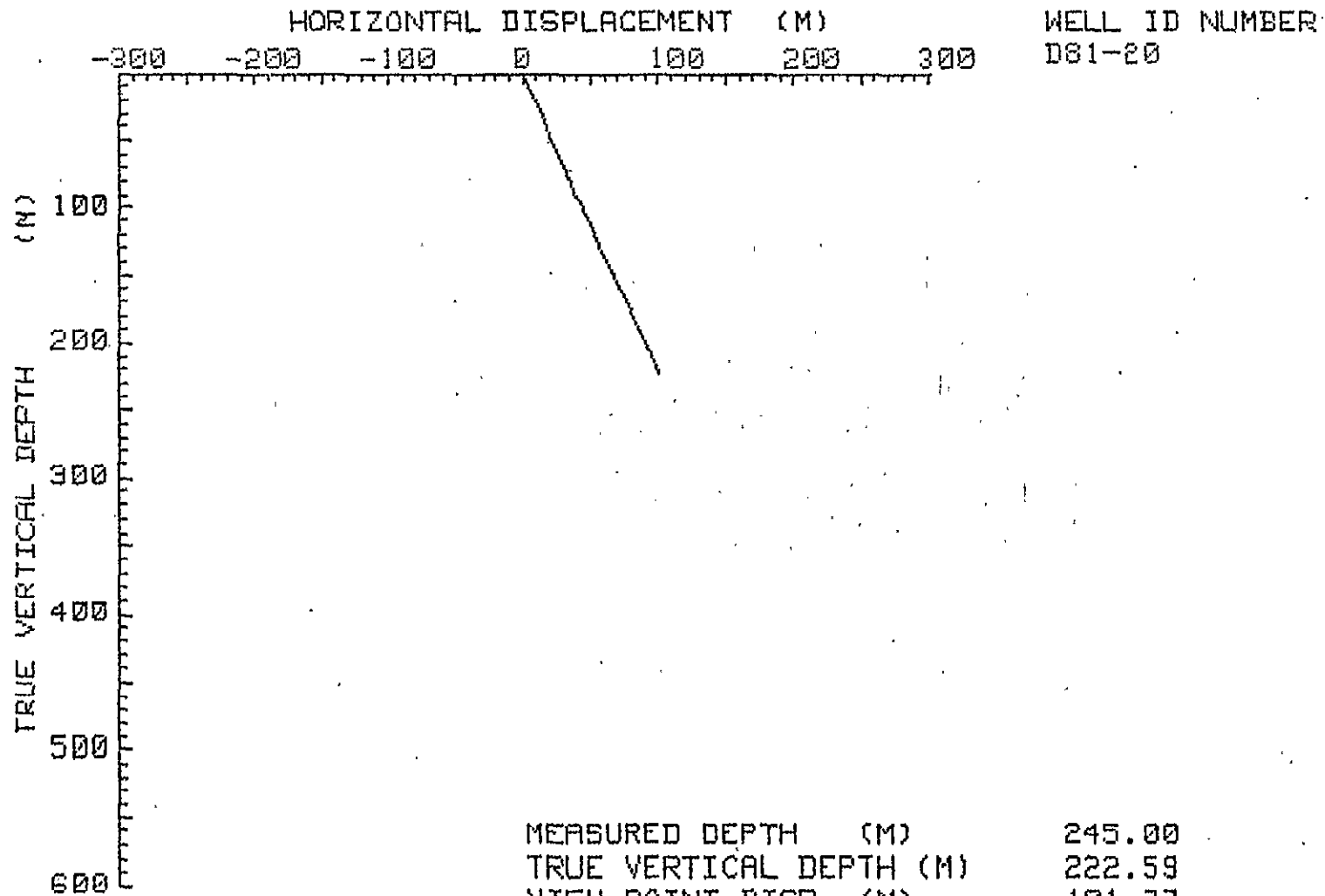
PLAN VIEW

WELL ID NUMBER
D81-20



FINAL COORDINATES(M) N 77.55
E 66.38
HORIZONTAL DISP. (M) 101.77

DISPLACEMENT



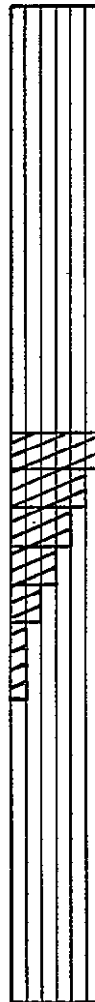
| | |
|-------------------------|--------|
| MEASURED DEPTH (M) | 245.00 |
| TRUE VERTICAL DEPTH (M) | 222.59 |
| VIEW POINT DISP. (M) | 101.77 |
| SECTION LINE BEARING | 45.00 |

SEAM
COMP

COAL
SEAM
LOG

LITHOTYPE


- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone



- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff
- coal
- coal-boney, stoney, coal and bands/rock - designated C6
- rock } coal lithotype uncertain
- coal } MISSING CORE
- rock }
- rock
- coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

| | | |
|---|---------|---|
| GULF CANADA RESOURCES INC. | |  |
| Coal Division | | |
| CALGARY | ALBERTA | |
| LEGEND FOR COAL SEAM DATA SHEETS | | |
| PREPARED BY: V.O. | | SCALE 1:40 |
| APPROVED BY: | | DATE: JAN. 82 DRAWING No. |

COAL SEAM DATA SHEET

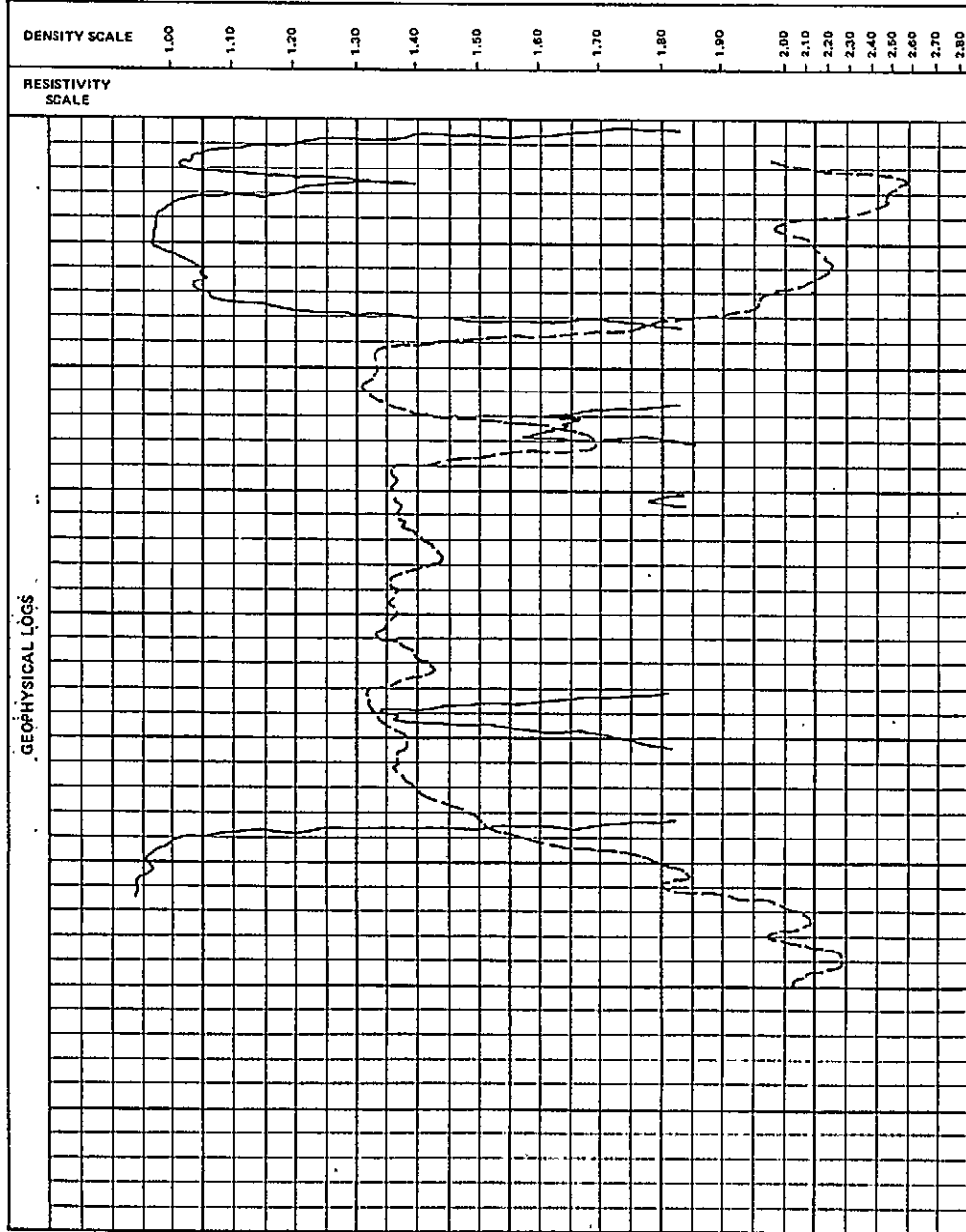
GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Cool / Coal + Rock (True Thk (m))
3.53 / 3.67
SEAM INTERVAL 215.91 - 220.06m

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-20 SEAM _____
SCALE 1:40



GEOPHYSICAL LOGS

| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | |
|------------|--------|---------------|----------------|--------------------------------|--------|--------|---------|-------------------------|-------|-------|------|-------------------|-------------|-----|--|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ^c | BTU (MJ/KG) | FSI | | | |
| 654321 | 215.91 | | (0.11) | 0.13 0.21 0.31 (0.12) | | | | | | | | | | | | | |
| | | | 0.07 (0.09) | 1.18 | 92 | 00182 | 0.68 | 16.46 | 24.62 | 59.24 | 0.19 | 12,451 (28.96) | 1.5 | | | | |
| | 220.06 | | (0.13) | 0.64 0.98 0.42 | | | | | | | | | | | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

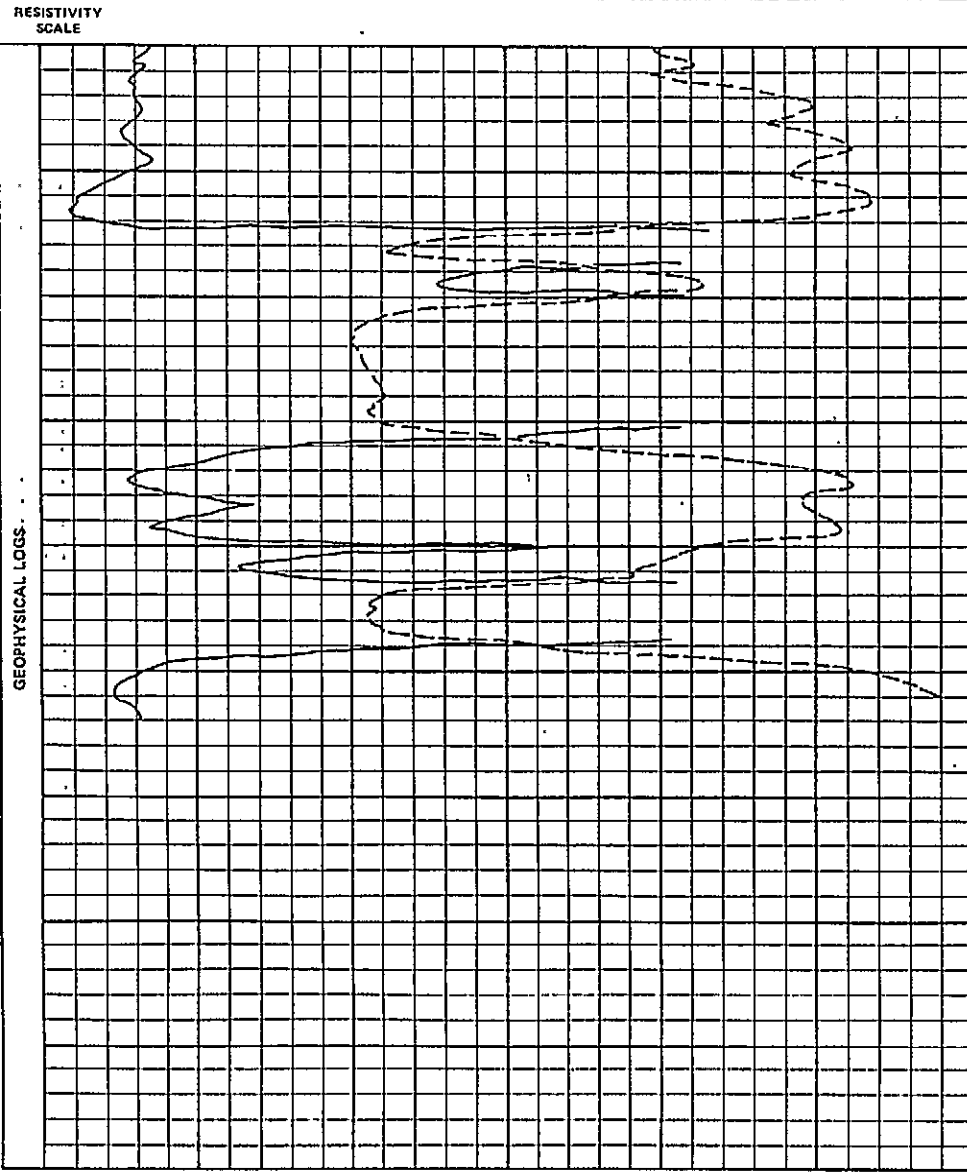
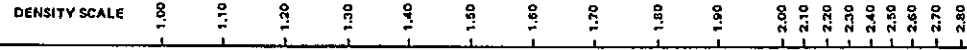
Coal / Coal + Rock (True Thk (m))
1.97 / 2.91

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-20 SEAM _____

SEAM INTERVAL 221.62 - 225.12 m

SCALE 1:40



| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|----------------------|--------|---------------|----------|--|--------|--------|---------|-------------------------|-------|-------|-------|----------------|-------------|----------------|-----|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ^c | BTU (MJ/KG) | FSI | | |
| | 221.52 | | (0.20) | | | | | | | | | | | | | |
| | 221.93 | | 0.05 | 0.21 | 100 | 00183 | | 0.81 | 7.56 | 24.14 | 67.49 | 0.10 | | 13,680 (31.82) | 1.5 | |
| | 222.21 | | (0.23) | | 18 | 00184 | | 0.48 | 35.09 | 38.51 | 25.94 | 0.12 | | 8,819 (15.86) | 0.0 | |
| | 223.39 | | | 0.15 0.34 0.10 0.15 0.14 0.12 0.18 (0.07) | 100 | 00185 | | 0.75 | 6.34 | 28.45 | 64.46 | 0.26 | | 14,063 (32.71) | 7.0 | |
| | 223.46 | | 0.06 | 0.06 | | | | | | | | | | | | |
| | 224.47 | | 0.70 | | 100 | 00186 | | 0.62 | 72.88 | 11.55 | 14.95 | 0.12 | | 3,306 (7.69) | 1.0 | |
| | 224.82 | | 0.06 | 0.13 | | | | | | | | | | | | |
| | 224.82 | | | 0.35 (0.30) | 100 | 00187 | | | 10.03 | 25.68 | 63.65 | 0.48 | | 13,555 (31.53) | 5.0 | |
| | | | 0.20 | | | | | | | | | | | | | |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

SIMPLE SAMPLE SUMMARY

PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|----------------|------|--------------|---------------|-------------|-------------|----------------|-------------------|-------------------|-----------------|-----------------|
| DDH81020 | | 182 | 215.91 | 220.06 | 3.94 | 94.94 | 3.87 | 0.07 | 0.12 | 0.09 |
| | | 183 | 221.72 | 221.93 | 0.21 | 100.00 | 0.21 | 0.00 | 0.00 | 0.00 |
| | | 184 | 221.93 | 222.21 | 0.05 | 17.86 | 0.00 | 0.05 | 0.00 | 0.23 |
| | | 185 | 222.21 | 223.39 | 1.18 | 100.00 | 1.18 | 0.00 | 0.00 | 0.00 |
| | | 186 | 223.46 | 224.47 | 1.01 | 100.00 | 0.19 | 0.82 | 0.00 | 0.00 |
| | | 187 | 224.47 | 224.82 | 0.35 | 100.00 | 0.35 | 0.00 | 0.00 | 0.00 |

GULF CANADA RESOURCES INC. - COAL DIVISION

18/JAN/82

HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE - AD

NAME OF STANDARD - ASTM

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALDRIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|-------|---------------|------------------|----------------|-------------------------------|------|------|
| DDH8102G | | 182 | 0.68 | 16.46 | 58.24 | 24.62 | 0.19 | 28.96 | 1.38 | 1.50 |
| | | 183 | 0.81 | 7.56 | 67.49 | 24.14 | 0.10 | 31.82 | 1.30 | 1.50 |
| | | 184 | 0.46 | 35.09 | 25.94 | 38.51 | 0.12 | 15.86 | 1.52 | 0.00 |
| | | 185 | 0.75 | 6.34 | 64.46 | 28.45 | 0.26 | 32.71 | 1.28 | 7.00 |
| | | 186 | 0.62 | 72.86 | 14.95 | 11.55 | 0.12 | 7.69 | 1.99 | 1.00 |
| | | 187 | 0.64 | 10.03 | 63.65 | 25.68 | 0.48 | 31.53 | 1.33 | 5.00 |

Seam 1

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|------------|---|
| 56 | 42.93 | 45.43 | 2.50 | | | OVERBURDEN | MUD, PEBBLES AND GRAVEL |
| 56 | 45.43 | 45.75 | 0.32 | | | OVERBURDEN | GRAVEL |
| 56 | 45.75 | 48.14 | 2.39 | | | MUDSTONE | SLTY.DK.GY.BRKN BANDS OF SURFACE MUD (UNLITHIFIED) IN M UDST |
| 56 | 48.14 | 48.30 | 0.16 | | | MUDSTONE | SLTY.DK.GY.BRKN SLICKENSIDES |
| 56 | 48.30 | 51.09 | 2.79 | | | MUDSTONE | BRKN AS ABOVE |
| 56 | 51.09 | 51.28 | 0.19 | | | MUDSTONE | BRKN AS ABOVE |
| 56 | 51.28 | 53.69 | 2.41 | | | MUDSTONE | SLTY.DK.GY.BRKN IN FRIABLE EXTREMELY BRKN AREAS ARE SLI CKENSIDES |
| 56 | 53.69 | 54.38 | 0.69 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 54.38 | 56.10 | 1.72 | | | MUDSTONE | BRKN AS ABOVE |
| 56 | 56.10 | 56.20 | 0.10 | | | MUDSTONE | SURFACE AGAIN |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 56 | 56.20 | 56.42 | 0.22 | | | MUDSTONE | SLTY.DK.GY.BRKN |
| 56 | 56.42 | 57.47 | 1.05 | | | MUDSTONE | BRKN AS ABOVE (MINOR SLICKENSIDES PRESENT) |
| | 57.47 | 59.18 | 1.71 | | | MUDSTONE | BRKN AS ABOVE, MINOR PYRITE , NO SLICKENSIDE S. |
| 56 | 59.18 | 60.52 | 1.34 | | | MUDSTONE | BRKN AS ABOVE |
| 56 | 60.52 | 61.76 | 1.24 | | | MUDSTONE | SLTY.DK.GY.SLD |
| 56 | 61.76 | 63.67 | 1.91 | | | MUDSTONE | SLD MINOR SLICKENSIDES , AS ABOVE |
| 56 | 63.67 | 64.64 | 0.97 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 64.64 | 66.59 | 1.95 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 66.59 | 67.39 | 0.80 | | | MUDSTONE | SLD AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 56 | 67.39 | 69.05 | 1.66 | | | MUDSTONE | BRKN AS ABOVE, MORE BRKN AT BASE |
| 56 | 69.05 | 69.12 | 0.07 | | | MUDSTONE | SLTY.DK.GY.PWRD MUD AND ROCK CHIPS |
| 56 | 69.12 | 69.59 | 0.47 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 69.59 | 70.10 | 0.51 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 70.10 | 72.53 | 2.43 | | | MUDSTONE | SLTY.DK.GY.BRKN MINOR SLICKENSIDES CALCIFIED WORM BURRO W (ASTEROSOMA) |
| 56 | 72.53 | 72.81 | 0.28 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 72.81 | 75.39 | 2.58 | | | MUDSTONE | BRKN AS ABOVE, MORE SLICKENSIDES WITH A 2CM BAND OF UNLITHIFIED MATERIAL, POSSIBLE SMALL FAULT |
| 56 | 75.39 | 78.21 | 2.82 | | | MUDSTONE | BRKN AS ABOVE |
| 56 | 78.21 | 78.37 | 0.16 | | | MUDSTONE | BRKN AS ABOVE |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 56 | 78.37 | 80.86 | 2.49 | | | MUDSTONE | BRKN AS ABOVE WITH DISPLACEMENT OF CALC VEIN S EVIDENT |
| 56 | 80.86 | 81.33 | 0.47 | | | MUDSTONE | SLTY.DK.GY.SLD MINOR SLICKENSIDES |
| 56 | 81.33 | 83.50 | 2.17 | | | MUDSTONE | BRKN AS ABOVE |
| | 83.50 | 84.25 | 0.75 | | | MUDSTONE | BRKN AS ABOVE, WORM BURROW (ASTEROSOMA?) |
| 56 | 84.25 | 86.13 | 1.88 | | | MUDSTONE | BRKN AS ABOVE ASTEROSOMA? |
| 56 | 86.13 | 87.21 | 1.08 | | | MUDSTONE | BRKN AS ABOVE |
| 56 | 87.21 | 88.76 | 1.55 | | | MUDSTONE | BRKN AS ABOVE ASTEROSOMA |
| 56 | 88.76 | 89.77 | 1.01 | | | MUDSTONE | BRKN AS ABOVE |
| 56 | 89.77 | 91.58 | 1.81 | | | MUDSTONE | SLTY.DK.GY.BRKN |

* DENOTES MEASURED BCA

XXXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| 56 | 91.58 | 92.91 | 1.33 | | | MUDSTONE | SLD AS ABOVE, MINOR SLICKENSIDES ASTEROSOMA |
| 56 | 92.91 | 94.20 | 1.29 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 94.20 | 96.01 | 1.81 | | | MUDSTONE | BRKN AS ABOVE |
| 56 | 96.01 | 96.46 | 0.45 | | | MUDSTONE | BRKN AS ABOVE |
| 56 | 96.46 | 96.54 | 0.08 | | | BENTONITE | LT.GY.BRKN SOFT |
| 56 | 96.54 | 96.96 | 0.42 | | | MUDSTONE | SLTY.DK.GY.SLD |
| 56 | 96.96 | 98.95 | 1.99 | | | MUDSTONE | SLTY.DK.GY.BRKN MORE BRKN TO SHEARED TOWARDS BASE |
| 56 | 98.95 | 99.49 | 0.54 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 99.49 | 102.05 | 2.56 | | | MUDSTONE | BRKN AS ABOVE, VBRKN WITH SLICKENSIDES NEAR BASE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 56 | 102.05 | 104.87 | 2.82 | | | MUDSTONE | BRKN AS ABOVE, SLICKENSIDES NEAR BASE (FAULT) ASTEROSOMA? |
| 56 | 104.87 | 105.39 | 0.52 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 105.39 | 107.47 | 2.08 | | | MUDSTONE | BRKN AS ABOVE |
| 56 | 107.47 | 108.03 | 0.56 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 108.03 | 110.17 | 2.14 | | | MUDSTONE | SLTY.DK.GY.SLD |
| 56 | 110.17 | 111.09 | 0.92 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 111.09 | 112.71 | 1.62 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 112.71 | 112.84 | 0.13 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 112.84 | 112.87 | 0.03 | | | TUFF | WH.SLD PARTLY SHEARED |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|------------|--|
| 56 | 112.87 | 115.12 | 2.25 | | | MUDSTONE | BRKN AS ABOVE |
| 56 | 115.12 | 115.44 | 0.32 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 115.44 | 116.15 | 0.71 | | | MUDSTONE | SLD AS ABOVE |
| * | 116.15 | 116.84 | 0.69 | | | SILTSTONE | DK.GY.SSD.BRKN FRACTURED CALC VEINS, BRECCIATED SLICKE NSIDES — FAULT? |
| 56 | 116.84 | 116.92 | 0.08 | | | TUFF | SLTY.LT.GY.SLD FRACTURED |
| 56 | 116.92 | 117.41 | 0.49 | | | MUDSTONE | SLTY.DK.GY.SLD |
| 56 | 117.41 | 117.44 | 0.03 | | | TUFF | SLTY.LT.GY.SLD |
| 56 | 117.44 | 118.02 | 0.58 | | | MUDSTONE | SLTY.DK.GY.SLD |
| 56 | 118.02 | 118.07 | 0.05 | | | MUDST&TUFF | SLTY.GY.SLD INTERBEDDED |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 57 | 118.07 | 120.80 | 2.73 | | | MUDST SLTY | DK.GY.BRKN SLICKENSIDES |
| 57 | 120.80 | 121.07 | 0.27 | | | MUDSTONE | SLD AS ABOVE |
| * 57 | 121.07 | 123.40 | 2.33 | | | MUDSTONE | BRKN AS ABOVE, WITH SLT-RICH BANDS PYRITE |
| 58 | 123.40 | 124.08 | 0.68 | | | MUDSTONE | SSD.SLD AS ABOVE |
| * 58 | 124.08 | 125.85 | 1.77 | | | MUDSTONE | SSD.BRKN AS ABOVE |
| 59 | 125.85 | 127.01 | 1.16 | | | MUDSTONE | SLTY.SLD AS ABOVE |
| 59 | 127.01 | 128.58 | 1.57 | | | MUDSTONE | BRKN AS ABOVE |
| 60 | 128.58 | 129.97 | 1.39 | | | MUDSTONE | SLTY.DK.GY.BRKN MINOR SLICKENSIDES |
| * 60 | 129.97 | 131.20 | 1.23 | | | MUDSTONE | SLD AS ABOVE |
| 58 | 131.20 | 132.99 | 1.79 | | | MUDSTONE | SLD AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 9

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|-------------------------------|
| 57 | 132.99 | 133.79 | 0.80 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 133.79 | 136.02 | 2.23 | | | MUDSTONE | SLD AS ABOVE |
| 54 | 136.02 | 136.48 | 0.46 | | | MUDSTONE | SLD AS ABOVE |
| 53 | 136.48 | 139.03 | 2.55 | | | MUDSTONE | BRKN AS ABOVE |
| * 50 | 139.03 | 141.68 | 2.65 | | | MUDSTONE | SLTY.DK.GY.SSD.BRKN |
| 51 | 141.68 | 142.07 | 0.39 | | | MUDSTONE | SLD AS ABOVE |
| 52 | 142.07 | 144.26 | 2.19 | | | MUDSTONE | BRKN AS ABOVE |
| 53 | 144.26 | 145.10 | 0.84 | | | MUDSTONE | SLD AS ABOVE |
| 53 | 145.10 | 146.89 | 1.79 | | | MUDSTONE | SLD AS ABOVE WITH CALC SKS |
| 54 | 146.89 | 148.09 | 1.20 | | | MUDSTONE | SLD AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 55 | 148.09 | 150.02 | 1.93 | | | MUDSTONE | SLD AS ABOVE |
| 56 | 150.02 | 151.60 | 1.58 | | | MUDSTONE | BRKN AS ABOVE |
| 57 | 151.60 | 152.77 | 1.17 | | | MUDSTONE | SLTY.DK.GY.SLD CALC. SLICKENSIDES |
| 58 | 152.77 | 154.64 | 1.87 | | | MUDSTONE | SLD AS ABOVE |
| 59 | 154.64 | 155.39 | 0.75 | | | MUDSTONE | BRKN AS ABOVE |
| 60 | 155.39 | 157.61 | 2.22 | | | MUDSTONE | SLD AS ABOVE WITH LGE INCLUSION OF VFG PYRI TE |
| 61 | 157.61 | 157.97 | 0.36 | | | MUDSTONE | SLD AS ABOVE |
| 61 | 157.97 | 159.87 | 1.90 | | | MUDSTONE | SLD AS ABOVE |
| * 62 | 159.87 | 160.34 | 0.47 | | | SILTSTONE | DK.GY.SLD SS PEBBLE INCLUSIONS BLUE SKY CONTACT A T BASE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 11

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 62 | 160.34 | 160.57 | 0.23 | | SANDSTONE | SLTY.FG.GY.THNB.SLD BLUE SKY |
| * | 64 | 160.57 | 163.19 | 2.62 | | SANDSTONE | SLD AS ABOVE |
| | 58 | 163.19 | 163.33 | 0.14 | | SILTSTONE | SSY.DK.GY.THNB.SLD |
| | 58 | 163.33 | 163.52 | 0.19 | | SANDSTONE | SLD AS ABOVE, GETTING CONTACT |
| * | 52 | 163.52 | 166.10 | 2.58 | | SANDSTONE | SLTY.DK.GY.THNB.SSD.BRKN SLTY MUDST INTERBEDDED (3 TO 10CM THICK) |
| | 53 | 166.10 | 166.75 | 0.65 | | SANDSTONE | BRKN AS ABOVE WITH MORE SLTY MUDST, GRADED B DG |
| | 53 | 166.75 | 168.63 | 1.88 | | SANDSTONE | BRKN AS ABOVE |
| | 54 | 168.63 | 171.17 | 2.54 | | SILTSTONE | DK.GY.THNB.SSD.BRKN SSY (VFG) IN VTHN BEDS (ZEBRA STRIPED) |
| * | 55 | 171.17 | 172.43 | 1.26 | | SILTSTONE | SLD BIOTURBATED AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 12

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 55 | 172.43 | 173.71 | 1.28 | | SILTSTONE | BRKN AS ABOVE |
| * | 55 | 173.71 | 175.47 | 1.76 | | MUDSTONE | SLTY.DK.GY.THNB.SSD.BRKN |
| | 52 | 175.47 | 176.26 | 0.79 | | SILTSTONE | GY.THNB.SSD.BRKN SSY BANDS |
| | 50 | 176.26 | 177.15 | 0.89 | | SILTSTONE | DK.GY.THNB.SSD.SLD V BIOTURBATED |
| * | 47 | 177.15 | 178.36 | 1.21 | | SILTSTONE | DK.GY.THNB.SSD.BRKN ZEBRA STRIPED BIOTRB |
| | 49 | 178.36 | 179.02 | 0.66 | | SILTSTONE | DK.GY.THNB.SSD.BRKN ZEBRA STRIPED BIOTURBATED |
| | 53 | 179.02 | 181.56 | 2.54 | | SILTSTONE | BRKN AS ABOVE |
| * | 58 | 181.56 | 183.72 | 2.16 | | SILTSTONE | BRKN AS ABOVE TO ZEBRA STRIPES PROMINENT AT TOP |
| | | 183.72 | 184.28 | 0.56 | | MUDSTONE | SLTY.DK.GY.THNB.SSD.SLD BIOTURBATED. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 13

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 58 | 184.28 | 184.61 | 0.33 | | | MUDSTONE | SLD AS ABOVE |
| 57 | 184.61 | 186.94 | 2.33 | | | MUDSTONE | BRKN AS ABOVE |
| 57 | 186.94 | 187.55 | 0.61 | | | MUDSTONE | BRKN AS ABOVE |
| 57 | 187.55 | 187.92 | 0.37 | | | MUDSTONE | SLTY.DK.GY.SLD CARB |
| 57 | 187.92 | 188.37 | 0.45 | | | SANDSTONE | CARB.MG.DK.GY.SLD BRKN AT BASE BLACK CHART PEBBLES 0.5-1. OCM DIAM |
| 57 | 188.37 | 188.41 | 0.04 | | | COAL | C-4.SLD |
| 56 | 188.41 | 188.51 | 0.10 | | | MUDSTONE | CARB.DK.GY.BRKN |
| 56 | 188.51 | 188.53 | 0.02 | | | COAL | C-5.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 14

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-------------|--|
| 56 | 188.53 | 189.18 | 0.65 | | | MUDSTONE | CARB.BLK.BRKN COALY, COAL BANDS |
| 56 | 189.18 | 189.28 | 0.10 | | | UNLITHIFIED | CARB.DK.GY.PWRD MUDSTONE CHIPS, PEBBLES AND MUD |
| 56 | 189.28 | 189.50 | 0.22 | | | MUDSTONE | CARB.BLK SLTY CARB PLANT FRAG |
| 56 | 189.50 | 189.80 | 0.30 | | | ROCK LOSS | |
| 56 | 189.80 | 190.36 | 0.56 | | | MUDSTONE | SLTY.DK.GY.SLD CARB |
| 56 | 190.36 | 192.32 | 1.96 | | | MUDSTONE | SLTY.DK.GY.BRKN COALY AT BASE |
| 55 | 192.32 | 192.52 | 0.20 | | | MUDSTONE | CARB.DK.GY.SLD |
| 55 | 192.52 | 192.60 | 0.08 | | | COAL | C-5.BRKN |
| 55 | 192.60 | 193.12 | 0.52 | | | MUDSTONE | CARB.DK.GY.BRKN |
| 55 | 193.12 | 193.23 | 0.11 | | | ROCK LOSS | |
| 55 | 193.23 | 193.41 | 0.18 | | | COAL | C-6.BLK.BRKN |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 15

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 55 | 193.41 | 193.52 | 0.11 | | | MUDSTONE | BLK.BRKN COAL BANDS (<1CM) |
| 55 | 193.52 | 193.68 | 0.16 | | | MUDSTONE | CARB.DK.GY.SLD COALY BANDS (<1CM) |
| * 55 | 193.68 | 194.82 | 1.14 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN COALY BANDS (<1CM) |
| 57 | 194.82 | 196.41 | 1.59 | | | SILTSTONE | GY.THNB.SSD.BRKN |
| * 58 | 196.41 | 197.45 | 1.04 | | | SILTSTONE | SSY.GY.THNB.BRKN MUDDY BANDS |
| 57 | 197.45 | 199.41 | 1.96 | | | SILTSTONE | SSY.GY.THNB.BRKN COALY INCLUSIONS, MUDDY BANDS |
| 57 | 199.41 | 200.06 | 0.65 | | | SILTSTONE | BRKN AS ABOVE |
| 56 | 200.06 | 202.51 | 2.45 | | | SILTSTONE | BRKN AS ABOVE WITH MORE SSY MATERIAL, CALC V EIN (3CM) - SLICKENSIDES AND LGE COAL I NCLUSION |
| 55 | 202.51 | 202.81 | 0.30 | | | SILTSTONE | SLD AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 16

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 55 | 202.81 | 203.49 | 0.68 | | | SILTSTONE | CARB.DK.GY.THNB.SLD CARB BANDS |
| 54 | 203.49 | 204.07 | 0.58 | | | MUDSTONE | CARB.BLK.BRKN COAL BANDS |
| * 54 | 204.07 | 205.42 | 1.35 | | | SILTSTONE | SSY.DK.GY.THNB.XBDG.SLD CHERT PEBBLES, SSD |
| * 59 | 205.42 | 208.01 | 2.59 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN |
| 59 | 208.01 | 208.39 | 0.38 | | | SILTSTONE | SLD AS ABOVE. |
| 59 | 208.39 | 208.46 | 0.07 | | | ROCK LOSS | |
| 59 | 208.46 | 209.31 | 0.85 | | | MUDSTONE | SLTY.DK.GY.BRKN |
| 59 | 209.31 | 209.93 | 0.62 | | 1 | COAL | C-5.BLK.VBRKN |
| 59 | 209.93 | 210.02 | 0.09 | | 1 | COAL LOSS | |
| 59 | 210.02 | 210.66 | 0.64 | | 1 | MUDSTONE | BLK.BRKN COALY, COAL BANDS, SOFT. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 17

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 59 | 210.66 | 210.72 | 0.06 | | 1 | MUDSTONE | BLK. BRKN COALY. |
| 59 | 210.72 | 211.17 | 0.45 | | 1 | COAL | C-5. VBRKN |
| 59 | 211.17 | 211.25 | 0.08 | | 1 | MUDSTONE | BLK. BRKN COALY. |
| 59 | 211.25 | 211.51 | 0.26 | | 1 | COAL | C-5. PWRD |
| 59 | 211.51 | 211.79 | 0.28 | | 1 | BENTONITE | LT. GY. BRKN SANDST AND COAL MIXED IN. |
| 59 | 211.79 | 211.92 | 0.13 | | 1 | COAL LOSS | |
| 59 | 211.92 | 212.63 | 0.71 | | 1 | COAL | C-4. VBRKN PWRD. |
| 59 | 212.63 | 212.90 | 0.27 | | 1 | MUDSTONE | BLK. BRKN COALY. |
| 59 | 212.90 | 212.99 | 0.09 | | 1 | COAL | C-4. BRKN |
| 59 | 212.99 | 213.09 | 0.10 | | 1 | MUDSTONE | BLK. BRKN COALY, COAL PARTINGS ABOUT 1CM. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 18

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 59 | 213.09 | 213.18 | 0.09 | | | MUDSTONE | BLK.SLD COALY. |
| 59 | 213.18 | 213.26 | 0.08 | | | COAL | C-5.SLD |
| 59 | 213.26 | 213.32 | 0.06 | | | MUDSTONE | BLK.BRKN COALY. |
| 59 | 213.32 | 213.48 | 0.16 | | | COAL | C-5.BRKN |
| 59 | 213.48 | 213.51 | 0.03 | | | MUDSTONE | BLK.BRKN COALY. |
| 59 | 213.51 | 213.74 | 0.23 | | | COAL | C-4.SLD |
| 59 | 213.74 | 213.88 | 0.14 | | | SILTSTONE | CARB.BLK.SLD SSY, COALY AT TOP AND BASE. |
| 59 | 213.88 | 214.13 | 0.25 | | | ROCK LOSS | |
| 59 | 214.13 | 214.59 | 0.46 | | | COAL | C-5.BRKN |
| 59 | 214.59 | 215.80 | 1.21 | | | MUDSTONE | BLK.BRKN COALY. COAL PARTINGS (<3CM). |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 19

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--------------|
| 59 | 215.80 | 215.91 | 0.11 | | | ROCK LOSS | |
| 59 | 215.91 | 216.04 | 0.13 | 00182 | | COAL | C-4.BRKN |
| 59 | 216.04 | 216.25 | 0.21 | 00182 | | COAL | C-2.BRKN |
| 59 | 216.25 | 216.56 | 0.31 | 00182 | | COAL | C-1 |
| 59 | 216.56 | 216.68 | 0.12 | 00182 | | COAL LOSS | |
| 59 | 216.68 | 216.75 | 0.07 | 00182 | | SILTSTONE | CARB.BLK.SLD |
| 59 | 216.75 | 216.84 | 0.09 | 00182 | | ROCK LOSS | |
| 59 | 216.84 | 218.02 | 1.18 | 00182 | | COAL | C-2.BRKN |
| 59 | 218.02 | 218.66 | 0.64 | 00182 | | COAL | C-4.BRKN |
| 59 | 218.66 | 219.64 | 0.98 | 00182 | | COAL | C-2.BRKN |
| 59 | 219.64 | 220.06 | 0.42 | 00182 | | COAL | C-5.BRKN |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 20

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 59 | 220.06 | 220.19 | 0.13 | | | COAL LOSS | |
| 59 | 220.19 | 220.59 | 0.40 | | | MUDSTONE | CARB.BLK.BRKN WITH COAL PARTINGS (<2CM) |
| 59 | 220.59 | 221.14 | 0.55 | | | MUDSTONE | BRKN AS ABOVE. |
| 59 | 221.14 | 221.52 | 0.38 | | | MUDSTONE | BRKN AS ABOVE. |
| 59 | 221.52 | 221.72 | 0.20 | | | ROCK LOSS | |
| 59 | 221.72 | 221.93 | 0.21 | 00183 | | COAL | C-5.VBRKN |
| 59 | 221.93 | 221.98 | 0.05 | 00184 | | SANDSTONE | CARB.BLK.BRKN |
| 59 | 221.98 | 222.21 | 0.23 | | | ROCK LOSS | |
| 59 | 222.21 | 222.36 | 0.15 | 00185 | | COAL | PWRD |
| 59 | 222.36 | 222.70 | 0.34 | 00185 | | COAL | C-5.BRKN |
| 59 | 222.70 | 222.80 | 0.10 | 00185 | | COAL | C-4.BRKN |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 21

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---------------|
| 59 | 222.80 | 222.95 | 0.15 | 00185 | 1 | COAL | C-2.BRKN |
| 59 | 222.95 | 223.09 | 0.14 | 00185 | 1 | COAL | C-4.BRKN |
| 59 | 223.09 | 223.21 | 0.12 | 00185 | 1 | COAL | C-5.BRKN |
| 59 | 223.21 | 223.39 | 0.18 | 00185 | 1 | COAL | C-2.BRKN |
| 59 | 223.39 | 223.46 | 0.07 | 00185 | 1 | COAL LOSS | |
| 59 | 223.46 | 223.52 | 0.06 | 00186 | 1 | MUDSTONE | CARB.BLK.BRKN |
| 59 | 223.52 | 223.58 | 0.06 | 00186 | 1 | COAL | C-1.BRKN |
| 59 | 223.58 | 223.68 | 0.10 | 00186 | 1 | MUDSTONE | CARB.BLK.BRKN |
| 59 | 223.68 | 224.28 | 0.60 | 00186 | 1 | MUDSTONE | CARB.BLK.BRKN |
| 59 | 224.28 | 224.41 | 0.13 | 00186 | 1 | COAL | C-3.SLD |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 22

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 59 | 224.41 | 224.47 | 0.06 | 00186 | 1 | MUDSTONE | CARB.BLK.SLD |
| 59 | 224.47 | 224.82 | 0.35 | 00187 | 1 | COAL | C-4.BRKN |
| 59 | 224.82 | 225.12 | 0.30 | 00187 | 1 | COAL LOSS | |
| 59 | 225.12 | 225.32 | 0.20 | | | MUDSTONE | CARB.BLK.SLD SLTY TOWARDS BASE. |
| 59 | 225.32 | 226.80 | 1.48 | | | SILTSTONE | SLTY.GY.MAS.SLD COMPACT, UNIFORM. |
| 59 | 226.80 | 229.69 | 2.89 | | | SILTSTONE | DK.GY.THNB.SLD SSY TOWARDS BASE, MUDDY. |
| 59 | 229.69 | 229.82 | 0.13 | | | SILTSTONE | SSY.DK.GY.THNB.SLD |
| * 59 | 229.82 | 232.31 | 2.49 | | | SANDSTONE | FG.GY.THNB.SLD SLTY AT TOP, MG AT BASE. |
| 54 | 232.31 | 232.79 | 0.48 | | | SANDSTONE | MG.GY.THNB.SLD THIN COALY INCLUSIONS, SLTY MATERIAL. |
| 51 | 232.79 | 234.31 | 1.52 | | | SANDSTONE | MG.GY.THNB.SLD |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 22

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 34 | 201.56 | 202.93 | 1.37 | | MUDSTONE | CARB.DK.GY.BRKN WITH ABUNDANT COALY WISPS AND STRINGERS , MINOR CALCITE VEINING |
| | 33 | 202.93 | 203.51 | 0.58 | | ROCK LOSS | |
| | 32 | 203.51 | 204.61 | 1.10 | | MUDSTONE | SLTY.DK.GY.THNB.SSD.VBRKN OCCASIONALLY CARB MINOR THIN COALY WISP S AND STRINGERS |
| * | 30 | 204.61 | 205.84 | 1.23 | | MUDSTONE | SLTY.DK.GY.THNB.SSD.BRKN AS ABOVE |
| | 30 | 205.84 | 206.54 | 0.70 | | MUDSTONE | CARB.DK.GY.VBRKN SILTY AT TOP, ABUNDANT (PWRD) COALY STR INGERS THROUGHOUT |
| | 31 | 206.54 | 206.94 | 0.40 | | MUDSTONE | SLTY.DK.GY.THNB.BRKN ABUNDANT THIN CALCITE VEINING, SLIGHTLY CARB |
| | 31 | 206.94 | 207.55 | 0.61 | | MUDSTONE | DK.GY.BRKN SLIGHTLY SILTY THROUGHOUT; MINOR CARB A ND COALY FLECKS AND STRINGERS. |
| | 31 | 207.55 | 207.66 | 0.11 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 24

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81020

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 40 | 237.86 | 238.77 | 0.91 | | | MUDSTONE | SLTY.DK.GY.BRKN CARB. |
| 40 | 238.77 | 238.89 | 0.12 | | | ROCK LOSS | |
| 40 | 238.89 | 240.48 | 1.59 | | | MUDSTONE | SLTY.DK.GY.BRKN CARB. |
| 40 | 240.48 | 242.01 | 1.53 | | | MUDSTONE | BRKN AS ABOVE. |
| 40 | 242.01 | 242.31 | 0.30 | | | MUDSTONE | SLD AS ABOVE. |
| 40 | 242.31 | 243.07 | 0.76 | | | SILTSTONE | DK.GY.BRKN MUDDY. |
| 40 | 243.07 | 244.89 | 1.82 | | | MUDSTONE | SLTY.DK.GY.BRKN SLICKENSIDES, CALCITE. |
| 40 | 244.89 | 245.06 | 0.17 | | | ROCK LOSS | |
| 40 | 245.06 | 245.84 | 0.78 | | | MUDSTONE | BRKN AS ABOVE. |
| 40 | 245.84 | 247.92 | 2.08 | | | MUDSTONE | BRKN AS ABOVE, WITH COAL PARTINGS. |
| 40 | 247.92 | 248.11 | 0.19 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

DDH 81-21

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: DATA SOURCE: DDH81021

HISTORY

DY MO YR DY MO YR
 START DATE: 10/10/81 END DATE: 13/10/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: V.O. AND V.T. SURVEYOR: D. WATSON
 REMARKS: NO DIR. LOG RUN. HOLE ORIENTATION APPROXIMATE.

LOCATION

PROVINCE: B.C. ELEVATION: 1039.5
 UTM ZONE: 10 NORTH: 6139699.80 EAST: 550778.20
 LAT&LONG LATITUDE: LONGITUDE:
 DLS-ALTA NORTH: EAST: LSD: SEC: TWP: RGE: MER:
 NTS-BC NORTH: EAST: QUAD: UNIT: BLK: ST: MUS: MS:

DIMENSIONS AND ORIENTATION

LENGTH: 245.00 INCLINATION: 065.0 AZIMUTH: 270.0
 SIZE WIDTH: SIZE HEIGHT:
 ROOF STRIKE: DIP: FLOOR STRIKE: DIP:

DRILL HOLE STATUS

CASING DEPTH: 44.50 CEMENTED: PLUGGED: PEIZOMETERS INSTALLED:
 AQUIFER DEPTHS: LOST CIRCULATION DEPTHS:

GEOPHYSICAL LOGGING

| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------------------|------------|------------|------------|-----------|-------------------|--------------|--------------|----------------|
| GAMMA | X | 1:100 | : _____ | -- | -- | -- | X | 125A |
| NEUTRON | X | 1:100 | : _____ | -- | -- | -- | X | 125A |
| DENSITY | X | 1:100 | 1:40 | -- | -- | X | -- | 422AS |
| CALIPER | X | 1:100 | : _____ | -- | -- | X | -- | 20A45 |
| FE-SHORT | X | : _____ | 1:40 | -- | -- | X | -- | 6 |
| FE-LONG | X | 1:100 | 1:40 | -- | -- | X | -- | 6 |
| DIRECTIONAL DIPMETER | X -- | : _____ | : _____ | -- -- | -- -- | X -- | -- -- | _____ _____ |

ROKE OIL ENTERPRISES LIMITEDDIRECTIONAL SURVEYCOMPANY: GULF CANADA RESOURCES INC.

GRID: _____

DATE SURVEYED: 13 OCT 1981DRILL HOLE: GDR-DDH-81-21

LATITUDE: _____

SURVEY BY: FAGERNESS

LOCATION: _____

DEPARTURE: _____

WITNESSED BY: ZSCHACHFIELD: GOODRICH

ELEVATION: _____

CALCULATIONS BY: _____

MAGNETIC DECLINATION: _____

CORRECTION OF: _____

FOR: _____ GRID: _____

SLANT ANGLE FROM VERTICAL, BEARING FROM MAGNETIC NORTH

| Number | Cable Depth | Slant Angle | Slant Angle Bearing | Number | Cable Depth | Slant Angle | Slant Angle Bearing | Number | Cable Depth | Slant Angle | Slant Angle Bearing |
|--------|-------------|-------------|---------------------|--------|-------------|-------------|---------------------|--------|-------------|-------------|---------------------|
| 0 | 0 | 27.8 | CASING | 11 | 165 | 27.5 | 206 | 22 | | REPEAT | |
| 1 | 15 | 28.1 | CASING | 12 | 180 | 27.7 | 206 | 23 | 180 | 27.7 | 205 |
| 2 | 30 | 28.0 | CASING | 13 | 195 | 27.4 | 208 | 24 | 120 | 27.5 | 206 |
| 3 | 45 | 28.0 | 207 | 14 | 210 | 27.0 | 207 | 25 | 60 | 27.3 | 207 |
| 4 | 60 | 27.2 | 207 | 15 | 225 | 27.2 | 206 | 26 | | | |
| 5 | 75 | 27.5 | 206 | 16 | 239 | 27.1 | 204 | 27 | | | |
| 6 | 90 | 27.0 | 205 | 17 | | | | 28 | | | |
| 7 | 105 | 27.1 | 208 | 18 | | | | 29 | | | |
| 8 | 120 | 27.5 | 206 | 19 | | | | 30 | | | |
| 9 | 135 | 27.4 | 207 | 20 | | | | 31 | | | |

SEAM
COMP

COAL
SEAM
LOG

LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone



breccia
 carbonaceous claystone
 claystone
 coaly claystone
 conglomerate
 sandstone
 siltstone
 silty claystone
 tuff
 coal
 coal-boney, stoney, coal and bands/rock - designated "C6"
 rock > coal lithotype uncertain
 coal } MISSING CORE
 rock }
 rock
 coal

CORED HOLE
 GEOPHYSICALLY LOGGED
 LITHOLOGY DESCRIBED

UNCORED HOLE
 GEOPHYSICAL LOGS ONLY

| | | |
|---|--------------------------|---------------------------|
| GULF CANADA RESOURCES INC. | | |
| CALGARY | Coal Division ALBERTA | |
| LEGEND FOR COAL SEAM DATA SHEETS | | |
| PREPARED BY: V.O. | | SCALE 1:40 |
| APPROVED BY: | | DATE: JAN. 82 DRAWING No. |

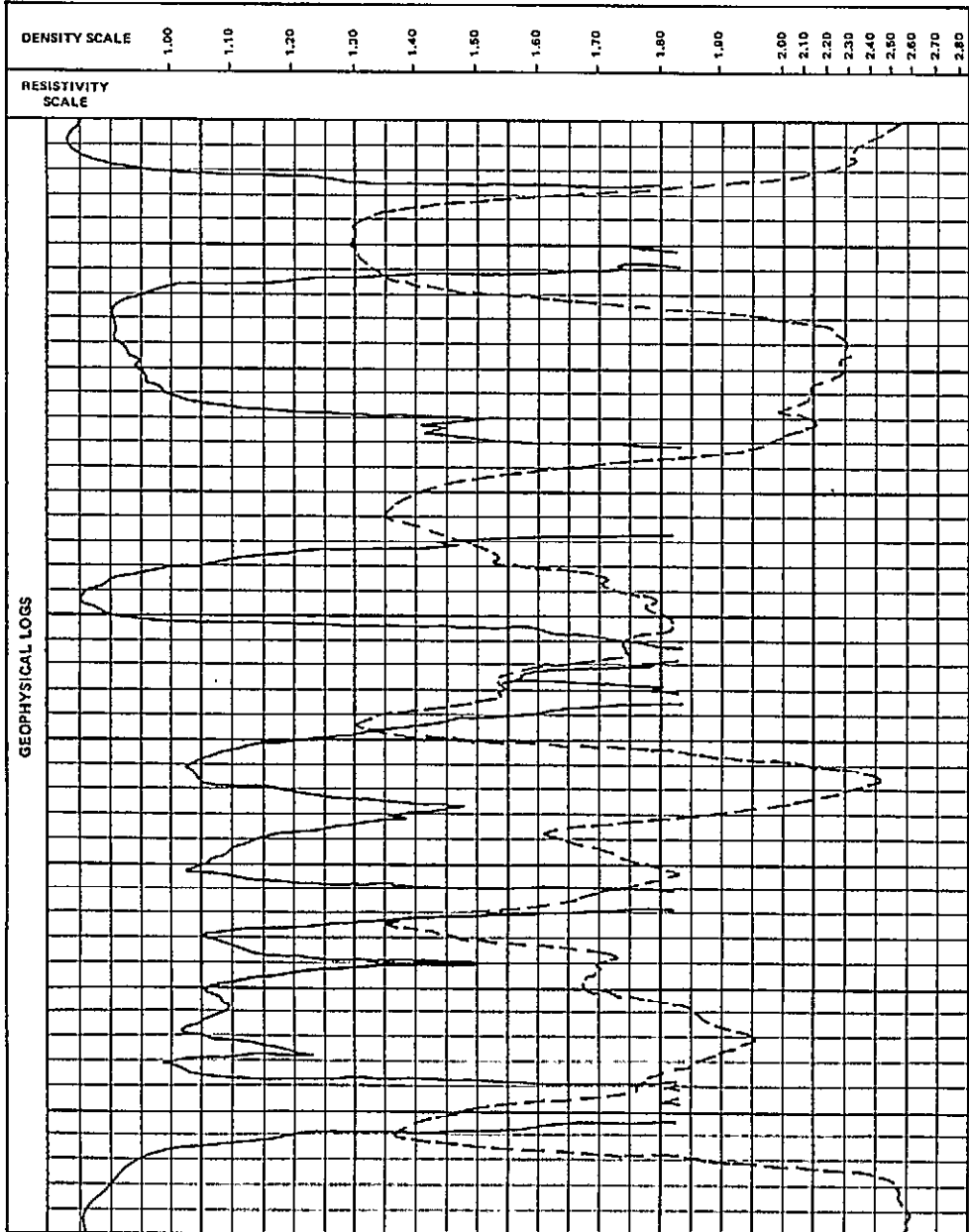
COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-21 SEAM _____ SEAM INTERVAL 151.34 - 159.11 m
SCALE 1:40



GEOPHYSICAL LOGS

| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | |
|-------------------|--------|---------------|----------|----------------|--------|--------|---------|-------------------------|-------|-------|-------|----------------|-------------------|-----|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ^c | BTU (MJ/KG) | FSI |
| | 151.34 | | | 0.87 (0.10) | 91 | 00167 | | 0.85 | 12.06 | 23.70 | 63.39 | 0.38 | 13,212 (30.73) | 1.5 |
| | 152.31 | | | 0.95 (0.29) | 77 | 00168 | | 0.81 | 78.64 | 8.38 | 12.17 | 0.06 | 2,291 (5.33) | 0.0 |
| | 153.54 | | | 0.58 (0.27) | 55 | 00169 | | 0.72 | 18.40 | 23.86 | 57.02 | 0.25 | 11,986 (27.88) | 1.5 |
| | 154.39 | | | (0.37) | | | | | | | | | | |
| | 154.76 | | | 0.25 | 60 | 00170 | | 0.76 | 75.81 | 13.26 | 10.17 | 0.06 | 2,257 (5.25) | 0.0 |
| | 155.01 | | | 0.30 | | | | | | | | | | |
| | 155.31 | | | (0.50) 0.05 | 9 | 00171 | | 0.84 | 24.09 | 28.16 | 46.91 | 0.28 | 11,445 (26.62) | 8.5 |
| | 155.86 | | | 0.57 | | | | | | | | | | |
| | 156.43 | | | 0.04 | 75 | 00172 | | 0.70 | 68.38 | 16.77 | 14.15 | 0.11 | 3,594 (8.36) | 1.0 |
| | 157.12 | | | (0.32) | | | | | | | | | | |
| | 157.32 | | | 0.20 | 100 | 00173 | | 0.67 | 11.95 | 26.84 | 60.54 | 0.22 | 13,379 (31.12) | 3.5 |
| | | | | 0.51 (0.80) | 76 | 00174 | | 0.31 | 75.68 | 12.03 | 11.98 | 0.10 | 2,782 (6.47) | 1.0 |
| | 158.63 | | | 0.09 | | | | | | | | | | |
| | 159.11 | | | 0.28 | 100 | 00175 | | 0.38 | 41.45 | 18.92 | 39.25 | 0.29 | 8,551 (19.89) | 1.0 |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

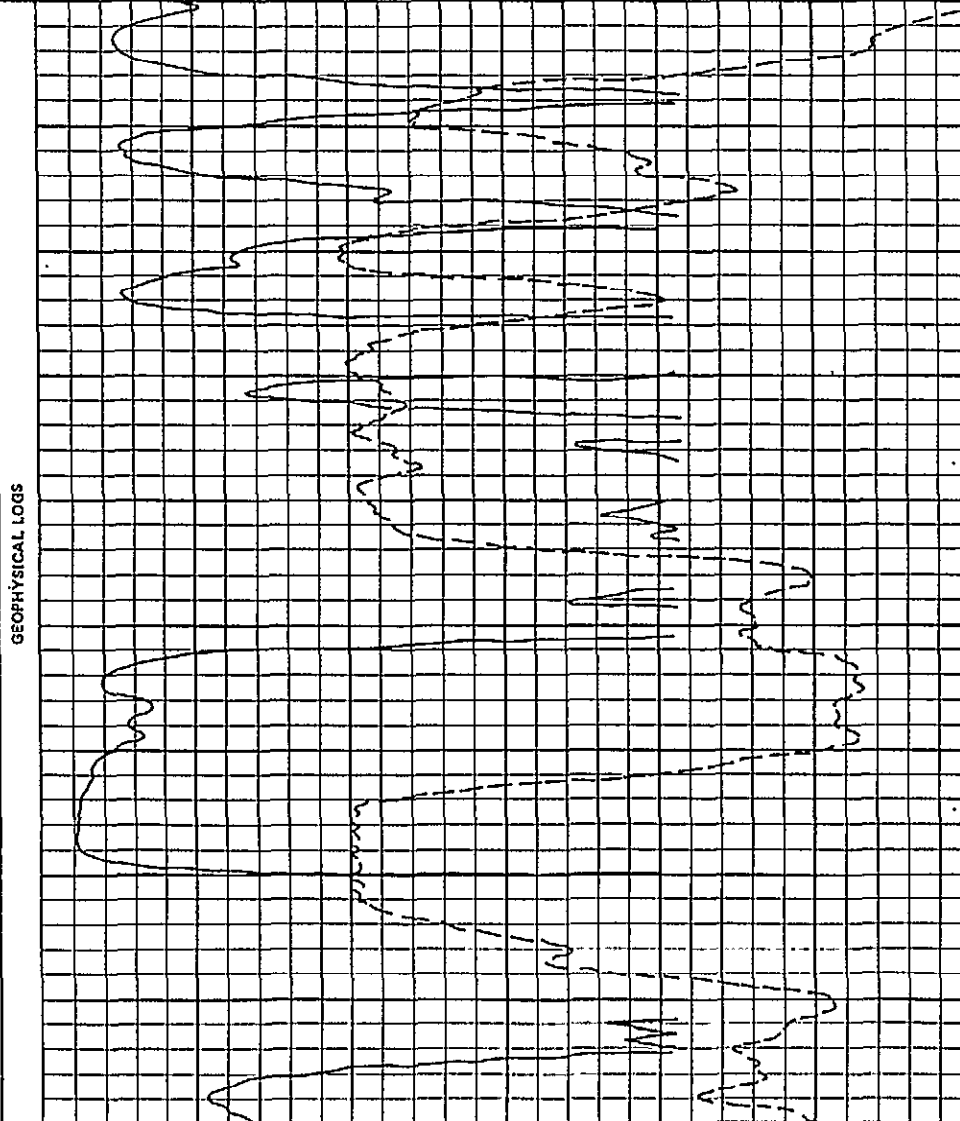
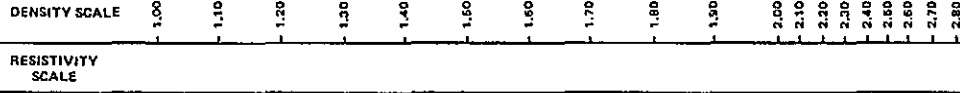
Coal/Coal ± Rock (True Thk(m))
1.36/1.43 [Int: 172.30-174.16m]

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-21 SEAM

SEAM INTERVAL 170.39 - 179.52 m

SCALE 1:40



GEOPHYSICAL LOGS

| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REG. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | |
|------------|--------|---------------|----------------|----------------|--------|--------|---------|-------------------------|-------|-------|-------|------|-------------------|-----|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI |
| 65432 | 170.39 | | | 0.10 (0.38) | 21 | 00176 | | 0.42 | 25.63 | 29.37 | 44.58 | 0.30 | 11,208 (26.07) | 8.0 |
| | 170.87 | | 0.44 | | 72 | 00177 | | 0.36 | 73.42 | 12.19 | 14.03 | 0.10 | 3,306 (7.69) | 1.0 |
| | 171.48 | | (0.17) | | | | | | | | | | | |
| | 172.30 | | | 0.63 | | | | | | | | | | |
| | | | 0.06 (0.03) | | 98 | 00178 | | 0.47 | 11.70 | 28.61 | 59.22 | 0.20 | 12,644 (29.41) | 3.5 |
| | | | | 1.15 | | | | | | | | | | |
| | 174.16 | | (0.49) | | | | | | | | | | | |
| | | | | | 73 | 00179 | | 0.63 | 82.38 | 9.23 | 7.76 | 0.08 | 1,806 (4.20) | 0.0 |
| | 175.99 | | | | | | | | | | | | | |
| | | | | 0.28 | | | | | | | | | | |
| | | | | 0.59 | 74 | 00180 | | 0.54 | 23.94 | 26.41 | 49.11 | 0.24 | 11,449 (26.63) | 7.0 |
| | 177.17 | | | (0.31) | | | | | | | | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

F-267 (12-80)

DENSITY --- RESISTIVITY ---

DRILL NO. GDR-DDH-81-21 SEAM
SCALE 1:40

SEAM INTERVAL 170.39 -179.52m

| DENSITY SCALE | RESISTIVITY SCALE | SEAM COMP. 554321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | | | | | |
|------------------|-------------------|----------------------|-------|---------------|----------|------|--------|--------|---------|-------------------------|-----|------|-------|-------|-------------|------|-------------------|-----|--|--|--|--|--|--|
| | | | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI | | | | | | | | |
| 1.00 | 1.00 | | | | | | | | | | | | | | | | | | | | | | | |
| 1.10 | 1.10 | | | | | | | | | | | | | | | | | | | | | | | |
| 1.20 | 1.20 | | | | | | | | | | | | | | | | | | | | | | | |
| 1.30 | 1.30 | | | | | | | | | | | | | | | | | | | | | | | |
| 1.40 | 1.40 | | | | | | | | | | | | | | | | | | | | | | | |
| 1.50 | 1.50 | | | | | | | | | | | | | | | | | | | | | | | |
| 1.60 | 1.60 | | | | | | | | | | | | | | | | | | | | | | | |
| 1.70 | 1.70 | | | | | | | | | | | | | | | | | | | | | | | |
| 1.80 | 1.80 | | | | | | | | | | | | | | | | | | | | | | | |
| 1.90 | 1.90 | | | | | | | | | | | | | | | | | | | | | | | |
| 2.00 | 2.00 | | | | | | | | | | | | | | | | | | | | | | | |
| 2.10 | 2.10 | | | | | | | | | | | | | | | | | | | | | | | |
| 2.20 | 2.20 | | | | | | | | | | | | | | | | | | | | | | | |
| 2.30 | 2.30 | | | | | | | | | | | | | | | | | | | | | | | |
| 2.40 | 2.40 | | | | | | | | | | | | | | | | | | | | | | | |
| 2.50 | 2.50 | | | | | | | | | | | | | | | | | | | | | | | |
| 2.60 | 2.60 | | | | | | | | | | | | | | | | | | | | | | | |
| 2.70 | 2.70 | | | | | | | | | | | | | | | | | | | | | | | |
| 2.80 | 2.80 | | | | | | | | | | | | | | | | | | | | | | | |
| GEOPHYSICAL LOGS | | | | | 175.99 | | 0.28 | | | | | | | | | | | | | | | | | |
| | | | | | | | 0.59 | 74 | 00180 | | | 0.54 | 23.94 | 26.41 | 49.11 | 0.24 | 11,449 (26.63) | 7.0 | | | | | | |
| | | | | | | | (0.31) | | | | | | | | | | | | | | | | | |
| | | | | | 177.17 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | 2.02 | 100 | 00181 | | | 1.33 | 74.61 | 10.24 | 13.82 | 0.10 | 2,786 (6.48) | 1.0 | | | | | | |
| GEOPHYSICAL LOGS | | | | | 179.19 | | | | | | | | | | | | | | | | | | | |
| | | | | | 179.52 | | | | | | | | | | | | | | | | | | | |

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|----------------|--------------|--------------|
| GDH81021 | | 167 | 151.34 | 152.31 | 0.97 | 100.00 | 0.87 | 0.10 | 0.00 | 0.00 |
| | | 168 | 152.31 | 153.54 | 0.95 | 77.24 | 0.00 | 0.95 | 0.00 | 0.28 |
| | | 169 | 153.54 | 154.39 | 0.58 | 68.24 | 0.58 | 0.00 | 0.27 | 0.00 |
| | | 170 | 154.39 | 155.31 | 0.55 | 59.76 | 0.00 | 0.55 | 0.00 | 0.57 |
| | | 171 | 155.31 | 155.86 | 0.05 | 9.09 | 0.05 | 0.00 | 0.50 | 0.00 |
| | | 172 | 155.86 | 157.12 | 0.94 | 74.60 | 0.04 | 0.90 | 0.00 | 0.32 |
| | | 173 | 157.12 | 157.32 | 0.20 | 100.00 | 0.20 | 0.00 | 0.00 | 0.00 |
| | | 174 | 157.32 | 158.63 | 0.51 | 38.93 | 0.00 | 0.51 | 0.00 | 0.00 |
| | | 175 | 158.63 | 159.11 | 0.48 | 100.00 | 0.39 | 0.09 | 0.00 | 0.00 |
| | | 176 | 170.39 | 170.87 | 0.10 | 20.83 | 0.10 | 0.00 | 0.38 | 0.00 |
| | | 177 | 170.87 | 171.48 | 0.44 | 72.13 | 0.00 | 0.44 | 0.00 | 0.17 |
| | | 178 | 172.30 | 174.16 | 1.83 | 98.39 | 1.77 | 0.06 | 0.00 | 0.03 |
| | | 179 | 174.16 | 175.99 | 1.34 | 73.22 | 0.00 | 1.34 | 0.00 | 0.49 |
| | | 180 | 175.99 | 177.17 | 0.87 | 73.73 | 0.59 | 0.28 | 0.31 | 0.00 |
| | | 181 | 177.17 | 179.19 | 2.02 | 100.00 | 0.00 | 2.02 | 0.00 | 0.00 |

CULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR ANALYSIS BASIS TYPE - AD NAME OF STANDARD - ASTM

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|-------|---------------|------------------|----------------|-------------------------------|------|------|
| DDH81021 | | 167 | 0.85 | 12.06 | 63.39 | 23.70 | 0.38 | 30.73 | 1.33 | 1.50 |
| | | 168 | 0.81 | 78.64 | 12.17 | 6.38 | 0.06 | 5.33 | 2.10 | 0.00 |
| | | 169 | 0.72 | 18.40 | 57.02 | 23.86 | 0.25 | 27.86 | 1.41 | 1.50 |
| | | 170 | 0.76 | 75.81 | 10.17 | 13.28 | 0.06 | 5.25 | 2.10 | 0.00 |
| | | 171 | 0.64 | 24.09 | 46.91 | 28.10 | 0.28 | 26.82 | 1.42 | 0.50 |
| | | 172 | 0.70 | 68.38 | 14.15 | 16.77 | 0.11 | 8.36 | 2.02 | 1.00 |
| | | 173 | 0.67 | 11.95 | 60.54 | 26.84 | 0.22 | 31.12 | 1.32 | 3.50 |
| | | 174 | 0.31 | 75.68 | 11.98 | 12.03 | 0.10 | 6.47 | 2.15 | 1.00 |
| | | 175 | 0.38 | 41.45 | 39.25 | 18.92 | 0.29 | 19.69 | 1.04 | 1.00 |
| | | 176 | 0.42 | 25.63 | 44.58 | 29.37 | 0.30 | 26.07 | 1.45 | 0.00 |
| | | 177 | 0.36 | 73.42 | 14.03 | 12.19 | 0.10 | 7.69 | 2.09 | 1.00 |
| | | 178 | 0.47 | 11.70 | 59.22 | 28.61 | 0.20 | 29.41 | 1.55 | 3.50 |
| | | 179 | 0.63 | 82.38 | 7.76 | 9.23 | 0.08 | 4.20 | 2.28 | 0.00 |
| | | 180 | 0.54 | 23.94 | 49.11 | 26.41 | 0.24 | 26.63 | 1.41 | 7.00 |
| | | 181 | 1.33 | 74.61 | 13.82 | 10.24 | 0.10 | 6.48 | 2.07 | 1.00 |

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 10 | 44.80 | 45.32 | 0.52 | | | ROCK LOSS | |
| 10 | 45.32 | 47.86 | 2.54 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU.BRKN MNR CALC VEINING WRMBUR 2MM |
| 10 | 47.86 | 50.01 | 2.15 | | | MUDSTONE | AS ABV; CALC FILLED FRACTURE AT 1.76M V BRKN AT BASE. |
| 10 | 50.01 | 50.27 | 0.26 | | | MUDSTONE | AS ABOVE |
| 10 | 50.27 | 51.81 | 1.54 | | | MUDSTONE | AS ABOVE |
| 10 | 51.81 | 52.76 | 0.95 | | | ROCK LOSS | |
| | 52.76 | 53.17 | 0.41 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU.BRKN MNR CALC VEINING |
| 10 | 53.17 | 53.96 | 0.79 | | | MUDSTONE | AS ABOVE |
| 10 | 53.96 | 55.70 | 1.74 | | | MUDSTONE | AS ABOVE |
| 10 | 55.70 | 56.82 | 1.12 | | | MUDSTONE | AS ABOVE CALC FILLED FRACTURE AT 0.81 |
| 10 | 56.82 | 57.01 | 0.19 | | | MUDSTONE | |
| 10 | 57.01 | 58.28 | 1.27 | | | MUDSTONE | SLTY.DK.GY.THKB.WRMBU.BRKN AS ABOVE VBRKN TOWARDS BASE 1.27 INCREA SE IN CALC VEINING TOWARDS BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 10 | 58.28 | 59.82 | 1.54 | | | MUDSTONE | DK.GY.THKB.WRMBU.BRKN MNR CALC VEINING VBROKEN TOWARDS BASE W RMBUR ELONGATED 25 TO CORE AXIS |
| 10 | 59.82 | 60.62 | 0.80 | | | MUDSTONE | AS ABOVE |
| 10 | 60.62 | 62.75 | 2.13 | | | MUDSTONE | AS ABOVE WRMBUR TRENDING VERTICAL |
| 10 | 62.75 | 63.02 | 0.27 | | | ROCK LOSS | |
| 10 | 63.02 | 63.31 | 0.29 | | | MUDSTONE | DK.GY.THKB.WRMBU.BRKN AS ABOVE |
| 10 | 63.31 | 65.77 | 2.46 | | | MUDSTONE | AS ABOVE INCREASE IN NUMBER OF WRMBUR " CARROTS" AT 1.57M CALC FILLED FRACTURE AT 1.53M |
| 10 | 65.77 | 66.07 | 0.30 | | | ROCKLOSS | |
| 10 | 66.07 | 66.18 | 0.11 | | | MUDSTONE | DK.GY.THKB.WRMBU.SLD MONOTONOUS |
| 10 | 66.18 | 68.57 | 2.39 | | | MUDSTONE | BRKN MNR CALC VEINING WRMBUR BECOMING SMALLE R |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 10 | 68.57 | 69.04 | 0.47 | | | MUDSTONE | SLD AS ABOVE |
| 10 | 69.04 | 69.12 | 0.08 | | | ROCK LOSS | |
| 10 | 69.12 | 71.20 | 2.08 | | | MUDSTONE | DK.GY.THKB.WRMBU.BRKN AS ABOVE TOP OF CORE GROUND VBRKN AT BASE |
| 10 | 71.20 | 71.30 | 0.10 | | | ROCK LOSS | |
| 10 | 71.30 | 72.17 | 0.87 | | | MUDSTONE | DK.GY.THKB.WRMBU.BRKN AS ABOVE POSSIBLE ASH BAND AT 0.66M |
| 10 | 72.17 | 73.75 | 1.58 | | | MUDSTONE | DK.GY.THKB.WRMBU.BRKN CALC FILLED FRACTURE RUNNING 10 SKS TOP MOVED UPWARD VBRKN AT END OF FRACTURE |
| 10 | 73.75 | 75.22 | 1.47 | | | MUDSTONE | BIOTR MONOTONOUS |
| 10 | 75.22 | 76.38 | 1.16 | | | MUDSTONE | AS ABOVE |
| 10 | 76.38 | 78.08 | 1.70 | | | MUDSTONE | MNR CALC VEINING |
| 10 | 78.08 | 78.42 | 0.34 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GOR BLOCK: XX DATA SOURCE: DDH81021

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 10 | 78.42 | 79.42 | 1.00 | | | MUDSTONE | DK.GY.THKB.BIOTR.BRKN AS ABOVE |
| 10 | 79.42 | 81.43 | 2.01 | | | MUDSTONE | DK.GY.THKB.BIOTR.BRKN MNR CALC VEINING |
| 10 | 81.43 | 81.99 | 0.56 | | | MUDSTONE | AS ABOVE |
| 10 | 81.99 | 84.48 | 2.49 | | | MUDSTONE | AS ABOVE VBRKN AT 2.18M |
| 10 | 84.48 | 84.70 | 0.22 | | | MUDSTONE | AS ABOVE |
| 10 | 84.70 | 84.82 | 0.12 | | | MUDSTONE | AS ABOVE |
| 10 | 84.82 | 85.17 | 0.35 | | | ROCK LOSS | |
| 10 | 85.17 | 85.45 | 0.28 | | | FE-STONE | BF.BRKN STEEP BCA PIECES DON'T MATCH POSSIBLE C ORE LOSS. |
| 10 | 85.45 | 87.53 | 2.08 | | | MUDSTONE | DK.GY.THKB.BIOTR.BRKN MNR CALC VEINING |
| 10 | 87.53 | 87.64 | 0.11 | | | MUDSTONE | AS ABOVE |
| 10 | 87.64 | 90.27 | 2.63 | | | MUDSTONE | AS ABOVE V SLIGHTLY SILTY, SILTIER TOWA RDS BASE. |
| 10 | 90.27 | 91.10 | 0.83 | | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 10 | 91.10 | 92.16 | 1.06 | | | SILTSTONE | DK.GY.THNB.BIOTR.VBRKN CALC FILLED FRACTURE RUNNING AT 10 SKS OCCASIONAL PEBBLES |
| * 10 | 92.16 | 93.01 | 0.85 | | | SANDSTONE | VFG.GY.THNB.BRKN CALC VEINING TRACE OF CARB INTBDS OIL S TAINING IN CALC FILED FRACTURES |
| 10 | 93.01 | 93.32 | 0.31 | | | SANDSTONE | AS ABOVE |
| 10 | 93.32 | 93.77 | 0.45 | | | SANDSTONE | VBRKN AS ABOVE ABUNDANT CARB INTBD |
| * 10 | 93.77 | 94.40 | 0.63 | | | SANDSTONE | AS ABOVE |
| 12 | 94.40 | 94.67 | 0.27 | | | ROCK LOSS | |
| 15 | 94.67 | 95.60 | 0.93 | | | SANDSTONE | VFG.GY.THNB.XBDG.BRKN TOP IS UP CALC VEINING OIL STAINING |
| 20 | 95.60 | 96.66 | 1.06 | | | SANDSTONE | VBRKN AS ABOVE |
| 26 | 96.66 | 97.87 | 1.21 | | | SANDSTONE | AS ABOVE VUGGY CALCITE |
| 31 | 97.87 | 98.86 | 0.99 | | | SANDSTONE | AS ABOVE |
| * 35 | 98.86 | 99.49 | 0.63 | | | SILTSTONE | GY.THNB.XBDG TOP IS UP INTBD MUDST SLIGHTLY CARB |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 32 | 99.49 | 99.59 | 0.10 | | ROCK LOSS | |
| | 31 | 99.59 | 99.71 | 0.12 | | SILTSTONE | GY.THNB.BRKN AS ABOVE |
| | 28 | 99.71 | 100.37 | 0.66 | | SANDSTONE | VFG.GY.THNB.XBDG.VBRKN MNR MUDDY INTBDS MNR CALC TRACE CARB. |
| | 24 | 100.37 | 100.72 | 0.35 | | SANDSTONE | AS ABOVE |
| | 20 | 100.72 | 101.12 | 0.40 | | SANDSTONE | |
| * | 12 | 101.12 | 102.74 | 1.62 | | SANDSTONE | VFG.GY.THNB.VBRKN AS ABOVE |
| | 14 | 102.74 | 103.00 | 0.26 | | SANDSTONE | SLD AS ABOVE |
| | 15 | 103.00 | 103.15 | 0.15 | | MUDSTONE | GY.THNB SILTY INTBDS (ZEBRA TYPES). |
| | 15 | 103.15 | 103.42 | 0.27 | | MUDSTONE | DK.GY.THNB.BRKN SILTY INTBDS |
| | 16 | 103.42 | 104.10 | 0.68 | | SANDSTONE | VFG.GY.THNB.XBDG.SLD TOP IS UP CALC VEINING SED STRUX WRMBUR |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLDCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 18 | 104.10 | 105.41 | 1.31 | | | MUDSTONE | DK.GY.THNB.SSD CALCITE VEINING X-BEDDED SS INTBDS; VBR KN TOWARDS BASE; LISTRIC SURFACES. |
| 20 | 105.41 | 105.79 | 0.38 | | | ROCK LOSS | |
| 23 | 105.79 | 107.91 | 2.12 | | | MUDSTONE | THNB.SSD.BRKN ABUNDANT CALC VEINING CALC FILLED FRACT URES DIMINISHING TOWARD BASE; POSSIBLE FAULT ZONE WRMBUR. |
| 26 | 107.91 | 108.23 | 0.32 | | | ROCK LOSS | |
| * 27 | 108.23 | 108.84 | 0.61 | | | MUDSTONE | DK.GY.THNB AS ABOVE MNR CALC VEINING |
| 29 | 108.84 | 110.31 | 1.47 | | | MUDSTONE | DK.GY.THNB.SSD.VBRKN XBEDDED SS INTBDS MNR CALC VEINING SED STRUX WRMBUR |
| 31 | 110.31 | 110.63 | 0.32 | | | SILTSTONE | GY.THNB.XBDG.BRKN CALC VEINING TOP IS UP |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 32 | 110.63 | 111.30 | 0.67 | | | MUDSTONE | DK.GY.THNB.WRMBU.BRKN SUCCESSION OF FINING UPWARD SEQUENCES (SILT TO MUD) PRODUCES ZEBRA STRIPE APPEARANCE CALC VEINING WRMBUR IMMIX ICM GENERALLY TRENDING 11 TO BEDDING |
| 32 | 111.30 | 111.89 | 0.59 | | | MUDSTONE | |
| 31 | 111.89 | 113.26 | 1.37 | | | MUDSTONE | DK.GY.THNB.WRMBU.VBRKN AS ABOVE |
| 31 | 113.26 | 113.61 | 0.35 | | | ROCK LOSS | VBRKN |
| 31 | 113.61 | 114.94 | 1.33 | | | MUDSTONE | DK.GY.THNB.WRMBU.VBRKN AS ABOVE CALC BECOMING MORE ABUNDANT |
| 30 | 114.94 | 115.70 | 0.76 | | | MUDSTONE | DK.GY.THNB.WRMBU.BRKN AS ABOVE |
| * 30 | 115.70 | 116.43 | 0.73 | | | MUDSTONE | AS ABOVE |
| 37 | 116.43 | 118.13 | 1.70 | | | MUDSTONE | AS ABOVE X-BEDDED SILTST |
| * 45 | 118.13 | 119.43 | 1.30 | | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 44 | 119.43 | 119.73 | 0.30 | | ROCK LOSS | |
| | 43 | 119.73 | 120.95 | 1.22 | | MUDSTONE | DK.GY.THNB.BIOTR.SLD AS ABOVE |
| * | 40 | 120.95 | 123.70 | 2.75 | | MUDSTONE | AS ABOVE |
| | 42 | 123.70 | 123.98 | 0.28 | | MUDSTONE | AS ABOVE |
| | 43 | 123.98 | 124.63 | 0.65 | | SILTSTONE | DK.GY.THNB.XBDG.BRKN TOP IS UP CALC VEINING |
| * | 45 | 124.63 | 126.26 | 1.63 | | MUDSTONE | DK.GY.THNB.BIOTR CALC VEINING, ZEBRA STRIPE APPEARANCE (SILT TO MUD FINING UPWARDS) CARB TOWARD S BASE. |
| | 48 | 126.26 | 126.65 | 0.39 | | ROCK LOSS | |
| | 49 | 126.65 | 127.03 | 0.38 | | MUDSTONE | DK.GY.THNB.BIOTR.VBRKN AS ABOVE |
| * | 52 | 127.03 | 128.92 | 1.89 | | MUDSTONE | AS ABOVE |
| * | 52 | 128.92 | 130.07 | 1.15 | | MUDSTONE | DK.GY.THNB.BIOTR.SLD MNR SILTY INTBDS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 53 | 130.07 | 131.41 | 1.34 | | | MUDSTONE | AS ABOVE |
| * 55 | 131.41 | 133.12 | 1.71 | | | MUDSTONE | AS ABOVE FE--STONE BAND AT 1.20M |
| 54 | 133.12 | 134.18 | 1.06 | | | MUDSTONE | DK.GY.THNB.BIOTR.SLD MONOTONOUS |
| 53 | 134.18 | 135.54 | 1.36 | | | MUDSTONE | AS ABOVE OOLITIC CHERT CLASTS TOWARDS B ASE |
| 53 | 135.54 | 135.78 | 0.24 | | | ROCK LOSS | |
| 53 | 135.78 | 136.12 | 0.34 | | | COAL | C-5.VBRKN SHRD AT BASE |
| 53 | 136.12 | 136.17 | 0.05 | | | MUDSTONE | CARB.DK.GY.THNB.SHRD |
| 53 | 136.17 | 136.23 | 0.06 | | | MUDSTONE | CARB.VBRKN ABUNDANT COALY STRINGERS |
| 53 | 136.23 | 136.67 | 0.44 | | | MUDSTONE | CARB.GY.THNB.BRKN ABUNDANT COALY STRINGERS |
| 52 | 136.67 | 137.07 | 0.40 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 137.07 | 138.76 | 1.69 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN COALY PL FRAG, CARB FLECKS SLIGHTLY SILTY LISTRIC SURF MNR BRIGHT THIN COAL STRINGER AT 1.38 |
| 51 | 138.76 | 139.62 | 0.86 | | | MUDSTONE | SLD AS ABOVE LESS CARB TOWARDS BASE COALY FLECKS. |
| 51 | 139.62 | 139.81 | 0.19 | | | MUDSTONE | AS ABOVE |
| 51 | 139.81 | 139.96 | 0.15 | | | SILTSTONE | DK.GY.THNB.SSD MUDDY INTBDS |
| * 50 | 139.96 | 141.74 | 1.78 | | | SANDSTONE | VFG.GY.THNB.XBDG TOP IS UP TRACE CARB CALC VEINING |
| * 45 | 141.74 | 141.98 | 0.24 | | | SANDSTONE | VFG.GY.THNB.SLD AS ABOVE. |
| 45 | 141.98 | 142.18 | 0.20 | | | SILTSTONE | GY.THNB.WRMBU CARB PL FRAG, MNR CALC VEINING |
| 47 | 142.18 | 143.11 | 0.93 | | | SILTSTONE | AS ABOVE SS INTBDS |
| 49 | 143.11 | 144.66 | 1.55 | | | MUDSTONE | DK.GY.THNB.WRMBU CARB, PL FRAG, SILT & SS INTBDS COALY INCLUSIONS & STRINGERS INCREASING TOWARDS BASE. SED STRUX SSD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 51 | 144.66 | 144.94 | 0.28 | | | ROCKLOSS | |
| 52 | 144.94 | 145.69 | 0.75 | | | MUDSTONE | CARB AS ABOVE ABUNDANT COALY STRINGERS & INCLUSIONS |
| * | 145.69 | 145.99 | 0.30 | | | SILTSTONE | GY.THNB.XBDG.SLD TOP IS UP MNR CALS VEINING SLIGHTLY CARB |
| 52 | 145.99 | 146.03 | 0.04 | | | COAL | C-5.PWRD |
| 52 | 146.03 | 146.12 | 0.09 | | | COAL LOSS | |
| 50 | 146.12 | 147.62 | 1.50 | | | MUDSTONE | CARB.DK.GY.THNB.WRMBU.SLD COALY FLECKS, MNR CALC. VEINING MNR RIP UP CLASTS BECOMING SILTIER TOWARDS BAS E. |
| 47 | 147.62 | 147.99 | 0.37 | | | MUDSTONE | SSD AS ABOVE |
| 46 | 147.99 | 148.17 | 0.18 | | | MUDSTONE | AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 45 | 148.17 | 148.87 | 0.70 | | | SILTSTONE | DK.GY.THNB.SSD.SLD CARB IN PART |
| 48 | 148.87 | 150.26 | 1.39 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN ABUNDANT COALY PARTINGS, WISPS MINOR CALCITE VEINING BRIGHT COAL BAND (PWDR) AT .72M |
| * 52 | 150.26 | 151.02 | 0.76 | | | MUDSTONE | AS ABOVE |
| 49 | 151.02 | 151.34 | 0.32 | | | ROCK LOSS | |
| 48 | 151.34 | 151.72 | 0.38 | 00167 | 1 | COAL | C-5.VBRKN |
| 46 | 151.72 | 151.97 | 0.25 | 00167 | 1 | COAL | C-4 |
| 45 | 151.97 | 152.21 | 0.24 | 00167 | 1 | COAL | C-5 |
| 44 | 152.21 | 152.31 | 0.10 | 00167 | 1 | COAL LOSS | |
| 43 | 152.31 | 152.67 | 0.36 | 00168 | | MUDSTONE | CARB.DK.GY.THNB ABUNDANT COALY STRINGERS & INCLUSIONS |
| 41 | 152.67 | 153.26 | 0.59 | 00168 | | MUDSTONE | CARB.DK.GY.THNB.VBRKN NUMEROUS COALY STRINGERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 153.26 | 153.54 | 0.28 | 00168 | | ROCK LOSS | |
| 36 | 153.54 | 154.12 | 0.58 | 00169 | 1 | COAL | C-5.VBRKN PWRD AT BASE. |
| 34 | 154.12 | 154.39 | 0.27 | 00169 | 1 | COAL LOSS | |
| | 154.39 | 154.76 | 0.37 | 00170 | | ROCK LOSS | |
| 31 | 154.76 | 155.01 | 0.25 | 00170 | | TUFF | BF.PWRD |
| 30 | 155.01 | 155.16 | 0.15 | 00170 | | MUDSTONE | CARB.BLK.SHRD ABUNDANT COALY STRINGERS |
| 29 | 155.16 | 155.31 | 0.15 | 00170 | | MUDSTONE | CARB.DK.GY.VBRKN AS ABOVE |
| 28 | 155.31 | 155.81 | 0.50 | 00171 | | COAL LOSS | |
| 27 | 155.81 | 155.86 | 0.05 | 00171 | | COAL | C-5.PWRD |
| 26 | 155.86 | 155.96 | 0.10 | 00172 | | MUDSTONE | CARB.DK.GY.BRKN AS ABOVE |
| * 25 | 155.96 | 156.43 | 0.47 | 00172 | | SILTSTONE | CARB.DK.GY.THNB.BRKN BECOMING MUDDY TOWARD BASE. COALY STRIN GERS & INCLUSIONS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 26 | 156.43 | 156.47 | 0.04 | 00172 | | COAL | C-6.SHRD MUDSTONE INTERBEDS |
| 26 | 156.47 | 156.80 | 0.33 | 00172 | | MUDSTONE | CARB.BLK.VBRKN ABUNDANT COAL STRINGERS & INCLUSIONS |
| 27 | 156.80 | 157.12 | 0.32 | 00172 | | ROCKLOSS | |
| 28 | 157.12 | 157.32 | 0.20 | 00173 | | COAL | C-5.VBRKN |
| 29 | 157.32 | 157.83 | 0.51 | 00173 | | MUDSTONE | CARB.VBRKN NUMEROUS COALY STRINGERS |
| 31 | 157.83 | 158.63 | 0.80 | 00174 | | ROCK LOSS | |
| 32 | 158.63 | 158.74 | 0.11 | 00174 | | COAL | C-5.SHRD |
| 33 | 158.74 | 158.83 | 0.09 | 00175 | | MUDSTONE | CARB |
| 33 | 158.83 | 159.11 | 0.28 | 00175 | | COAL | C-5.PWRD |
| 34 | 159.11 | 159.30 | 0.19 | 00175 | | MUDSTONE | CARB.DK.GY.SLD ABUNDANT COALY WISPS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 35 | 159.30 | 159.69 | 0.39 | 00175 | | MUDSTONE | GY.SLD COALY FLECKS, CARB PL FRAGS SILTY & BRK N AT BASE. |
| * 38 | 159.69 | 161.41 | 1.72 | | | MUDSTONE | DK.GY.THNB.BRKN SLIGHTLY SILTY MINOR CALCITE, MINOR CAR B WISPS, STRINGERS. |
| 42 | 161.41 | 162.26 | 0.85 | | | SILTSTONE | DK.GY.THNB.BRKN MINOR CARB FLECKS, MINOR CALCITE FRACTU RE FILLING RUNNING PERPENDICULAR TO BED DING. |
| 44 | 162.26 | 162.35 | 0.09 | | | SILTSTONE | AS ABOVE |
| 45 | 162.35 | 162.63 | 0.28 | | | SILTSTONE | AS ABOVE |
| 48 | 162.63 | 164.63 | 2.00 | | | MUDSTONE | DK.GY.THNB.SSD.VBRKN OCCASIONALLY SILTY WITH SILTSTONE INTBD S MINOR CALCITE AS ABOVE |
| 53 | 164.63 | 165.35 | 0.72 | | | MUDSTONE | AS ABOVE |
| 54 | 165.35 | 165.40 | 0.05 | | | ROCK LOSS | |
| * 55 | 165.40 | 165.71 | 0.31 | | | SILTSTONE | CALCITE FILLED FRACTURE PERPENDICULAR T O BEDDING- 0.5CM DISPLACEMENT ALONG FRA CTURE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 54 | 165.71 | 167.04 | 1.33 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN MINOR CALCITE, CARB & COALY FLECKS, STR INGERS. |
| 54 | 167.04 | 167.14 | 0.10 | | | ROCK LOSS | |
| 53 | 167.14 | 168.45 | 1.31 | | | MUDSTONE | BLK.BRKN ABUNDANT COAL STRINGERS WISPS |
| 53 | 168.45 | 169.05 | 0.60 | | | MUDSTONE | AS ABOVE COALY INCLUSIONS DECREASING TO WARD BASE |
| 53 | 169.05 | 169.34 | 0.29 | | | IRONSTONE | BF.SLD |
| 52 | 169.34 | 169.41 | 0.07 | | | MUDSTONE | CARB.DK.GY.SLD AS ABOVE |
| 52 | 169.41 | 169.85 | 0.44 | | | ROCK LOSS | |
| 52 | 169.85 | 169.92 | 0.07 | | | MUDSTONE | CARB.DK.GY.BRKN AS ABOVE COALY STRINGER |
| 52 | 169.92 | 169.98 | 0.06 | | | TUFF | BF |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 52 | 169.98 | 170.21 | 0.23 | | | MUDSTONE | CARB.DK.GY CALC VEINING ABUNDANT COALY STRINGERS L ISTIC SURF |
| 52 | 170.21 | 170.29 | 0.08 | | | MUDSTONE | BLK.PWRD AS ABOVE |
| 52 | 170.29 | 170.34 | 0.05 | | | MUDSTONE | BRKN AS ABOVE |
| 52 | 170.34 | 170.39 | 0.05 | | | MUDSTONE | ABUNDANT COALY STRINGERS |
| 52 | 170.39 | 170.49 | 0.10 | 00176 | 1 | COAL | C-5.VBRKN |
| 52 | 170.49 | 170.87 | 0.38 | 00176 | 1 | COAL LOSS | |
| 51 | 170.87 | 170.89 | 0.02 | 00177 | | TUFF | BF.BRKN |
| 51 | 170.89 | 171.31 | 0.42 | 00177 | | MUDSTONE | CARB.DK.GY NUMEROUS COALY STRINGERS |
| 51 | 171.31 | 171.48 | 0.17 | 00177 | | ROCK LOSS | |
| 51 | 171.48 | 171.90 | 0.42 | | | COAL LOSS | |
| 51 | 171.90 | 172.30 | 0.40 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 50 | 172.30 | 172.41 | 0.11 | 00178 | 1 | COAL | C-5.VBRKN |
| 50 | 172.41 | 172.43 | 0.02 | 00178 | 1 | COAL | C-4 |
| 50 | 172.43 | 172.92 | 0.49 | 00178 | 1 | COAL | C-5 |
| 50 | 172.92 | 172.98 | 0.06 | 00178 | 1 | MUDSTONE | CARB.DK.GY ABUNDANT COALY STRINGERS |
| 50 | 172.98 | 173.01 | 0.03 | 00178 | 1 | ROCK LOSS | |
| 50 | 173.01 | 173.12 | 0.11 | 00178 | 1 | COAL | C-5.VBRKN |
| 50 | 173.12 | 173.56 | 0.44 | 00178 | 1 | COAL | C-4.BRKN |
| 49 | 173.56 | 173.96 | 0.40 | 00178 | 1 | COAL | C-4 |
| 49 | 173.96 | 174.16 | 0.20 | 00178 | 1 | COAL | C-6 STONEY PWRD AT BASE |
| 49 | 174.16 | 174.65 | 0.49 | 00179 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDHB1021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 49 | 174.65 | 174.89 | 0.24 | 00179 | | MUDSTONE | CARB.BLK ABUNDANT COALY STRINGERS |
| 48 | 174.89 | 175.99 | 1.10 | 00179 | | MUDSTONE | AS ABOVE |
| 48 | 175.99 | 176.27 | 0.28 | 00180 | | MUDSTONE | CARB.VBRKN AS ABOVE MORE COALY BANDS |
| 48 | 176.27 | 176.43 | 0.16 | 00180 | | COAL | C-3.BRKN |
| 47 | 176.43 | 176.77 | 0.34 | 00180 | | COAL | C-4 |
| 47 | 176.77 | 176.86 | 0.09 | 00180 | | COAL | C-5 |
| 47 | 176.86 | 177.17 | 0.31 | 00180 | | COAL LOSS | |
| 47 | 177.17 | 177.95 | 0.78 | 00181 | | MUDSTONE | CARB.BLK NUMEROUS COAL STRINGERS VBRKN AT BASE |
| 46 | 177.95 | 179.19 | 1.24 | 00181 | | MUDSTONE | AS ABOVE |
| 46 | 179.19 | 179.52 | 0.33 | | | COAL LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 45 | 179.52 | 181.27 | 1.75 | | | MUDSTONE | DK.GY.THNB.BRKN MINOR CALCITE-FILLED FRACTURE COALY AND CARBONACEOUS FLECKS; OCC SLIGHTLY SILTY |
| 42 | 181.27 | 181.45 | 0.18 | | | ROCK LOSS | |
| 40 | 181.45 | 182.12 | 0.67 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN MUDDY TOWARDS TOP, ABUNDANT CALCITE VEI NING TOWARDS BASE, SLIGHTLY CARB |
| * 38 | 182.12 | 182.69 | 0.57 | | | SILTSTONE | SSD.BRKN AS ABOVE |
| | 182.69 | 184.32 | 1.63 | | | MUDSTONE | CARB.DK.GY.THNB MINOR CALCITE, SLIGHTLY SILTY, LISTRIC S URFACES, CARB & COALY PL FRAGS, STRINGE RS. |
| 41 | 184.32 | 184.52 | 0.20 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN COALY & CARB PL FRAGS, STRINGERS, MINOR CALCITE. |
| 41 | 184.52 | 184.76 | 0.24 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 42 | 184.76 | 186.16 | 1.40 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN CALCITE FILLED FRACTURES PERPENDICULAR TO BEDDING MINOR SUCCESSION OF FINING UP SEQUENCES MINOR CARB & MUDDY INTERBEDS |
| 48 | 186.16 | 186.72 | 0.56 | | | MUDSTONE | CARB.DK.GY.THNB.VBRKN OCC SLIGHTLY SLTY; COALY & CARB PL FRAG S, STRINGERS MINOR CALC. |
| 50 | 186.72 | 186.86 | 0.14 | | | MUDSTONE | VBRKN AS ABOVE |
| | 186.86 | 187.77 | 0.91 | | | MUDSTONE | CARB.BLK.BRKN COALY WISPS; BCMG SILTY AND NON-CARB TO WARDS BASE, CALCITE VEINING. |
| * 60 | 187.77 | 189.13 | 1.36 | | | MUDSTONE | SLTY.DK.GY.VBRKN BECOMING CARBONACEOUS LESS SILTY TOWARD S BASE WITH NUMEROUS COALY SISPS. |
| 58 | 189.13 | 189.29 | 0.16 | | | MUDSTONE | AS ABOVE |
| 56 | 189.29 | 191.45 | 2.16 | | | SILTSTONE | GY.THNB.BRKN CALC VEINING PYROPHYLLITE VEINS |
| 54 | 191.45 | 191.70 | 0.25 | | | SILTSTONE | VBRKN AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 53 | 191.70 | 192.33 | 0.63 | | SILTSTONE | |
| * | 50 | 192.33 | 194.55 | 2.22 | | SILTSTONE | SSY.GY.THNB.BRKN UNKNOWN WHITE FRACTURE FILLING? OCCASIO NAL SS INTBDS. |
| | 51 | 194.55 | 195.22 | 0.67 | | SILTSTONE | AS ABOVE MNR CARB WISPS LISTRIC SURF |
| | 51 | 195.22 | 196.22 | 1.00 | | SANDSTONE | FG.GY.THNB NUMEROUS CARB BEDS COALY STRINGERS; RIP -UP CLASTS. |
| | 52 | 196.22 | 196.88 | 0.66 | | SANDSTONE | VFG ABUNDANT CALC FILLED FRACTURES |
| * | 52 | 196.88 | 197.89 | 1.01 | | SANDSTONE | VFG.DK.GY.THNB.XBDG.BRKN TOP IS UP MNR CARB & COALY STRINGERS CA LC VEINING |
| | 45 | 197.89 | 199.45 | 1.56 | | SANDSTONE | AS ABOVE WITH 0.20 SILTST BED AT 0.30M |
| | 40 | 199.45 | 199.60 | 0.15 | | SANDSTONE | |
| | 39 | 199.60 | 199.91 | 0.31 | | SANDSTONE | RIP-UP CLASTS. |
| | 38 | 199.91 | 200.10 | 0.19 | | SANDSTONE | CG.GY.THNB.SLD COALY & CARB STRINGERS AT BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 37 | 200.10 | 200.33 | 0.23 | | SANDSTONE | VFG.DK.GY.THNB.SLD MNR CARB STRINGERS CALC VEINING; RIP-UP CLASTS. |
| * | 35 | 200.33 | 200.73 | 0.40 | | SANDSTONE | VFG.DK.GY.THNB.BRKN ABUNDANT V THN CARB & COALY INTBDS LIST RIC SURF |
| | 37 | 200.73 | 200.94 | 0.21 | | SANDSTONE | CG CALC VEINING- COALY INCL |
| | 38 | 200.94 | 201.14 | 0.20 | | SANDSTONE | AS ABOVE ABUNDANT COALY INCLUSIONS & ST RINGERS |
| | 39 | 201.14 | 201.24 | 0.10 | | ROCKLOSS | |
| | 43 | 201.24 | 202.24 | 1.00 | | SANDSTONE | VFG.GY.THNB MNR CALC |
| * | 52 | 202.24 | 203.99 | 1.75 | | SANDSTONE | AS ABOVE TRACE CARB INTBD MUDST BAND AT 0.43M (0.09M) SLIGHTLY SILTY AT BASE |
| | 49 | 203.99 | 204.72 | 0.73 | | MUDSTONE | CARB.DK.GY.THNB.SSD.BRKN CALC VEINING MNR COALY STRINGERS. |
| | 48 | 204.72 | 204.92 | 0.20 | | ROCK LOSS | |
| * | 45 | 204.92 | 207.04 | 2.12 | | MUDTONE | AS ABOVE AT 1.78 3CM BT. COAL STRINGER |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 42 | 207.04 | 207.30 | 0.26 | | | MUDSTONE | AS ABOVE |
| * 39 | 207.30 | 209.86 | 2.56 | | | MUDSTONE | SSD AS ABOVE |
| 39 | 209.86 | 210.39 | 0.53 | | | ROCK LOSS | |
| 39 | 210.39 | 210.58 | 0.19 | | | MUDSTONE | CARB.DK.GY.THNB.SLD AS ABOVE BT. COAL STRINGER AT TOP |
| 39 | 210.58 | 211.24 | 0.66 | | | SILTSTONE | GY.THNB.BRKN CALC VEINING |
| 38 | 211.24 | 212.85 | 1.61 | | | SILTSTONE | AS ABOVE OCCASIONAL MUDDY INTBDS |
| 38 | 212.85 | 212.99 | 0.14 | | | ROCK LOSS | |
| 38 | 212.99 | 214.29 | 1.30 | | | SILTSTONE | AS ABOVE OIL STAINING IN CALC VEINING |
| * 38 | 214.29 | 215.71 | 1.42 | | | SILTSTONE | XBDG AS ABOVE TOP IS UP |
| * 50 | 215.71 | 216.96 | 1.25 | | | SILTSTONE | GY.THNB.BRKN AS ABOVE COALY & CARB STRINGERS ABUNDANT TOWARDS BASE |
| 51 | 216.96 | 217.24 | 0.28 | | | COAL | C-6 BT BANDS IN MUDST |

* DENOTES MEASURED BCA

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 26

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 51 | 217.24 | 217.87 | 0.63 | | | ROCK LOSS | |
| | 217.87 | 218.72 | 0.85 | | | MUDSTONE | CARB.BLK.THNB BT COAL STRINGER AT BASE MONOTONOUS. |
| 52 | 218.72 | 219.37 | 0.65 | | | MUDSTONE | AS ABOVE MNR THIN COALY STRINGERS |
| 54 | 219.37 | 221.21 | 1.84 | | | MUDSTONE | AS ABOVE VBRKN TOWARDS BASE (POSSIBLE C ORE LOSS) |
| 55 | 221.21 | 222.66 | 1.45 | | | MUDSTONE | CARB.BLK.THNB.BRKN AS ABOVE |
| 56 | 222.66 | 223.73 | 1.07 | | | MUDSTONE | AS ABOVE |
| 57 | 223.73 | 224.80 | 1.07 | | | MUDSTONE | AS ABOVE ABUNDANT CALC VEINING & BECOMI NG SILTY AT BASE |
| * | 224.80 | 225.26 | 0.46 | | | SILTSTONE | DK.GY.THNB.SSD MNR CALC VEINING CARB WISPS. |
| 56 | 225.26 | 225.71 | 0.45 | | | ROCKLOSS | |
| 53 | 225.71 | 226.72 | 1.01 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE ABUNDANT HORSETAIL CALC VEININ G & OIL STAINING |
| 47 | 226.72 | 228.75 | 2.03 | | | SILTSTONE | MUDDY INTBDS LISTRIC SURF. COALY INCLUS IONS & STRINGERS MNR CALC. |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 27

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---------------------------------|
| * 42 | 228.75 | 229.40 | 0.65 | | | SILTSTONE | SSD AS ABOVE |
| * 38 | 229.40 | 231.64 | 2.24 | | | SILTSTONE | SSD AS ABOVE CARB INTBD |
| 39 | 231.64 | 231.80 | 0.16 | | | ROCK LOSS | |
| 39 | 231.80 | 232.13 | 0.33 | | | SILTSTONE | AS ABOVE |
| 39 | 232.13 | 232.18 | 0.05 | | | ROCK LOSS | |
| 39 | 232.18 | 233.63 | 1.45 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE |
| 40 | 233.63 | 233.79 | 0.16 | | | ROCK LOSS | |
| * 40 | 233.79 | 234.57 | 0.78 | | | SILTSTONE | AS ABOVE 0.10M V CARB AT 0.30M |
| * 43 | 234.57 | 236.68 | 2.11 | | | SILTSTONE | XBDG AS ABOVE TOP IS UP |
| 38 | 236.68 | 237.01 | 0.33 | | | SILTSTONE | SSD AS ABOVE |
| 37 | 237.01 | 237.09 | 0.08 | | | ROCK LOSS | |
| * 35 | 237.09 | 237.97 | 0.88 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE |

* DENOTES MEASURED BCA

XXXXX

82/01/11

GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 28

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81021

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---|
| 35 | 237.97 | 239.73 | 1.76 | | | MUDSTONE | CARB.DK.GY.THNB SLIGHTLY SILTY INTBDS CALC. VEINING VBR KN TOWARDS BASE COALY STRINGERS |
| 35 | 239.73 | 240.76 | 1.03 | | | MUDSTONE | AS ABOVE |
| 35 | 240.76 | 240.96 | 0.20 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

DDH 81-22

GCRI - COAL DIVISION - DATA SOURCE RECORD

PROJECT: GDR BLOCK: ___ DATA SOURCE: DDH81022

HISTORY

DY MO YR DY MO YR
 START DATE: 11/10/81 END DATE: 17/10/81 OPERATOR: GULF CANADA RES.
 CONTRACTOR: D.W. COATES GEOLOGIST: V.O. AND A.R. SURVEYOR: D. WATSON
 REMARKS: _____

LOCATION

PROVINCE: B.C. ELEVATION: 1217.5
 UTM ZONE: 10 NORTH: 6141081.30 EAST: 549372.20
 LAT&LONG LATITUDE: _____ LONGITUDE: _____
 DLS-ALTA NORTH: _____ EAST: _____ LSD: _____ SEC: _____ TWP: _____ RGE: _____ MER: _____
 NTS-PC NORTH: _____ EAST: _____ QUAD: _____ UNIT: _____ BLK: _____ ST: _____ MUS: _____ MS: _____

DIMENSIONS AND ORIENTATION

LENGTH: 269.00 INCLINATION: -90.0 AZIMUTH: 000.0
 SIZE WIDTH: _____ SIZE HEIGHT: _____
 ROOF STRIKE: _____ DIP: _____ FLOOR STRIKE: _____ DIP: _____

DRILL HOLE STATUS

CASING DEPTH: 36.60 CEMENTED: _____ PLUGGED: _____ PEIZOMETERS INSTALLED: _____
 AQUIFER DEPTHS: _____ LOST CIRCULATION DEPTHS: _____

GEOPHYSICAL LOGGING

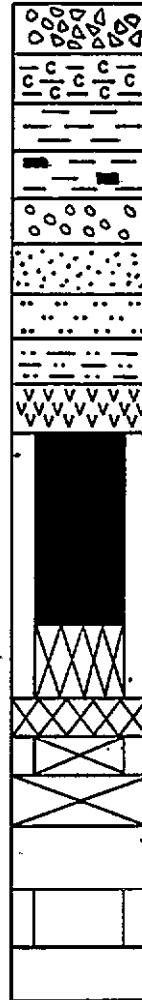
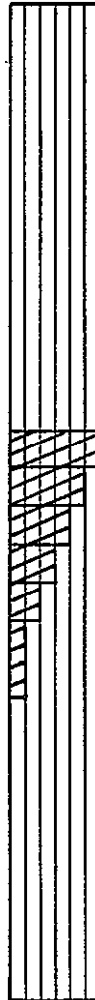
| | LOG RUN | SCALE 1 | SCALE 2 | DIGITIZED | TRUE THICKNESS | OPEN HOLE | THRU RODS | TOOL NUMBER |
|-------------|---------|---------|---------|-----------|----------------|-----------|-----------|-------------|
| GAMMA | X | 1:100 | : | --- | --- | --- | X | 125A |
| NEUTRON | X | 1:100 | : | --- | --- | --- | X | 125A |
| DENSITY | X | 1:100 | 1:40 | --- | --- | --- | X | 422AS |
| CALIPER | X | 1:100 | : | --- | --- | --- | X | 20A45 |
| FE--SHORT | | : | : | --- | --- | --- | | |
| FE--LONG | X | 1:100 | 1:40 | --- | --- | X | | 6 |
| DIRECTIONAL | | : | : | --- | --- | --- | | |
| DIPMETER | | : | : | --- | --- | --- | | |

SEAM
COMP.

COAL
SEAM
LOG

LITHOTYPE

- C-1: Bright 80% Vitrain
- C-2: Bright banded 60-80% Vitrain
- C-3: Dull/Bright 40-60% Vitrain
- C-4: Dull banded 20-40% Vitrain
- C-5: Dull 20% Vitrain
- C-6: Bone



- breccia
- carbonaceous claystone
- claystone
- coaly claystone
- conglomerate
- sandstone
- siltstone
- silty claystone
- tuff

coal

coal - boney, stoney,
coal and bands/rock
- designated "C6"

rock } coal
lithotype uncertain

coal } MISSING
rock } CORE

rock

coal

CORED HOLE
GEOPHYSICALLY
LOGGED
LITHOLOGY
DESCRIBED

UNCORED HOLE
GEOPHYSICAL
LOGS ONLY

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA



LEGEND FOR COAL
SEAM DATA SHEETS

PREPARED BY: V.O.

SCALE 1:40

APPROVED BY:

DATE: JAN. 82 DRAWING No.

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal/Coal + Rock (True Thk (m))
0.68 / 0.85

DENSITY

RESISTIVITY

DRILL NO. GDR-DDH-81-22 SEAM
SCALE 1:40

SEAM INTERVAL 164.88 - 166.38 m.

| DENSITY SCALE RESISTIVITY SCALE | DENSITY SCALE | | | | | | | | | | | | | | | | SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | | | | | | | | | | | |
|------------------------------------|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|--------|---------------|----------|------|--------|--------|-------|---------------------------|--------|---------|-------|------|----------------|-----|----|-------------|-----|--|--|--|--|--|--|--|--|--|--|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | 2.00 | 2.10 | 2.20 | 2.30 | 2.40 | 2.50 | | | | 2.60 | 2.70 | | 2.80 | ROCK | COAL | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S* | BTU (MJ/KG) | FSI | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 164.88 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 165.48 | | (0.30) | 0.60 | | 80 | 00188 | 0.62 | 2632 | 23.50 | 49.56 | 0.20 | 10,705 (24.90) | 4.0 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 165.78 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 166.38 | | | | | | | | | | | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-22 SEAM _____

SEAM INTERVAL 227.33 - 238.86 m

SCALE 1:40

| DENSITY SCALE | RESISTIVITY SCALE | SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | |
|---------------|-------------------|------------|--------|---------------|----------|--------|--------|--------|---------|-------------------------|------|------|-------|------|----------------|-----|--|
| | | | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI | |
| 1.00 | 1.00 | 65432 | | | | | | | | | | | | | | | |
| 1.10 | 1.10 | | 227.33 | | | (0.08) | | | | | | | | | | | |
| 1.20 | 1.20 | | 228.13 | | | 0.72 | 90 | 00189 | | 0.69 | 3.88 | 3301 | 62.42 | 0.74 | 14,695 (34.18) | 9.0 | |
| 1.30 | 1.30 | | | | | 1.82 | | | | | | | | | | | |
| 1.40 | 1.40 | | 229.55 | | | 0.28 | | | | | | | | | | | |
| 1.50 | 1.50 | | | | | (0.43) | | | | | | | | | | | |
| 1.60 | 1.60 | | | | | 0.32 | | | | | | | | | | | |
| 1.70 | 1.70 | | | | | 0.23 | | | | | | | | | | | |
| 1.80 | 1.80 | | | | | (0.16) | | | | | | | | | | | |
| 1.90 | 1.90 | | | | | 0.05 | | | | | | | | | | | |
| 2.00 | 2.00 | | | | | (0.15) | | | | | | | | | | | |
| 2.10 | 2.10 | | | | | 0.13 | | | | | | | | | | | |
| 2.20 | 2.20 | | | | | (0.02) | | | | | | | | | | | |
| 2.30 | 2.30 | | 232.27 | | | 0.27 | | | | | | | | | | | |
| 2.40 | 2.40 | | | | | | | | | | | | | | | | |
| 2.50 | 2.50 | | | | | | | | | | | | | | | | |
| 2.60 | 2.60 | | 233.00 | | | | | | | | | | | | | | |
| 2.70 | 2.70 | | | | | | | | | | | | | | | | |
| 2.80 | 2.80 | | | | | | | | | | | | | | | | |

GEOPHYSICAL LOGS

COAL SEAM DATA SHEET

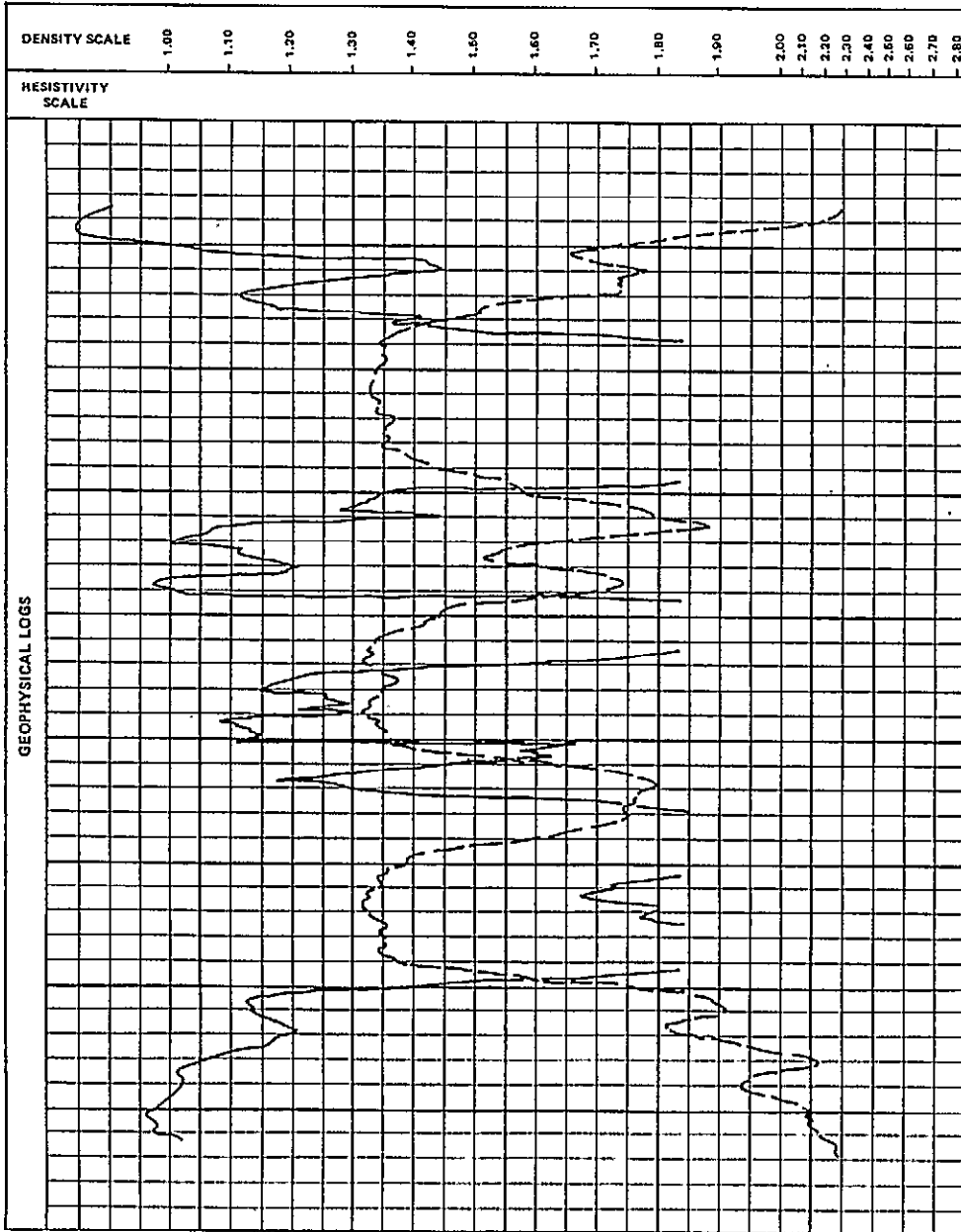
GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal / Coal + Rock (True Thk (m))
2.07/2.81 [Int.=233.59 - 238.86m]
SEAM INTERVAL 227.33 - 238.86m

DENSITY ----- RESISTIVITY -----

DRILL NO. GDR-DDH-81-22 SEAM
SCALE 1:40



GEOPHYSICAL LOGS

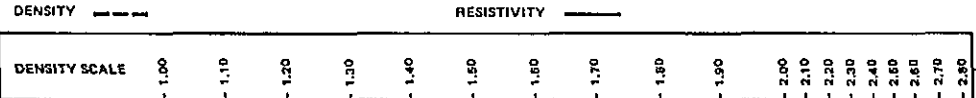
| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|-------------------|--------|---------------|--|------|--------|--------|---------|-------------------------|-------|-------|-------|------|------------------|-----|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S' | BTU (MJ/KG) | FSI | | |
| | 233.00 | | | | | | | | | | | | | | | |
| | 233.59 | | (0.24) 0.20 0.04 | 0.09 | | | | | | | | | | | | |
| | 234.70 | | | 0.98 | | | | | | | | | | | | |
| | 235.39 | | 0.39 0.04 0.09 0.12 (0.05) 0.05 | 0.06 | | | | | | | | | | | | |
| | 235.70 | | | 0.20 | | | | | | | | | | | | |
| | 235.90 | | (0.11) | | 86 | 00190 | | 1.09 | 37.55 | 20.45 | 40.91 | 0.17 | 8,727 (20.30) | 1.0 | | |
| | | | | 1.54 | | | | | | | | | | | | |
| | | | (0.38) | | | | | | | | | | | | | |
| | 238.86 | | | 1.04 | | | | | | | | | | | | |

COAL SEAM DATA SHEET

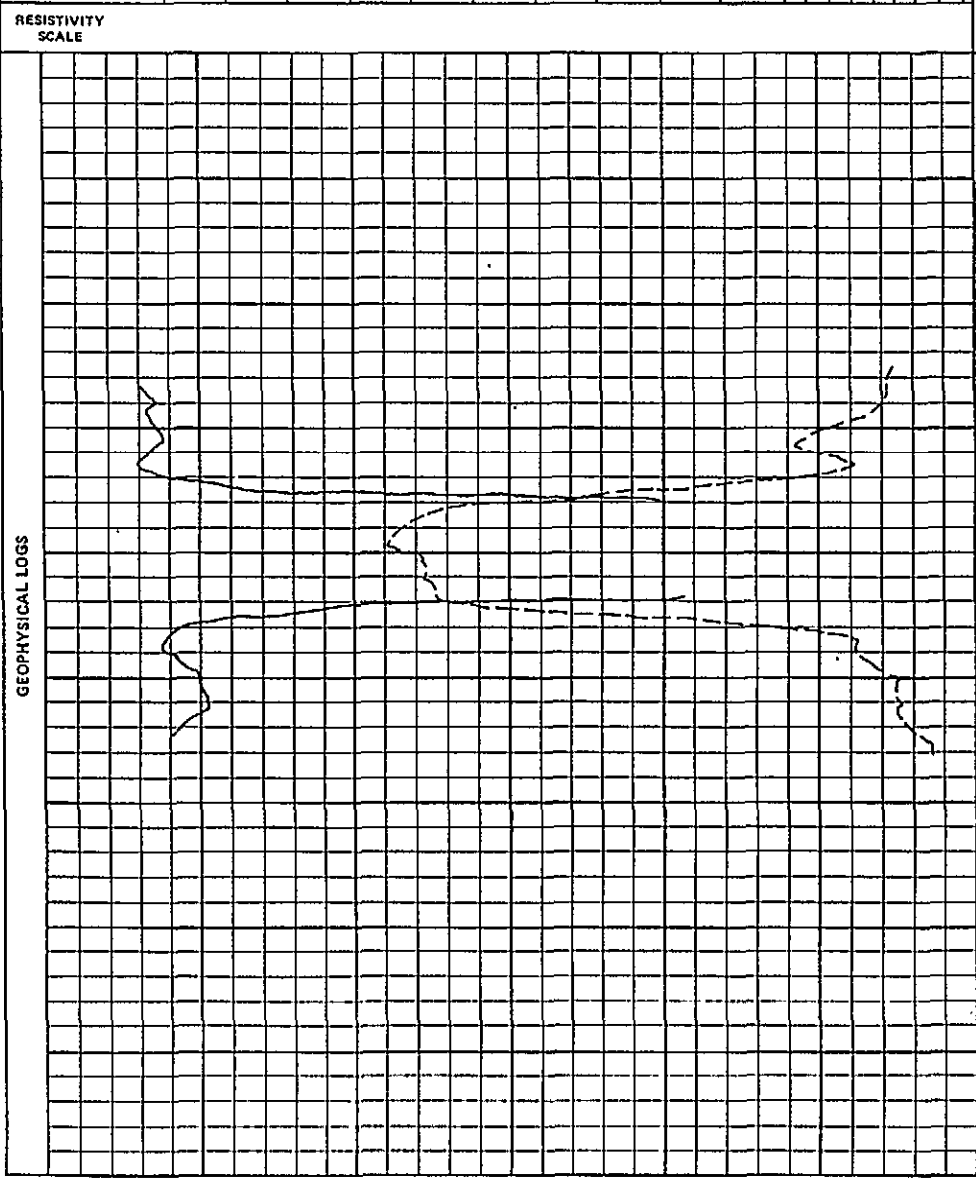
GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal/Coal + Rock (True Thk(m))
0.71 / 0.71



DRILL NO. GDR-DDH-81-22 SEAM _____ SEAM INTERVAL 245.49-246.52 m
SCALE 1:40



GEOPHYSICAL LOGS

| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | |
|------------|--------|---------------|----------|------|--------|--------|---------|-------------------------|------|-------|-------|------|----------------|-----|--|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI | | | |
| | | | | | | | | | | | | | | | | | |
| | 245.49 | | (0.54) | | | | | | | | | | | | | | |
| | 246.52 | | 0.22 | 0.93 | 90 | 00191 | | 0.97 | 7.06 | 32.83 | 59.14 | 0.52 | 14,243 (33.13) | 8.5 | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

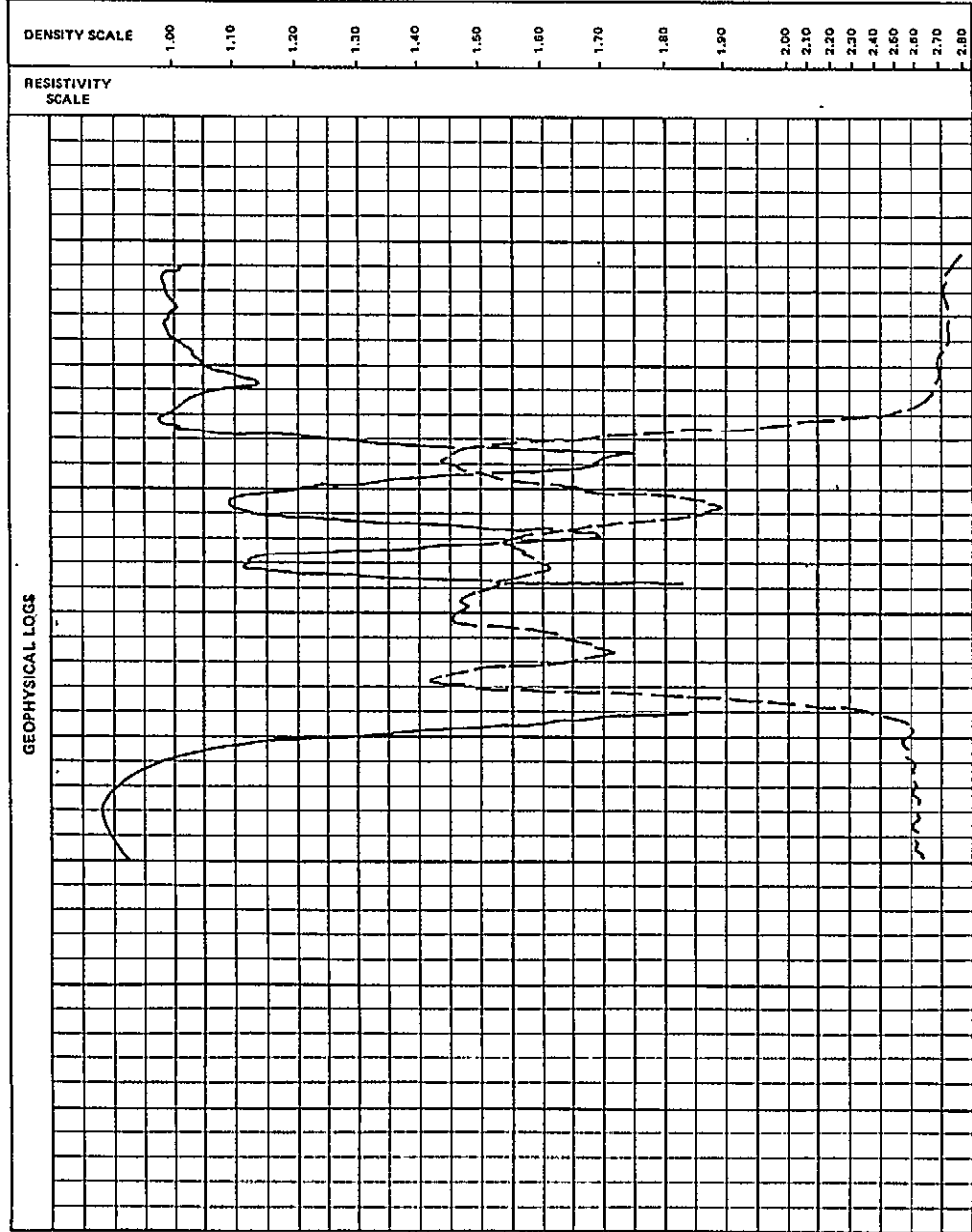
P-267 (12-80)

Coal / Coal + Rock (True Thk (m))
0.78 / 0.99

DENSITY ----- RESISTIVITY -----

DRILL NO. GDR-DDH-81-22 SEAM _____
SCALE 1:40

SEAM INTERVAL 262.53 - 264.65m



GEOPHYSICAL LOGS

| SEAM COMP. | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
|------------|--------|---|-------------|------|--------|--------|---------|-------------------------|-------|-------|-------|----------------|----------------|-----|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ^c | BTU (MJ/KG) | FSI | | |
| 554321 | 262.53 | ••••• ••••• ••••• ••••• ••••• | | 0.59 | | | | | | | | | | | | |
| | | ••••• | 0.05 | 0.33 | | | | | | | | | | | | |
| | | ••••• | 0.12 (0.10) | 0.58 | 92 | 00192 | | 0.87 | 24.71 | 28.14 | 46.28 | 0.40 | 11,294 (26.27) | 7.0 | | |
| | 264.65 | ••••• ••••• ••••• ••••• | (0.16) | 0.19 | | | | | | | | | | | | |

COAL SEAM DATA SHEET

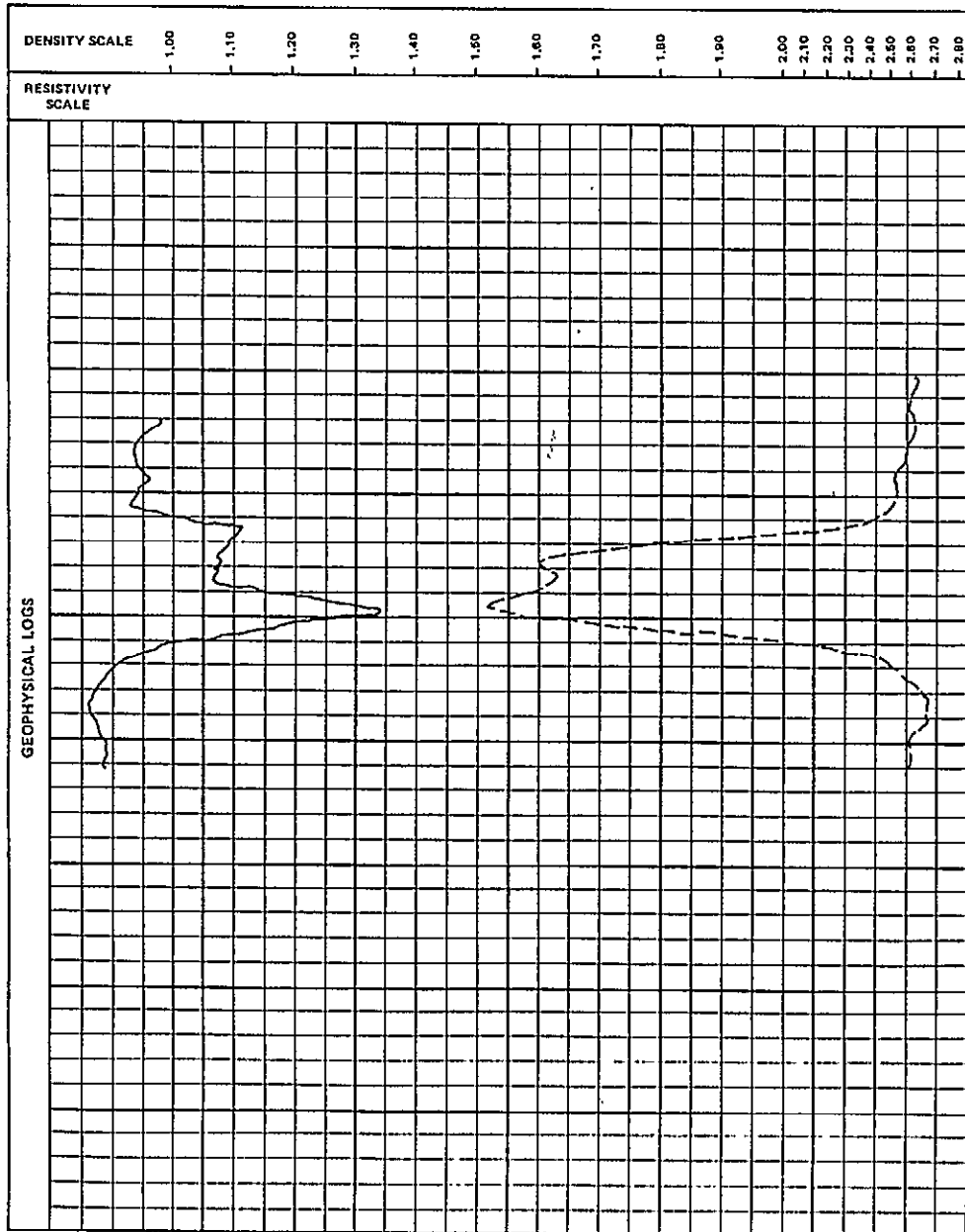
GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Coal/Coal + Rock (True Thk (m))
0.68/0.68
SEAM INTERVAL 281.34 - 282.14

DENSITY ----- RESISTIVITY -----

DRILL NO. GDR-DDH-81-22 SEAM
SCALE 1:40



GEOPHYSICAL LOGS

| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | | |
|----------------------|--------|---------------|----------|----------------|--------|--------|---------|-------------------------|-------|-------|-------|------|------------------|-----|--|--|--|
| | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S | BTU (MJ/KG) | FSI | | | |
| | 281.34 | | | | | | | | | | | | | | | | |
| | 282.14 | | | 0.55 (0.25) | 64 | 0093 | | 0.76 | 31.72 | 21.16 | 46.36 | 0.40 | 10,168 (2365) | 5.5 | | | |

COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

P-267 (12-80)

Cool/Cool+Rock (True Thk (m))

1.39/1.64
SEAM INTERVAL 296.03 - 298.43m

DENSITY RESISTIVITY

DRILL NO. GDR-DDH-81-22 SEAM

SCALE 1:40

| DENSITY SCALE | RESISTIVITY SCALE | | | | | | | | | | | | | | | | | |
|------------------|-------------------|------|---------------|--------|----------|------|--------|--------|---------|-------------------------|-------|-------|-------|----------------|----------------|------|------|------|
| | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70 | 1.80 | 1.90 | 2.00 | 2.10 | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 2.70 |
| GEOPHYSICAL LOGS | SEAM COMP. 654321 | | | | | | | | | | | | | | | | | |
| | DEPTH | | COAL SEAM LOG | | INTERVAL | | % REC. | SAMPLE | | PROXIMATE ANALYSIS (AD) | | | | | | | | |
| | | | | | ROCK | COAL | | NUMBER | COMPOS. | MOIST | ASH | VM | FC | S ¹ | BTU (MJ/KG) | FSI | | |
| | 295.22 | | | | | 0.22 | | | | | | | | | | | | |
| | 295.44 | | | | 0.25 | | | | | | | | | | | | | |
| | 296.03 | | | | 0.34 | | | | | | | | | | | | | |
| | 297.03 | | | | | 1.00 | 84 | CO194 | | 0.68 | 14.01 | 27.56 | 57.75 | 0.28 | 12,979 (30.19) | 6.5 | | |
| | 297.40 | | | | (0.37) | | | | | | | | | | | | | |
| | 298.43 | | | | 0.06 | 1.03 | | | | | | | | | | | | |
| | | | | | 0.26 | | | | | | | | | | | | | |
| | | | | | (0.01) | | | | | | | | | | | | | |
| | | | | | 0.60 | | | | | | | | | | | | | |
| | | | | | 0.07 | 0.14 | | | | | | | | | | | | |
| | | | | | 0.14 | | | | | | | | | | | | | |
| | | | | | 0.28 | | | | | | | | | | | | | |
| 301.00 | | | | 0.12 | | | | | | | | | | | | | | |
| | | | | (0.51) | | | | | | | | | | | | | | |

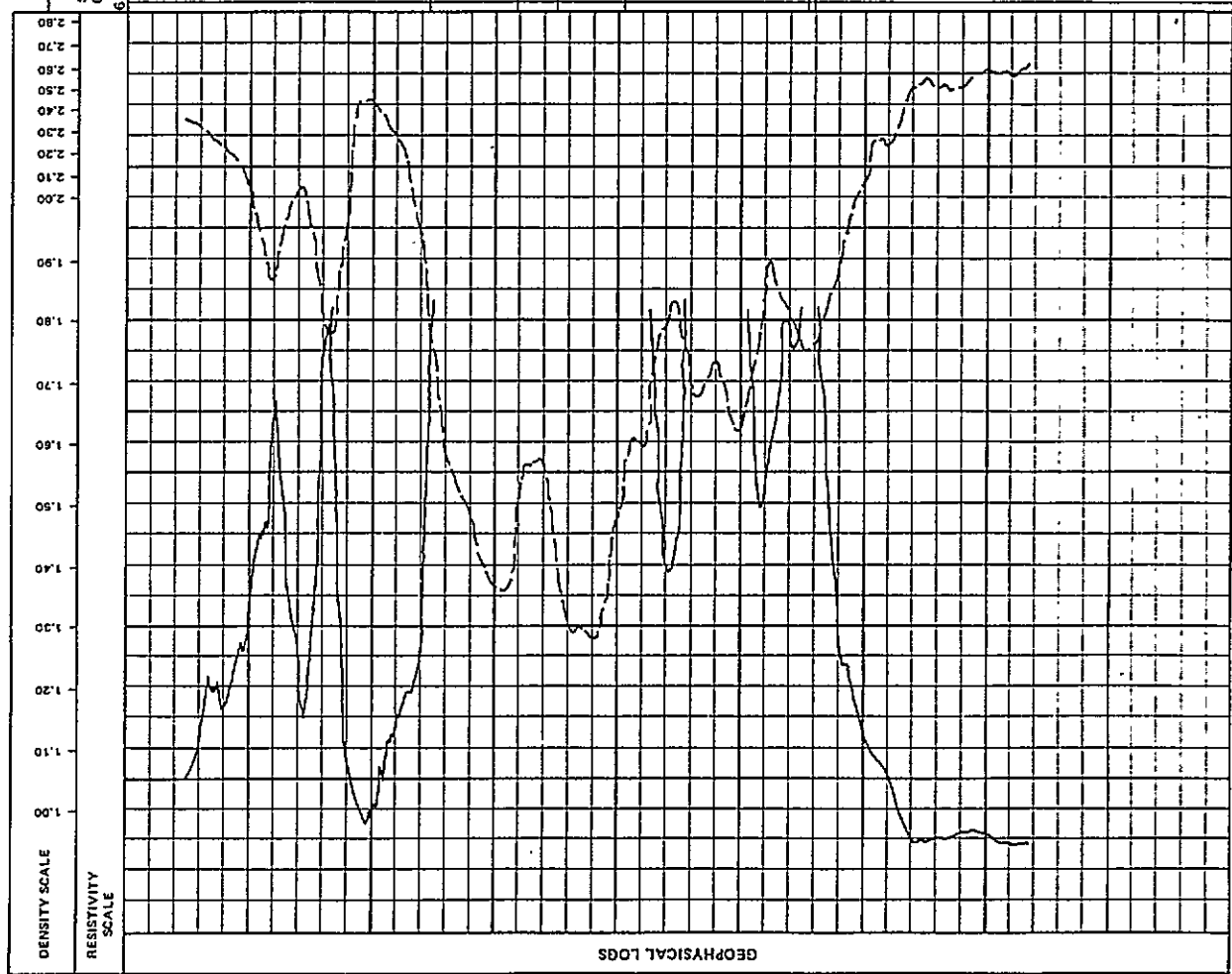
COAL SEAM DATA SHEET

GULF CANADA RESOURCES INC.
COAL DIVISION

Coal/Cool + Rock (True Thick (m))
1.09 / 1.34

DRILL NO. GDR-DDH-81-22 SEAM INTERVAL 303.45 - 305.25 m

DENSITY SCALE 1:40
RESISTIVITY SCALE 1:40



| SEAM COMP. 654321 | DEPTH | COAL SEAM LOG | INTERVAL | | % REC. | SAMPLE NUMBER | PROXIMATE ANALYSIS (AD) | | | | | | | | | | |
|-------------------|------------------|---------------|--------------------------|------|--------|---------------|-------------------------|-------|-------|-------|------|-------------------|----------------|-----|--|--|--|
| | | | ROCK | COAL | | | COMPOS. | MOIST | ASH | VM | FC | S' | BTU/LB (MJ/KG) | FSI | | | |
| | 302.00 | | | | | | | | | | | | | | | | |
| | 303.45 | | (0.03) | 0.70 | | | | | | | | | | | | | |
| | 305.07 305.25 | | (0.22) 0.02 (0.06) | 0.59 | 83 | 00195 | 0.80 | 13.12 | 27.75 | 49.33 | 0.27 | 13.113 (30.50) | 7.0 | | | | |

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 SIMPLE SAMPLE SUMMARY PAGE 1

| DATA SOURCE | SEAM | SAMPLE ID | DEPTH FROM | DEPTH TO | REC CORE | PERCENT REC | RECOVERED COAL | RECOVERED ROCK | MISSING COAL | MISSING ROCK |
|-------------|------|-----------|------------|----------|----------|-------------|----------------|----------------|--------------|--------------|
| DDH81022 | | 188 | 164.88 | 166.38 | 1.20 | 80.00 | 1.20 | 0.00 | 0.00 | 0.30 |
| | | 189 | 227.33 | 228.13 | 0.72 | 90.00 | 0.72 | 0.00 | 0.08 | 0.00 |
| | | 190 | 233.59 | 238.86 | 4.75 | 89.75 | 3.91 | 0.82 | 0.00 | 0.34 |
| | | 191 | 245.49 | 246.52 | 0.93 | 90.29 | 0.93 | 0.00 | 0.10 | 0.00 |
| | | 192 | 262.53 | 264.65 | 1.86 | 87.74 | 1.69 | 0.17 | 0.00 | 0.26 |
| | | 193 | 281.34 | 282.14 | 0.55 | 68.75 | 0.55 | 0.00 | 0.25 | 0.00 |
| | | 194 | 296.03 | 298.43 | 2.03 | 84.58 | 2.03 | 0.00 | 0.00 | 0.37 |
| | | 195 | 303.45 | 305.25 | 1.49 | 82.78 | 1.29 | 0.20 | 0.03 | 0.28 |

GULF CANADA RESOURCES INC. - COAL DIVISION
 18/JAN/82 HEAD ANALYSIS SUMMARY

PAGE 1

PROJ - GDR

ANALYSIS BASIS TYPE - AD

NAME OF STANDARD - ASTM

| DATA SOURCE | SEAM | SAMPLE ID | INHERENT MOISTURE% | ASH% | FIXED CARBON% | VOLATILE MATTER% | TOTAL SULPHUR% | GROSS CALORIFIC VALUE (MJ-KG) | SPG | FSI |
|-------------|------|-----------|--------------------|-------|---------------|------------------|----------------|-------------------------------|------|------|
| DDH81022 | | 188 | 0.62 | 26.32 | 49.56 | 23.50 | 0.20 | 24.90 | 1.46 | 4.00 |
| | | 189 | 0.69 | 3.88 | 62.42 | 33.01 | 0.74 | 34.18 | 1.28 | 9.00 |
| | | 190 | 1.09 | 37.55 | 40.91 | 20.45 | 0.17 | 20.30 | 1.55 | 1.00 |
| | | 191 | 0.97 | 7.06 | 59.14 | 32.83 | 0.52 | 33.13 | 1.29 | 8.50 |
| | | 192 | 0.87 | 24.71 | 46.28 | 28.14 | 0.40 | 28.27 | 1.45 | 7.00 |
| | | 193 | 0.76 | 31.72 | 46.36 | 21.18 | 0.40 | 23.65 | 1.52 | 5.50 |
| | | 194 | 0.68 | 14.01 | 57.75 | 27.56 | 0.28 | 30.19 | 1.35 | 6.50 |
| | | 195 | 0.80 | 13.12 | 58.33 | 27.75 | 0.27 | 30.50 | 1.32 | 7.00 |

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 1

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 15 | 37.55 | 37.88 | 0.33 | | | ROCK LOSS | |
| 15 | 37.88 | 39.38 | 1.50 | | | MUDSTONE | GY.BRKN IRON STAINED , UNCONSOLIDATED INTERVALS |
| 15 | 39.38 | 40.16 | 0.78 | | | MUDSTONE | GY.BRKN HIGHLY BROKEN TOWARD THE BASE . SOME CARB PARTINGS |
| 15 | 40.16 | 41.76 | 1.60 | | | ROCK LOSS | |
| 15 | 41.76 | 41.91 | 0.15 | | | MUDSTONE | GY.VBRKN HIGHLY BROKEN TO POWDERY . IRON STAINED |
| 15 | 41.91 | 42.80 | 0.89 | | | ROCK LOSS | |
| 15 | 42.80 | 44.35 | 1.55 | | | MUDSTONE | GY.BRKN BROKEN ALONG THE CORE AXIS , IRON STAINED |
| 15 | 44.35 | 45.48 | 1.13 | | | ROCK LOSS | |
| | 45.48 | 45.63 | 0.15 | | | MUDSTONE | GY.BRKN IRON-STAINED , CARBONACEOUS IN PARTS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 2

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 15 | 45.63 | 47.40 | 1.77 | | | MUDSTONE | GY.VBRKN SOFT, UNCONSOLIDATED MUDDY MATERIALS, IRON STAINED |
| 15 | 47.40 | 47.56 | 0.16 | | | ROCK LOSS | |
| 15 | 47.56 | 48.62 | 1.06 | | | MUDSTONE | GY.VBRKN IRON STAINED, HIGHLY BROKEN ZONE. MINOR CARB SPECKS |
| 15 | 48.62 | 48.93 | 0.31 | | | ROCK LOSS | |
| 15 | 48.93 | 49.53 | 0.60 | | | MUDSTONE | GY.VBRKN AS ABOVE |
| 15 | 49.53 | 49.74 | 0.21 | | | MUDSTONE | GY.VBRKN AS ABOVE |
| 15 | 49.74 | 49.96 | 0.22 | | | ROCK LOSS | |
| 15 | 49.96 | 51.71 | 1.75 | | | MUDSTONE | GY.BRKN AS ABOVE |
| 15 | 51.71 | 52.31 | 0.60 | | | MUDSTONE | GY.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 3

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 15 | 52.31 | 54.52 | 2.21 | | | MUDSTONE | GY.BRKN |
| 15 | 54.52 | 54.72 | 0.20 | | | MUDSTONE | GY.BRKN IRON STAINED |
| 15 | 54.72 | 56.53 | 1.81 | | | MUDSTONE | GY.BRKN IRON STAINED, CARB STRINGERS (MINOR) |
| 15 | 56.53 | 57.18 | 0.65 | | | MUDSTONE | GY.VBRKN AS ABOVE |
| 15 | 57.18 | 57.61 | 0.43 | | | ROCK LOSS | |
| 15 | 57.61 | 58.77 | 1.16 | | | MUDSTONE | GY.BRKN AS ABOVE |
| 15 | 58.77 | 60.64 | 1.87 | | | MUDSTONE | GY.VBRKN AS ABOVE |
| 15 | 60.64 | 60.87 | 0.23 | | | ROCK LOSS | |
| 15 | 60.87 | 62.03 | 1.16 | | | MUDSTONE | GY.VBRKN AS ABOVE |
| 15 | 62.03 | 63.19 | 1.16 | | | MUDSTONE | GY.BRKN AS ABOVE |
| 15 | 63.19 | 63.51 | 0.32 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 4

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|----------|------------|-----------|--|
| 15 | 63.51 | 65.74 | 2.23 | | | MUDSTONE | GY.BRKN UNIFORM THROUGHOUT , MINOR CARB STRINGERS |
| 15 | 65.74 | 66.91 | 1.17 | | | MUDSTONE | GY.SLD UNIFORM THROUGHOUT |
| 15 | 66.91 | 68.28 | 1.37 | | | MUDSTONE | GY.BRKN UNIFORM THROUGHOUT |
| 15 | 68.28 | 68.50 | 0.22 | | | ROCK LOSS | |
| 15 | 68.50 | 69.96 | 1.46 | | | MUDSTONE | GY.SLD |
| 15 | 69.96 | 70.80 | 0.84 | | | MUDSTONE | GY.SLD |
| 15 | 70.80 | 72.60 | 1.80 | | | MUDSTONE | GY.BRKN |
| 15 | 72.60 | 73.00 | 0.40 | | | ROCK LOSS | |
| 15 | 73.00 | 73.65 | 0.65 | | | MUDSTONE | GY.BRKN |
| 15 | 73.65 | 73.90 | 0.25 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 5

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|---------------------------------------|
| 15 | 73.90 | 76.05 | 2.15 | | | MUDSTONE | SLTY.GY.SLD UNIFORM THROUGHOUT |
| 15 | 76.05 | 76.23 | 0.18 | | | MUDSTONE | SLTY.GY.BRKN |
| 15 | 76.23 | 76.68 | 0.45 | | | ROCK LOSS | |
| 15 | 76.68 | 79.10 | 2.42 | | | MUDSTONE | SLTY.GY.MAS.SLD UNIFORM THROUGHOUT |
| 15 | 79.10 | 79.23 | 0.13 | | | MUDSTONE | SLTY.GY.MAS.SLD |
| 15 | 79.23 | 80.45 | 1.22 | | | SILTSTONE | GY.MAS.SLD UNIFORM THROUGHOUT |
| 15 | 80.45 | 81.29 | 0.84 | | | MUDSTONE | GY.MAS.BRKN |
| 15 | 81.29 | 81.78 | 0.49 | | | ROCK LOSS | |
| 15 | 81.78 | 82.00 | 0.22 | | | MUDSTONE | GY.MAS.VBRKN |
| 15 | 82.00 | 84.20 | 2.20 | | | SILTSTONE | DK.GY.MAS.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 6

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 15 | 84.20 | 84.58 | 0.38 | | SILTSTONE | DK.GY.MAS.SLD UNIFORM THROUGHOUT. |
| | 15 | 84.58 | 87.09 | 2.51 | | SILTSTONE | DK.GY.MAS.SLD |
| * | 15 | 87.09 | 89.57 | 2.48 | | SILTSTONE | SSY.DK.GY.MAS.SLD MINOR CALCITE VEININGS |
| | 15 | 89.57 | 90.07 | 0.50 | | SILTSTONE | DK.GY.MAS.SLD UNIFORM THOUGHOUT |
| | 15 | 90.07 | 92.09 | 2.02 | | SILTSTONE | DK.GY.MAS.SLD UNIFORM THOUGHOUT |
| | 15 | 92.09 | 93.10 | 1.01 | | SILTSTONE | DK.GY.MAS.BRKN |
| | 15 | 93.10 | 93.50 | 0.40 | | ROCK LOSS | |
| | 15 | 93.50 | 94.60 | 1.10 | | SILTSTONE | DK.GY.MAS.SLD |
| | 15 | 94.60 | 97.32 | 2.72 | | SILTSTONE | DK.GY.MAS.SLD |
| | 15 | 97.32 | 97.41 | 0.09 | | SILTSTONE | DK.GY.MAS.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 7

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 15 | 97.41 | 100.04 | 2.63 | | | SILTSTONE | DK.GY.MAS.SLD COALY PARTINGS AND STRINGERS |
| 15 | 100.04 | 100.39 | 0.35 | | | SILTSTONE | DK.GY.SLD |
| * 15 | 100.39 | 102.63 | 2.24 | | | SILTSTONE | DK.GY.SSD.SLD |
| 16 | 102.63 | 103.05 | 0.42 | | | SILTSTONE | SSY.DK.GY.SSD.BRKN MINOR CALCITE VEININGS |
| 16 | 103.05 | 103.50 | 0.45 | | | ROCK LOSS | |
| 17 | 103.50 | 105.03 | 1.53 | | | SILTSTONE | DK.GY.SSD.BRKN HIGHLY BROKEN TOWARD THE BASE. CALCITE VEINING |
| 18 | 105.03 | 105.78 | 0.75 | | | ROCK LOSS | |
| 19 | 105.78 | 108.30 | 2.52 | | | SILTSTONE | DK.GY.MAS.SSD.SLD CARB STRINGERS THROUGHOUT , MINOR CALCIT E VEININGS |
| 20 | 108.30 | 108.84 | 0.54 | | | MUDSTONE | SLTY.DK.GY.SLD CARB STRINGERS THROUGHOUT |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 8

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| * 21 | 108.84 | 110.78 | 1.94 | | | MUDSTONE | SLTY.DK.GY.MAS.SSD.SLD |
| 20 | 110.78 | 111.94 | 1.16 | | | SILTSTONE | DK.GY.THKB.SLD |
| 19 | 111.94 | 113.32 | 1.38 | | | SILTSTONE | DK.GY.THKB.SLD MINOR CALCITE VEININGS |
| 18 | 113.32 | 114.59 | 1.27 | | | MUDSTONE | DK.GY.THKB.SLD CALCITE VEINS TOWARD THE BASE HIGHLY CA RB TOWARD THE BASE |
| 18 | 114.59 | 115.09 | 0.50 | | | MUDSTONE | CARB.BLK.THNB.BRKN HIGHLY CARB , COALY PARTINGS; SED STRUX SHRD. |
| 17 | 115.09 | 115.76 | 0.67 | | | COAL&ROCK | BLK.VBRKN MIXTURE OF MUDSTONE AND SHEARED COAL; S ED STRUX SHRD. |
| 17 | 115.76 | 116.13 | 0.37 | | | ROCK LOSS | |
| 16 | 116.13 | 117.74 | 1.61 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY SHEARD AND CARB INTERVALS; SED S TRUX SHRD. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| 16 | 117.74 | 118.40 | 0.66 | | | MUDSTONE | CARB.BLK.BRKN COALY PARTINGS; SED STRUX SHRD. |
| 15 | 118.40 | 118.54 | 0.14 | | | ROCK LOSS | |
| * 15 | 118.54 | 119.34 | 0.80 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY BROKEN TOWARD THE BASE; SED STRU X SHRD. |
| 18 | 119.34 | 120.96 | 1.62 | | | MUDSTONE | SLTY.BLK.THKB.SLD CARB IN PARTS |
| * 22 | 120.96 | 122.51 | 1.55 | | | SILTSTONE | DK.GY.THKB.SSD.SLD |
| 22 | 122.51 | 123.63 | 1.12 | | | SILTSTONE | DK.GY.THKB.SSD.SLD |
| | 123.63 | 123.83 | 0.20 | | | MUDSTONE | CARB.DK.GY.THNB.SLD ABUNDANT THIN BRIGHT COALY STRINGERS TR ACE CALCITE VEININGS STEEP BCA, IE. LES S THAN 10. |
| 21 | 123.83 | 126.23 | 2.40 | | | MUDSTONE | CARB.BLK.THNB.BRKN AS ABOVE, WITH APPROX 4 CM THICK COAL S TRINGERS C3RUNNING PARALLEL TO BEDDING, HENCE FOR APPROX 1M ALONG CORE. BECOMI NG SLTY TOWARD BASE, LISTRIC SURFACES. |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 10

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 20 | 126.23 | 126.88 | 0.65 | | | MUDSTONE | CARB.DK.GY.THNB.SLD AS ABOVE, INCREASING NUMBER SLTY INTERBEDS AND NON-CARB MUDST BEDS. |
| * 20 | 126.88 | 128.99 | 2.11 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.BRKN MINOR THIN BRIGHT COALY STRINGERS AND LENSES, CARB INTBDS. BCA BECOMES 0 TOWARD BASE |
| * 23 | 128.99 | 129.42 | 0.43 | | | MUDSTONE | DK.GY.THNB.SSD.SLD AS ABOVE, ABUNDANT COALY WISPS AND STRINGERS, MINOR THIN CALCITE VEINLETS |
| 20 | 129.42 | 129.94 | 0.52 | | | MUDSTONE | CARB.BLK.THNB.SSD.BRKN AS ABOVE, MINOR SILTY INTERBEDS |
| * 15 | 129.94 | 131.51 | 1.57 | | | MUDSTONE | VBRKN AS ABOVE, LISTRIC SURFACES, TRACE CALCITE |
| * 10 | 131.51 | 131.61 | 0.10 | | | ROCK LOSS | |
| * 15 | 131.61 | 132.97 | 1.36 | | | MUDSTONE | DK.GY.THNB.SSD.BRKN SLIGHTLY CARB, MINOR COALY WISPS, LENSES, TRACE CALCITE |
| 14 | 132.97 | 134.30 | 1.33 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.BRKN MINOR COAL STRINGER, LENSES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 11

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 14 | 134.30 | 134.40 | 0.10 | | ROCK LOSS | |
| | 13 | 134.40 | 135.72 | 1.32 | | MUDSTONE | SLTY.DK.GY.THNB.SSD.BRKN CARB, MINOR CALCITE, COAL STRINGERS, POSSIBLE CORE OR COAL LOSS, COALY PLANT FRAGMENTS |
| * | 13 | 135.72 | 136.68 | 0.96 | | MUDSTONE | AS ABOVE |
| | 12 | 136.68 | 136.79 | 0.11 | | ROCK LOSS | |
| | 12 | 136.79 | 138.77 | 1.98 | | MUDSTONE | SLTY AS ABOVE |
| | 11 | 138.77 | 138.97 | 0.20 | | ROCK LOSS | |
| | 11 | 138.97 | 139.64 | 0.67 | | MUDSTONE | SLTY AS ABOVE, OCC. VERY CARB |
| * | 10 | 139.64 | 142.12 | 2.48 | | MUDSTONE | CARB.DK.GY.THNB.SSD.BRKN AS ABOVE OCC SITLY INTBDS BECOMING LESS CARB TOWARD THE BASE |
| | 11 | 142.12 | 142.22 | 0.10 | | MUDSTONE | DK.GY.THNB.SSD.SLD CARB AND SLTY INTERBEDS, MINOR THIN COAL WISPS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 12

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 142.22 | 144.43 | 2.21 | | | MUDSTONE | CARB.BLK.THNB.SSD.VBRKN ABUNDANT BRIGHT COAL STRINGERS BCA APPR OX 0, SLIGHTLY SLTY IN PART, TRACE CALC ITE VEINLETS. |
| 12 | 144.43 | 144.56 | 0.13 | | | ROCK LOSS | |
| 12 | 144.56 | 144.68 | 0.12 | | | MUDSTONE | CARB.BLK.THNB.SSD.VBRKN AS ABOVE |
| 13 | 144.68 | 146.69 | 2.01 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.BRKN AS ABOVE MINOR SLTY INTRBDS OCC. VERY C ARB |
| * 14 | 146.69 | 147.18 | 0.49 | | | MUDSTONE | CARB.DK.GY.THNB.SSD.BRKN AS ABOVE |
| * 14 | 147.18 | 148.21 | 1.03 | | | MUDSTONE | DK.GY.THNB.SSD.BRKN THIN SILTY INTERBEDS, IN PART VERY CARB , NUMEROUS THIN COALY STRINGERS AND LE NSES INCREASING TOWARD THE BASE |
| * 15 | 148.21 | 149.62 | 1.41 | | | MUDSTONE | CARB.BLK.THNB.SSD.VBRKN THIN SLTY INTERBEDS NUMEROUS COAL STRIN GERS, LISTRIC SURFACES |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 16 | 149.62 | 149.81 | 0.19 | | | ROCK LOSS | |
| 16 | 149.81 | 150.96 | 1.15 | | | MUDSTONE | DK.GY.THNB.SSD.BRKN SLTY AND CARB IN PLACES. NUMEROUS COALY STRINGERS, MINOR CALCITE VEINS. VERY BROKEN AT BASE |
| 17 | 150.96 | 151.90 | 0.94 | | | MUDSTONE | BRKN AS ABOVE |
| 17 | 151.90 | 152.22 | 0.32 | | | MUDSTONE | CARB.DK.GY.THNB.VBRKN PWRD COAL STRINGERS AT TOP. NUMEROUS CO ALY STRINGERS TROUGHOUT |
| 17 | 152.22 | 152.82 | 0.60 | | | ROCK LOSS | |
| 18 | 152.82 | 152.86 | 0.04 | | | MUDSTONE | CARB.DK.GY.PWRD |
| 18 | 152.86 | 153.40 | 0.54 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN SLIGHTLY CARB WITH OCCASIONAL CARB MUDS T INTERBEDS. ABUNDANT CALCITE FRACTURE FILLING WITH TRACE OIL STAIN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 19 | 153.40 | 155.06 | 1.66 | | | MUDSTONE | CARB.DK.GY.VBRKN SILTY, ABUNDANT COALY WISPS, LISTRIC FRACTURE FILLING AT TOP OF INTERVAL |
| 19 | 155.06 | 155.12 | 0.06 | | | ROCK LOSS | |
| 19 | 155.12 | 155.74 | 0.62 | | | MUDSTONE | CARB.DK.GY.BRKN MINOR COALY STRINGERS AND WISPS, MINOR CALCITE |
| * | 155.74 | 157.36 | 1.62 | | | MUDSTONE | DK.GY.THNB.SSD.BRKN MINOR CARB AND COALY STRINGERS, MINOR CALCITE FRACTURE—FILLING W FRACTURES RUNNING APPROX PERPENDICULAR TO BEDDING. BEDS DO NOT APPEAR TO BE OVERTURNED. MINOR SLTY INTRBDS, VERY BROKEN AT BASE |
| | 157.36 | 159.09 | 1.73 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN MUDDY AT TOP, OCC CARB INTRBDS COALY WISPS AND STRINGERS; BEDS ARE OVERTURNED. |
| | 159.09 | 159.19 | 0.10 | | | ROCK LOSS | |
| * 30 | 159.19 | 159.77 | 0.58 | | | SILTSTONE | DK.GY.THNB.BRKN AS ABOVE, BECOMING MUDDY AND CARB TOWARD BASE OF INTERVAL |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 32 | 159.77 | 160.39 | 0.62 | | MUDSTONE | SLTY.DK.GY.THNB.SSD.BRKN COALY STRINGERS, CARB IN PT. |
| * | 35 | 160.39 | 161.97 | 1.58 | | SILTSTONE | DK.GY.THNB.SSD.BRKN CARB IN PT, NUMEROUS COALY STRINGERS., MINOR CALCITE, OCC MUDDY., BECOMES MUDDY TOWARD THE BASE |
| | 35 | 161.97 | 162.24 | 0.27 | | MUDSTONE | CARB.DK.GY.THNB.VBRKN SLTY , COALY PARTINGS, WISPS |
| | 35 | 162.24 | 162.51 | 0.27 | | COAL | C-6.VBRKN BONEY |
| | 35 | 162.51 | 162.96 | 0.45 | | ROCK LOSS | |
| | 35 | 162.96 | 163.36 | 0.40 | | MUDSTONE | CARB.VBRKN NUMEROUS COALY SFRINGERS, LISTRIC SURFA CE |
| | 35 | 163.36 | 164.27 | 0.91 | | MUDSTONE | CARB.BLK.VBRKN AS ABOVE |
| | 35 | 164.27 | 164.36 | 0.09 | | ROCK LOSS | |
| | 35 | 164.36 | 164.59 | 0.23 | | MUDSTONE | CARB.BLK.VBRKN AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 34 | 164.59 | 164.88 | 0.29 | | 2 | COAL&ROCK | BLK.VBRKN AS ABOVE |
| 34 | 164.88 | 165.48 | 0.60 | 00188 | 2 | COAL | C-5.BRKN |
| 34 | 165.48 | 165.78 | 0.30 | 00188 | 2 | ROCK LOSS | |
| 34 | 165.78 | 166.38 | 0.60 | 00188 | 2 | COAL | C-5 |
| 34 | 166.38 | 167.08 | 0.70 | | 2 | COAL&ROCK | VBRKN |
| 34 | 167.08 | 167.66 | 0.58 | | | ROCK LOSS | |
| 34 | 167.66 | 167.96 | 0.30 | | | MUDSTONE | CARB.VBRKN |
| 34 | 167.96 | 168.03 | 0.07 | | | MUDSTONE | CARB.BLK.VBRKN ABUNDANT COALY STRINGERS AND WISPS. |
| 34 | 168.03 | 168.85 | 0.82 | | | MUDSTONE | CARB.BLK.VBRKN AS ABOVE, MINOR CALCITE LISTRIC SURFACE S. |
| 34 | 168.85 | 169.25 | 0.40 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 34 | 169.25 | 169.51 | 0.26 | | | MUDSTONE | CARB.BLK.VBRKN AS ABOVE THIN PWRD COAL STRINGERS (C-5?)) AT TOP |
| | 169.51 | 170.36 | 0.85 | | | MUDSTONE | DK.GY.BRKN SLIGHTLY CARB TOWARD TOP WITH MINOR CAL CITE FILLED FRACTURE. |
| 34 | 170.36 | 170.81 | 0.45 | | | MUDSTONE | SLTY.GY.THNB.BRKN TRACE CALCITE |
| 34 | 170.81 | 171.28 | 0.47 | | | ROCK LOSS | |
| 33 | 171.28 | 172.01 | 0.73 | | | SILTSTONE | GY.THNB.SSD.BRKN CARB FLECKS , CALCITE FILLED FRACTURES , COALY WISPS , DECREASING MUD TOWARD B ASE, INCREASING |
| 33 | 172.01 | 172.30 | 0.29 | | | MUDSTONE | CARB.BLK.THNB.BRKN ABUNDANT COALY STRINGERS WISPS, SLIGHTL Y SILTY |
| 33 | 172.30 | 173.14 | 0.84 | | | MUDSTONE | CARB.BLK.THNB.VBRKN AS ABOVE |
| 33 | 173.14 | 173.57 | 0.43 | | | ROCK LOSS | |
| 33 | 173.57 | 173.82 | 0.25 | | | MUDSTONE | CARB.BLK.THNB.VBRKN AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 33 | 173.82 | 174.22 | 0.40 | | MUDSTONE | SLTY.GY.THNB.BRKN MINOR CARB FLECKS |
| | 33 | 174.22 | 174.41 | 0.19 | | ROCK LOSS | |
| * | 33 | 174.41 | 175.35 | 0.94 | | SILTSTONE | SSY.DK.GY.THNB.XBDG.BRKN THIN CARB AND MUDDY INTERBEDS, CALCITE FILLED FRACTURE WITH OIL STAIN IN VUGS BEDS ARE STILL OVER TURNED |
| | 29 | 175.35 | 176.01 | 0.66 | | SILTSTONE | SSY.DK.GY.THNB.SSD.BRKN AS ABOVE |
| | 27 | 176.01 | 176.19 | 0.18 | | ROCK LOSS | |
| * | 25 | 176.19 | 176.89 | 0.70 | | SILTSTONE | SSY.DK.GY.THNB.XBDG.BRKN AS ABOVE, CARB BEDS AND WISPS INCREASIN G TOWARD BASE, MINOR CALCITE |
| | 26 | 176.89 | 177.79 | 0.90 | | SILTSTONE | SSY.DK.GY.THNB.SSD.BRKN AS ABOVE, LESS CARB |
| | 26 | 177.79 | 177.83 | 0.04 | | ROCK LOSS | |
| | 26 | 177.83 | 178.69 | 0.86 | | SILTSTONE | SSY.DK.GY.THNB.SSD.BRKN AS ABOVE, MUDDY AT BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 27 | 178.69 | 179.74 | 1.05 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN BECOMING CARB TOWARD BASE. NUMEROUS VER Y THIN CALCITE VEINS |
| | 179.74 | 180.17 | 0.43 | | | MUDSTONE | CARB.BLK.THNB.VBRKN COALY STRINGERS AT TOP, NUMEROUS THIN C OALY WISPS THOUGHOUT PWDR COAL NEAR BAS E |
| 28 | 180.17 | 180.83 | 0.66 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN CARB AT TOP, MINOR CALCITE |
| 29 | 180.83 | 181.03 | 0.20 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN AS ABOVE |
| 29 | 181.03 | 181.37 | 0.34 | | | ROCK LOSS | |
| * 30 | 181.37 | 183.58 | 2.21 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN MINOR CALCITE FILLED FRACTURE, CARB FLE CKS, MINOR COALY LENSES |
| | 183.58 | 185.66 | 2.08 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.VBRKN ABUNDANT CALCITE FILLED FRACTURES, TRACE CARB AND COALY, SHEARED |
| 33 | 185.66 | 185.70 | 0.04 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 33 | 185.70 | 186.32 | 0.62 | | | MUDSTONE | SLTY.DK.GY.BRKN MINOR CALCITE , MINOR CARB TRACE COAL W ISPS |
| 34 | 186.32 | 188.20 | 1.88 | | | MUDSTONE | SLTY.DK.GY.BRKN AS ABOVE |
| 35 | 188.20 | 189.37 | 1.17 | | | MUDSTONE | SLTY.GY.BRKN MINOR CALCITE WISPS, OCC COALY WISPS; L ENSES. |
| 36 | 189.37 | 190.68 | 1.31 | | | MUDSTONE | SLTY.GY.BRKN AS ABOVE |
| 37 | 190.68 | 190.88 | 0.20 | | | ROCK LOSS | |
| 37 | 190.88 | 192.42 | 1.54 | | | MUDSTONE | SLTY.GY.BRKN AS ABOVE |
| 38 | 192.42 | 193.51 | 1.09 | | | MUDSTONE | SLTY.GY.BRKN AS ABOVE |
| 39 | 193.51 | 194.33 | 0.82 | | | MUDSTONE | SLTY.GY.BRKN AS ABOVE, COALY LENSES INCREASING TOWAR D BASE |
| * 40 | 194.33 | 196.07 | 1.74 | | | MUDSTONE | SLTY.GY.THNB.BRKN AS ABOVE, COALY AT TOP BECOMING MORE SL TY TOWARD BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 41 | 196.07 | 196.68 | 0.61 | | | MUDSTONE | SLTY.GY.THNB.BRKN AS ABOVE ABUNDANT CALCITE FILLED FRACTURES |
| * 43 | 196.68 | 198.44 | 1.76 | | | MUDSTONE | SLTY.GY.THNB.BRKN AS ABOVE, CALCITE DECREASING |
| 41 | 198.44 | 198.58 | 0.14 | | | ROCK LOSS | |
| | 198.58 | 199.28 | 0.70 | | | MUDSTONE | SLTY.GY.THNB.SSD.BRKN AS ABOVE, MINOR CALCITE WITH OIL STAINED VUGS. |
| * | 199.28 | 200.86 | 1.58 | | | MUDSTONE | SLTY.GY.THNB.BRKN AS ABOVE, ZONE OF SLIGHTLY CARB WITH COALY STRINGERS AT MIDPOINT IN INTERVAL BECOMING MORE CARB TOWARD BASE |
| 36 | 200.86 | 201.05 | 0.19 | | | ROCK LOSS | |
| 35 | 201.05 | 201.56 | 0.51 | | | MUDSTONE | DK.GY.VBRKN BECOMING CARB WITH NUMEROUS THIN (PWRD) COAL STRINGERS, INCREASING TOWARD BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| | 34 | 201.56 | 202.93 | 1.37 | | MUDSTONE | CARB.DK.GY.BRKN WITH ABUNDANT COALY WISPS AND STRINGERS , MINOR CALCITE VEINING |
| | 33 | 202.93 | 203.51 | 0.58 | | ROCK LOSS | |
| | 32 | 203.51 | 204.61 | 1.10 | | MUDSTONE | SLTY.DK.GY.THNB.SSD.VBRKN OCCASIONALLY CARB MINOR THIN COALY WISP S AND STRINGERS |
| * | 30 | 204.61 | 205.84 | 1.23 | | MUDSTONE | SLTY.DK.GY.THNB.SSD.BRKN AS ABOVE |
| | 30 | 205.84 | 206.54 | 0.70 | | MUDSTONE | CARB.DK.GY.VBRKN SILTY AT TOP, ABUNDANT (PWRD) COALY STR INGERS THROUGHOUT |
| | 31 | 206.54 | 206.94 | 0.40 | | MUDSTONE | SLTY.DK.GY.THNB.BRKN ABUNDANT THIN CALCITE VEINING, SLIGHTLY CARB |
| | 31 | 206.94 | 207.55 | 0.61 | | MUDSTONE | DK.GY.BRKN SLIGHTLY SILTY THROUGHOUT; MINOR CARB A ND COALY FLECKS AND STRINGERS. |
| | 31 | 207.55 | 207.66 | 0.11 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| <u>BCA</u> | <u>DEPTH FROM</u> | <u>DEPTH TO</u> | <u>INTRVAL THICK.</u> | <u>SAMP. ID</u> | <u>SEAM ID</u> | <u>LITHOLOGY</u> | <u>DESCRIPTION</u> |
|------------|-------------------|-----------------|-----------------------|-----------------|----------------|------------------|--|
| 31 | 207.66 | 208.09 | 0.43 | | | MUDSTONE | DK.GY.BRKN AS ABOVE |
| 31 | 208.09 | 208.17 | 0.08 | | | ROCK LOSS | |
| 32 | 208.17 | 209.00 | 0.83 | | | MUDSTONE | DK.GY.BRKN AS ABOVE MINOR CALCITE FILLED FRACTURE |
| 32 | 209.00 | 209.04 | 0.04 | | | TUFF | BF.SLD |
| 32 | 209.04 | 210.70 | 1.66 | | | MUDSTONE | DK.GY.BRKN AS ABOVE |
| 33 | 210.70 | 210.85 | 0.15 | | | MUDSTONE | DK.GY.SLD AS ABOVE |
| 33 | 210.85 | 213.55 | 2.70 | | | MUDSTONE | SLTY.GY.BRKN MINOR CALCITE, TRACE COALY PLANT FRAGME NTS. POSSIBLE TUFF (4CM) 16CM FROM TOP OF INTERVAL |
| 34 | 213.55 | 213.75 | 0.20 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 34 | 213.75 | 214.97 | 1.22 | | MUDSTONE | SLTY.GY.THNB.SSD.BRKN MINOR CALCITE FILLED FRACTURE WITH WELL DEVELOPED CALCITE CRYSTALS , MINOR THI N COALY AND CARB WISPS |
| * | 35 | 214.97 | 216.08 | 1.11 | | MUDSTONE | SLTY.GY.THNB.SSD.BRKN AS ABOVE |
| | 32 | 216.08 | 217.89 | 1.81 | | SILTSTONE | SSY.GY.THNB.SSD.BRKN MINOR CALCITE FILLED FRACTURES RUNNING PARELLEL TO BEDDING. MINOR CARB AND MUD DY INTERBED , COALY WISPS |
| | 30 | 217.89 | 218.02 | 0.13 | | ROCK LOSS | |
| | 29 | 218.02 | 218.86 | 0.84 | | SILTSTONE | DK.GY.THNB.SSD.BRKN MINOR CARB BEDS, TRACE CALCITE , SANDY INTERBEDS |
| | 27 | 218.86 | 219.90 | 1.04 | | SILTSTONE | DK.GY.THNB.SSD.BRKN MUDDY TOWARDS TOP. THIN CARB STRINGERS, MINOR COALY STRINGERS, MINOR CALCITE V EINING BED ARE STILL OVER TURNED |
| * | 25 | 219.90 | 220.29 | 0.39 | | SANDSTONE | VFG.DK.GY.THNB.XBDG.BRKN MINOR CARB MATERIAL, MINOR CALCITE VEIN ING PERPENDICULAR TO BEDDING |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 23 | 220.29 | 220.57 | 0.28 | | | SILTSTONE | DK.GY.THNB.SSD.SLD MINOR CARB AND COALY FLECKS |
| 21 | 220.57 | 221.07 | 0.50 | | | MUDSTONE | SLTY.DK.GY.THNB.BRKN |
| 19 | 221.07 | 221.37 | 0.30 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN MINOR CALCITE |
| 17 | 221.37 | 221.76 | 0.39 | | | SILTSTONE | DK.GY.THNB.SSD.SLD AS ABOVE |
| * | 221.76 | 222.73 | 0.97 | | | SANDSTONE | VFG.DK.GY.THNB.XBDG.BRKN LARGE AND SMALL SCALE XBDG -BEDS ARE ST ILL OVERTURNED-CALCITE VEINING RUNNING PERPENDICULAR TO BEDDING, OIL STAINED VUGS IN CALCITE BECOMING SLTY TOWARD BA SE |
| 15 | 222.73 | 223.02 | 0.29 | | | ROCK LOSS | |
| 16 | 223.02 | 223.86 | 0.84 | | | MUDSTONE | DK.GY.THNB.BRKN COALY STRINGERS, CALCITE-FILLED FRACTUR ES, LISTRIC SURFACE, BECOMING SLTY TOWA RD BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 17 | 223.86 | 224.12 | 0.26 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN SLIGHTLY CARB MUDDY INTERBEDS, THIN COA LY STRINGERS, MINOR CALCITE |
| * 20 | 224.12 | 226.04 | 1.92 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN MINOR CALCITE FILLED FRACTURE BECOMING SLIGHTLY CARB TOWARD BASE BEDS ARE STIL L OVERTURNED |
| 21 | 226.04 | 226.64 | 0.60 | | | SILTSTONE | CARB.DK.GY.THNB.BRKN ABUNDANT BRIGHT COAL STRINGERS , MINOR CALCITE |
| 22 | 226.64 | 226.73 | 0.09 | | | SILTSTONE | GY.THNB.BRKN MINOR CARB AND COALY FRAGMENTS |
| 22 | 226.73 | 226.78 | 0.05 | | | ROCK LOSS | |
| 22 | 226.78 | 227.16 | 0.38 | | | SILTSTONE | GY.THNB.BRKN AS ABOVE |
| 22 | 227.16 | 227.33 | 0.17 | | | MDUST | CARB.BLK.THNB.BRKN ABUNDANT COALY STRINGERS, LENSES |
| 23 | 227.33 | 227.41 | 0.08 | 00189 | 1 | COAL LOSS | |
| 23 | 227.41 | 228.13 | 0.72 | 00189 | 1 | COAL | C-5.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 27

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|--|
| 24 | 228.13 | 229.06 | 0.93 | | | SILTSTONE | DK.GY.THNB.XBDG.BRKN CARB STRINGERS BEDS ARE STILL OVERTURNE D |
| 25 | 229.06 | 229.73 | 0.67 | | | SILTSTONE | DK.GY.THNB.BRKN AS ABOVE |
| 25 | 229.73 | 229.95 | 0.22 | | | MUDSTONE | CARB.DK.GY.THNB.VBRKN |
| 26 | 229.95 | 230.23 | 0.28 | | 1 | COAL | C-5.VBRKN |
| 26 | 230.23 | 230.66 | 0.43 | | 1 | ROCK LOSS | |
| 27 | 230.66 | 230.98 | 0.32 | | 1 | COAL | C-5 |
| 27 | 230.98 | 231.01 | 0.03 | | 1 | TUFF | BF.SLD |
| 27 | 231.01 | 231.24 | 0.23 | | 1 | COAL | C-5.VBRKN |
| 27 | 231.24 | 231.40 | 0.16 | | 1 | ROCKLOSS | C-5 |
| 27 | 231.40 | 231.45 | 0.05 | | 1 | TUFF | BF.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|------------------------------|
| | 27 | 231.45 | 231.60 | 0.15 | 1 | ROCK LOSS | |
| | 28 | 231.60 | 231.73 | 0.13 | 1 | COAL | C-5.VBRKN |
| | 28 | 231.73 | 231.75 | 0.02 | 1 | COAL LOSS | |
| | 28 | 231.75 | 232.00 | 0.25 | 1 | ROCK LOSS | |
| | 28 | 232.00 | 232.27 | 0.27 | 1 | COAL | C-5.VBRKN |
| | 28 | 232.27 | 232.52 | 0.25 | | MUDSTONE | CARB.BLK.VBRKN |
| | 29 | 232.52 | 232.60 | 0.08 | | TUFF | BF.BRKN |
| | 29 | 232.60 | 232.64 | 0.04 | | MUDSTONE | CARB.BLK.BRKN |
| | 29 | 232.64 | 232.89 | 0.25 | | BENTONITE | BF.BRKN BENTONITIC LAYERS |
| | 29 | 232.89 | 233.15 | 0.26 | | MUDSTONE | CARB |
| | 29 | 233.15 | 233.39 | 0.24 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

PAGE 29

PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|----------------------------------|
| 30 | 233.39 | 233.59 | 0.20 | | | MUDSTONE | CARB.VBRKN |
| 30 | 233.59 | 233.68 | 0.09 | 00190 | | COAL | C-5.VBRKN |
| 30 | 233.68 | 233.72 | 0.04 | 00190 | | TUFF | BF |
| 30 | 233.72 | 234.70 | 0.98 | 00190 | | COAL | C-5.PWRD |
| 31 | 234.70 | 235.09 | 0.39 | 00190 | | MUDSTONE | CARB.BLK.VBRKN COAL AND BANDS |
| 31 | 235.09 | 235.13 | 0.04 | 00190 | | TUFF | BF.SLD |
| 32 | 235.13 | 235.22 | 0.09 | 00190 | | MUDSTONE | CARB.BLK.BRKN COAL AND BANDS |
| 32 | 235.22 | 235.34 | 0.12 | 00190 | | TUFF | BF.SLD |
| 32 | 235.34 | 235.39 | 0.05 | 00190 | | ROCK LOSS | |
| 32 | 235.39 | 235.45 | 0.06 | 00190 | | COAL | VBRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|------------|----------|----------------|----------|---------|-----------|---|
| 32 | 235.45 | 235.50 | 0.05 | 00190 | | TUFF | BF |
| 32 | 235.50 | 235.70 | 0.20 | 00190 | | COAL | SHRD |
| 32 | 235.70 | 235.79 | 0.09 | 00190 | | TUFF | BF.SLD |
| 32 | 235.79 | 235.90 | 0.11 | 00190 | | ROCK LOSS | |
| 33 | 235.90 | 236.83 | 0.93 | 00190 | | COAL | PWRD |
| 34 | 236.83 | 237.44 | 0.61 | 00190 | | COAL | PWRD |
| 34 | 237.44 | 237.82 | 0.38 | 00190 | | ROCK LOSS | |
| 35 | 237.82 | 238.43 | 0.61 | 00190 | | COAL | PWRD |
| 35 | 238.43 | 238.86 | 0.43 | 00190 | | COAL | C-5.PWRD |
| 36 | 238.86 | 239.36 | 0.50 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS AND WISPS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 37 | 239.36 | 239.86 | 0.50 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE |
| 38 | 239.86 | 241.58 | 1.72 | | | MUDSTONE | CARB.BLK.BRKN AS ABOVE |
| 40 | 241.58 | 244.08 | 2.50 | | | MUDSTONE | DK.GY.BRKN CARB IN PART WITH COALY LENSES. CARB IN CLUSIONS |
| 42 | 244.08 | 244.40 | 0.32 | | | ROCK LOSS | |
| 42 | 244.40 | 244.95 | 0.55 | | | MUDSTONE | DK.GY.BRKN AS ABOVE |
| 43 | 244.95 | 245.49 | 0.54 | | | ROCK LOSS | |
| 44 | 245.49 | 246.42 | 0.93 | 00191 | | COAL | C-5.VBRKN |
| 44 | 246.42 | 246.52 | 0.10 | 00191 | | COAL LOSS | |
| 45 | 246.52 | 246.74 | 0.22 | | | TUFF | BF.BRKN |
| 45 | 246.74 | 247.30 | 0.56 | | | MUDSTONE | SLTY.DK.GY.BRKN MINOR COALY STRINGERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|-----------|--|
| * 46 | 247.30 | 248.42 | 1.12 | | | MUDSTONE | CARB.DK.GY.THKB.SLD CALCITE VEINS, CARB STRINGERS |
| 50 | 248.42 | 249.64 | 1.22 | | | MUDSTONE | CARB.DK.GY.THKB.BRKN |
| 52 | 249.64 | 249.92 | 0.28 | | | ROCK LOSS | |
| 54 | 249.92 | 250.75 | 0.83 | | | MUDSTONE | CARB.BLK.THKB.SLD SED STRUX - SHRD. |
| 56 | 250.75 | 250.79 | 0.04 | | | TUFF | GY.THNB.SLD |
| 59 | 250.79 | 252.49 | 1.70 | | | MUDSTONE | DK.GY.THKB.SLD UNIFORM THROUGHOUT |
| * 65 | 252.49 | 254.52 | 2.03 | | | MUDSTONE | DK.GY.THKB.SLD |
| 54 | 254.52 | 254.78 | 0.26 | | | MUDSTONE | DK.GY.THKB.BRKN |
| 52 | 254.78 | 254.93 | 0.15 | | | ROCK LOSS | |
| * 38 | 254.93 | 257.56 | 2.63 | | | MUDSTONE | SLTY.DK.GY.THKB.SSD.SLD COALY PARTINGS, CARB IN PARTS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| * 33 | 257.56 | 260.20 | 2.64 | | | MUDSTONE | DK.GY.SSD.SLD CARB STRINGERS, CARB IN PARTS |
| 31 | 260.20 | 260.48 | 0.28 | | | ROCK LOSS | |
| 31 | 260.48 | 260.90 | 0.42 | | | MUDSTONE | CARB.DK.GY.BRKN COALY PARTINGS |
| 30 | 260.90 | 261.03 | 0.13 | | | ROCK LOSS | |
| 29 | 261.03 | 262.53 | 1.50 | | | SILTSTONE | DK.GY.SLD CALCITE VEINING IN ALL DIRECTION |
| 28 | 262.53 | 262.93 | 0.40 | 00192 | | COAL | C-5.BRKN |
| 28 | 262.93 | 263.12 | 0.19 | 00192 | | COAL | C-5.BRKN |
| 28 | 263.12 | 263.17 | 0.05 | 00192 | | MUDSTONE | BLK.SLD |
| 27 | 263.17 | 263.50 | 0.33 | 00192 | | COAL | C-5.BRKN |
| * 27 | 263.50 | 263.62 | 0.12 | 00192 | | SILTSTONE | GY.LAM.SLD |
| 27 | 263.62 | 263.72 | 0.10 | 00192 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 28 | 263.72 | 264.30 | 0.58 | 00192 | | COAL | C-5.BRKN |
| 28 | 264.30 | 264.46 | 0.16 | 00192 | | ROCK LOSS | |
| 28 | 264.46 | 264.65 | 0.19 | 00192 | | COAL | C-5.BRKN |
| 29 | 264.65 | 264.84 | 0.19 | | | MUDSTONE | DK.GY.SLD |
| 29 | 264.84 | 265.19 | 0.35 | | | SILTSTONE | SSY.GY.SLD MINOR CALCITE VEINS |
| 30 | 265.19 | 266.66 | 1.47 | | | SILTSTONE | LT.GY.SLD UNIFORM THROUGHOUT |
| 31 | 266.66 | 266.90 | 0.24 | | | SILTSTONE | LT.GY.SLD AS ABOVE |
| 32 | 266.90 | 266.94 | 0.04 | | | TUFF | GY.SLD CRYSTAL TUFF, CALCITE VEINING |
| 32 | 266.94 | 267.21 | 0.27 | | | SILTSTONE | GY.SLD |
| 32 | 267.21 | 267.26 | 0.05 | | | TUFF | GY.SLD CALCITE VEINING |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 32 | 267.26 | 267.51 | 0.25 | | | SILTSTONE | GY.SLD |
| 32 | 267.51 | 267.58 | 0.07 | | | TUFF | GY.SLD CRYSTAL TUFF, QUARTZ CRYSTAL AND CALCITE |
| 33 | 267.58 | 267.89 | 0.31 | | | MUDSTONE | BLK.SLD |
| 34 | 267.89 | 268.78 | 0.89 | | | SANDSTONE | SLTY.GY.SSD.BRKN MUDDY TOWARD THE TOP, CALCITE VEINING, CARB STRINGERS |
| 34 | 268.78 | 268.99 | 0.21 | | | ROCK LOSS | |
| * 35 | 268.99 | 269.75 | 0.76 | | | SANDSTONE | SLTY.BLK.SLD |
| 35 | 269.75 | 270.41 | 0.66 | | | SANDSTONE | VFG.DK.GY.LAM.SSD.SLD ABUNDANT CALCITE VEINING |
| * 34 | 270.41 | 271.99 | 1.58 | | | SANDSTONE | MG.GY.THNB.XBDG.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 38 | 271.99 | 272.49 | 0.50 | | SANDSTONE | SLTY.DK.GY.THNB.SLD CALCITE VEINS |
| | 39 | 272.49 | 272.80 | 0.31 | | ROCK LOSS | |
| | 40 | 272.80 | 273.08 | 0.28 | | MUDSTONE | SLTY.DK.GY.THNB.SLD |
| | 41 | 273.08 | 273.32 | 0.24 | | MUDSTONE | DK.GY.THNB.SLD |
| * | 45 | 273.32 | 275.19 | 1.87 | | SANDSTONE | FG.GY.THKB.XBDG.SLD ABUNDANT CALCITE VEINING THROUGHOUT |
| | 47 | 275.19 | 275.46 | 0.27 | | SANDSTONE | FG.GY.THKB.XBDG.SLD AS ABOVE |
| | 48 | 275.46 | 275.72 | 0.26 | | ROCK LOSS | |
| | 48 | 275.72 | 275.96 | 0.24 | | MUDSTONE | DK.GY.THNB.SLD |
| * | 51 | 275.96 | 278.09 | 2.13 | | SANDSTONE | FG.GY.SSD.SLD PYRITE, CALCITE VEINS THROUGHOUT AND IN ALL DIRECTIONS. BRECCIATED IN PLACES |
| | 48 | 278.09 | 278.34 | 0.25 | | SILTSTONE | BLK.SLD |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|------------|----------|----------------|----------|---------|------------|---|
| 47 | 278.34 | 278.84 | 0.50 | | | MUDSTONE | CARB.BLK.VBRKN COAL AND ROCK |
| * 46 | 278.84 | 279.23 | 0.39 | | | MUDSTONE | SLTY.BLK.SLD |
| 48 | 279.23 | 279.58 | 0.35 | | | MUDSTONE | BLK.SLD |
| 52 | 279.58 | 280.26 | 0.68 | | | MUDST CARB | BLK.BRKN |
| 54 | 280.26 | 280.29 | 0.03 | | | ROCK LOSS | |
| 56 | 280.29 | 280.88 | 0.59 | | | MUDSTONE | DK.GY.BRKN |
| * 60 | 280.88 | 281.34 | 0.46 | | | MUDSTONE | DK.GY.SLD |
| 58 | 281.34 | 281.89 | 0.55 | 00193 | | COAL | VBRKN |
| 57 | 281.89 | 282.14 | 0.25 | 00193 | | COAL LOSS | |
| 56 | 282.14 | 282.65 | 0.51 | | | MUDSTONE | CARB.BLK.SLD HIGHLY BROKEN , CARB AND COALY TOWARD THE TOP |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 55 | 282.65 | 282.74 | 0.09 | | | ROCK LOSS | |
| 51 | 282.74 | 284.90 | 2.16 | | | MUDSTONE | BLK.BRKN HIGHLY BRKN TO POWDERY IN PLACES. COALY |
| 47 | 284.90 | 285.13 | 0.23 | | | SILTSTONE | DK.GY.SLD |
| 47 | 285.13 | 285.47 | 0.34 | | | MUDSTONE | CARB.BLK.VBRKN MIXTURE OF COAL AND MUDST |
| 45 | 285.47 | 286.20 | 0.73 | | | ROCK LOSS | |
| 43 | 286.20 | 286.93 | 0.73 | | | SILTSTONE | DK.GY.SLD CARB SPECKS |
| 41 | 286.93 | 287.39 | 0.46 | | | MUDSTONE | CARB.BLK.BRKN |
| | 287.39 | 287.78 | 0.39 | | | MUDSTONE | DK.GY.BRKN SILTY TOWARD THE BASE |
| 38 | 287.78 | 288.38 | 0.60 | | | MUDSTONE | SLTY.DK.GY.SSD.SLD INTERBEDDING OF SILT AND MUD. MINOR CAR B STRINGERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 36 | 288.38 | 288.69 | 0.31 | | | COAL | C-4.BRKN |
| 35 | 288.69 | 288.99 | 0.30 | | | ROCK LOSS | |
| * 32 | 288.99 | 290.72 | 1.73 | | | SILTSTONE | CARB.DK.GY.SLD MUDDY TOWARD THE BASE |
| 34 | 290.72 | 290.90 | 0.18 | | | MUDSTONE | CARB.BLK.BRKN HIGHLY CARB |
| 35 | 290.90 | 292.14 | 1.24 | | | MUDSTONE | BLK.SLD UNIFORM THROUGHOUT |
| 36 | 292.14 | 292.90 | 0.76 | | | MUDSTONE | CARB.BLK.BRKN COAL POWDER TOWARD THE BASE |
| 37 | 292.90 | 293.16 | 0.26 | | | ROCK LOSS | |
| 38 | 293.16 | 293.46 | 0.30 | | | ROCK LOSS | |
| 39 | 293.46 | 295.22 | 1.76 | | | MUDSTONE | CARB.BLK.BRKN COALY PARTINGS AND COALY STRINGERS |
| 41 | 295.22 | 295.44 | 0.22 | | | COAL | C-5.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|-----------------------------|
| 42 | 295.44 | 295.69 | 0.25 | | | MUDSTONE | CARB.BLK.BRKN |
| 42 | 295.69 | 296.03 | 0.34 | | | MUDSTONE | SLTY.BLK.BRKN CARB |
| 43 | 296.03 | 297.03 | 1.00 | 00194 | | COAL | C-5.VBRKN |
| 44 | 297.03 | 297.40 | 0.37 | 00194 | | ROCK LOSS | |
| 45 | 297.40 | 297.70 | 0.30 | 00194 | | COAL | C-5.VBRKN |
| 45 | 297.70 | 298.09 | 0.39 | 00194 | | COAL | C-2 |
| 46 | 298.09 | 298.32 | 0.23 | 00194 | | COAL | C-6.VBRKN STONEY |
| 46 | 298.32 | 298.43 | 0.11 | 00194 | | COAL | C-6 |
| 46 | 298.43 | 298.49 | 0.06 | | | MUDSTONE | CARB.BRN.SLD TUFFACEOUS |
| 47 | 298.49 | 298.75 | 0.26 | | | MUDSTONE | CARB.VBRKN COAL AND ROCK |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---------------------------------|
| 47 | 298.75 | 299.56 | 0.81 | | | ROCK LOSS | |
| 49 | 299.56 | 300.16 | 0.60 | | | MUDSTONE | CARB.BLK.VBRKN |
| 49 | 300.16 | 300.23 | 0.07 | | | MUDSTONE | SLD |
| 49 | 300.23 | 300.37 | 0.14 | | | COAL | VBRKN |
| 50 | 300.37 | 300.51 | 0.14 | | | MUDSTONE | CARB.BLK.BRKN COALY PARTINGS |
| 50 | 300.51 | 300.79 | 0.28 | | | MUDSTONE | CARB.BRKN COAL AND ROCK |
| 50 | 300.79 | 300.91 | 0.12 | | | MUDSTONE | CARB.BLK.BRKN |
| 51 | 300.91 | 301.42 | 0.51 | | | ROCK LOSS | |
| 52 | 301.42 | 302.00 | 0.58 | | | MUDSTONE | SLTY.DK.GY.BRKN |
| 52 | 302.00 | 302.22 | 0.22 | | | MUDSTONE | CARB.BLK.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 53 | 302.22 | 302.38 | 0.16 | | | MUDSTONE | VBRKN COAL AND ROCK |
| 53 | 302.38 | 302.55 | 0.17 | | | MUDSTONE | CARB.BLK.BRKN |
| 53 | 302.55 | 302.62 | 0.07 | | | MUDSTONE | BLK.BRKN COAL AND ROCK |
| 54 | 302.62 | 303.22 | 0.60 | | | MUDSTONE | DK.GY.BRKN COALY PARTINGS AND STRINGERS |
| 54 | 303.22 | 303.45 | 0.23 | | | MUDSTONE | DK.GY.BRKN AS ABOVE |
| 55 | 303.45 | 303.48 | 0.03 | 00195 | | COAL LOSS | |
| 55 | 303.48 | 303.68 | 0.20 | 00195 | | COAL | C-5.BRKN |
| 55 | 303.68 | 304.18 | 0.50 | 00195 | | COAL | C-5.SLD |
| 56 | 304.18 | 304.40 | 0.22 | 00195 | | ROCK LOSS | |
| 56 | 304.40 | 304.42 | 0.02 | 00195 | | TUFF | SLD |
| 56 | 304.42 | 304.48 | 0.06 | 00195 | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 57 | 304.48 | 305.07 | 0.59 | 00195 | 1 | COAL | C-4 |
| 57 | 305.07 | 305.09 | 0.02 | 00195 | | TUFF | BF |
| 57 | 305.09 | 305.25 | 0.16 | 00195 | | MUDSTONE | BRKN THE ROCK IS TUFF MUDST MIXED WITH COAL BEDS |
| 58 | 305.25 | 305.39 | 0.14 | | | MUDSTONE | BRKN TUFFACEOUS |
| 58 | 305.39 | 305.58 | 0.19 | | | ROCK LOSS | |
| 59 | 305.58 | 306.20 | 0.62 | | | MUDSTONE | CARB.BRKN COAL AND ROCK |
| 59 | 306.20 | 306.25 | 0.05 | | | TUFF | BF.BRKN |
| 59 | 306.25 | 306.41 | 0.16 | | | MUDSTONE | CARB.BRKN COALY INCLUSIONS AND STRINGERS |
| 60 | 306.41 | 306.55 | 0.14 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COAL STRINGERS |
| 60 | 306.55 | 306.59 | 0.04 | | | COAL | C-5 |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 61 | 306.59 | 307.79 | 1.20 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COALY STRINGERS AND LENSES |
| 62 | 307.79 | 308.39 | 0.60 | | | SILTSTONE | DK.GY.THNB.SSD.BRKN CARB FLECKS , MINOR COALY LENSES AND WI SPS |
| 63 | 308.39 | 308.67 | 0.28 | | | ROCK LOSS | |
| 64 | 308.67 | 309.32 | 0.65 | | | MUDSTONE | CARB.BLK.THNB ABUNDANT COALY LENSES AND STRINGERS |
| 65 | 309.32 | 309.51 | 0.19 | | | MUDSTONE | CARB.BLK.THNB.BRKN AS ABOVE |
| * 65 | 309.51 | 309.86 | 0.35 | | | SILTSTONE | DK.GY.THNB.XBDG.SLD SLIGHTLY CARB WITH MINOR COALY WISPS |
| 61 | 309.86 | 311.69 | 1.83 | | | MUDSTONE | CARB.BLK.THNB.SSD.BRKN ABUNDANT COAL STRINGERS NEAR TOP AND NE AR BASE. MINOR VERY THIN CALCITE VEININ G |
| 57 | 311.69 | 311.97 | 0.28 | | | ROCK LOSS | |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| | 55 | 311.97 | 312.36 | 0.39 | | MUDSTONE | CARB.BLK.THNB.SSD.BRKN NUMEROUS COALY STRINGERS |
| * | 53 | 312.36 | 313.25 | 0.89 | | SILTSTONE | DK.GY.THNB.XBDG.BRKN ABUNDANT CALCITE - FILLED FRACTURES , C ARB AND COALY STRINGERS BEDS ARE NOT OV ERTURNED |
| | 54 | 313.25 | 313.59 | 0.34 | | MUDSTONE | CARB.BLK.VBRKN COAL STRINGERS AT TOP AND BASE |
| | 54 | 313.59 | 313.87 | 0.28 | | ROCK LOSS | |
| | 54 | 313.87 | 314.70 | 0.83 | | SILTSTONE | DK.GY.THNB.SSD.BRKN NUMEROUS CALCITE VEINS , COAL PARTINGS, CARB MUDST INTERBEDS |
| | 55 | 314.70 | 315.11 | 0.41 | | MUDSTONE | CARB.BLK.BRKN SLIGHTLY SLTY , MINOR THIN COAL STRINGE RS |
| | 56 | 315.11 | 317.01 | 1.90 | | MUDSTONE | CARB.BLK.BRKN AS ABOVE , 7CM COAL (C-5) AT 56CM. MIND R CALCITE , BECOMING VERY SLTY TOWARD B ASE |
| | 57 | 317.01 | 317.21 | 0.20 | | SILTSTONE | DK.GY.THNB.BRKN TUFF INCLUSIONS (?) AT BASE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|---|
| 57 | 317.21 | 317.32 | 0.11 | | | ROCK LOSS | |
| 57 | 317.32 | 318.16 | 0.84 | | | SILTSTONE | GY.THNB.BRKN MINOR VERY THIN CALCITE- FILLED FRACTURES |
| 58 | 318.16 | 319.94 | 1.78 | | | SILTSTONE | GY.THNB.SSD.BRKN AS ABOVE |
| 59 | 319.94 | 320.50 | 0.56 | | | SILTSTONE | DK.GY.BRKN AS ABOVE, BECOMING MUDDY TOWARD BASE |
| 60 | 320.50 | 321.20 | 0.70 | | | MUDSTONE | DK.GY.BRKN SLIGHTLY SLTY IN PART |
| 60 | 321.20 | 322.55 | 1.35 | | | MUDSTONE | DK.GY.BRKN AS ABOVE |
| 61 | 322.55 | 322.81 | 0.26 | | | ROCK LOSS | |
| 62 | 322.81 | 324.39 | 1.58 | | | MUDSTONE | SLTY.DK.GY.THNB.SSD.BRKN SLIGHTLY CARB IN PART , MINOR THIN COAL Y STRINGERS AND LENSES |
| 63 | 324.39 | 324.73 | 0.34 | | | MUDSTONE | SLTY.DK.GY.THNB.VBRKN AS ABOVE |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|----------|------------|-----------|---|
| * 63 | 324.73 | 325.29 | 0.56 | | | SILTSTONE | GY.THNB.SSD.BRKN ABUNDANT CALCITE - FILLED FRACTURES, MI NOR CARB BEDS ARE NOT OVERTURNED |
| * 53 | 325.29 | 325.59 | 0.30 | | | SILTSTONE | GY.THNB.SSD.BRKN CALCITE VEINING PERPENDICULAR TO BEDDIN G, MINOR CARB |
| 54 | 325.59 | 327.08 | 1.49 | | | MUDSTONE | SLTY.DK.GY.BRKN |
| 55 | 327.08 | 327.41 | 0.33 | | | SILTSTONE | DK.GY.THNB.BRKN AS ABOVE |
| 55 | 327.41 | 327.82 | 0.41 | | | MUDSTONE | SLTY.DK.GY.BRKN MINOR CARB AND COALY LENSES AND WISPS |
| 55 | 327.82 | 327.97 | 0.15 | | | ROCK LOSS | |
| 56 | 327.97 | 330.51 | 2.54 | | | MUDSTONE | SLTY.DK.GY.BRKN MINOR CARB FLECKS; COALY STRINGERS AND LENSES TOWARD BASE. |
| 57 | 330.51 | 330.65 | 0.14 | | | MUDSTONE | SLTY.DK.GY.SLD AS ABOVE , NUMEROUS COALY STRINGERS |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|------|---------------|-------------|-------------------|-------------|------------|------------|---|
| 58 | 330.65 | 332.77 | 2.12 | | | MUDSTONE | CARB.BLK.BRKN ABUNDANT COAL STRINGERS AND WISPS THROUGHOUT 5CM OF C-5 COAL 1.07M FROM BASE |
| 60 | 332.77 | 333.20 | 0.43 | | | ROCK LOSS | |
| 60 | 333.20 | 333.41 | 0.21 | | | MUDSTONE | CARB.DK.GY.BRKN NUMEROUS COALY STRINGERS |
| * 60 | 333.41 | 333.70 | 0.29 | | | IRON STONE | GY.THNB.SSD.SLD |
| 58 | 333.70 | 334.04 | 0.34 | | | MUDSTONE | CARB.DK.GY.THNB.BRKN NUMEROUS COALY STRINGERS |
| * 52 | 334.04 | 335.58 | 1.54 | | | SILTSTONE | GY.THNB.SSD.BRKN MINOR CALCITE VEINING RUNNING PERPENDICULAR TO BEDDING; MUDDY AT BASE BEDS ARE NOT OVERTURNED |
| 54 | 335.58 | 336.25 | 0.67 | | | ROCK LOSS | |
| * 55 | 336.25 | 336.75 | 0.50 | | | SILTSTONE | GY.THNB.SSD.BRKN |

* DENOTES MEASURED BCA

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GULF CANADA RESOURCES INC. - COAL DIVISION - DRILL CORE LOG

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PROJECT: GDR BLOCK: XX DATA SOURCE: DDH81022

| BCA | DEPTH FROM | DEPTH TO | INTRVAL THICK. | SAMP. ID | SEAM ID | LITHOLOGY | DESCRIPTION |
|-----|---------------|-------------|-------------------|-------------|------------|-----------|--|
| 55 | 336.75 | 337.32 | 0.57 | | | MUDSTONE | DK.GY.BRKN SLIGHTLY SLTY AND CARB WITH MINOR COALY STRINGERS AND WISPS |
| 55 | 337.32 | 338.69 | 1.37 | | | MUDSTONE | DK.GY.BRKN AS ABOVE, 5CM BROKEN COAL STRINGERS AT 0.44M |
| 55 | 338.69 | 338.76 | 0.07 | | | ROCK LOSS | |
| | 338.76 | 340.37 | 1.61 | | | MUDSTONE | DK.GY.THNB.SSD.BRKN AS ABOVE, MINOR CALCITE VEINING IN SLT Y BEDS. |

* DENOTES MEASURED BCA



