K-FORDING RIVER 81 (3)
A-2

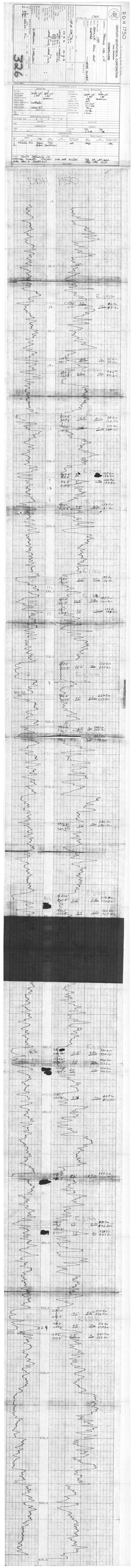
326
(5)

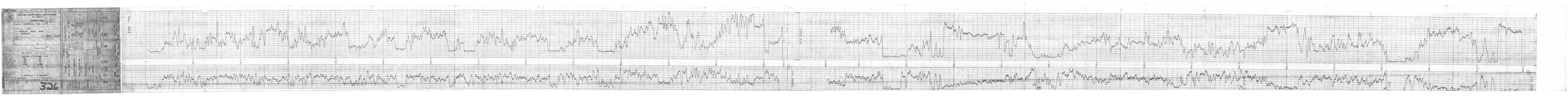
CONFIDENTIAL

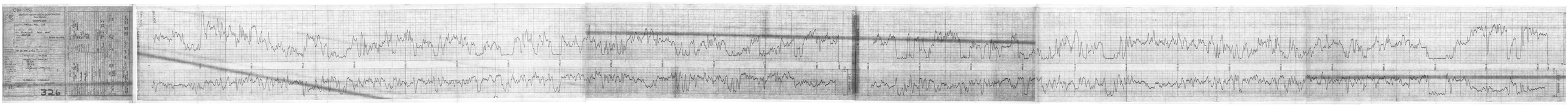
GEOLOGICAL BRANCH
ASSESSMENT REPORT

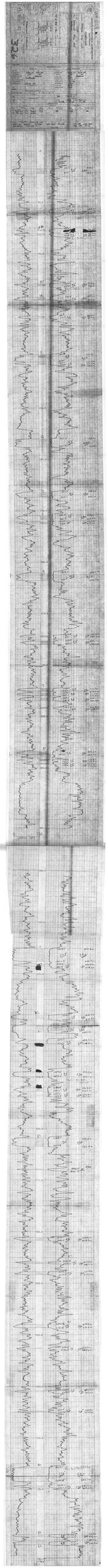
00 326

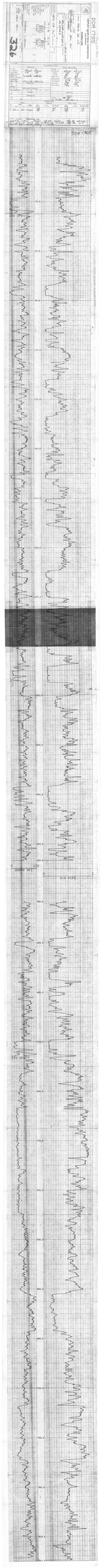
ii) Geophysical and Directional Logs






DDA 1753
326





RH 287

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

COMPANY FREDONIA GAS CO.

API WELL NO. (R.H) 287

WELL ELDRED HALE 287

FIELD

COUNTY

STATE

Permanent Datum: GL Elev. 1824 ft
Log Measured From: KB 10 ft above perm. datum
Drilling Measured From: KB

Date: 06-22-81
Run No.: ONE
Depth - Driller: 1942 m
Depth - Logger: 1942 m
Bottom Logged Interval: 1942 m
Top Logged Interval: SURFACE
Type Fluid in Hole:
Salinity, PPM Cl:
Density: lb/gal
Level: FULL
Max. Rec. Temp. Deg. F:
Equipment No. & Location:
Recorded By: D. FERGUSON
Witnessed By:

Run No. 1 | Bit No. | From | To 1942 m | Size | Wgt. | Type Fluid | Fluid Loss | Source of Sample | R @ Meas. Temp. | R @ Meas. Temp. | R @ Meas. Temp. | Rm @ BHT | Time Since Circ. | Max. Rec. Temp. | Equip. Location | Recorded By | Witnessed By

CASING RECORD: No. | Size | Wgt. | Grade | From | To

Elev.: K.B. | D.F. | G.L.

326

FOLD HERE

EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | | Run No. | ONE |
| Tool Model No. | 3058-065 | Tool Model No. | 3058-065 |
| Tool Diameter | | Diameter | CPS |
| Distance to Source | | Log Type | HC |
| Detector Type | Scintillometer | Detector Type | 1.5" x 6.0" |
| Detector Length & Dia. | 5" x 5.0" | Detector Length | 11-1-413 |
| K factor & Date | | Source Serial No. | 40 cm |
| Datetime & Cal. | 1 Min - 161 | Source Spacing | Am Be |
| RESISTIVITY | | Source Type | 1 Curie |
| Type | | Source Strength | |
| Sonde | | | |
| SPONTANEOUS POTENTIAL | | | |
| Rmf @ Meas. Temp. | @ °F | @ °F | @ °F |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Scale | | Truck No. | 7721 |
| T.C. | Sec. | Time | 15:00 12 hr |

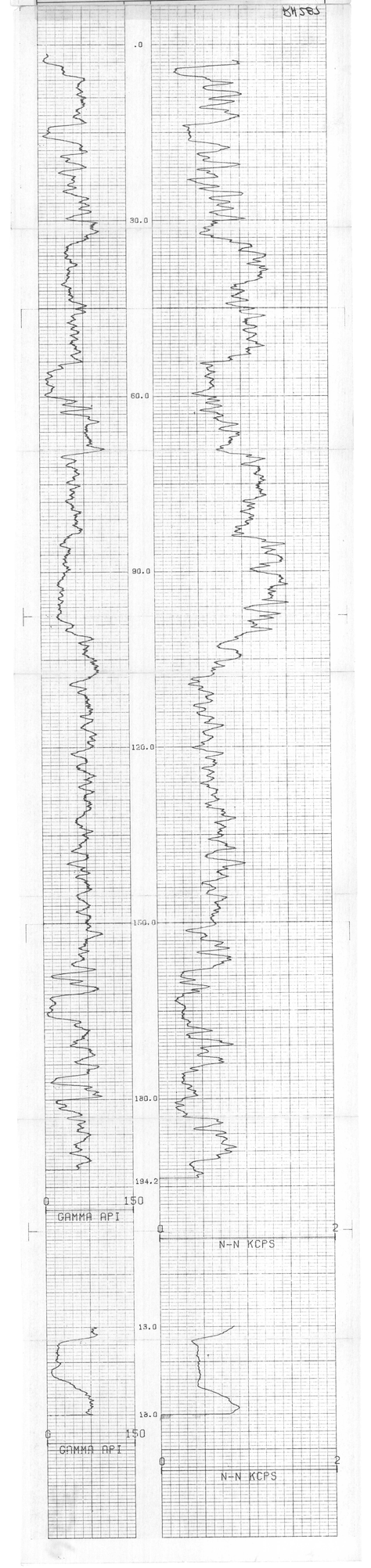
LOGGING DATA

| Run No. | Depths From | Depths To | Speed Ft./Min. | Sens. Settings | Gamma Ray: Zero Div. L or R | Gamma Ray: API G.R. Units per Log Div. | Density / Neutron: Sens. Settings | Density / Neutron: Zero Div. L or R | Porosity in API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1742 m | 0 m | Imp/sec | 75/6 | | AA | 5K/0 | | CPS. |

Remarks: SEN LINE DRILLING CO. VERTICAL SCALE 15m/div VAR EXPANDED 5m/div. NAT GAM 75/6 API. N-N 5K/1 CPS.

FOLD HERE

KH585



RH 288

K. Geological Survey (OGS)

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

COMPANY: FEDERAL CORP. ET AL
API WELL NO.: 2.88
WELL: BATSELL #1 HALE
COUNTY: GARVIN
STATE: OKLAHOMA

Permanent Datum: GL
Log Measured From: KB
Drilling Measured From: KB

Elev.: K.B. 1045
D.F.
G.L.

Date: 04-24-81
Run No.: 2
Depth-Driller: 1.65
Depth-Logger: 1.65
Bottom Log Interval: 1.64
Top Log Interval: SURFACE
Casing-Driller: 13 3/8 @ 212.2m
Casing-Logger: 212.2m
Bit Size: 12 1/4
Type Fluid in Hole: LIGNO
Dens.: 9.2
Visc.: 40
pH: 10
Fluid Loss: 8
Source of Sample: CIRC.
Rm @ Meas. Temp.: .7 @ 24°C
Rmf @ Meas. Temp.: .6 @ 24°C
Rmc @ Meas. Temp.: .9 @ 24°C
Source: Rmf: CALC. Rmc: CALC.
Rm @ BHT: .5 @ 24°C
Time Since Circ.: 4 HRS.
Max. Rec. Temp.: 24°C
Equip. Location: 3
Recorded By: D. FERGUSON
Witnessed By: J. FERGUSON

TOP OF PIPE: 1.65m

04-24-81 | 04-22-81
Run No.: 1 | 1
Depth-Driller: 1.64 | 212.2m
Depth-Logger: 1.64 | 212.2m
Bottom Log Interval: 1.64 | 212.2m
Top Log Interval: SURFACE | SURFACE
Casing-Driller: 13 3/8 @ 212.2m | 13 3/8 @ 212.2m
Casing-Logger: 212.2m | 212.2m
Bit Size: 12 1/4 | 12 1/4
Type Fluid in Hole: LIGNO | LIGNO
Dens.: 9.2 | 9.2
Visc.: 40 | 40
pH: 10 | 10
Fluid Loss: 8 | 8
Source of Sample: CIRC. | CIRC.
Rm @ Meas. Temp.: .7 @ 24°C | .7 @ 24°C
Rmf @ Meas. Temp.: .6 @ 24°C | .6 @ 24°C
Rmc @ Meas. Temp.: .9 @ 24°C | .9 @ 24°C
Source: Rmf: CALC. Rmc: CALC. | CALC. CALC.
Rm @ BHT: .5 @ 24°C | .5 @ 24°C
Time Since Circ.: 4 HRS. | 24 HRS.
Max. Rec. Temp.: 24°C | 24°C
Equip. Location: 3 | 3
Recorded By: D. FERGUSON | D. FERGUSON
Witnessed By: J. FERGUSON | J. FERGUSON

HOLD INDEX

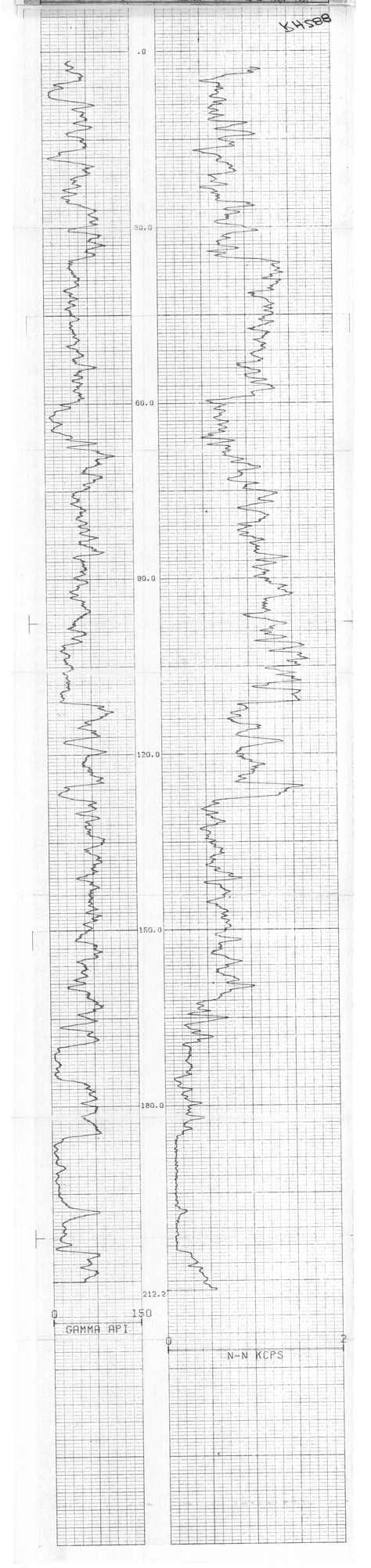
EQUIPMENT DATA:

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 2 | Run No. | 2 |
| Tool Model No. | 3458-055 3478-065 | Tool Model No. | 3478-065 3458-055 |
| Tool Diameter | | Diameter | |
| Gamma Ray Type | | Unit Type | CPL CPL |
| Detector Type | Scintillometer Scintillometer | Detector Type | HeI HeI |
| Detector Length & Dia. | 3.5" 3.5" | Detector Length | 10" 6.5" 10" 6.5" |
| Kilovolts & Gate | | Source Serial No. | 71-1-418 71-1-418 |
| Quantimus & Cal. | Cal. 167 Cal. 161 | Source Spacing | 16 cm 16 cm |
| RESISTIVITY | | Source Type | Am Be Am Be |
| Type | | Source Strength | 1 Curie 1 Curie |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | | |
| Rmf @ Meas. Temp. | @ °F | @ °F | |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Tools | | Truck No. | 791 |
| T.C. | Rec. | Time | 6:00 24 hr. |

LOGGING DATA

| | Gamma Ray | | | | | | Density / Neutron | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Run No. | Depths From | To | Speed Ft/Min. | Sens. Settings | Zero Dist. & @ F | API S.R. Units per Lab. Div. | Sens. Settings | Zero Dist. & @ F | Porosity or API S. Units per Lab. Div. |
| 1 | 1.64 m | 0m | 1m/min | 3 1/2 | | API | 3 K/s | | CPS |
| 2 | 212.2m | 0m | 1m/min | 3 1/2 | | API | 3 K/s | | CPS |

Remarks: SEV. LINE SPIKING ON RUN 1 DUE TO DRILLING. PASSED CHL SECTION AND REPEATED SEC. IF DRILLING. PASSED CHL SECTION
VERTICAL SCALE 15m/div. UNE EXPANDED 5m/div. NAT GAM 1 1/2 API/div. 2 1/2 CPS



RH 1300

K-Fording River 81(3)A

# CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

144,478.4 m.N.
22,997.6 m.E.

**COMPU-LOG** ELEV. 1769.6 m

| | |
|---|---|
| COMPANY | FORDING COAL LTD. |
| API WELL NO. | 1300 |
| WELL | ROTARY HOLE |
| FIELD | ELKFORD |
| COUNTY | |
| STATE | BRITISH COLUMBIA |
| Location: | [redacted] |
| Other Services: | |
| Sec. / Twp. / Rge. | |
| API WELL NO. | 1300 |
| Permanent Datum: | Elev. [redacted] |
| Log measured from | TOP OF PIPE 1.6 m ft above perm. datum |
| Drilling measured from | |
| Elev.: K.B. / D.F. / G.L. | |

| | |
|---|---|
| Date | 10-25-81 |
| Run No. | 1 |
| Type Log | NATGAM N-N |
| Depth – Driller | 219.4 m |
| Depth – Logger | 217.8 m |
| Bottom logged interval | 217.8 m |
| Top logged interval | 0.0 m |
| Type fluid in hole | WATER |
| Rm @ Meas. Temp. | @ °F |
| Rmf @ Meas. Temp. | @ °F |
| Density | |
| Max. rec. temp., deg F. | |
| Operating rig time | |
| Recorded by | D. FERGUSON |
| Witnessed by | |

| BORE-HOLE RECORD | | | | CASING RECORD | | | |
|---|---|---|---|---|---|---|---|
| Run No. | Bit | From | To | Size | Wgt. | From | To |
| 1 | [illegible] | 217.8 m | 0.0 m | | | | |

Compu-Log is a Trade Mark of Century Geophysical Corporation

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## EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 1 | Run No. | 1 |
| Tool Model No. | 3067-515 | Tool Model No. | 3067-515 |
| Tool Diameter | 3.1 cm. | Diameter | 3.1 cm. |
| Distance to Source | | Log Type | CPS. |
| Detector Type | Scintilometer | Detector Type | He3 |
| Detector Length & Dia. | .5x30" | Detector Length | 1.0"x6.0" |
| K-factor & Date | | Source Serial No. | 71-1-32 IB |
| Deadtime & Cal. | 1 µsec 167 | Source Spacing | 40 cm. |
| RESISTIVITY | | Source Type | AmBe |
| Type | | Source Strength | 1 Curie |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | | |
| Rmf @ Meas. Temp. | @ °F @ °F @ °F | | |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Scale | | Truck No. | 7717 |
| T.C. Sec. | | Time To LOG. | 1 HR 20 min. |

## LOGGING DATA

| Run No. | Depths From | Depths To | Speed Ft/Min. | Gamma Ray Sens. Settings | Zero Div. L or R | API G.R. Units per Log Div. | Density / Neutron Sens. Settings | Zero Div. L or R | Porosity or API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 217.8 M | 0.0 M | 8 m/min. | 75/0 | | API. | .5K/0 | | CPS. |

Remarks: TRUCK BROKEN DOWN LOGGING HOLE S.D.S. DRILLING CO.
VERTICAL SCALES 15m/DIV. VER. EXP. 5m/DIV. NATGAM 75/0 API. N-N .5K/0 CPS.

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RH 1320

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

# COMPU-LOG

COMPANY FRED W. GAL LTD.

API WELL NO. 1320

WELL BOTAH ELEPHANT MINE

FIELD

COUNTY

STATE BRITISH COLUMBIA

Location: 4 FT 150 6339 ft. m. 2 2 095 2 m. OF SEC. 17 61 ft. m.

Sec. Twp. Rge.

Permanent Datum: GR OF MINE

Log measured from: -4.55m above perm. datum

Elev.: K.B. D.F. G.L.

Other Services

Date: 06-24-81

Run No.: 1

Type Log: GAMMA-GAMMA

Depth - Driller: 165.8 m.

Depth - Logger: 165.3 m.

Bottom logged interval: 165.3 m.

Top logged interval: D.M.

Type Fluid in Hole: WATER

Salinity, PPM Cl: 0

Density: 0

Max. rec. temp. deg. F: 0 °F

Equipment No. and Location: 0 °F

Recorded By: D. FERGUSON

Witnessed By:

BOREHOLE RECORD

RUN: 1

BIT From: 0 m. To: 165.3m.

CASING RECORD

RUN: 1

Size: Wgt.: From: 0 To: 165.3m.

326

FOLD HERE

## EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 1 | Run No. | 1 |
| Tool Model No. | 9055A-065 | Tool Model No. | 9055A-065 |
| Tool Diameter | | Diameter | |
| Distance to Source | | Log Type | CPS |
| Detector Type | Sun Telemeter | Detector Type | He³ |
| Detector Length & Dia. | .5" x 3.0" | Detector Length | 1.0" - 6.0" |
| K-factor & Date | | Source Serial No. | 71-1-618 |
| Deadtime & Cal. | 1 Micro Hr | Source Spacing | 40 cm. |
| RESISTIVITY | | Source Type | Am 86 |
| Type | | Source Strength | 1 Curie |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | | |
| Rmf @ Meas. Temp. | @ °F @ °F | | @ °F |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Scale | | Truck No. | 7321 |
| T.C. Sec. | | Time | 20 Loc. 5 min. |

## LOGGING DATA

| General | | | | Gamma Ray | | | Density / Neutron | | |
|---|---|---|---|---|---|---|---|---|---|
| Run No. | Depths From | To | Speed Ft/Min. | Sens. Settings | Zero Div. L or R | API G.R. Units per Log Div. | Sens. Settings | Zero Div. L or R | Porosity or API N. Units per Log Div. |
| 1 | 165.3m | Ou | 6m/min | 30/0 | | API. | 30/0 | | CPS. |

Remarks: SKY LINE DRILLING CO. VERTICAL SCALES 15m/div. VER EXT. 5m/div. NAT GAM 30/0 API. Nat 30/0 CPS. IP's

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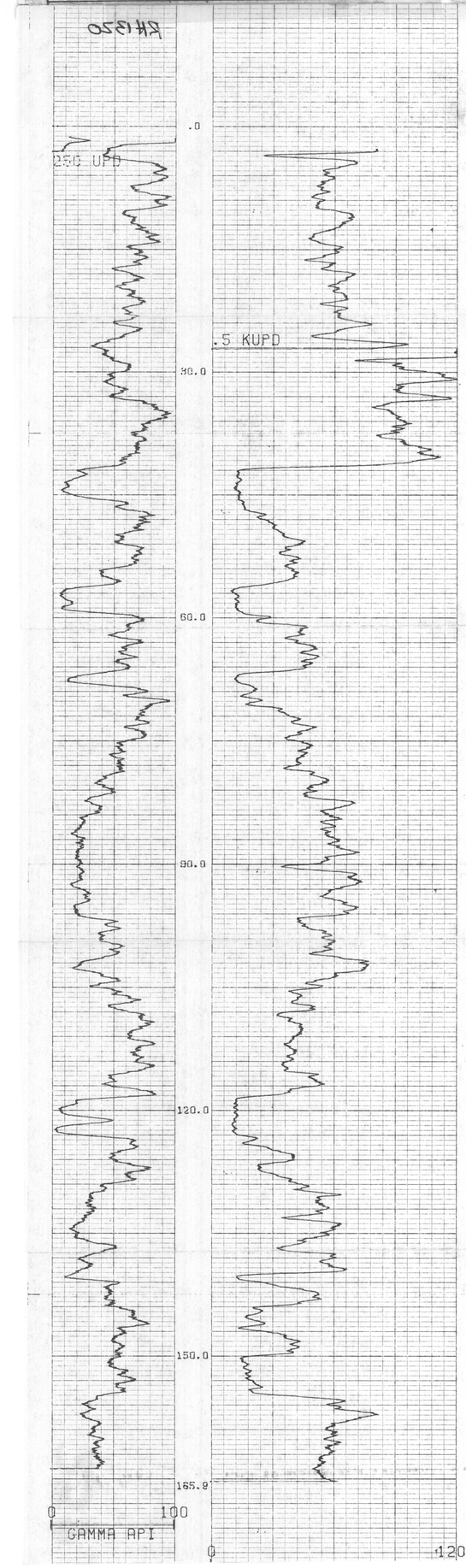

RH1322

K. Fredricks Letter 8/19/91

RH1322

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

API WELL NO. 1322

COMPANY TRANSCANADA EXPLORATION LTD.

API WELL NO. 1322

WELL PETERKIN #16-E

FIELD ELKFORD

COUNTY Location: 1/4 1/4 1/4 Sec. 2 Twp. 15 Rge. 19 W of 2nd Mer.

STATE BRITISH COLUMBIA

Other Services

Permanent Datum: GR at Rig Floor Elev.: K.B. 654.7 ft. D.F. G.L.

Log Measured from: 12.0 ft. above perm. datum

Drilling Measured from: KB

Date: 8-11-84

Run No.: ONE

Depth - Driller: 326.0m

Depth - Logger: 326.0m

Bottom Logged Interval: 326.0m

Top Logged Interval: SURFACE

Type Fluid in Hole: WATER GEL

Salinity, PPM Cl: 2000

Density: 1.0

Level: FULL

Max. Rec. Temp. Deg. F: 60°F

Operating Rig Time: 5 HRS

Recorded By: D. FERGUSON

Witnessed By: MR. CHRIS

CASING RECORD

| | Size | Wgt. | Grade | From | To |
|---|---|---|---|---|---|
| 1st String | 8 5/8" | 24# | J-55 | SURFACE | 65m |
| 2nd String | | | | | |
| Prod. String | | | | | |
| Liner | | | | | |

BORE HOLE RECORD

| Bit No. | Size | From | To |
|---|---|---|---|
| 1 | 7 7/8" | SURFACE | 326m |

Remarks: 8 5/8" CSG @ 65m W/ 50 SKS CLASS "G" + 2% CACL2 CIRC. TO SURFACE

Rig: 326

Engineer: D. FERGUSON

Witness: MR. CHRIS

FOLD HERE

## EQUIPMENT DATA

### Gamma Ray

Run No.: 1
Tool Model No.: 3067-528
Tool Diameter:
Distance to Source: 12"
Detector Type: Scintillator
Detector Length & Dia.:
K-factor & Date: 1/1 Sec 167
Date/Time & Cal.:

RESISTIVITY
Type:
Spacing:

SPONTANEOUS POTENTIAL
Rwf @ Meas. Temp: @ °F @ °F

CALIPER
Type:

TEMPERATURE
Scale:
T.C. Sec.

### Density / Neutron Data

Run No.:
Tool Model No.: 3067-528
Diameter: CAL #10
Log Type:
Detector Type: 3" x 4"
Detector Length: 4-1-48
Source Serial No.: 1 Recm
Source Spacing:
Source Type: Am Be
Source Strength: 1 Curie

DEVIATION

GENERAL
Truck No.: 7321
Time: 16 Hrs. 2 AA

## LOGGING DATA

| Run No. | Depths From | Depths To | Speed Ft/Min. | Gamma Ray Sens. Settings | Gamma Ray Zero Div. L or R | Gamma Ray API G.R. Units per Log Div. | Density / Neutron Sens. Settings | Density / Neutron Zero Div. L or R | Porosity or API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 20cm | Cm | Bottom | 5%0 | | API | 1%0 | | CPS. |

Remarks: SKYLINE DRILLING CO. DRILLED THIS SECTION OF HOLE VERTICAL SCALE 15M/IN. USED EXP. SONDE. 5%0 API NATGAM 1%0 CPS. N-N

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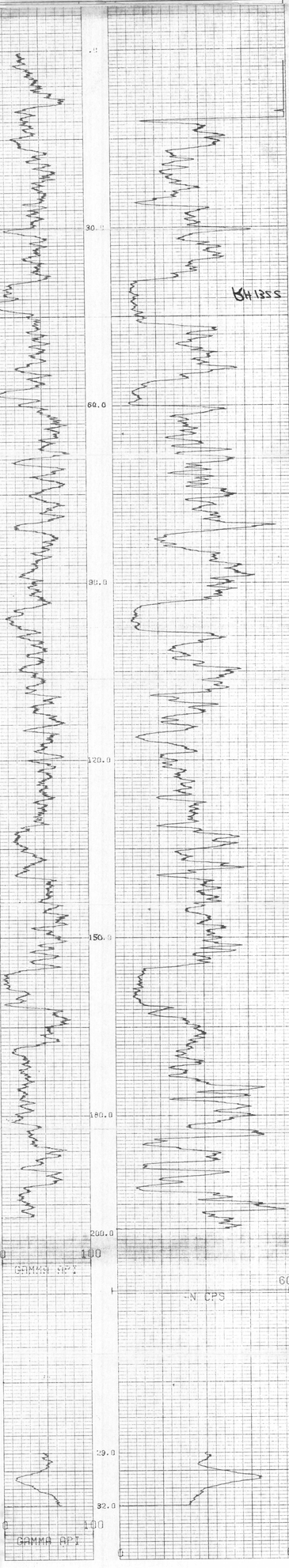

RH 13223

K-Fracking River B1(3)A
RH 13223

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

COMPANY TOMDALL, CORP. LTD.
API WELL NO. 1323
WELL KOSKY HOLE
FIELD
COUNTY ELLSWORTH STATE
Location: Sec. 15 Twp. 11 S Rge. 6 W
22,310.9 E
Other Services

Permanent Datum
Log measured from
Drilling measured from TOP OF PIPE
Elev. 3.93 ft above perm. datum
Elev. 1122.9 K.B.
D.F.
G.L.

| Run No. | Date | Type Log | Depth – Driller | Depth – Logger | Bottom logged interval | Top logged interval | Type fluid in hole | Weight, lb/gal. | Viscosity | Fluid loss | Source of sample | Rm @ Meas. Temp. | Rmf @ Meas. Temp. | Rmc @ Meas. Temp. | Source Rmf / Rmc | Rm @ BHT | Time Since Circ. | Max. rec. temp. deg F. | Equip. location | Recorded by | Witnessed by |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 8-12-81 | NAT GAM N-N | 112.2 m | 112.2 m | 112.2 m | | CLEAR WATER | 8.3 | 33 | | | @ °F | @ °F | @ °F | | @ °F | | | | D. FERGUSEN | |
| 2 | 8-13-81 | NAT GAM N-N | 112.2 m | 112.2 m | 112.2 m | | CLEAR WATER | 8.3 | 33 | | | @ °F | @ °F | @ °F | | @ °F | | | | D. FERGUSEN | |

BIT RUN: No. 1 — From 11.4cm — To 112.2m
BORE-HOLE RECORD: Size 6¼" — Wgt. 165.5m — To 165.0m
CASING RECORD: Size — Wgt. — From — To

326

FOLD HERE

## EQUIPMENT DATA

| | Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|---|
| Run No. | 1 | 2 | 1 | 2 |
| Tool Model No. | 9067-528 | 9067-528 | 9067-528 | 9067-528 |
| Tool Diameter | | | | |
| Distance to Source | | | | |
| Detector Type | Scintilometer | Scintilometer | CPS | CPS |
| Detector Length & Dia. | | | He3 | He3 |
| K-factor & Date | | | 3.0cm x 2" | 3.0cm x 2" |
| Deadtime & Cal. | 1CLsec 167 | 1CLsec 167 | 71-1-413 | 71-1-413 |
| RESISTIVITY | | | 40cm. | 40cm. |
| Type | | | Am Be | Am Be |
| Spacing | | | 1 Curie | 1 Curie |

SPONTANEOUS POTENTIAL
Rmf @ Meas. Temp. @ °F @ °F @ °F

CALIPER
Type

TEMPERATURE
Scale
T.C. Sec.

DEVIATION

GENERAL

| | | |
|---|---|---|
| Truck No. | 7321 | 7821 |
| Time | To Log 9:48 min | 36 min. |

## LOGGING DATA

| Run No. | Depths From | Depths To | Speed Ft/Min. | General: Sens. Settings | General: Zero Div. L or R | Gamma Ray: API G.R. Units per Log Div. | Density / Neutron: Sens. Settings | Density / Neutron: Zero Div. L or R | Porosity or API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 112.2m | 0m | 5m/mn. | 50/0 | | 40 | 300/0 | | CPS. |

Remarks: SKYLINE DRILLING CO. VERTICAL SCALE 15/mdiv VER. EXP. 5m/dN. 50/0 API NATGAM. 300/0 CPS. N-N

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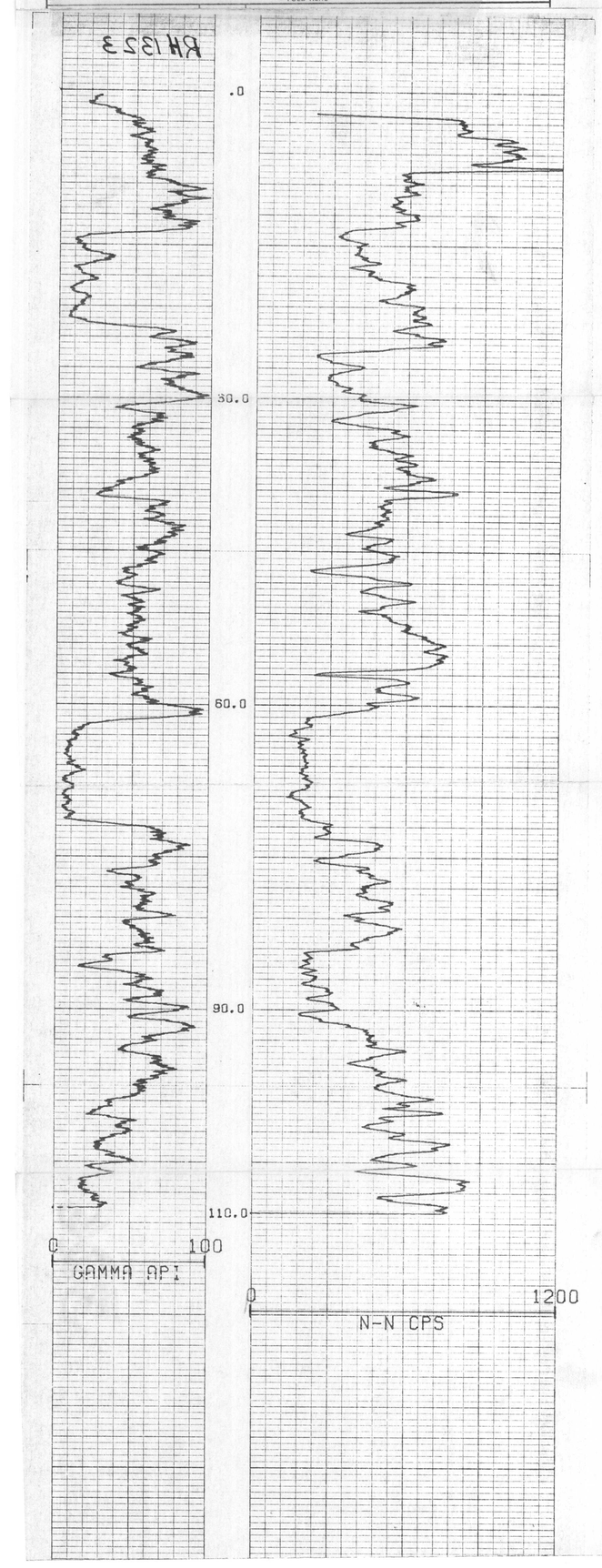

RH 1324

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma
COMPU-LOG

COMPANY: FORDING COAL LTD.
WELL: R.H. 1324
FIELD: ELKFORD
COUNTY: KOOTENAY
STATE: BRITISH COLUMBIA

API WELL NO. 1324
Sec. Twp. Rge.
Location: 15' 294 ft. N. 22,336 ft. E. from
Other Services: GR-N

Permanent Datum: GROUND LEVEL
Log Measured from: K.B.
Drilling Measured from: G.L.

Date: 08-15-81
Run No.: ONE
Type Log: DENSITY-NEUTRON
Depth-Driller: 168.7m
Depth-Logger: 168.7m
Bottom Logged Interval: 168.7m
Top Logged Interval: SURFACE
Type Fluid in Hole: WATER
Salinity, PPM Cl: 0
Fluid Level: FULL
Max. Rec. Temp. Deg. F: 0
Equipment No. & Location: 3059A-65 SKYLINE DRILLING CO.
Recorded By: D. MACLEOD
Witnessed By: MR. MACLEOD

RUN NO. ONE
BIT NO. ONE
TYPE: DRAG BIT
SIZE: 6 3/4"
FROM: SURFACE
TO: 168.7m

CASING RECORD
SIZE: 4 1/2"
WGT.: 9.5
GRADE: J-55
FROM: SURFACE
TO: 168.7m

REMARKS: LOGGED THROUGH 4 1/2" CASING FILLED WITH WATER

FOLD HERE

EQUIPMENT DATA

Gamma Ray
Run No.: 3059A-65
Tool Model No.:
Tool Diameter:
Distance to Source:
Detector Type:
Detector Length & Dia.: SIXHUNDRED
Kfactor & Date: 11/SEP/67
Deadtime & Gal:
RESISTIVITY
Type:
Spacing:
SPONTANEOUS POTENTIAL
Rmf @ Mass. Temp. @ °F @ °F
CALIPER
Type:
TEMPERATURE
Scale:
T.C.: Sec:

Density / Neutron Data
Run No.: 3059A-65
Tool Model No.: 634
Diameter: CDS
Log Type: 10"-60°
Detector Type: 7½"-413
Detector Length: 10 Curie
Source Serial No.:
Source Spacing:
Source Type:
Source Strength:
DEVIATION
GENERAL
Truck No.: 1824
Time: 10:48 a.m.

LOGGING DATA

| Run No. | Depths From | Depths To | Speed Ft/Min. | Gamma Ray Sens. Settings | Gamma Ray Zero Dev. L or R | Gamma Ray API Units per Log Div. | Density / Neutron Sens. Settings | Density / Neutron Zero Div. L or R | Density / Neutron Porosity or API N Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 168.7 | SURFACE | 30'/0 | | | API. | 300/0 | | CPS. |

Remarks: SKYLINE DRILLING CO. JOB EXP. 5m/dU 3%-API NATGAM 300/0 CPS N-N
VERTICAL SCALE 15m/dU.

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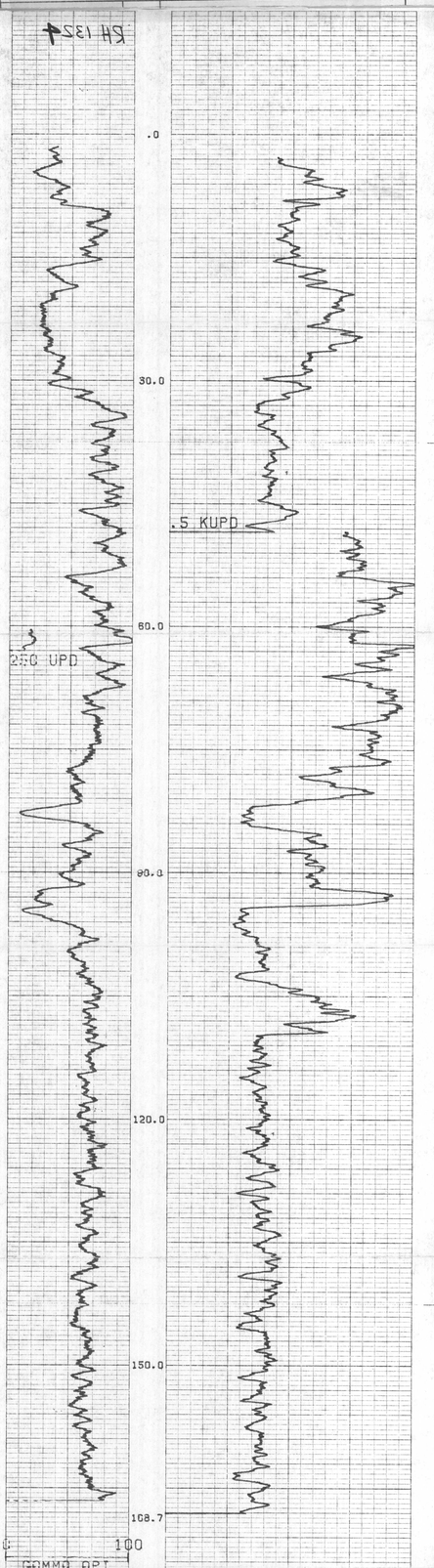


COMPU-LOG V8L0 PLOT 08-14-81

(R.H.) 1324

FORDING COAL LTD.

ELKFORD B.C.

RH1325 according to log RH 1325

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

**COMPU-LOG**

COMPANY: LK MTN. FUELS COAL LTD.
WELL: 1325
FIELD: BOBBY HALE
COUNTY: EDDY
STATE: BRITISH COLUMBIA

API WELL NO. 1325

Location: Sec. 22 Twp. 087.3N Rge. 07.3E

Other Services: GR-FDN

Permanent Datum: GL
Log measured from: KB 17.6 ft. above perm. datum
Drilling measured from: KB

Elev.: K.B. 17.6 D.F. G.L.

Date: 06-4-81
Run No.: ONE
Type Log: GR-FDN
Depth - Driller: 151.7m
Depth - Logger: 151.4m
Bottom logged interval: 151.4m
Top logged interval: SURFACE
Type fluid in hole: WATER
Salinity, PPM Cl: ppm
Density: lb/gal
Max. rec. temp. deg. F: °F
Operating rig time: hrs
Recorded by: D. FERGUSON
Witnessed by: MR. SMITH

RUN NO. ONE
BOREHOLE RECORD
From: SURF. To: 151.7m
Size: 6 3/4" Wgt.: Grade: Type Fluid: WATER Fluid Level: FULL Max. Rec. Temp. °F Time Since Circ. hrs

CASING RECORD
From: SURF. To: 17.6m
Size: 7" Wgt.: Grade: Type Joint: Top: SURF. Bottom: 17.6m

Cementing Co. & Type:
Amount:
Location:

Remarks: CLIENTS NAME

326

EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | ONE | Run No. | ONE |
| Tool Model No. | 9055H-605 | Tool Model No. | 9055H-605 |
| Tool Diameter | 2 1/4" | Diameter | 2 1/4" |
| Distance to Source | | Log Type | CNS |
| Detector Type | Scintillator | Detector Type | 1.5" |
| Detector Length & Dia. | | Detector Length | 12" & 6" |
| X-factor & Date | | Source Serial No. | 7-1-413 |
| Deadtime & Gel. | 1 USec 16c | Source Spacing | 40 cm. |
| | | Source Type | Agate. |
| | | Source Strength | 1 curie |

RESISTIVITY
Type:
Spacing:

SPONTANEOUS POTENTIAL
Rmf @ Meas. Temp: @ °F

CALIPER
Type:

DEVIATION

TEMPERATURE
Scale:
T.C. Sec:

GENERAL
Truck No: 1424
Time TO LOG: 42 MIN.

LOGGING DATA

| Run No. | Depths From | Depths To | Speed Ft./Min. | Gamma Ray Sens. Settings | Gamma Ray Zero Div. L or R | Gamma Ray API G.R. Units per Log Div. | Density / Neutron Sens. Settings | Density / Neutron Zero Div. L or R | Density / Neutron Porosity or API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | SURF. | 151.7m | 8m/MIN | 3210 | | API. | 30510 | | CPS. |

Remarks: SKYLINE DRILLING CO. VERTICAL SCALES. 15m/dd. VER EXP. 5m/dd. 3210 API NAT GAMI. 30510 CPS N-N

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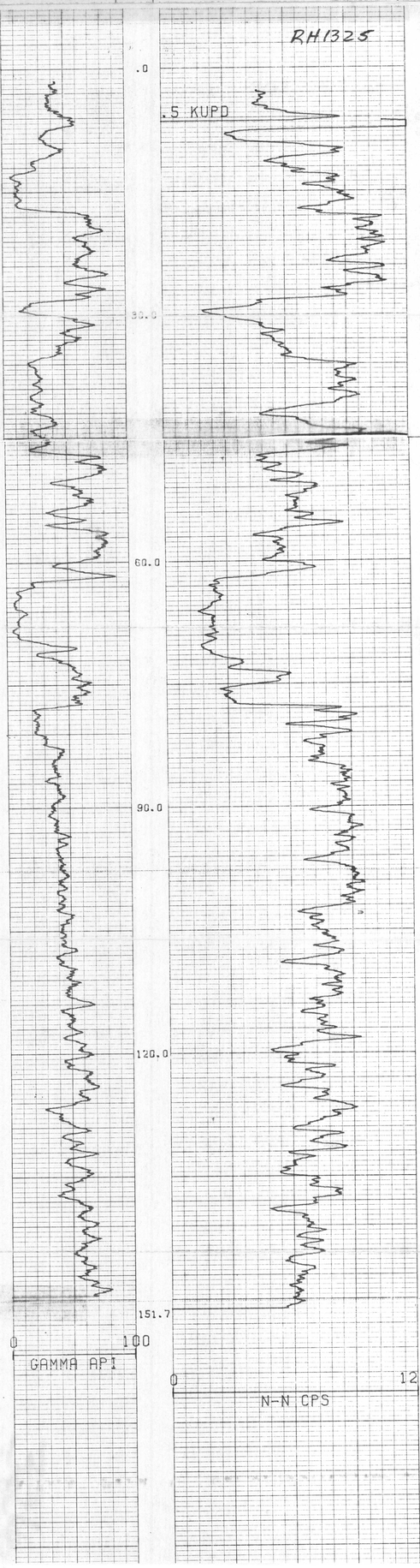

RH1327

K-Formerly Rec'd RH 1327

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

COMPANY: TEXACO INC. LTD.
WELL: R. TORY
FIELD: ISLEFORD. HALF
COUNTY: STATE: MANITOBA

API WELL NO. 1327

Location: 150802.1 N. 21,975.5 E
Sec. Twp. Rge.
Other Services: CALIPER

Permanent Datum: GR. OF PIPE @ 0.3 m. Elev. 1730.4 ft.
Log measured from: 3.96 m. above perm. datum
Drilling measured from: K.B. D.F. G.L.

Date: 09-13-81
Run No.: ONE
Type Log: NATSCAN N-N
Depth—Driller: 118.8 m.
Depth—Logger: 116.2 m.
Bottom logged interval: 118.8 m.
Top logged interval: 60.0 m.
Type of fluid in hole: WATER
Salinity, PPM Cl: WATER
Density: @ °F
Max. rec. temp., deg. F: @ °F
Operating rig time:
Recorded by:
Witnessed by:

RUN: 2
BOREHOLE RECORD: Bit From 0 To 118.8 m.
CASING RECORD: Size 114mm. Wgt. From 60.0m. To

D PERFORATION D FORMATION

326

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## EQUIPMENT DATA

| Gamma Ray | 1 | 2 | Density / Neutron Data | 1 | 2 |
|---|---|---|---|---|---|
| Run No. | | | Run No. | | |
| Tool Model No. | 30SSR-65 | 30SSR-65 | Tool Model No. | 30SSR-65 | 30SSR-65 |
| Tool Diameter | 1.84" | 1.84" | Diameter | 1.84" | 1.84" |
| Distance to Source | | | Log Type | CPS. | CPS. |
| Detector Type | Scintillometer | Scintillometer | Detector Type | He³ | He³ |
| Detector Length & Dia. | | | Detector Length | 1.046" | 1.046" |
| Kfactor & Date | | | Source Serial No. | 71-413 | 71-1413 |
| Deadtime & Cal. | 1 Usec 167 | 1 Usec 167 | Source Spacing | 40 cm. | 46 cm. |
| RESISTIVITY | | | Source Type | Am Be | Am Be |
| Type | | | Source Strength | 1 Curie | 1 Curie |
| Spacing | | | | | |
| SPONTANEOUS POTENTIAL | | | | | |
| Rmf @ Meas. Temp. | @ °F | @ °F | | | |
| CALIPER | | | DEVIATION | | |
| Type | | | Type | | |
| TEMPERATURE | | | GENERAL | | |
| Scale | | | Truck No. | 7321 | |
| T.C. Sec. | | | Time To Log | 1321 | 30 min. |

## LOGGING DATA

| Run No. | Depths From | Depths To | Speed Ft/Min. | Gamma Ray Sens. Settings | Gamma Ray Zero Div. L or R | Gamma Ray API G.R. Units per Log Div. | Density / Neutron Sens. Settings | Density / Neutron Zero Div. L or R | Porosity or API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 8m/min. | 50/0 | | API. | 50/0 | | CPS. |
| 2 | 117.8m | 60.0m | 8m/min | 50/0 | | API. | 30/0 | | CPS. |

Remarks: SKYLINE DRILLING CO. VERTICAL SCALE 15m/4IN. VER. EXP. 5m/4IN. 50/0 API. NAT. GAM. 30/0 CPS N-N.

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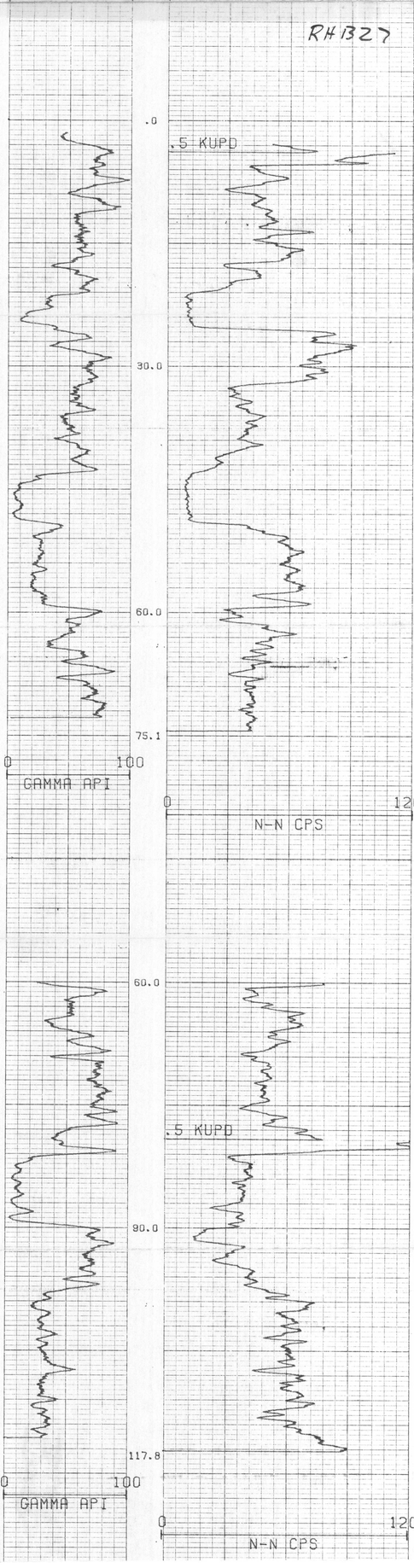

RH 1328

K-Fordung River 81(3)A
RH 1328

# CENTURY GEOPHYSICAL CORPORATION

Tulsa, Oklahoma

## COMPU-LOG

COMPANY FORDING COAL LTD.
L.K. MTN.
API WELL NO. 1328
WELL ROTARY HOLE
FIELD ELKFORD
COUNTY
STATE BRITISH COLUMBIA

API WELL NO. 1328

Location: 150,707.9 N. 22,200.9 E
Sec. Twp. Rge.
Other Services:

Permanent Datum: Log measured from TOP OF PIPE .55m Elev. 1718.7 ft above perm. datum
Drilling measured from
Elev.: K.B. D.F. G.L.

| | |
|---|---|
| Date | 08-12-81 |
| Run No. | 1 |
| Type Log | NATGAM N-N |
| Depth – Driller | 85.2m |
| Depth – Logger | 84.7m |
| Bottom logged interval | 84.7m |
| Top logged interval | 0m. |
| Type fluid in hole | WATER |
| Rm @ Meas. Temp. | @ °F @ °F @ °F |
| Rmf @ Meas. Temp. | @ °F @ °F @ °F |
| Density | |
| Max. rec. temp., deg F. | |
| Operating rig time | |
| Recorded by | D. FERGUSON |
| Witnessed by | |

BORE-HOLE RECORD

| RUN No. | Bit From | To | Size | Wgt. | CASING RECORD From | To |
|---|---|---|---|---|---|---|
| 1 | 6.4m | 84.7m | 0m | 8m/MIN | | |

326

Compu-Log is a Trade Mark of Century Geophysical Corporation

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## EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 1 | Run No. | 1 |
| Tool Model No. | 9067-528 | Tool Model No. | 9067-528 |
| Tool Diameter | | Diameter | |
| Distance to Source | | Log Type | CPS. |
| Detector Type | Scintillometer | Detector Type | He3 |
| Detector Length & Dia. | | Detector Length | 30" x ½" |
| K-factor & Date | | Source Serial No. | 71-1-413 |
| Deadtime & Cal. | 111 sec 167 | Source Spacing | 40cm. |
| RESISTIVITY | | Source Type | AmBe. |
| Type | | Source Strength | 1 Curie. |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | | |
| Rmf @ Meas. Temp. | @ °F @ °F @ °F | | |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Scale | | Truck No. | 792 |
| T.C. Sec. | | Time | To LOG. 36 MIN. |

## LOGGING DATA

| General | | | | Gamma Ray | | | Density / Neutron | | |
|---|---|---|---|---|---|---|---|---|---|
| Run No. | Depths From | Depths To | Speed Ft/Min. | Sens. Settings | Zero Div. L or R | API G.R. Units per Log Div. | Sens. Settings | Zero Div. L or R | Porosity or API N. Units per Log Div. |
| 1 | 84.7m | 0m | 8m/MIN | 75/0 | | API. | 300/0 | | CPS. |

Remarks: SKYLINE DRILLING CO.
VERTICAL SCALE 15m/div. VER. EXP. 5m/div. 75/0 API. NAT. GAM. 300/0 CPS. N-N

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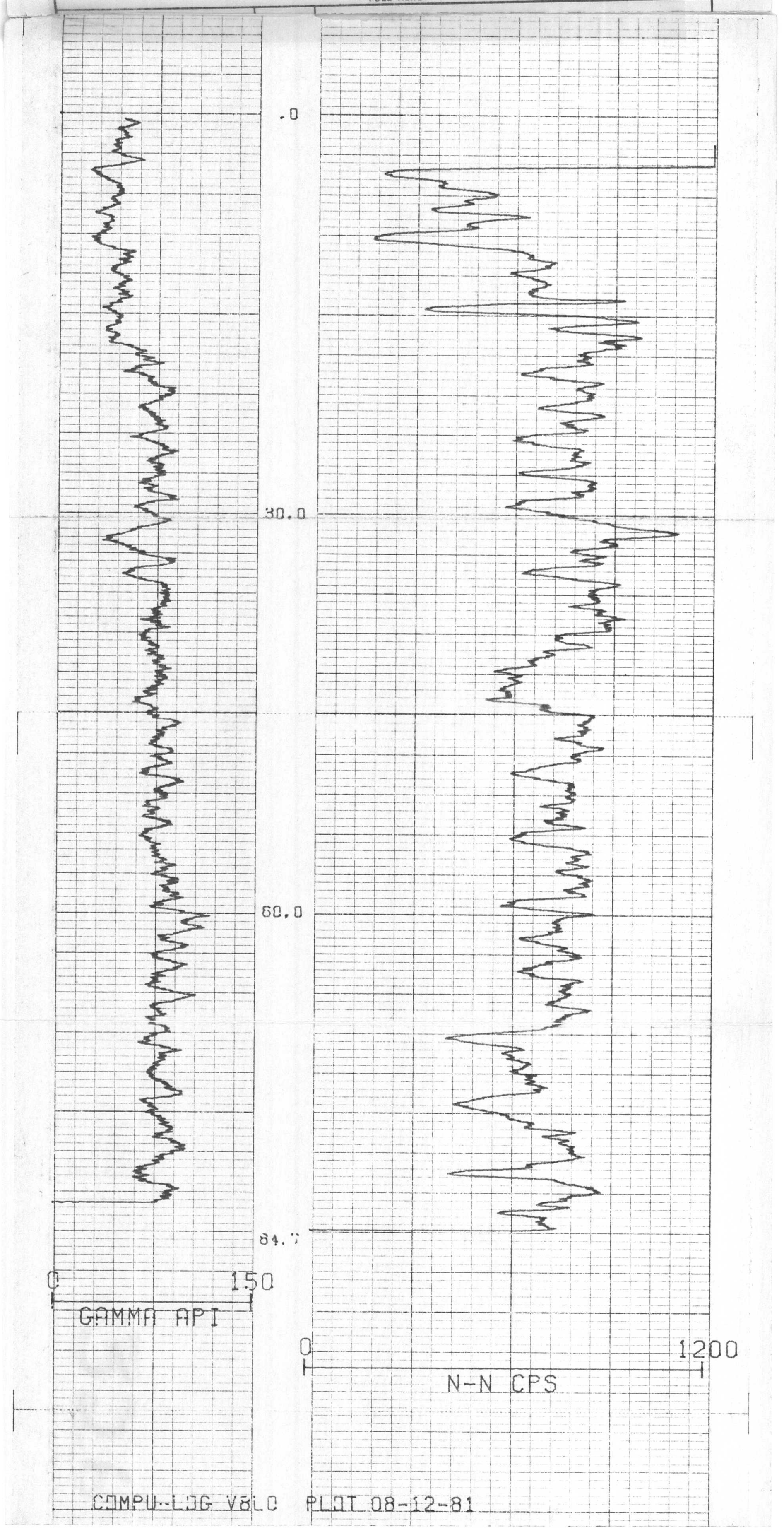

RH 1329

K-Fording River 8163A
RH 1329

# CENTURY GEOPHYSICAL CORPORATION

Tulsa, Oklahoma

## COMPU-LOG

COMPANY FORDING COAL LTD.
LK. MTN.

API WELL NO. 1329

WELL ROTARY HOLE

FIELD ELKFORD

COUNTY

STATE BRITISH COLUMBIA

Location: 150,880.1' N. 22,344.3' E

Sec. Twp. Rge.

Other Services:

Elev.: K.B. D.F. G.L.

Permanent Datum: Log measured from: TOP OF PIPE 1.06m Elev. 1709.9m. Ft above perm. datum

Drilling measured from:

| | |
|---|---|
| Date | 08-13-81 |
| Run No. | 1 |
| Type Log | NATGAM. N-N |
| Depth – Driller | 91.4m |
| Depth – Logger | 90.8m |
| Bottom logged interval | 90.8m |
| Top logged interval | 0m |
| Type fluid in hole | WATER |
| Rm @ Meas. Temp. | @ °F @ °F @ °F |
| Rmf @ Meas. Temp. | @ °F @ °F @ °F |
| Density | |
| Max. rec. temp., deg F. | |
| Operating rig time | |
| Recorded by | D FERGUSON |
| Witnessed by | |

| RUN | BORE-HOLE RECORD | | | CASING RECORD | | |
|---|---|---|---|---|---|---|
| No. | Bit | From | To | Size | Wgt. | From | To |
| 1 | 114mm. | 50.8m | 0m | | | | |

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Compu-Log is a Trade Mark of Century Geophysical Corporation

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## EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 1 | Run No. | 1 |
| Tool Model No. | 9055A-65 | Tool Model No. | 9055A-65 |
| Tool Diameter | 1.84" | Diameter | 1.84" |
| Distance to Source | | Log Type | CPS. |
| Detector Type | Scintillometer | Detector Type | He3 |
| Detector Length & Dia. | | Detector Length | 1.0"×6.0" |
| K-factor & Date | | Source Serial No. | 71-1-413 |
| Deadtime & Cal. | 111sec 1167 | Source Spacing | 40cm. |
| RESISTIVITY | | Source Type | Am Be |
| Type | | Source Strength | 1 Curie |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | | |
| Rmf @ Meas. Temp. | @ °F @ °F @ °F | | |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Scale | | Truck No. | 7921 |
| T.C. Sec | | Time | TO LOG. 48 min. |

## LOGGING DATA

| General | | | | Gamma Ray | | | Density / Neutron | | |
|---|---|---|---|---|---|---|---|---|---|
| Run No. | Depths From | Depths To | Speed Ft/Min. | Sens. Settings | Zero Div. L or R | API G.R. Units per Log Div. | Sens. Settings | Zero Div. L or R | Porosity or API N. Units per Log Div. |
| 1 | 90.8m | 0m | 8m/min. | 50/0 | | API | 300/0 | | CPS. |

Remarks: SKYLINE DRILLING CO.
VERTICAL SCALE 15m/dN. VER. EXP. 5m/dN. 50/0 API. NAT GAM. 300/0 CPS. N-N

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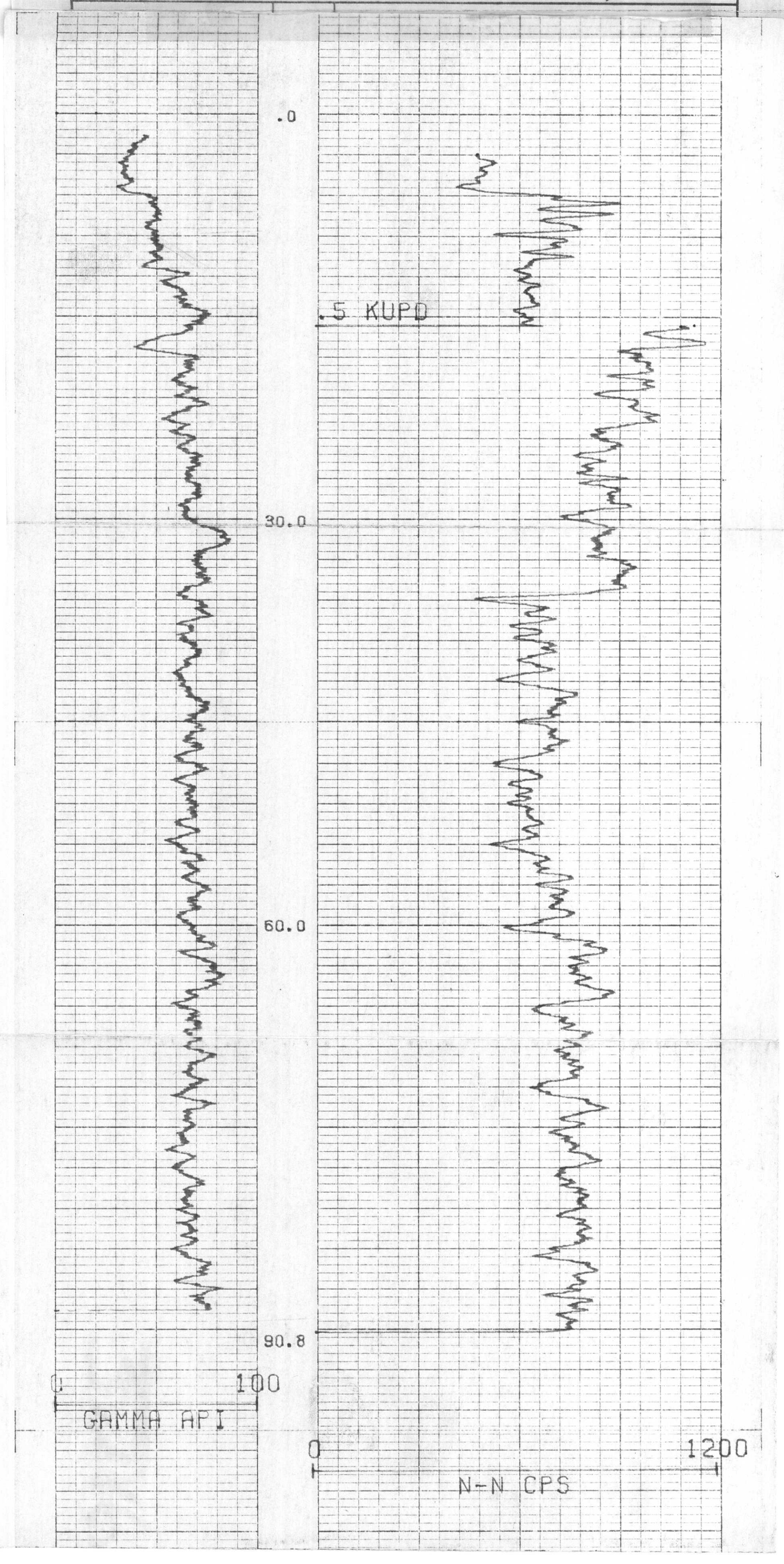

# ROKE

OIL ENTERPRISES LTD. CALGARY, ALBERTA

## GAMMA RAY NEUTRON LOG

FILE NO.

COMPANY ROBERTS COAL LIMITED

WELL RR - 1981

LOCATION 1448' NORTH OF

FIELD PEMBINA

PROVINCE BRITISH COLUMBIA

Other Services: NONE

Sec. 10 Twp. 53 Rge. 7 W. 5 M.

Permanent Datum: GROUND LEVEL — Elev. 0 — K.B. — D.F. — G.L.

Log Measured from: GROUND LEVEL — 0 Ft. Above Perm. Datum

Drilling Measured from: GROUND LEVEL

| | |
|---|---|
| Date | 8 FEB 1981 |
| Run No. | ONE |
| Depth-Driller | 186.5 M |
| Depth-Logger | 186.5 |
| Bottom Logged Interval | 186.7 |
| Top Logged Interval | 11 |
| Casing-Driller | 11 |
| Casing-Logger | 11 |
| Bit Size | 20.32 MM STEEL |
| Type Fluid in Hole | AIR |
| Max. Rec. Temp. | 12.7 CM |
| Equip. Location | 3 |
| Recorded By | JOHNSON |
| Witnessed By | KERNAC |

Circulation Stopped: 13 HOURS
Logger on Bottom: 13 HOURS
Max. Hole Deg.
Time Since Circ.

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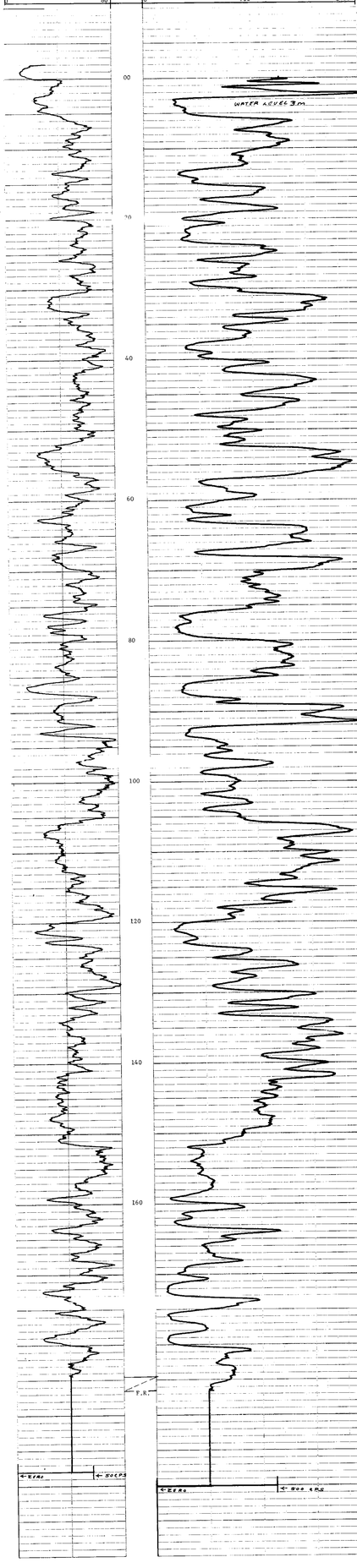
## EQUIPMENT DATA

| GAMMA RAY | | NEUTRON | |
|---|---|---|---|
| RUN NO. | ONE | RUN NO. | ONE |
| TOOL MODEL NO. | | TOOL TYPE | NEUTRON/NEUTRON |
| DIAMETER | 3.175 CM | TOOL MODEL NO. | |
| DETECTOR MODEL NO. | | DIAMETER | 3.175 CM |
| TYPE | SCINTILLIATION | DETECTOR MODEL NO. | |
| LENGTH | 10.16 CM | TYPE | PROPORTIONAL |
| DISTANCE TO N. SOURCE | 2 M | LENGTH | |
| | | SOURCE MODEL NO. | MRC-N-SS-W |
| GENERAL | | SERIAL NO. | 126 |
| HOIST TRUCK NO. | 37 | SPACING | 43.18 CM |
| INSTRUMENT TRUCK NO. | 37 | TYPE | AmBe |
| TOOL SERIAL NO. | NGRN 123A004 | STRENGTH | 3 CURIES |

## LOGGING DATA

| RUN NO. | GENERAL DEPTHS FROM | DEPTHS TO | SPEED M./MIN. | T.C. SEC. | GAMMA RAY SENS SETTINGS | GAMMA RAY ZERO DIV. L OR R. | GAMMA RAY API G. R. UNITS PER LOG DIV. | NEUTRON T.C. SEC. | NEUTRON SENS SETTINGS | NEUTRON ZERO DIV. L OR R | NEUTRON API N. UNITS PER LOG DIV. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 186.5 | 4 | 4 | 100 | 0 L | 8 API | 3 | 500 | 0 L | 70 API |

REMARKS LOGGED THROUGH DOUBLE WALL DRILL STEM



K Fordham Sec 8-15-A

# ROKE

## GAMMA RAY NEUTRON LOG

OIL ENTERPRISES LTD. CALGARY, ALBERTA

| | |
|---|---|
| FILE NO. | |
| LSD | |
| SEC | |
| TWP | |
| RGE | |
| W | M |
| COMPANY | FORDING COAL LIMITED |
| WELL | ERL - 1384 |
| LOCATION | LAKE MOUNTAIN |
| FIELD | FORDING |
| PROVINCE | BRITISH COLUMBIA |
| Permanent Datum | GROUND LEVEL |
| Log Measured from | GROUND LEVEL |
| Drilling Measured from | GROUND LEVEL |
| Elev. | Above Perm. Datum |
| Other Services: | NONE |
| K.B. | |
| CSG | |
| G.L. | |
| METRIC | |

| | |
|---|---|
| Run No. | ONE |
| Date | 5 FEB. 1981 |
| Last Reading | 180.5 M |
| Log Reading | 0 |
| Footage Logged | 180.5 |
| Depth Reached | 180.7 |
| Depth Driller | 181 |
| Casing Rider | 6 |
| Casing Diameter | 6 |
| Fluid Type | AIR/WATER |
| Liquid Level | 10.5 |
| Min. Diam. | 12.7 CM |
| Rm @ | |
| Operating Time | 1 HOUR |
| Truck No. | 37 |
| Recorded By | JOHNSON |
| Witnessed By | KOMPMAC |

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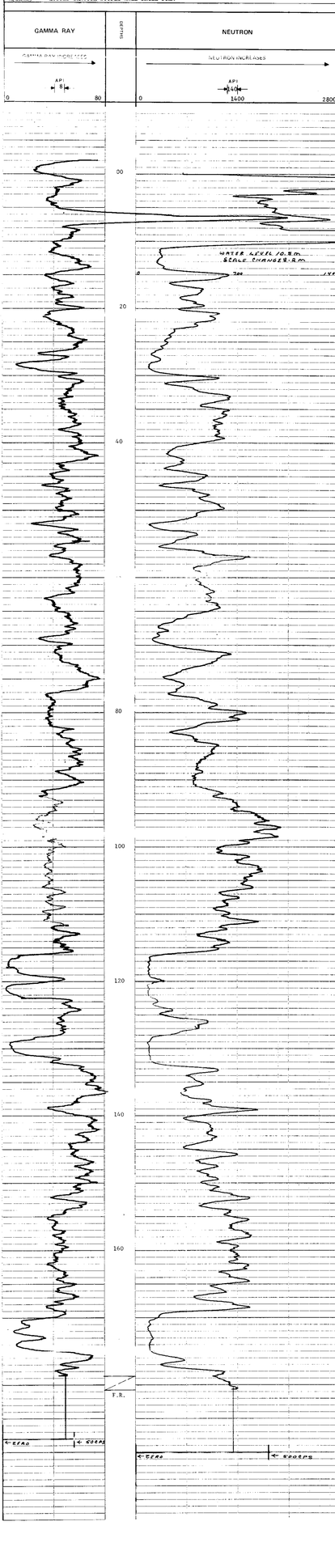
## EQUIPMENT DATA

| GAMMA RAY | | NEUTRON | |
|---|---|---|---|
| RUN NO. | ONE | RUN NO. | ONE |
| TOOL MODEL NO. | | LOG TYPE | NEUTRON/NEUTRON |
| DIAMETER | 3.175 CM | TOOL MODEL NO. | |
| DETECTOR MODEL NO. | | DIAMETER | 3.175 CM |
| TYPE | SCINTILLATION | DETECTOR MODEL NO. | |
| LENGTH | 10.16 CM | TYPE | PROPORTIONAL |
| DISTANCE TO N. SOURCE | 2 M | LENGTH | |
| | | SOURCE MODEL NO. | MRC-N-SS-W |
| GENERAL | | SERIAL NO. | 126 |
| HOIST TRUCK NO. | 37 | SPACING | 43.18 CM |
| INSTRUMENT TRUCK NO. | 37 | TYPE | AmBe |
| TOOL SERIAL NO. | RGRN 125A004 | STRENGTH | 3 CURIES |

## LOGGING DATA

| GENERAL | | | | GAMMA RAY | | | | NEUTRON | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RUN NO. | DEPTHS FROM | DEPTHS TO | SPEED M/MIN | T.C. SEC | SENS SETTINGS | ZERO DIV. L OR R | API G. R. UNITS PER LOG DIV. | T.C. SEC. | SENS SETTINGS | ZERO DIV. L OR R | API N. UNITS PER LOG DIV. |
| 1 | 0 | 8.2 | 4 | 4 | 100 | 0 L | 8 API | 3 | 1000 | 0 L | 120 API |
| | 8.2 | 180.5 | 4 | 4 | 100 | 0 L | 8 API | 3 | 500 | 0 L | 60 API |

REMARKS LOGGED THROUGH DOUBLE WALL DRILL STEM



# ROKE

OIL ENTERPRISES LTD. CALGARY, ALBERTA

GAMMA RAY NEUTRON LOG

FILE NO.

COMPANY ROKE OIL COMP. LIMITED

WELL RR. 1385

LOCATION LAKE MONTRATO

FIELD FORESTIER

PROVINCE BRITISH COLUMBIA

Permanent Datum: GROUND LEVEL — Elev.: K.B. / D.F. / G.L.

Log Measured From: KELLY BUSHING — 3.0 M Above Perm. Datum

Drilling Measured From: KELLY BUSHING

Date: 3 MAR 1981 — Run No.: ONE — Depth-Driller: 170 M — Depth-Logger: 170 — Bottom Logged Interval: 170.3 — Top Logged Interval: 170.5 — Casing-Driller: 12.8 CM @ 12.67 CM — Casing-Logger: — Bit Size: 15.2 CM — Type Fluid in Hole: AIR / WATER — Salinity: — Density: — Level: FULL — Max. Rec. Temp.: — Equip. No. and Location: 37 — Recorded By: JOHNSTON — Witnessed By: SPERANZA

Operating Time: 1.4 HOURS — Truck No.: 37

Rm @ — Rmf @ — Rmc @ — Source of Rmf and Rmc —

Run-Bit-Depth: ONE — 0 — 170 M — 170.3

Date — Time — Type Log — Depth — Scale Up — Time Since Circ. — Max. Rec. Temp. — Equip. No. — Location — Recorded By — Witnessed By

Other Services: GAMMA RAY NEUTRON

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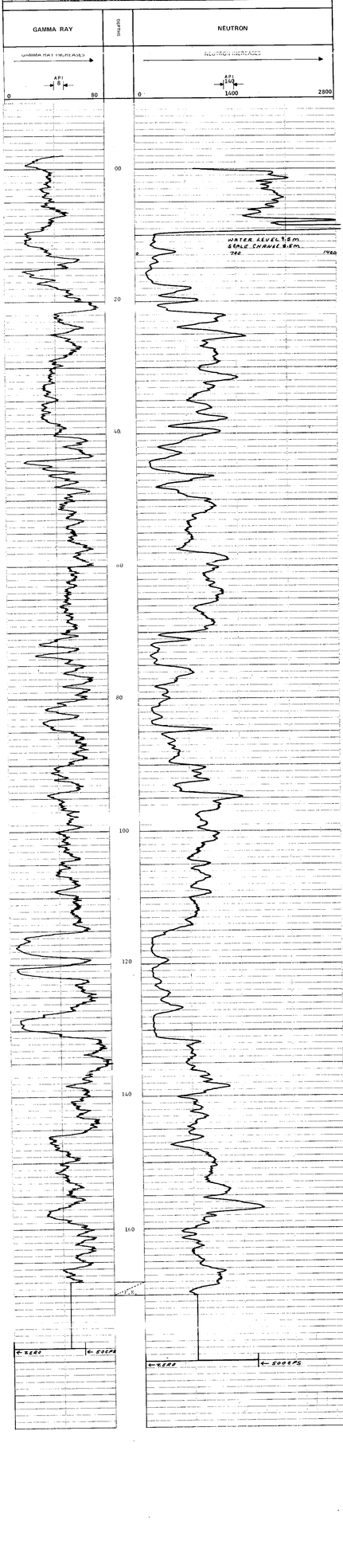
## EQUIPMENT DATA

| GAMMA RAY | | NEUTRON | |
|---|---|---|---|
| RUN NO. | ONE | RUN NO. | ONE |
| TOOL MODEL NO. | | LOG TYPE | NEUTRON/NEUTRON |
| DIAMETER | 3.175 CM | TOOL MODEL NO. | |
| DETECTOR MODEL NO. | | DIAMETER | 3.175 CM |
| TYPE | SCINTILLATION | DETECTOR MODEL NO. | |
| LENGTH | 10.16 CM | TYPE | PROPORTIONAL |
| DISTANCE TO N. SOURCE | 2 M | LENGTH | |
| GENERAL | | SOURCE MODEL NO. | MRC-N-SS-W |
| HOIST TRUCK NO. | 37 | SERIAL NO. | 126 |
| INSTRUMENT TRUCK NO. | 37 | SPACING | 43.18 CM |
| TOOL SERIAL NO. | KIRN 125 A004 | TYPE | AmBe |
| | | STRENGTH | 3 CURIES |

## LOGGING DATA

| RUN NO. | DEPTHS FROM | DEPTHS TO | SPEED M/MIN | T.C. SEC. | GAMMA RAY SENS SETTINGS | GAMMA RAY ZERO DIV. L OR R | GAMMA RAY API G. R. UNITS PER LOG DIV. | NEUTRON T.C. SEC. | NEUTRON SENS SETTINGS | NEUTRON ZERO DIV. L OR R | NEUTRON API N. UNITS PER LOG DIV. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ONE | 0 | 8.5 | 4 | 4 | 100 | 0L | 8 API | 3 | 1000 | 0L | 160 API |
| | 8.5 | 170 | 4 | 4 | 100 | 0L | 8 API | 3 | 300 | 0L | 70 API |

REMARKS: LOGGED THROUGH DOUBLE WALL DRILL STEM



# ROKE

GAMMA RAY NEUTRON LOG

OIL ENTERPRISES LTD. CALGARY, ALBERTA

FILE NO.

COMPANY FORESTRY COAL LIMITED

WELL RR - 1386

LOCATION LAKE MOUNTAIN

FIELD FORESTRY

PROVINCE BRITISH COLUMBIA

Permanent Datum: GROUND LEVEL — Elev.

Log Measured from: GROUND LEVEL — Above Perm. Datum

Other Services: NONE

Run No. ONE

Date 28 FEB 1981

First Reading 142 M

Last Reading 0

Casing Logged 142.2

Casing Driller 142.5

Casing Bottom 142.5

Casing Size 8.5

Casing Driller

Fluid Type WATER

Fluid Level 2

Max. Temp. 12.67 CM

Rm @

Operating Time 1 HOUR

Truck No. 37

Recorded By JOHNSON

Witnessed By KUEHNAC

SEC TWP RGE

LSD

KB

DF

GL

ELEVATIONS

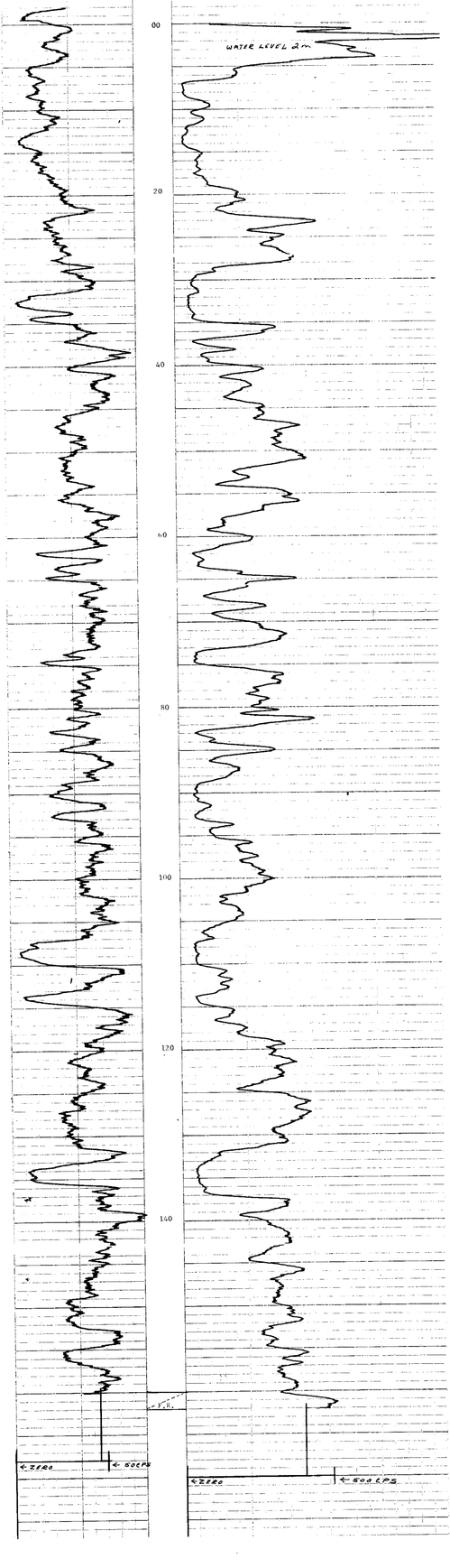
## EQUIPMENT DATA

| GAMMA RAY | | NEUTRON | |
|---|---|---|---|
| RUN NO. | ONE | RUN NO. | ONE |
| TOOL MODEL NO. | | LOG TYPE | NEUTRON/NEUTRON |
| DIAMETER | 3.175 CM | TOOL MODEL NO. | |
| DETECTOR MODEL NO. | | DIAMETER | 3.175 CM |
| TYPE | SCINTILLATION | DETECTOR MODEL NO. | |
| LENGTH | 10.16 CM | TYPE | PROPORTIONAL |
| DISTANCE TO N. SOURCE | 2 M | LENGTH | |
| GENERAL | | SOURCE MODEL NO. | MRC-N-SS-W |
| HOIST TRUCK NO. | 37 | SERIAL NO. | 126 |
| INSTRUMENT TRUCK NO. | 37 | SPACING | 43.18 CM |
| TOOL SERIAL NO. | RURN 125 A004 | TYPE | AmBe |
| | | STRENGTH | 3 CURIES |

## LOGGING DATA

| GENERAL | | | | GAMMA RAY | | | | NEUTRON | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RUN NO. | DEPTHS FROM | DEPTHS TO | SPEED M. MIN. | T.C. SEC. | SENS SETTINGS | ZERO DIV. L OR R | API G. R. UNITS PER LOG DIV. | T.C. SEC. | SENS SETTINGS | ZERO DIV. L OR R | API N. UNITS PER LOG DIV. |
| ONE | 0 | 162 | 4 | 4 | 100 | 01 | 8 API | 3 | 500 | 01 | 70 API |

REMARKS: LOGGED THROUGH DOUBLE WALL DRILL STEM



# ROKE

SIDEWALL DRILLING

ROKE OIL RESOURCES LTD. CALGARY ALBERTA

326

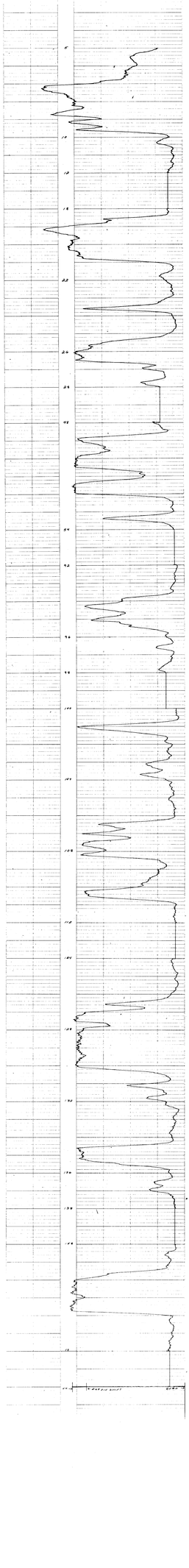
| GENERAL | | | | GAMMA RAY | | | SIDEWALL SAMPLES | | |
|---|---|---|---|---|---|---|---|---|---|
| RUN NO. | DEPTH (FEET) | SPEED (FEET/MIN) | TIE-IN | SCALE (FEET) | API CAL. UNITS PER LOG DIV. | CAL. UNITS PER LOG DIV. | NO. | DEPTH (FEET) | RECOVERY (CC'S) |
| 1 | 10 | 7 | | | | | 1 | KB | 2 SHOTS MISFIRED |
| 2 | 28 | 7 | | | | | 2 | KB | 2 SHOTS MISFIRED |
| 3 | 45 | 7 | | | | | 3 | KB | 6 SHOTS MISFIRED |
| 4 | 64 | 7 | | | | | 4 | KB | 6 SHOTS MISFIRED |
| 5 | 102 | 7 | | | | | 5 | KB | 7 SHOTS MISFIRED |
| 6 | 122 | 7 | | | | | 6 | KB | 2 SHOTS MISFIRED |
| 7 | 142 | 7 | | | | | 7 | KB | 2 SHOTS MISFIRED |
| 8 | 162 | 7 | | | | | 8 | KB | 2 SHOTS MISFIRED |

SCORE TOOL USED

CALIPER
DIAMETER

GAMMA RAY
API

BULK DENSITY
GRAMS/CC



# ROKE

SIDEWALL DENSILOG

RECORDED FOR FILES

COMPANY: IMPERIAL OIL ENTERPRISES LTD. CALGARY ALBERTA

WELL: No. 326

FIELD: GRAHAM

LOCATION: NEAR MANNVILLE

PROVINCE: ALBERTA

Permanent Datum: GROUND LEVEL Elevation: 2260 ft. K.B.

Log Measured From: KELLY BUSHING 10 ft. Above Perm. Datum

Drilling Measured From: KELLY BUSHING

Date: 1-11-66

Run No.: ONE

Depth-Driller: 1744 ft.

Depth-Logger: 1741 ft.

Bottom Logged Interval: 1737 ft.

Top Logged Interval: 37 ft.

Type Fluid in Hole: WATER GEL

Salinity, PPM Cl: 1200

Density: 9.1

Level: FULL

Max. Rec. Temp. Deg. F.: 82°F

Operating Time: 1 HR

Recorded By: STEVENSON

Witnessed By: GOODFELLOW

| GENERAL | | | GAMMA RAY | | | SIDEWALL DENSILOG | | |
|---|---|---|---|---|---|---|---|---|
| RUN NO. | DEPTH FROM | DEPTH TO | SPEED min/in | T.C. SEC. | BEND SETTINGS | ZERO DIVS. ON R | API G.R. UNITS PER 100 DIVS. | T.C. SEC. | BEND SETTINGS | ZERO DIVS. ON R | CPS/DIV. |
| 1 | 54 | 68 | 7 | | | | | 2 | 5K | 0.44R | 239.64 |
| | 90 | 98 | 7 | | | | | 3 | 5K | 0.44R | 239.64 |
| | 154 | 162 | 7 | | | | | 3 | 5K | 2.44R | 239.64 |
| | 162 | 177 | 7 | | | | | 3 | 5K | 2.44R | 239.64 |

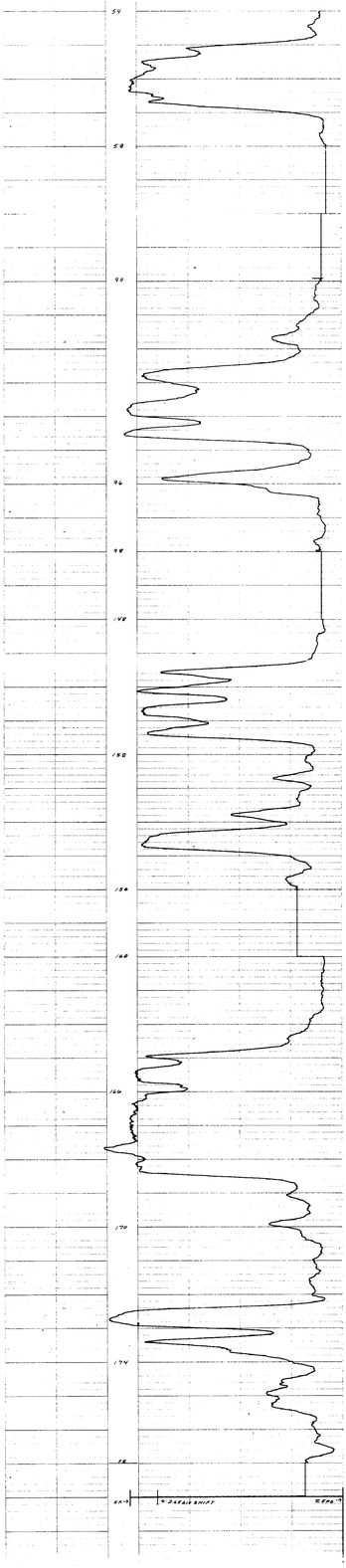
REMARKS

WITNESS: GOODFELLOW

CALIPER
DIAMETER =

GAMMA RAY
API

BULK DENSITY
(GRAMS/CC)



RH 1587

K-Fredonia Rock Bldg. UPPER CLOSE

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

COMPANY: FREDONIA COAL LTD.
API WELL NO./ID: 1587
WELL: ROSKEY HOLE 1
FIELD: BLACKFOLD
COUNTY: ELBOW
LOCATION: 1/4 - 1/4 - 1/4 Sec. Twp. Rge.
STATE: ALBERTA CANADA
Other Services:
Permanent Datum: GROUND LEVEL Elev. K.B. 1642 ft.
Log Measured from: TOP OF PIPE 1.62 ft. above perm. datum
D.F. 1642 ft.
G.L.

Date: 04-07-84
Run No.: ONE
Type Log: GAMMA
Depth - Driller: 175.5m
Depth - Logger: 175.5m
Bot. Logged Interval: 175.5m
Top Logged Interval: SURFACE
Type Fluid in Hole: WATER
Salinity, PPM Cl: 0
Density: 0
Level: FULL
Max. Rec. Temp. Deg. F.: 0
Operating Rig Time: 0
Recorded By: D. BRADSHAW
Witnessed By: 1/4m 175.5m 0m

CASING RECORD
Size: Wgt.: Grade: From: To:

Corporation Seal

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326

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EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data |
|---|---|---|
| Run No. | 1 | Run No. |
| Tool Model No. | 9067-528 | Tool Model No. 9067-528 |
| Tool Diameter | | Diameter |
| Distance to Source | | Log Type CPS. |
| Detector Type | Scintillometer | Detector Type HP. |
| Detector Length & Dia. | 3" - 3.0" | Detector Length 1.0" - 6.0" |
| Collector & Data | | Source Serial No. 71-1-418 |
| Date/time & Cal. | 1/4m sec 1K1 | Source Strength 40 m. |
| RESISTIVITY | | Source Type Am Be |
| Type | | Source Strength 1 Curie |
| Spacing | | |
| SPONTANEOUS POTENTIAL | | |
| Rmf @ Meas. Temp. | @ °F | @ °F |
| CALIPER | | DEVIATION |
| Type | | |
| TEMPERATURE | | GENERAL |
| Scale | | Truck No. 3946 |
| T.C. | Sec. | Time To Log 40 m. |

LOGGING DATA

| Run No. | Depths From | Depths To | Speed ft/Min. | Sens. Settings | Gamma Ray: Zero Dis. L or R | Gamma Ray: API G.R. Units per Log Div. | Density / Neutron: Sens. Settings | Density / Neutron: Zero Dis. L or R | Density / Neutron: Porosity or API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 175.5m | 0m | Variable | 50/0 | | API. | 200/0 | | CPS. |

Remarks: DRILLING CO. SKY LINE
VERTICAL SCALE 15m/div USE COMBINED 5m/div NATGAM 50/0 API.
N-N 200/1 CPS.

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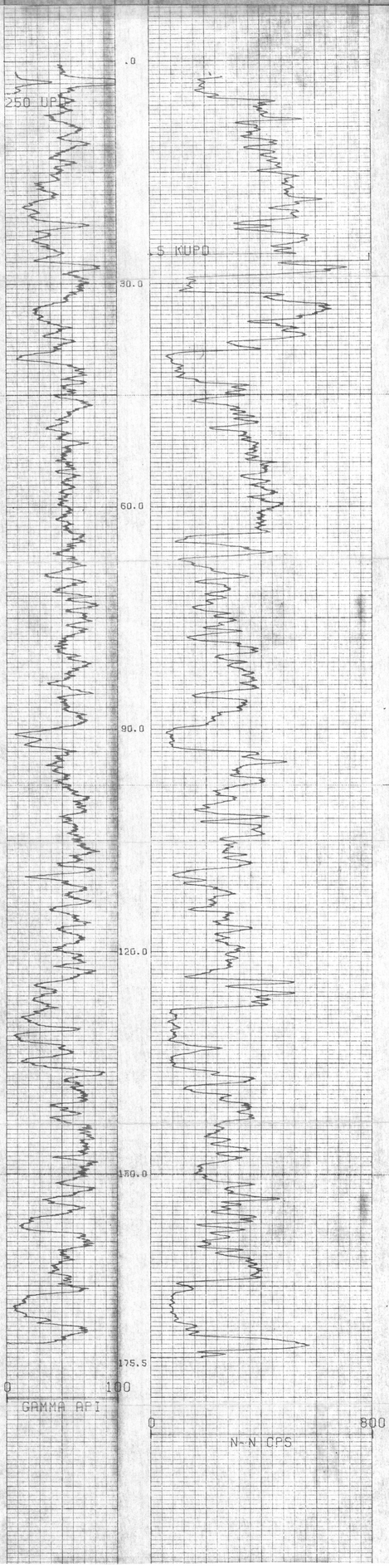


RH 1588 K-Fording River 81(3)A

# CENTURY GEOPHYSICAL CORPORATION

Tulsa, Oklahoma

LAT. 151196.0 m.
DEP. 25,523.7 m.
ELEV. 1896.6 m.

326

| | |
|---|---|
| BOREHOLE | 1588 |
| DATE | 06-10-81 |
| UNIT/OPERATOR | D. FERGUSON |
| FIELD OFFICE | CALGARY ALTA. |

| | |
|---|---|
| COMPANY | FORDING COAL LTD. |
| BOREHOLE | RH-1588 |
| AREA | ELKFORD |
| ELEVATION | |
| COUNTY | UPPER CLODE |
| STATE | BRITISH COLUMBIA |
| SECTION | |
| TOWNSHIP | |
| RANGE | |

## HOLE DATA

| | | | |
|---|---|---|---|
| TOTAL DEPTH — DRILLER | 152.4 m. | BIT SIZE | 11.4 cm. |
| TOTAL DEPTH — LOGGER | 145.5 m. | CASING — TYPE & SIZE | STEEL |
| TOTAL FOOTAGE LOGGED | 145.5 m. | CASING DEPTH | |
| LOGGING SPEED | 8 m/min. | BOREHOLE FLUID | WATER |
| REFERENCE LEVEL | DRILLERS TABLE | FLUID RESISTIVITY | |
| PROBE NO. | 9067-528 | SOFTWARE LEVEL | 8.1 * A |
| TAPE # 1 | | SCALE SELECTION | OPERATOR / CLIENT |
| TRACK # 2 | | FORMAT # 707 | |

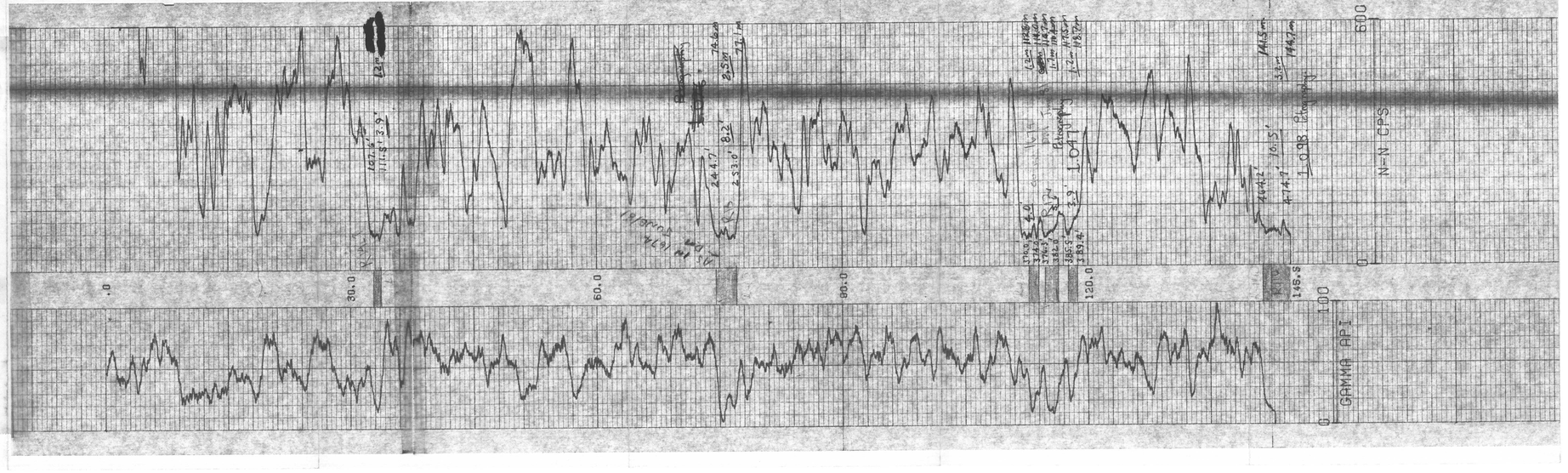
REMARKS: SCALES USED VERTICAL 2 x 10 m/div.
1 x 15 m/div.
1 x 20 m/div.
NATURAL GAMMA 50 API.
NEUTRON 150/0

DID NOT LOG TO DRILLERS DEPTH BECAUSE OF OBSTRUCTION IN PIPE
TAPE DRIVE MALFUNCTION ON FIRST RUN. RELOG.
DRILLING CO. SKY-LINE DRILLING.

## EQUIPMENT DATA

| | | | | | | |
|---|---|---|---|---|---|---|
| PROBE MODEL | | 9067 | 9067 | 9067 | 9067 | 9067 |
| PROBE DIAMETER | | 1.87" | 2.0" | 1.87" | 1.4" | 2.0" |
| NATURAL GAMMA | DETECTOR TYPE | NaI | NaI | NaI | NaI | NaI |
| | DETECTOR SIZE | 3.5" x 1.25" | 1.00" x 4" | 3.5" x 4.5" | 3" x 3.5" | 5" x 5" |
| | STD. ATTACTOR | 1.00 x 10⁻³ | — | 2.00 x 10⁻³ | 1.00 x 10⁻³ | 2.00 x 10⁻³ |
| | STD. DEADTIME | 1 μsec | — | 1.00 μsec | 1 μsec | 1 μsec |
| | CALIB. MODEL USC | | — | | | |
| | CALIB DATE | | — | | | |
| | K-FACTOR | | — | | | |
| | DEADTIME | | — | | | |
| | TEST READING | | — | | | |
| | WATER FACTOR | | — | | | |
| | CASING FACTOR | | — | | | |
| | SCALE | | | | | 50 API |
| DENSITY | DETECTOR TYPE | — | NaI | — | NaI | |
| | DETECTOR SIZE | — | 3" x 1.5" | — | 3" x 3.5" | |
| | SOURCE TYPE | — | Cs¹³⁷ | — | Cs¹³⁷ | |
| | SOURCE NO. | — | | — | | |
| | SOURCE STRENGTH | — | | — | | |
| | SOURCE SPACING | — | | — | | |
| NEUTRON | DETECTOR TYPE | — | — | 3¼" | — | He³ |
| | DETECTOR SIZE | — | — | 1.5" x 4.5" | — | 10 x 4.5" |
| | SOURCE TYPE | — | — | Amsbr | — | Amsbr |
| | SOURCE NO. | — | — | | — | |
| | SOURCE STRENGTH | — | — | | — | |
| | SOURCE SPACING | — | — | | — | |
| | SCALE | | | | | 150/0 |
| | CAL. STD. | | | | | 16% |
| | CAL. RUN | | | | | 16% |
| SPOL. PT. RESISTANCE | | 1.4"Ω x 2.5" | — | 1.4"Ω x 2.5" | 1.5"Ω x 2.5" | |
| RESISTIVITY | | — | 6" PROBES | — | — | |
| SELF POTENTIAL | | YES | — | YES | YES | |
| TEMPERATURE | | — | — | YES | — | |
| DEVIATION | | — | — | NO TYPE | — | |
| CALIPER | | — | YES | — | — | |

CT 112 REV. 2/1/80



RH 1591

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPANY: FORDING COAL LTD.
WELL: 151
FIELD: BOW RIVER
COUNTY: FOOTHILLS
SECTION: NO NAME GULCH
TOWNSHIP: 20 RGE 5 W5M
PERMANENT DATUM: GROUND LEVEL
ELEV.: K.B. 1524.4 m
LOG MEASURED FROM: K.B. 4.6 m ABOVE PERM. DATUM
DRILLING MEASURED FROM: K.B.
APIWELL NO.: 33-109-20001
DATE: 19 FEB 85
RUN NO.: ONE
TYPE LOG: CAL-GR-DEN-NEU
DEPTH DRILLER: 339.6 m
DEPTH LOGGER: 339.6 m
BTM. LOG INTERVAL: 339.6 m
TOP LOG INTERVAL: 1.5 m
CASING DRILLER: 168.3 mm @ 11.4 m
CASING LOGGER: 168.3 mm @ 11.4 m
BIT SIZE: 219 mm
CASING - TYPE & WT.: STEEL
CASING DEPTH: 11.4 m
DEPTH-DRILLER: 339.6 m
DEPTH-LOGGER: 339.6 m
BOTTOM LOGGED INTERVAL: 339.6 m
TOP LOGGED INTERVAL: 1.5 m
TYPE FLUID IN HOLE: WATER
SALINITY, PPM CL: 0
DENSITY: 8.3 lb/gal
LEVEL: FULL
SOURCE OF SAMPLE: CIRC.
RM @ MEAS. TEMP.: 0.2 @ 20 °C
RMF @ MEAS. TEMP.: 0.2 @ 20 °C
RMC @ MEAS. TEMP.: 0.2 @ 20 °C
SOURCE RMF & RMC: CALC.
RM @ BHT: 0.2 @ 20 °C
TIME SINCE CIRC.: 2 HRS
MAX. REC. TEMP.: 20 °C
EQUIP. LOCATION: 1511
RECORDED BY: P. FERGUSON
WITNESSED BY: MR. TR.

EQUIPMENT DATA

| | NATURAL GAMMA | | | DENSITY | | | NEUTRON | | |
|---|---|---|---|---|---|---|---|---|---|
| | SONDE TYPE | GAMMA RAY | | SONDE TYPE | GAMMA RAY | | SONDE TYPE | GAMMA RAY | |
| | CALIBRATOR SERIAL NO. | 1060 | | CALIBRATOR SERIAL NO. | 1060 | | CALIBRATOR SERIAL NO. | 1060 | |
| | SONDE SERIAL NO. | 1060 | | SONDE SERIAL NO. | 1060 | | SONDE SERIAL NO. | 1060 | |
| | DETECTOR | 2" x 1" | | DETECTOR | 2" x 1" | | DETECTOR | 2" x 1" | |
| | SHIELDING | 1" | | SHIELDING | 1" | | SHIELDING | 1" | |
| | SOURCE STRENGTH | 10 uR/hr | | SOURCE STRENGTH | 10 uR/hr | | SOURCE STRENGTH | 10 uR/hr | |
| | SOURCE TYPE | | | SOURCE TYPE | | | SOURCE TYPE | | |
| | SPACING | | | SPACING | | | SPACING | | |
| | CALIBRATOR SERIAL NO. | | | CALIBRATOR SERIAL NO. | | | CALIBRATOR SERIAL NO. | | |
| | SONDE SERIAL NO. | | | SONDE SERIAL NO. | | | SONDE SERIAL NO. | | |
| | DETECTOR | | | DETECTOR | | | DETECTOR | | |
| | SHIELDING | | | SHIELDING | | | SHIELDING | | |
| | SOURCE STRENGTH | | | SOURCE STRENGTH | | | SOURCE STRENGTH | | |
| | SOURCE TYPE | | | SOURCE TYPE | | | SOURCE TYPE | | |
| | SPACING | | | SPACING | | | SPACING | | |
| | CALIBRATOR SERIAL NO. | | | CALIBRATOR SERIAL NO. | | | CALIBRATOR SERIAL NO. | | |
| | SONDE SERIAL NO. | | | SONDE SERIAL NO. | | | SONDE SERIAL NO. | | |
| | DETECTOR | | | DETECTOR | | | DETECTOR | | |
| | SHIELDING | | | SHIELDING | | | SHIELDING | | |
| | SOURCE STRENGTH | | | SOURCE STRENGTH | | | SOURCE STRENGTH | | |
| | SOURCE TYPE | | | SOURCE TYPE | | | SOURCE TYPE | | |
| | SPACING | | | SPACING | | | SPACING | | |

RUN 1 @ 339.6 m
TAPE # 1
TIME 0900 hrs
RECORDED BY: P. F.
WITNESSED BY: MR. TR.

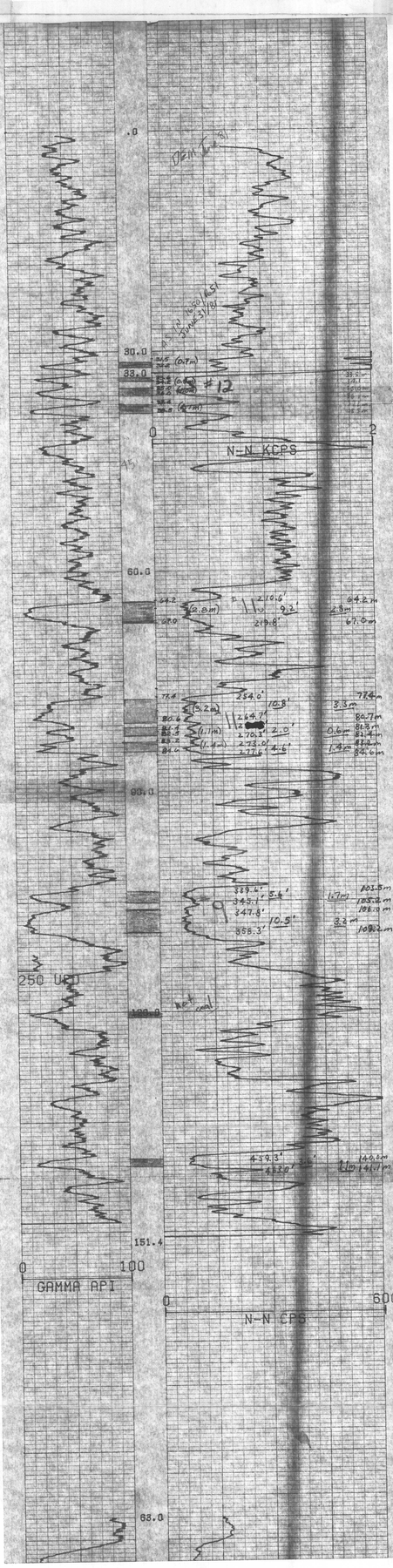
RUN 2 @ 339.6 m
TAPE # 2
TIME 1100 hrs
RECORDED BY: P. F.
WITNESSED BY: MR. TR.

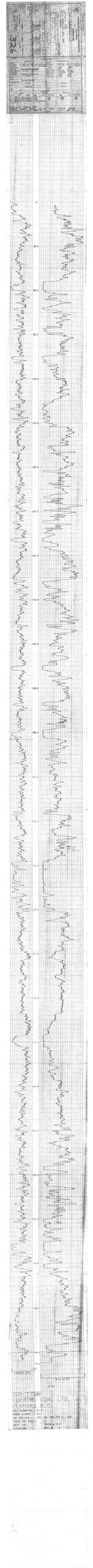
RUN 3 @ 339.6 m
TAPE # 3
TIME 1400 hrs
RECORDED BY: P. F.
WITNESSED BY: MR. TR.

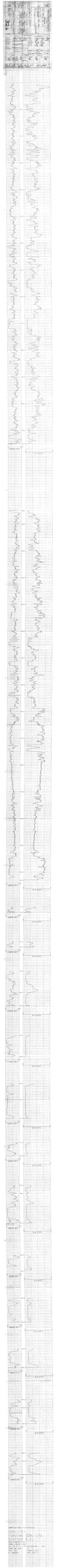
SCALES
LOG
VERTICAL 1:240 (1" = 20')
NATURAL GAMMA 0-100 API
NATURAL GAMMA 0-150 API
NEUTRON 0-600 CPS
DENSITY 0-250 UCD
DRILLING CO. SKY LINE DRILLING

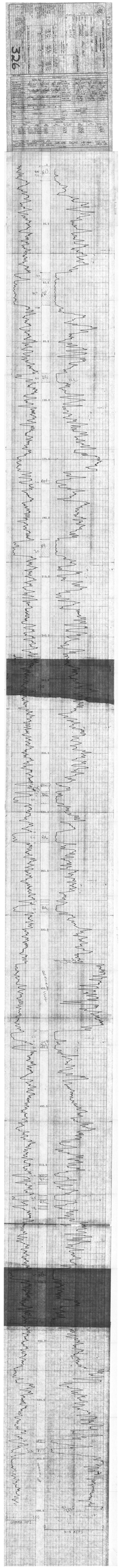
326

K. Fordyce Kims 6/89

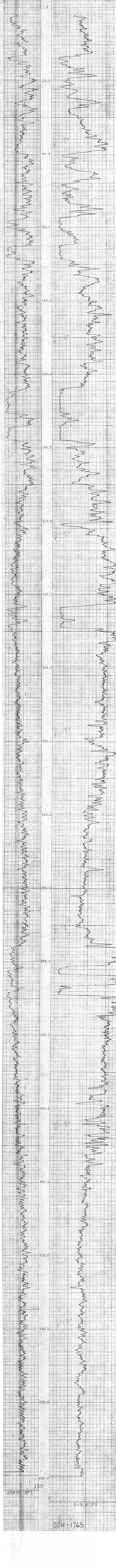


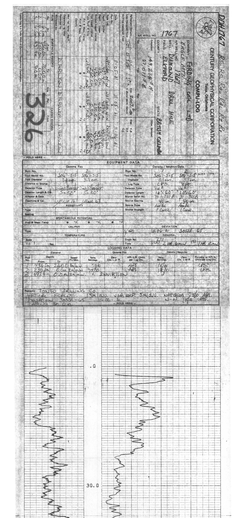

326
DDH-1756
FORDING COAL LTD.
ELKFORD B.C.

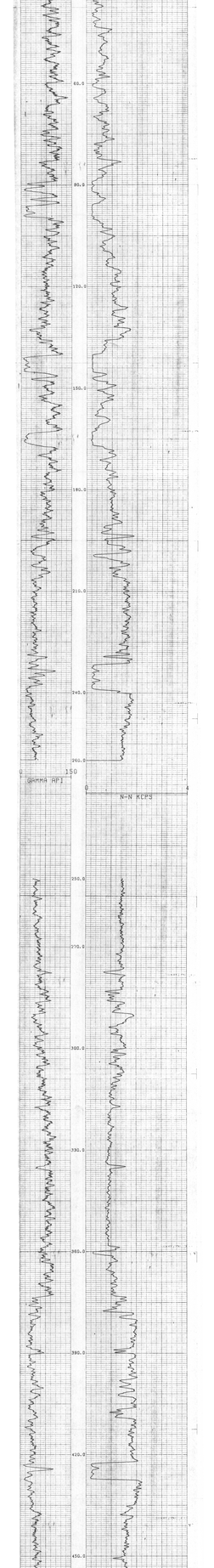


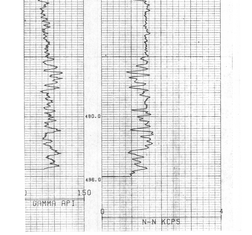


DDH-1765
DENVER GEOPHYSICAL CORPORATION
326


GAMMA API
150
N-N KCPS
DDH-1765


DRESSER ATLAS
GRIFFIN GEOPHYSICAL CORPORATION
1967
COMPANY
WELL
FIELD
COUNTY
STATE
326
RUN NO.
DATE
DEPTH-DRILLER
DEPTH-LOGGER
BTM. LOG INTERVAL
TOP LOG INTERVAL
CASING-DRILLER
CASING-LOGGER
BIT SIZE
TYPE FLUID IN HOLE
DENS. VISC.
PH FLUID LOSS
SOURCE OF SAMPLE
RM @ MEAS. TEMP.
RMF @ MEAS. TEMP.
RMC @ MEAS. TEMP.
SOURCE RMF RMC
RM @ BHT
TIME CIRC. STOPPED
TIME LOGGER ON BOTTOM
MAX. REC. TEMP.
EQUIP. LOCATION
RECORDED BY
WITNESSED BY
EQUIPMENT DATA
Density Neutron Gamma
Run No.
Type Log
Depth-Driller
Depth-Logger
Bottom Log Interval
Top Log Interval
Casing-Driller
Casing-Logger
Bit Size
Type Fluid in Hole
Dens. Visc.
pH Fluid Loss
Source of Sample
Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source Rmf Rmc
Rm @ BHT
Time Circ. Stopped
Time Logger on Bottom
Max. Rec. Temp.
Equip. Location
Recorded By
Witnessed By
RUN NO.
TYPE LOG
DEPTH-DRILLER
DEPTH-LOGGER
BTM. LOG INTERVAL
TOP LOG INTERVAL
CASING-DRILLER
CASING-LOGGER
BIT SIZE
TYPE FLUID IN HOLE
DENS. VISC.
PH FLUID LOSS
SOURCE OF SAMPLE
RM @ MEAS. TEMP.
RMF @ MEAS. TEMP.
RMC @ MEAS. TEMP.
SOURCE RMF RMC
RM @ BHT
TIME CIRC. STOPPED
TIME LOGGER ON BOTTOM
MAX. REC. TEMP.
EQUIP. LOCATION
RECORDED BY
WITNESSED BY
RUN BOREHOLE RECORD
CASING RECORD
SIZE WGT. FROM TO
TYPE JOINT
REMARKS
LOGGING DISTRICT


0
30.0
60.0
90.0
120.0
150.0
180.0
210.0
240.0
270.0
GAMMA API
150
0
N-N KCPS
4


240.0
270.0
300.0
330.0
360.0
390.0
420.0
450.0
480.0
490.0
GAMMA API
150
0
N-N KCPS
4

RH 1592 K-Fording River 81(3)A

UPPER CLODE [redacted] 1592

## CENTURY GEOPHYSICAL CORPORATION

Tulsa, Oklahoma

150 886.6 N.
26 036.9 E.

| | |
|---|---|
| COMPANY | FORDING COAL LTD. |
| BOREHOLE | 1592 |
| AREA | ELKFORD |
| ELEVATION | 2017.8 M. |
| COUNTY | |
| STATE | BRITISH COLUMBIA |
| SECTION | |
| TOWNSHIP | |
| RANGE | |

| BOREHOLE | DATE |
|---|---|
| 1592 | 06-14-81 |
| UNIT/OPERATOR | FIELD OFFICE |
| D. FERGUSON | CALGARY ALTA. |

### HOLE DATA

| | | | |
|---|---|---|---|
| TOTAL DEPTH — DRILLER | 222.5m. | BIT SIZE | 11.4 cm. |
| TOTAL DEPTH — LOGGER | 221.5m. | CASING — TYPE & SIZE | STEEL |
| TOTAL FOOTAGE LOGGED | 221.5m. | CASING DEPTH | |
| LOGGING SPEED | 8m/min. | BOREHOLE FLUID | WATER |
| REFERENCE LEVEL | DRILLERS TABLE | FLUID RESISTIVITY | @ °F |
| PROBE NO. | 9055A-68 | SOFTWARE LEVEL | 8.I*A |
| TAPE # 1 | | SCALE SELECTION | ☐ OPERATOR ☑ CLIENT |
| TRACK # 4 | | | FORMAT # 707 |

REMARKS: SCALES USED VERTICAL 15m/div.
VERTICAL EXPANDED 5m/div.
NATURAL GAMMA 50/0 API.
NEUTRON 150/0 CPS.
NEUTRON (0-28) .5K/0

DRILLING CO. SKY LINE DRILLING.

326

### EQUIPMENT DATA

| | | 9010 | 9030 | 9050/55 | 9060 |
|---|---|---|---|---|---|
| | PROBE MODEL | 9010 | 9030 | 9050/55 | 9060 |
| | PROBE DIAMETER | 1.67" | 2.0" | 1.67" | 1.4" |
| NATURAL GAMMA | DETECTOR TYPE | NaI | NaI | NaI | NaI |
| | DETECTOR SIZE | .875" x 1.25" | 1.125" x 4.5" | .875" x 4.0" | .5" x 3.0" |
| | STD. K-FACTOR | 1.59 x 10⁻⁵ | — | .558 x 10⁻⁵ | 1.82 x 10⁻⁵ |
| | STD. DEADTIME | 1 μsec | — | 1.18 μsec | 1 μsec |
| | CALIB. MODEL LOC. | | — | | |
| | CALIB DATE | | — | | |
| | K-FACTOR x 10⁻⁵ | | — | | |
| | DEADTIME μsec | | — | | |
| | TEST READING | | — | | |
| | WATER FACTOR | | — | | |
| | CASING FACTOR | | — | | |
| | SCALE | | | 50/0 API | |
| DENSITY | DETECTOR TYPE | — | NaI | — | NaI |
| | DETECTOR SIZE | — | .5" x 1.5" | — | .5" x 3.0" |
| | SOURCE TYPE | — | Cs¹³⁷ | — | Cs¹³⁷ |
| | SOURCE NO. | — | | — | |
| | SOURCE STRENGTH | — | | — | |
| | SOURCE SPACING | — | | — | |
| NEUTRON | DETECTOR TYPE | — | — | He³ | — |
| | DETECTOR SIZE | — | — | 1.0" x 8.0" | — |
| | SOURCE TYPE | — | — | AmBe | — |
| | SOURCE NO. | — | — | 71-1-413 | — |
| | SOURCE STRENGTH | — | — | 1 Ci. | — |
| | SOURCE SPACING | — | — | 40 cm. | — |
| | SCALE | | | 150/0 CPS | |
| | CAL STD. | | | 166 | |
| | CAL RUN. | | | 167 | |
| | SNGL. PT RESISTANCE | 1.4"D x 2.5"L | — | 1.4"D x 2.5"L | 1.1"D x 2.5"L |
| | RESISTIVITY | — | 6" FOCUSED | — | — |
| | SELF POTENTIAL | YES | — | YES | YES |
| | TEMPERATURE | — | — | YES | — |
| | DEVIATION | — | — | NO / YES | — |
| | CALIPER | — | YES | — | — |

CT-112 REV. 2/11/80

RH 1645 BLACKWOOD

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma
COMPU-LOG

API WELL NO. 1645
COMPANY TRIDENT CABLE LTD.
WELL NAME & NO. 1645
FIELD ELCAPO
COUNTY
Sec. Twp. Rge.
Location: 146 327.9 N
2E 206.4 E
STATE ALBERTA CANADA
Other Services

Permanent Datum: Ground Elev.
Log measured from: 1.5 FT. OF THE CLAY
Drilling measured from: KB

Elev.: K.B. D.F. G.L.

Date: 03-15-81
Run No.: ONE
Depth - Driller: 1645
Depth - Logger: 1645
Btm. Log Interval: 1645
Top Log Interval: SURFACE
Casing - Driller: 8 5/8 @ 30
Casing - Logger: 30
Bit Size: 7 7/8
Type Fluid in Hole: WATER
Dens. Visc.: 8.9
pH Fluid Loss:
Source of Sample:
Rm @ Meas. Temp.: .5 @ 70
Rmf @ Meas. Temp.: @
Rmc @ Meas. Temp.: @
Source of Rmf & Rmc:
Rm @ BHT: .5 @ 70
Time Since Circ.: 1 HR
Max. Rec. Temp. Deg. F: 70
Equip. Location: 326
Recorded By: D. PETERSON
Witnessed By:

BOREHOLE RECORD
No. | Bit | From | To | Size | Wgt. | Fluid | Visc. | Loss
1 | 7 7/8 | SURFACE | 1645 | | | | |

CASING RECORD
No. | Size | Wgt. | Grade | From | To
1 | 8 5/8 | | | SURFACE | 30

Remarks: Rig Time: Logger at Depth

FOLD HERE

## EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 1 | Run No. | 1 |
| Tool Model No. | 3 1/2-1-65 | Tool Model No. | 3035A 165 |
| Tool Diameter | 2 5/8" | Diameter | 2 5/8" |
| Distance to Source | | Log Type | CDN |
| Detector Type | SCINT | Detector Type | HP |
| Detector Length & Dia. | 5inch Master | Detector Length | 12-6 C |
| K-factor & Date | 1/1/82 206 | Source Serial No. | NH-321 |
| Overtime & Cal. | | Source Spacing | 16cm |
| Type | | Source Type | AmBe |
| Spacing | | Source Strength | 1 Curie |

SPONTANEOUS POTENTIAL

CALIPER

DEVIATION

Type

TEMPERATURE

GENERAL

Scale
T.C. Sec.

Truck No. 7324
Time 10 LOG 1 HR

## LOGGING DATA

| Run No. | Depths From | Depths To | Speed Ft./Min. | Gamma Ray Sens. Settings | Gamma Ray Zero Div. L or R | Gamma Ray API G.R. Units per Log Div. | Density / Neutron Sens. Settings | Density / Neutron Zero Div. L or R | Porosity or API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1645 3m | CM | 8m/min | 50/0 | | API | .5K/0 | | CBS |

Remarks: SKYLINE DRILLING CO. VERTICAL SCALES 1.5M/DIV. VER EXP. 5x/DIV. 350 API. NAT GAM. 5K/0 CBS. N-N

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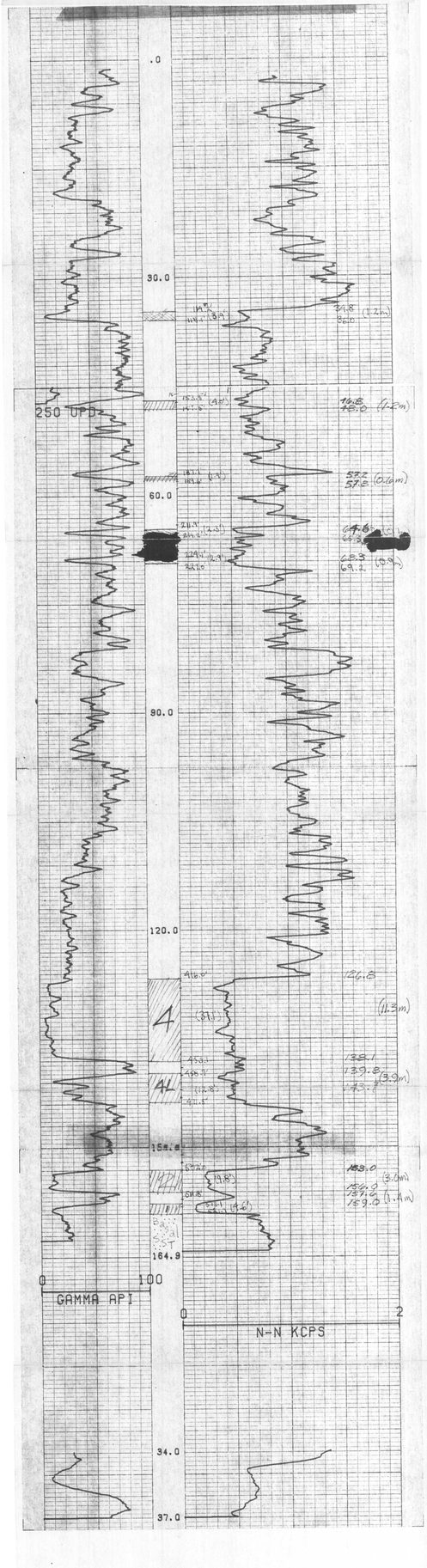

RH 1646

K-Fielding Riser 8(5)A
BLACK KNIGHT

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma
COMPU-LOG

API WELL NO. 1646
COMPANY FRONTIER GAS, LTD.
WELL [redacted] 1646
FIELD BURRAD HOLE
COUNTY [redacted] STATE [redacted]
Location: 1,485' FSL & 825' FWL
Sec. [redacted] Twp. [redacted] Rge. [redacted]
Permanent Datum: [redacted] Elev. [redacted] K.B. [redacted]
Log Measured From [redacted] 11' above perm. datum G.L. [redacted]
Drilling Measured From [redacted]
Date 05-13-81
Run No. ONE
Depth — Driller 1646
Depth — Logger 1646
Bottom Logged Interval 1646
Top Logged Interval SURFACE
Type Fluid in Hole WATER
Salinity, PPM Cl [redacted]
Density [redacted] Viscosity [redacted]
pH [redacted] Fluid Loss [redacted]
Source of Sample [redacted]
Rm @ Meas. Temp. @ °F
Rmf @ Meas. Temp. @ °F
Rmc @ Meas. Temp. @ °F
Source: Rmf [redacted] Rmc [redacted]
Rm @ BHT @ °F
Time Circ. [redacted]
Max. rec. temp. deg. F [redacted]
Equip. No. & Location [redacted]
Recorded By D. ERICKSON
Witnessed By [redacted]

BOREHOLE RECORD
No. 1 From SURFACE To 1646
Size 7 7/8" Wgt. [redacted]

CASING RECORD
No. 1 From SURFACE To 1646
Size 5½" Wgt. [redacted]

FOLD HERE

## EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 3055A-65 | Run No. | 3055A-65 |
| Tool Model No. | 1.81" | Tool Model No. | 1.81" |
| Tool Diameter | | Diameter | CPS. |
| Distance to Source | Scintillator | Log Type | NGT |
| Detector Type | | Detector Type | 4.5 SCINT. |
| Detector Length & Dia. | | Detector Length | 4P1-321 |
| K-factor & Date | 1 Music | Source Serial No. | 40 cm. |
| Deadtime & Cal. | | Source Spacing | Am Be |
| RESISTIVITY | | Source Type | 1 Curie. |
| Type | | Source Strength | |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | DEVIATION | |
| Rmf @ Meas. Temp. | @ °F @ °F @ °F | Type | |
| CALIPER | | GENERAL | |
| Type | | Truck No. | 7324 |
| TEMPERATURE | | Time | 10 Los 1 HR. |
| Scale | | | |
| T.C. Sec. | | | |

## LOGGING DATA

| Run No. | Depths From | Depths To | Speed Ft./Min. | Gamma Ray Sens. Settings | Gamma Ray Zero Div. L or R | Gamma Ray API G.R. Units per Log Div. | Density / Neutron Sens. Settings | Density / Neutron Zero Div. L or R | Porosity or API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 160 cm | Cm | 8m/MIN | 300 | | API. | 300/0 | | CPS. |

Remarks: DRILLING CO. SKYLINE DRILLING
VERTICAL SCALE 1CM/20 USR EXP. 5m/MIN. 300 API. NAT GAM 2000 CPS N-N (.5MC CPS) - 125.0 - 0.0 A.

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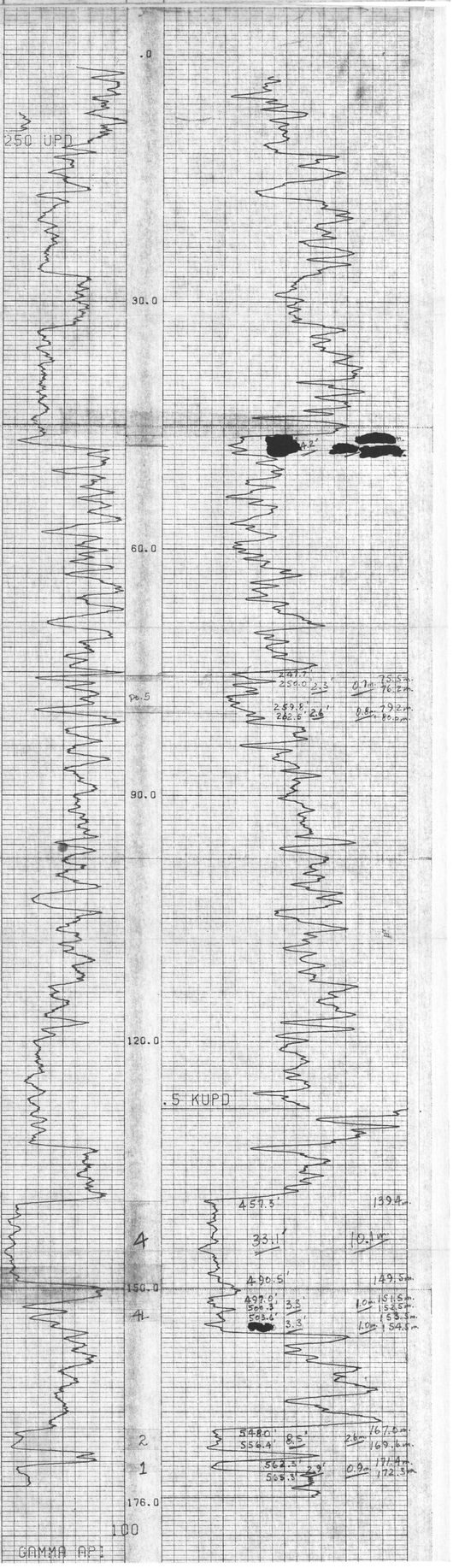


326

RH 1648

K-Fording River Blk(3)A

BLACK MTN?

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma
COMPU-LOG

COMPANY TRANSIT COAL LTD.
WELL 1648
FIELD FORDING RIVER
COUNTY ELK STATE BRITISH COLUMBIA
API WELL NO. 1648
Location: Sec. 18 Twp. 3N Rge. 25 W6
Permanent Datum: GL Elev. 1852 ft.
Log Measured from: KB 10 ft. above perm. datum
Drilling Measured from: KB
Elev.: K.B. 1862 D.F. G.L.

TOP OF PIPE - 10 ft

Date: 03-16-81
Run No.: ONE
Depth - Driller: 1851
Depth - Logger: 1851
Bottom Logged Interval: 1851
Top Logged Interval: SURFACE
Type Fluid in Hole: DRY
Salinity, PPM Cl: -
Density: -
Max. rec. temp. - deg. F: -
Operating rd. time: -
Recorded By: D. JEFFERSON
Witnessed By: -

RUN No. 1 | BIT From 0 | To 1851 | Size 5 7/8 | Type - | Fluid in Hole - | Max. rec. temp. - deg. F | Equip. No. - | Location -

BORE-HOLE RECORD

CASING RECORD

326

FOLD HERE

EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | ONE | Run No. | ONE |
| Tool Model No. | 9055-65 | Tool Model No. | 9055-65 |
| Tool Diameter | 1 5/8" | Diameter | 2 5/8" |
| Distance to Source | Scintillator | Log Type | CPS |
| Detector Type | | Detector Type | He3 |
| Detector Length & Dia. | | Detector Length | 10-GC |
| K-factor & Date | | Source Serial No. | 521 |
| Deadtime & Cal. | 1.66e-6 | Source Spacing | 11" |
| RESISTIVITY | | Source Type | 4 hour |
| Type | | Source Strength | Type |
| Spacing | | | 1 Curie |
| SPONTANEOUS POTENTIAL | | | |
| Rmf @ Meas. Temp. | @ °F @ °F | | |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Scale | | Truck No. | 7324 |
| T.C. Sec. | | Time | 10 LEG 48 min. |

LOGGING DATA

| Run No. | Depths From | Depths To | Speed Ft/Min. | Sens. Settings | Zero Div. L or R | API G.R. Units per Log Div. | Sens. Settings | Zero Div. L or R | Porosity or API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| | | | General | | | Gamma Ray | | | Density / Neutron |
| 1 | 15.5 | 1851 | 30 M | 8 w/min | 5 | 40 | 1 | 5 | CPS |

Remarks: SKYLINE DRILLING CO. JOB EXP. S in dia. 5 3/8 API. NAT. GAM. VERTICAL SCALES 15M div. 5 3/8 CPS N-N
RAD WET HOG FULL HOLE ENCOUNTERED
& MUD RUN.
FOLD HERE

CT-211

.0
30.0
60.0
90.0
150.0
157.9
518.0
0 100
GAMMA API
0 2
N-N KCPS

DH 1759

CENTURY GEOPHYSICAL CORPORATION

COMPUTOLOG

COMPANY: FORDING COAL LTD.

WELL: D.D.H. 1759

FIELD: ELKFORD

RIG: ROTARY DRILL

COUNTY, PROVINCE: KOOTENAY BOUTON, B.C.

LOCATION: 1 MILE SOUTH OF ELKFORD

SEC. TWP. RGE.

OTHER SERVICES: GAMMA RAY, DENSITY, CALIPER

PERMANENT DATUM: GROUND LEVEL

ELEV.: K.B. 3331 D.F. G.L. 3321

LOG MEASURED FROM: K.B. 10 FT. ABOVE PERM. DATUM

DRILLING MEASURED FROM: K.B.

DATE: 10-23-81

RUN NO.: ONE

DEPTH-DRILLER: 335

DEPTH-LOGGER: 335

BTM. LOG INTERVAL: 335

TOP LOG INTERVAL: 10

CASING-DRILLER: 10 @ 10

CASING-LOGGER: 10

BIT SIZE: 10.3

TYPE FLUID IN HOLE: WATER

DENSITY: 8.3

VISCOSITY: 26

PH: 7.0

FLUID LOSS: 0

SOURCE OF SAMPLE: PIT

RM @ MEAS. TEMP.: 0.2 @ 70°F

RMF @ MEAS. TEMP.: 0.2 @ 70°F

RMC @ MEAS. TEMP.: 0.2 @ 70°F

SOURCE OF RMF: MEASURED

SOURCE OF RMC: MEASURED

RM @ BHT: 0.2 @ 70°F

TIME CIRC. STOPPED: 1:00

TIME LOGGER ON BOTTOM: 2:30

MAX. REC. TEMP.: 70°F

EQUIP. NO. LOCATION: 1331 ELKFORD

RECORDED BY: R. SCHMIDT

WITNESSED BY: MR. SCOTT

REMARKS: RUN GAMMA RAY-DENSITY-CALIPER LOG IN OPEN HOLE. CASING DRILLED TO 335 FT. CASING LOGGED FROM 335 TO 10 FT.

EQUIPMENT DATA

| Logging Run | ONE | TWO | THREE |
|---|---|---|---|
| Log Type | API 1-3 | | |
| Tool Model No. | SGT-SGS SGT-SGD | SNT-S BT | SNT-SGS |
| Tool Diameter | 4.5 cm | 5.1 cm | 4.5 cm |
| Distance to Source | | | |
| Distance to Detector | 1 FT. | | |
| Collimation & Type | 1 1/2 | 1 1/2 | |
| Shields & Size | | | |
| Level Of Calibration | 1 FT. 1 MAC. SEC. | 1 MAC. SEC. | |
| Remarks | | | |
| Logging Equipment | | | |
| Truck | | | |
| Recorder | | | |

| Density / Neutron Data | | |
|---|---|---|
| Log Type | | |
| Tool Model No. | SNT-SGS | SNT-SGS |
| Diameter | 4.5 cm | 4.5cm |
| Log Type | | |
| Source | | |
| Detector Length | 1 FT. | |
| Neutron Tool No. | 5715 | |
| Neutron Serial No. | 5617-M | |
| Matrix Table | Per Cor | |
| Neutron Standard | Lamar | |

CALIPER

| Caliper No. | |
|---|---|
| Caliper Type | |
| Caliper Serial No. | |
| Caliper Standard | |

DEVIATION

| Deviation Type | |
|---|---|
| Deviation Serial No. | |
| Deviation Standard | |

GENERAL

| Truck No. | 1331 |
|---|---|
| Unit | 2214 |

LOGGING DATA

| Density | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Run | Log Interval Top | Log Interval Bottom | Hole Size | Casing Size | Type Fluid in Hole | Density | Viscosity | Max. Rec. Temp. Deg. F. | Equipment Location |
| ONE | 10 FT. | 335 FT. | 10.3 | 10 @ 10 | WATER | 8.3 | 26 | 70°F | ELKFORD |
| ONE | 10 FT. | 335 FT. | 10.3 | 10 @ 10 | WATER | 8.3 | 26 | 70°F | ELKFORD |

Gamma Ray Scale
Caliper Scale
Neutron Scale

CURVE CURVE UP IN PIPE AT 25 FT. 0 ERASED BELOW 10 FT.

DDH 1759

.0

30.0

60.0

90.0

120.0

150.0

154.4m

180.0

210.0

240.0

255.3

270.0

300.0

335.7

150

GAMMA API'S

N-N KCPS

100 VEL PLOT 10-23-81

DDH 1759

FORDING COAL LTD.

ELKFORD B.C.

HOLE DIAMETER = 10.3

PROBE # 9067 S15

CAL STDTCPS = 166 CAL RUN CPS = 122

RH 1760

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

COMPANY TEXACO, Inc. Code 1-20

API WELL NO.

WELL Bell Creek Unit Well No. 1760

FIELD Bell Creek

COUNTY Powder River STATE Montana

Sec. Twp. Rge.

Location:

Other Services:

Permanent Datum: GL Elev. 3150 ft. above perm. datum

Log Measured From: KB 10 ft. above perm. datum

Drilling Measured From: KB

| | Date | Run No. | Depth-Driller | Depth-Logger | Bottom Logged Interval | Top Logged Interval | Type Fluid in Hole | Salinity, PPM Cl | Density | Viscosity | pH | Fluid Loss | Source of Sample | Rm @ Meas. Temp. | Rmf @ Meas. Temp. | Rmc @ Meas. Temp. | Source of Rmf & Rmc | Rm @ BHT | Time Since Circ. | Max. Rec. Temp. Deg. F | Equip. No. & Location | Recorded By | Witnessed By |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10-05-81 | 1 | 2361m | 2361m | 2361m | 0 | LSND | | 1.04 | 46 | 10.5 | 6.4 | MUD PIT | 1.84 @ 24°C | 1.66 @ 24°C | | MEAS | 1.04 @ 24°C | 6 HRS | 24°C | 3658-65 1760 | D. PERSON | |
| 2 | 10-05-81 | 2 | 2361m | 2361m | 2361m | 0 | LSND | | 1.04 | 46 | 10.5 | 6.4 | MUD PIT | 1.84 @ 24°C | 1.66 @ 24°C | | MEAS | 1.04 @ 24°C | 6 HRS | 24°C | 3658-65 1760 | D. PERSON | |

EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 2 | Run No. | 2 |
| Tool Model No. | 3658-65 | Tool Model No. | 3658-65 |
| Tool Diameter | 1.84" | Diameter | 1.84" |
| Distance to Source | | Log Type | DFD |
| Detector Type | Scintillation | Detector Type | HNS |
| Detector Length & Dia. | | Detector Length | 10"-60" |
| S'Pack# & Date | | Source Serial No. | 41-45 |
| Datetime & Cal. | 1130 hrs 11 Oct 81 | Source Spacing | 10cm |
| RESISTIVITY | | Source Type | Am Be |
| Type | | Source Strength | 1 Curie |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | | |
| Rbf @ Meas. Temp. | @ °F | @ °F | @ °F |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Scale | | Truck No. | 782 |
| T.C. | Sec. | Time | 16 hrs (1 42 min 6) 26 min. |

LOGGING DATA

| Run No. | Depths From | Depths To | Speed FT/Min. | Sens. Settings | Zero Dev. L or R | API G.R. Units per Log Div. | Gamma Ray Sens. Settings | Gamma Ray Zero Dev. L or R | Density or API N Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 236m | Cm Below | 30ft | | | API | 30cps | | CPS |
| 2 | 2361m | 2355m Below | 30ft | | | API | 30cps | | CPS |

Remarks: SKYLINE DRILLING OD.

VERTICAL SCALE 5"/100' VERTICAL EXP 5"/100' SS/D API WAT GAMMA
SS/D CPS N-N
SS/D (0-120) API N-N

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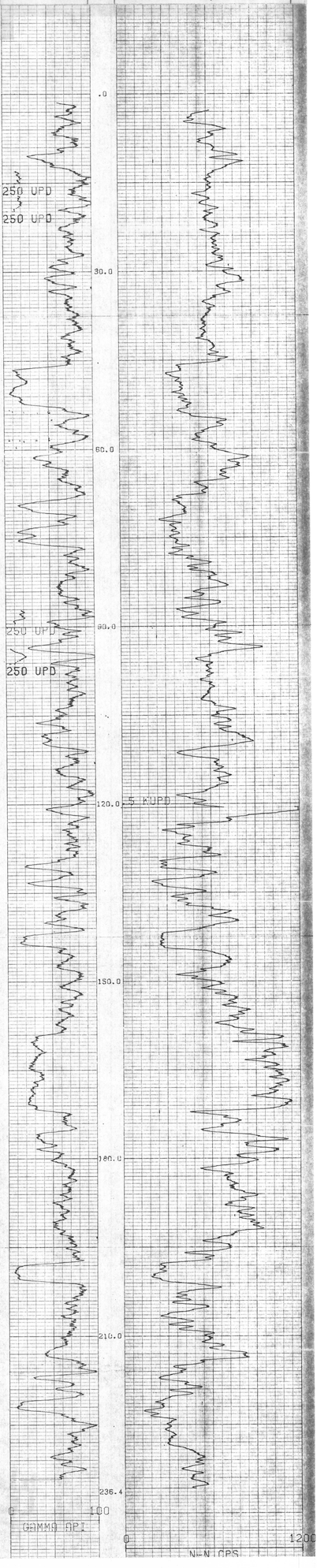

RH 1761

CENTURY GEOPHYSICAL CORPORATION
TULSA, OKLAHOMA

COMPU-LOG

COMPANY TRANSCO GAS LTD.
WELL 1761
FIELD
COUNTY
STATE BRITISH COLUMBIA

API WELL NO. 1761

Permanent Datum: GROUND LEVEL
Log Measured from: KELLY BUSHING
Drilling Measured from: KELLY BUSHING

Elev.: K.B. 0
G.L. 0

Date: 1-Jun-84
Run No.: ONE
Depth-Driller: 280.4m
Depth-Logger: 280.4m
Bottom Logged Interval: 280.2m
Top Logged Interval: SURFACE
Type Fluid in Hole: GEL CHEM
Salinity, PPM Cl: 1000
Density: 1.10
Level: FULL
Max. Rec. Temp. deg. F: 60
Operating Rig Time: 5 HRS
Recorded By: D. FERGUSON
Witnessed By: MR. BOB

EQUIPMENT DATA

| Gamma Ray | Density / Neutron Data |
|---|---|
| Run No. 1 | Run No. 1 |
| Tool Model No. 3858-165 | Tool Model No. 3858-165 |
| Tool Diameter 1.66" | Diameter 1.66" |
| Distance to Source | Log Type |
| Detector Type Scintillometer | Detector Type |
| Detector Length & Dia. | Detector Length |
| Effective Gate | Source Serial No. |
| Deadtime & Cal. 1/Case 161 | Source Spacing |
| RESISTIVITY | Source Type |
| Type | Source Strength |
| Metric | |
| SPONTANEOUS POTENTIAL | |
| Mud @ Meas. Temp. @ °F @ °F @ °F | |
| CALIPER | DEVIATION |
| Type | |
| TEMPERATURE | GENERAL |
| Date | Truck No. 7321 |
| °C Sec. | Time 10:00 hr. 16 hr. |

LOGGING DATA

| Run No. | Depths From | Depths To | Speed Metres/Min | Sens. Setting | Zero On 1 or 9 | API G.R. Units per Log Div. | Sens. Setting | Zero On 1 or 9 | Porosity in API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 280.2m | Surface | 30/0 | | | API | 800/0 | | CPS. |

Remarks: BASELINE 2BELLOW 9; 50 VERTICAL SCALES 15m/div. USER exp. 5m/div. 350 API NATURAL 5000 CPS N-N

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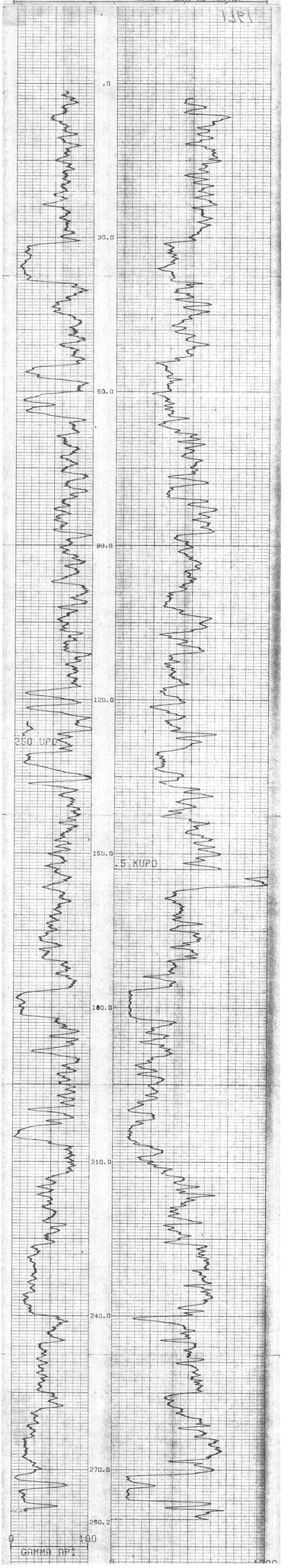
326



RH 1762

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

COMPANY: FRANKS PETR. CO.
WELL: E. ESLICK #1-A
FIELD: BEAVER TROUGH
COUNTY: BEAVER
STATE: OKLAHOMA

API WELL NO. 1762
Permanent Datum: GL Elev. 2794 Ft.
Log Measured From: KB 10 Ft. Above Perm. Datum
Drilling Measured From: KB

Date: 12-22-81
Run No.: One
Depth-Driller: 7425 Ft.
Depth-Logger: 7424 Ft.
Bottom Logged Interval: 7424 Ft.
Top Logged Interval: 2100 Ft.
Type Fluid in Hole: SW GEL
Salinity, PPM Cl: 4000
Density: 9.2
Level: Full
Max. Rec. Temp. Deg. F: 170°
Operating Rig Time: 24 HRS
Recorded By: D. TEAGARDEN
Witnessed By: MR. FRANKS

Run No. | Bit From | Bit To | Size | Type Bit
One | Surface | 7425 Ft. | 7 7/8" | HTC

Casing Driller: Size 8 5/8" @ 1703 Ft. | Type Fluid in Hole | Weight | Viscosity | Fluid Loss
Casing Logger: Size 8 5/8" @ 1703 Ft.

Rm @ Meas. Temp.: 1.03 @ 70°F
Rmf @ Meas. Temp.: .82 @ 70°F
Rmc @ Meas. Temp.: 1.24 @ 70°F
Source of Rmf & Rmc: Measured
Rm @ BHT: .57 @ 170°F
Time Since Circ.: 24 HRS
Max. Rec. Temp. Deg. F: 170°
Equip. No. & Location: 3326 Liberal
Recorded By: D. TEAGARDEN
Witnessed By: MR. FRANKS

EQUIPMENT DATA

Gamma Ray: Run No. 1 | Type Log GR | Tool Model No. 9058-65 | Tool Diameter 1.562" | Distance to Source | Detector Type | Detector Length & Dia. Scintillator | X-Ray Kv & Ma | Overdrive & Cal. 4 Line 167 | Sensitivity | Type | Source

Density / Neutron Data: Run No. 1 | Type Log CDL | Tool Model No. 9058-65 | Tool Diameter 1.562" | Distance 6" | Log Type GR | Detector Type | Detector Length 10.5-6" | Source Serial No. 311-68 | Source Spacing 40cm | Source Type Cs 137 | Source Strength 10 mc

SPONTANEOUS POTENTIAL: Run # 1 | Type | Tool # | Sensitivity

CALIPER: Type

DEVIATION: Type

TEMPERATURE: Date | T.D. | Sec.

GENERAL: Truck No. 1324 | Time 7:00 AM | Loc. 1.2 MI

LOGGING DATA

| Run | Depth Driller | Depth Logger | Bottom Log Interval | Top Log Interval | Casing Driller | Casing Logger | Bit Size | API G.R. Units Gamma Ray | Fluid Density | Fluid Level | Max. Rec. Temp. Deg. F | Equip. No. & Location | Recorded By | Witnessed By |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7425 Ft. | 7424 Ft. | 7424 Ft. | 2100 Ft. | 8 5/8" @ 1703 Ft. | | 7 7/8" | | 9.2 | Full | 170° | 3326 Liberal | D. TEAGARDEN | MR. FRANKS |

Remarks: SKI LINE DRILLING CO. VERTICAL SCALE 1" = 100' | 1" = 5" | USE 2ND. 5" | STA. GR. NAT. GAM. | Sample Cor. N-M

FIELD PRINT

3326

5 KUPD
250 UPD
250 UPD

.0
30.0
60.0
90.0
120.0
150.0
180.0
210.0
240.0
270.0
279.5

0 100
GAMMA API
0 1200

RW 1763

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma
COMPU-LOG

API WELL NO.
COMPANY: SEMCO, INC.
WELL: #1 HAGE
FIELD: WILDCAT
COUNTY: GRANT
STATE: OKLAHOMA

Other Services: CBL

Permanent Datum: GL Elev.: 1176
Log Measured From: KB 10 Ft. Above Perm. Datum
Drilling Measured From: KB
Elev.: K.B. 1186 D.F. G.L. 1176

Date: 12-5-84
Run No.: ONE
Depth-Driller: 2615
Depth-Logger: 2615
Bottom Logged Interval: 2615
Top Logged Interval: 0
Type Fluid in Hole: SALT GEL
Salinity, PPM Cl: 160,000
Density: 9.8
Level: FULL
Max. Rec. Temp. Deg. F: 120
Operating Rig Time: 5 HRS
Recorded By: J. STEGEN
Witnessed By: MR. SEMCO

BOREHOLE RECORD
Run No. ONE
Bit From: 0
Bit To: 2615
Size: 7 7/8
Type: ROCK
Weight: 9.8
Viscosity: 40
Fluid Loss: 8.4
Source of Sample: FLOWLINE
R @ Meas. Temp.: .72 @ 70 °F
R_mf @ Meas. Temp.: .54 @ 70 °F
R_mc @ Meas. Temp.: .95 @ 70 °F
Source: R_mf: MEAS. R_mc: CALC.
Rm @ BHT: .39 @ 120 °F
Time Since Circ.: 5 HRS
Max. Rec. Temp. Deg. F: 120
Equip. Location: 326
Recorded By: J. STEGEN
Witnessed By: MR. SEMCO

CASING RECORD
Run No. ONE
Type String: SURFACE
Size: 8 5/8
Wgt.: 24
From: 0
To: 215
Type String: PRODUCTION
Size: 4 1/2
Wgt.: 9.5
From: 0
To: 2615
Type String:
Size:
Wgt.:
From:
To:

Other Services: CBL

326

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EQUIPMENT DATA

Gamma Ray
Run No.
Tool Model No.: 3500A-65
Tool Diameter: 3.5"
Standoff or Shroud:
Detector Type: Scintillator
Detector Length & Dia.:
Collar & Data:
Depth/Log & Dia.: 1 1/2 Sec. Mud
SENSITIVITY
Cycle:
Range:
SPONTANEOUS POTENTIAL
Run # Meas. Time: @ °F
CALIPER
Type:
TEMPERATURE
Make:
S.E. No.:

Density / Neutron Data
Run No.:
Tool Model No.: 3558-65
Diameter: 3.5"
Log Type: CDL
Detector Type:
Detector Length: 10"+6.5"
Source Serial No.: 11-148
Source Loading: 50 MC
Source Type:
Source Strength: 1 MC

DEVIATION

GENERAL
Truck No.: 1501
Time: 20-1215

LOGGING DATA

| Run No. | Depth(s) From | Depth(s) To | Speed (FT/MIN) | Gamma Ray Sens. Setting | Zero Elev. Log Ft. | API G.R. Units per Log Div. | Neutron Sens. Setting | Density Resistivity Elev. Log Ft. | Porosity or API N Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 1/2 Sec. Mud | 0 | 30 | 32A | | API | 30/0 | | CPS |

Remarks: SCHLUM. DRILLING CO. Material Source: Cmtd. w/ 200 sx. Salt.

3% API NEUTRON
2005 CPS 12-4

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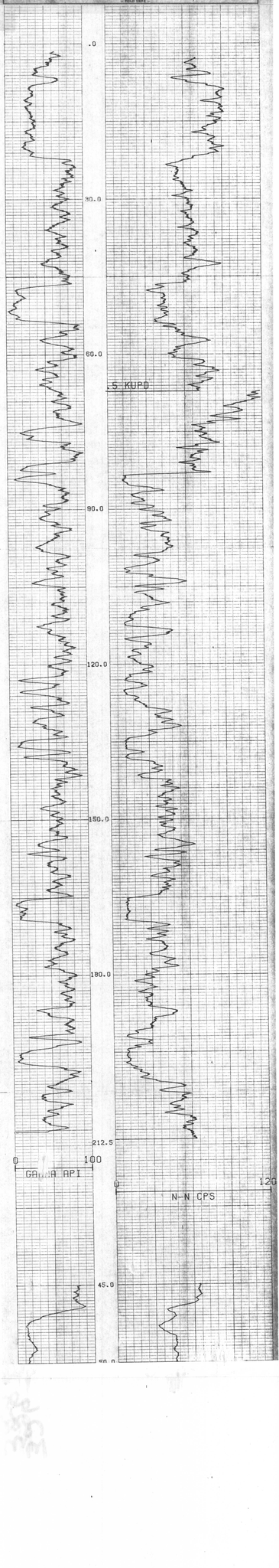

RU1164

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

COMPANY: Fechino Corp. 4th
WELL: Hall
FIELD: Bartlett
COUNTY: Bexar
STATE: TEXAS

API 42 L.L. NO.
Sec. 19 Twp. 23S Rge. 27E Blk. 21/B-1
Elev.: K.B. 1000 D.F. G.L.
Permanent datum: GL
Log measured from: KB 10 ft. above perm. datum
Drilling measured from: KB
Date: 01-11-81
Run No.: One
Depth-Driller: 3515'
Depth-Logger: 3515'
Bottom logged interval: 3515'
Top logged interval: 2350'
Casing-Driller: 8 5/8" @ 1400'
Casing-Logger: 1400'
Bit Size: 7 7/8"
Type Fluid in Hole: Brine
Density: 10.0
Viscosity: 28
pH: 10
Fluid Loss: 10 cc
Source of Sample: Pit
Rm @ Meas. Temp.: .68 @ 70°F
Rmf @ Meas. Temp.: .54 @ 70°F
Rmc @ Meas. Temp.: .90 @ 70°F
Source of Rmf & Rmc: Calc.
Rm @ BHT: .38 @ 120°F
Time Since Circ.: 4 hrs.
Max. Rec. Temp.: 120°F
Equip. Location: 326
Recorded By: D. Bragg
Witnessed By: Mr. Bessie

BORE-HOLE RECORD
No. | Bit | From | To | Size | Wgt. | Fluid | Remarks
1 | 7 7/8" | Surf. | 3515' | 7 7/8" | 10.0 | Brine |

CASING RECORD
No. | Size | Wgt. | Grade | From | To
1 | 8 5/8" | 24# | J-55 | Surf. | 1400'
2 | 5 1/2" | 15.5# | J-55 | Surf. | 2350'

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BUREAU OF ECONOMIC GEOLOGY
JAN 26 1981
AUSTIN, TEXAS

326

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EQUIPMENT DATA

Gamma Ray
Run No.: One
Tool Model No.: 9058-65
Tool Diameter: 1 5/8"
Distance to Source: 12"
Detector Type: Scintillator
Detector Length & Dia.: 4" x 1 1/4"
Collimator & Shield: Tungsten
Overthrust & Cut: 1 Beam Out

Neutron
Run No.: One
Tool Model No.: 9058-65
Diameter: 1 5/8"
Log Type: CO
Detector Type: BF3
Detector Length: 12" x 1"
Source Serial No.: 9058-65
Source Strength: 50 mc.
Source Type: Am Be
Shunts Strength: 1 Unit

RESISTIVITY
Type:
Spacing:

MONOMICRO POTENTIAL
Run # Mode Series: # | M | N | A | B | Y

CALIPER
Type:

ELEVATION
Datum:

TEMPERATURES
Gauge:
T.C. No.:

GENERAL
Truck No.: 7121
Time: 7:00 AM

LOGGING DATA
Scanned | Recorded | Gamma Ray | Neutron
Run No. | Depths From | Depths To | Speed (FPM) | Time Constant | Pass No. Gain & Sens. | API-GR Units per Log Inch | Sens. Setting | Pass No. Gain & Sens. | Recovery of API Units per Log Inch
1 | 2350' | Surf. | 30 | 3 | 1 | 100 | 5 cps | 1 | 20 CPS

Remarks: Recorded by SCHLUMBERGER DRILLING CO.
VERTICAL SCALES: 1"/100 | VOLTAGE: 500 | SAMPLES: 30% SS, WAT. GAS, Black CPS, N-N

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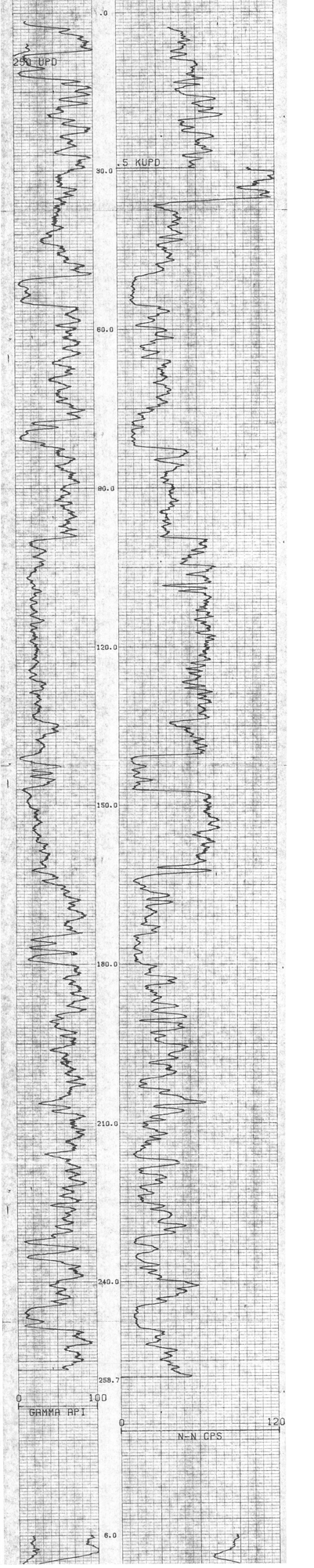

RH 1766

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma
COMPU-LOG

API WELL NO. 1766
COMPANY FRANK G. ELLIOTT & SONS, LTD.
API WELL NO. 1766
WELL Rotary Hole
FIELD ELKFIELD
COUNTY
STATE BRITISH COLUMBIA
Other Services

Permanent Datum
Log Measured from
Drilling Measured from

Sec. Twp. Rge.
Elev.: K.B. D.F. G.L.

Date 31-10-81
Run No. 1
Type Log Gamma-N-N
Depth — Driller 163.5m
Depth — Logger 163.5m
Bottom Logged Interval 163.5m
Top Logged Interval 0m
Type Fluid in Hole WATER
Salinity, PPM Cl
Density
Level FULL
Max. rec. temp. - Deg. F
Equipment — Location
Recorded By D. REGOCZEI
Witnessed By

CASING RECORD
No. | Size | Wgt. | From | To

BOREHOLE RECORD
No. | Bit From | To | Size

Rge. R4E R2W

Country Log is a Trade Mark of Century Geophysical Corporation

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EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 1 | Run No. | 1 |
| Tool Model No. | 9055-65 | Tool Model No. | 9065A-65 |
| Tool Diameter | 1.44 | Diameter | 1.44 |
| Distance to Source | | Log Type | CPS |
| Detector Type | Scintillometer | Detector Type | He 3 |
| Detector Length & Dia. | 5" - 3.0" | Detector Length | 10" - 6.0" |
| S-Factor & Date | | Source Serial No. | 72-413 |
| Dwell Time & Cal. | 1/4 sec. 167 | Source Spacing | 40cm. |
| RESISTIVITY | | Source Type | Am Be |
| Type | | Source Strength | 1 Curie |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | | |
| Rmf @ Meas. Temp. | @ °F @ °F @ °F | | |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Scale | | Truck No. | 722 |
| T.C. Sec | | Time To 1206 | 4 p.m. |

LOGGING DATA

| Run No. | Depths From | Depths To | Speed F/U Min. | Gamma Ray Sens. Settings | Gamma Ray Zero Div. L or R | Gamma Ray API G.R. Units per Log Div. | Density / Neutron Sens. Settings | Density / Neutron Zero Div. L or R | Porosity or API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 163.5m | 0m | 5m/min. | 50 | | API | 30 | | CPS |

Remarks: SEA LINE DRIVING
VERTICAL SCALE 1.5m/div. VOL. CORR. 5m/div. NAT. GAM. 50 API.
N-N 30/0 CPS.
N-N 5K/0 (0-24)

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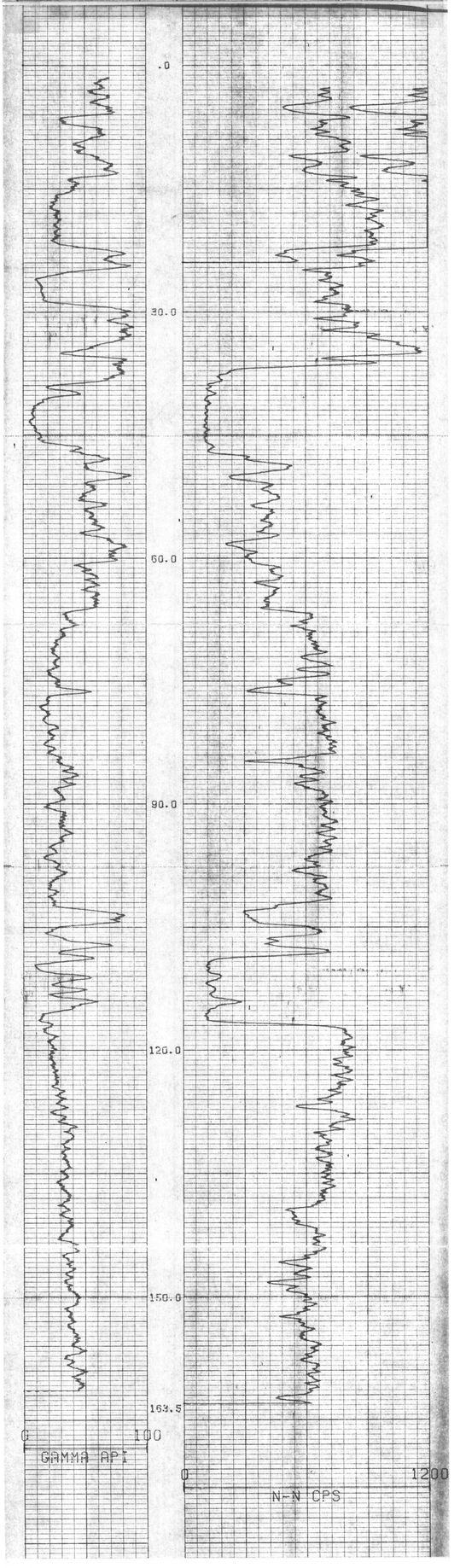

RH 1768

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

COMPANY EAGLE DRILLING (1968) LTD.
WELL EAGLE 1768
FIELD ELKFORD
COUNTY
LOCATION 48-12-33-W5 SW 20-20-5
PROVINCE BRITISH COLUMBIA
API WELL NO. 1768
Permanent Datum
Log Measured From
Drilling Measured From
Elev. K.B.
D.F.
G.L.

Date 07-02-81
Run No. ONE
Type Log GAMMA-N-N
Depth - Driller 1517m
Depth - Logger 1517m
Bottom Logged Interval 1517m
Top Logged Interval WATER
Type Fluid in Hole
Salinity, PPM Cl
Density Visc.
PH Fluid Loss
Source: Rmf Rm Rmc
Rmf @ Meas. Temp.
Rm @ Meas. Temp.
Rmc @ Meas. Temp.
Source of Sample
Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Time Since Circ.
Time on Bottom
Max. Rec. Temp.
Equip. No. & Location
Recorded By D. FERGUSON
Witnessed By

TOP OF PIPE 137m

CASING RECORD
No. | Size | Wgt. | From | To
SURFACE RECORD
No. | Size | From | To

Elevations: Perm. Datum | Elev. | Above Perm. Datum | Log Measured From | Drilling Measured From

Rotary Drilling Services

Century Flag is a Trade Name of Century Geophysical Corporation

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## EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | | Run No. | |
| Tool Model No. | 7055A-065 | Tool Model No. | 9055A-065 |
| Tool Diameter | 1.87" | Diameter | 1.87" |
| Distance to Source | | Log Type | GR |
| Detector Type | Scintillometer | Detector Type | He 3 |
| Detector Length & Dia. | 5" x 3" | Detector Length | 4 Lo 60 |
| Kfactor & Date | | Source Serial No. | 71-1-413 |
| Deadtime & Cal. | 1 Micro Sec 167 | Source Spacing | 12 cm. |
| RESISTIVITY | | Source Type | Am Be |
| Type | | Source Strength | 1 Curie |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | | |
| Rmf @ Meas. Temp. | @ °F @ °F | | |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| State | | Truck No. | 7971 |
| T.C. | Sec | Time To 1005 | 1.9 HR |

## LOGGING DATA

| Run No. | Depths From | To | Speed Ft/Min. | Gamma Ray Sens. Settings | Gamma Ray Zero Dis. L or R | Gamma Ray API Units per Log Div. | Density / Neutron Sens. Settings | Density / Neutron Zero Dis. L or R | Density or API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1517m | 0m | 8m/Min | 3X6 | | API. | 30/0 | | CPS |

Remarks: SKYLINE DRILLING CO.
VERTICAL SCALES 15m/div. VER SEP. 5m/div
NAT GAM 3X6 API. N-N 30X6 CPS (0-75) m.

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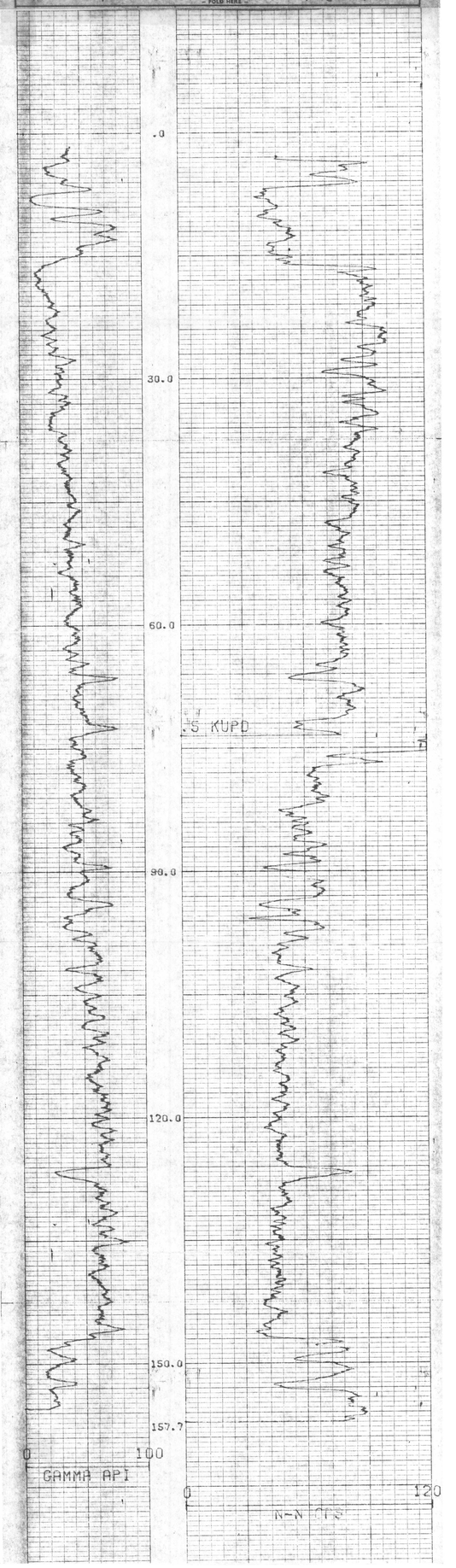

RU 1769

CENTURY GEOPHYSICAL CORPORATION

COMPU-LOG

API WELL NO. 1769

COMPANY ESSO RESOURCES CANADA LTD.
WELL ESSO KANGIK M-17
FIELD NO. 1763
FIELD KANGIK
COUNTY
PROVINCE NWT

Permanent Datum: GROUND LEVEL Elev. 0.0 m
Log Measured From: KELLY BUSHING Elev. 4.9 m above Perm. Datum
Drilling Measured From: KELLY BUSHING

| | | | |
|---|---|---|---|
| Date | 1-Sept-87 | | |
| Run No. | ONE | | |
| Depth-Driller | 2655 m | | |
| Depth-Logger | 2655 m | | |
| Bottom Logged Interval | 2654 m | | |
| Top Logged Interval | 1400 m | | |
| Type Fluid in Hole | WATER BASE MUD | | |
| Salinity, PPM Cl | 1000 | | |
| Density | 1.20 | | |
| Viscosity | 40 | | |
| Fluid Loss | 6.0 | | |
| Source of Sample | CIRC. | | |
| Rm @ Meas. Temp. | 0.76 @ 16° | | |
| Rmf @ Meas. Temp. | 0.61 @ 16° | | |
| Rmc @ Meas. Temp. | 1.00 @ 16° | | |
| Source of Rmf & Rmc | CALC. | | |
| Rm @ BHT | 0.42 @ 60° | | |
| Time Since Circ. | 12 HRS | | |
| Max. Rec. Temp. Deg. C | 60° | | |
| Equip. Location | 1763 | | |
| Recorded By | R. STEGEMOLL | | |
| Witnessed By | A. WEBB | | |

| | | | |
|---|---|---|---|
| Run No. | ONE | | |
| Bit No. | 1 | | |
| Size | 8½" | | |
| Type | STEERABLE | | |
| Make | SMITH | | |
| Model | DSJ | | |
| Size Rec. | 8½" | | |
| Casing Driller | 244.5 m @ 9.6 kg/m | | |
| Casing Logger | 244.5 m | | |
| Bit | 244.5 m | | |
| Top Liner | | | |
| Drill Collar Length | 60.6 m | | |
| Drill Collar O.D. | 8" | | |
| Drill Collar I.D. | 2.8" | | |
| Drill Pipe Size | 5" | | |
| Drill Pipe Wt. | 19.5 kg/m | | |
| Drill Pipe Grade | G | | |
| Drill Pipe Length | 2594 m | | |

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## EQUIPMENT DATA

### Gamma Ray

| | |
|---|---|
| Run No. | 1 |
| Tool Model No. | 9058-0065 |
| Tool Diameter | 4½" |
| Distance to Source | |
| Detector Type | Scintillation |
| Detector Length & Dia. | 5" x 5" |
| Shielded & Side | |
| Overburden & Cal. | 16 cm/gm/cc |
| Resistivity | |
| Type | |
| Spacing | |

### Density / Neutron Data

| | |
|---|---|
| Run No. | 1 |
| Tool Model No. | 9058-065 |
| Diameter | 4½" |
| Log Type | CDL |
| Detector Type | GM |
| Detector Length | 14" C.O. |
| Source Serial No. | 31-83 |
| Source Spacing | 40 cm. |
| Source Type | Am Be |
| Source Strength | 4 curie |

### Spontaneous Potential

Run @ Meas. Temp. @ °C °F @ °F

### Caliper

Type: VDL — Deviation: 150 @ 2654 m

### Temperature

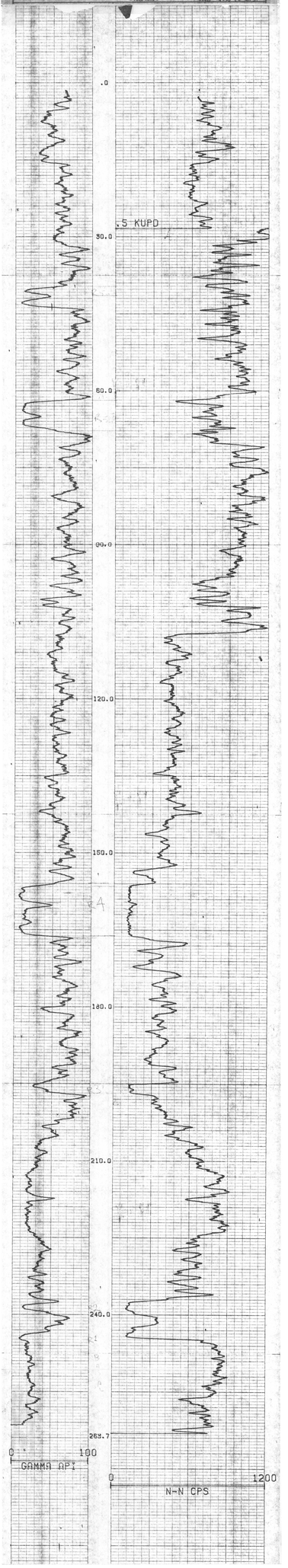
Make: — Run No. 1737

No. — Time 16 hrs. 2.5 hr.

## LOGGING DATA

| Run No. | Gamma Ray Depths | | Gamma Ray Scales | | Density / Neutron Depths | | Density / Neutron Scales | | |
|---|---|---|---|---|---|---|---|---|---|
| | From | To | Sensitivity | Zero On Log | From | To | Sensitivity | Zero On Log | Porosity or API in Units per Log Div. |
| 1 | 2651 m | Om Bmd | 306 | API | 2650 | | | | CPS |
| 2 | 2648 m | Om Bmd | Duplication | | | | | | |

Remarks: ESSO KANGIK DRILLING CO.
VERTICAL SCALE: 5m = 1in. VERT. EXP. 5m = 1in. 306 = HOT GAMMA API
DUPLICATION TRACE THIS SHEET. 2650 m-N CPS
1750 m-N (E-S)



KH 1770 Rec'd 4.23.82 RL

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

COMPANY: TEXACO INC. COAL LTD.
API WELL NO.: 1770
WELL: BUCKLEY HOE
FIELD:
COUNTY: BULLOCH
STATE: BRITISH COLUMBIA

Location: Sec. [illegible] Twp. [illegible] Rge. [illegible] Mer. [illegible]
Permanent Datum: GR RE PDE 515 Elev.: K.B. [illegible] D.F. [illegible] G.L. [illegible]
Log Measured From: [illegible] Ft. Above Perm. Datum
Drilling Measured From: [illegible]

| | |
|---|---|
| Date | 07-04-81 |
| Run No. | 1 |
| Depth-Driller | 1771 |
| Depth-Logger | 1771 |
| Bottom Logged Interval | 1771 |
| Top Logged Interval | 0 |
| Type Fluid in Hole | MUD |
| Salinity, P.P.M. Cl | [illegible] |
| Density | 9.0 |
| Level | FULL |
| Max. Rec. Temp. Deg. F. | [illegible] |
| Operating Time | [illegible] |
| Recorded By | D. FERGUSON |
| Witnessed By | [illegible] |

BOREHOLE RECORD

| Run No. | Bit From | Bit To | Size | Type Fluid in Hole | Density | Viscosity | pH | Fluid Loss |
|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 1771 | 5 7/8" | MUD | 9.0 | [illegible] | [illegible] | [illegible] |

CASING RECORD

| | Size | Wgt. | Grade | From | To |
|---|---|---|---|---|---|
| Surface String | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Prod. String | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Liner | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

Rig No. [illegible]

Remarks: [illegible]

Engineer: [illegible]

Witness: [illegible]

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EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 1 | Run No. | 1 |
| Tool Model No. | 9558-065 | Tool Model No. | 9558-065 |
| Tool Diameter | 1 5/8" | Diameter | 1 5/8" |
| Distance to Source | 18" | Log Type | CNS |
| Detector Type | Scintillometer | Detector Type | He 3 |
| Detector Length & Dia. | | Detector Length | 6" & 6" |
| Collector & Data | | Source Serial No. | 71-L 418 |
| Deadtime & Cal. | 1 Mcm 167 | Source Spacing | 40 cm. |
| RESISTIVITY | | Source Type | Am Be |
| Type | | Source Strength | 1 curie |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | | |
| Roof & Mass. Temp. | @ °F/ @ °F | @ °F | |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Scale | | Truck No. | 7171 |
| T.C. | Sec. | Time | 16 LOG 03 hours |

LOGGING DATA

| Gamma Ray | | | | | | Density / Neutron | | |
|---|---|---|---|---|---|---|---|---|
| Run No. | Depths From | Depths To | Speed FT/Mn. | Sens. Settings | Zero Div. L or R | API-ELR. Units per Log Div. | Sens. Settings | Zero Div. L or R | Process or API N. Units per Log Div. |
| 1 | 167.1m | 0m | 5m/m | 350 | | API. | .5K/10 | | CPS. |

Remarks: SKYLINE DRILLING CO. VERTICAL SCALED 1cm/10m ON ROP 5m/1IN. NAT GAM 50/0 API. N-N .5K/10 CPS.

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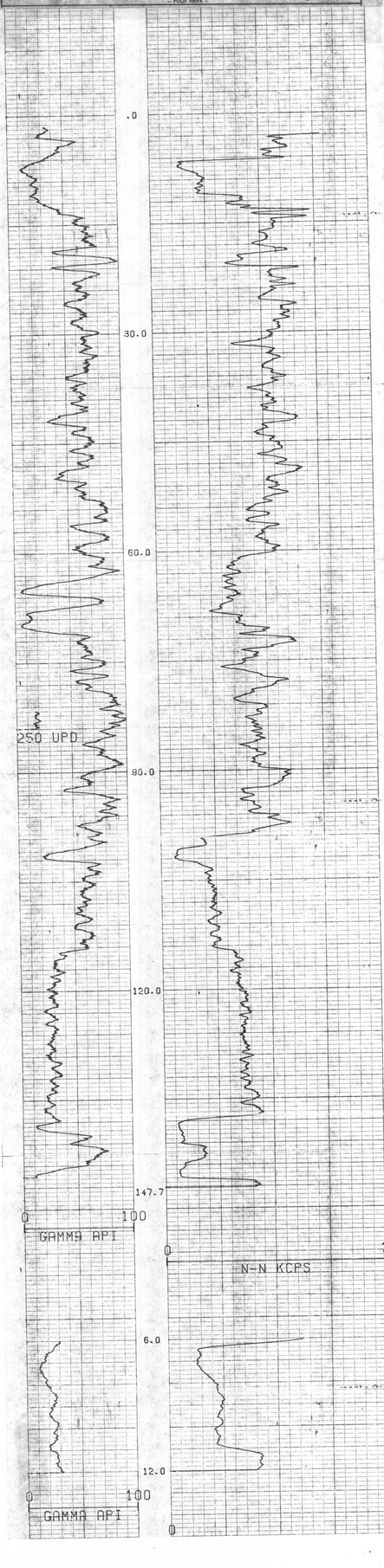

RH 1771

K-Fording Buyer 8/4/84
R4, R3, R2, R1

# CENTURY GEOPHYSICAL CORPORATION

Tulsa, Oklahoma

## COMPU-LOG

COMPANY: FORDING COAL LTD.
EAGLE MTN.
API WELL NO.: 1771
WELL: ROTARY HALE
FIELD: ELKFORD
COUNTY: 1771
STATE: BRITISH COLUMBIA

API WELL NO.: 1771

Location: 1AB, 066.5 x 2,3,137.4
elev: 1402.9
Sec. Twp. Rge.

Other Services:

Permanent Datum: 1 Elev.: K.B.
Log measured from: LIP OF PIPE 1.39 ft above perm. datum
Drilling measured from: 1 Elev.: D.F. G.L.

| | | | |
|---|---|---|---|
| Date | 06-25-81 | | |
| Run No. | 1 | | |
| Type Log | NAT GAM N-N | | |
| Depth – Driller | 140 m | | |
| Depth – Logger | 139.3 m | | |
| Bottom logged interval | 139.3 m | | |
| Top logged interval | 0 m | | |
| Type fluid in hole | WATER | | |
| Rmf @ Meas. Temp. | @ °F | @ °F | @ °F |
| Rmf @ Meas. Temp. | @ °F | @ °F | @ °F |
| Density | | | |
| Max. rec. temp., deg F | | | |
| Operating rig time | | | |
| Recorded by | D. BERGUSON | | |
| Witnessed by | | | |

BORE-HOLE RECORD

| RUN No. | Bit | From | To | Size | Wgt. | From | To |
|---|---|---|---|---|---|---|---|
| 1 | 1.4 m | 139.3 m | 0 m | | | | |

CASING RECORD

| | | | |
|---|---|---|---|
| | | | |

326

Compu-Log is a Trade Mark of Century Geophysical Corporation

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## EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 1 | Run No. | 1 |
| Tool Model No. | 9055A-065 | Tool Model No. | 9055A-065 |
| Tool Diameter | | Diameter | |
| Distance to Source | | Log Type | CPS. |
| Detector Type | Scintilometer | Detector Type | He3 |
| Detector Length & Dia. | 5" x 3.0" | Detector Length | 1.0" x 6.0" |
| K-factor & Date | | Source Serial No. | 71-1-413 |
| Deadtime & Cal. | 1 Mar 167 | Source Spacing | 40 cm. |
| RESISTIVITY | | Source Type | Probe |
| Type | | Source Strength | 1 Curie. |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | | |
| Rmf @ Meas. Temp. | @ °F @ °F @ °F | | |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Scale | | Truck No. | 7921 |
| T.C. Sec. | | Time To Log | 46 min. |

## LOGGING DATA

| General | | | | Gamma Ray | | | Density / Neutron | | |
|---|---|---|---|---|---|---|---|---|---|
| Run No. | Depths From | Depths To | Speed Ft/Min. | Sens. Settings | Zero Div. L or R | API G.R. Units per Log Div. | Sens. Settings | Zero Div. L or R | Porosity or API N. Units per Log Div. |
| 1 | 139.3 m | 0 m | 8 m/min | 50/0 | | API. | 300/0 | | CPS. |

Remarks: SKY LINE DRILLING CO.
VERTICAL SCALES 15m/div. VER EXP. 5m/div. NAT GAM 50/0 API. N-N 300/0 CPS.

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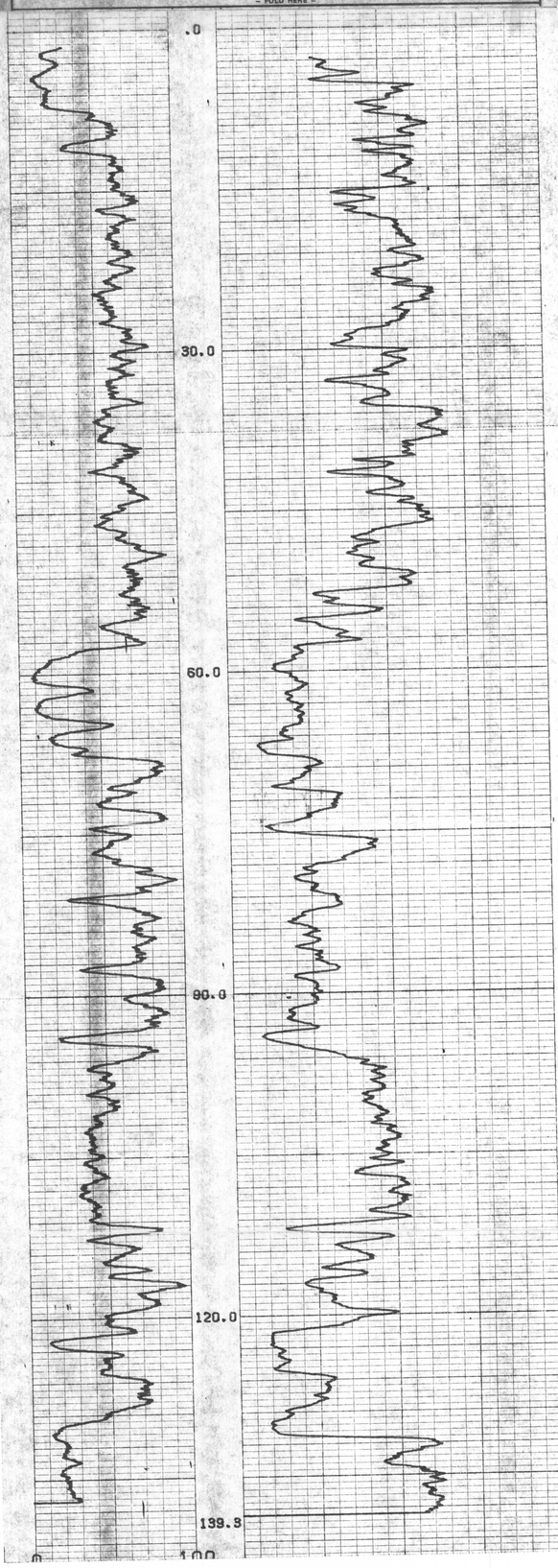

R.M. 1772

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPENSATED NEUTRON-FORMATION DENSITY LOG

COMPANY CENTURY GEOPHYSICAL CORP. OF TEXAS
WELL EAGLE MTN. SAGINAW UNIT #1772
FIELD EAGLE MTN. SAGINAW (C.E.)
COUNTY TARRANT STATE TEXAS
API: 300 I.D. NO. 1772
Permanent Datum: GROUND LEVEL Elev.: 732' ft. above Sea Level
Log Measured From: K.B. 10' ft. above Perm. Datum
Drilling Measured From: K.B.
Elev.: K.B. 742' D.F. 741' G.L. 732'

Date: 1-11-72
Run No.: ONE
Depth-Driller: 2451m
Depth-Logger: 2451m
Bottom Logged Interval: 2450m
Top Logged Interval: SURFACE CSG.
Type Fluid in Hole: GEL CHEM
Salinity, P.P.M. Cl: 1000
Density: 9.2 Level: FULL
Max. Rec. Temp. Deg. F.: 120°
Operating Rig Time: 6 HRS
Recorded By: D. BIGGERS
Witnessed By: MR. BOYD

Run No. ONE
Bit From: SURFACE
Bit To: 2451m
Size: 7 7/8"
Type Fluid in Hole: GEL CHEM
Density: 9.2
Viscosity: 38
pH: 10.5
Fluid Loss: 10 CC
Source of Sample: MUD PIT
R_m @ Meas. Temp.: .92 @ 74°F
R_mf @ Meas. Temp.: .75 @ 74°F
R_mc @ Meas. Temp.: .55 @ 74°F
Source: R_mf: CALC R_mc: CALC
R_m @ BHT: .46 @ 120°F
Time Since Circ.: 6 HRS
Max. Rec. Temp. Deg. F.: 120°
Equip. No. & Location: 1772 - 365
Recorded By: D. BIGGERS
Witnessed By: MR. BOYD

FOLD HERE

EQUIPMENT DATA

Gamma Ray — Density / Neutron Data

Run No.: ONE
Tool Model No.: 1772A-65
Diameter: 1 5/8"
Log Type: GR
Detector Type: HLS
Detector Length: 1'-4 1/2"
Source Serial No.: 711-463
Source Rating: 40 mc
Special Type: Be Bo
Source Strength: 1 Curie

SPONTANEOUS POTENTIAL
Run R. Meas. Temp.: @ °F @ °F @ °F

CALIPER
Type:

DEVIATION
Type:

TEMPERATURE
Scale:
No.:

GENERAL
Truck No.: 1921
Time To Log: 1 HR 15 MIN.

LOGGING DATA

Gamma Ray — Density / Neutron

| Run | Depths From | Depths To | Speed ft./Min. | Scale Settings | Gamma Ray Zero Dev. Log In. | API G.R. Units per Log Div. | Neutron Scale Settings | Density Scale Settings | Density Zero Dev. Log In. | Recovery or API G.R. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 245.1m | 0 m | 30(min) | 5% | | NA | | 30% | | 10. |

Remarks: SKY LINE DRILLING LOGGED HOLE # 1772 3x3 UNIT. RAN BOTH GR. LOGS CAL. SCALE 15m/div VERT. SCALE 5cm/div. NEUTRON N=.46 SCALE 10% DENSITY 2.65 SCALE 10% TOP OF LOG 245.1m

FOLD HERE

.0
30.0
60.0
90.0
120.0
150.0
180.0
210.0
245.1

.5 KUPD
250 UPD

RH 1773

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

API WELL NO. 1773

COMPANY: EAGLE COAL LTD.
API WELL NO.
FIELD: EAGLE
COUNTY: BOUNDARY
STATE: BRITISH COLUMBIA

Location: 1483 FT. E. & 2,102 FT. S. of NW Cor. Sec. 1, Tp. 49N, Rg. 7W
Permanent Datum: TOP OF DAM
Log Measured from: TOP OF DAM
Drilling Measured from: TOP OF DAM
Elev.: K.B. 1139 D.F. G.L.

Rge. 3, Rge. 4

Run No. 1
Date 11/4/81
Depth—Driller 151.0m
Depth—Logger 151.0m
Btm. Log Interval 151.0m
Top Log Interval SURFACE
Casing—Driller SURFACE
Casing—Logger SURFACE
Bit Size & Make
Type Fluid in Hole
Density
Viscosity
pH
Fluid Loss
Source of Sample
Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source: Rmf / Rmc
Rm @ BHT
Time Since Circ.
Max. Rec. Temp.
Equip. Location
Recorded By B. FERGUSON
Witnessed By

Other Services: NONE

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EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 1 | Run No. | 1 |
| Tool Model No. | 9055A-065 | Tool Model No. | 9055A-065 |
| Tool Diameter | 1.34" | Diameter | 1.34" |
| Distance to Source | | Log Type | CPS |
| Detector Type | Scintillator | Detector Type | He³ |
| Detector Length & Dia. | | Detector Length | 1.0"x6.0" |
| K-factor & Date | | Source Serial No. | 71-148 |
| Date/Time & Cal. | 11/4/81 16:7 | Source Spacing | 40cm. |
| | RESISTIVITY | Source Type | Am241e |
| Type | | Source Strength | 1 Curie |
| Spacing | | | |
| | SPONTANEOUS POTENTIAL | | |
| Rmf @ Meas. Temp. | @ °F/C | up °F/C | @ °F/C |
| | CALIPER | | DEVIATION |
| Type | | | |
| | TEMPERATURE | | GENERAL |
| Scale | | Truck No. | 712 |
| T.C. | Sec. | Time | To Log 42 out |

LOGGING DATA

| Run No. | Depths From | Depths To | Speed Ft/Min. | Gamma Ray Sensitivity Settings | Gamma Ray Zero Div. L or R | Gamma Ray API GR Units per Log Div. | Density / Neutron Sensitivity Ratio Settings | Density / Neutron Zero Div. L or R | Porosity vs API R Units/Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 151m | Cm | 4/min. | 3% | | API. | 3%/1 | | CPS. |

Remarks: SEE LINE DRILLING CO.
VERTICAL SCALES 15m/in Var. Exp. 5m/div

WAT GAM 5% API.
N-N 3% CPS.
3% CPS. (0-6).

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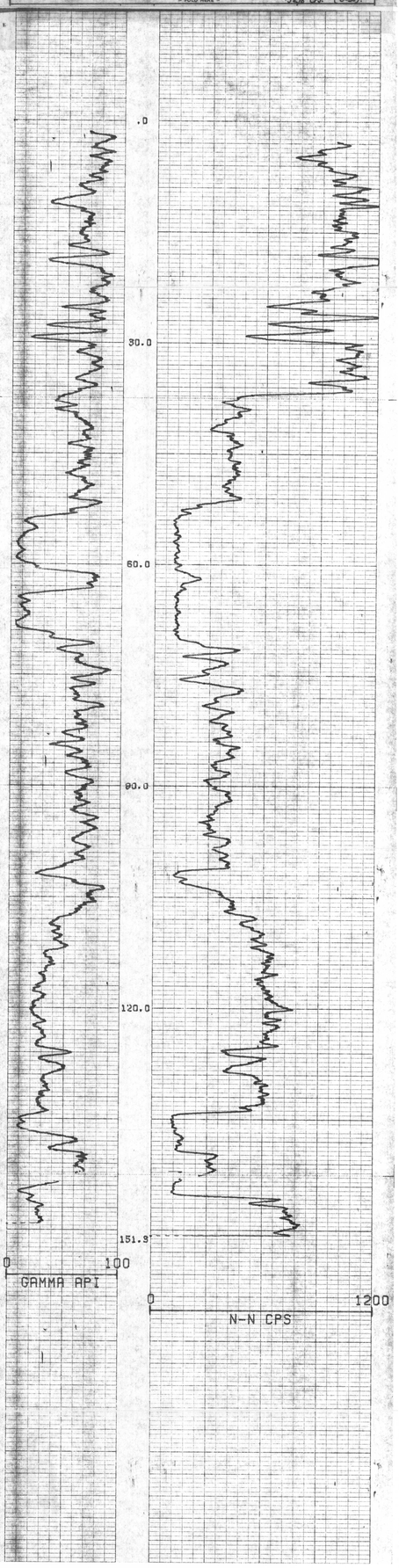
326



B.H. 1774

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

API WELL NO. 1774
WELL EAGLE ACRES UNIT
FIELD BLEDSOE
COUNTY
STATE TEXAS

Permanent Datum: GL Elev. 1,128.4 ft.
Log Measured from: 10' Ft. PHF 1.28 ft. above perm. datum
Drilling Measured from: KB
Date: 6-8-81
Run No.: ONE
Depth - Driller: 247.0 m.
Depth - Logger: 247.0 m.
Bottom Logged Interval: 247.0 m.
Top Logged Interval: SURFACE
Type Fluid in Hole: WATER
Salinity, PPM Cl: 5
Density: 8.4
Level: FULL
Max. Rec. Temp.: 70°F
Equipment No. & Location: 3-2
Recorded By: R. BRADLEY
Witnessed By: DRILLER

CASING RECORD
No. | Size | Wgt. | Grade | Type Joint | From | To
1 | 13 3/8" | 48# | H-40 | ST&C | SURF. | 20.0 m.
2 | 8 5/8" | 24# | J-55 | ST&C | SURF. | 247.0 m.

CEMENT RECORD
No. | Type | Amount | Type | Amount
1 | CLASS C | 200 SKS | GEL | 2%
2 | CLASS C | 200 SKS | GEL | 2%

Rig No. 326

EQUIPMENT DATA

Gamma Ray
Run No.: ONE
Tool Model No.: 30350-65
Tool Diameter: 1 3/4"
Disposal to Bore:
Detector Type:
Detector Length & Dia.:
K-Factor & Date: 3.4 MILLIRAD
Dead Time & Cal.: 11.5 uS. HI

RESISTIVITY
Type:
Spacing:

SPONTANEOUS POTENTIAL
Rmf @ Meas. Temp.: @ °F @ °F

CALIPER
Type:

TEMPERATURE
Serial No.:
Tool No.:

Density / Neutron Data
Run No.:
Tool Model No.: 30350-65
Diameter: 1 3/4"
Log Type: CPS
Detector Type: HI S
Detector Length: 10" x 2"
Source Serial No.: TI-1448
Source Rating: 40 m.c.
Source Type: Am. Be
Source Strength: 1 Curie

DEVIATION
Type:

GENERAL
Truck No.: 1521
Time: 10:48a 42 miles

LOGGING DATA

Gamma Ray
Run No. | Depths From | Depths To | Speed Ft/Min. | Sens. Settings | Zero Dis. T. on R. | API G.R. Units per Log Div.

1 | 245.0 m. | Surf. | 30m/m | 50/0 | RP.

Density / Neutron
Sens. Settings | Zero Dis. T. on R. | Porosity or API N. Units per Log Div.

300/0 | n.ps.

Remarks: SCALING DRILLING CO. USED CYCL SAMPLE. SET API NAT GAM. 250 CPS 0-30 API. SCALE 5m/div 15m/div. USED CYCL SAMPLE. SET API NAT GAM. 250 CPS 0-30 API. SCALE 5m/div 15m/div.

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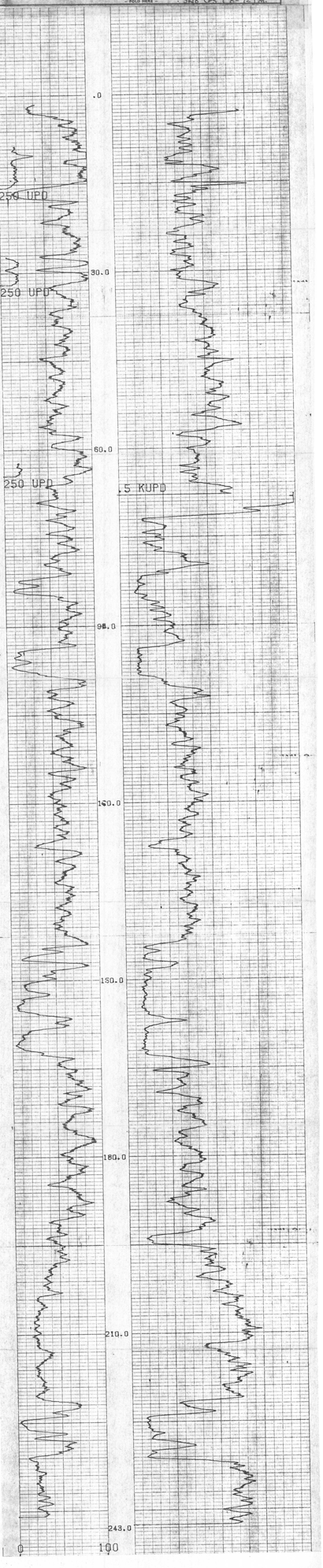

BH 1776

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

API WELL NO. 1776
WELL FARRAND
FIELD FARRAND
COUNTY
LOCATION SEC 18 TWP 6N RGE 24W
STATE BRITISH COLUMBIA

Permanent Datum: GL Elev. 1776
Log Measured from KB 12.0m above perm. datum
Elev.: K.B. 1788.0
G.L. 1776.0
D.F.
Rge 24W

Run No. 1
Date 12-24-74
Depth-Driller 1788.0m
Depth-Logger 1788.0m
Bottom Logged Interval 1788.0m
Top Logged Interval 212.5m
Type Fluid in Hole CACL WATER
Salinity, PPM Cl
Density 10.0
Level FULL
Max. Rec. Temp. 32°C
Est. Cement Top
Equipment No. DDS6GR-SC2
Recorded By
Witnessed By

CASING RECORD

| | Size | Wgt. | From | To |
|---|---|---|---|---|
| SURF. | 244mm | | 0 | 12.5m |
| PROD. | 178mm | | 0 | 1788.0m |

BOREHOLE RECORD

| Run No. | Bit From | Bit To | Size |
|---|---|---|---|
| 1 | 12.5m | 1788.0m | 222mm |

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EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 1 | Run No. | 1 |
| Tool Model No. | 5227-515 | Tool Model No. | 5227-515 |
| Tool Diameter | 5.1cm. | Diameter | 5.1cm. |
| Distance to Source | | Log Type | CDN |
| Detector Type | Scintillator | Detector Type | He3 |
| Detector Length & Dia. | 3.25" | Detector Length | 1.05 cm. |
| Eccentr. & Orie. | | Source Serial No. | 711-816 |
| Downtime B. On. | (11:30 AM 10) | Source Spacing | 40cm. |
| RESISTIVITY | | Source Type | Am Be |
| Type | | Source Strength | 1 Curie |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | | |
| Rmf @ Meas. Temp. | @ °F | @ °F | |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Scale | | Truck No. | 717 |
| Src. | | Time | 16 LOG |

LOGGING DATA

| Run No. | Gamma Ray/Density/Neutron: Depths From | To | Speed F/U Min. | Time Settings | Zero Div. L or R | API G.R. Units per Log Div. | Sens. Settings | Zero Div. L or R | Porosity or API N. Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 212.5m | 1788.0m | 7.5m | 1sec | | 40 | .5MeV | | CPS |

Remarks: SIDES DRILLING CO
VERTICAL SCALES: 1.5m/INCH VAR EXP SMOOTH NAT GAMMA DISPERSED N-n SHO CPS

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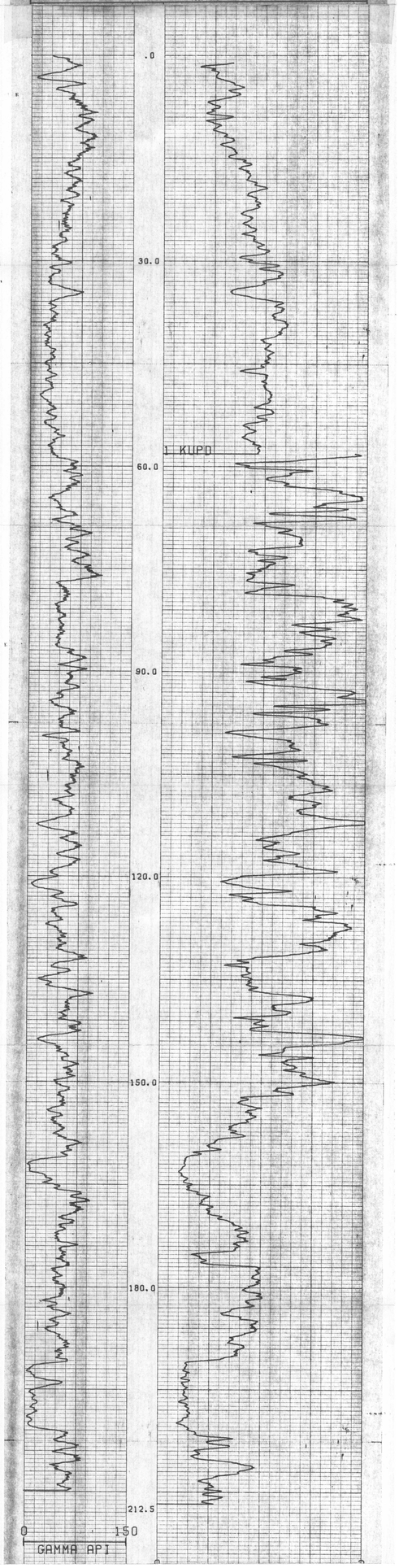

R.H. 1777

K-Fracking Rock Bluff

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

COMPANY: TENNECO OIL E&P

WELL NO.: 1777 (Work) (Well Name)

FIELD: ELDRED

COUNTY: HASKELL STATE: OKLAHOMA

Location: SEC 36 T 9 N R 22 E

Elev.: K.B. 227.2 D.F. G.L.

API WELL NO. 1777

Permanent Datum: GL

Log measured from: KB

Drilling Measured from: KB

Date: 10-22-81

Run No.: ONE

Type Log: INDUCTION-LATERLOG

Depth—Driller: 2115

Depth—Logger: 2114

Bottom Logged Interval: 2114

Top Logged Interval: SURFACE

Type Fluid in Hole: WATER BASE MUD

Salinity, PPM Cl: —

Density: 8.8

Level: FULL

Max. Rec. Temp. Deg. F: 71

Operating Rig Time: —

Recorded By: D. PARKER

Witnessed By: MR. CLARK

BOREHOLE RECORD

| Run No. | Bit From | Bit To | Size | Wgt. | Type Fluid | Fluid Loss |
|---|---|---|---|---|---|---|
| ONE | SURFACE | 2115 | 7 7/8 | 8.8 | WATER BASE MUD | — |

CASING RECORD

| Run No. | From | To | Size | Wgt. | Grade | Type Shoe |
|---|---|---|---|---|---|---|
| ONE | SURFACE | 2115 | 5 1/2 | 15.5 | K-55 | — |

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EQUIPMENT DATA

| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | ONE | Run No. | ONE |
| Tool Model No. | 3067-515 | Tool Model No. | 3067-515 |
| Tool Diameter | 5 1/8 CENT. | Diameter | 5 1/8 CENT. |
| Distance to Source | 5 | Log Type | GRS |
| Detector Type | SCINTILLATOR | Detector Type | HE3 |
| Detector Length & Dia. | 3 x 30 | Detector Length | 10" x 6" |
| Activator & Data | | Source Serial No. | 76-5218 |
| Deadtime & Cal. | 1 MICRO (6) | Source Strength | 1/2 CURIE |
| RESISTIVITY | | Source Type | AM-BE |
| Type | | | |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | | |
| Rmf @ Meas. Temp. | @ °F | | |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Scale | | Truck No. | 7719 |
| T.C. | | Time | |
| Rec. | | | |

LOGGING DATA

| | | | | Gamma Ray | | Density / Neutron | | |
|---|---|---|---|---|---|---|---|---|
| Run No. | Depths From | Depths To | Speed FT/Min. | Sens. Settings / Div. S. or R | Zero API G.R. Units per Log Div. | Sens. Settings | Zero Div. S or R | Porosity at API H. Units per Log Div. |
| 1 | 2115 | 0.0 | 60 | 5 | 7.5 | API. | 5K10 | CPS |

Remarks: S.D.S. DRILLING ED. VERTICAL SCALES. 1" = 100' (2") VCR SP 5 M (dw). NATGAM 350 AM. N-N: SRO CPS.

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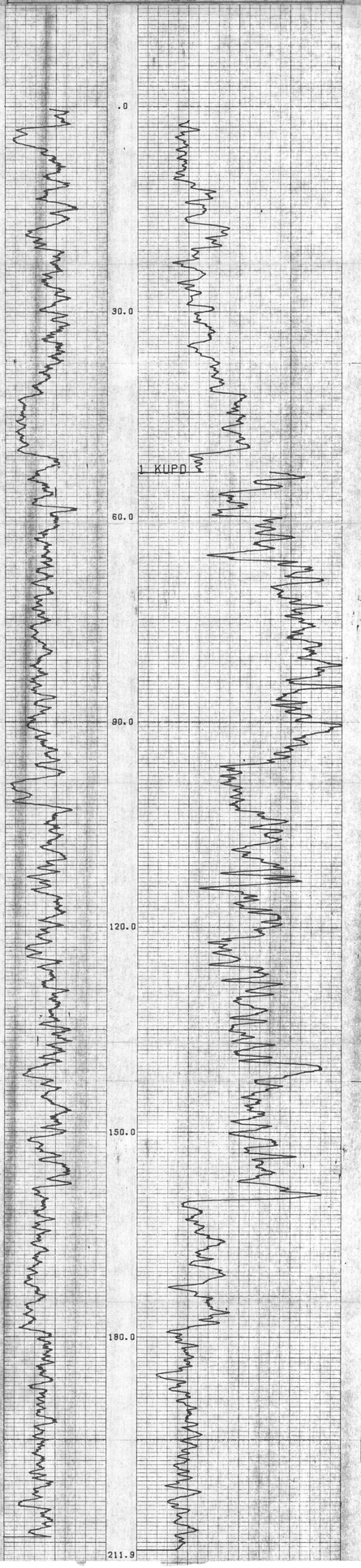


RH 1778

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

COMPU-LOG

API WELL NO. 1778

COMPANY EAGLE TANK LTD.
WELL 1778
FIELD LOCKHART DRLG. No.
COUNTY GRAY STATE TEXAS
Location: 660' FNL & 1,335' FEL
Sec. 339 Blk. Survey
Elev.: K.B. D.F. G.L.

Permanent Datum
Log Measured From
Drilling Measured From

Date 11-14-85
Run No. ONE
Depth-Driller 2122
Depth-Logger 2122
Bottom Logged Interval 2122
Top Logged Interval SURFACE
Type Fluid in Hole WBM
Salinity, PPM Cl
Density LB/GAL 9.1
Level FULL
Max. Rec. Temp. Deg. F 80
Operating Rig Time
Recorded By D.R. SHEPHERD
Witnessed By

| | Bit No. | From | To |
|---|---|---|---|
| | 1 | SURFACE | 2122 |

| | Size | Wgt. | Depth |
|---|---|---|---|
| Casing | 8 5/8" | 24# | 1105 |
| Liner | | | |
| Liner | | | |

| | Size | Type | Fluid Loss |
|---|---|---|---|
| Bit | 7 7/8" | | |
| Stabilizer | | | |
| Stabilizer | | | |
| Spiral Drill Collars | | | |
| Drill Collars | | | |
| Heavy Wt. Drill Pipe | | | |
| Drill Pipe | | | |

Rm @ Meas. Temp. @ °F
Rmf @ Meas. Temp. @ °F
Rmc @ Meas. Temp. @ °F
Source: Rmf Rmc M

Rm @ BHT @ °F
Time Since Circ.
Max. Rec. Temp. Deg. F
Equip. Location
Recorded By
Witnessed By

326

~ FOLD HERE ~

## EQUIPMENT DATA

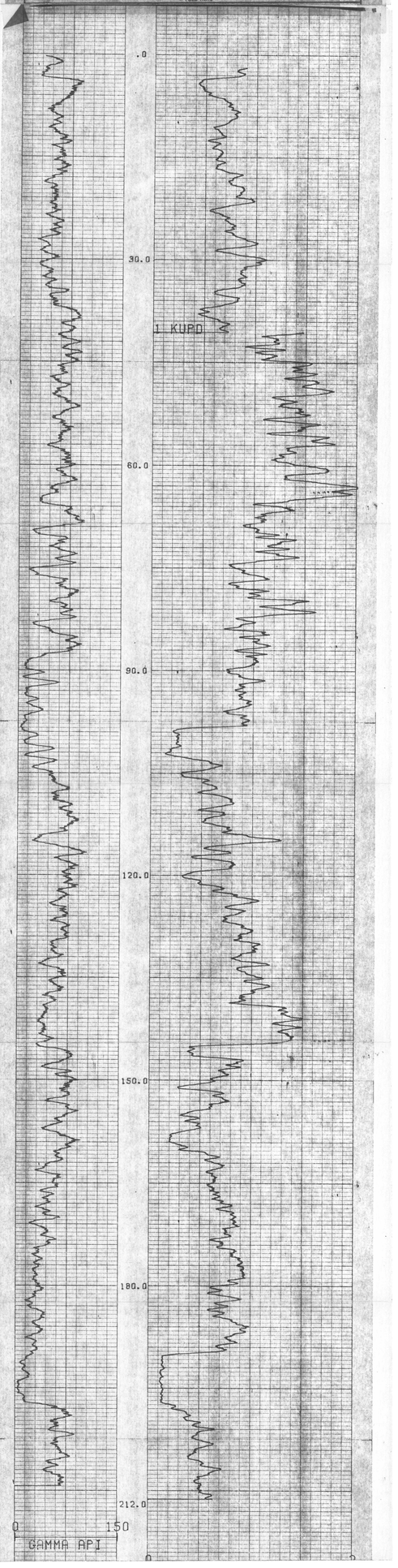
| Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|
| Run No. | 1 | Run No. | 1 |
| Tool Model No. | 3667-375 | Tool Model No. | 3667-586 |
| Tool Diameter | 3 1/8 cm. | Diameter | 3 1/8 cm. |
| Distance to Source | | Log Type | CFD |
| Detector Type | SCINTILLATOR | Detector Type | He3 |
| Detector Length & Dia. | 5 x 3" | Detector Length | 10 x 3" |
| K Factor & Date | | Source Serial No. | 71-1-3018 |
| Datum/Log & Cal. | 11/15/85 167 | Source Spacing | 40 cm. |
| RESISTIVITY | | Source Type | Am Be. |
| Type | | Source Strength | 1 Curie |
| Spacing | | | |
| SPONTANEOUS POTENTIAL | | | |
| Run @ Meas. Temp. | @ °F | @ °F | @ °F |
| CALIPER | | DEVIATION | |
| Type | | | |
| TEMPERATURE | | GENERAL | |
| Starts | | Truck No. | |
| °F.C. | | Time | |
| Src. | | | |

## LOGGING DATA

| Run No. | General: From | To | Speed Ft/Min. | Sens. Settings | Gamma Ray: Zero Div. (Lin. or R) | API G.R. Units per Log Div. | Density / Neutron: Sens. Settings | Zero Div. (Lin. or R) | Porosity or API's Units per Log Div. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2122 | SURFACE | 30 | 750 | | API | SHO | | CFD. |

Remarks: D.S. DRILLING CB. 1050 COAL 2062 CBL 1524 SAN. W.P. 2122 SAN. MAG GUM 750 API SHO CFD.

~ FOLD HERE ~



RH1979

K-Fording River 8(13)A

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

**COMPU-LOG**

API WELL NO. 1725

COMPANY: FORDING COAL LTD.

API WELL NO.

WELL: WATSON / HALF

FIELD: EDWARDS

COUNTY:

STATE: BRITISH COLUMBIA

Location: 749 BCG³ N X 26 543.7 E

Other Services:

Permanent Datum:
Log measured from:
Drilling measured from:

Sec. Twp. Rge.

Elev.: K.B.
D.F.
G.L.

Elev. 2321.3

Date: 12-15-81 / 10-15-81
Run No. 2 / 1
Type Log: MICROMIL N-N / MICROMIL N-N
Depth — Driller: 88.8m / 101.2m
Depth — Logger: 88.8m / 101.2m
Bottom Logged Interval: 88.8m / 101.2m
Top Logged Interval: SURFACE / CASING
Type Fluid in Hole: GEL CHEM / GEL CHEM
Salinity, PPM Cl: 1000 / 1000
Density: 1.1 / 1.1
Viscosity: 50 / 50
Fluid Loss: 10cc / 10cc
Source of Sample: CIRC. / CIRC.
Rm @ Meas. Temp.: @ °F / @ °F
Rmf @ Meas. Temp.: @ °F / @ °F
Rmc @ Meas. Temp.: @ °F / @ °F
Source: Rmf / Rmc
Rm @ BHT: @ °F / @ °F
Time Since Circ.: 3 HRS / 3 HRS
Max. rec. temp. °F
Equip. Location: 1717 / 1717
Recorded by: D.B. SHARKEY / D.B. SHARKEY
Witnessed by: — / —

RUN | BIT | BOREHOLE RECORD From | To | Size | CASING RECORD From | To

1 | 15" | SURF. | 88.8m | 8 5/8" | SURF. | 88.8m
2 | 10" | 88.8m | 101.2m | 5" | SURF. | 101.2m

- FOLD HERE -

## EQUIPMENT DATA

| | Gamma Ray | | Density / Neutron Data | |
|---|---|---|---|---|
| Run No. | 1 | 2 | 1 | 2 |
| Tool Model No. | 3667-515 | 3667-515 | 3967-515 | 3967-515 |
| Tool Diameter | 3.1 cm. | 3.1 cm. | 3.1 cm. | 3.1 cm. |
| Distance to Source | | | CPS. | CPS. |
| Detector Type | Scintillometer | Scintillometer | He3 | He3 |
| Detector Length & Dia. | 5" x 3.0" | 5" x 3.0" | 10" x 0.5" | 10" x 0.5" |
| K-factor & Date | | | 71-1-321B | 71-1-321B |
| Deadtime & Cal. | 1/1500 167 | 1/1500 167 | Source Spacing | 40cm. 40cm. |
| RESISTIVITY | | | Source Type | Am Be Am Be |
| Type | | | Source Strength | 1 Curie 1 Curie |
| Spacing | | | | |

SPONTANEOUS POTENTIAL
Rmf @ Meas. Temp. @ °F @ °F

CALIPER
Type

DEVIATION

TEMPERATURE
Scale
T.C. Sel.

GENERAL
Truck No. 7717
Time

## LOGGING DATA

| | General | | | | Gamma Ray | | Density / Neutron | | |
|---|---|---|---|---|---|---|---|---|---|
| Run No. | Depths From | To | Speed Ft/Min. | Sens. Settings | Zero Div. L or R | API G.R. Units per Log Div. | Sens. Settings | Zero Div. L or R | Porosity or API N. Units per Log Div. |
| 1 | 88.8 | 60m | 8m/MIN | 750 | | API | 5K0 | | CPS. |
| 2 | 101.2m | COM | 8m/MIN | 750 | | API. | 5K0 | | CPS. |

Remarks: S.D.S DRILLING CO. RETURN FOR SECOND RUN. DRILLER DID NOT REACH GEO. T.D. VERTICAL SCALES 1.5m/IN. VERT. SCALE: 5M/IN. NAT GAM 750 API. N-N 5K0 CPS.

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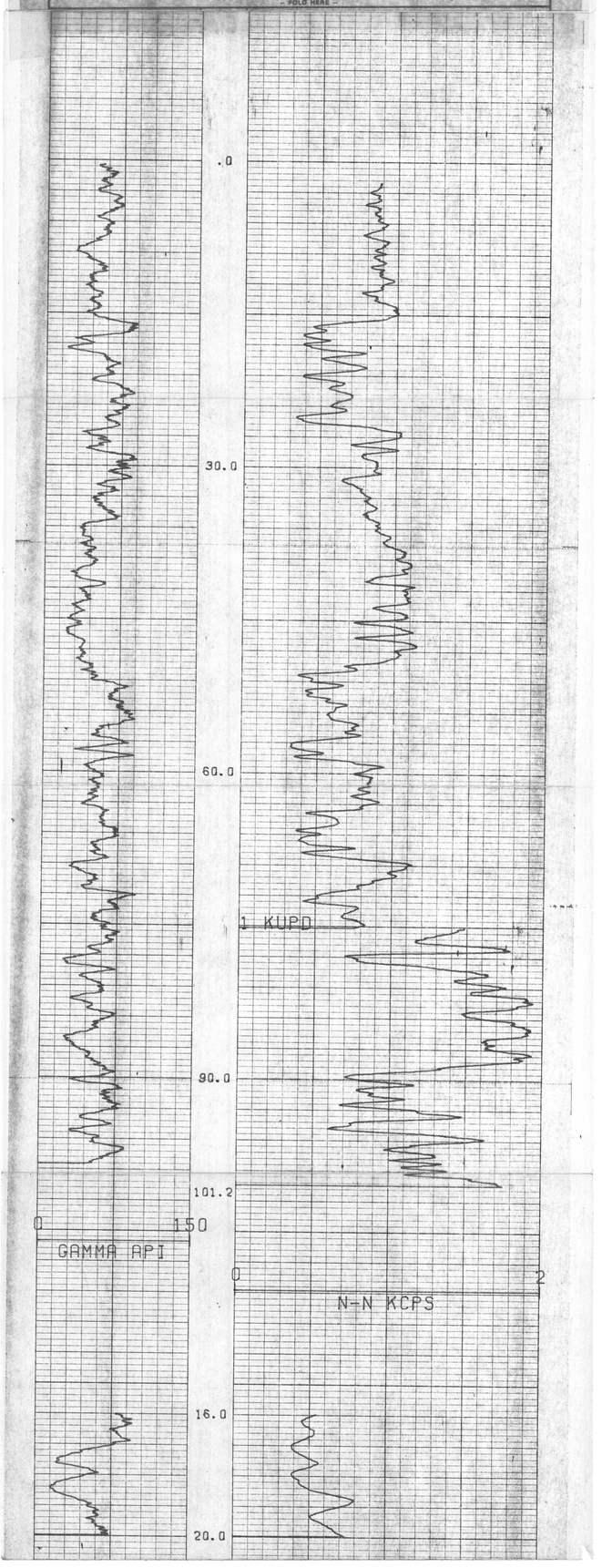

CENTURY GEOPHYSICAL CORPORATION

* * * * * * * * VERTICAL DEVIATION * * * * * * * * *

COMPU-LOG V8L0 DEVIATION

CLIENT : FORDING COAL LTD. HOLE ID : DDH-1756

LOCATION : ELKFORD B.C. DATE OF LOG : 10-24-81

DATA FROM : V8L1 PROBE : 9055A 0065

TD = TOTAL DEPTH
T = TOP OF ZONE
B = BOTTOM OF ZONE

| | DEPTH | TRUE DEPTH | NORTH DEV | EAST DEV | | DISTANCE | AZIMUTH | SA | SAB |
|---|---|---|---|---|---|---|---|---|---|
| | .00 | .00 | .00 | .00 | 1 | .00 | .0 | .0 | .0 |
| | 40.00 | 39.98 | -1.08 | -.24 | 2 | 1.10 | 192.8 | 1.5 | 192.7 |
| | 80.00 | 79.96 | -2.19 | -.11 | 3 | 2.19 | 183.0 | 1.6 | 173.3 |
| | 120.00 | 119.94 | -3.28 | .52 | 4 | 3.33 | 170.9 | 1.8 | 149.5 |
| | 160.00 | 159.91 | -4.43 | 1.53 | 5 | 4.69 | 160.9 | 2.1 | 138.8 |
| | 200.00 | 199.87 | -5.24 | 3.04 | 6 | 6.06 | 149.9 | 2.4 | 118.0 |
| | 240.00 | 239.83 | -6.25 | 4.53 | 7 | 7.72 | 144.1 | 2.5 | 124.3 |
| | 280.00 | 279.79 | -7.49 | 5.57 | 8 | 9.34 | 143.3 | 2.3 | 139.7 |
| | 320.00 | 319.76 | -9.07 | 5.70 | 9 | 10.72 | 147.8 | 2.2 | 175.2 |
| | 360.00 | 359.70 | -11.03 | 4.79 | 10 | 12.03 | 156.5 | 3.1 | 204.8 |
| | 400.00 | 399.60 | -13.32 | 3.17 | 11 | 13.69 | 166.6 | 4.0 | 215.4 |
| | 440.00 | 439.48 | -15.67 | 1.21 | 12 | 15.72 | 175.6 | 4.3 | 219.7 |
| | 480.00 | 479.34 | -18.07 | -1.08 | 13 | 18.10 | 183.5 | 4.7 | 223.9 |
| | 520.00 | 519.17 | -20.49 | -3.71 | 14 | 20.82 | 190.3 | 5.1 | 227.2 |
| | 560.00 | 559.00 | -23.03 | -6.39 | 15 | 23.90 | 195.5 | 5.3 | 226.5 |
| | 600.00 | 598.82 | -25.76 | -8.93 | 16 | 27.27 | 199.1 | 5.3 | 222.9 |
| | 640.00 | 638.67 | -28.64 | -11.51 | 17 | 30.31 | 202.3 | 4.9 | 228.5 |
| | 680.00 | 678.56 | -30.11 | -13.52 | 18 | 33.01 | 204.2 | 4.1 | 224.2 |
| | 720.00 | 718.52 | -31.53 | -14.62 | 19 | 34.75 | 204.9 | 2.5 | 217.6 |
| | 760.00 | 758.51 | -32.34 | -14.90 | 20 | 35.61 | 204.7 | 1.2 | 199.0 |
| | 800.00 | 798.50 | -32.98 | -14.61 | 21 | 36.07 | 203.9 | 1.0 | 155.4 |
| TD | 802.10 | 800.60 | -33.00 | -14.57 | 22 | 36.07 | 203.8 | 1.2 | 116.4 |

# ROKE DIRECTIONAL SURVEY

OIL ENTERPRISES LTD.

COMPANY FORDING COAL LIMITED
DRILLHOLE 1755
LOCATION EAGLE MOUNTAIN
FIELD FORDING RIVER
PROVINCE BRITISH COLUMBIA
ALL COLUMNS IN FEET

LATITUDE 0.00
DEPARTURE 0.00
ELEVATION 0.00
MAGNETIC DECLINATION 21 00 00
CORRECTION OF 21.00

DATE SURVEYED 18 SEPTEMBER 1981
SURVEY BY FERGUSEN
WITNESSED BY KOMENAC
CALCULATIONS BY JAQUES
FOR TRUE NORTH GRID

| Number | Cable Depth | Angle of Inclination | AZIMUTH Observed | AZIMUTH Corrected | COURSE INTERVAL Cable | COURSE INTERVAL Vertical | Total Vertical Depth | COURSE DISPLACEMENT Latitude | COURSE DISPLACEMENT Departure | TOTAL DISPLACEMENT Latitude | TOTAL DISPLACEMENT Departure | COORDINATES Latitude | COORDINATES Departure | COORDINATES Elevation | POLAR COORDINATES Radius | POLAR COORDINATES Azimuth | POLAR COORDINATES Course Increment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 1.1 | 74.3 | 95.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0. |
| 1 | 50.0 | 2.1 | 74.3 | 95.3 | 50.0 | 50.0 | 15.24 50.0 | -0.1 | 1.4 | -0.1 | 1.4 | -0.1 | 1.4 | -50.0 | 1.4 | 95.3 | 1. |
| 2 | 100.0 | 2.5 | 109.8 | 130.8 | 50.0 | 49.9 | 30.45 99.9 | -0.8 | 1.9 | -0.9 | 3.2 | -0.9 | 3.2 | -99.9 | 3.4 | 105.8 | 2. |
| 3 | 150.0 | 2.9 | 112.4 | 133.4 | 50.0 | 49.9 | 45.69 149.9 | -1.6 | 1.7 | -2.5 | 5.0 | -2.5 | 5.0 | -149.9 | 5.6 | 116.5 | 2. |
| 4 | 200.0 | 1.5 | 107.6 | 128.6 | 50.0 | 50.0 | 60.90 199.8 | -1.3 | 1.4 | -3.7 | 6.4 | -3.7 | 6.4 | -199.8 | 7.4 | 120.2 | 1. |
| 5 | 250.0 | 2.5 | 100.6 | 121.6 | 50.0 | 50.0 | 76.14 249.8 | -1.0 | 1.4 | -4.7 | 7.8 | -4.7 | 7.8 | -249.8 | 9.2 | 121.1 | 1. |
| 6 | 300.0 | 2.9 | 99.8 | 120.8 | 50.0 | 49.9 | 91.35 299.7 | -1.2 | 2.0 | -6.0 | 9.8 | -6.0 | 9.8 | -299.7 | 11.5 | 121.1 | 2. |
| 7 | 350.0 | 2.9 | 98.0 | 119.0 | 50.0 | 49.9 | 106.59 349.7 | -1.3 | 2.2 | -7.2 | 12.0 | -7.2 | 12.0 | -349.7 | 14.0 | 120.9 | 2. |
| 8 | 400.0 | 3.1 | 111.7 | 132.7 | 50.0 | 49.9 | 121.80 399.6 | -1.5 | 2.1 | -8.7 | 14.1 | -8.7 | 14.1 | -399.6 | 16.6 | 121.7 | 2. |
| 9 | 450.0 | 3.1 | 90.8 | 111.8 | 50.0 | 49.9 | 137.04 449.5 | -1.4 | 2.3 | -10.1 | 16.4 | -10.1 | 16.4 | -449.5 | 19.3 | 121.8 | 2. |
| 0 | 500.0 | 3.1 | 101.8 | 122.8 | 50.0 | 49.9 | 152.27 499.4 | -1.2 | 2.4 | -11.4 | 18.8 | -11.4 | 18.8 | -499.4 | 21.9 | 121.2 | 2. |
| 1 | 550.0 | 3.1 | 66.3 | 87.3 | 50.0 | 49.9 | 167.49 549.3 | -0.7 | 2.6 | -12.1 | 21.3 | -12.1 | 21.3 | -549.3 | 24.5 | 119.5 | 2. |
| 2 | 600.0 | 3.8 | 89.6 | 110.6 | 50.0 | 49.9 | 182.64 599.2 | -0.5 | 2.9 | -12.5 | 24.3 | -12.5 | 24.3 | -599.2 | 27.3 | 117.3 | 2. |
| 3 | 650.0 | 4.0 | 102.4 | 123.4 | 50.0 | 49.9 | 197.85 649.1 | -1.5 | 3.0 | -14.1 | 27.3 | -14.1 | 27.3 | -649.1 | 30.7 | 117.3 | 3. |
| 4 | 700.0 | 4.3 | 76.4 | 97.4 | 50.0 | 49.8 | 213.09 698.9 | -1.3 | 3.4 | -15.3 | 30.7 | -15.3 | 30.7 | -698.9 | 34.3 | 116.5 | 3. |
| 5 | 750.0 | 4.2 | 46.1 | 67.1 | 50.0 | 49.8 | 228.27 748.7 | 0.5 | 3.7 | -14.8 | 34.4 | -14.8 | 34.4 | -748.7 | 37.4 | 113.3 | 3. |
| 6 | 800.0 | 4.4 | 66.3 | 87.3 | 50.0 | 49.8 | 243.47 798.6 | 0.8 | 3.6 | -14.0 | 38.0 | -14.0 | 38.0 | -798.6 | 40.5 | 110.2 | 3. |
| 7 | 850.0 | 5.1 | 63.9 | 84.9 | 50.0 | 49.8 | 258.59 848.4 | 0.3 | 4.1 | -13.7 | 42.1 | -13.7 | 42.1 | -848.4 | 44.3 | 108.1 | 3. |
| 8 | 900.0 | 5.3 | 56.0 | 77.0 | 50.0 | 49.8 | 273.78 898.2 | 0.7 | 4.5 | -13.0 | 46.6 | -13.0 | 46.6 | -898.2 | 48.3 | 105.6 | 4. |
| 9 | 950.0 | 5.8 | 48.5 | 69.5 | 50.0 | 49.8 | 288.95 948.0 | 1.4 | 4.6 | -11.6 | 51.2 | -11.6 | 51.2 | -948.0 | 52.5 | 102.8 | 4. |
| 01 | 000.0 | 7.1 | 56.9 | 77.9 | 50.0 | 49.7 | 304.06 997.6 | 1.6 | 5.4 | -10.0 | 56.6 | -10.0 | 56.6 | -997.6 | 57.5 | 100.0 | 5. |
| 11 | 050.0 | 7.1 | 60.9 | 81.9 | 50.0 | 49.6 | 319.22 1047.3 | 1.1 | 6.1 | -8.9 | 62.7 | -8.9 | 62.7 | -1047.3 | 63.3 | 98.1 | 5. |
| 21 | 100.0 | 7.1 | 56.9 | 77.9 | 50.0 | 49.6 | 334.37 1096.9 | 1.1 | 6.1 | -7.9 | 68.8 | -7.9 | 68.8 | -1096.9 | 69.3 | 96.5 | 5. |
| 31 | 150.0 | 7.1 | 60.3 | 81.3 | 50.0 | 49.6 | 349.45 1146.5 | 1.1 | 6.1 | -6.7 | 74.9 | -6.7 | 74.9 | -1146.5 | 75.2 | 95.1 | 6. |
| 41 | 200.0 | 7.1 | 63.6 | 84.6 | 50.0 | 49.6 | 364.57 1196.1 | 0.8 | 6.2 | -6.0 | 81.1 | -6.0 | 81.1 | -1196.1 | 81.3 | 94.2 | 6. |
| 51 | 250.0 | 7.7 | 69.1 | 90.1 | 50.0 | 49.6 | 379.69 1245.7 | 0.3 | 6.4 | -5.7 | 87.5 | -5.7 | 87.5 | -1245.7 | 87.7 | 93.7 | 6. |

# ROKE DIRECTIONAL SURVEY

OIL ENTERPRISES LTD.

COMPANY: FORDING COAL LIMITED
DRILLHOLE: 1755
LOCATION: EAGLE MOUNTAIN
FIELD: FORDING RIVER
PROVINCE: BRITISH COLUMBIA
ALL COLUMNS IN FEET

LATITUDE: 0.00
DEPARTURE: 0.00
ELEVATION: 0.00
MAGNETIC DECLINATION: 21 00 00
CORRECTION OF: 21.00

DATE SURVEYED: 18 SEPTEMBER 1981
SURVEY BY: FERGUSEN
WITNESSED BY: KOMENAC
CALCULATIONS BY: JAQUES
FOR: TRUE NORTH GRID

| Number | Cable Depth | Angle of Inclination | AZIMUTH | | COURSE INTERVAL | | Total Vertical Depth | COURSE DISPLACEMENT | | TOTAL DISPLACEMENT | | COORDINATES | | | POLAR COORDINATES | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Observed | Corrected | Cable | Vertical | | Latitude | Departure | Latitude | Departure | Latitude | Departure | Elevation | Radius | Azimuth | Course Increment |
| 6 | 1300.0 | 7.9 | 69.2 | | 90.2 | 50.0 | 49.5 | 1295.2 | -0.0 | 6.8 | -5.7 | 94.2 | -5.7 | 94.2-1295.2 | 94.4 | 93.5 | 6. |
| 7 | 1350.0 | 9.0 | 70.1 | | 91.1 | 50.0 | 49.5 | 1344.7 | -0.1 | 7.3 | -5.8 | 101.6 | -5.8 | 101.6-1344.7 | 101.7 | 93.3 | 7. |
| 8 | 1400.0 | 9.5 | 65.7 | | 86.7 | 50.0 | 49.4 | 1394.0 | 0.2 | 8.0 | -5.6 | 109.6 | -5.6 | 109.6-1394.0 | 109.7 | 92.9 | 8. |
| 9 | 1450.0 | 9.5 | 67.0 | | 88.0 | 50.0 | 49.3 | 1443.3 | 0.4 | 8.3 | -5.2 | 117.8 | -5.2 | 117.8-1443.3 | 118.0 | 92.5 | 8. |
| 0 | 1500.0 | 10.4 | 76.1 | | 97.1 | 50.0 | 49.2 | 1492.6 | -0.4 | 8.6 | -5.6 | 126.5 | -5.6 | 126.5-1492.6 | 126.6 | 92.5 | 8. |
| 1 | 1550.0 | 10.4 | 72.1 | | 93.1 | 50.0 | 49.2 | 1541.8 | -0.8 | 9.0 | -6.4 | 135.5 | -6.4 | 135.5-1541.8 | 135.6 | 92.7 | 9. |
| 2 | 1600.0 | 11.0 | 71.1 | | 92.1 | 50.0 | 49.1 | 1590.9 | -0.4 | 9.3 | -6.9 | 144.7 | -6.9 | 144.7-1590.9 | 144.9 | 92.7 | 9. |

394.78
403.86
424.89
439.92
454.94
469.94
484.91

CENTURY GEOPHYSICAL CORPORATION

* * * * * * * * VERTICAL DEVIATION * * * * * * * *

COMPU-LOG V8L0 DEVIATION

CLIENT : FORDING COAL LTD. HOLE ID : DDH 1754

LOCATION : ELKFORD B.C. DATE OF LOG : 07-23-81

DATA FROM : V8L1 PROBE : 9055R 0065

TD = TOTAL DEPTH
T = TOP OF ZONE
B = BOTTOM OF ZONE

| | DEPTH | TRUE DEPTH | NORTH DEV | EAST DEV | DISTANCE | AZIMUTH | SR | SRR |
|---|---|---|---|---|---|---|---|---|
| | .00 | .00 | .00 | .00 | .00 | M | M | M |
| | 40.00 | 39.98 | .74 | -.74 | 1.05 | 314.7 | 1.5 | 314.7 |
| | 80.00 | 79.97 | 1.45 | -1.52 | 2.11 | 313.6 | 1.5 | 313.6 |
| | 120.00 | 119.95 | 2.07 | -2.41 | 3.18 | 310.7 | 1.5 | 305.8 |
| | 160.00 | 159.94 | 2.61 | -3.28 | 4.19 | 308.5 | 1.4 | 301.7 |
| | 200.00 | 199.92 | 2.96 | -4.32 | 5.24 | 304.4 | 1.5 | 288.5 |
| | 240.00 | 239.90 | 3.27 | -5.55 | 6.44 | 300.5 | 1.8 | 284.8 |
| | 280.00 | 279.88 | 3.65 | -6.80 | 7.79 | 298.0 | 1.9 | 286.2 |
| | 320.00 | 319.85 | 4.00 | -8.30 | 9.22 | 295.7 | 2.0 | 283.7 |
| | 360.00 | 359.83 | 4.25 | -9.66 | 10.56 | 293.8 | 1.9 | 280.6 |
| | 400.00 | 399.80 | 4.35 | -10.98 | 11.81 | 291.6 | 1.8 | 273.9 |
| | 440.00 | 439.78 | 4.36 | -12.28 | 13.03 | 289.5 | 1.8 | 270.4 |
| | 480.00 | 479.76 | 4.31 | -13.71 | 14.37 | 287.5 | 2.0 | 268.2 |
| | 520.00 | 519.72 | 4.42 | -15.32 | 15.94 | 286.1 | 2.3 | 273.6 |
| | 560.00 | 559.71 | 4.56 | -16.13 | 16.76 | 285.8 | 1.1 | 280.0 |
| | 600.00 | 599.71 | 4.72 | -16.13 | 16.81 | 286.3 | .2 | 358.6 |
| | 640.00 | 639.70 | 4.75 | -15.47 | 16.19 | 287.1 | .9 | 87.2 |
| | 680.00 | 679.68 | 4.48 | -14.30 | 14.99 | 287.4 | 1.7 | 102.9 |
| | 720.00 | 719.64 | 3.90 | -12.59 | 13.18 | 287.2 | 2.5 | 108.7 |
| | 760.00 | 759.56 | 3.01 | -10.38 | 10.81 | 286.2 | 3.4 | 111.9 |
| TD | 791.40 | 790.90 | 2.29 | -8.58 | 8.88 | 285.0 | 3.5 | 111.8 |

CENTURY GEOPHYSICAL CORPORATION

* * * * * * * * VERTICAL DEVIATION * * * * * * * *

COMPU-LOG VSL0 DEVIATION

CLIENT : FORDING COAL LTD. HOLE ID : DDH 1750

LOCATION : ELKFORD B.C. DATE OF LOG : 08-19-81

DATA FROM : VAL1 PROBE : 9055A 0065

TD = TOTAL DEPTH
T = TOP OF ZONE
B = BOTTOM OF ZONE

| | DEPTH | TRUE DEPTH | NORTH DEV | EAST DEV | DISTANCE | AZIMUTH | SA | SAB |
|---|---|---|---|---|---|---|---|---|
| | .00 | .00 | .00 | .00 | .00 | .0 | .0 | .0 |
| | 40.00 | 39.97 | .71 | 1.17 | 1.37 | 58.8 | 1.9 | 58.7 |
| | 80.00 | 79.95 | 1.40 | 2.41 | 2.78 | 59.8 | 2.0 | 60.7 |
| | 120.00 | 119.91 | 1.90 | 3.94 | 4.37 | 64.2 | 2.3 | 71.8 |
| | 160.00 | 159.88 | 1.85 | 5.47 | 5.78 | 71.3 | 2.1 | 91.8 |
| | 200.00 | 199.84 | 1.56 | 7.24 | 7.41 | 77.8 | 2.5 | 99.3 |
| | 240.00 | 239.78 | 1.34 | 9.46 | 9.56 | 81.9 | 3.1 | 95.7 |
| | 280.00 | 279.68 | .86 | 12.15 | 12.19 | 85.9 | 3.9 | 99.9 |
| | 320.00 | 319.57 | -.15 | 14.93 | 14.93 | 90.6 | 4.2 | 110.1 |
| | 360.00 | 359.44 | -1.32 | 17.93 | 17.98 | 94.2 | 4.6 | 111.3 |
| | 400.00 | 399.30 | -2.43 | 21.07 | 21.21 | 96.6 | 4.7 | 109.4 |
| | 440.00 | 439.15 | -3.43 | 24.37 | 24.61 | 98.0 | 4.9 | 106.8 |
| | 480.00 | 478.98 | -4.42 | 27.89 | 28.24 | 99.0 | 5.2 | 105.7 |
| | 520.00 | 518.77 | -5.53 | 31.77 | 32.25 | 99.9 | 5.7 | 105.9 |
| | 560.00 | 558.54 | -6.52 | 35.97 | 36.56 | 100.3 | 6.1 | 103.3 |
| | 600.00 | 598.26 | -7.48 | 40.57 | 41.25 | 100.5 | 6.7 | 101.8 |
| TD | 626.90 | 624.96 | -8.10 | 43.74 | 44.48 | 100.5 | 6.8 | 101.0 |

CENTURY GEOPHYSICAL CORPORATION

* * * * * * * * VERTICAL DEVIATION * * * * * * * * *

COMPU-LOG V8L0 DEVIATION

CLIENT : FORDING COAL LTD. HOLE ID : DDH 1753

LOCATION : ELKFORD B.C. DATE OF LOG : 07-21-81

DATA FROM : V8L1 PROBE : 9055A 0065

TD = TOTAL DEPTH
T = TOP OF ZONE
B = BOTTOM OF ZONE

| DEPTH | TRUE DEPTH | NORTH DEV | EAST DEV | DISTANCE | AZIMUTH | SA | SAB |
|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .0 | .0 | .0 |
| 40.00 | 39.96 | .51 | -1.64 | 1.72 | 287.5 | 2.4 | 287.4 |
| 80.00 | 79.92 | 1.03 | -3.23 | 3.39 | 287.7 | 2.3 | 287.8 |
| 120.00 | 119.89 | 1.47 | -4.62 | 4.85 | 287.7 | 2.0 | 287.9 |
| 160.00 | 159.87 | 1.62 | -6.01 | 6.23 | 285.1 | 2.0 | 275.8 |
| 200.00 | 199.84 | 1.41 | -7.41 | 7.54 | 280.8 | 2.0 | 261.5 |
| 240.00 | 239.82 | 1.04 | -8.73 | 8.80 | 276.8 | 1.9 | 254.5 |
| 280.00 | 279.79 | .34 | -10.18 | 10.18 | 271.9 | 2.2 | 243.9 |
| 320.00 | 319.75 | -.55 | -11.65 | 11.66 | 267.3 | 2.4 | 234.5 |
| 360.00 | 359.71 | -1.57 | -13.03 | 13.12 | 263.1 | 2.4 | 233.5 |
| 400.00 | 399.67 | -2.70 | -14.33 | 14.58 | 259.3 | 2.4 | 232.9 |
| 440.00 | 439.63 | -3.90 | -15.70 | 16.17 | 256.1 | 2.6 | 228.9 |
| 480.00 | 479.58 | -5.33 | -17.03 | 17.84 | 252.6 | 2.8 | 222.7 |
| 520.00 | 519.50 | -7.52 | -18.30 | 19.79 | 247.6 | 3.6 | 210.2 |
| 560.00 | 559.38 | -10.36 | -19.53 | 22.11 | 242.0 | 4.4 | 203.2 |
| 600.00 | 599.21 | -13.78 | -20.68 | 24.86 | 236.3 | 5.1 | 198.6 |
| 640.00 | 639.02 | -17.54 | -21.80 | 27.98 | 231.2 | 5.6 | 196.4 |
| 680.00 | 678.80 | -21.59 | -22.95 | 31.51 | 226.8 | 6.0 | 195.9 |
| 720.00 | 718.55 | -25.87 | -23.90 | 35.22 | 222.7 | 6.2 | 192.4 |
| 760.00 | 758.32 | -30.02 | -24.76 | 38.92 | 219.5 | 6.0 | 191.8 |
| TD 787.70 | 785.85 | -32.65 | -25.53 | 41.45 | 218.0 | 5.6 | 196.2 |

CENTURY GEOPHYSICAL CORPORATION

* * * * * * * * VERTICAL DEVIATION * * * * * * * * *

COMPU-LOG V8L0 DEVIATION

CLIENT : FORDING COAL LTD. HOLE ID : 1751

LOCATION : ELKFORD B.C. DATE OF LOG : 06-18-81

DATA FROM : V8L1 PROBE : 9055A 0065

TD = TOTAL DEPTH
T = TOP OF ZONE
B = BOTTOM OF ZONE

| | DEPTH | TRUE DEPTH | NORTH DEV | ERST DEV | DISTANCE | AZIMUTH | SR | SRB |
|---|---|---|---|---|---|---|---|---|
| | .00 | .00 | .00 | .00 | .00 | .0 | .0 | .0 |
| | 40.00 | 39.98 | -.51 | -.87 | 1.01 | 239.5 | 1.4 | 239.4 |
| | 80.00 | 79.96 | -1.15 | -2.03 | 2.34 | 240.5 | 1.8 | 241.2 |
| | 120.00 | 119.93 | -1.82 | -3.34 | 3.81 | 241.4 | 2.1 | 242.7 |
| | 160.00 | 159.90 | -2.48 | -4.80 | 5.41 | 242.6 | 2.2 | 243.6 |
| | 200.00 | 199.86 | -3.21 | -6.48 | 7.24 | 243.6 | 2.6 | 246.5 |
| | 240.00 | 239.81 | -4.02 | -8.18 | 9.12 | 243.8 | 2.6 | 244.5 |
| | 280.00 | 279.77 | -4.78 | -9.85 | 10.95 | 244.1 | 2.6 | 245.6 |
| | 320.00 | 319.73 | -5.48 | -11.38 | 12.63 | 244.3 | 2.4 | 245.4 |
| | 360.00 | 359.71 | -6.03 | -12.67 | 14.03 | 244.5 | 2.0 | 246.8 |
| | 400.00 | 399.68 | -6.60 | -14.06 | 15.53 | 244.8 | 2.1 | 247.6 |
| | 440.00 | 439.65 | -7.18 | -15.47 | 17.06 | 245.1 | 2.1 | 247.5 |
| | 480.00 | 479.62 | -7.70 | -16.90 | 18.57 | 245.5 | 2.1 | 250.1 |
| | 520.00 | 519.59 | -8.18 | -18.44 | 20.17 | 246.1 | 2.3 | 252.7 |
| | 560.00 | 559.56 | -8.65 | -19.94 | 21.73 | 246.6 | 2.2 | 252.7 |
| | 600.00 | 599.51 | -9.11 | -21.68 | 23.52 | 247.2 | 2.5 | 255.0 |
| | 640.00 | 639.45 | -9.79 | -23.86 | 25.79 | 247.7 | 3.2 | 252.5 |
| | 680.00 | 679.34 | -10.85 | -26.57 | 28.70 | 247.8 | 4.1 | 248.7 |
| | 720.00 | 719.21 | -12.07 | -29.53 | 31.91 | 247.8 | 4.6 | 247.5 |
| | 760.00 | 759.04 | -12.98 | -32.84 | 35.31 | 248.4 | 4.9 | 254.6 |
| | 800.00 | 798.84 | -14.33 | -36.54 | 39.25 | 248.6 | 5.6 | 249.9 |
| | 840.00 | 838.64 | -15.51 | -40.28 | 43.16 | 248.9 | 5.6 | 252.5 |
| | 880.00 | 878.45 | -16.37 | -44.02 | 46.96 | 249.6 | 5.5 | 257.0 |
| D | 883.90 | 882.33 | -16.45 | -44.39 | 47.34 | 249.7 | 5.6 | 258.2 |

CENTURY GEOPHYSICAL CORPORATION

* * * * * * * * VERTICAL DEVIATION * * * * * * * *

COMPU-LOG V8L0 DEVIATION

CLIENT : FORDING COAL LTD. HOLE ID : DDH-1758

LOCATION : ELKFORD B.C. DATE OF LOG : 10-14-81

DATA FROM : V8L1 PROBE : 9055A 0065

TD = TOTAL DEPTH
T = TOP OF ZONE
B = BOTTOM OF ZONE

| | DEPTH | TRUE DEPTH | NORTH DEV | EAST DEV | DISTANCE | AZIMUTH | SA | SAB |
|---|---|---|---|---|---|---|---|---|
| | .00 | .00 | .00 | .00 | .00 | .0 | .0 | .0 |
| | 10.00 | 9.97 | .47 | .43 | .64 | 42.7 | 3.6 | 42.6 |
| | 20.00 | 19.95 | .94 | .87 | 1.28 | 42.8 | 3.6 | 43.0 |
| | 30.00 | 29.93 | 1.35 | 1.39 | 1.94 | 45.7 | 3.8 | 51.1 |
| | 40.00 | 39.90 | 1.69 | 2.06 | 2.67 | 50.7 | 4.3 | 63.7 |
| | 50.00 | 49.87 | 2.01 | 2.82 | 3.47 | 54.5 | 4.7 | 67.1 |
| | 60.00 | 59.83 | 2.40 | 3.58 | 4.31 | 56.1 | 4.9 | 62.5 |
| | 70.00 | 69.79 | 2.84 | 4.36 | 5.21 | 56.9 | 5.1 | 60.4 |
| | 80.00 | 79.75 | 3.28 | 5.18 | 6.13 | 57.7 | 5.3 | 62.3 |
| | 90.00 | 89.70 | 3.73 | 6.04 | 7.10 | 58.3 | 5.5 | 62.3 |
| | 0.00 | 99.65 | 4.19 | 6.95 | 8.11 | 58.9 | 5.8 | 62.8 |
| | 9.00 | 109.59 | 4.67 | 7.91 | 9.19 | 59.4 | 6.1 | 63.5 |
| | 120.00 | 119.52 | 5.18 | 8.94 | 10.34 | 59.9 | 6.6 | 63.7 |
| | 130.00 | 129.45 | 5.71 | 10.05 | 11.56 | 60.4 | 7.0 | 64.5 |
| | 140.00 | 139.37 | 6.23 | 11.22 | 12.84 | 61.0 | 7.3 | 66.0 |
| | 150.00 | 149.28 | 6.75 | 12.45 | 14.16 | 61.5 | 7.6 | 66.9 |
| | 160.00 | 159.18 | 7.27 | 13.70 | 15.52 | 62.0 | 7.8 | 67.4 |
| | 170.00 | 169.09 | 7.78 | 14.99 | 16.89 | 62.6 | 7.9 | 68.5 |
| | 180.00 | 178.98 | 8.27 | 16.34 | 18.31 | 63.1 | 8.2 | 69.9 |
| | 190.00 | 188.87 | 8.75 | 17.74 | 19.78 | 63.7 | 8.4 | 71.0 |
| | 200.00 | 198.76 | 9.18 | 19.19 | 21.28 | 64.4 | 8.7 | 73.3 |
| | 210.00 | 208.63 | 9.56 | 20.71 | 22.82 | 65.2 | 9.0 | 75.9 |
| | 220.00 | 218.50 | 9.88 | 22.29 | 24.38 | 66.1 | 9.2 | 78.5 |
| | 230.00 | 228.36 | 9.93 | 23.86 | 25.85 | 67.4 | 9.0 | 88.4 |
| TD | 233.60 | 231.90 | 10.07 | 24.48 | 26.47 | 67.6 | 10.0 | 77.2 |

CENTURY GEOPHYSICAL CORPORATION

* * * * * * * * VERTICAL DEVIATION * * * * * * * *

COMPU-LOG V8L9 DEVIATION

CLIENT : FORDING COAL LTD. HOLE ID : DDH-1767

LOCATION : ELKFORD B.C. DATE OF LOG : 11-05-81

DATA FROM : V8L1 PROBE : 9055A 0065

TD = TOTAL DEPTH
T = TOP OF ZONE
B = BOTTOM OF ZONE

| DEPTH | TRUE DEPTH | NORTH DEV | EAST DEV | DISTANCE | AZIMUTH | SA | SAS |
|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .0 | .0 | .0 |
| 20.00 | 19.99 | -.01 | .09 | .09 | 99.3 | .2 | 99.3 |
| 40.00 | 39.99 | -.03 | .19 | .19 | 101.6 | .2 | 102.5 |
| 60.00 | 59.99 | -.13 | .31 | .34 | 113.6 | .4 | 127.7 |
| 80.00 | 79.99 | -.18 | .52 | .55 | 109.3 | .5 | 102.1 |
| 100.00 | 99.99 | -.17 | .79 | .81 | 102.4 | .7 | 83.1 |
| 120.00 | 119.99 | -.10 | 1.11 | 1.11 | 95.6 | .9 | 78.5 |
| 140.00 | 139.98 | -.10 | 1.54 | 1.54 | 93.8 | 1.2 | 89.2 |
| 160.00 | 159.97 | -.17 | 2.16 | 2.17 | 94.6 | 1.6 | 96.5 |
| 180.00 | 179.96 | -.25 | 2.93 | 2.94 | 95.1 | 2.2 | 96.4 |
| 200.00 | 199.93 | -.34 | 3.66 | 3.67 | 95.1 | 2.6 | 95.2 |
| 220.00 | 219.90 | -.41 | 5.03 | 5.05 | 94.7 | 3.3 | 93.2 |
| 240.00 | 239.85 | -.47 | 6.41 | 6.43 | 94.2 | 3.9 | 92.4 |
| 260.00 | 259.78 | -.51 | 8.00 | 8.02 | 93.7 | 4.5 | 91.6 |
| 280.00 | 279.71 | -.69 | 9.74 | 9.76 | 94.1 | 5.0 | 95.7 |
| 300.00 | 299.62 | -.98 | 11.54 | 11.59 | 94.9 | 5.2 | 99.2 |
| 320.00 | 319.53 | -1.29 | 13.45 | 13.51 | 95.5 | 5.5 | 99.2 |
| 340.00 | 339.43 | -1.66 | 13.42 | 13.51 | 96.2 | 5.7 | 100.6 |
| 360.00 | 359.32 | -2.06 | 17.43 | 17.55 | 96.6 | 5.6 | 101.2 |
| 380.00 | 379.21 | -2.39 | 19.53 | 19.68 | 97.0 | 5.1 | 98.8 |
| 400.00 | 399.07 | -2.67 | 21.84 | 22.00 | 97.6 | 6.6 | 96.8 |
| 420.00 | 418.91 | -2.88 | 24.29 | 24.46 | 95.8 | 7.0 | 94.7 |
| 440.00 | 438.75 | -3.12 | 26.62 | 27.00 | 96.6 | 7.2 | 95.2 |
| 460.00 | 458.57 | -3.30 | 29.50 | 29.68 | 96.4 | 7.7 | 93.6 |
| 480.00 | 478.36 | -3.45 | 32.33 | 32.51 | 96.1 | 8.1 | 93.6 |
| TD 497.40 | 495.57 | -3.77 | 34.90 | 35.11 | 96.2 | 8.5 | 97.1 |

CENTURY GEOPHYSICAL CORPORATION

* * * * * * * * VERTICAL DEVIATION * * * * * * * * *

COMPU-LOG V8L0 DEVIATION

CLIENT : FORDING COAL LTD. HOLE ID : (R.H.) 1769

LOCATION : ELKFORD B.C. DATE OF LOG : 06-30-81

DATA FROM : V8L1 PROBE : 9055A 0065

TD = TOTAL DEPTH
T = TOP OF ZONE
B = BOTTOM OF ZONE

| | DEPTH | TRUE DEPTH | NORTH DEV | EAST DEV | DISTANCE | AZIMUTH | SR | SRB |
|---|---|---|---|---|---|---|---|---|
| | .00 | .00 | .00 | .00 | .00 | .0 | .0 | .0 |
| | 10.00 | 9.99 | -.09 | .00 | .09 | 175.5 | .5 | 175.5 |
| | 20.00 | 19.99 | -.20 | .02 | .20 | 172.3 | .6 | 169.6 |
| | 30.00 | 29.99 | -.46 | .12 | .48 | 164.9 | 1.5 | 159.1 |
| | 40.00 | 39.98 | -.82 | .18 | .84 | 167.5 | 2.1 | 170.8 |
| | 50.00 | 49.97 | -1.25 | .22 | 1.27 | 170.1 | 2.4 | 175.1 |
| | 60.00 | 59.96 | -1.75 | .13 | 1.75 | 175.5 | 2.8 | 189.6 |
| | 70.00 | 69.94 | -2.33 | -.09 | 2.34 | 182.2 | 3.6 | 201.2 |
| | 80.00 | 79.91 | -2.97 | -.35 | 2.99 | 186.8 | 3.9 | 202.5 |
| | 90.00 | 89.89 | -3.63 | -.64 | 3.69 | 190.1 | 4.1 | 203.9 |
| | 100.00 | 99.85 | -4.39 | -.93 | 4.49 | 191.9 | 4.6 | 200.2 |
| | 110.00 | 109.81 | -5.22 | -1.24 | 5.36 | 193.4 | 5.0 | 200.6 |
| | 120.00 | 119.76 | -6.12 | -1.61 | 6.33 | 194.7 | 5.5 | 202.3 |
| | 130.00 | 129.70 | -7.17 | -2.01 | 7.45 | 195.7 | 6.5 | 201.0 |
| | 140.00 | 139.63 | -8.31 | -2.30 | 8.63 | 195.5 | 6.7 | 194.0 |
| | 150.00 | 149.54 | -9.59 | -2.41 | 9.89 | 194.1 | 7.3 | 184.8 |
| | 160.00 | 159.44 | -10.95 | -2.33 | 11.20 | 192.0 | 7.8 | 176.8 |
| | 170.00 | 169.36 | -12.25 | -2.30 | 12.47 | 190.6 | 7.4 | 178.5 |
| | 180.00 | 179.26 | -13.59 | -2.19 | 13.77 | 189.2 | 7.7 | 175.5 |
| | 190.00 | 189.14 | -15.16 | -2.00 | 15.29 | 187.5 | 9.0 | 172.9 |
| | 200.00 | 198.97 | -16.95 | -1.95 | 17.06 | 186.6 | 10.3 | 178.5 |
| | 210.00 | 208.79 | -18.83 | -2.09 | 18.95 | 186.3 | 10.8 | 184.1 |
| | 220.00 | 218.58 | -20.82 | -2.02 | 20.92 | 185.5 | 11.4 | 177.9 |
| | 230.00 | 228.37 | -22.78 | -1.87 | 22.86 | 184.7 | 11.3 | 175.5 |
| | 240.00 | 238.16 | -24.78 | -1.66 | 24.83 | 183.8 | 11.5 | 174.2 |
| | 250.00 | 247.94 | -26.86 | -1.53 | 26.90 | 183.3 | 12.0 | 176.4 |
| | 260.00 | 257.71 | -28.89 | -1.50 | 28.93 | 183.0 | 11.7 | 179.1 |
| TD | 263.60 | 261.23 | -29.67 | -1.48 | 29.71 | 182.9 | 12.5 | 178.1 |

CENTURY GEOPHYSICAL CORPORATION

* * * * * * * * VERTICAL DEVIATION * * * * * * * *

COMPU-LOG V8L9 DEVIATION

CLIENT : FORDIG COAL LTD.

HOLE ID : DDH-1779

LOCATION : ELKFORD B.C.

DATE OF LOG : 10-15-81

DATA FROM : V8L1

PROBE : 9055A 0065

TD = TOTAL DEPTH
T = TOP OF ZONE
B = BOTTOM OF ZONE

| | DEPTH | TRUE DEPTH | NORTH DEV | EAST DEV | DISTANCE | AZIMUTH | SA | SAB |
|---|---|---|---|---|---|---|---|---|
| | .00 | .00 | .00 | .00 | .00 | .0 | .0 | .0 |
| | 5.00 | 4.99 | -.12 | -.02 | .12 | 190.2 | 1.4 | 190.2 |
| | 10.00 | 9.99 | -.23 | -.04 | .24 | 191.4 | 1.2 | 192.8 |
| | 15.00 | 14.99 | -.26 | -.07 | .28 | 196.5 | .5 | 223.4 |
| | 20.00 | 19.99 | -.36 | -.03 | .36 | 186.1 | 1.1 | 156.8 |
| | 25.00 | 24.99 | -.42 | .10 | .44 | 165.8 | 1.8 | 113.8 |
| | 30.00 | 29.98 | -.50 | .32 | .59 | 147.4 | 2.6 | 109.4 |
| | 35.00 | 34.98 | -.56 | .54 | .78 | 136.1 | 2.6 | 105.3 |
| | 40.00 | 39.97 | -.59 | .76 | .96 | 127.8 | 2.5 | 96.6 |
| | 45.00 | 44.96 | -.63 | 1.07 | 1.24 | 120.6 | 3.6 | 98.0 |
| | 49.00 | 49.95 | -.64 | 1.39 | 1.53 | 114.7 | 3.7 | 91.5 |
| | 55.00 | 54.93 | -.55 | 1.76 | 1.85 | 107.5 | 4.3 | 77.0 |
| | 60.00 | 59.91 | -.45 | 2.20 | 2.25 | 101.6 | 5.2 | 76.7 |
| | 65.00 | 64.88 | -.35 | 2.74 | 2.76 | 97.3 | 6.2 | 79.2 |
| | 70.00 | 69.84 | -.23 | 3.34 | 3.35 | 94.1 | 7.0 | 79.1 |
| | 75.00 | 74.80 | -.06 | 3.91 | 3.91 | 90.9 | 6.8 | 73.0 |
| | 80.00 | 79.77 | .07 | 4.48 | 4.48 | 89.0 | 6.7 | 76.1 |
| | 85.00 | 84.73 | .23 | 5.01 | 5.02 | 87.3 | 6.4 | 73.2 |
| | 90.00 | 89.69 | .41 | 5.62 | 5.63 | 85.8 | 7.2 | 73.7 |
| | 95.00 | 94.64 | .61 | 6.29 | 6.32 | 84.4 | 8.0 | 72.8 |
| | 100.00 | 99.58 | .83 | 6.98 | 7.03 | 83.2 | 8.3 | 72.6 |
| TD | 105.00 | 104.53 | .95 | 7.67 | 7.73 | 82.9 | 8.0 | 79.9 |

CENTURY GEOPHYSICAL CORPORATION

* * * * * * * * VERTICAL DEVIATION * * * * * * * *

COMPU-LOG V8L0 DEVIATION

CLIENT : FORDING COAL LTD.

HOLE ID : DDH-1765

LOCATION : ELKFORD B.C.

DATE OF LOG : 10-19-81

DATA FROM : V8L1

PROBE : 9055A 0065

TD = TOTAL DEPTH
T = TOP OF ZONE
B = BOTTOM OF ZONE

| | DEPTH | TRUE DEPTH | NORTH DEV | EAST DEV | DISTANCE | AZIMUTH | SA | SAB |
|---|---|---|---|---|---|---|---|---|
| | .00 | .00 | .00 | .00 | .00 | .0 | .0 | .0 |
| | 20.00 | 19.99 | .09 | -.08 | .12 | 319.9 | .3 | 319.8 |
| | 40.00 | 39.99 | .10 | -.32 | .34 | 287.3 | .6 | 270.7 |
| | 60.00 | 59.99 | .05 | -.59 | .59 | 275.2 | .7 | 259.6 |
| | 80.00 | 79.99 | .03 | -.75 | .76 | 272.6 | .4 | 263.4 |
| | 100.00 | 99.99 | .05 | -.82 | .82 | 274.0 | .1 | 290.2 |
| | 120.00 | 119.99 | .05 | -.75 | .75 | 273.9 | .1 | 94.9 |
| | 140.00 | 139.98 | .02 | -.48 | .48 | 272.4 | .7 | 96.5 |
| | 160.00 | 159.97 | .06 | .15 | .17 | 66.2 | 1.8 | 85.6 |
| | 180.00 | 179.95 | .25 | 1.00 | 1.03 | 75.6 | 2.4 | 77.4 |
| | 200.00 | 199.93 | .47 | 1.90 | 1.96 | 76.1 | 2.6 | 76.6 |
| | 220.00 | 219.91 | .75 | 2.87 | 2.96 | 75.3 | 2.8 | 73.8 |
| | 240.00 | 239.88 | 1.06 | 3.91 | 4.06 | 74.7 | 3.1 | 73.1 |
| | 260.00 | 259.84 | 1.34 | 5.14 | 5.32 | 75.3 | 3.6 | 77.2 |
| | 280.00 | 279.78 | 1.61 | 6.64 | 6.83 | 76.4 | 4.3 | 79.9 |
| | 300.00 | 299.71 | 1.86 | 8.31 | 8.51 | 77.3 | 4.8 | 81.2 |
| | 320.00 | 319.63 | 2.09 | 10.04 | 10.26 | 78.2 | 5.0 | 82.5 |
| | 340.00 | 339.54 | 2.15 | 11.89 | 12.09 | 79.7 | 5.3 | 88.2 |
| | 360.00 | 359.44 | 2.06 | 13.89 | 14.04 | 81.5 | 5.7 | 92.4 |
| | 380.00 | 379.33 | 1.89 | 16.00 | 16.11 | 83.3 | 6.0 | 94.7 |
| | 400.00 | 399.21 | 1.75 | 18.17 | 18.26 | 84.5 | 6.2 | 93.6 |
| | 420.00 | 419.08 | 1.74 | 20.38 | 20.46 | 85.1 | 6.3 | 90.1 |
| | 440.00 | 438.96 | 1.79 | 22.63 | 22.71 | 85.5 | 6.4 | 88.6 |
| | 460.00 | 458.82 | 1.87 | 24.95 | 25.02 | 85.7 | 6.6 | 88.2 |
| | 480.00 | 478.68 | 1.96 | 27.32 | 27.39 | 85.9 | 6.7 | 87.6 |
| | 500.00 | 498.54 | 2.05 | 29.66 | 29.73 | 86.0 | 6.7 | 87.8 |
| | 520.00 | 518.40 | 2.14 | 32.01 | 32.08 | 86.2 | 6.7 | 87.8 |
| | 540.00 | 538.26 | 2.23 | 34.44 | 34.51 | 86.3 | 6.9 | 87.7 |
| | 560.00 | 558.10 | 2.35 | 36.96 | 37.04 | 86.4 | 7.2 | 87.4 |
| | 580.00 | 577.93 | 2.47 | 39.52 | 39.60 | 86.4 | 7.3 | 87.2 |
| | 600.00 | 597.77 | 2.59 | 42.05 | 42.13 | 86.5 | 7.2 | 87.3 |
| TD | 600.10 | 597.87 | 2.59 | 42.06 | 42.14 | 86.5 | 7.5 | 88.8 |

CENTURY GEOPHYSICAL CORPORATION

* * * * * * * * VERTICAL DEVIATION * * * * * * * *

COMPU-LOG V8L0 DEVIATION

CLIENT : FORDING COAL LTD. HOLE ID : DDH-1757

LOCATION : ELKFORD B.C. DATE OF LOG : 09-21-81

DATA FROM : V8L1 PROBE : 9055A 0065

TD = TOTAL DEPTH
T = TOP OF ZONE
B = BOTTOM OF ZONE

| | DEPTH | TRUE DEPTH | NORTH DEV | EAST DEV | DISTANCE | AZIMUTH | SA | SAB |
|---|---|---|---|---|---|---|---|---|
| | .00 | .00 | .00 | .00 | .00 | .0 | .0 | .0 |
| | 20.00 | 19.99 | .01 | -.15 | .16 | 288.0 | .4 | 287.5 |
| | 40.00 | 39.99 | .15 | -.27 | .31 | 299.2 | .4 | 311.1 |
| | 60.00 | 59.99 | .29 | -.26 | .39 | 317.2 | .3 | 1.1 |
| | 80.00 | 79.99 | .47 | -.11 | .49 | 346.1 | .6 | 39.2 |
| | 100.00 | 99.98 | .68 | .35 | .76 | 27.2 | 1.4 | 66.2 |
| | 120.00 | 119.96 | .91 | 1.15 | 1.47 | 51.6 | 2.3 | 73.9 |
| | 140.00 | 139.93 | 1.13 | 2.23 | 2.50 | 63.1 | 3.1 | 78.5 |
| | 160.00 | 159.88 | 1.33 | 3.57 | 3.81 | 69.6 | 3.8 | 81.6 |
| | 180.00 | 179.81 | 1.51 | 5.25 | 5.47 | 74.0 | 4.8 | 83.8 |
| | 200.00 | 199.71 | 1.66 | 7.24 | 7.43 | 77.0 | 5.7 | 85.4 |
| | 220.00 | 219.59 | 1.79 | 9.41 | 9.58 | 79.2 | 6.2 | 86.7 |
| | 240.00 | 239.44 | 1.90 | 11.82 | 11.97 | 80.9 | 6.9 | 87.8 |
| | 260.00 | 259.27 | 2.01 | 14.44 | 14.58 | 82.0 | 7.5 | 87.4 |
| | 280.00 | 279.08 | 2.08 | 17.18 | 17.31 | 83.1 | 7.8 | 88.6 |
| | 300.00 | 298.89 | 2.15 | 19.98 | 20.01 | 83.8 | 7.8 | 88.5 |
| | 320.00 | 318.70 | 2.20 | 22.67 | 22.78 | 84.4 | 7.9 | 89.1 |
| | 340.00 | 338.58 | 2.12 | 25.40 | 25.49 | 85.2 | 7.9 | 91.7 |
| TD | 360.00 | 358.38 | 1.74 | 27.63 | 27.69 | 86.3 | 8.0 | 93.8 |
| | 374.00 | 372.65 | 1.63 | 29.74 | 29.78 | 86.9 | 8.0 | 93.8 |