

**CABRA CONSULTING**  
**DAILY GEOLOGICAL WELL REPORT**  
 2000-03-24

**AEC (WEST) RENAISSANCE CARCAJOU O-47**

|                              |                           |
|------------------------------|---------------------------|
| Report To: Glen Andrews      | Report From: Glen Andrews |
|                              | Telephone: 600-700-2868   |
| Spud Date: 2000-03-20        | Days from Spud: 4         |
| Gd. Elevation: 57.2          | K.B. Elevation: 61.5      |
| Depth @ 1030: 760 m          | Formation: Hare Indian    |
| Status @ 1030: Trip for logs |                           |
| 24 hr Progress: m            | Average ROP: 5 m/hr       |
| Cumulative Cost:             |                           |

**OPERATIONS SUMMARY - Last 24 Hours**

Drill ahead & survey. (0500 Hrs depth = 736m / progress= 128m). Drill ahead & survey to T.D of 760m @ 0930 Hrs. Circulate. Pull out of hole to log.

**MUD PROPERTIES**

Type: Gel Chem  
 Density: 1100 kg/m<sup>3</sup>  
 Viscosity: 46 s/L  
 Water Loss: 12 cm<sup>3</sup>/30 min  
 pH: 9.0  
 Filter Cake: mm

**SAMPLE TOPS**

| Formation   | Sample Depth | TVD   | Subsea | Prognosis Subsea | Change |
|-------------|--------------|-------|--------|------------------|--------|
| IMPERIAL    | 331.0        | 331.0 | -269.5 | -181.0           | -88.5  |
| CANOL       | 467.0        | 467.0 | -405.5 | -408.0           | 2.5    |
| KEE SCARP   | 469.0        | 469.0 | -407.5 | -409.0           | 1.5    |
| HARE INDIAN | 730.0        | 730.0 | -668.5 | -650.0           | -18.5  |

**FORECAST ACTIVITIES**

Trip out of hole. Lay down collars & motor. Rig up & log with Schlumberger. Lay down drill string. Run 114mm casing. Rig to & cement casing. Tear out rig. Release rig (approx 1200 hrs Mar)

**CABRA CONSULTING  
DAILY TOTAL GAS REPORT  
2000-03-24**

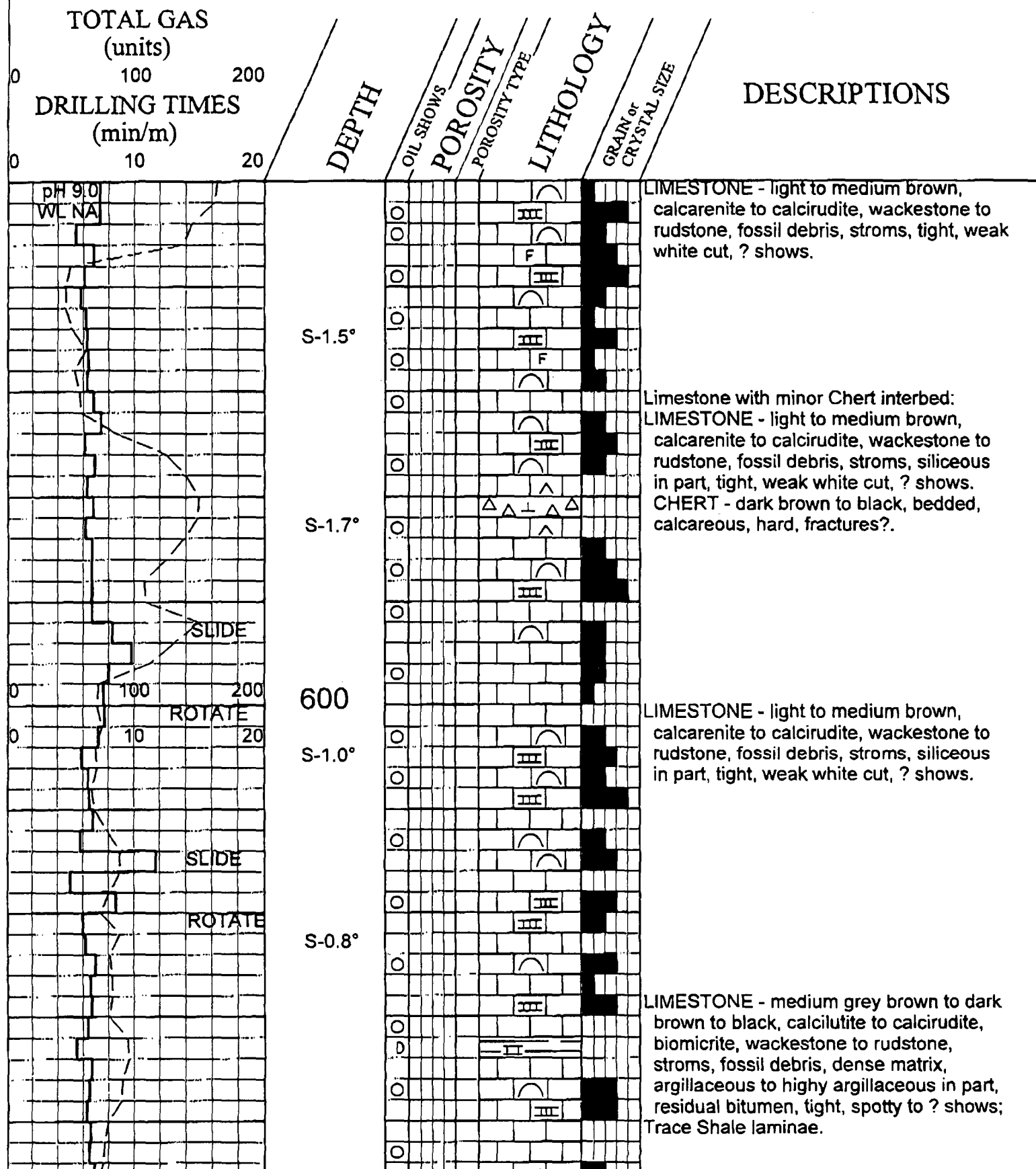
**AEC (WEST) RENAISSANCE CARCAJOU O-47**

**SIGNIFICANT TOTAL GAS RESPONSE SUMMARY**

| <b>Depth Interval<br/>(metres)</b> | <b>Total Gas<br/>Response<br/>(units)</b> | <b>Average<br/>Background<br/>(units)</b> | <b>Interpreted<br/>Lithology</b> |
|------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------|
| <b>730-745</b>                     | <b>433</b>                                | <b>120</b>                                | <b>Bit Shale/Lst.</b>            |

## CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS

SCALE 1:240



S-0.8°

S-0.4°

650

S-0.8°

S-0.9°

S-0.9°

675

S-1.1°

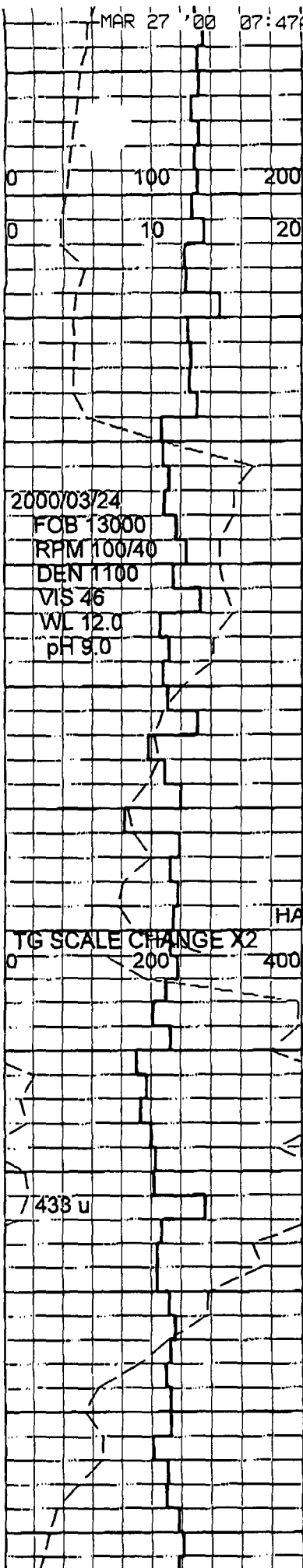
LIMESTONE - medium to dark grey brown, calcilutite to calcirudite, biomicrite, wackestone to rudstone, stroms, fossil debris, dense matrix, slightly argillaceous in part, siliceous in part, minor residual bitumen, tight to trace chalky porosity (3%), minor fracture porosity, slow to fast streaming white cut; Trace Chert stringers.

LIMESTONE - light to medium brown to grey brown, calcilutite to calcirudite, biomicrite, wackestone to rudstone, stroms, fossil debris, slightly argillaceous in part, minor residual bitumen, tight to trace chalky porosity (3%), minor fracture porosity, fast streaming white cut Fracture filling calcite.

LIMESTONE - medium to dark brown, calcilutite to calcarenite, micrite to biomicrite, mudstone to wackestone, fossil debris, argillaceous, siliceous, dense, fast streaming white cut.

LIMESTONE - light to medium brown to grey brown, calcarenite to calcirudite, biopelmicrite, wackestone to rudstone, fossil debris, pellets, stroms, argillaceous in part, slightly dolomitic, minor bitumen residue, tight to trace poor (<3%) porosity, spotty to ? shows; Minor Shale laminae.

LIMESTONE - light to medium brown (allochems) to dark brown (matrix), micrite to biomicrite, mudstone to rudstone, stroms, fossil debris, argillaceous to highly argillaceous in part, siliceous to Cherty in part, tight, trace poor chalky porosity, moderate to fast streaming white cut. Minor Chert stringers; Minor Shale laminae.

S-1.1°  
700

725

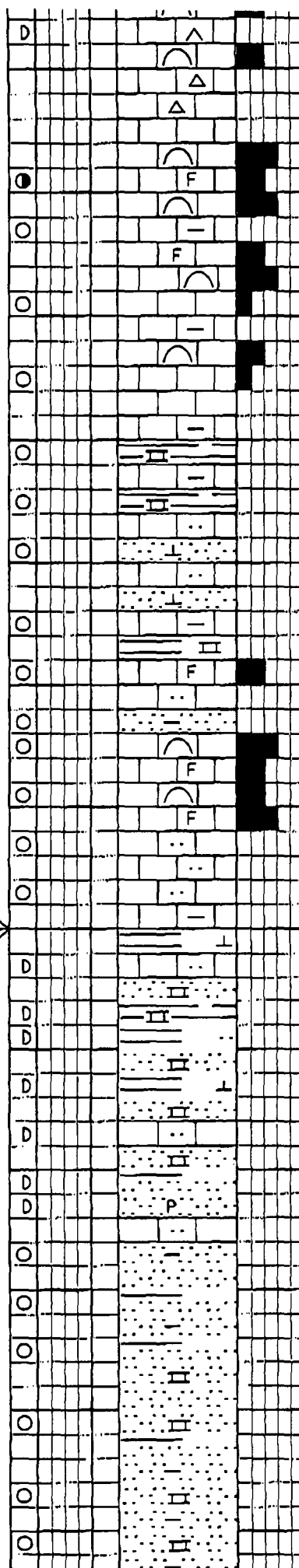
S-1.7°

HARE INDIAN  
(730.0)

S-1.6°

S-1.6°

750



Interbedded Limestone, Shale & Siltstone:  
**LIMESTONE** - light brown grey to dark brown, calcilutite to calcarenite, micrite to biomicrite, mudstone to wackestone, fossil debris, argillaceous to highly argillaceous grading to Shale, silty grading to Siltstone in part, tight, slow to moderate white cut;  
**SHALE** - dark grey to black, subfissile to blocky, highly calcareous, slightly silty, trace pyrite, slightly bituminous;  
**SILTSTONE** - medium brown, well cemented, highly calcareous, slightly argillaceous.

Interbedded Shale & Siltstone with Limestone stringers:  
**SHALE** - dark grey to black, subfissile to blocky, calcareous to highly calcareous, silty, micromicaceous, bituminous, trace disseminated pyrite, fast streaming white cut;  
**SILTSTONE** - medium to dark grey brown, well cemented, calcareous to highly calcareous, grading to Limestone in part, minor pyrobitumen, slow to moderate streaming white cut;  
**LIMESTONE** - light brown with black specks, calcilutite, micrite, mudstone, very silty, pyrobitumen.

CABRA CONSULTING  
DAILY GEOLOGICAL WELL REPORT  
2000-03-23

AEC (WEST) RENAISSANCE CARCAJOU O-47

Report To: Glen Andrews

Spud Date: 2000-03-20  
Gd. Elevation: 57.2  
Depth @ 0500: 608 m  
Status @ 0500: Drilling ahead  
24 hr Progress: 143 m  
Cumulative Cost:

Report From: Glen Andrews  
Telephone: 600-700-2868  
Days from Spud: 3  
K.B. Elevation: 61.5  
Formation: Kee Scarp  
Average ROP: 7-8 m/hr

SURVEYS

476m - 3.2°; 486m - 3.3°; 496m - 2.5°; 505m - 1.5°; 515m - 0.9°; 535m - 0.6°;  
544 - 0.8°; 554m - 0.9°; 564m - 1.0°; 573m - 1.2°; 583m - 1.5°; 593m -

MUD PROPERTIES

Type: Gel Chem  
Density: 1090 kg/m³  
Viscosity: 41 s/L  
Water Loss: NA cm³/30 min  
pH: 9.0  
Filter Cake: mm

SAMPLE TOPS  
Formation

IMPERIAL  
CANOL  
KEE SCARP

Sample  
Depth

TVD Subsea

Prognosis  
Subsea

Change

|       |       |        |        |       |
|-------|-------|--------|--------|-------|
| 331.0 | 331.0 | -269.5 | -181.0 | -88.5 |
| 467.0 | 467.0 | -405.5 | -408.0 | 2.5   |
| 469.0 | 469.0 | -407.5 | -409.0 | 1.5   |

FORECAST ACTIVITIES

Drill ahead &

**CONFIDENTIAL**

| Post-Box Note         | Date             | # of pages |
|-----------------------|------------------|------------|
| To LEAHSA FISHER      | From WENDY       |            |
| Co./Dept. RENAISSANCE | Co. AEC          |            |
| Phone # 750-1807      | Phone # 261-2455 |            |
| Fax # 750-1865        | Fax # 716-2455   |            |

**CONFIDENTIAL**

| Post-Box Note  | Date                    | # of pages |
|----------------|-------------------------|------------|
| To ANDY GRAW   | From SOREN CHRISTIANSEN |            |
| Co./Dept. NEB  | Co. AEC                 |            |
| Phone #        | Phone # 261-2464        |            |
| Fax # 292-5876 | Fax # 716-2455          |            |

**CABRA CONSULTING  
DAILY TOTAL GAS REPORT  
2000-03-23**

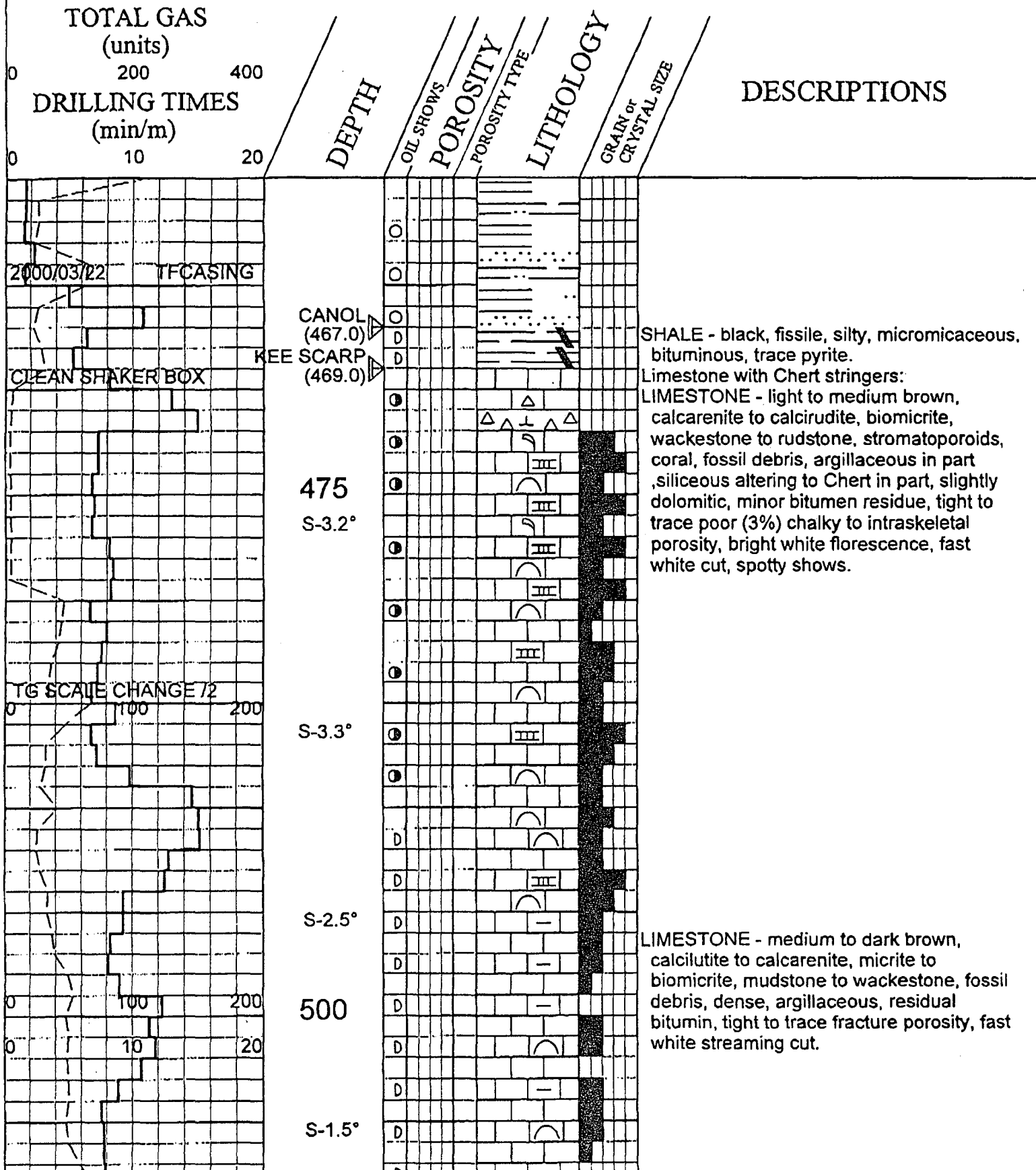
**AEC (WEST) RENAISSANCE CARCAJOU O-47**

**SIGNIFICANT TOTAL GAS RESPONSE SUMMARY**

| <b>Depth Interval<br/>(metres)</b> | <b>Total Gas<br/>Response<br/>(units)</b> | <b>Average<br/>Background<br/>(units)</b> | <b>Interpreted<br/>Lithology</b> |
|------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------|
| 509                                | 197                                       | 50                                        | Limestone - Frac                 |
| 564-578                            | 216                                       | 80                                        | Limestone                        |
| 587-592                            | 150                                       | 50                                        | Limestone                        |

## CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS

SCALE 1:240





MAR 23 '00 07:49AM AEC

S-0.9°

525

S-0.6°

S-0.8°

550

S-0.9°

S-1.0°

S-1.2°

575

calclutite to calcirudite, micriP. 5/6  
biomicrite, mudstone to rudstone,  
stromatoporoids, fossil debris, dense,  
argillaceous, residual bitumin, tight to trace  
fracture porosity, dead to ? cut;  
Minor Shale partings.

LIMESTONE - light to medium brown, fine  
calcarenite to calcirudite, biomicrite,  
wackestone to rudstone, stromatoporoids,  
fossil debris, slightly argillaceous, residual  
bitumin, tight to trace fracture porosity,  
spotty florescence, slow weak cut.

LIMESTONE - light brown grey (allochems) to  
dark brown (matrix), calcarenite to  
calcirudite, wackestone to rudstone,  
stromatoporoids, fossil debris, slightly  
argillaceous, residual bitumin, dolomitic in  
part, tight, no florescence, weak white cut,  
? shows;  
Minor Shale partings.

LIMESTONE - light to medium brown,  
calcirudite, biomicrite, rudstone,  
stromatoporoids, fossil debris, slightly  
dolomitic, poor to fair (3-6%)  
chalky/intraskelatal porosity, bright even  
florescence, fast streaming white cut.

2000/03/23

FOB 10-11000

RPM 100/40

DEN 1080

VIS 4H

S-1.5°

S-1.7°

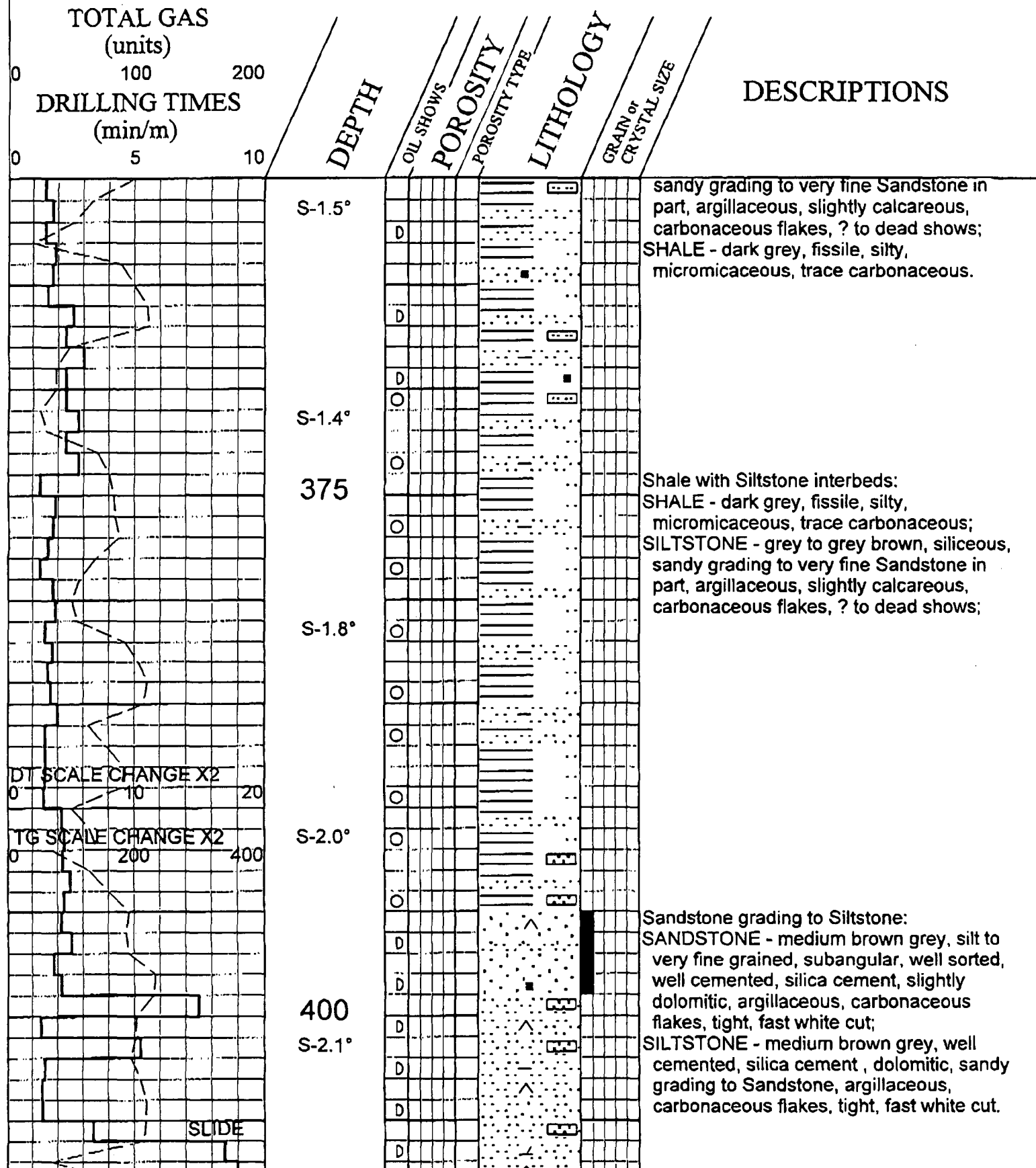
600

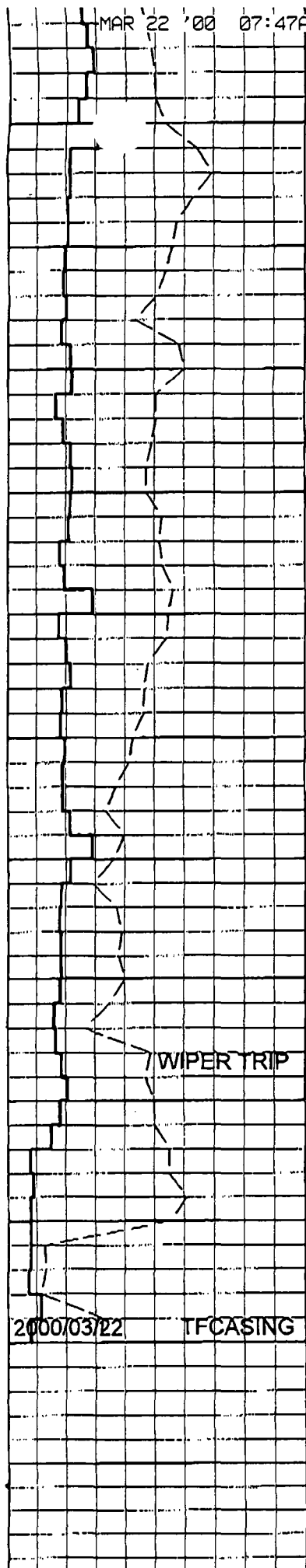
625

Limestone with minor Chert interbed:  
LIMESTONE - light to medium brown,  
calcarenite to calcirudite, wackestone to  
rudstone, fossil debris, stroms, siliceous  
in part, tight, weak white cut, ? shows.  
CHERT - dark brown to black, bedded,  
calcareous, hard, fractures?.

## CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS

SCALE 1:240





S-1.9°

425

S-2.1°

S-2.4°

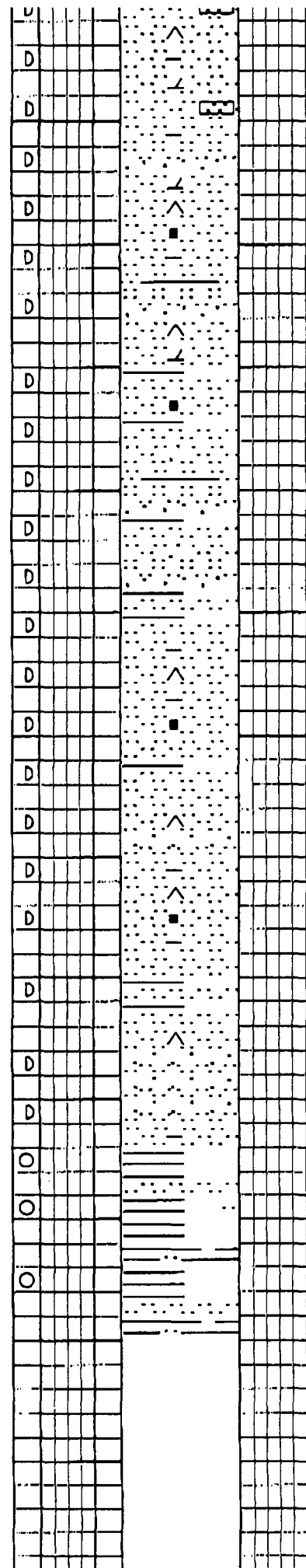
450

S-2.5°

WIPER TRIP

2000/03/22 TF CASING

475



Siltstone with Sandstone stringers & Shale laminae:  
SILTSTONE - medium brown grey, well cemented, silica cement, dolomitic, sandy grading to Sandstone, argillaceous, carbonaceous flakes, tight, fast white cut.

SILTSTONE - medium brown grey, well cemented, silica cement, dolomitic, sandy grading to Sandstone, argillaceous, carbonaceous flakes, tight, fast white cut; Minor Shale laminae.

Shale with Siltstone stringers:  
SHALE - dark grey to black, fissile to subfissile, platy, silty, micromicaceous.

**CABRA CONSULTING**  
**DAILY GEOLOGICAL WELL REPORT**  
 2000-03-21

**AEC (WEST) RENAISSANCE CARCAJOU O-47**

Report To: Glen Andrews

Report From: Glen Andrews

Telephone: 600-700-2868

Spud Date: 2000-03-20

Days from Spud: 1

Gd. Elevation: 57.2

K.B. Elevation: 61.5

Depth @ 0500: 386 m

Formation: Imperial

Status @ 0500: Drilling ahead

24 hr Progress: 261 m

Average ROP: 22.5 m/hr

Cumulative Cost:

**OPERATIONS SUMMARY - Last 24 Hours**

Rig up. Nipple up. Pressure test. Pick up BHA & bit #1. Run in hole. Pressure test. Drill out cement. Spud well @ 1645 Hrs March 20, 2000. Drill ahead &

**SURVEYS**

140m - 2.8°; 179m - 1.2°; 198m - 1.4°; 227m - 1.6°; 247m - 1.7°; 276m - 0.7°;  
 305m - 1.5°; 324m - 1.7°; 353m - 1.5°; 372m -

**MUD PROPERTIES**

Type: H2O  
 Density: 1030 kg/m³  
 Viscosity: s/L  
 Water Loss: cm³/30 min  
 pH:  
 Filter Cake: mm

**SAMPLE TOPS**  
 Formation  
 IMPERIAL

Sample  
 Depth  
 331.0

TVD Subsea  
 331.0 -269.5

Prognosis  
 Subsea  
 -181.0

Change  
 -88.5

**FORECAST ACTIVITIES**

Drill ahead to intermediate casing point (approx 470m). Run

|                     |               |         |            |
|---------------------|---------------|---------|------------|
| <b>CONFIDENTIAL</b> |               | Date    | # of pages |
| To                  | LEAHSA FISHER | From    | WENDY      |
| Co./Dept.           | RENAISSANCE   | Co.     | AEC        |
| Phone #             | 750-1807      | Phone # | 261-2455   |
| Fax #               | 750-1865      | Fax #   | 716-2455   |

|                     |           |         |            |
|---------------------|-----------|---------|------------|
| <b>CONFIDENTIAL</b> |           | Date    | # of pages |
| To                  | ANDY GRAW | From    | BOB TUPPER |
| Co./Dept.           | NER       | Co.     | AEC        |
| Phone #             |           | Phone # | 213-2625   |
| Fax #               | 292-5876  | Fax #   | 716-2455   |

**CABRA CONSULTING**  
**DAILY TOTAL GAS REPORT**  
2000-03-21

**AEC (WEST) RENAISSANCE CARCAJOU O-47**

**SIGNIFICANT TOTAL GAS RESPONSE SUMMARY**

| <b>Depth Interval<br/>(metres)</b> | <b>Total Gas<br/>Response<br/>(units)</b> | <b>Average<br/>Background<br/>(units)</b> | <b>Interpreted<br/>Lithology</b> |
|------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------|
| 267-271                            | 168                                       | 60                                        | Shale - Carb                     |
| 328-331                            | 322                                       | 255                                       | Sandstone                        |

**compu-max**

71 Martinview Road, N.E.  
CALGARY, Alberta  
T3J 2W2 (403) 280-5857

**COMPOSITE WELL HISTORY  
DRILLING TIME  
LITHOLOGY LOG**

COMPANY: AEC OIL & GAS LTD  
WELL: AEC (WEST) RENAISSANCE CARCAJOU O-47  
FIELD: EXPLORATORY  
PROVINCE: NWT  
LOCATION: LSD SEC TWP RGE W MERIDIAN

COORDINATES: 7276663.6 N 516746.48 E  
ELEVATIONS: GD 57.2 m LOG MEASURED FROM KB  
KB 61.5 m 4.3 m ABOVE GROUND  
WELL TYPE: EXPLORATORY TOTAL DEPTH:  
SPUD DATE: 2000-03-20 T.D. DATE:  
LICENCE No.: 1891 AFE No.: 5000048

CONTRACTOR: AKITA #14  
MUD TYPE: GEL CHEM  
MUD UP @:  
SAMPLES: 5 & 2.5 METER INTERVALS  
AEC/REN: 135 TO T.D. METERS  
GOV'T: 135 TO T.D. METERS  
DSTs: NONE

CORES: NONE

OPEN HOLE LOGS: SCHLUMBERGER

**SUPERVISION**

GEOLOGICAL: Glen MacIntosh

DRILLING: ALLAN ANGER

|              |               |       |    |
|--------------|---------------|-------|----|
| Casing Depth | SURFACE:      | 125   | m  |
|              | INTERMEDIATE: |       | m  |
|              | MAIN:         |       | m  |
| Casing Size  | SURFACE:      | 244.5 | mm |
|              | INTERMEDIATE: | 177.8 | mm |
|              | MAIN:         | 114.3 | mm |
| Hole Size    | SURFACE:      | 311   | mm |
|              | INTERMEDIATE: | 222   | mm |
|              | MAIN:         | 156   | mm |

REMARKS:

## ROCK TYPE

|  |                 |
|--|-----------------|
|  | CONGLOMERATE    |
|  | SANDSTONE       |
|  | SILTSTONE       |
|  | SHALE, grey     |
|  | SHALE, black    |
|  | SHALE, coloured |
|  | CHERT           |
|  | LIMESTONE       |
|  | DOLOMITE        |

|  |                    |
|--|--------------------|
|  | ANHYDRITE          |
|  | COAL               |
|  | CLAYSTONE, grey    |
|  | CLAYSTONE, col     |
|  | MARLSTONE, calc    |
|  | MARLSTONE, dol     |
|  | SALT               |
|  | SIDERITE, LIMONITE |
|  | BRECCIA            |

|  |                  |
|--|------------------|
|  | IGNEOUS, basic   |
|  | IGNEOUS, acidic  |
|  | CANNOT INTERPRET |
|  | NO SAMPLE        |
|  | CEMENT           |
|  | TUFF             |
|  | ULTRABASIC       |

## ACCESSORIES

|  |                |
|--|----------------|
|  | SANDY          |
|  | SILTY          |
|  | FELDSPAR       |
|  | SILICEOUS      |
|  | CHERTY, light  |
|  | CHERTY, dark   |
|  | ARGILLACEOUS   |
|  | CARBONACEOUS   |
|  | BITUMENOUS     |
|  | CALCAREOUS     |
|  | LIMESTONE strg |
|  | DOLOMITIC      |
|  | DOLOMITE strg  |
|  | ANHYDRITIC     |
|  | ANHYDRITE strg |
|  | PHOSPHATE pel  |
|  | FERRUGINOUS    |

|  |                |
|--|----------------|
|  | GLAUCONITIC    |
|  | BENTONITIC     |
|  | PYRITIC        |
|  | KAOLINITIC     |
|  | BIOCLASTIC     |
|  | OOLITES        |
|  | PELLETS        |
|  | INTRACLASTS    |
|  | FOSSILS        |
|  | CRINOID        |
|  | PELECYPOD      |
|  | BRACHIOPOD     |
|  | OSTRACOD       |
|  | CORAL          |
|  | STROMATOPOROID |
|  | AMPHIPORA      |
|  | FISH REMAINS   |

|  |                      |
|--|----------------------|
|  | PLANT REMAINS        |
|  | BRECCIA frag         |
|  | SANDSTONE strg       |
|  | SILTSTONE strg       |
|  | SHALE lam            |
|  | TUFFACEOUS           |
|  | Heavy, dark Minerals |
|  | FORAMINIFERA/Rad     |
|  | ANTIGORITE           |
|  | BRUCITE              |
|  | BRONZITE             |
|  | CHROMITE             |
|  | CHRYSTILE            |
|  | DUNITE               |
|  | TALC                 |
|  | SERPENTINE           |

## OIL SHOWS

- EVEN STAINING, FLUORESCES
- SPOTTY STAIN, FLUORESCES
- QUESTIONABLE, NO FLUORESCENCE,
- DEAD, ASPHALTIC

## POROSITY TYPES

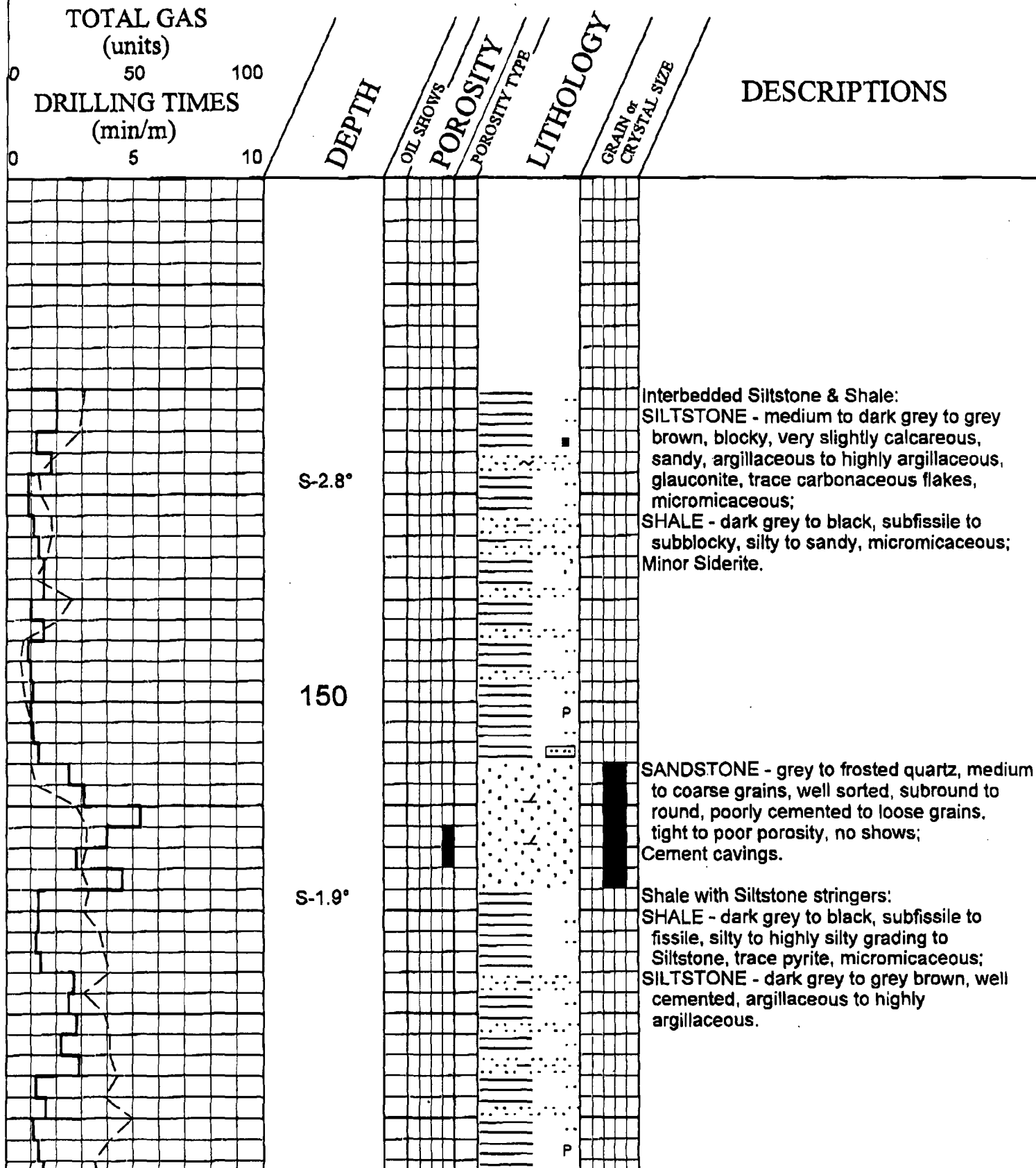
- X INTERCRYSTALLINE, INTERGRANULAR
- ◇ INTEROOLITIC, INTEPELLETOID,
- V VUGGY,
- P PINPOINT,
- ◇ MOLDIC
- ORGANIC
- F FRACTURE
- e EARTHY
- FENESTRAL

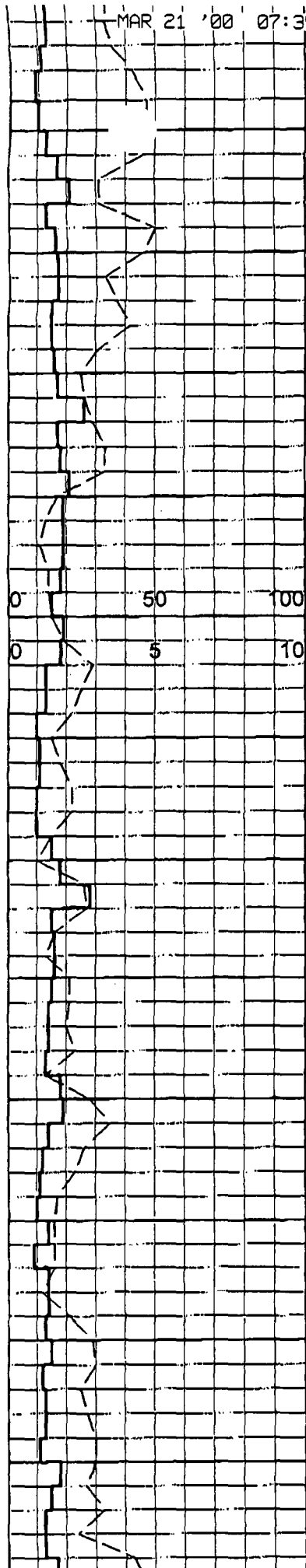
## DUNHAM CLASSES

- PK PACKSTONE
- WK WACKESTONE
- MD MUDSTONE
- BD BOUNDSTONE
- GR GRAINSTONE



SCALE 1:240





S-1.2°

200

S-1.5°

225

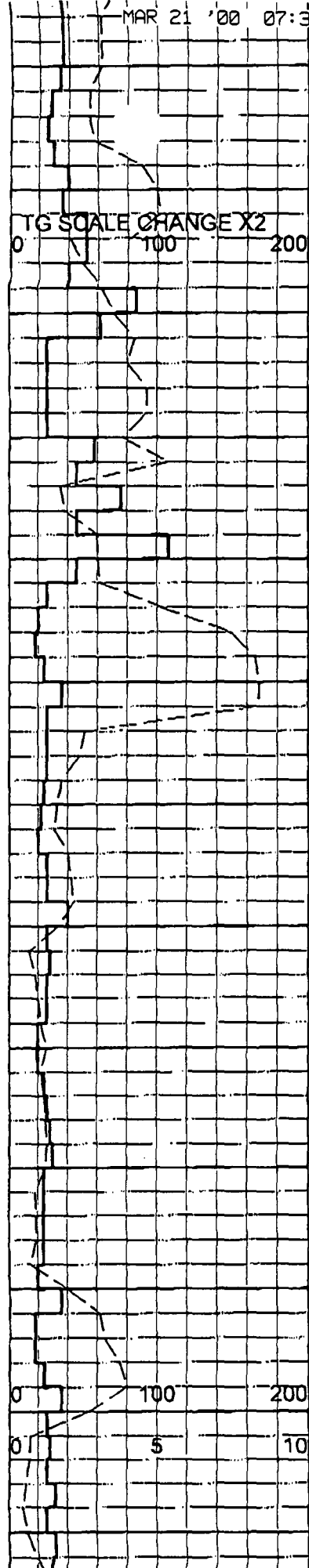
S-1.6°

Shale with Siltstone stringers:  
 SHALE - dark grey to black, subfissile to  
 fissile, silty to highly silty grading to  
 Siltstone, trace pyrite, micromicaceous;

Shale with Siltstone stringers:  
 SHALE - dark grey to black, fissile to  
 subfissile, silty to sandy grading to  
 argillaceous Siltstone, micromicaceous.

Interbedded Siltstone & Shale:  
 SILTSTONE - medium to dark grey, silt to  
 very fine Sandstone, well cemented,  
 calcareous to dolomitic cement,  
 argillaceous, tight;  
 SHALE - dark grey to black, fissile to  
 subfissile, silty to sandy grading to  
 argillaceous Siltstone, micromicaceous.

SHALE - dark grey to black, fissile to  
 subfissile, platy, silty, micromicaceous,  
 slightly carbonaceous, trace pyrite;  
 Minor Siderite stringers.



S-1.7°

250

S-0.6°

275

S-1.0°

300

S-1.5°

SHALE - dark grey to black, fissile to subfissile, platy, slightly silty in part, micromicaceous, minor pyrite, carbonaceous, firm; Minor Siderite.

SHALE - dark grey to black, fissile to subfissile, platy, slightly silty in part, micromicaceous, minor pyrite, carbonaceous, firm; Minor Siderite.

Interbedded Shale & Siltstone:  
 SHALE - dark grey, fissile to subfissile, blocky, silty, carbonaceous, micromicaceous, disseminated pyrite;  
 SILTSTONE - dark grey to grey brown, argillaceous, calcareous in part, sandy grading, rare glauconite, micromicaceous, pyritic;

2000/03/21

/FOB 2000

/RPM 101750

H20

S-1.7°  
325IMPERIAL  
(331.0) ▸

S-1.1°

350

S-1.5°

Shale with Siltstone interbeds: P. 11/11  
SHALE - dark grey, fissile to subfissile,blocky, silty, carbonaceous,  
micromicaceous, disseminated pyrite;SILTSTONE - dark brown to grey brown, well  
cemented, argillaceous, slightly calcareous,  
sandy in part, tightSANDSTONE - off white to light tan, clear &  
frosted quartz, very fine to coarse,  
subangular to subround, moderately  
sorted, poorly cemented to loose, clean,  
trace clay, trace glauc, trace pyrobit, fair to  
good porosity (>10%), slow white streaming  
cut.

Siltstone with Shale interbeds &amp; laminae:

SILTSTONE - grey to grey brown, siliceous,  
sandy grading to very fine Sandstone in  
part, argillaceous, slightly calcareous,  
carbonaceous flakes, ? to dead shows;SHALE - dark grey, fissile, silty,  
micromicaceous, trace carbonaceous.

Interbedded Siltstone &amp; Shale:

SILTSTONE - grey to grey brown, siliceous,  
sandy grading to very fine Sandstone in  
part, argillaceous, slightly calcareous,  
carbonaceous flakes, ? to dead shows;SHALE - dark grey, fissile, silty,  
micromicaceous, trace carbonaceous.

CABRA CONSULTING  
DAILY GEOLOGICAL WELL REPORT  
2000-03-20

**AEC (WEST) RENAISSANCE CARCAJOU O-47**

|                  |                          |                 |              |
|------------------|--------------------------|-----------------|--------------|
| Report To:       | Glen Andrews             | Report From:    | Glen Andrews |
|                  |                          | Telephone:      | 600-700-2868 |
| Spud Date:       | 2000-03-20               | Days from Spud: | 0            |
| Gd. Elevation:   | 57.2                     | K.B. Elevation: | 61.5         |
| Depth @ :        | m                        | Formation:      |              |
| Status @ 0600:   | Nipple up/ pressure test |                 |              |
| 24 hr Progress:  | m                        | Average ROP:    | m/hr         |
| Cumulative Cost: |                          |                 |              |

**OPERATIONS SUMMARY - Last 24 Hours**

On Carcajou D-7 location - Run casing. Circulate. Rig to & cement casing. Set slips.  
Nipple down. Tear out rig release rig @ XXXX Hrs. Move rig to O-47 location. Rig

**FORECAST ACTIVITIES**

Rig up. Nipple up. Pressure test. Run in hole. Drill

S-1.1°  
700

2000/03/24

FOB 13000

RPM 100/40

DEN 1100

VIS 46

WL 12.0

pH 9.0

725

S-1.7°

TG SCALE CHANGE X2

HARE INDIAN  
(730.0)

S-1.6°

7433 u

S-1.6°

750

Interbedded Limestone, Shale & Siltstone:  
**LIMESTONE** - light brown grey to dark brown, calcilutite to calcarenite, micrite to biomicrite, mudstone to wackestone, fossil debris, argillaceous to highly argillaceous grading to Shale, silty grading to Siltstone in part, tight, slow to moderate white cut;  
**SHALE** - dark grey to black, subfissile to blocky, highly calcareous, slightly silty, trace pyrite, slightly bituminous;  
**SILTSTONE** - medium brown, well cemented, highly calcareous, slightly argillaceous.

Interbedded Shale & Siltstone with Limestone stringers:  
**SHALE** - dark grey to black, subfissile to blocky, calcareous to highly calcareous, silty, micromicaceous, bituminous, trace disseminated pyrite, fast streaming white cut;  
**SILTSTONE** - medium to dark grey brown, well cemented, calcareous to highly calcareous, grading to Limestone in part, minor pyrobitumen, slow to moderate streaming white cut;  
**LIMESTONE** - light brown with black specks, calcilutite, micrite, mudstone, very silty, pyrobitumen.

S-0.8°

S-0.4°

650

S-0.8°

S-0.9°

S-0.9°

675

S-1.1°

LIMESTONE - medium to dark grey brown, calcilutite to calcirudite, biomicrite, wackestone to rudstone, stroms, fossil debris, dense matrix, slightly argillaceous in part, siliceous in part, minor residual bitumen, tight to trace chalky porosity (3%), minor fracture porosity, slow to fast streaming white cut; Trace Chert stringers.

LIMESTONE - light to medium brown to grey brown, calcilutite to calcirudite, biomicrite, wackestone to rudstone, stroms, fossil debris, slightly argillaceous in part, minor residual bitumen, tight to trace chalky porosity (3%), minor fracture porosity, fast streaming white cut Fracture filling calcite.

LIMESTONE - medium to dark brown, calcilutite to calcarenite, micrite to biomicrite, mudstone to wackestone, fossil debris, argillaceous, siliceous, dense, fast streaming white cut.

LIMESTONE - light to medium brown to grey brown, calcarenite to calcirudite, biopelmicrite, wackestone to rudstone, fossil debris, pellets, stroms, argillaceous in part, slightly dolomitic, minor bitumen residue, tight to trace poor (<3%) porosity, spotty to ? shows; Minor Shale laminae.

LIMESTONE - light to medium brown (allochems) to dark brown (matrix), micrite to biomicrite, mudstone to rudstone, stroms, fossil debris, argillaceous to highly argillaceous in part, siliceous to Cherty in part, tight, trace poor chalky porosity, moderate to fast streaming white cut. Minor Chert stringers; Minor Shale laminae.