

Total Mud Materials 35/8-3

TOTAL MUD MATERIALS

WELL: 35/8-3

OPERATOR: Norwegian Gulf Exploration Co.

| Quantity: | Material: | Units: Cost: | Unit Price | Total |
|-----------------|--------------------|-----------------------|--------------------|---------------------|
| 96 | API Bentonite | ton | 1 600,00 | 153 600,00 |
| 90 | Barite | 50 kg | 55,88 | 5 029,20 |
| 1340 | Barite | ton | 580,00 | 777 200,00 |
| 71 | Carbo-Mul | liter | 60,00 | 4 260,00 |
| 528 | Drispac Reg | 50 lbs | 600,00 | 316 800,00 |
| 704 | Drispac SL | 50 lbs | 600,00 | 422 400,00 |
| 6 | Free-pipe | 200 liter | 990,00 | 5 940,00 |
| 54350 | KCL | kg | 1,70 | 92 395,00 |
| 860 | KCL-brine | cubic meter | 440,00 | 378 400,00 |
| 47 | Milspot | 50 lbs | 345,00 | 16 215,00 |
| 20 | Miltemp | 50 lbs | 2 950,00 | 59 000,00 |
| 158 | NaOH | 25 kg | 120,00 | 18 960,00 |
| 72 | Potassium Nitrate | 50 kg | 640,00 | 46 080,00 |
| 3 | Probio II | 25 liter | 800,00 | 2 400,00 |
| 70 | Prolignite | 25 kg | 140,00 | 9 800,00 |
| 1 | Proplug C | 25 kg | 85,00 | 85,00 |
| 1 | Proplug F | 25 kg | 85,00 | 85,00 |
| 60 | Prothin C | 25 kg | 150,00 | 9 000,00 |
| 36 | Soda Ash | 25 kg | 150,00 | 5 400,00 |
| 136 | Sodium Bicarbonate | 50 kg | 150,00 | 20 400,00 |
| 200 | XCD-polymer | 25 kg | 1 450,00 | 290 000,00 |
| | | | Total Cost: | 2 633 449,20 |
| Depth at TD (m) | 3944 | Average Cost pr Meter | | 742,23 |

12 $\frac{1}{4}$ " PILOT HOLE

WELL: 35/8-3 OPERATOR: Norwegian Gulf Exploration Co.
CASING: not cased FROM/TO:
BIT: 12 1/4" FROM/TO: 396 m 845 m

| Quantity: | Material: | Units: | Unit Price | Total Cost: |
|-----------|---------------|--------|------------|-------------|
| 20 | API Bentonite | ton | 1 600,00 | 32 000,00 |
| 44 | Barite | ton | 580,00 | 25 520,00 |
| 12 | NaOH | 25 kg | 120,00 | 1 440,00 |
| 9 | Soda Ash | 25 kg | 150,00 | 1 350,00 |

Total Cost for Interval: 60 310,00

Average Cost pr Meter: 648,49

Drilling days: 3 Average Cost pr Day 20 103,33

36" HOLE

WELL: 35/8-3 OPERATOR: Norwegian Gulf Exploration Co.
CASING: 30" FROM/TO: 396,0 m 531,0 m
BIT: 36" HO FROM/TO: 396.0 m 535.0 m

| Quantity: | Material: | Units: | Unit Price | Total Cost: |
|-----------|---------------|--------|------------|-------------|
| 30 | API Bentonite | ton | 1 600,00 | 48 000,00 |
| 36 | Barite | ton | 580,00 | 20 880,00 |
| 20 | NaOH | 25 kg | 120,00 | 2 400,00 |
| 7 | Soda Ash | 25 kg | 150,00 | 1 050,00 |

Total Cost for Interval: 72 330,00

Average Cost pr Meter: 520,36

Drilling days: 4 Average Cost pr Day 18 082,50

26" HOLE

WELL: 35/8-3 OPERATOR: Norwegian Gulf Exploration Co.
CASING: 20" FROM/TO: 396,0 m 818,5 m
BIT: 26" FROM/TO: 531,0 m 830,0 m

| Quantity: | Material: | Units: | Unit Price | Total Cost: |
|-----------|---------------|--------|------------|-------------|
| 46 | API Bentonite | ton | 1 600,00 | 73 600,00 |
| 48 | Barite | ton | 580,00 | 27 840,00 |
| 30 | NaOH | 25 kg | 120,00 | 3 600,00 |
| 18 | Soda Ash | 25 kg | 150,00 | 2 700,00 |

Total Cost for Interval: 107 740,00

Average Cost pr Meter: 360,33

Drilling days: 4 Average Cost pr Day 26 935,00

17½" HOLE

WELL: 35/8-3 OPERATOR: Norwegian Gulf Exploration Co.
CASING: 13 3/8" FROM/TO: 396,0 m 2159,0 m
BIT: 17 1/2" FROM/TO: 830,0 m 2174,0 m

| Quantity: | Material: | Units: | Unit Price | Total Cost: |
|-----------|-------------|----------|------------|-------------|
| 200 | Barite | ton | 580,00 | 116 000,00 |
| 256 | Dispac Reg | 50 lbs | 600,00 | 153 600,00 |
| 201 | Dispac SL | 50 lbs | 600,00 | 120 600,00 |
| 16 | NaOH | 25 kg | 120,00 | 1 920,00 |
| 3 | Probio II | 25 liter | 800,00 | 2 400,00 |
| 11 | XCD-polymer | 25 kg | 1 450,00 | 15 950,00 |

Total Cost for Interval: 410 470,00

Average Cost pr Meter: 305,41

Drilling days: 14 Average Cost pr Day 29 319,29

12¼" HOLE

WELL: 35/8-3 OPERATOR: Norwegian Gulf Exploration Co.
CASING: 9 5/8" FROM/TO: 396,0 m 3545.0 m
BIT: 12 1/4" FROM/TO: 2159.0 m 3545.0 m

| Quantity: | Material: | Units: | Unit Price | Total Cost: |
|-----------|--------------------|-------------|------------|-------------|
| 500 | Barite | ton | 580,00 | 290 000,00 |
| 70 | Carbo-Mul | liter | 60,00 | 4 200,00 |
| 215 | Dispac Reg | 50 lbs | 600,00 | 129 000,00 |
| 410 | Dispac SL | 50 lbs | 600,00 | 246 000,00 |
| 50000 | KCI | kg | 1,70 | 85 000,00 |
| 680 | KCI-brine | cubic meter | 440,00 | 299 200,00 |
| 40 | Milspot | 50 lbs | 345,00 | 13 800,00 |
| 53 | NaOH | 25 kg | 120,00 | 6 360,00 |
| 52 | Potassium Nitrate | 50 kg | 640,00 | 33 280,00 |
| 120 | Sodium Bicarbonate | 50 kg | 150,00 | 18 000,00 |
| 173 | XCD-polymer | 25 kg | 1 450,00 | 250 850,00 |

Total Cost for Interval: 1 375 690,00

Average Cost pr Meter: 992,56

Drilling days: 37 Average Cost pr Day 37 180,81

8½" HOLE

WELL: 35/8-3 OPERATOR: Norwegian Gulf Exploration Co.
CASING: not cased FROM/TO:
BIT: 8 1/2" FROM/TO: 3545.0 m 3944.0 m

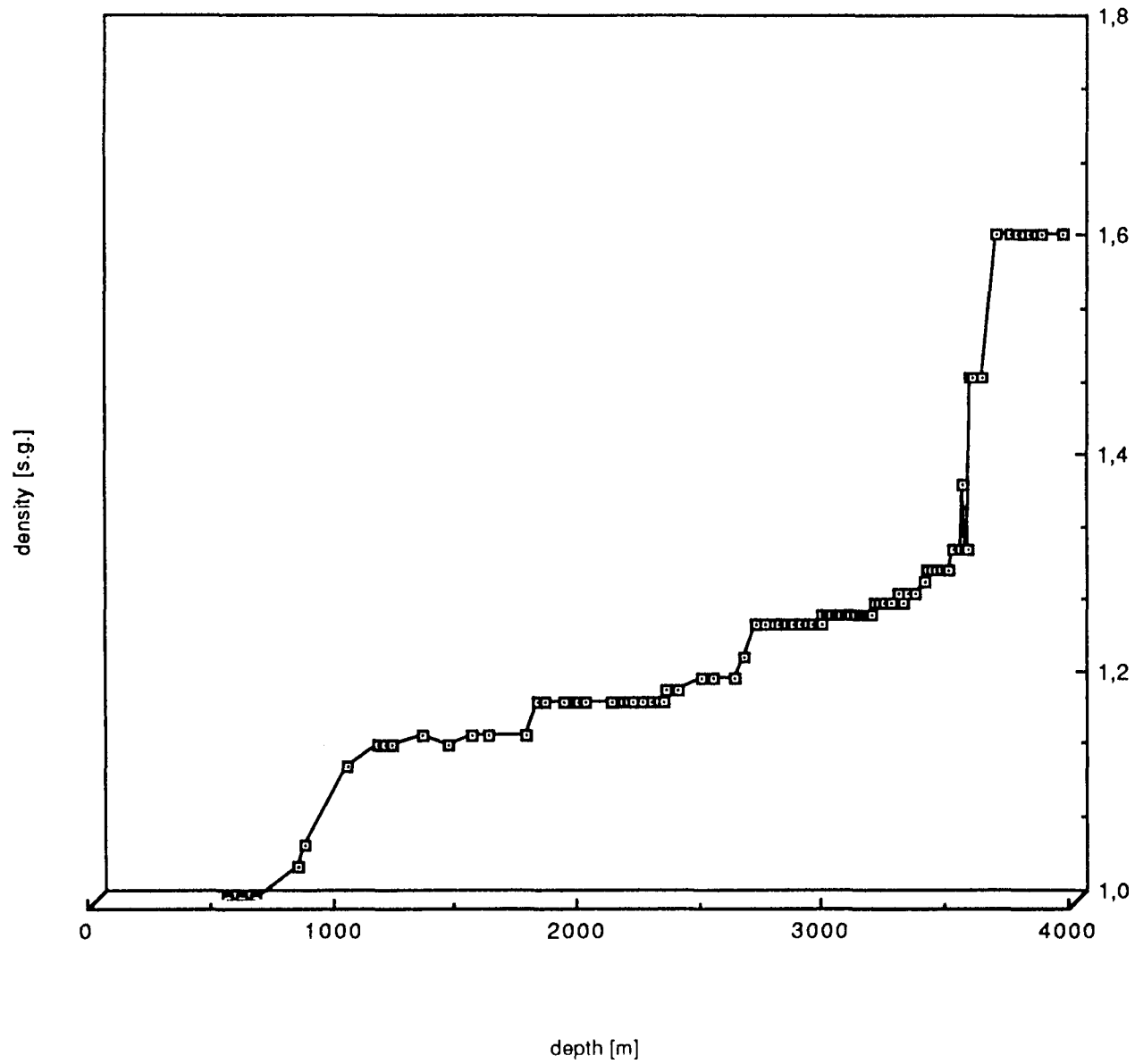
| Quantity: | Material: | Units: | Unit Price | Total Cost: |
|-----------|--------------------|-------------|------------|-------------|
| 512 | Barite | ton | 580,00 | 296 960,00 |
| 90 | Barite | 50 kg | 55,80 | 5 022,00 |
| 1 | Carbo-Mul | liter | 60,00 | 60,00 |
| 57 | Dispac Reg | 50 lbs | 600,00 | 34 200,00 |
| 93 | Dispac SL | 50 lbs | 600,00 | 55 800,00 |
| 6 | Free-pipe | 200 liter | 990,00 | 5 940,00 |
| 4350 | KCL | kg | 1,70 | 7 395,00 |
| 180 | KCL-brine | cubic meter | 440,00 | 79 200,00 |
| 7 | Milspot | 50 lbs | 345,00 | 2 415,00 |
| 20 | Miltemp | 50 lbs | 2 950,00 | 59 000,00 |
| 27 | NaOH | 25 kg | 120,00 | 3 240,00 |
| 20 | Potassium Nitrate | 50 kg | 640,00 | 12 800,00 |
| 70 | Prolignite | 25 kg | 140,00 | 9 800,00 |
| 1 | Proplug C | 25 kg | 85,00 | 85,00 |
| 1 | Proplug F | 25 kg | 85,00 | 85,00 |
| 60 | Prothin C | 25 kg | 150,00 | 9 000,00 |
| 2 | Soda Ash | 25 kg | 150,00 | 300,00 |
| 16 | Sodium Bicarbonate | 50 kg | 150,00 | 2 400,00 |
| 16 | XCD-polymer | 25 kg | 1 450,00 | 23 200,00 |

Total Cost for Interval: 606 902,00

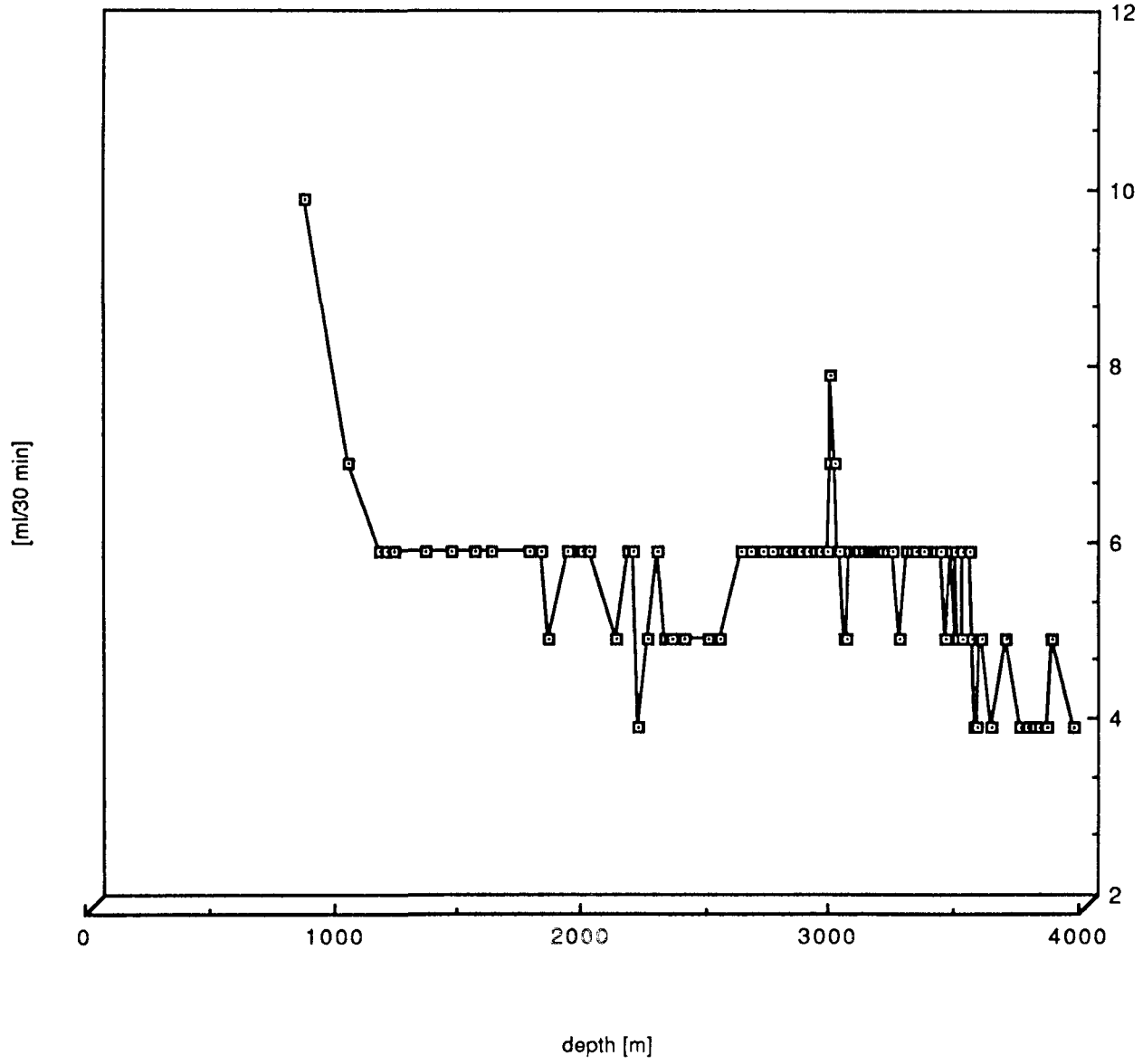
Average Cost pr Meter: 1 517,26

Drilling days: 22 Average Cost pr Day 27 586,45

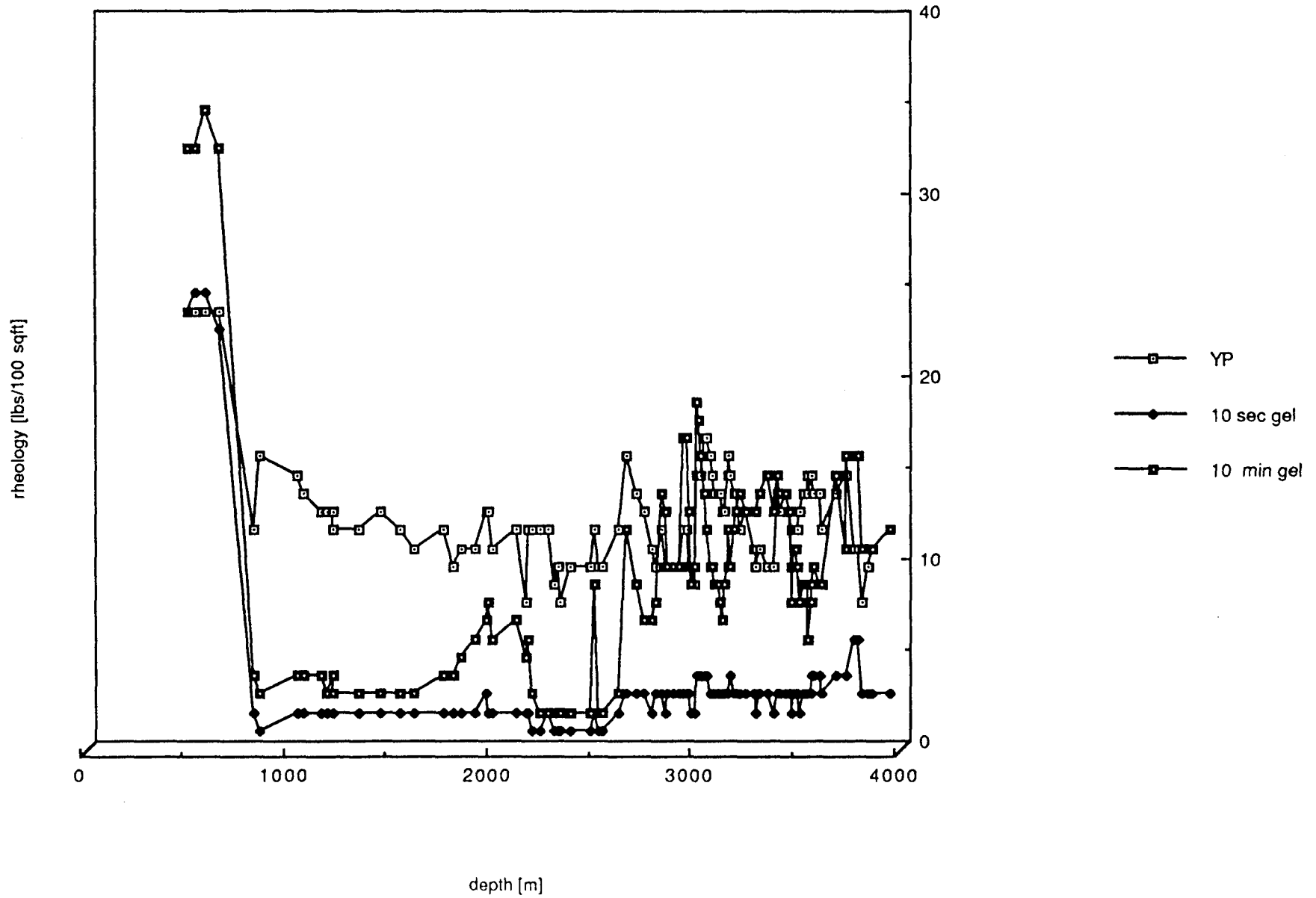
Mud density 35/8-3



API fluid loss 35/8-3



Rheology 35/8-3



DAILY DRILLING MUD PROPERTIES, part 1

Page: 1
Date: 1988-11-09

ll no: 35/8-3 Spud date: 1988-07-06 Rig name: Treasure Scout Engineers: Bengt Havnegjerde Oddvar Birkeland Olaf Skjeggesta
Roy Marker

Tom Nordby

erator: Norwegian Gulf Exploration Co. Days to TD: 71 Warehouse:

ntractor: Wil. Wilhelmsen Total Depth: 3944.00 m Total Cost: 2625361.3 Currency: NOK

| Date | Time | Depth | Mud Density | Funnel Viscosity | Plastic Viscosity | Yield Point | 10 sec gel | 10 min gel | pH | Filtrate API | Filtrate HTHP | Filtrate temp | Filtrate HTHP | Cake Thick-ness | Alkal. (Pm) | Alkal. (Pf) |
|----------|-------|--------|-------------|------------------|-------------------|-------------|------------|------------|----------|--------------|---------------|---------------|---------------|-----------------|-------------|-------------|
| Unit -> | m | s.g. | sec/qt | lbs/100lbs | lbs/100lbs | lbs/100lbs | 100 sqft | | ml/30min | ml/30min | deg C | | | 32nd in | ml | ml |
| 88-07-05 | 23:59 | 0.0 | 1.05 | 0 | 13 | 24.00 | 24.00 | 34.00 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.00 | 0.00 |
| 88-07-06 | 23:59 | 685.0 | 1.05 | 0 | 13 | 24.00 | 23.00 | 35.00 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.00 | 0.00 |
| 88-07-07 | 23:59 | 845.0 | 1.05 | 0 | 13 | 24.00 | 24.00 | 33.00 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.00 | 0.00 |
| 88-07-08 | 23:59 | 495.0 | 1.05 | 0 | 13 | 24.00 | 24.00 | 33.00 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.00 | 0.00 |
| 88-07-09 | 23:59 | 535.0 | 1.05 | 0 | 13 | 24.00 | 25.00 | 33.00 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.00 | 0.00 |
| 88-07-10 | 23:59 | 585.0 | 1.05 | 0 | 13 | 24.00 | 25.00 | 35.00 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.00 | 0.00 |
| 88-07-11 | 23:59 | 531.0 | 1.05 | 0 | 13 | 24.00 | 24.00 | 33.00 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.00 | 0.00 |
| 88-07-12 | 23:59 | 651.0 | 1.05 | 0 | 13 | 24.00 | 23.00 | 33.00 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.00 | 0.00 |
| 88-07-13 | 23:59 | 830.0 | 1.05 | 0 | 13 | 24.00 | 24.00 | 34.00 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.00 | 0.00 |
| 88-07-15 | 19:00 | 818.0 | 1.03 | 0 | 20 | 24.00 | 2.00 | 4.00 | 9.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.00 | 0.00 |
| 88-07-16 | 14:00 | 818.0 | 1.03 | 0 | 21 | 23.00 | 2.00 | 4.00 | 9.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.10 | 0.10 |
| 88-07-17 | 22:00 | 818.0 | 1.03 | 0 | 14 | 12.00 | 1.00 | 3.00 | 9.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.20 | 0.10 |
| 88-07-18 | 14:00 | 818.0 | 1.03 | 0 | 14 | 12.00 | 2.00 | 4.00 | 9.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.20 | 0.10 |
| 88-07-19 | 22:00 | 850.0 | 1.05 | 63 | 16 | 16.00 | 1.00 | 3.00 | 9.4 | 9.6 | 0.0 | 0.0 | 0.0 | 0 | 0.30 | 0.10 |
| 88-07-20 | 06:30 | 1027.0 | 1.12 | 63 | 18 | 15.00 | 2.00 | 4.00 | 9.0 | 6.6 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-20 | 10:30 | 1061.0 | 1.11 | 58 | 16 | 14.00 | 2.00 | 4.00 | 8.8 | 6.0 | 0.0 | 0.0 | 0.0 | 0 | 0.20 | 0.10 |
| 88-07-20 | 21:00 | 1150.0 | 1.14 | 54 | 15 | 13.00 | 2.00 | 4.00 | 9.0 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-21 | 10:30 | 1176.0 | 1.14 | 55 | 14 | 13.00 | 2.00 | 3.00 | 8.9 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-21 | 21:00 | 1205.0 | 1.14 | 50 | 14 | 13.00 | 2.00 | 4.00 | 8.8 | 6.2 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-22 | 07:45 | 1211.0 | 1.14 | 54 | 14 | 12.00 | 2.00 | 3.00 | 8.8 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-22 | 15:15 | 1336.0 | 1.15 | 54 | 14 | 12.00 | 2.00 | 3.00 | 8.7 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-22 | 21:00 | 1444.0 | 1.14 | 0 | 14 | 13.00 | 2.00 | 3.00 | 8.8 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-23 | 07:00 | 1538.0 | 1.15 | 53 | 15 | 12.00 | 2.00 | 3.00 | 8.7 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-23 | 12:00 | 1603.0 | 1.15 | 0 | 15 | 11.00 | 2.00 | 3.00 | 8.7 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-23 | 21:30 | 1754.0 | 1.15 | 52 | 15 | 12.00 | 2.00 | 4.00 | 8.7 | 5.8 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-24 | 09:00 | 1805.0 | 1.18 | 0 | 15 | 10.00 | 2.00 | 4.00 | 8.7 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-24 | 21:30 | 1835.0 | 1.18 | 53 | 16 | 11.00 | 2.00 | 5.00 | 8.7 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-25 | 08:30 | 1910.0 | 1.18 | 52 | 15 | 11.00 | 2.00 | 6.00 | 8.6 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-25 | 15:00 | 1966.0 | 1.18 | 0 | 15 | 13.00 | 3.00 | 7.00 | 8.6 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.10 | 0.10 |
| 88-07-25 | 21:00 | 1974.0 | 1.18 | 0 | 15 | 13.00 | 2.00 | 8.00 | 8.7 | 5.8 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-26 | 07:30 | 1998.0 | 1.18 | 54 | 15 | 11.00 | 2.00 | 6.00 | 8.6 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-07-26 | 20:30 | 2110.0 | 1.18 | 52 | 14 | 12.00 | 2.00 | 7.00 | 8.5 | 5.2 | 0.0 | 0.0 | 0.0 | 1 | 0.10 | 0.10 |
| 88-07-27 | 23:30 | 2174.0 | 1.18 | 0 | 14 | 12.00 | 2.00 | 6.00 | 8.4 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.10 | 0.10 |
| 88-07-28 | 21:00 | 2174.0 | 1.18 | 0 | 14 | 8.00 | 1.00 | 5.00 | 8.5 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.10 | 0.10 |
| 88-07-29 | 21:00 | 2174.0 | 1.18 | 0 | 13 | 7.00 | 0.00 | 0.00 | 8.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.00 | 0.00 |
| 88-07-30 | 23:59 | 2159.0 | 1.18 | 0 | 14 | 8.00 | 2.00 | 5.00 | 8.5 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.10 | 0.10 |
| 88-07-31 | 15:30 | 2194.0 | 1.18 | 56 | 14 | 12.00 | 1.00 | 3.00 | 10.2 | 4.3 | 0.0 | 0.0 | 0.0 | 1 | 0.15 | 0.10 |
| 88-07-31 | 19:30 | 2232.0 | 1.18 | 55 | 14 | 12.00 | 1.00 | 2.00 | 9.6 | 5.2 | 0.0 | 0.0 | 0.0 | 1 | 0.15 | 0.10 |
| 88-07-31 | 23:59 | 2271.0 | 1.18 | 54 | 14 | 12.00 | 2.00 | 2.00 | 9.4 | 6.2 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.10 |
| 88-08-01 | 04:40 | 2297.0 | 1.18 | 50 | 15 | 9.00 | 1.00 | 2.00 | 9.3 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 0.10 | 0.10 |
| 88-08-01 | 10:30 | 2320.0 | 1.18 | 0 | 12 | 10.00 | 1.00 | 2.00 | 9.1 | 5.0 | 0.0 | 0.0 | 0.0 | 1 | 0.10 | 0.10 |
| 88-08-02 | 04:15 | 2330.0 | 1.19 | 45 | 10 | 8.00 | 1.00 | 2.00 | 8.9 | 5.2 | 0.0 | 0.0 | 0.0 | 1 | 0.10 | 0.05 |
| 88-08-02 | 10:00 | 2375.0 | 1.19 | 48 | 9 | 10.00 | 1.00 | 2.00 | 8.5 | 5.2 | 0.0 | 0.0 | 0.0 | 1 | 0.10 | 0.05 |
| 88-08-02 | 23:59 | 2473.0 | 1.20 | 47 | 10 | 10.00 | 1.00 | 2.00 | 8.1 | 5.2 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-03 | 08:30 | 2510.0 | 1.20 | 47 | 10 | 10.00 | 1.00 | 2.00 | 8.4 | 5.2 | 0.0 | 0.0 | 0.0 | 1 | 0.05 | 0.05 |
| 88-08-03 | 23:59 | 2526.0 | 1.20 | 45 | 12 | 10.00 | 1.00 | 2.00 | 8.5 | 5.0 | 0.0 | 0.0 | 0.0 | 1 | 0.05 | 0.05 |
| 88-08-04 | 08:00 | 2613.0 | 1.20 | 44 | 11 | 12.00 | 2.00 | 3.00 | 8.0 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-04 | 14:45 | 2651.0 | 1.22 | 46 | 12 | 16.00 | 3.00 | 12.00 | 8.3 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |

DAILY DRILLING MUD PROPERTIES, part 1

11 no: 35/8-3 Spud date: 1988-07-06 Rig name: Treasure Scout Engineers: Bengt Havnegjerde Oddvar Birkeland Olaf Skjeggesta
Roy Marker

Tom Nordby

erator: Norwegian Gulf Exploration Co. Days to TD: 71 Warehouse:

ntractor: Wil. Wilhelmssen Total Depth: 3944.00 m Total Cost: 2625361.3 Currency: NOK

| Date | Time | Depth | Mud Density | Funnel Viscosity | Plastic Viscosity | Yield Point | 10 sec gel | 10 min gel | pH | Filtrate API | Filtrate HTHP | Filtrate temp | Filtrate HTHP | Cake Thick-ness | Alkal. (Pm) | Alkal. (Pf) |
|----------|-------|--------|-------------|------------------|-------------------|-------------|------------|------------|----------|--------------|---------------|---------------|---------------|-----------------|-------------|-------------|
| Unit -> | m | s.g. | sec/qt | lbs/100 | lbs/100 | lbs/100 | sqft | | ml/30min | ml/30min | deg C | 32nd in | | ml | ml | |
| 88-08-04 | 23:59 | 2697.0 | 1.25 | 49 | 12 | 14.00 | 3.00 | 9.00 | 8.6 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.25 | 0.05 |
| 88-08-05 | 01:29 | 2733.0 | 1.25 | 42 | 12 | 13.00 | 3.00 | 7.00 | 8.4 | 5.5 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.00 |
| 88-08-05 | 11:00 | 2775.0 | 1.25 | 40 | 11 | 11.00 | 2.00 | 7.00 | 8.2 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-05 | 14:15 | 2794.0 | 1.25 | 42 | 11 | 10.00 | 3.00 | 8.00 | 8.1 | 5.8 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-05 | 20:00 | 2826.0 | 1.25 | 39 | 10 | 12.00 | 3.00 | 14.00 | 8.3 | 5.8 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-05 | 23:59 | 2843.0 | 1.25 | 40 | 10 | 10.00 | 2.00 | 13.00 | 8.2 | 5.8 | 28.0 | 115.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-06 | 20:00 | 2843.0 | 1.25 | 40 | 10 | 10.00 | 2.00 | 13.00 | 8.2 | 5.8 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-07 | 17:00 | 2852.0 | 1.25 | 40 | 11 | 10.00 | 3.00 | 10.00 | 8.1 | 5.8 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-07 | 23:00 | 2881.0 | 1.25 | 40 | 10 | 10.00 | 3.00 | 10.00 | 8.0 | 6.4 | 24.0 | 230.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-08 | 05:00 | 2908.0 | 1.25 | 39 | 11 | 10.00 | 3.00 | 10.00 | 8.1 | 6.2 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-08 | 10:00 | 2930.0 | 1.25 | 38 | 10 | 12.00 | 3.00 | 17.00 | 8.0 | 6.1 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-08 | 16:00 | 2953.0 | 1.25 | 39 | 10 | 12.00 | 3.00 | 17.00 | 8.1 | 5.9 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-08 | 20:00 | 2963.0 | 1.25 | 38 | 10 | 10.00 | 3.00 | 13.00 | 8.2 | 7.2 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-08 | 23:00 | 2971.0 | 1.26 | 38 | 9 | 10.00 | 2.00 | 9.00 | 8.3 | 8.0 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-09 | 04:00 | 2985.0 | 1.26 | 40 | 11 | 9.00 | 2.00 | 10.00 | 8.1 | 7.0 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-09 | 23:59 | 2995.0 | 1.26 | 44 | 13 | 15.00 | 4.00 | 19.00 | 8.0 | 6.2 | 24.0 | 200.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-10 | 04:00 | 3006.0 | 1.26 | 42 | 13 | 15.00 | 4.00 | 18.00 | 7.9 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-10 | 10:00 | 3021.0 | 1.26 | 43 | 13 | 15.00 | 4.00 | 16.00 | 8.2 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-10 | 14:00 | 3034.0 | 1.26 | 43 | 12 | 17.00 | 4.00 | 14.00 | 8.2 | 5.3 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-10 | 19:00 | 3048.0 | 1.26 | 44 | 12 | 17.00 | 4.00 | 12.00 | 8.1 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-10 | 23:59 | 3061.0 | 1.26 | 42 | 13 | 16.00 | 3.00 | 10.00 | 8.0 | 6.2 | 21.0 | 200.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-11 | 04:00 | 3072.0 | 1.26 | 42 | 13 | 15.00 | 3.00 | 10.00 | 8.3 | 6.2 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-11 | 10:00 | 3086.0 | 1.26 | 42 | 13 | 14.00 | 3.00 | 9.00 | 8.2 | 6.1 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-11 | 14:00 | 3100.0 | 1.26 | 42 | 13 | 14.00 | 3.00 | 9.00 | 8.1 | 6.1 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-11 | 19:00 | 3116.0 | 1.26 | 41 | 13 | 14.00 | 3.00 | 8.00 | 8.0 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-11 | 23:59 | 3127.0 | 1.26 | 41 | 13 | 13.00 | 3.00 | 7.00 | 8.4 | 6.0 | 23.0 | 200.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-12 | 04:00 | 3138.0 | 1.26 | 41 | 13 | 13.00 | 3.00 | 9.00 | 8.3 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-12 | 10:00 | 3154.0 | 1.26 | 42 | 13 | 15.00 | 3.00 | 10.00 | 8.1 | 5.7 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-12 | 14:00 | 3158.0 | 1.26 | 45 | 14 | 16.00 | 3.00 | 12.00 | 8.0 | 5.5 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-12 | 18:00 | 3164.0 | 1.26 | 42 | 13 | 15.00 | 4.00 | 10.00 | 8.0 | 5.8 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-12 | 23:59 | 3166.0 | 1.26 | 0 | 13 | 15.00 | 4.00 | 10.00 | 8.0 | 5.8 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-13 | 12:00 | 3180.0 | 1.27 | 45 | 13 | 14.00 | 3.00 | 12.00 | 8.5 | 5.6 | 24.0 | 120.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-13 | 17:00 | 3196.0 | 1.27 | 43 | 12 | 14.00 | 3.00 | 13.00 | 8.2 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-13 | 23:59 | 3216.0 | 1.27 | 42 | 11 | 12.00 | 3.00 | 14.00 | 8.4 | 5.7 | 0.0 | 0.0 | 0.0 | 1 | 0.40 | 0.00 |
| 88-08-14 | 08:00 | 3242.0 | 1.27 | 41 | 12 | 13.00 | 3.00 | 13.00 | 8.3 | 5.4 | 24.0 | 120.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-14 | 16:00 | 3275.0 | 1.28 | 44 | 12 | 11.00 | 3.00 | 13.00 | 8.1 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-14 | 23:59 | 3291.0 | 1.27 | 0 | 11 | 11.00 | 3.00 | 13.00 | 8.4 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.20 | 0.00 |
| 88-08-15 | 08:46 | 3291.0 | 1.27 | 0 | 12 | 11.00 | 3.00 | 13.00 | 8.3 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-15 | 23:59 | 3292.0 | 1.27 | 41 | 11 | 10.00 | 2.00 | 13.00 | 8.3 | 5.5 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-16 | 07:00 | 3310.0 | 1.28 | 0 | 12 | 11.00 | 3.00 | 14.00 | 8.1 | 6.0 | 26.0 | 120.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-16 | 15:00 | 3344.0 | 1.28 | 44 | 11 | 10.00 | 3.00 | 15.00 | 8.2 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-16 | 23:59 | 3378.0 | 1.29 | 44 | 11 | 10.00 | 2.00 | 13.00 | 8.2 | 6.0 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-17 | 10:15 | 3395.0 | 1.30 | 44 | 12 | 14.00 | 3.00 | 15.00 | 8.3 | 5.6 | 24.0 | 120.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-17 | 16:00 | 3411.0 | 1.30 | 44 | 12 | 13.00 | 3.00 | 14.00 | 8.2 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-17 | 23:59 | 3434.0 | 1.30 | 43 | 13 | 14.00 | 3.00 | 14.00 | 8.0 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-18 | 07:00 | 3452.0 | 1.30 | 45 | 14 | 13.00 | 3.00 | 13.00 | 8.3 | 5.6 | 24.0 | 120.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-18 | 16:00 | 3467.0 | 1.30 | 45 | 13 | 12.00 | 3.00 | 10.00 | 8.1 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-18 | 23:59 | 3467.0 | 1.30 | 0 | 12 | 12.00 | 2.00 | 8.00 | 8.3 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |

DAILY DRILLING MUD PROPERTIES, part 1

Page: 3
Date: 1988-11-09

ll no: 35/B-3 Spud date: 1988-07-06 Rig name: Treasure Scout Engineers: Bengt Havnegjerde Oddvar Birkeland Olaf Skjeggesta
Roy Marker

Tom Nordby

erator: Norwegian Gulf Exploration Co. Days to TD: 71 Warehouse:

ntractor: Wil. Wilhelmsen Total Depth: 3944.00 m Total Cost: 2625361.3 Currency: NOK

| Date | Time | Depth | Mud Density | Funnel Viscosity | Plastic Viscosity | Yield Point | 10 sec gel | 10 min gel | pH | Filtrate API | Filtrate HTHP | Filtrate temp | Filtrate HTHP | Cake Thick-ness | Alkal. Mud (Pm) | Alkal. Filtrate (Pf) |
|----------|-------|--------|-------------|-----------------------|-------------------|-------------|------------|------------|---------|--------------|---------------|---------------|---------------|-----------------|-----------------|----------------------|
| Unit --> | m | s.g. | sec/qt | lbs/100lbs/100lbs/100 | sqft | ml/30min | ml/30min | deg C | 32nd in | ml | ml | | | in | ml | ml |
| 88-08-19 | 12:00 | 3472.0 | 1.30 | 46 | 13 | 12.00 | 3.00 | 11.00 | 8.2 | 5.6 | 24.0 | 120.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-19 | 16:00 | 3480.0 | 1.30 | 45 | 13 | 12.00 | 3.00 | 11.00 | 8.3 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-19 | 23:59 | 2492.0 | 1.32 | 44 | 12 | 12.00 | 2.00 | 9.00 | 8.2 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-20 | 07:00 | 3498.0 | 1.32 | 44 | 14 | 12.00 | 3.00 | 10.00 | 8.1 | 5.4 | 24.0 | 120.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-20 | 23:59 | 3502.0 | 1.32 | 46 | 13 | 13.00 | 2.00 | 8.00 | 8.0 | 5.6 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-21 | 08:00 | 3522.0 | 1.32 | 45 | 14 | 14.00 | 3.00 | 9.00 | 8.4 | 5.6 | 24.0 | 120.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-21 | 15:15 | 3539.0 | 1.38 | 45 | 15 | 14.00 | 3.00 | 9.00 | 8.2 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-21 | 23:59 | 3539.0 | 1.30 | 45 | 13 | 15.00 | 3.00 | 9.00 | 8.2 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-22 | 06:00 | 3539.0 | 1.32 | 0 | 14 | 15.00 | 3.00 | 9.00 | 8.1 | 5.4 | 24.0 | 120.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-22 | 23:59 | 3539.0 | 1.32 | 0 | 14 | 14.00 | 3.00 | 9.00 | 8.1 | 5.5 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-23 | 06:30 | 3539.0 | 1.32 | 0 | 14 | 15.00 | 3.00 | 8.00 | 8.1 | 5.4 | 24.0 | 120.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-23 | 23:59 | 3539.0 | 1.32 | 0 | 14 | 15.00 | 3.00 | 8.00 | 8.1 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-24 | 22:10 | 3539.0 | 1.32 | 43 | 14 | 15.00 | 3.00 | 8.00 | 8.2 | 5.4 | 24.0 | 120.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-25 | 12:40 | 3539.0 | 1.32 | 55 | 17 | 15.00 | 3.00 | 7.00 | 8.2 | 5.4 | 24.0 | 120.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-25 | 23:59 | 3539.0 | 1.32 | 0 | 17 | 15.00 | 3.00 | 7.00 | 8.2 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 0.00 | 0.00 |
| 88-08-26 | 10:00 | 3539.0 | 1.32 | 46 | 17 | 15.00 | 3.00 | 7.00 | 11.0 | 5.5 | 0.0 | 0.0 | 0.0 | 1 | 0.30 | 0.10 |
| 88-08-26 | 23:59 | 3300.0 | 1.32 | 0 | 17 | 15.00 | 3.00 | 7.00 | 10.5 | 5.4 | 25.0 | 120.0 | 0.0 | 0 | 0.30 | 0.10 |
| 88-08-27 | 14:00 | 3332.0 | 1.32 | 45 | 13 | 14.00 | 3.00 | 8.00 | 10.9 | 5.3 | 0.0 | 0.0 | 0.0 | 1 | 1.10 | 0.10 |
| 88-08-27 | 23:59 | 3345.0 | 1.32 | 47 | 13 | 14.00 | 3.00 | 7.00 | 10.7 | 5.3 | 24.0 | 120.0 | 0.0 | 1 | 1.10 | 0.10 |
| 88-08-28 | 16:00 | 3346.0 | 1.32 | 43 | 14 | 11.00 | 3.00 | 8.00 | 10.7 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 0.90 | 0.05 |
| 88-08-28 | 22:00 | 3364.0 | 1.32 | 57 | 21 | 13.00 | 3.00 | 18.00 | 11.7 | 5.5 | 0.0 | 0.0 | 0.0 | 1 | 1.60 | 0.65 |
| 88-08-28 | 23:59 | 3365.0 | 1.32 | 45 | 16 | 13.00 | 3.00 | 16.00 | 11.6 | 5.6 | 23.0 | 120.0 | 0.0 | 1 | 3.60 | 0.30 |
| 88-08-29 | 19:00 | 3371.0 | 1.32 | 52 | 15 | 15.00 | 4.00 | 29.00 | 11.7 | 6.6 | 28.0 | 120.0 | 0.0 | 1 | 3.80 | 0.40 |
| 88-08-29 | 23:59 | 3371.0 | 1.32 | 0 | 15 | 15.00 | 4.00 | 29.00 | 11.7 | 6.6 | 0.0 | 0.0 | 0.0 | 1 | 3.80 | 0.40 |
| 88-08-30 | 07:00 | 3371.0 | 1.32 | 69 | 12 | 17.00 | 4.00 | 27.00 | 11.8 | 7.2 | 30.0 | 120.0 | 0.0 | 3 | 3.80 | 0.35 |
| 88-08-30 | 11:00 | 3371.0 | 1.32 | 52 | 13 | 14.00 | 4.00 | 18.00 | 11.5 | 6.5 | 0.0 | 0.0 | 0.0 | 1 | 2.80 | 0.30 |
| 88-08-30 | 15:00 | 3373.0 | 1.32 | 45 | 13 | 12.00 | 3.00 | 8.00 | 11.3 | 5.7 | 25.0 | 120.0 | 0.0 | 1 | 2.20 | 0.20 |
| 88-08-30 | 19:00 | 3377.0 | 1.32 | 47 | 14 | 11.00 | 3.00 | 11.00 | 11.4 | 5.5 | 0.0 | 0.0 | 0.0 | 1 | 2.20 | 0.35 |
| 88-08-30 | 23:59 | 3379.0 | 1.32 | 47 | 14 | 12.00 | 3.00 | 14.00 | 11.5 | 5.3 | 23.0 | 120.0 | 0.0 | 1 | 2.20 | 0.30 |
| 88-09-01 | 04:00 | 3397.0 | 1.32 | 45 | 14 | 12.00 | 3.00 | 8.00 | 10.8 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 2.00 | 0.25 |
| 88-09-01 | 09:00 | 3402.0 | 1.32 | 45 | 14 | 12.00 | 2.00 | 5.00 | 10.3 | 5.4 | 24.0 | 120.0 | 0.0 | 1 | 1.70 | 0.30 |
| 88-09-01 | 23:59 | 3402.0 | 1.32 | 0 | 14 | 12.00 | 3.00 | 5.00 | 10.3 | 5.4 | 24.0 | 120.0 | 0.0 | 1 | 1.70 | 0.30 |
| 88-09-02 | 04:00 | 3416.0 | 1.32 | 45 | 15 | 13.00 | 3.00 | 5.00 | 10.2 | 5.4 | 0.0 | 0.0 | 0.0 | 1 | 1.60 | 0.20 |
| 88-09-02 | 10:00 | 3326.0 | 1.32 | 49 | 17 | 13.00 | 3.00 | 6.00 | 10.0 | 5.3 | 0.0 | 0.0 | 0.0 | 1 | 1.50 | 0.00 |
| 88-09-02 | 23:59 | 3426.0 | 1.32 | 0 | 17 | 13.00 | 3.00 | 6.00 | 10.0 | 5.3 | 21.0 | 120.0 | 0.0 | 1 | 1.50 | 0.00 |
| 88-09-03 | 10:00 | 3434.0 | 1.33 | 49 | 17 | 13.00 | 3.00 | 6.00 | 10.0 | 5.3 | 21.0 | 120.0 | 0.0 | 1 | 1.50 | 0.20 |
| 88-09-03 | 12:30 | 3439.0 | 1.32 | 54 | 19 | 20.00 | 3.00 | 10.00 | 9.9 | 5.2 | 0.0 | 0.0 | 0.0 | 1 | 1.20 | 0.20 |
| 88-09-03 | 16:00 | 3453.0 | 1.32 | 54 | 19 | 18.00 | 4.00 | 10.00 | 9.8 | 4.7 | 19.0 | 120.0 | 0.0 | 1 | 1.00 | 0.20 |
| 88-09-03 | 23:59 | 3463.0 | 1.32 | 53 | 18 | 18.00 | 4.00 | 10.00 | 9.7 | 4.5 | 19.0 | 120.0 | 0.0 | 1 | 0.90 | 0.20 |
| 88-09-04 | 05:00 | 3465.0 | 1.32 | 0 | 18 | 18.00 | 5.00 | 9.00 | 9.5 | 4.3 | 19.0 | 120.0 | 0.0 | 1 | 0.50 | 0.10 |
| 88-09-04 | 16:00 | 3470.0 | 1.32 | 54 | 19 | 18.00 | 3.00 | 9.00 | 9.7 | 4.3 | 0.0 | 0.0 | 0.0 | 1 | 0.70 | 0.10 |
| 88-09-04 | 23:59 | 3501.0 | 1.32 | 52 | 18 | 16.00 | 3.00 | 9.00 | 9.4 | 4.2 | 18.0 | 120.0 | 0.0 | 1 | 0.50 | 0.10 |
| 88-09-05 | 05:00 | 3533.0 | 1.32 | 0 | 16 | 15.00 | 4.00 | 8.00 | 9.3 | 4.2 | 0.0 | 0.0 | 0.0 | 1 | 0.50 | 0.40 |
| 88-09-05 | 14:00 | 3542.0 | 1.32 | 0 | 16 | 15.00 | 3.00 | 8.00 | 9.2 | 4.2 | 18.0 | 120.0 | 0.0 | 1 | 0.60 | 0.10 |
| 88-09-05 | 23:59 | 3560.0 | 1.32 | 0 | 16 | 15.00 | 3.00 | 8.00 | 9.0 | 4.2 | 0.0 | 0.0 | 0.0 | 1 | 0.50 | 0.10 |
| 88-09-06 | 23:59 | 3560.0 | 1.32 | 0 | 17 | 15.00 | 3.00 | 5.00 | 8.8 | 4.3 | 18.0 | 120.0 | 0.0 | 1 | 0.50 | 0.10 |
| 88-09-07 | 23:59 | 3560.0 | 1.32 | 0 | 17 | 15.00 | 3.20 | 8.40 | 8.6 | 4.3 | 18.0 | 120.0 | 0.0 | 1 | 0.40 | 0.10 |
| 88-09-08 | 23:59 | 3560.0 | 1.32 | 0 | 17 | 15.00 | 3.20 | 8.40 | 8.5 | 4.3 | 19.0 | 120.0 | 0.0 | 1 | 0.30 | 0.10 |

DAILY DRILLING MUD PROPERTIES, part 1

Page: 4
Date: 1988-11-09

11 no: 35/8-3 Spud date: 1988-07-06 Rig name: Treasure Scout Engineers: Bengt Havnegjerde Oddvar Birkeland Olaf Skjeggesta
Roy Marker

Tom Nordby

erator: Norwegian Gulf Exploration Co. Days to TD: 71 Warehouse:

ntractor: Wil. Wilhelmsen Total Depth: 3944.00 m Total Cost: 2625361.3 Currency: NOK

| Date | Time | Depth | Mud Density | Funnel Viscosity | Plastic Viscosity | Yield Point | 10 sec gel | 10 min gel | pH | Filtrate API | Filtrate HTHP | Filtrate temp | Filtrate HTHP | Cake Thick-ness | Alkal. (Pm) | Alkal. (Pf) |
|----------|---------|--------|-------------|------------------|-------------------|-------------|------------|------------|------|--------------|---------------|---------------|---------------|-----------------|-------------|-------------|
| | Unit -> | m | s.g. | sec/qt | lbs/100 | lbs/100 | lbs/100 | sqft | | ml/30min | ml/30min | deg C | | 32nd in | ml | ml |
| 88-09-09 | 23:59 | 3544.0 | 1.32 | 0 | 17 | 15.00 | 3.20 | 8.40 | 8.3 | 4.3 | 19.0 | 120.0 | | 1 | 0.30 | 0.10 |
| 88-09-10 | 23:59 | 3544.0 | 1.32 | 0 | 16 | 14.00 | 3.20 | 6.30 | 8.4 | 4.3 | 19.0 | 120.0 | | 1 | 0.30 | 0.10 |
| 88-09-12 | 23:59 | 3563.0 | 1.48 | 48 | 16 | 15.00 | 4.00 | 9.00 | 10.9 | 4.9 | 20.0 | 120.0 | | 1 | 1.10 | 0.20 |
| 88-09-13 | 12:00 | 3600.0 | 1.48 | 48 | 18 | 14.00 | 4.00 | 9.00 | 10.6 | 4.6 | 17.0 | 120.0 | | 1 | 0.90 | 0.20 |
| 88-09-13 | 23:59 | 3572.0 | 1.48 | 48 | 18 | 14.00 | 4.00 | 10.00 | 10.5 | 4.6 | 0.0 | 0.0 | | 1 | 0.80 | 0.10 |
| 88-09-14 | 12:00 | 3611.0 | 1.48 | 44 | 20 | 12.00 | 3.00 | 9.00 | 10.1 | 4.5 | 18.0 | 120.0 | | 1 | 0.50 | 0.10 |
| 88-09-15 | 23:59 | 3675.0 | 1.61 | 51 | 20 | 14.00 | 4.00 | 15.00 | 9.0 | 4.6 | 19.0 | 120.0 | | 1 | 0.25 | 0.05 |
| 88-09-16 | 23:59 | 3732.0 | 1.61 | 54 | 24 | 15.00 | 4.00 | 11.00 | 8.6 | 4.0 | 17.0 | 120.0 | | 1 | 0.15 | 0.05 |
| 88-09-17 | 23:59 | 3732.0 | 1.61 | 53 | 25 | 16.00 | 4.00 | 16.00 | 8.5 | 3.4 | 16.0 | 120.0 | | 1 | 0.15 | 0.05 |
| 88-09-18 | 23:59 | 3763.0 | 1.61 | 53 | 27 | 11.00 | 6.00 | 16.00 | 8.9 | 3.8 | 16.0 | 120.0 | | 1 | 0.15 | 0.10 |
| 88-09-19 | 12:00 | 3784.0 | 1.61 | 51 | 27 | 11.00 | 6.00 | 16.00 | 9.5 | 3.8 | 16.0 | 120.0 | | 1 | 0.80 | 0.30 |
| 88-09-20 | 17:23 | 3806.0 | 1.61 | 54 | 24 | 8.00 | 3.00 | 11.00 | 9.0 | 4.0 | 17.0 | 120.0 | | 1 | 0.60 | 0.05 |
| 88-09-21 | 23:59 | 3833.0 | 1.61 | 52 | 24 | 10.00 | 3.00 | 11.00 | 8.9 | 4.1 | 17.0 | 120.0 | | 1 | 0.70 | 0.05 |
| 88-09-22 | 22:12 | 3853.0 | 1.61 | 53 | 21 | 11.00 | 3.00 | 11.00 | 9.0 | 4.6 | 17.0 | 120.0 | | 1 | 0.70 | 0.05 |
| 88-09-23 | 22:30 | 3944.0 | 1.61 | 53 | 23 | 12.00 | 3.00 | 12.00 | 8.8 | 4.3 | 18.0 | 120.0 | | 1 | 0.30 | 0.00 |
| 88-09-24 | 23:59 | 3944.0 | 1.61 | 0 | 23 | 12.00 | 3.00 | 12.00 | 8.8 | 4.0 | 17.0 | 120.0 | | 1 | 0.30 | 0.00 |
| 88-09-25 | 23:30 | 3944.0 | 1.61 | 75 | 25 | 15.00 | 4.00 | 18.00 | 8.6 | 4.3 | 0.0 | 0.0 | | 1 | 0.30 | 0.00 |
| 88-09-25 | 23:59 | 3944.0 | 1.61 | 58 | 20 | 11.00 | 3.00 | 11.00 | 8.7 | 4.0 | 17.0 | 120.0 | | 1 | 0.30 | 0.00 |
| 88-09-26 | 23:59 | 3944.0 | 1.61 | 0 | 20 | 11.00 | 3.00 | 11.00 | 8.7 | 4.0 | 17.0 | 120.0 | | 1 | 0.30 | 0.00 |
| 88-09-27 | 23:00 | 3944.0 | 1.61 | 0 | 20 | 11.00 | 3.00 | 11.00 | 8.6 | 4.2 | 17.0 | 120.0 | | 1 | 0.30 | 0.00 |
| 88-09-28 | 12:00 | 3944.0 | 1.61 | 52 | 20 | 11.00 | 3.00 | 11.00 | 8.6 | 4.3 | 17.0 | 120.0 | | 1 | 0.30 | 0.00 |
| 88-09-28 | 23:59 | 3944.0 | 1.61 | 46 | 20 | 8.00 | 3.00 | 9.00 | 8.6 | 4.3 | 17.0 | 120.0 | | 1 | 0.30 | 0.00 |
| 88-09-29 | 23:59 | 3944.0 | 1.61 | 0 | 20 | 8.00 | 3.00 | 9.00 | 8.6 | 4.3 | 17.0 | 120.0 | | 1 | 0.30 | 0.00 |
| 88-09-30 | 19:00 | 3944.0 | 1.61 | 0 | 18 | 9.00 | 4.00 | 16.00 | 8.4 | 4.1 | 20.0 | 120.0 | | 1 | 0.30 | 0.05 |
| 88-10-01 | 23:59 | 3944.0 | 1.61 | 0 | 0 | 10.00 | 2.00 | 8.00 | 9.2 | 4.1 | 20.0 | 120.0 | | 1 | 0.30 | 0.05 |
| 88-10-02 | | 3618.0 | 1.61 | 0 | 20 | 10.00 | 2.00 | 8.00 | 9.0 | 3.7 | 18.0 | 120.0 | | 1 | 0.30 | 0.05 |
| 88-10-03 | 23:00 | 3550.0 | 1.61 | 60 | 20 | 10.00 | 2.00 | 8.00 | 8.8 | 3.8 | 18.0 | 120.0 | | 1 | 0.30 | 0.05 |
| 88-10-04 | 23:59 | 3944.0 | 1.61 | 0 | 20 | 12.00 | 2.00 | 8.00 | 9.1 | 3.4 | 19.0 | 120.0 | | 1 | 0.25 | 0.05 |
| 88-10-06 | 23:59 | 3750.0 | 1.61 | 0 | 20 | 12.00 | 2.00 | 8.00 | 8.9 | 3.4 | 18.0 | 120.0 | | 1 | 0.30 | 0.05 |
| 88-10-07 | 23:59 | 3450.0 | 1.61 | 0 | 20 | 12.00 | 2.00 | 8.00 | 8.8 | 3.5 | 18.0 | 120.0 | | 1 | 0.30 | 0.05 |
| 88-10-08 | 23:59 | 2050.0 | 1.32 | 0 | 13 | 9.00 | 2.00 | 6.00 | 8.7 | 4.8 | 0.0 | 0.0 | | 1 | 0.25 | 0.05 |
| 88-10-09 | 23:59 | 2050.0 | 1.32 | 0 | 13 | 9.00 | 2.00 | 6.00 | 8.7 | 4.8 | 0.0 | 0.0 | | 1 | 0.30 | 0.05 |
| 88-10-10 | 23:59 | 2050.0 | 1.32 | 0 | 13 | 9.00 | 2.00 | 6.00 | 8.7 | 4.8 | 0.0 | 0.0 | | 1 | 0.30 | 0.05 |
| 88-10-11 | 23:59 | 2050.0 | 1.32 | 0 | 13 | 9.00 | 2.00 | 6.00 | 8.6 | 4.8 | 0.0 | 0.0 | | 1 | 0.30 | 0.05 |
| 88-10-12 | 23:59 | 440.0 | 1.31 | 0 | 11 | 6.00 | 2.00 | 4.00 | 8.6 | 6.5 | 0.0 | 0.0 | | 1 | 0.30 | 0.05 |

DAILY DRILLING MUD PROPERTIES, part 2

Page: 1
Date: 1988-11-01

ll no: 35/8-3 Spud date: 1988-07-06 Rig name: Treasure Scout Engineers: Bengt Havnegjerde Oddvar Birkeland Olaf Skjeggesta
Roy Marker

Tom Nordby

erator: Norwegian Gulf Exploration Co. Days to TD: 71 Warehouse:

ntractor: Wil. Wilhelmssen Total Depth: 3944.00 m Total Cost: 2625361.3 Currency: NOK

| Date | Time | Depth | Alkalinity Filtrate (Mf) ml | Chloride in ppm | Chloride out ppm | Calcium in mg/l | Calcium out mg/l | Magnesium in mg/l | Magnesium out mg/l | Sand Content % vol | Solids Content % vol | Oil Content % vol | Water Content % vol |
|----------|-------|--------|--------------------------------------|-----------------------|------------------------|-----------------------|------------------------|-------------------------|--------------------------|--------------------------|----------------------------|-------------------------|---------------------------|
| Unit -> | | m | | | | | | | | | | | |
| 88-07-05 | 23:59 | 0.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88-07-06 | 23:59 | 685.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88-07-07 | 23:59 | 845.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88-07-08 | 23:59 | 495.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88-07-09 | 23:59 | 535.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88-07-10 | 23:59 | 585.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88-07-11 | 23:59 | 531.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88-07-12 | 23:59 | 651.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88-07-13 | 23:59 | 830.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88-07-15 | 19:00 | 818.0 | 0.0 | 22000 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.9 | 0.0 | 99.1 |
| 88-07-16 | 14:00 | 818.0 | 0.8 | 21000 | 0 | 360 | 0 | 753 | 0 | 0.0 | 1.0 | 0.0 | 99.0 |
| 88-07-17 | 22:00 | 818.0 | 0.8 | 21000 | 0 | 360 | 0 | 753 | 0 | 0.0 | 1.0 | 0.0 | 99.0 |
| 88-07-18 | 14:00 | 818.0 | 0.7 | 21000 | 0 | 360 | 0 | 753 | 0 | 0.0 | 1.0 | 0.0 | 99.0 |
| 88-07-19 | 22:00 | 850.0 | 0.8 | 20000 | 20000 | 640 | 256000 | 826 | -154305 | 0.0 | 2.1 | 0.0 | 97.9 |
| 88-07-20 | 06:30 | 1027.0 | 0.7 | 20000 | 20000 | 360 | 360 | 510 | 510 | 0.1 | 5.1 | 0.0 | 94.9 |
| 88-07-20 | 10:30 | 1061.0 | 0.7 | 20000 | 20000 | 360 | 360 | 510 | 510 | 1.3 | 4.1 | 0.0 | 95.9 |
| 88-07-20 | 21:00 | 1150.0 | 0.8 | 20000 | 20000 | 360 | 144000 | 510 | -86751 | 0.0 | 4.1 | 0.0 | 95.9 |
| 88-07-21 | 10:30 | 1176.0 | 0.7 | 21000 | 21000 | 400 | 400 | 972 | 972 | 1.0 | 6.0 | 0.0 | 94.0 |
| 88-07-21 | 21:00 | 1205.0 | 0.7 | 21000 | 21000 | 400 | 400 | 972 | 972 | 0.7 | 5.0 | 0.0 | 95.0 |
| 88-07-22 | 07:45 | 1211.0 | 0.7 | 21000 | 21000 | 440 | 176000 | 948 | -105705 | 1.0 | 6.0 | 0.0 | 94.0 |
| 88-07-22 | 15:15 | 1336.0 | 0.8 | 20000 | 20000 | 400 | 0 | 1021 | 0 | 0.8 | 6.1 | 0.0 | 93.9 |
| 88-07-22 | 21:00 | 1444.0 | 0.8 | 21000 | 21000 | 560 | 0 | 875 | 0 | 0.8 | 5.0 | 0.0 | 95.0 |
| 88-07-23 | 07:00 | 1538.0 | 0.6 | 21000 | 21000 | 440 | 440 | 948 | 948 | 1.0 | 6.0 | 0.0 | 94.0 |
| 88-07-23 | 12:00 | 1603.0 | 0.6 | 21000 | 0 | 480 | 0 | 923 | 0 | 1.3 | 6.0 | 0.0 | 94.0 |
| 88-07-23 | 21:30 | 1754.0 | 0.7 | 21000 | 0 | 440 | 0 | 972 | 0 | 1.2 | 6.0 | 0.0 | 94.0 |
| 88-07-24 | 09:00 | 1805.0 | 0.6 | 21000 | 0 | 440 | 0 | 948 | 0 | 0.8 | 6.0 | 0.0 | 94.0 |
| 88-07-24 | 21:30 | 1835.0 | 0.6 | 21000 | 0 | 640 | 0 | 972 | 0 | 0.8 | 6.0 | 0.0 | 94.0 |
| 88-07-25 | 08:30 | 1910.0 | 0.4 | 21000 | 0 | 520 | 0 | 948 | 0 | 0.5 | 6.0 | 0.0 | 94.0 |
| 88-07-25 | 15:00 | 1966.0 | 0.4 | 21000 | 0 | 560 | 0 | 972 | 0 | 0.5 | 6.0 | 0.0 | 94.0 |
| 88-07-25 | 21:00 | 1974.0 | 0.6 | 21000 | 0 | 600 | 0 | 972 | 0 | 0.5 | 6.0 | 0.0 | 94.0 |
| 88-07-26 | 07:30 | 1998.0 | 0.4 | 21000 | 0 | 480 | 0 | 1021 | 0 | 0.3 | 6.0 | 0.0 | 94.0 |
| 88-07-26 | 20:30 | 2110.0 | 0.4 | 21000 | 0 | 520 | 0 | 1021 | 0 | 0.3 | 6.0 | 0.0 | 94.0 |
| 88-07-27 | 23:30 | 2174.0 | 0.4 | 21000 | 0 | 640 | 0 | 899 | 0 | 0.3 | 6.0 | 0.0 | 94.0 |
| 88-07-28 | 21:00 | 2174.0 | 0.4 | 21000 | 0 | 600 | 0 | 851 | 0 | 0.2 | 6.0 | 0.0 | 94.0 |
| 88-07-29 | 21:00 | 2174.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88-07-30 | 23:59 | 2159.0 | 0.4 | 21000 | 0 | 600 | 0 | 851 | 0 | 0.2 | 6.0 | 0.0 | 94.0 |
| 88-07-31 | 15:30 | 2194.0 | 0.4 | 50000 | 50000 | 800 | 800 | 365 | 365 | 0.0 | 4.2 | 0.0 | 95.8 |
| 88-07-31 | 19:30 | 2232.0 | 0.3 | 60000 | 60000 | 800 | 800 | 365 | 365 | 0.0 | 4.1 | 0.0 | 95.9 |
| 88-07-31 | 23:59 | 2271.0 | 0.3 | 60000 | 60000 | 800 | 800 | 365 | 365 | 0.0 | 4.1 | 0.0 | 95.9 |
| 88-08-01 | 04:40 | 2297.0 | 0.3 | 50000 | 50000 | 680 | 680 | 146 | 146 | 0.0 | 4.7 | 0.0 | 95.3 |
| 88-08-01 | 10:30 | 2320.0 | 0.3 | 49000 | 49000 | 680 | 680 | 146 | 146 | 0.0 | 4.8 | 0.0 | 95.2 |
| 88-08-02 | 04:15 | 2330.0 | 0.3 | 54000 | 54000 | 680 | 680 | 146 | 146 | 0.0 | 4.5 | 0.0 | 95.5 |
| 88-08-02 | 10:00 | 2375.0 | 0.3 | 55000 | 55000 | 680 | 680 | 146 | 146 | 0.0 | 4.4 | 0.0 | 95.6 |
| 88-08-02 | 23:59 | 2473.0 | 0.3 | 53000 | 53000 | 800 | 800 | 194 | 194 | 0.3 | 4.0 | 0.0 | 96.0 |
| 88-08-03 | 08:30 | 2510.0 | 0.3 | 53000 | 53000 | 720 | 720 | 243 | 243 | 0.5 | 5.0 | 0.0 | 95.0 |
| 88-08-03 | 23:59 | 2526.0 | 0.3 | 52000 | 52000 | 800 | 800 | 243 | 243 | 0.5 | 5.1 | 0.0 | 94.9 |
| 88-08-04 | 08:00 | 2613.0 | 1.0 | 53000 | 53000 | 880 | 880 | 267 | 267 | 0.5 | 5.0 | 0.0 | 95.0 |
| 88-08-04 | 14:45 | 2651.0 | 0.1 | 54000 | 54000 | 880 | 880 | 267 | 267 | 0.4 | 6.0 | 0.0 | 94.0 |

DAILY DRILLING MUD PROPERTIES, part 2

Page: 2
Date: 1988-11-01

ll no: 35/8-3 Spud date: 1988-07-06 Rig name: Treasure Scout Engineers: Bengt Havnegjerde Oddvar Birkeland Olaf Skjeggesta
Roy Marker

Tom Nordby

erator: Norwegian Gulf Exploration Co. Days to TD: 71 Warehouse:

ntractor: Wil. Wilhelmsen Total Depth: 3944.00 m Total Cost: 2625361.3 Currency: NOK

| Date | Time | Depth | Alkalinity Filtrate (Mf) | Chloride in | Chloride out | Calcium in | Calcium out | Magnesium in | Magnesium out | Sand Content | Solids Content | Oil Content | Water Content |
|----------|---------|--------|--------------------------------|----------------|-----------------|---------------|----------------|-----------------|------------------|-----------------|-------------------|----------------|------------------|
| | Unit -> | m | ml | ppm | ppm | mg/l | mg/l | mg/l | mg/l | % vol | % vol | % vol | % vol |
| 88-08-04 | 23:59 | 2697.0 | 0.3 | 55000 | 55000 | 880 | 880 | 267 | 267 | 0.3 | 7.0 | 0.0 | 93.0 |
| 88-08-05 | 01:29 | 2733.0 | 0.2 | 60000 | 60000 | 920 | 920 | 267 | 267 | 0.4 | 6.7 | 0.0 | 93.3 |
| 88-08-05 | 11:00 | 2775.0 | 0.2 | 61000 | 61000 | 920 | 920 | 267 | 267 | 0.3 | 6.6 | 0.0 | 93.4 |
| 88-08-05 | 14:15 | 2794.0 | 0.2 | 61000 | 61000 | 880 | 880 | 243 | 243 | 0.3 | 6.6 | 0.0 | 93.4 |
| 88-08-05 | 20:00 | 2826.0 | 0.2 | 62000 | 62000 | 800 | 800 | 267 | 267 | 0.3 | 6.5 | 0.0 | 93.5 |
| 88-08-05 | 23:59 | 2843.0 | 0.2 | 62000 | 62000 | 760 | 760 | 267 | 267 | 0.3 | 6.5 | 0.0 | 93.5 |
| 88-08-06 | 20:00 | 2843.0 | 0.2 | 62000 | 62000 | 760 | 760 | 267 | 267 | 0.3 | 6.5 | 0.0 | 93.5 |
| 88-08-07 | 17:00 | 2852.0 | 0.2 | 62000 | 62000 | 760 | 760 | 267 | 267 | 0.3 | 6.5 | 0.0 | 93.5 |
| 88-08-07 | 23:00 | 2881.0 | 0.1 | 62000 | 62000 | 840 | 840 | 292 | 292 | 0.3 | 7.6 | 0.0 | 92.4 |
| 88-08-08 | 05:00 | 2908.0 | 0.2 | 62000 | 62000 | 760 | 760 | 340 | 340 | 0.3 | 7.6 | 0.0 | 92.4 |
| 88-08-08 | 10:00 | 2930.0 | 0.2 | 63000 | 63000 | 800 | 800 | 389 | 389 | 0.3 | 7.5 | 0.0 | 92.5 |
| 88-08-08 | 16:00 | 2953.0 | 0.2 | 63000 | 63000 | 800 | 800 | 389 | 389 | 0.3 | 7.5 | 0.0 | 92.5 |
| 88-08-08 | 20:00 | 2963.0 | 0.2 | 60000 | 60000 | 720 | 720 | 292 | 292 | 0.3 | 7.7 | 0.0 | 92.3 |
| 88-08-08 | 23:00 | 2971.0 | 0.2 | 58000 | 58000 | 640 | 640 | 292 | 292 | 0.3 | 8.9 | 0.0 | 91.1 |
| 88-08-09 | 04:00 | 2985.0 | 0.2 | 59000 | 59000 | 640 | 640 | 292 | 292 | 0.3 | 8.8 | 0.0 | 91.2 |
| 88-08-09 | 23:59 | 2995.0 | 0.2 | 60000 | 60000 | 760 | 760 | 267 | 267 | 0.3 | 8.7 | 0.0 | 91.3 |
| 88-08-10 | 04:00 | 3006.0 | 0.2 | 62000 | 62000 | 720 | 720 | 292 | 292 | 0.3 | 8.6 | 0.0 | 91.4 |
| 88-08-10 | 10:00 | 3021.0 | 0.2 | 62000 | 62000 | 680 | 680 | 292 | 292 | 0.3 | 8.6 | 0.0 | 91.4 |
| 88-08-10 | 14:00 | 3034.0 | 0.2 | 62000 | 62000 | 680 | 680 | 316 | 316 | 0.3 | 7.6 | 0.0 | 92.4 |
| 88-08-10 | 19:00 | 3048.0 | 0.2 | 62000 | 62000 | 720 | 720 | 292 | 292 | 0.3 | 7.6 | 0.0 | 92.4 |
| 88-08-10 | 23:59 | 3061.0 | 0.2 | 60000 | 60000 | 640 | 640 | 243 | 243 | 0.3 | 8.7 | 0.0 | 91.3 |
| 88-08-11 | 04:00 | 3072.0 | 0.2 | 60000 | 60000 | 640 | 640 | 243 | 243 | 0.3 | 8.7 | 0.0 | 91.3 |
| 88-08-11 | 10:00 | 3086.0 | 0.2 | 62000 | 62000 | 680 | 680 | 243 | 243 | 0.3 | 8.6 | 0.0 | 91.4 |
| 88-08-11 | 14:00 | 3100.0 | 0.2 | 64000 | 64000 | 720 | 720 | 243 | 243 | 0.3 | 8.5 | 0.0 | 91.5 |
| 88-08-11 | 19:00 | 3116.0 | 0.2 | 66000 | 66000 | 720 | 720 | 267 | 267 | 0.3 | 8.4 | 0.0 | 91.6 |
| 88-08-11 | 23:59 | 3127.0 | 0.2 | 64000 | 64000 | 720 | 720 | 267 | 267 | 0.3 | 8.5 | 0.0 | 91.5 |
| 88-08-12 | 04:00 | 3138.0 | 0.2 | 63000 | 63000 | 720 | 720 | 267 | 267 | 0.3 | 8.6 | 0.0 | 91.4 |
| 88-08-12 | 10:00 | 3154.0 | 0.2 | 65000 | 65000 | 720 | 720 | 267 | 267 | 0.3 | 8.4 | 0.0 | 91.6 |
| 88-08-12 | 14:00 | 3158.0 | 0.2 | 70000 | 70000 | 720 | 720 | 243 | 243 | 0.3 | 8.1 | 0.0 | 91.9 |
| 88-08-12 | 18:00 | 3164.0 | 0.2 | 70000 | 70000 | 720 | 720 | 243 | 243 | 0.3 | 8.1 | 0.0 | 91.9 |
| 88-08-12 | 23:59 | 3166.0 | 0.2 | 70000 | 70000 | 720 | 720 | 243 | 243 | 0.3 | 8.1 | 0.0 | 91.9 |
| 88-08-13 | 12:00 | 3180.0 | 0.3 | 69000 | 69000 | 520 | 520 | 316 | 316 | 0.0 | 9.2 | 0.0 | 90.8 |
| 88-08-13 | 17:00 | 3196.0 | 0.3 | 68000 | 68000 | 520 | 520 | 292 | 292 | 0.0 | 9.3 | 0.0 | 90.7 |
| 88-08-13 | 23:59 | 3216.0 | 0.3 | 67000 | 67000 | 480 | 480 | 279 | 279 | 0.0 | 9.4 | 0.0 | 90.6 |
| 88-08-14 | 08:00 | 3242.0 | 0.3 | 69000 | 69000 | 480 | 480 | 316 | 316 | 0.1 | 9.2 | 0.0 | 90.8 |
| 88-08-14 | 16:00 | 3275.0 | 0.3 | 70000 | 70000 | 480 | 480 | 389 | 389 | 0.1 | 9.2 | 0.0 | 90.8 |
| 88-08-14 | 23:59 | 3291.0 | 0.3 | 70000 | 70000 | 520 | 520 | 365 | 365 | 0.1 | 9.2 | 0.0 | 90.8 |
| 88-08-15 | 08:46 | 3291.0 | 0.3 | 70000 | 0 | 520 | 0 | 365 | 0 | 0.1 | 9.2 | 0.0 | 90.8 |
| 88-08-15 | 23:59 | 3292.0 | 0.5 | 68000 | 68000 | 400 | 400 | 292 | 292 | 0.1 | 9.3 | 0.0 | 90.7 |
| 88-08-16 | 07:00 | 3310.0 | 0.3 | 68000 | 0 | 520 | 0 | 243 | 0 | 0.1 | 9.3 | 0.0 | 90.7 |
| 88-08-16 | 15:00 | 3344.0 | 0.3 | 70000 | 70000 | 480 | 480 | 243 | 243 | 0.2 | 9.2 | 0.0 | 90.8 |
| 88-08-16 | 23:59 | 3378.0 | 0.3 | 68000 | 68000 | 440 | 440 | 243 | 243 | 0.2 | 9.3 | 0.0 | 90.7 |
| 88-08-17 | 10:15 | 3395.0 | 0.3 | 70000 | 70000 | 480 | 480 | 243 | 243 | 0.1 | 9.2 | 0.0 | 90.8 |
| 88-08-17 | 16:00 | 3411.0 | 0.3 | 70000 | 70000 | 440 | 440 | 243 | 243 | 0.1 | 9.2 | 0.0 | 90.8 |
| 88-08-17 | 23:59 | 3434.0 | 0.3 | 70000 | 70000 | 480 | 480 | 243 | 243 | 0.1 | 9.2 | 0.0 | 90.8 |
| 88-08-18 | 07:00 | 3452.0 | 0.3 | 67000 | 67000 | 400 | 400 | 243 | 243 | 0.3 | 11.5 | 0.0 | 88.5 |
| 88-08-18 | 16:00 | 3467.0 | 0.3 | 70000 | 70000 | 440 | 440 | 243 | 243 | 0.3 | 10.2 | 0.0 | 89.8 |
| 88-08-18 | 23:59 | 3467.0 | 0.3 | 70000 | 0 | 440 | 0 | 243 | 0 | 0.3 | 10.2 | 0.0 | 89.8 |

DAILY DRILLING MUD PROPERTIES, part 2

Page: 3
Date: 1988-11-01

ll no: 35/8-3 Spud date: 1988-07-06 Rig name: Treasure Scout Engineers: Bengt Havnegjerde Oddvar Birkeland Olaf Skjeggesta
Roy Marker

Tom Nordby

erator: Norwegian Gulf Exploration Co. Days to TD: 71 Warehouse:

ntractor: Wil. Wilhelmsen Total Depth: 3944.00 m Total Cost: 2625361.3 Currency: NOK

| Date | Time | Depth | Alkalinity Filtrate (Mf) | Chloride in ppm | Chloride out ppm | Calcium in mg/l | Calcium out mg/l | Magnesium in mg/l | Magnesium out mg/l | Sand Content % vol | Solids Content % vol | Oil Content % vol | Water Content % vol |
|----------|-------|--------|--------------------------------|-----------------------|------------------------|-----------------------|------------------------|-------------------------|--------------------------|--------------------------|----------------------------|-------------------------|---------------------------|
| Unit -> | | m | ml | | | | | | | | | | |
| 88-08-19 | 12:00 | 3472.0 | 0.3 | 70000 | 70000 | 400 | 400 | 243 | 243 | 0.3 | 10.2 | 0.0 | 89.8 |
| 88-08-19 | 16:00 | 3480.0 | 0.3 | 70000 | 70000 | 400 | 400 | 219 | 219 | 0.3 | 10.2 | 0.0 | 89.8 |
| 88-08-19 | 23:59 | 2492.0 | 0.3 | 68000 | 68000 | 400 | 400 | 243 | 243 | 0.3 | 10.4 | 0.0 | 89.6 |
| 88-08-20 | 07:00 | 3498.0 | 0.3 | 70000 | 70000 | 400 | 400 | 243 | 243 | 0.3 | 11.3 | 0.0 | 88.7 |
| 88-08-20 | 23:59 | 3502.0 | 0.3 | 70000 | 70000 | 400 | 400 | 243 | 243 | 0.2 | 10.2 | 0.0 | 89.8 |
| 88-08-21 | 08:00 | 3522.0 | 0.0 | 70000 | 70000 | 400 | 400 | 219 | 219 | 0.3 | 10.2 | 0.0 | 89.8 |
| 88-08-21 | 15:15 | 3539.0 | 0.0 | 71000 | 71000 | 400 | 400 | 243 | 243 | 0.3 | 11.2 | 0.0 | 88.8 |
| 88-08-21 | 23:59 | 3539.0 | 0.0 | 69000 | 69000 | 400 | 400 | 243 | 243 | 0.3 | 9.2 | 0.0 | 90.8 |
| 88-08-22 | 06:00 | 3539.0 | 0.3 | 68000 | 0 | 400 | 0 | 243 | 0 | 0.3 | 10.4 | 0.0 | 89.6 |
| 88-08-22 | 23:59 | 3539.0 | 0.3 | 67000 | 0 | 400 | 0 | 243 | 0 | 0.2 | 10.4 | 0.0 | 89.6 |
| 88-08-23 | 06:30 | 3539.0 | 0.4 | 68000 | 0 | 400 | 0 | 243 | 0 | 0.3 | 10.4 | 0.0 | 89.6 |
| 88-08-23 | 23:59 | 3539.0 | 0.3 | 68000 | 0 | 400 | 0 | 243 | 0 | 0.3 | 10.4 | 0.0 | 89.6 |
| 88-08-24 | 22:10 | 3539.0 | 0.2 | 68000 | 68000 | 400 | 400 | 243 | 243 | 0.3 | 10.4 | 0.0 | 89.6 |
| 88-08-25 | 12:40 | 3539.0 | 0.3 | 69000 | 69000 | 320 | 320 | 243 | 243 | 0.3 | 10.3 | 0.0 | 89.7 |
| 88-08-25 | 23:59 | 3539.0 | 0.3 | 69000 | 69000 | 320 | 320 | 243 | 243 | 0.3 | 10.3 | 0.0 | 89.7 |
| 88-08-26 | 10:00 | 3539.0 | 0.4 | 69000 | 69000 | 320 | 320 | 243 | 243 | 0.3 | 10.3 | 0.0 | 89.7 |
| 88-08-26 | 23:59 | 3300.0 | 0.4 | 69000 | 69000 | 320 | 320 | 243 | 243 | 0.3 | 10.3 | 0.0 | 89.7 |
| 88-08-27 | 14:00 | 3332.0 | 0.4 | 70000 | 70000 | 600 | 600 | 49 | 49 | 0.3 | 10.2 | 0.0 | 89.8 |
| 88-08-27 | 23:59 | 3345.0 | 0.4 | 70000 | 70000 | 600 | 600 | 49 | 49 | 0.2 | 10.2 | 0.0 | 89.8 |
| 88-08-28 | 16:00 | 3346.0 | 0.3 | 70000 | 70000 | 440 | 440 | 24 | 24 | 0.5 | 10.2 | 0.0 | 89.8 |
| 88-08-28 | 22:00 | 3364.0 | 3.4 | 70000 | 70000 | 80 | 80 | 49 | 49 | 0.5 | 10.2 | 0.0 | 89.8 |
| 88-08-28 | 23:59 | 3365.0 | 0.8 | 70000 | 70000 | 320 | 320 | 0 | 0 | 0.5 | 10.2 | 0.0 | 89.8 |
| 88-08-29 | 19:00 | 3371.0 | 0.6 | 70000 | 70000 | 400 | 400 | 0 | 0 | 0.5 | 10.2 | 0.0 | 89.8 |
| 88-08-29 | 23:59 | 3371.0 | 0.6 | 70000 | 70000 | 400 | 400 | 0 | 0 | 0.5 | 10.2 | 0.0 | 89.8 |
| 88-08-30 | 07:00 | 3371.0 | 0.6 | 70000 | 70000 | 400 | 400 | 0 | 0 | 0.5 | 10.2 | 0.0 | 89.8 |
| 88-08-30 | 11:00 | 3371.0 | 0.6 | 70000 | 70000 | 320 | 320 | 0 | 0 | 0.5 | 10.2 | 0.0 | 89.8 |
| 88-08-30 | 15:00 | 3373.0 | 0.4 | 70000 | 70000 | 200 | 200 | 0 | 0 | 0.5 | 10.2 | 0.0 | 89.8 |
| 88-08-30 | 19:00 | 3377.0 | 0.6 | 70000 | 70000 | 200 | 200 | 0 | 0 | 0.5 | 10.2 | 0.0 | 89.8 |
| 88-08-30 | 23:59 | 3379.0 | 0.6 | 70000 | 70000 | 240 | 240 | 0 | 0 | 0.5 | 10.2 | 0.0 | 89.8 |
| 88-09-01 | 04:00 | 3397.0 | 0.6 | 70000 | 70000 | 160 | 160 | 0 | 0 | 0.5 | 10.2 | 0.0 | 89.8 |
| 88-09-01 | 09:00 | 3402.0 | 0.7 | 70000 | 70000 | 80 | 80 | 0 | 0 | 0.5 | 10.2 | 0.0 | 89.8 |
| 88-09-01 | 23:59 | 3402.0 | 0.7 | 70000 | 70000 | 80 | 80 | 0 | 0 | 0.5 | 10.2 | 0.0 | 89.8 |
| 88-09-02 | 04:00 | 3416.0 | 0.4 | 68000 | 68000 | 200 | 200 | 0 | 0 | 0.5 | 10.4 | 0.0 | 89.6 |
| 88-09-02 | 10:00 | 3326.0 | 0.2 | 66000 | 66000 | 400 | 400 | 0 | 0 | 0.5 | 10.5 | 0.0 | 89.5 |
| 88-09-02 | 23:59 | 3426.0 | 0.2 | 66000 | 66000 | 400 | 400 | 0 | 0 | 0.5 | 10.5 | 0.0 | 89.5 |
| 88-09-03 | 10:00 | 3434.0 | 0.6 | 66000 | 66000 | 400 | 400 | 0 | 0 | 0.5 | 10.5 | 0.0 | 89.5 |
| 88-09-03 | 12:30 | 3439.0 | 0.6 | 68000 | 68000 | 240 | 240 | 0 | 0 | 0.3 | 10.4 | 0.0 | 89.6 |
| 88-09-03 | 16:00 | 3453.0 | 0.6 | 67000 | 67000 | 240 | 240 | 0 | 0 | 0.3 | 10.4 | 0.0 | 89.6 |
| 88-09-03 | 23:59 | 3463.0 | 0.6 | 67000 | 67000 | 240 | 240 | 0 | 0 | 0.3 | 10.4 | 0.0 | 89.6 |
| 88-09-04 | 05:00 | 3465.0 | 0.6 | 66000 | 0 | 240 | 0 | 0 | 0 | 0.3 | 85.4 | 0.0 | 14.6 |
| 88-09-04 | 16:00 | 3470.0 | 0.5 | 67000 | 67000 | 200 | 200 | 0 | 0 | 0.3 | 10.4 | 0.0 | 89.6 |
| 88-09-04 | 23:59 | 3501.0 | 0.5 | 67000 | 67000 | 200 | 200 | 0 | 0 | 0.3 | 10.4 | 0.0 | 89.6 |
| 88-09-05 | 05:00 | 3533.0 | 0.5 | 68000 | 0 | 100 | 0 | 0 | 0 | 0.3 | 10.4 | 0.0 | 89.6 |
| 88-09-05 | 14:00 | 3542.0 | 0.6 | 68000 | 0 | 100 | 0 | 24239 | 0 | 0.3 | 10.4 | 0.0 | 89.6 |
| 88-09-05 | 23:59 | 3560.0 | 0.5 | 68000 | 0 | 100 | 0 | 0 | 0 | 0.0 | 10.4 | 0.0 | 89.6 |
| 88-09-06 | 23:59 | 3560.0 | 0.4 | 37000 | 0 | 100 | 0 | 0 | 0 | 0.0 | 10.1 | 0.0 | 89.9 |
| 88-09-07 | 23:59 | 3560.0 | 0.5 | 68000 | 0 | 100 | 0 | 0 | 0 | 0.0 | 10.4 | 0.0 | 89.6 |
| 88-09-08 | 23:59 | 3560.0 | 0.4 | 68000 | 0 | 100 | 0 | 0 | 0 | 0.0 | 10.4 | 0.0 | 89.6 |

DAILY DRILLING MUD PROPERTIES, part 2

Page: 4
Date: 1988-11-01

11 no: 35/8-3 Spud date: 1988-07-06 Rig name: Treasure Scout Engineers: Bengt Havnegjerde Oddvar Birkeland Olaf Skjeggesta
Roy Marker

Tom Nordby

erator: Norwegian Gulf Exploration Co. Days to TD: 71 Warehouse:

ntractor: Wil. Wilhelmsen Total Depth: 3944.00 m Total Cost: 2625361.3 Currency: NOK

| Date | Time | Depth | Alkalinity Filtrate (Mf) | Chloride in | Chloride out | Calcium in | Calcium out | Magnesium in | Magnesium out | Sand Content | Solids Content | Oil Content | Water Content |
|----------|---------|--------|--------------------------------|----------------|-----------------|---------------|----------------|-----------------|------------------|-----------------|-------------------|----------------|------------------|
| | Unit -> | m | ml | ppm | ppm | mg/l | mg/l | mg/l | mg/l | % vol | % vol | % vol | % vol |
| 88-09-09 | 23:59 | 3544.0 | 0.4 | 68000 | 0 | 100 | 0 | 0 | 0 | 0.0 | 10.4 | 0.0 | 89.6 |
| 88-09-10 | 23:59 | 3544.0 | 0.4 | 68000 | 0 | 100 | 0 | 0 | 0 | 0.0 | 10.4 | 0.0 | 89.6 |
| 88-09-12 | 23:59 | 3563.0 | 1.0 | 65000 | 65000 | 160 | 160 | 24 | 24 | 0.3 | 15.7 | 0.0 | 84.3 |
| 88-09-13 | 12:00 | 3600.0 | 0.7 | 65000 | 65000 | 160 | 160 | 0 | 0 | 0.2 | 15.7 | 0.0 | 84.3 |
| 88-09-13 | 23:59 | 3572.0 | 0.5 | 65000 | 65000 | 240 | 240 | 0 | 0 | 0.2 | 15.7 | 0.0 | 84.3 |
| 88-09-14 | 12:00 | 3611.0 | 0.5 | 63000 | 63000 | 200 | 200 | 0 | 0 | 0.2 | 15.8 | 0.0 | 84.2 |
| 88-09-15 | 23:59 | 3675.0 | 0.3 | 62000 | 62000 | 280 | 280 | 0 | 0 | 0.2 | 19.0 | 0.0 | 81.0 |
| 88-09-16 | 23:59 | 3732.0 | 0.3 | 55000 | 55000 | 280 | 280 | 0 | 0 | 0.2 | 19.4 | 0.0 | 80.6 |
| 88-09-17 | 23:59 | 3732.0 | 0.3 | 55000 | 55000 | 280 | 280 | 0 | 0 | 0.2 | 19.4 | 0.0 | 80.6 |
| 88-09-18 | 23:59 | 3763.0 | 0.3 | 53000 | 53000 | 320 | 320 | 0 | 0 | 0.0 | 19.5 | 0.0 | 80.5 |
| 88-09-19 | 12:00 | 3784.0 | 0.7 | 53000 | 53000 | 280 | 280 | 0 | 0 | 0.2 | 19.5 | 0.0 | 80.5 |
| 88-09-20 | 17:23 | 3806.0 | 0.5 | 51000 | 51000 | 320 | 320 | 0 | 0 | 0.2 | 19.6 | 0.0 | 80.4 |
| 88-09-21 | 23:59 | 3833.0 | 0.4 | 51000 | 51000 | 360 | 360 | 0 | 0 | 0.2 | 19.6 | 0.0 | 80.4 |
| 88-09-22 | 22:12 | 3853.0 | 0.4 | 51000 | 51000 | 360 | 360 | 0 | 0 | 0.4 | 19.6 | 0.0 | 80.4 |
| 88-09-23 | 22:30 | 3944.0 | 0.3 | 51000 | 51000 | 320 | 320 | 0 | 0 | 0.4 | 19.6 | 0.0 | 80.4 |
| 88-09-23 | 23:59 | 3944.0 | 0.3 | 51000 | 51000 | 320 | 320 | 0 | 0 | 0.4 | 19.6 | 0.0 | 80.4 |
| 88-09-24 | 23:59 | 3944.0 | 0.2 | 51000 | 51000 | 320 | 320 | 0 | 0 | 0.4 | 19.6 | 0.0 | 80.4 |
| 88-09-25 | 23:30 | 3944.0 | 0.2 | 51000 | 51000 | 320 | 320 | 0 | 0 | 0.3 | 19.6 | 0.0 | 80.4 |
| 88-09-25 | 23:59 | 3944.0 | 0.2 | 51000 | 51000 | 320 | 320 | 0 | 0 | 0.3 | 19.6 | 0.0 | 80.4 |
| 88-09-26 | 23:59 | 3944.0 | 0.2 | 51000 | 51000 | 320 | 320 | 0 | 0 | 0.3 | 19.6 | 0.0 | 80.4 |
| 88-09-27 | 23:00 | 3944.0 | 0.2 | 51000 | 51000 | 320 | 320 | 0 | 0 | 0.3 | 19.6 | 0.0 | 80.4 |
| 88-09-28 | 12:00 | 3944.0 | 0.2 | 51000 | 51000 | 320 | 320 | 0 | 0 | 0.3 | 19.6 | 0.0 | 80.4 |
| 88-09-28 | 23:59 | 3944.0 | 0.2 | 51000 | 51000 | 320 | 320 | 0 | 0 | 0.3 | 19.6 | 0.0 | 80.4 |
| 88-09-29 | 23:59 | 3944.0 | 0.2 | 51000 | 51000 | 320 | 320 | 0 | 0 | 0.3 | 19.6 | 0.0 | 80.4 |
| 88-09-30 | 19:00 | 3944.0 | 0.5 | 45000 | 45000 | 280 | 280 | 0 | 0 | 0.3 | 19.9 | 0.0 | 80.1 |
| 88-10-01 | 23:59 | 3944.0 | 0.5 | 45000 | 0 | 280 | 0 | 0 | 0 | 0.3 | 80.5 | 0.0 | 19.5 |
| 88-10-02 | | 3618.0 | 0.5 | 43000 | 0 | 240 | 0 | 24 | 0 | 0.3 | 80.5 | 0.0 | 19.5 |
| 88-10-03 | 23:00 | 3550.0 | 0.4 | 43000 | 43000 | 240 | 240 | 24 | 24 | 0.3 | 20.0 | 0.0 | 80.0 |
| 88-10-04 | 23:59 | 3944.0 | 0.5 | 42000 | 0 | 200 | 0 | 12 | 0 | 0.3 | 21.1 | 0.0 | 78.9 |
| 88-10-06 | 23:59 | 3750.0 | 0.4 | 42000 | 0 | 200 | 0 | 0 | 0 | 0.3 | 21.1 | 0.0 | 78.9 |
| 88-10-07 | 23:59 | 3450.0 | 0.6 | 40000 | 0 | 200 | 0 | 0 | 0 | 0.3 | 21.2 | 0.0 | 78.8 |
| 88-10-08 | 23:59 | 2050.0 | 0.6 | 30000 | 0 | 360 | 0 | 0 | 0 | 0.0 | 11.6 | 1.0 | 87.4 |
| 88-10-09 | 23:59 | 2050.0 | 0.6 | 30000 | 0 | 360 | 0 | 0 | 0 | 0.0 | 11.6 | 1.0 | 87.4 |
| 88-10-10 | 23:59 | 2050.0 | 0.6 | 30000 | 0 | 360 | 0 | 0 | 0 | 0.0 | 11.6 | 1.0 | 87.4 |
| 88-10-11 | 23:59 | 2050.0 | 0.6 | 30000 | 0 | 360 | 0 | 0 | 0 | 0.0 | 11.6 | 0.0 | 88.4 |
| 88-10-12 | 23:59 | 440.0 | 0.5 | 27000 | 0 | 320 | 0 | 0 | 0 | 0.0 | 10.7 | 0.0 | 89.3 |

DAILY DRILLING MUD PROPERTIES, part 3

Page: 1
Date: 1988-11-01

ll no: 35/8-3 Spud date: 1988-07-06 Rig name: Treasure Scout Engineers: Bengt Havnegjerde Oddvar Birkeland Olaf Skjeggesta
Roy Marker

Tom Nordby

erator: Norwegian Gulf Exploration Co. Days to TD: 71 Warehouse:

ntractor: Wil. Wilhelmsen Total Depth: 3944.00 m Total Cost: 2625361.3 Currency: NOK

| Date | Time | Depth | Excess Lime | Methylene Blue Capacity | ES | Oil-Water Ratio | Acti- vity | KCl in | KCl out |
|----------|---------|--------|-------------|-------------------------|------|-----------------|------------|---------|---------|
| | Unit -> | m | ppb | ppb | volt | | | ppb | ppb |
| 88-07-05 | 23:59 | 0.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-06 | 23:59 | 685.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-07 | 23:59 | 845.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-08 | 23:59 | 495.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-09 | 23:59 | 535.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-10 | 23:59 | 585.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-11 | 23:59 | 531.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-12 | 23:59 | 651.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-13 | 23:59 | 830.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-15 | 19:00 | 818.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-16 | 14:00 | 818.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-17 | 22:00 | 818.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-18 | 14:00 | 818.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-19 | 22:00 | 850.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-20 | 06:30 | 1027.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-20 | 10:30 | 1061.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-20 | 21:00 | 1150.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-21 | 10:30 | 1176.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-21 | 21:00 | 1205.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-22 | 07:45 | 1221.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-22 | 15:15 | 1336.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-22 | 21:00 | 1444.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-23 | 07:00 | 1538.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-23 | 12:00 | 1603.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-23 | 21:30 | 1754.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-24 | 09:00 | 1805.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-24 | 21:30 | 1835.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-25 | 08:30 | 1910.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-25 | 15:00 | 1966.0 | 0.00 | 15.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-25 | 21:00 | 1974.0 | 0.00 | 15.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-26 | 07:30 | 1998.0 | 0.00 | 15.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-26 | 20:30 | 2110.0 | 0.00 | 15.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-27 | 23:30 | 2174.0 | 0.00 | 15.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-28 | 21:00 | 2174.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-29 | 21:00 | 2174.0 | 0.00 | 0.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-30 | 23:59 | 2159.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-07-31 | 15:30 | 2194.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-07-31 | 19:30 | 2232.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-07-31 | 23:59 | 2271.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-01 | 04:40 | 2297.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-01 | 10:30 | 2320.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-02 | 04:15 | 2330.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-02 | 10:00 | 2375.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-02 | 23:59 | 2473.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-03 | 08:30 | 2510.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-03 | 23:59 | 2526.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 23139.1 | 23139.1 |
| 88-08-04 | 08:00 | 2613.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 22613.2 | 22613.2 |
| 88-08-04 | 14:45 | 2651.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 22613.2 | 22613.2 |

DAILY DRILLING MUD PROPERTIES, part 3

Page: 2
Date: 1988-11-01

ll no: 35/8-3 Spud date: 1988-07-06 Rig name: Treasure Scout Engineers: Benqt Havneqjerde Oddvar Birkeland Olaf Skjeggesta
Roy Marker

Tom Nordby

erator: Norwegian Gulf Exploration Co. Days to TD: 71 Warehouse:

ntractor: Wil. Wilhelmsen Total Depth: 3944.00 m Total Cost: 2625361.3 Currency: NOK

| Date | Time | Depth | Excess Lime | Methylene Blue Capacity | ES | Oil-Water Ratio | Acti- vity | KCl in | KCl out |
|----------|-------|--------|-------------|-------------------------|------|-----------------|------------|---------|---------|
| Unit -> | | m | ppb | ppb | volt | | | ppb | ppb |
| 88-08-04 | 23:59 | 2697.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 23139.1 | 23139.1 |
| 88-08-05 | 01:29 | 2733.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-05 | 11:00 | 2775.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-05 | 14:15 | 2794.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-05 | 20:00 | 2826.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-05 | 23:59 | 2843.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-06 | 20:00 | 2843.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-07 | 17:00 | 2852.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-07 | 23:00 | 2881.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-08 | 05:00 | 2908.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-08 | 10:00 | 2930.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-08 | 16:00 | 2953.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-08 | 20:00 | 2963.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 22087.3 | 22087.3 |
| 88-08-08 | 23:00 | 2971.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 22087.3 | 22087.3 |
| 88-08-09 | 04:00 | 2985.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 22087.3 | 22087.3 |
| 88-08-09 | 23:59 | 2995.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 22087.3 | 22087.3 |
| 88-08-10 | 04:00 | 3006.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 21561.4 | 21561.4 |
| 88-08-10 | 10:00 | 3021.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-10 | 14:00 | 3034.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 26294.4 | 26294.4 |
| 88-08-10 | 19:00 | 3048.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-10 | 23:59 | 3061.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 21561.4 | 21561.4 |
| 88-08-11 | 04:00 | 3072.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 22613.2 | 22613.2 |
| 88-08-11 | 10:00 | 3086.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-11 | 14:00 | 3100.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-11 | 19:00 | 3116.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-11 | 23:59 | 3127.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-12 | 04:00 | 3138.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-12 | 10:00 | 3154.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-12 | 14:00 | 3158.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 26294.4 | 26294.4 |
| 88-08-12 | 18:00 | 3164.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 26294.4 | 26294.4 |
| 88-08-12 | 23:59 | 3166.0 | 0.00 | 12.50 | 0 | 0.00 | 0.000 | 26294.4 | 26294.4 |
| 88-08-13 | 12:00 | 3180.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 26294.4 | 26294.4 |
| 88-08-13 | 17:00 | 3196.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 26294.4 | 26294.4 |
| 88-08-13 | 23:59 | 3216.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-14 | 08:00 | 3242.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-14 | 16:00 | 3275.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24190.9 | 24190.9 |
| 88-08-14 | 23:59 | 3291.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24190.9 | 24190.9 |
| 88-08-15 | 08:46 | 3291.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24190.9 | 0.0 |
| 88-08-15 | 23:59 | 3292.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24190.9 | 24190.9 |
| 88-08-16 | 07:00 | 3310.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 23665.0 | 0.0 |
| 88-08-16 | 15:00 | 3344.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 0.0 | 24716.7 |
| 88-08-16 | 23:59 | 3378.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-17 | 10:15 | 3395.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-17 | 16:00 | 3411.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-17 | 23:59 | 3434.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-18 | 07:00 | 3452.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-18 | 16:00 | 3467.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-18 | 23:59 | 3467.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 0.0 |

DAILY DRILLING MUD PROPERTIES, part 3

Page: 3
Date: 1988-11-01

ll no: 35/8-3 Spud date: 1988-07-06 Rig name: Treasure Scout Engineers: Bengt Havnegjerde Oddvar Birkeland Olaf Skjeggesta
Roy Marker

Tom Nordby

erator: Norwegian Gulf Exploration Co. Days to TD: 71 Warehouse:

ntractor: Wil. Wilhelmsen Total Depth: 3944.00 m Total Cost: 2625361.3 Currency: NOK

| Date | Time | Depth | Excess Lime | Methylene Blue Capacity | ES | Oil- Water Ratio | Acti- vity | KCl in | KCl out |
|----------|-------|--------|----------------|-------------------------------|------|------------------------|---------------|-----------|------------|
| Unit -> | | m | ppb | ppb | volt | | | ppb | ppb |
| 88-08-19 | 12:00 | 3472.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-19 | 16:00 | 3480.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-19 | 23:59 | 2492.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-20 | 07:00 | 3498.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-20 | 23:59 | 3502.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-21 | 08:00 | 3522.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-08-21 | 15:15 | 3539.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-21 | 23:59 | 3539.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 22613.2 | 22613.2 |
| 88-08-22 | 06:00 | 3539.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 22613.2 | 0.0 |
| 88-08-22 | 23:59 | 3539.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 22613.2 | 0.0 |
| 88-08-23 | 06:30 | 3539.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 23665.0 | 0.0 |
| 88-08-23 | 23:59 | 3539.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 23665.0 | 0.0 |
| 88-08-24 | 22:10 | 3539.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-25 | 12:40 | 3539.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 22613.2 | 22613.2 |
| 88-08-25 | 23:59 | 3539.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 22613.2 | 22613.2 |
| 88-08-26 | 10:00 | 3539.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-26 | 23:59 | 3300.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-27 | 14:00 | 3332.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-27 | 23:59 | 3345.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 23665.0 | 23665.0 |
| 88-08-28 | 16:00 | 3346.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-28 | 22:00 | 3364.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-28 | 23:59 | 3365.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-29 | 19:00 | 3371.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-29 | 23:59 | 3371.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-30 | 07:00 | 3371.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-30 | 11:00 | 3371.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-30 | 15:00 | 3373.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-30 | 19:00 | 3377.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-08-30 | 23:59 | 3379.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-09-01 | 04:00 | 3397.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-09-01 | 09:00 | 3402.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-09-01 | 23:59 | 3402.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-09-02 | 04:00 | 3416.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-09-02 | 10:00 | 3326.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-09-02 | 23:59 | 3426.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-09-03 | 10:00 | 3434.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-09-03 | 12:30 | 3439.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-09-03 | 16:00 | 3453.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 25242.6 | 25242.6 |
| 88-09-03 | 23:59 | 3463.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-09-04 | 05:00 | 3465.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 24716.7 | 0.0 |
| 88-09-04 | 16:00 | 3470.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-09-04 | 23:59 | 3501.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 24716.7 | 24716.7 |
| 88-09-05 | 05:00 | 3533.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 22613.2 | 0.0 |
| 88-09-05 | 14:00 | 3542.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 24716.7 | 0.0 |
| 88-09-05 | 23:59 | 3560.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 24190.9 | 0.0 |
| 88-09-06 | 23:59 | 3560.0 | 0.00 | 21.50 | 0 | 0.00 | 0.000 | 23665.0 | 0.0 |
| 88-09-07 | 23:59 | 3560.0 | 0.00 | 23.00 | 0 | 0.00 | 0.000 | 24190.9 | 0.0 |
| 88-09-08 | 23:59 | 3560.0 | 0.00 | 23.00 | 0 | 0.00 | 0.000 | 22613.2 | 0.0 |

DAILY DRILLING MUD PROPERTIES, part 3

Page: 4
Date: 1988-11-01

ll no: 35/8-3 Spud date: 1988-07-06 Rig name: Treasure Scout Engineers: Bengt Havnegjerde Oddvar Birkeland Olaf Skjeggesta
Roy Marker

Tom Nordby

erator: Norwegian Gulf Exploration Co. Days to TD: 71 Warehouse:

ntractor: Wil. Wilhelmsen Total Depth: 3944.00 m Total Cost: 2625361.3 Currency: NOK

| Date | Time | Depth | Excess Line | Methylene Blue Capacity | ES volt | Oil- Water Ratio | Acti- vity | KCl in | KCl out |
|----------|-------|--------|----------------|-------------------------------|------------|------------------------|---------------|-----------|------------|
| Unit -> | | m | ppb | ppb | | | | ppb | ppb |
| 88-09-09 | 23:59 | 3544.0 | 0.00 | 23.00 | 0 | 0.00 | 0.000 | 22613.2 | 0.0 |
| 88-09-10 | 23:59 | 3544.0 | 0.00 | 23.00 | 0 | 0.00 | 0.000 | 21035.5 | 0.0 |
| 88-09-12 | 23:59 | 3563.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 21035.5 | 21035.5 |
| 88-09-13 | 12:00 | 3600.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 19983.8 | 19983.8 |
| 88-09-13 | 23:59 | 3572.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 19983.8 | 19983.8 |
| 88-09-14 | 12:00 | 3611.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 19983.8 | 19983.8 |
| 88-09-15 | 23:59 | 3675.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 19983.8 | 19983.8 |
| 88-09-16 | 23:59 | 3732.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 17354.3 | 17354.3 |
| 88-09-17 | 23:59 | 3732.0 | 0.00 | 1888.28 | 0 | 0.00 | 0.000 | 17354.3 | 17354.3 |
| 88-09-18 | 23:59 | 3763.0 | 0.00 | 81.37 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-19 | 12:00 | 3784.0 | 0.00 | 81.37 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-20 | 17:23 | 3806.0 | 0.00 | 10.00 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-21 | 23:59 | 3833.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-22 | 22:12 | 3853.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-23 | 22:30 | 3944.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-24 | 23:59 | 3944.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-25 | 23:30 | 3944.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-25 | 23:59 | 3944.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-26 | 23:59 | 3944.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-27 | 23:00 | 3944.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-28 | 12:00 | 3944.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-28 | 23:59 | 3944.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-29 | 23:59 | 3944.0 | 0.00 | 8.75 | 0 | 0.00 | 0.000 | 15776.6 | 15776.6 |
| 88-09-30 | 19:00 | 3944.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 14199.0 | 14199.0 |
| 88-10-01 | 23:59 | 3944.0 | 0.00 | 37.51 | 0 | 0.00 | 0.000 | 14199.0 | 0.0 |
| 88-10-02 | | 3618.0 | 0.00 | 37.51 | 0 | 0.00 | 0.000 | 14199.0 | 0.0 |
| 88-10-03 | 23:00 | 3550.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 14199.0 | 14199.0 |
| 88-10-04 | 23:59 | 3944.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 14199.0 | 0.0 |
| 88-10-06 | 23:59 | 3750.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 14199.0 | 0.0 |
| 88-10-07 | 23:59 | 3450.0 | 0.00 | 7.50 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-10-08 | 23:59 | 2050.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-10-09 | 23:59 | 2050.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-10-10 | 23:59 | 2050.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-10-11 | 23:59 | 2050.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 0.0 | 0.0 |
| 88-10-12 | 23:59 | 440.0 | 0.00 | 5.00 | 0 | 0.00 | 0.000 | 12621.3 | 0.0 |

SECTION 4:

FORMATION EVALUATION

1. Introduction and Summary

The 35/8-3 well found hydrocarbons in the Heather sandstones, Upper Jurassic age. RFT's and wireline log data indicate the Heather sands are gas saturated and would probably produce gas. The Heather sands (3440 - 3510 m) have an estimated 70 m probable gross pay section consisting of 31.9 m net pay with an average porosity of 15.6% and an average water saturation of 22%.

The deeper Brent Group sandstones were found to be water wet by log, core and RFT data.

2. Bottom Hole Temperature Extrapolation

Bottom hole temperatures were extrapolated at each logging depth. Three maximum recording thermometers were attached to each logging tool for all runs. Recorded temperatures along with circulating time and times off-bottom for each tool were recorded and used to extrapolate an approximate bottom hole formation temperature by the "Horner" plot method, Figures 4, 5 and 6.

Run 1, the initial logged survey to 2141 m had only one logging tool run. Therefore, no temperature extrapolation was possible. The maximum recorded temperature 11 hours after circulation stopped was 114°F (45.5°C). This is a temperature gradient of 1.25°F/100 feet or 2.29°C/100 m, from seabed to 2141m, Figure 4.

Run 2, extrapolated temperature at 3562 m is 197°F (91.7°C), Figure 5, for a gradient of 1.78°F/100 feet or 3.25°C/100 m, Figure 4.

Run 3, extrapolated temperature at 3947 m(T.D.) is 285°F (140.6°C), Figure 6. This is a gradient of 6.97°F/100 feet or 12.70°C/100 m for the interval from run 2 to run 3. A temperature gradient from T.D. to seabed is 2.085°F/100 feet or 3.80°C/100 m, Figure 4.

3. RFT Summary

Two Repeat Formation tester (RFT) surveys were conducted during which 32 pressures were attempted with 19 formation pressures measured. Two fluid samples were taken.

CHEVRON OVERSEAS PETROLEUM INC.

TEMPERATURE RECORD

Date 20/10/88

Operator NORWEGIAN GULF EXPLORATION CO. A/S

Well Name 35/8-3

Location OFF SHORE

Country NORWAY

Log Suite 1 Depth 2141 M

Circulation Time Prior To Logging 1 HR 39 M

Time Circulation Stopped (Hour, Date) 04:41 27/7/88

Temperature Recovery Data:

| | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------------------|-------|---|---|---|---|---|
| LOG TYPE | DIL | | | | | |
| TIME SONDE OFF BOTTOM (HR, DATE) | 15:39 | | | | | |
| MAX. TEMP RECORDED (°C) | 114 | | | | | |

Remarks No extrapolation, only one log run.

Extrapolated Temperature 114°F **45.5°C**

Log Suite 2 Depth 3562 M

Circulation Time Prior To Logging 4 HRS.

Time Circulation Stopped (Hour, Date) 3:55 6/9/88

Temperature Recovery Data:

| | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------------------|-------|-------|---|---|---|---|
| LOG TYPE | DIL | LDL | | | | |
| TIME SONDE OFF BOTTOM (HR, DATE) | 12:07 | 17:15 | | | | |
| MAX. TEMP RECORDED (°C) | 172 | 180 | | | | |

Remarks _____

Extrapolated Temperature 197°F **91.7°C**

Log Suite 3 Depth 3947 M

Circulation Time Prior To Logging 2 HRS.

Time Circulation Stopped (Hour, Date) 02:00 24/9/88

Temperature Recovery Data:

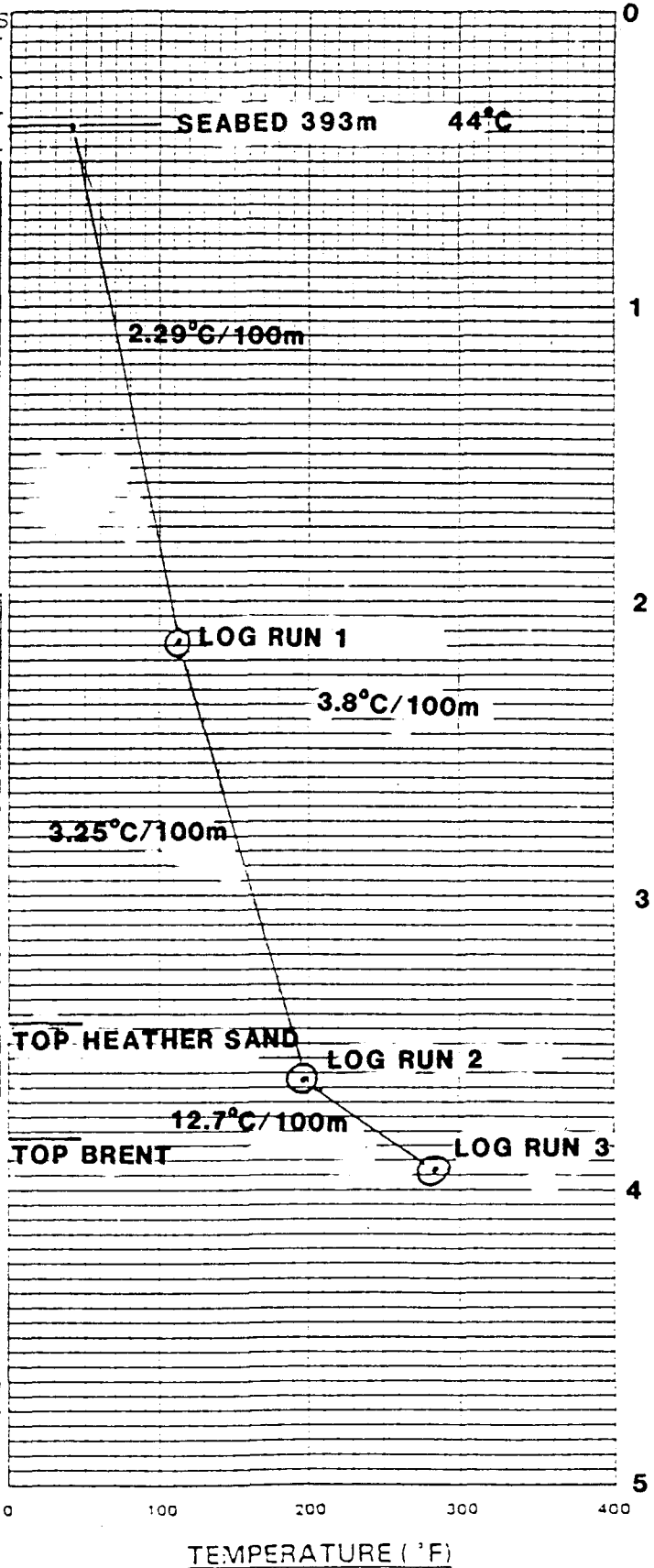
| | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------------------|-------|-------|-------|---|---|---|
| LOG TYPE | DLL | LDL | SHDT | | | |
| TIME SONDE OFF BOTTOM (HR, DATE) | 15:00 | 23:00 | 06:00 | | | |
| MAX. TEMP RECORDED (°C) | 235 | 248 | 254 | | | |

Remarks _____

Extrapolated Temperature 285°F **140.6°C**

Final Extrapolated BHT 285 °F @ 3947

Temperature Gradient 3.8°C/100m



Run 1 : well depth 3562 m
Date : 7 September 1988
Mud Weight : 1.32 g/cc
Hole size : 12 1/4"

Thirteen RFT pressure measurements were attempted through the Heather sand sequence with 12 pressures recorded, Table 6. A pressure-depth plot was constructed and a best-fit curve through 8 pressure points established a high confident 0.162 psi/ft (3.66 KPa/m) pressure gradient, Figure 7. It is a valid gas pressure gradient. Pressure point 1, 3441 m, falls above this gradient. The measurement appears valid and the simplest explanation is that it was taken in an isolated, slightly higher pressure, gas sand.

A best-fit mud hydrostatic pressure gradient based on good pressure data control is 0.581 psi/ft (43.11 KPa/m) or equivalent to a downhole mud weight measurement of 1.34 gm/cc, Figure 7.

Sample recovery and analysis:

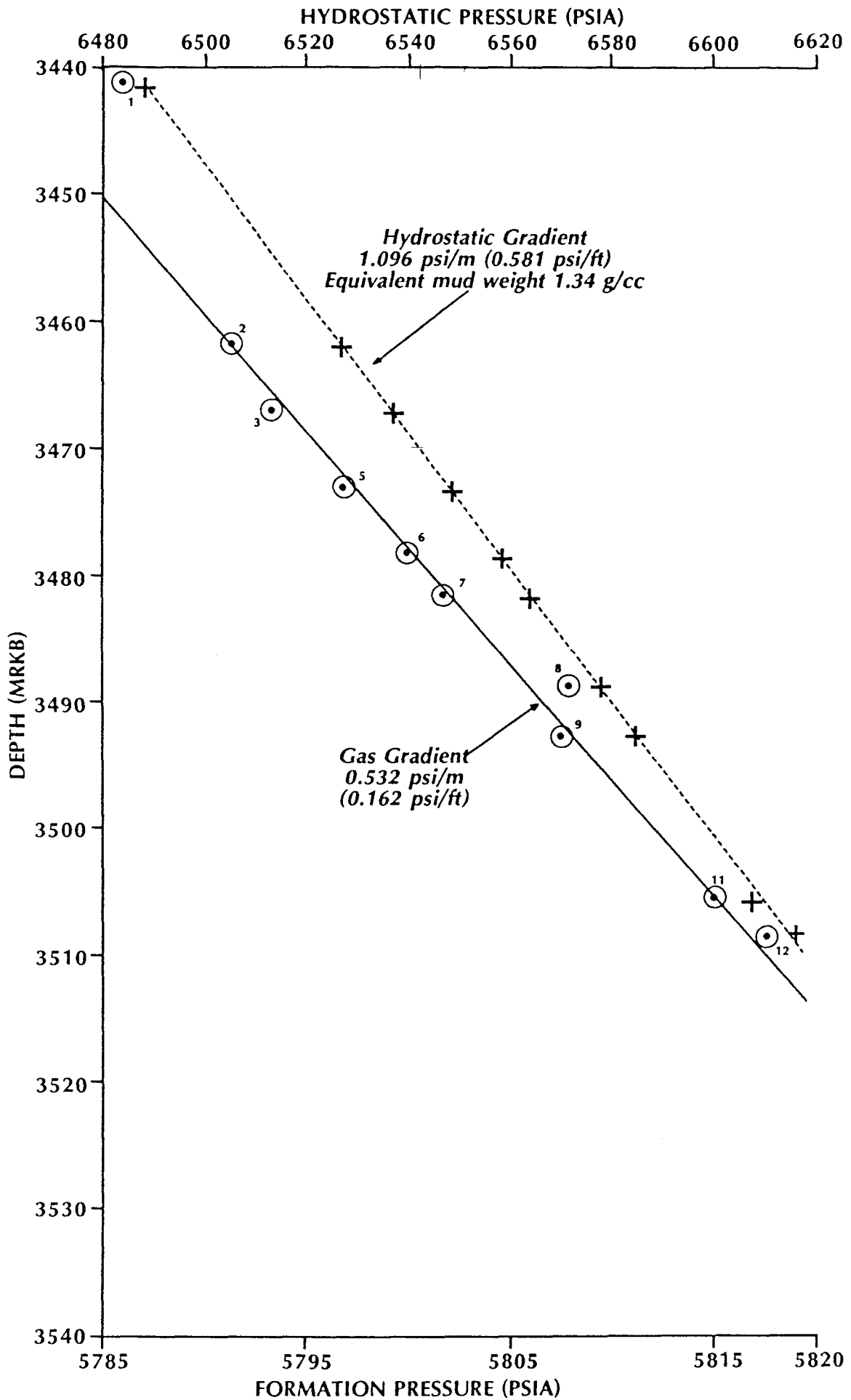
Depth : 3467 m
2 3/4 gallon
chamber : Recovery at 1000 psi, 1 1/2 cuft. gas. + 10,000 cc fluid (filtrate) plus trace of oil.
1 gallon chamber: at 1800 psi, 2 cuft. gas plus 4000 cc fluid.
Fluid : Density 1.08 gm/cc
Nitrate 116 ppm (nitrate while drilling 180 ppm)
Resistivity 0.068 ohmm at 64°F (17.8°C)

Gas analysis by Exlog chromatograph on rig:

C₁ 59,480 ppm
C₂ 11,324 ppm
C₃ 6,281 ppm
i C₄ 550 ppm
n C₄ 1,476 ppm

Figure 7

35/8-3 RFT RUN 1



Reference Table 7 for gas analysis by West-Lab A/S.

Run 2 : well depth 3947 m
Date : 27 September 1988
Mud Weight : 1.61 gm/cc
Hole size : 8 1/2"

Nineteen RFT pressure measurements were attempted in the Brent Group sands with 7 pressures recorded, Table 8. A pressure-depth plot was constructed and a best-fit curve drawn. The data are poorer quality than those measured on run 1. The low confident gradient of 0.42 psi/ft. (9.50 KPa/m) is slightly below that expected for a saline formation water at reservoir conditions. The hydrostatic pressure points are erratic which result in a poorly controlled mud pressure gradient. Scatter of hydrostatic pressures are frequently an indication of poorer quality formation pressure measurements. A comparison of figures 8 and 7 will illustrate this relationship of consistent hydrostatic and formation pressure data.

Sample recovery and analysis:

Depth : 3859.5m
2 3/4 gallon
chamber : Recovered at 1000 psi, 10,000 cc fluid (mud filtrate)
Resistivity : 0.092 ohmm at 58^oF (14.4^oC)
1 gallon chamber: 3700 cc fluid (filtrate and formation water)
Resistivity : 0.098 ohmm at 58^oF (14.4^oC)
Nitrate : 16 ppm (nitrate in mud while drilling 352 ppm)

No gas or oil was recovered.

TABLE 6

FORMATION PRESSURE TEST DATA

35/8-3 - RFT RUN 1 - 07/09/1988

| Test Number | Depth MD(m) | Hydrostatic Pressure HP(Psia) | Formation Pressure HP(Psia) | Remarks |
|-------------|-------------|-------------------------------|-----------------------------|------------------|
| 1 | 3441.00 | 6488.3 | 5786.0 | |
| 2 | 3461.54 | 6528.1 | 5791.5 | |
| 3 | 3467.00 | 6537.0 | 5793.4 | |
| 4 | 3472.54 | 6548.1 | 5956.7 | |
| 5 | 3472.05 | 6547.5 | 5796.8 | |
| 6 | 3477.54 | 6558.6 | 5799.7 | |
| 7 | 3481.53 | 6565.5 | 5801.9 | |
| 8 | 3489.03 | 6579.2 | 5807.9 | |
| 9 | 3493.05 | 6586.5 | 5807.5 | |
| 10 | 3498.54 | - | - | Failed |
| 11 | 3505.03 | 6608.0 | 5814.6 | |
| 12 | 3507.05 | 6614.2 | 5816.7 | |
| 13 | 3467.06 | 6534.9 | 5790.0 | Sample Recovered |

Table 7

COMPOSITE GAS SAMPLE

Sample : Gulf 35/8-3 Cylno : RFT
Field : Gulf Gasflow :
Sample date : 07-09-88 Oilflow :
Sample pt : Heather sands Pressure : Atmospheric
3467M.
Temperature:

Compositional analysis by gas chromatography.

| Component | Mol % | Weight % |
|----------------------------------|----------|--|
| *Nitrogen | .000 | .000 |
| **CO2 | .000 | .000 |
| Methane | 16.001 | 6.049 |
| Ethane | 19.585 | 13.877 |
| Propane | 33.648 | 34.963 |
| I-Butane | 7.022 | 9.617 |
| N-Butane | 16.125 | 22.085 |
| 2-2dmc3 | .0469995 | .080 |
| I-Pentane | 3.264 | 5.549 |
| N-Pentane | 3.029 | 5.150 |
| Cyc-c5 | 0 | .000 |
| Hexanes + | 1.187 | 2.410 |
| Heptanes + | .093 | .220 |
| Octanes + | 0 | 0 |
| Nonanes + | 0 | 0 |
| Deanes + | = | 0 |
| Total | 100.000 | 100.000 |
| Calculated average mol wt : | | 42.4380 |
| Relative density (air = 1.000) : | | 1.4878 |
| Calculated compressibility : | | .9825 |
| Gross heating value real : | | 90.52 MJ/.CU M 21627.59 Kcal/CU m 2429.72 BTU/CU ft |
| Critical temperature : | | 74.91 deg.C 166.83 deg. F 348.06 deg. K 626.83 deg. R |
| Critical pressure : | | 616.51 Psia 4247.77 Kpascal |

Constants used in the calculated are taken from S.I. section 16. (288.15 deg. C and 101.325 Kpascal).

*Because of high Nitrogen content in two of the samples (\pm 85 wt %)
**and big differences in Nitrogen content in the samples, we omitted both Nitrogen and Carbon dioxide.

TABLE 8

FORMATION PRESSURE TEST DATA

35/8-3 - RFT RUN 2 - 27/09/1988

| Test Number | Depth | | Hydrostatic Pressure HP(Psia) | Formation Pressure HP(Psia) | Remarks |
|----------------|---------|--------|-------------------------------------|-----------------------------------|-----------------------|
| | MD(m) | TVD(m) | | | |
| 1 | 3814.0 | 3812.5 | 8661.0 | - | Seal Failure |
| 2 | 3815.5 | 3814.0 | 8670.1 | - | Seal Failure |
| 3 | 3831.0 | 3827.6 | 8704.3 | - | Seal Failure |
| 4 | 3849.99 | 3844.2 | 8747.8 | 8265.2 | Super Charged |
| 5 | 3856.5 | 3852.5 | 8758.2 | 8239.2 | Fair |
| 6 | 3859.5 | 3855.4 | 8763.0 | 8241.6 | Fair |
| 7 | 3862.0 | 3857.9 | 8768.1 | 8286.5 | Super Charged |
| 8 | 3867.8 | 3863.5 | 8783.5 | 8280.1 | Super Charged |
| 9 | 3877.5 | 3873.0 | | - | Seal Failure |
| 10 | 3856.5 | 3852.5 | 8750.0 | 8240.6 | Fair |
| 11 | 3859.5 | 3855.4 | 8761.6 | 8243.4 | Fair |
| 12 | 3861.39 | 3857.4 | 8765.3 | 8245.6 | Good ✓ |
| 13 | 3861.5 | 3857.4 | 8763.2 | 8245.4 | Fair |
| 14 | 3862.0 | 3857.9 | 8762.0 | 8246.4 | Fair |
| 15 | 3884.0 | 3879.3 | 8819.2 | 8352.9 | Super Charged |
| 16 | 3889.0 | 3884.2 | 8826.0 | 8304.6 | Tight |
| 17 | 3898.5 | 3893.5 | 8844.0 | - | Seal Failure |
| 18 | 3916.0 | 3911.0 | 8885.6 | - | Seal Failure |
| 19 | 3916.5 | 3911.5 | 8885.5 | - | Seal Failure |
| | 3859.5 | 3855.4 | 8756.2 | 8243.3 | Fluid Sample Taken |

4. Evaluation Log Run 2

HEATHER SANDS, UPPER JURASSIC, 3440 - 3537 m.

An evaluation of the Heather sands indicate the interval 3440 - 3510 m has a 31.9 m net pay section with porosity 13% or greater. Porosities ranges from 13 - 17% with an average of 15.6%. (NOTE: even though the sidewall sample porosity measurements are considered unreliable, there is a relatively close comparison of the Helium porosity and log derived porosity. Estimated water saturations range from 16 to 35% with an average of 22%.

Evaluation was performed using wireline logs. Porosities were determined from the density log and resistivities from the Dual Laterolog. Computations used the following parameters:

- Density log porosity used: ρ_g 2.65 g/cc and ρ_f 1.08 g/cc
- DLL-MSFL resistivities were environmentally corrected for saturation determinations.
- Formation factor (Timur Equation) $F = a/\phi^m$ where $a = 1.13$ and $m = 1.73$
- Saturations used Archie's equation, $n = 2$.
- RW is unknown however an estimated 0.1 ohmm at reservoir temperature was used.

Gas saturation prediction is supported by a gas gradient of 3.66 KPa/m (0.162 psi/ft) derived from a good RFT pressure- depth plot, Figure 7. A small amount of gas was recovered on a RFT at 3467 m, Composite Gas Analysis, Table 8.

The density - neutron crossover shows little to no gas effect. This is likely due to shale effect and deep mud filtrate invasion. Invasion is indicated by the DLL-MSFL curve separation and the large proportion of filtrate to gas recovered on the RFT.

No gas/water contact is apparent. However, the interval 3510 - 3537m consist of thin beds of tight sandstones, limestones and shales. The sands are

too thin for adequate resistivity curve corrections, therefore the saturating fluids can not be evaluated.

5. Evaluation Log Run 3

BRENT GROUP SANDSTONE; MIDDLE JURASSIC, 3810 -3949 m.

Evaluation analysis by wireline logs, cores and RFT's indicate the Brent Group sandstones are water wet. No significant shows were recorded while drilling. Porosities from the density log and single conventional core range from a high of 19% down to below effective reservoir quality. An estimated 34.5m of sandstone with porosities 13% or greater is interpreted though the interval 3810 - 3920 m. The interval 3920 - 3947 m is a shale section.

Porosities were determined from the density log and fluid saturations made use of the DLL-MSFL log. Confidence in density log derived porosities suffered because of rugose hole conditions evidenced by significant Delta Rho curve excursions. Computations were made with the following parameters:

Density Log Porosities: g 2.66 g/cc
 f 1.08 g/cc

Formation factor: ϕ 15% or less, $FF = 0.83/\phi^{2.14}$
 $\phi > 15\%$, $FF = 0.37/\phi^{2.5}$

The relationships are based on a modified FF- ϕ cross plot for Brent Sands from Gulf 35/8-1 special core analysis, Figure 9.

Use of the two relationships resulted in more consistent R_{wa} values ranging from 0.09 - 0.12 ohmm for porosities ranging from 13 - 19%. These resistivities conform to log calculated water resistivities for wells in the area.

The LDL-CNL crossover, generally associated with gas occurrence, in this case may be the result in part from too great a Delta Rho correction for the mud cake. If this is true, then porosities from the density curve or combination LDL-CNL curves should be one to one and a half porosity units less. Then too, the density curve repeatability is not as good as observed on the previous run.