## 2.9 Repeat Formation Tests

The technical problems that occurred whilst running both the Schlumberger MDT and RFT tools in the 8½" open hole section are described in section 2.7.1 of this report, Open Hole Wireline Logging. A total of five tool runs were made with a total of only 6 pressure tests that can be considered good and two samples being taken. It is worth noting that repeatability of these pressure data is poor, probably as a result both of temporary local depletion and supercharging.

RFT Samples were taken at 3550.2 mMD and at 3622.0 mMD.

During the drilling of the 8½" hole section Petrotech A/S added Sodium Thiacyanate as a tracer chemical to the drilling mud. If the formation water was contaminated with mud filtrate the Thiacyanate would show up in any analyses of RFT or DST samples. Samples of mud filtrate were taken during drilling so that their average Thiacyanate content could be determined and compared with that of any formation water samples taken.

**Mobil** MOBIL EXPLORATION NORWAY INC.

## Repeat Formation Testing Worksheet

LOGGING SUITE No. 3

| | | | | | |
|---|---|---|---|---|---|
| **WELL:** | 33/6-2 | **RIG:** | Byford Dolphin | **GEOLOGISTS:** | G.Wheatley / N.Feery |
| **DATE:** | 25/12/1996 | **LOGGING Co.:** | Schlumberger | **RUN No.:** | 3D / 3E |
| **MUD TYPE:** | ANCO2000 | **MUD DENSITY:** | 1.50 sg | **HOLE SIZE:** | 8 1/2" |

| TEST No. | DEPTH (mRKB) | DEPTH (mTVD) | TYPE | HYDROSTATIC BEFORE (PSI) | TIME SET | FORMATION PRESSURE (psia) | TIME RETRACT | HYDROSTATIC AFTER (PSI) | RESULT | TEMP °C | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RUN 3D, MDT/GR** | | | | | | | | | | | 3391.7m (inside shoe) quartz gauge = 7225 psi in mud, ie hydrostatic=1.50 g/cc |
| 1 | 3493.0 | 3489.4 | P | 7384 | 18:40 | 38.4 | 486 | 7370.3 | DRY | 103.7 | Draw down 20cc. Dry test after 306 seconds. |
| 2 | 3493.5 | 3489.9 | P | 7363 | 90 | 529.0 | 400 | 7351.0 | DRY | 107.8 | Draw down 5cc. Dry test after 310 seconds. |
| 3 | 3549.8 | 3546.1 | P | 7502 | 135 | 341.0 | 396 | 6667.0 | DRY | 109.9 | Dry test. Quartz gauge plugged. Slow return to hydrostatic |
| | 3549.8 | 3546.1 | S | - | - | - | - | - | FAIL | - | Set packer - doesn't hold pressure |
| 4 | 3550.0 | 3546.3 | P | 7467 | 90 | 7121.1 | 1450 | 7454.0 | GOOD | 111.2 | Good test, EQMW=1.42 g/cc |
| 5 | 3550.2 | 3546.5 | P | 7463 | 243 | 7015.0 | 711 | 7447.8 | GOOD | | Draw down 7cc, calculate hydrostatic 7505 psi. |
| 6 | 3550.2 | 3546.5 | P | 7445 | 270 | 6997.0 | 3200 | 7454.0 | GOOD | - | Pumped out 10 litres in 45 minutes,. Resistivity 0.01-0.02 ohmm |
| | | | S | 7445 | 3250 | 6745.0 | 4260 | 7454.0 | GOOD | 114.3 | 6880 psi maximum after 15 mins |
| 7 | 3622.0 | 3618.1 | P | 7637 | 90 | ? | 450 | 7622.0 | S/C? | 114.6 | Reads 10700 psi. |
| 8 | 3622.0 | 3618.1 | P | 7617 | 81 | 7057.5 | 207 | ? | GOOD? | 114.6 | Reads 11000 psi. pump out 0.5 L in 300 seconds. |
| 9 | 3622.1 | 3618.2 | S | 7657 | 1809 | 7049.0 | 2232 | 7593.0 | GOOD? | 114.8 | Get 8900 psi. Dump to 6 gallon chamber. and take sample into 1 gallon chamber |
| | | | | | | | | | | | |
| **RUN 3E, RFT/GR** | | | | | | | | | | | |
| 1 | 3493.0 | 3489.4 | P | 7359.0 | 02:14 | 6975.9 | 30:29 | 7349.0 | GOOD | - | Good test. After hydrostatic fluctuating - rig heave? |
| 2 | 3549.8 | 3546.1 | P | 7520.4 | 03:10 | 7449.6 | - | 7436.0 | S/C? | 113.9 | Supercharged? Pressure incresed to 7462psi then decreased. |
| 3 | 3619.5 | 3615.6 | P | 7646.3 | 01:20 | 7522.1 | 12:50 | 7614.0 | S/C? | 109.2 | Supercharged? |
| 4 | 3622.0 | 3618.1 | P | 7603.0 | 02:20 | 7510.0 | 13:40 | 7601.0 | S/C? | 114.5 | Telemetry errors - abort run. |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

**NOTES:** Telemetry errors on both MDT and RFT tools were causing the packers to fail to set and no further pre-tests could be initiated on either run with MDT or RFT.

**REFERENCE LOG:** 3A **CONVERSION FACTOR: kpa = psi * 6.89474** **WITNESS:** G. Wheatley / N. Feery

FIGURE 2.13

# RFT SAMPLE SUMMARY

**RFT FORMATION WATER SAMPLES ARE CONTAMINATED BY MUD FILTRATE**

## WATER ANALYSIS

| WESTLAB A/S RESULTS COMPONENT | | SAMPLE 1 3550.2 mMD | SAMPLE 2 3622.0 mMD | AVERAGE MUD FILTRATE |
|---|---|---|---|---|
| Natrium, Na | mg/l | 7370 | 6910 | 7272.5 |
| Calcium, Ca | mg/l | 796 | 735 | 782.75 |
| Magnesium, Mg | mg/l | 64.2 | 56.5 | 32.1 |
| Barium, Ba | mg/l | 1.3 | 2.2 | 1 |
| Iron, Fe | mg/l | 3.6 | 6.3 | 6.6375 |
| Strontium, Sr | mg/l | 25.2 | 24.9 | 7.2125 |
| Potassium, K | mg/l | 51500 | 51600 | 52875 |
| Chlorides, Cl- | mg/l | 61900 | 62100 | 56763 |
| Suphates, SO42- | mg/l | 1220 | 1340 | 1355 |
| Bicarbonate, HCO3- | mg/l | 697 | 709 | - |
| Thiocyanate, SCN- | mg/l | 385 | 348 | 486 |
| Ion Balance, cat/an | % | -5.9 | -7.8 | 4.7 |
| Total Salt Content | mg/l | 124000 | 124000 | 119125 |
| pH at 20°C | pH | 7.1 | 6.9 | - |
| Suspended Material | mg/l | 1040 | 220 | - |
| Specific gravity, 15°C | | 1.085 | 1.085 | - |
| Resistivity at 25°C | ohm-m | 0.063 | 0.061 | - |

NOTES:

1. Mud Filtrate data are average of 8 samples taken from 3541 - 3645 mMD
2. Sodium Thiacyanate content indicates that the samples are, on average, highly contaminated by mud filtrate based on comparison with mud filtrate:-
   SAMPLE 1. 79 %
   SAMPLE 2. 72 %

Figure 2.15

Well No 33/6-2 © MNSL Rev Nov 1996 **MUD PROPERTIES WBM** Rig Byford Dolphin Mud Co MI Anchor Hole Diam 9.875/36 PAGE : 1

| Date | Depth Ft | FL °F | FL °F | Mud wt ppg 80° F | PV cps | YP | VG meter 120°F 600 | 300 | 200 | 100 | 6 | 3 | Gels 10s | 10m | 30 | VG meter Fl °F 600 | 300 | 200 | 100 | 6 | 3 | API cc 7.5m | 30m | HTHP cc | cake | °F | Pf cc | Ca mg/l | Mg mg/l | Chlorides mg/l | MBT ppb | pH | Sand %vol | Retort % Water | Oil | Volume % Chem | HGS | DS | KCl ppb |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28/10/96 | 1150 | | | 8.6 | 30 | 31 | 91 | 61 | 49 | 34 | 12 | 11 | 10 | 25 | 28 | | | | | | | | 18.5 | | | | | 80 | 60 | 525 | | 8.0 | 0.0 | 98.0 | | 0.0 | | 2.0 | |
| 28/10/96 | 1640 | | | 8.6 | 31 | 31 | 93 | 62 | 50 | 34 | 13 | 12 | 10 | 26 | 29 | | | | | | | | 19.0 | | | | | 100 | 50 | 500 | | 8.0 | 0.0 | 98.0 | | 0.0 | | 2.0 | |
| 28/10/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.0 | | | |
| 29/10/96 | 3244 | | | 8.6 | 30 | 30 | 90 | 60 | 47 | 32 | 13 | 11 | 11 | 25 | 29 | | | | | | | | 18.0 | | | | | 100 | 50 | 550 | | 8.0 | 0.0 | 98.0 | | 0.0 | | 2.0 | |
| 29/10/96 | 3244 | | | 8.6 | 31 | 30 | 92 | 61 | 47 | 33 | 13 | 12 | 11 | 26 | 29 | | | | | | | | 19.0 | | | | | 100 | 60 | 525 | | 8.0 | 0.0 | 98.0 | | 0.0 | | 2.0 | |
| 29/10/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.0 | | | |
| 30/10/96 | 1286 | | | 8.65 | 31 | 31 | 93 | 62 | 51 | 35 | 13 | 12 | 10 | 25 | 28 | | | | | | | | 19.0 | | | | | 80 | 50 | 500 | | 8.0 | 0.0 | 97.6 | | 0.0 | | 2.4 | |
| 30/10/96 | 1286 | | | 8.6 | 32 | 28 | 92 | 60 | 50 | 33 | 12 | 11 | 10 | 25 | 27 | | | | | | | | 19.5 | | | | | 80 | 50 | 525 | | 8.0 | 0.0 | 98.0 | | 0.0 | | 2.0 | |
| 30/10/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.0 | | | |
| 31/10/96 | 1286 | | | 8.5 | 30 | 28 | 88 | 58 | 47 | 32 | 12 | 11 | 10 | 24 | 27 | | | | | | | | 19.0 | | | | | 100 | 60 | 500 | | 8.0 | 0.0 | 98.8 | | 0.0 | | 1.2 | |
| 31/10/96 | 1286 | | | 8.5 | 30 | 30 | 90 | 60 | 49 | 33 | 13 | 12 | 12 | 25 | 28 | | | | | | | | 19.5 | | | | | 80 | 50 | 500 | | 8.0 | 0.0 | 98.8 | | 0.0 | | 1.2 | |
| 31/10/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.0 | | | |

Well No 33/6-2 © MNSL Rev Nov 1996 **MUD PROPERTIES WBM** Rig Byford Dolphin Mud Co MI Anchor Hole Diam 26" 

| Date | Depth Ft | FL °F | Mud wt Ft °F | ppg 80° F | PV cps | YP | VG meter 120°F 600 | 300 | 200 | 100 | 6 | 3 | Gels 10s | 10m | 30 | VG meter Ft °F 600 | 300 | 200 | 100 | 6 | 3 | API cc 7.5m | 30m | HTHP cc | cake | °F | Pf cc | Ca mg/l | Mg mg/l | Chlorides mg/l | MBT ppb | pH | Sand %vol | Retort % Water | Oil | Volume % Chem | HGS | DS | KCl ppb |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01/11/96 | 1286 | | | 8.6 | 32 | 29 | 93 | 61 | 50 | 35 | 14 | 13 | 11 | 26 | 28 | | | | | | | | 18.5 | | | | | 110 | 60 | 525 | | 8.0 | 0.0 | 98.0 | | 0.0 | 0.0 | 2.0 | |
| 01/11/96 | 2096 | | | 8.6 | 30 | 30 | 90 | 60 | 49 | 33 | 13 | 11 | 11 | 25 | 28 | | | | | | | | 19.0 | | | | | 100 | 50 | 500 | | 8.0 | 0.0 | 98.0 | | 0.0 | 0.0 | 2.0 | |
| 01/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.0 | | | |
| 02/11/96 | 3214 | | | 8.6 | 32 | 26 | 90 | 58 | 47 | 34 | 14 | 12 | 11 | 25 | 28 | | | | | | | | 19.0 | | | | | 100 | 50 | 500 | | 8.0 | 0.0 | 98.0 | | 0.0 | 0.0 | 2.0 | |
| 02/11/96 | 3250 | | | 8.6 | 33 | 25 | 91 | 58 | 48 | 34 | 13 | 12 | 11 | 24 | 27 | | | | | | | | 19.0 | | | | | 100 | 60 | 500 | | 8.0 | 0.0 | 98.0 | | 0.0 | 0.0 | 2.0 | |
| 02/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.0 | | | |
| 03/11/96 | | | | 8.5 | | | | | | | | | | | | | | | | | | | | | | | | 100 | | 300 | | | | 98.8 | | 0.0 | | 1.2 | |
| 03/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.0 | | | |
| 03/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.0 | | | |
| 04/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.0 | | | |
| 04/11/96 | | | | 8.5 | | | | | | | | | | | | | | | | | | | | | | | | 80 | | 300 | | | | 98.8 | | 0.0 | | 1.2 | |
| 04/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.0 | | | |

**Well No 33/6-2** © MNSL Rev Nov 1996 **MUD PROPERTIES WBM** **Rig** Byford Dolphin **Mud Co** MI Anchor **Hole Diam** 17.5 **PAGE :** 1

| Date | Depth Ft | FL °F | Mud wt ppg Fl °F | 80° F | PV cps | YP | VG meter 120°F 600 | 300 | 200 | 100 | 6 | 3 | Gels 10s | 10m | 30 | VG meter Fl °F 600 | 300 | 200 | 100 | 6 | 3 | API cc 7.5m | 30m | HTHP cc | cake | °F | Pf cc | Ca mg/l | Mg mg/l | Chlorides mg/l | MBT ppb | pH | Sand %vol | Retort % Water | Oil | Volume % Chem | HGS | DS | KCl ppb | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 05/11/96 | 3250 | 62 | | 9.43 | 25 | 20 | 70 | 45 | 34 | 22 | 5 | 4 | 5 | 12 | | | | | | | | 2.2 | | | | 0.2 | 80 | 40 | 92000 | | 8.2 | 0.0 | 84.7 | | 7.4 | | 1.3 | 50.2 | | | | |
| 05/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.4 | | | | | | | |
| 05/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.4 | | | | | | | |
| 06/11/96 | 3250 | | | 10.8 | 28 | 24 | 80 | 52 | 38 | 26 | 9 | 7 | 4 | 13 | | | | | | | | 2.1 | | | | 0.2 | 80 | 40 | 90000 | | 8.0 | 0.0 | 80.0 | | 7.3 | 5.3 | 1.4 | 49.5 | 5.2 | | | |
| 06/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.3 | | | | | | | |
| 06/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.3 | | | | | | | |
| 07/11/96 | 3347 | 65 | 11.09 | 11.09 | 25 | 25 | 75 | 50 | 28 | 17 | 3 | 2 | 2 | 8 | | 102 | 65 | 49 | 32 | 7 | 4 | 1.5 | | | | 0.2 | 70 | 30 | 82000 | 20.3 | 8.0 | 0.0 | 76.2 | 0.0 | 7.9 | 6.0 | 1.9 | 125 | 5.3 | | | |
| 07/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.9 | | | | | | | |
| 07/11/96 | 3650 | 73 | 11.26 | 11.26 | 26 | 29 | 81 | 55 | 44 | 31 | 11 | 9 | 9 | 18 | | 144 | 99 | 80 | 55 | 15 | 12 | 1.6 | | | | 0.2 | 60 | 20 | 84500 | 16.5 | 8.2 | 0.0 | 75.5 | 0.0 | 7.9 | 6.4 | 2.3 | 120 | 5.1 | | | |
| 08/11/96 | 4462 | 70 | 11.55 | 11.55 | 33 | 44 | 110 | 77 | 60 | 42 | 11 | 8 | 7 | 13 | | 165 | 118 | 90 | 64 | 17 | 12 | 2.3 | | | | 0.0 | 80 | 25 | 78000 | 21.5 | 7.5 | 2.0 | 73.0 | | 8.3 | 5.1 | 9.0 | 40.3 | 5.1 | | | |
| 08/11/96 | 4704 | 75 | 11.6 | 11.6 | 35 | 43 | 113 | 78 | 63 | 44 | 12 | 9 | 8 | 15 | | 158 | 112 | 89 | 62 | 17 | 13 | 1.7 | | | | 0.0 | 105 | 40 | 84000 | 24.5 | 7.5 | 3.0 | 73.8 | 0.0 | 8.3 | 6.2 | 6.6 | 43.8 | 5.2 | | | |
| 08/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.3 | | | | | | | |
| 09/11/96 | 5463 | 74 | 11.51 | 11.51 | 27 | 40 | 94 | 67 | 52 | 37 | 11 | 8 | 6 | 12 | | 142 | 97 | 77 | 55 | 14 | 11 | 2.6 | | | | 0.0 | 90 | 40 | 81000 | | 7.5 | 2.0 | 74.8 | 0.0 | 8.4 | 6.5 | 5.3 | 43.8 | 4.8 | | | |
| 09/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.4 | | | | | | | |
| 09/11/96 | 5946 | | | 12.05 | 38 | 56 | 132 | 94 | 77 | 56 | 18 | 14 | 14 | 27 | 55 | 175 | 124 | 102 | 73 | 23 | 18 | 2.2 | | | | 0.0 | 65 | 35 | 79000 | | 7.2 | 2.2 | 74.2 | 0.0 | 8.4 | 9.8 | 2.9 | 40.3 | 5.0 | | | |
| 10/11/96 | 6342 | 83 | 11.9 | 11.9 | 28 | 56 | 112 | 84 | 65 | 47 | 14 | 10 | 7 | 13 | 60 | 157 | 112 | 86 | 63 | 18 | 14 | 2.4 | | | | 0.0 | 80 | 40 | 86000 | 19.2 | 7.5 | 2.0 | 72.0 | 0.0 | 8.6 | 7.0 | 7.4 | 43.8 | 4.8 | | | |
| 10/11/96 | 6520 | 85 | 11.9 | 11.9 | 35 | 50 | 120 | 85 | 64 | 49 | 14 | 11 | 8 | 15 | 59 | 151 | 107 | 83 | 61 | 17 | 13 | 2.1 | | | | 0.0 | 85 | 35 | 84200 | 18.5 | 7.5 | 2.0 | 72.2 | 0.0 | 8.6 | 7.1 | 7.1 | 43.2 | 5.0 | | | |
| 10/11/96 | 6595 | 90 | 12.0 | 12.0 | 30 | 50 | 110 | 80 | 65 | 47 | 13 | 10 | 9 | 15 | 62 | 145 | 100 | 82 | 58 | 17 | 13 | 2.0 | | | | 0.0 | 80 | 35 | 83000 | 18.2 | 7.5 | 1.5 | 71.8 | 0.0 | 8.6 | 7.5 | 7.2 | 43.0 | 5.0 | | | |
| 11/11/96 | 6949 | 92 | 12.60 | 12.60 | 36 | 54 | 126 | 90 | 70 | 51 | 15 | 12 | 7 | 15 | | 158 | 109 | 87 | 63 | 18 | 14 | 2.6 | | | | 0.0 | 70 | 30 | 82000 | 19.5 | 7.5 | 1.2 | 72.5 | | 7.3 | 11.2 | 4.2 | 42.1 | 5.0 | | | |
| 11/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.3 | | | | | | | |
| 11/11/96 | 7054 | | | 12.43 | 38 | 59 | 135 | 97 | 74 | 53 | 17 | 14 | 9 | 18 | 65 | 162 | 114 | 90 | 64 | 19 | 16 | 2.4 | | | | 0.0 | 100 | 45 | 81200 | 20.6 | 7.5 | 1.5 | 72.7 | | 7.3 | 10.2 | 5.1 | 40.8 | 5.0 | | | |
| 12/11/96 | 7054 | 80 | 12.51 | 12.51 | 35 | 48 | 118 | 83 | 65 | 46 | 14 | 11 | 7 | 13 | | 155 | 109 | 85 | 59 | 17 | 13 | 2.8 | | | | 0.0 | 80 | 40 | 81000 | 20.0 | 7.5 | 1.0 | 72.0 | | 7.4 | 10.3 | 5.5 | 42.1 | 4.8 | | | |
| 12/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.4 | | | | | | | |
| 12/11/96 | 7054 | 78 | 12.51 | 12.51 | 28 | 37 | 93 | 65 | 51 | 36 | 13 | 10 | 6 | 11 | | 120 | 88 | 66 | 47 | 13 | 10 | 2.8 | | | | 0.0 | 80 | 40 | 80000 | 21.0 | 7.5 | 1.0 | 72.0 | | 7.4 | 10.3 | 5.5 | 42.8 | 4.8 | | | |
| 13/11/96 | 7054 | 80 | 12.51 | 12.51 | 29 | 37 | 95 | 66 | 51 | 36 | 13 | 10 | 6 | 11 | | 120 | 88 | 66 | 47 | 13 | 10 | 2.8 | | | | 0.0 | 80 | 40 | 80000 | 21.0 | 7.5 | 1.0 | 72.0 | | 7.4 | 10.3 | 5.6 | 42.1 | 4.8 | | | |
| 13/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.4 | | | | | | | |
| 13/11/96 | 7054 | 80 | 12.51 | 12.51 | 29 | 35 | 93 | 64 | 48 | 34 | 13 | 10 | 6 | 12 | | 119 | 86 | 66 | 45 | 13 | 10 | 2.8 | | | | 0.0 | 80 | 40 | 80000 | 21.0 | 7.5 | 1.0 | 72.0 | | 7.4 | 10.3 | 5.6 | 42 | 4.8 | | | |
| 14/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.4 | | | | | | | |
| 14/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.4 | | | | | | | |
| 14/11/96 | 7054 | 80 | 12.51 | 12.51 | 34 | 28 | 96 | 62 | 48 | 33 | 13 | 10 | 7 | 13 | | 167 | 116 | 90 | 62 | 16 | 13 | 2.8 | | | | 0.0 | 70 | 40 | 81000 | 20.0 | 7.5 | 1.0 | 72.0 | | 7.4 | 10.3 | 5.6 | 41 | 4.8 | | | |
| 15/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.5 | | | | | | | |
| 15/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.5 | | | | | | | |
| 15/11/96 | 7054 | 80 | 12.51 | 12.51 | 36 | 50 | 122 | 86 | 66 | 47 | 13 | 10 | 7 | 13 | | 172 | 120 | 92 | 64 | 17 | 13 | 2.8 | | | | 0.0 | 80 | 40 | 80000 | 20.0 | 7.5 | 1.0 | 72.0 | | 7.5 | 10.3 | 5.6 | 40 | 4.8 | | | |
| 16/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.4 | | | | | | | |
| 16/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.4 | | | | | | | |
| 16/11/96 | 7054 | 80 | 12.51 | 12.51 | 30 | 40 | 100 | 70 | 54 | 39 | 12 | 9 | 6 | 11 | | 148 | 103 | 79 | 55 | 14 | 11 | 3.0 | | | | 0.0 | 80 | 40 | 80000 | 20.0 | 7.5 | 1.0 | 72.0 | | 7.4 | 10.2 | 5.9 | 39 | 4.8 | | | |
| 17/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.4 | | | | | | | |
| 17/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.4 | | | | | | | |
| 17/11/96 | 7054 | 80 | 12.51 | 12.51 | 25 | 49 | 99 | 74 | 58 | 40 | 12 | 9 | 6 | 12 | | 157 | 107 | 82 | 56 | 15 | 12 | 3.0 | | | | 0.0 | 80 | 40 | 80000 | 20.0 | 7.5 | 1.0 | 72.0 | | 7.4 | 10.2 | 5.9 | 39 | 4.8 | | | |
| 18/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.4 | | | | | | | |
| 18/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.4 | | | | | | | |
| 18/11/96 | 7054 | 80 | 12.51 | 12.51 | 33 | 32 | 98 | 65 | 51 | 35 | 11 | 8 | 11 | 6 | | 148 | 99 | 78 | 53 | 14 | 11 | 3.2 | | | | 0.0 | 80 | 40 | 80000 | 20.0 | 7.5 | 1.0 | 72.0 | | 7.4 | 10.2 | 5.9 | 38 | 4.8 | | | |

Well No 33/6-2 © MNSL Rev Nov 1996 **MUD PROPERTIES WBM** Rig Byford Dolphin Mud Co MI Anchor Hole Diam 12.25 PAGE : 1

| Date | Depth Ft | FL °F | FL °F | Mud wt ppg 80° F | PV cps | YP | VG meter 120°F 600 | 300 | 200 | 100 | 6 | 3 | Gels 10s | 10m | 30 | VG meter Fl °F 600 | 300 | 200 | 100 | 6 | 3 | API cc 7.5m | 30m | HTHP cc | cake | °F | Pf cc | Ca mg/l | Mg mg/l | Chlorides mg/l | MBT ppb | pH | Sand %vol | Retort % Water | Oil | Volume % Chem | HGS | DS | KCl ppb | Glycol % | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.5 | | | | | | | |
| 19/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.5 | | | | | | | |
| 19/11/96 | 7064 | | 12.51 | 12.51 | 28 | 25 | 81 | 53 | 42 | 27 | 9 | 7 | 10 | 22 | | | | | | | | 5.0 | | | 0.1 | 400 | 40 | 77000 | 20.0 | 11.5 | 1.5 | 72.0 | | 7.5 | 10.2 | 5.9 | 37 | 4.5 | | | |
| 20/11/96 | 7068 | 80 | 12.5 | 12.5 | 22 | 16 | 60 | 38 | 29 | 19 | 7 | 5 | 7 | 18 | 26 | | | | | | | 6.0 | | | 0.0 | 850 | 60 | 65500 | 25.0 | 10.5 | 1.0 | 72.0 | | 7.8 | 10.5 | 5.8 | 39 | 4.5 | | | |
| 20/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 20/11/96 | 7068 | 80 | 12.51 | 12.51 | 23 | 16 | 62 | 39 | 29 | 18 | 8 | 6 | 7 | 18 | 25 | | | | | | | 6.2 | | | 0.0 | 800 | 60 | 66500 | 25.0 | 10.5 | 1.0 | 72.0 | | 7.8 | 10.6 | 5.6 | 40 | 4.8 | 38.8 | | |
| 21/11/96 | 7236 | 82 | 12.5 | 12.5 | 23 | 29 | 75 | 52 | 42 | 29 | 10 | 7 | 9 | 23 | 29 | | | | | | | 4.2 | | | 0.1 | 700 | 60 | 72000 | 22.0 | 10.0 | 1.0 | 72.0 | | 7.8 | 10.5 | 5.4 | 43.7 | 4.8 | 48.5 | | |
| 21/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 21/11/96 | 7540 | 102 | 12.5 | 12.5 | 22 | 33 | 77 | 55 | 45 | 33 | 10 | 8 | 9 | 29 | | 98 | 71 | 57 | 40 | 14 | 11 | 4.6 | | | 0.1 | 200 | 40 | 72000 | 22.0 | 10.0 | 1.0 | 72.0 | | 7.8 | 10.5 | 5.4 | 43.7 | 5 | 50.5 | | |
| 22/11/96 | 7710 | 105 | 12.6 | 12.6 | 26 | 32 | 84 | 58 | 48 | 35 | 12 | 9 | 12 | 28 | 33 | 105 | 70 | 59 | 43 | 15 | 12 | 4.4 | | | 0.1 | 600 | 60 | 74000 | 19.5 | 10.0 | 1.0 | 72.0 | | 7.5 | 11.0 | 5.1 | 43.7 | 5 | 50.5 | | |
| 22/11/96 | 7776 | 107 | 12.6 | 12.6 | 26 | 32 | 84 | 58 | 48 | 35 | 12 | 9 | 12 | 28 | 33 | 105 | 70 | 59 | 43 | 15 | 12 | 4.5 | | | 0.1 | 600 | 60 | 74500 | 19.0 | 10.0 | 1.0 | 72.0 | | 7.5 | 11.0 | 5.1 | 44 | 5.1 | 51.5 | | |
| 22/11/96 | 7841 | 85 | 12.6 | 12.6 | 26 | 31 | 83 | 57 | 48 | 34 | 12 | 9 | 11 | 26 | 32 | | | | | | | 4.4 | | | 0.1 | 540 | 60 | 75000 | 18.5 | 10.0 | 1.0 | 72.0 | | 7.5 | 11.0 | 5.1 | 44 | 5.1 | 51.5 | | |
| 23/11/96 | 7842 | 80 | 12.6 | 12.6 | 26 | 31 | 83 | 57 | 48 | 34 | 12 | 9 | 11 | 26 | 32 | | | | | | | 4.4 | | | 0.1 | 560 | | 75000 | 18.5 | 10.0 | 1.0 | 72.0 | | 7.5 | 11.0 | 5.0 | 44 | 5.1 | 51.5 | | |
| 23/11/96 | 7865 | 82 | 12.5 | 12.5 | 23 | 26 | 72 | 49 | 39 | 28 | 10 | 7 | 10 | 19 | 24 | 103 | 70 | 56 | 40 | 14 | 10 | 3.2 | | | 0.1 | 600 | | 73000 | 17.5 | 9.5 | 1.0 | 73.0 | | 7.5 | 11.2 | 4.0 | 42 | 5.0 | 50.5 | | |
| 23/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.5 | | | | | | | |
| 24/11/96 | 7990 | 78 | 12.5 | 12.5 | 19 | 23 | 61 | 42 | 33 | 23 | 9 | 7 | 9 | 18 | 23 | 94 | 64 | 51 | 35 | 11 | 9 | 3.4 | | 1 | 0.1 | 650 | 50 | 75000 | 17.5 | 9.5 | 1.0 | 73.0 | | 7.1 | 10.9 | 4.3 | 45.5 | 5 | 50.5 | | |
| 24/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.1 | | | | | | | |
| 24/11/96 | 8250 | 85 | 12.4 | 12.4 | 20 | 28 | 68 | 48 | 40 | 28 | 11 | 7 | 8 | 22 | | 97 | 67 | 55 | 39 | 11 | 9 | 3.8 | | 1 | 0.1 | 650 | 50 | 74000 | 17.0 | 9.5 | 1.0 | 74.0 | | 7.1 | 11.1 | 3.1 | 45 | 5.2 | 52.5 | | |
| 25/11/96 | 8373 | 88 | 12.4 | 12.4 | 19 | 27 | 65 | 46 | 28 | 27 | 10 | 7 | 8 | 20 | 23 | 95 | 65 | 52 | 37 | 11 | 9 | 3.2 | | 1 | 0.1 | 600 | 40 | 74500 | 16.5 | 9.5 | 1.0 | 74.0 | | 7.2 | 11.1 | 3.1 | 43 | 5.1 | 51.5 | | |
| 25/11/96 | 8492 | 89 | 12.5 | 12.5 | 24 | 25 | 73 | 49 | 39 | 28 | 10 | 7 | 8 | 19 | 23 | 104 | 71 | 57 | 39 | 12 | 10 | 3.1 | | 1 | 0.1 | 650 | 50 | 76500 | 17.5 | 9.5 | 1.0 | 74.0 | | 7.2 | 11.9 | 2.2 | 45.5 | 5 | 53.2 | | |
| 25/11/96 | 8700 | 90 | 12.4 | 12.4 | 24 | 24 | 72 | 48 | 38 | 27 | 10 | 7 | 8 | 19 | 23 | 103 | 70 | 56 | 39 | 12 | 10 | 3.0 | | 1 | 0.1 | 650 | 50 | 76500 | 17.0 | 9.5 | 1.0 | 74.0 | | 7.2 | 11.2 | 2.9 | 45 | 5 | 53.2 | | |
| 26/11/96 | 8911 | 90 | 12.43 | 12.43 | 23 | 24 | 70 | 47 | 36 | 26 | 10 | 7 | 9 | 19 | 24 | 105 | 73 | 57 | 38 | 13 | 11 | 2.9 | | 1 | 0.1 | 625 | 45 | 76300 | 17.2 | 9.5 | 1.0 | 73.9 | | 7.6 | 11.7 | 2.1 | 45 | 5.1 | 53.5 | | |
| 26/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.6 | | | | | | | |
| 26/11/96 | 8911 | | | 12.45 | 26 | 33 | 85 | 59 | 43 | 34 | 13 | 10 | 12 | 22 | 31 | 117 | 86 | 64 | 44 | 17 | 13 | 2.8 | | 1 | 0.1 | 625 | 50 | 76500 | 17.0 | 9.5 | 1.0 | 74.0 | | 7.6 | 11.9 | 1.7 | 45 | 5.0 | 53.2 | | |
| 27/11/96 | 8993 | 107 | 12.5 | 12.5 | 21 | 25 | 67 | 46 | 37 | 27 | 10 | 8 | 10 | 21 | 25 | 96 | 65 | 51 | 36 | 12 | 10 | 3.6 | | 1 | 0.1 | 700 | 60 | 75000 | 18.0 | 8.8 | 1.0 | 72.0 | | 7.2 | 10.2 | 6.1 | 45.6 | 5 | 53.2 | | |
| 27/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.2 | | | | | | | |
| 27/11/96 | 9117 | 108 | 12.4 | 12.4 | 25 | 30 | 80 | 55 | 44 | 32 | 10 | 8 | 12 | 20 | 28 | 90 | 63 | 52 | 36 | 12 | 10 | 3.4 | | 1 | 0.0 | 780 | 80 | 79500 | 18.2 | 8.0 | 1.0 | 72.2 | | 7.2 | 9.6 | 6.3 | 44.9 | 4.8 | 48.5 | | |
| 28/11/96 | 9282 | 120 | 12.45 | 12.45 | 25 | 31 | 81 | 56 | 45 | 32 | 12 | 10 | 12 | 31 | 35 | | | | | | | 4.2 | | 1 | 0.1 | 750 | 60 | 78000 | 18.0 | 8.4 | 1.0 | 71.0 | 0.0 | 7.8 | 9.3 | 7.3 | 45.6 | 4.9 | 52.1 | | |
| 28/11/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 28/11/96 | 9459 | 120 | 12.5 | 12.5 | 31 | 44 | 106 | 75 | 61 | 45 | 17 | 15 | 22 | 44 | 55 | 106 | 75 | 61 | 45 | 17 | 15 | 3.5 | | 1 | 0.0 | 730 | 50 | 78500 | 18.2 | 8.5 | 1.0 | 70.5 | 0.0 | 7.8 | 9.2 | 7.9 | 45.6 | 5.0 | | | |
| 29/11/96 | 9518 | 120 | 12.43 | 12.43 | 31 | 41 | 103 | 72 | 60 | 43 | 16 | 14 | 20 | 45 | 53 | 103 | 72 | 60 | 43 | 16 | 14 | 3.6 | | 1.0 | 0.0 | 680 | 50 | 78300 | 18.3 | 8.5 | 1.0 | 70.4 | 0.0 | 7.4 | 8.4 | 9.1 | 48.6 | 5.0 | 55.6 | | |
| 29/11/96 | 9627 | 120 | 12.45 | 12.45 | 29 | 37 | 95 | 66 | 55 | 41 | 17 | 15 | 17 | 40 | 51 | 95 | 66 | 55 | 41 | 17 | 15 | 4.2 | | 1.0 | 0.1 | 750 | 60 | 75500 | 18.5 | 8.2 | 1.0 | 71.0 | 0.0 | 7.4 | 9.1 | 8.0 | 47.2 | 5.0 | 53.5 | | |
| 29/11/96 | 9698 | | | 12.37 | 28 | 31 | 87 | 59 | 48 | 33 | 14 | 10 | 12 | 35 | 43 | | | | | | | 3.7 | | 1.0 | 0.0 | 730 | 60 | 78000 | 18.4 | 8.2 | 1.0 | 71.2 | 0.0 | 7.4 | 8.7 | 8.0 | 47.8 | 5.0 | 55.9 | | |
| 30/11/96 | 9765 | 120 | 12.5 | 12.5 | 23 | 25 | 71 | 48 | 39 | 29 | 12 | 10 | 12 | 35 | 40 | 71 | 48 | 39 | 29 | 12 | 10 | 4.0 | | 1 | 0.1 | 750 | 60 | 77500 | 18.5 | 8.2 | 1.0 | 71.2 | | 7.0 | 9.3 | 7.7 | 47.9 | 5.1 | 54.3 | | |
| 30/11/96 | 9971 | 110 | 12.5 | 12.5 | 21 | 25 | 67 | 46 | 37 | 27 | 12 | 7 | 11 | 33 | 38 | | | | | | | 4.1 | | 1 | 0.1 | 750 | 50 | 78000 | 18.5 | 8.3 | 1.0 | 71.0 | | 7.0 | 9.2 | 8.1 | 48.5 | 5.0 | 53.2 | | |
| 30/11/96 | 10383 | 98 | 12.45 | 12.45 | 25 | 33 | 83 | 58 | 47 | 34 | 13 | 12 | 14 | 40 | 46 | 105 | 72 | 58 | 41 | 14 | 11 | 4.2 | | 1 | 0.0 | 770 | 60 | 77200 | 18.7 | 8.1 | 1.0 | 71.4 | | 7.0 | 9.2 | 7.7 | 48.4 | 5.1 | 54.2 | | |
| 01/12/96 | 11260 | 96 | 12.55 | 12.55 | 21 | 25 | 67 | 46 | 37 | 25 | 9 | 7 | 9 | 33 | 38 | 105 | 72 | 58 | 40 | 13 | 10 | 4.1 | | 1.0 | 0.1 | 800 | 60 | 70000 | 18.5 | 8.2 | 1.0 | 73.0 | | 8.8 | 12.7 | 1.2 | 44.4 | 5 | 53 | | |
| 01/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.8 | | | | | | | |
| 01/12/96 | 11328 | | | 12.58 | 20 | 32 | 72 | 52 | 39 | 28 | 11 | 9 | 11 | 38 | 45 | | | | | | | 3.9 | | 1.0 | 0.1 | 800 | 60 | 71500 | 18.3 | 8.0 | 1.0 | 72.2 | | 8.8 | 12.1 | 2.5 | 44.0 | 5.0 | 52.8 | | |
| 02/12/96 | 11328 | | | 12.55 | 22 | 36 | 80 | 58 | 46 | 37 | 11 | 10 | 14 | 39 | 47 | | | | | | | 3.7 | | 1.0 | 0.1 | 810 | 60 | 70800 | 17.9 | 8.0 | 1.0 | 71.8 | 0.0 | 8.7 | 11.5 | 3.8 | 44.0 | 5.0 | 55.8 | | |
| 02/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.7 | | | | | | | |
| 02/12/96 | 11328 | | | 12.6 | 22 | 39 | 83 | 61 | 50 | 39 | 12 | 10 | 15 | 40 | 48 | | | | | | | 3.7 | | 1.0 | 0.1 | 800 | 60 | 70850 | 18.0 | 8.0 | 1.0 | 71.5 | 0.0 | 8.7 | 11.6 | 4.0 | 44.0 | 5.0 | 56.0 | | |
| 03/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.7 | | | | | | | |
| 03/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.7 | | | | | | | |
| 03/12/96 | 11328 | | | 12.55 | 21 | 39 | 81 | 60 | 52 | 40 | 12 | 10 | 14 | 39 | 45 | | | | | | | 3.8 | | 1.0 | 0.1 | 780 | 55 | 70800 | 17.9 | 8.0 | 0.9 | 71.7 | 0.0 | 8.7 | 11.4 | 4.0 | 44.0 | 5.0 | 56.0 | | |
| 04/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.7 | | | | | | | |
| 04/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.7 | | | | | | | |
| 04/12/96 | 11328 | | | 12.55 | 20 | 39 | 79 | 59 | 50 | 41 | 11 | 9 | 12 | 35 | 42 | | | | | | | 3.7 | | 1.0 | 0.1 | 780 | 60 | 70750 | 17.8 | 8.0 | 0.8 | 71.9 | 0.0 | 8.7 | 11.6 | 3.6 | 44.0 | 5.0 | 56.0 | | |

Well No 33/6-2 © MNSL Rev Nov 1996 **MUD PROPERTIES WBM** Rig Byford Dolphin Mud Co MI Anchor Hole Diam 12.25 PAGE : 2

| Date | Depth Ft | FL °F | Mud wt ppg Fl °F | 80° F | PV cps | YP | VG meter 120°F 600 | 300 | 200 | 100 | 6 | 3 | Gels 10s | 10m | 30 | VG meter Fl °F 600 | 300 | 200 | 100 | 6 | 3 | API cc 7.5m | 30m | HTHP cc | cake | °F | Pf cc | Ca mg/l | Mg mg/l | Chlorides mg/l | MBT ppb | pH | Sand %vol | Retort % Water | Oil | Volume % Chem | HGS | DS | KCl ppb | Glycol % | Glycol kg/m3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 05/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.8 | | | | | | | |
| 05/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.8 | | | | | | | |
| 05/12/96 | 11328 | | | 12.48 | 28 | 47 | 103 | 75 | 64 | 52 | 15 | 12 | 18 | 45 | 60 | | | | | | | | 3.9 | | 1.0 | | 0.1 | 760 | 50 | 70800 | 17.7 | 8.0 | 0.7 | 72.6 | 0.0 | 8.8 | 11.7 | 2.6 | 43.9 | 5.0 | 54.8 | | |

Well No 33/6-2 © MNSL Rev Nov 1996 **MUD PROPERTIES WBM** Rig Byford Dolphin Mud Co MI Anchor Hole Diam 8.5 PAGE : 1

| Date | Depth | FL | Mud wt ppg | PV | YP | VG meter 120°F | | | | | | Gels | | | VG meter Fl °F | | | | | | API cc | HTHP | | Pf | Ca | Mg | Chlorides | MBT | pH | Sand | Retort % | | Volume % | | | KCl | Glycol | Glycol |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ft | °F | Fl °F | 80° F | cps | 600 | 300 | 200 | 100 | 6 | 3 | 10s | 10m | 30 | 600 | 300 | 200 | 100 | 6 | 3 | 7.5m 30m | cc | cake | °F | cc | mg/l | mg/l | mg/l | ppb | %vol | Water | Oil | Chem | HGS | DS | ppb | % | kg/m3 |
| 06/12/96 | 11328 | | | 12.50 | 26 | 46 | 98 | 72 | 63 | 52 | 15 | 13 | 17 | 44 | 53 | | | | | | | 4.0 | | 1.0 | 0.1 | 800 | 65 | 70900 | 17.8 | 8.0 | 0.6 | 72.0 | 0.0 | 8.8 | 11.3 | 3.6 | 43.7 | 4.9 | 53.9 |
| 06/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.6 | | | | | |
| 06/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.6 | | | | | |
| 07/12/96 | 11328 | 73 | 12.47 | 12.47 | 29 | 43 | 101 | 72 | 56 | 39 | 14 | 11 | 22 | 53 | 65 | 85 | 58 | 48 | 39 | 13 | 12 | 4.8 | | 1 | 0.1 | 1180 | 50 | 69900 | 17.8 | 10.4 | 0.6 | 73.0 | | 8.4 | 11.6 | 2.8 | 41.8 | 4.5 | 45.6 |
| 07/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.4 | | | | | |
| 07/12/96 | 11383 | 87 | 12.45 | 12.45 | 28 | 42 | 98 | 70 | 53 | 38 | 13 | 11 | 20 | 49 | 59 | 82 | 57 | 50 | 41 | 14 | 12 | 4.9 | | 1 | 0.6 | 1030 | 50 | 70100 | 17.7 | 10.0 | 0.6 | 73.0 | | 8.4 | 11.4 | 2.9 | 41.8 | 4.5 | 45.6 |
| 08/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.9 | | | | | |
| 08/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.9 | | | | | |
| 08/12/96 | 11345 | 72 | 12.45 | 12.45 | 19 | 26 | 64 | 45 | 35 | 26 | 13 | 12 | 24 | 55 | 68 | 104 | 69 | 52 | 35 | 14 | 12 | 5.3 | | 1 | 0.6 | 1200 | 50 | 68900 | 17.7 | 10.4 | 0.6 | 73.0 | | 8.9 | 11.9 | 2.1 | 41.5 | 4.6 | 45.6 |
| 09/12/96 | 11351 | 69 | 12.43 | 12.43 | 20 | 15 | 55 | 35 | 29 | 19 | 7 | 5 | 6 | 27 | 39 | 96 | 63 | 47 | 31 | 11 | 7 | 4.2 | | 1 | 0.1 | 1180 | 55 | 67000 | 17.8 | 9.6 | 0.5 | 72.8 | | 8.4 | 11.1 | 3.8 | 37.3 | 4.7 | 47.6 |
| 09/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.4 | | | | | |
| 09/12/96 | 11433 | 74 | 12.43 | 12.43 | 22 | 21 | 65 | 43 | 34 | 23 | 7 | 6 | 11 | 32 | 45 | 87 | 56 | 45 | 30 | 9 | 7 | 4.1 | | 1 | 0.0 | 1120 | 60 | 67900 | 18.0 | 9.5 | 0.6 | 72.2 | | 8.4 | 10.5 | 5.0 | 36.8 | 4.6 | 46.8 |
| 10/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.4 | | | | | |
| 10/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.4 | | | | | |
| 10/12/96 | 11502 | 72 | 12.43 | 12.43 | 23 | 21 | 67 | 44 | 32 | 22 | 8 | 7 | 12 | 29 | 43 | 90 | 58 | 43 | 30 | 11 | 8 | 4.4 | | 1 | 0.0 | 980 | 45 | 66100 | 17.2 | 9.2 | 0.5 | 72.4 | | 8.4 | 10.7 | 4.7 | 36.5 | 4.4 | 44.7 |
| 11/12/96 | 11515 | 68 | 12.65 | 12.65 | 18 | 19 | 55 | 37 | 30 | 21 | 8 | 7 | 16 | 33 | 41 | | | | | | | 5.5 | | | 0.0 | 920 | | 57000 | 26.0 | 9.0 | 0.5 | 72.0 | | 8.4 | 11.8 | 4.7 | 28 | 4.6 | 46.5 |
| 11/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.4 | | | | | |
| 11/12/96 | 11548 | 68 | 12.5 | 12.5 | 19 | 16 | 54 | 35 | 26 | 17 | 7 | 6 | 9 | 28 | 36 | | | | | | | 6.1 | | | 0.0 | 990 | | 57000 | 17.5 | 8.0 | 0.2 | 72.0 | | 8.4 | 10.7 | 5.8 | 28 | 4.4 | 43 |
| 12/12/96 | 11614 | 70 | 12.58 | 12.58 | 19 | 13 | 51 | 32 | 25 | 17 | 2 | 2 | 8 | 21 | 27 | 89 | 55 | 42 | 27 | 6 | 5 | 1.4 | 3.3 | | 1 | 0.0 | 880 | 40 | 58000 | 15.0 | 7.5 | 0.0 | 74.0 | | 8.3 | 13.2 | 0.7 | 42.4 | 4 | 40.4 |
| 12/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.3 | | | | | |
| 12/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.3 | | | | | |
| 13/12/96 | 11614 | 68 | 12.7 | 12.70 | 18 | 14 | 50 | 32 | 25 | 16 | 3 | 1 | 6 | 40 | 70 | 91 | 56 | 43 | 27 | 4 | 2 | 1.1 | 3.6 | | 1 | 0.0 | 1200 | 150 | 60000 | 17.0 | 7.5 | 0.0 | 72.0 | | 8.2 | 13.5 | 0.3 | 110 | 4 | 40.4 |
| 13/12/96 | 11656 | 80 | 12.50 | 12.50 | 17 | 16 | 50 | 33 | 26 | 17 | 4 | 2 | 8 | 55 | 80 | 84 | 53 | 41 | 26 | 5 | 3 | 1.6 | 4.8 | | 1 | 0.0 | 1300 | 200 | 60000 | 17.5 | 7.5 | 0.0 | 72.0 | | 8.2 | 12.1 | 1.7 | 110 | 4 | 40.4 |
| 13/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.2 | | | | | |
| 14/12/96 | 11657 | 66 | 12.43 | 12.43 | 16 | 15 | 47 | 31 | 23 | 15 | 3 | 2 | 8 | 30 | 52 | 77 | 47 | 35 | 22 | 3 | 1 | 1.2 | 4.0 | | 1 | 0.0 | 1180 | 60 | 63000 | 17.5 | 7.8 | 0.0 | 74.0 | | 8.0 | 11.6 | 2.8 | 31.5 | 4 | 40.2 |
| 14/12/96 | 11657 | 67 | 12.6 | 12.6 | 17 | 14 | 48 | 31 | 24 | 16 | 2 | 1 | 6 | 34 | 54 | 82 | 50 | 38 | 24 | 4 | 2 | 1 | 3.8 | | 1 | 0.0 | 700 | 40 | 60000 | 16.0 | 7.5 | 0.0 | 74.0 | | 8.0 | 12.9 | 1.5 | 35 | 4 | 40.2 |
| 14/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.0 | | | | | |
| 15/12/96 | 11679 | 72 | 12.4 | 12.4 | 18 | 17 | 53 | 35 | 27 | 18 | 5 | 4 | 12 | 36 | 62 | 89 | 57 | 43 | 28 | 7 | 6 | 1.4 | 4.2 | | 1 | 0.0 | 1200 | 50 | 60000 | 17.0 | 7.5 | 0.0 | 74.0 | | 7.8 | 11.6 | 2.9 | 38.5 | 4.2 | 42.5 |
| 15/12/96 | 11706 | 72 | 12.5 | 12.5 | 18 | 14 | 50 | 32 | 25 | 17 | 5 | 3 | 7 | 32 | 47 | 84 | 53 | 41 | 26 | 5 | 4 | 1.4 | 4.4 | | 1 | 0.0 | 770 | 50 | 60000 | 16.0 | 7.5 | 0.0 | 74.0 | | 7.8 | 12.2 | 2.3 | 35 | 4.0 | 40.2 |
| 15/12/96 | 11716 | 74 | 12.5 | 12.5 | 17 | 13 | 47 | 30 | 24 | 16 | 4 | 3 | 8 | 33 | 44 | 81 | 50 | 38 | 25 | 4 | 2 | 1.4 | 4.5 | | 1 | 0.0 | 740 | 50 | 60000 | 16.0 | 7.5 | 0.0 | 74.0 | | 7.8 | 12.2 | 2.3 | 35 | 4.0 | 40.2 |
| 16/12/96 | 11729 | 73 | 12.5 | 12.5 | 15 | 19 | 49 | 34 | 26 | 17 | 6 | 5 | 13 | 39 | 61 | 87 | 56 | 47 | 27 | 7 | 6 | 2 | 4.8 | | 1 | 0.0 | 800 | 40 | 59000 | 16.5 | 7.5 | 0.0 | 73.0 | | 8.0 | 11.4 | 4.1 | 35 | 4 | 40.2 |
| 16/12/96 | 11765 | 80 | 12.5 | 12.5 | 19 | 16 | 54 | 35 | 28 | 19 | 5 | 3 | 8 | 44 | 75 | 86 | 54 | 41 | 27 | 6 | 4 | 1.7 | 4.6 | | 1 | 0.0 | 760 | 40 | 60000 | 16.5 | 7.5 | 0.0 | 74.0 | | 8.0 | 12.2 | 2.3 | 33 | 4.5 | 45.5 |
| 16/12/96 | 11791 | 86 | 12.5 | 12.5 | 20 | 22 | 62 | 42 | 33 | 22 | 6 | 4 | 9 | 42 | 71 | 88 | 57 | 45 | 36 | 8 | 6 | 1.9 | 4.6 | | 1 | 0.0 | 780 | 40 | 58000 | 16.5 | 7.5 | 0.0 | 74.0 | | 8.0 | 12.3 | 2.2 | 35 | 4.5 | 45.5 |
| 17/12/96 | 11808 | 84 | 12.6 | 12.6 | 22 | 15 | 59 | 37 | 30 | 20 | 5 | 5 | 13 | 41 | 63 | 78 | 51 | 39 | 28 | 6 | 5 | 1.8 | 4.4 | | 1 | 0.0 | 780 | 50 | 60000 | 17.0 | 7.5 | 0.0 | 73.0 | | 8.0 | 12.1 | 3.4 | 35 | 4.2 | 42 |
| 17/12/96 | 11831 | 87 | 12.5 | 12.5 | 19 | 20 | 58 | 39 | 31 | 22 | 7 | 6 | 13 | 48 | 75 | 87 | 56 | 44 | 30 | 7 | 6 | 1.8 | 4.8 | | 1 | 0.0 | 760 | 40 | 60000 | 17.0 | 7.5 | 0.0 | 74.0 | | 8.0 | 12.2 | 2.4 | 30 | 4.4 | 45.4 |
| 17/12/96 | 11958 | 90 | 12.6 | 12.6 | 18 | 17 | 53 | 35 | 28 | 19 | 4 | 3 | 7 | 39 | 50 | 80 | 51 | 39 | 25 | 6 | 3 | 1.0 | 3.4 | | 1 | 0.0 | 720 | 40 | 62000 | 16.0 | 7.5 | 0.0 | 74.0 | | 8.0 | 13.0 | 1.4 | 35 | | |
| 18/12/96 | 12162 | 91.4 | 12.52 | 12.52 | 20 | 21 | 61 | 41 | 32 | 21 | 5 | 3 | 8 | 45 | 52 | 90 | 57 | 44 | 33 | 7 | 4 | 1.2 | 4.0 | | 1 | 0.0 | 760 | 50 | 63000 | 16.0 | 7.5 | 0.0 | 74.0 | | 8.0 | 12.4 | 1.9 | 35.5 | 4.3 | 44.5 |
| 18/12/96 | 12240 | 92.3 | 12.5 | 12.5 | 17 | 26 | 60 | 43 | 31 | 22 | 8 | 7 | 10 | 47 | 54 | 91 | 60 | 46 | 31 | 10 | 8 | | 4.3 | | 1 | 0.0 | 750 | 50 | 63500 | 17.5 | 7.5 | 0.0 | 73.4 | | 8.0 | 11.8 | 3.1 | 37.5 | 4.4 | 45.2 |
| 18/12/96 | 12303 | 86 | 12.5 | 12.5 | 21 | 18 | 60 | 39 | 31 | 21 | 5 | 3 | 10 | 43 | 55 | 93 | 59 | 46 | 30 | 7 | 5 | 1.0 | 4.0 | | 1 | 0.0 | 760 | 40 | 66000 | 16.0 | 7.5 | 0.0 | 74.0 | | 8.0 | 12.3 | 1.6 | 42 | 4.5 | 45.8 |
| 19/12/96 | 12379 | 90 | 12.5 | 12.5 | 22 | 24 | 68 | 46 | 38 | 27 | 9 | 7 | 11 | 48 | 58 | 98 | 66 | 52 | 35 | 11 | 8 | 1.4 | 4.0 | | 1 | 0.0 | 720 | 50 | 63000 | 16.0 | 8.2 | 0.0 | 74.0 | | 8.0 | 12.3 | 1.9 | 37 | 4.4 | 45.5 |
| 19/12/96 | 12387 | 92 | 12.5 | 12.5 | 21 | 27 | 69 | 48 | 39 | 28 | 12 | 10 | 12 | 46 | 57 | 102 | 68 | 54 | 38 | 13 | 11 | 1.4 | 4.2 | 16.0 | 1 | 302 | 0.1 | 750 | 60 | 65000 | 17.0 | 8.3 | 0.0 | 74.0 | | 8.0 | 12.3 | 1.8 | 37.5 | 4.4 | 46 |
| 19/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8.0 | | | | | |
| 20/12/96 | 12388 | 60 | 12.3 | 12.3 | 21 | 22 | 64 | 43 | 35 | 26 | 8 | 6 | 11 | 46 | 58 | 96 | 62 | 49 | 34 | 10 | 7 | 1 | 3.4 | | 1 | 0.0 | 720 | 40 | 64000 | 16.0 | 7.5 | 0.0 | 75.0 | | 7.4 | 11.4 | 2.1 | 42 | 4.5 | 45.8 |
| 20/12/96 | 12388 | 76 | 12.45 | 12.45 | 26 | 28 | 80 | 54 | 44 | 31 | 15 | 12 | 16 | 51 | 62 | | | | | | | 1.3 | 4.0 | | 1 | 0.0 | 750 | 50 | 65000 | 16.0 | 8.0 | 0.0 | 75.0 | | 7.4 | 12.5 | 1.0 | 42.5 | 4.4 | 45 |
| 20/12/96 | 12401 | 93 | 12.4 | 12.4 | 22 | 25 | 69 | 47 | 38 | 28 | 9 | 7 | 11 | 55 | 78 | 108 | 71 | 56 | 39 | 11 | 8 | 1.1 | 3.6 | | 1 | 0.0 | 800 | 40 | 75000 | 16.0 | 7.5 | 0.0 | 74.0 | | 7.4 | 11.2 | 2.7 | 45 | 4.5 | 45.8 |
| 21/12/96 | 12444 | 97 | 12.6 | 12.6 | 20 | 25 | 65 | 45 | 37 | 27 | 9 | 7 | 13 | 50 | 65 | 97 | 65 | 52 | 36 | 10 | 8 | 1.4 | 3.8 | | 1 | 0.0 | 800 | 40 | 84000 | 17.5 | 7.5 | 0.0 | 73.0 | | 7.4 | 11.7 | 2.6 | 51 | 4.5 | 45.8 |
| 21/12/96 | 12477 | 97 | 12.5 | 12.5 | 22 | 29 | 73 | 51 | 42 | 29 | 11 | 10 | 12 | 48 | 64 | 101 | 68 | 54 | 36 | 13 | 10 | 1.4 | 3.8 | 14.5 | 1 | 150 | 0.1 | 800 | 50 | 81000 | 18.0 | 8.1 | 0.0 | 72.0 | | 7.4 | 10.2 | 5.5 | 49.7 | 4.5 | 46 |
| 21/12/96 | 12595 | 106 | 12.6 | 12.6 | 23 | 24 | 70 | 47 | 38 | 27 | 8 | 6 | 10 | 44 | 64 | 105 | 68 | 54 | 54 | 10 | 8 | 1.0 | 3.4 | | 1 | | 0.0 | 720 | 40 | 75000 | 16.0 | 7.5 | 0.0 | 73.0 | | 7.4 | 11.7 | 3.3 | 45 | 5 | 50.4 |

Well No 33/6-2 © MNSL Rev Nov 1996 **MUD PROPERTIES WBM** Rig Byford Dolphin Mud Co MI Anchor Hole Diam 8.5 PAGE : 2

| Date | Depth Ft | FL °F | Mud wt ppg Fl °F | 80° F | PV cps | YP | VG meter 120°F 600 | 300 | 200 | 100 | 6 | 3 | Gels 10s | 10m | 30 | VG meter Fl °F 600 | 300 | 200 | 100 | 6 | 3 | API cc 7.5m | 30m | HTHP cc | cake | °F | Pf cc | Ca mg/l | Mg mg/l | Chlorides mg/l | MBT ppb | pH | Sand %vol | Retort % Water | Oil | Volume % Chem | HGS | DS | KCl ppb | Glycol % | Glycol kg/m3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22/12/96 | 12648 | 104 | 12.5 | 12.5 | 24 | 25 | 73 | 49 | 40 | 28 | 11 | 9 | 13 | 54 | 68 | 107 | 70 | 56 | 38 | 13 | 11 | 1.2 | 4.0 | | 1 | | 0.1 | 720 | 50 | 76000 | 16.0 | 8.0 | 0.0 | 73.0 | | 7.4 | 11.0 | 3.9 | 46 | 4.8 | 48 | | |
| 22/12/96 | 12694 | 105 | 12.5 | 12.5 | 22 | 28 | 72 | 50 | 40 | 28 | 12 | 10 | 13 | 48 | 64 | 105 | 770 | 57 | 37 | 13 | 12 | 1.3 | 4.0 | 15.0 | 1 | 150 | 0.1 | 700 | 50 | 74000 | 16.5 | 7.8 | 0.0 | 72.0 | | 7.4 | 10.1 | 6.1 | 42.6 | 4.9 | 50 | | |
| 22/12/96 | 12808 | 107 | 12.5 | 12.5 | 24 | 27 | 75 | 51 | 42 | 31 | 9 | 7 | 13 | 54 | 58 | 108 | 71 | 58 | 39 | 11 | 9 | 1.1 | 3.6 | | 1 | | 0.0 | 720 | 40 | 80000 | 16.0 | 7.8 | 0.0 | 73.0 | | 7.4 | 11.0 | 3.7 | 46 | 5.0 | 50 | | |
| 23/12/96 | 12907 | 108 | 12.5 | 12.5 | 25 | 24 | 74 | 49 | 39 | 27 | 9 | 7 | 11 | 43 | 56 | 101 | 71 | 56 | 38 | 13 | 11 | 1.4 | 3.8 | | 1 | | 0.0 | 720 | 40 | 80000 | 16.0 | 8.0 | 0.0 | 73.0 | | 7.4 | 11.0 | 3.7 | 46.2 | 4.8 | 48 | | |
| 23/12/96 | 12958 | 73 | 12.5 | 12.5 | 23 | 25 | 71 | 48 | 38 | 27 | 9 | 7 | 9 | 40 | 55 | | | | | | | 1.3 | 3.8 | | 1 | | 0.1 | 700 | 40 | 79000 | 16.5 | 8.0 | 0.0 | 72.0 | | 7.4 | 10.1 | 5.7 | 46 | 4.8 | 48 | | |
| 23/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.4 | | | | | | | |
| 24/12/96 | 12958 | | 12.5 | 12.5 | 22 | 29 | 73 | 51 | 40 | 29 | 11 | 9 | 11 | 46 | 59 | | | | | | | 1.4 | 3.9 | | 1 | | 0.0 | 650 | 50 | 78000 | 16.0 | 8.0 | 0.0 | 73.0 | | 7.8 | 11.3 | 3.2 | 44.4 | 4.9 | 50 | | |
| 24/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 24/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 25/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 25/12/96 | 12958 | | 12.5 | 12.5 | 21 | 30 | 72 | 51 | 39 | 29 | 12 | 10 | 12 | 45 | 60 | | | | | | | 1.3 | 4.0 | | 1 | | 0.0 | 680 | 50 | 78000 | 16.0 | 8.0 | 0.0 | 73.0 | | 7.8 | 11.3 | 3.2 | 45 | 4.9 | 49 | | |
| 25/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 26/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 26/12/96 | 12958 | | 12.5 | 12.5 | 23 | 28 | 74 | 51 | 40 | 30 | 14 | 12 | 14 | 48 | 59 | | | | | | | 1.3 | 4.0 | | 1 | | 0.0 | 700 | 40 | 76000 | 16.0 | 8.0 | 0.0 | 73.0 | | 7.8 | 11.3 | 3.3 | 45 | 4.8 | 49 | | |
| 26/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 27/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 27/12/96 | 12958 | | 12.5 | 12.5 | 25 | 27 | 77 | 52 | 43 | 29 | 13 | 12 | 12 | 48 | 60 | | | | | | | 1.2 | 3.6 | | 1.5 | | 0.0 | 680 | 50 | 76000 | 16.0 | 8.0 | 0.0 | 73.0 | | 7.8 | 11.3 | 3.3 | 45 | 4.8 | 49 | | |
| 27/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 28/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 28/12/96 | 10955 | | 12.5 | 12.5 | 24 | 28 | 76 | 52 | 42 | 28 | 13 | 11 | 13 | 48 | 59 | | | | | | | 1.3 | 3.7 | | 1.5 | | 0.0 | 750 | 60 | 75000 | 16.5 | 8.5 | 0.0 | 72.0 | | 7.8 | 10.4 | 5.4 | 42.6 | 4.8 | 48 | | |
| 28/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 29/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 29/12/96 | 11024 | | 12.5 | 12.5 | 24 | 30 | 78 | 54 | 43 | 30 | 13 | 12 | 13 | 47 | 58 | | | | | | | 1.3 | 3.9 | | 1.5 | | 0.0 | 720 | 50 | 75000 | 16.0 | 7.8 | 0.0 | 72.0 | | 7.8 | 10.4 | 5.3 | 44.4 | 4.8 | 48 | | |
| 29/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 30/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 30/12/96 | 1900 | | 12.4 | 12.4 | 24 | 27 | 75 | 51 | 42 | 31 | 13 | 11 | 12 | 45 | 58 | | | | | | | 1.5 | 4.4 | | 1.5 | | | 650 | 40 | 71000 | 16.0 | 8.5 | 0.0 | 73.0 | | 7.8 | 10.6 | 4.3 | 42 | 4.8 | 48 | | |
| 30/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 31/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 31/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |
| 31/12/96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.8 | | | | | | | |

# Geochemical Report for Well NOCS 33/6-2

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Date: 04.04.97

### 1.1 General Comments

The cuttings samples were supplied unwashed in cans. The samples were analysed for headspace gas and occluded gas, washed, described and picked before analyses commenced. The drill mud contained glycol, which has to some extent affected the analytical results, especially S1 Rock-Eval results. The conventional core samples were supplied as core-chips which were used after removal of any superficial contamination. The side-wall cores were cleaned of drill mud before analysis.

The quality of the rock samples was good. No analytical problems were encountered, except for the glycol in the drill mud, which have affected the results.

## 1.2 Analytical Program

In accordance with the contract, samples availability and the screening analysis results, the following analytical program was executed for well 33/6-2 in the section from 1000 m to 3950 m.

| Analysis Type | No of Samples |
|---|---|
| Headspace and Occluded Gas | 151 |
| Lithology Description | 536 |
| TOC and Rock-Eval Pyrolysis | 386 |
| Thermal Extraction and Pyrolysis GC (GHM) | 45 |
| Soxhlet Extraction of Organic Matter | 20 |
| MPLC Separation | 20 |
| Saturated Hydrocarbon GC | 20 |
| Aromatic Hydrocarbon GC | 20 |
| Vitrinite Reflectance | 32 |
| Visual Kerogen Microscopy | 28 |
| Isotope Composition C15+ Fractions | 10 |
| GC-MS of Saturated and Aromatic HC | 10 |

Table 1a: C1 to C7 hydrocarbons in HEADSPACE gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1000.00 | 5270 | 3 | 4 | | | 2 | 5278 | 8 | 0.2 | 1.35 |
| 1030.00 | 9014 | 4 | 1 | | | 1 | 9019 | 5 | 0.1 | 1.25 |
| 1060.00 | 6342 | 30 | 2 | | | 1 | 6374 | 32 | 0.5 | 0.63 |
| 1090.00 | 3594 | 2 | 1 | - | | 1 | 3597 | 3 | 0.1 | - |
| 1120.00 | 1892 | 9 | 2 | | | 3 | 1904 | 12 | 0.6 | 0.62 |
| 1150.00 | 2159 | 2 | 1 | - | | | 2162 | 3 | 0.1 | - |
| 1180.00 | 27363 | 136 | 6 | | | 1 | 27506 | 143 | 0.5 | 0.60 |
| 1210.00 | 20519 | 14 | 7 | - | - | - | 20540 | 21 | 0.1 | - |
| 1240.00 | 32323 | 17 | 6 | - | | - | 32347 | 23 | 0.1 | - |
| 1270.00 | 31481 | 12 | 5 | - | - | - | 31498 | 17 | 0.1 | - |
| 1300.00 | 8737 | 3 | 2 | - | - | - | 8742 | 5 | 0.1 | - |
| 1330.00 | 6046 | 2 | 1 | - | | | 6049 | 3 | 0.1 | - |
| 1360.00 | 9486 | - | - | - | - | - | 9486 | - | - | - |
| 1390.00 | 5470 | - | 2 | - | - | | 5472 | 2 | 0.0 | - |
| 1420.00 | 7327 | - | 3 | | | 1 | 7330 | 3 | 0.0 | 0.42 |
| 1450.00 | 1937 | - | - | - | - | - | 1937 | - | - | - |
| 1480.00 | 1904 | 9 | 2 | | | 1 | 1915 | 11 | 0.6 | 0.55 |
| 1510.00 | 967 | - | - | - | - | - | 967 | - | - | - |
| 1540.00 | 642 | 4 | 1 | - | | 1 | 647 | 5 | 0.8 | - |
| 1570.00 | 2101 | 3 | 2 | | | 1 | 2107 | 6 | 0.3 | 0.51 |
| 1600.00 | 1684 | 3 | 2 | | | 1 | 1689 | 5 | 0.3 | 0.49 |
| 1630.00 | 1343 | 7 | 2 | | | 2 | 1352 | 10 | 0.7 | 0.66 |
| 1660.00 | 3573 | 11 | 3 | | 1 | 2 | 3589 | 15 | 0.4 | 0.78 |
| 1690.00 | 1429 | 13 | 21 | | | 2 | 1463 | 34 | 2.3 | 0.76 |
| 1720.00 | 1294 | 8 | 2 | | | 2 | 1304 | 10 | 0.8 | 0.67 |
| 1750.00 | 2347 | 17 | 3 | | | 1 | 2367 | 20 | 0.9 | 1.37 |
| 1780.00 | 3633 | 33 | 22 | | | 1 | 3689 | 56 | 1.5 | 1.77 |

Table 1a: C1 to C7 hydrocarbons in HEADSPACE gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1810.00 | 3863 | 19 | 3 | 1 | | 1 | 3886 | 23 | 0.6 | 1.79 |
| 1840.00 | 1866 | 13 | 3 | 1 | | 2 | 1883 | 17 | 0.9 | 2.10 |
| 1870.00 | 3398 | 33 | 7 | 2 | 1 | 3 | 3441 | 42 | 1.2 | 2.85 |
| 1900.00 | 3961 | 55 | 14 | 4 | 1 | 4 | 4035 | 74 | 1.8 | 2.91 |
| 1930.00 | 1588 | 29 | 11 | 3 | 1 | 4 | 1632 | 43 | 2.6 | 2.08 |
| 1960.00 | 773 | 20 | 9 | 2 | 1 | 3 | 805 | 32 | 4.0 | 1.46 |
| 1990.00 | 4329 | 111 | 45 | 6 | 4 | 7 | 4494 | 166 | 3.7 | 1.36 |
| 2020.00 | 1676 | 42 | 20 | 3 | 2 | 5 | 1743 | 67 | 3.9 | 1.15 |
| 2050.00 | 3954 | 130 | 67 | 8 | 7 | 10 | 4165 | 211 | 5.1 | 1.13 |
| 2080.00 | 5081 | 214 | 127 | 13 | 13 | 17 | 5448 | 367 | 6.7 | 1.03 |
| 2110.00 | 3114 | 163 | 117 | 13 | 14 | 13 | 3420 | 306 | 8.9 | 0.93 |
| 2140.00 | 3035 | 201 | 169 | 18 | 23 | 17 | 3444 | 410 | 11.9 | 0.78 |
| 2170.00 | 988 | 101 | 131 | 17 | 31 | 22 | 1268 | 280 | 22.1 | 0.55 |
| 2200.00 | 2109 | 253 | 296 | 35 | 61 | 14 | 2754 | 645 | 23.4 | 0.58 |
| 2230.00 | 1052 | 82 | 132 | 20 | 46 | 14 | 1332 | 280 | 21.1 | 0.44 |
| 2260.00 | 1782 | 204 | 292 | 47 | 101 | 30 | 2426 | 644 | 26.5 | 0.46 |
| 2290.00 | 3290 | 357 | 503 | 89 | 201 | 79 | 4440 | 1151 | 25.9 | 0.44 |
| 2320.00 | 1639 | 223 | 417 | 89 | 216 | 136 | 2583 | 945 | 36.6 | 0.41 |
| 2350.00 | 994 | 155 | 381 | 99 | 261 | 241 | 1891 | 896 | 47.4 | 0.38 |
| 2380.00 | 812 | 183 | 730 | 279 | 650 | 838 | 2653 | 1841 | 69.4 | 0.43 |
| 2410.00 | 491 | 217 | 1086 | 398 | 1032 | 1451 | 3224 | 2733 | 84.8 | 0.39 |
| 2440.00 | 2317 | 902 | 3316 | 1168 | 2818 | 3613 | 10521 | 8204 | 78.0 | 0.41 |
| 2470.00 | 866 | 324 | 1465 | 544 | 1309 | 1673 | 4509 | 3643 | 80.8 | 0.42 |
| 2500.00 | 1987 | 912 | 4342 | 1873 | 4583 | 7008 | 13697 | 11710 | 85.5 | 0.41 |
| 2510.00 | 1963 | 874 | 3447 | 1193 | 2996 | 4333 | 10473 | 8510 | 81.3 | 0.40 |
| 2520.00 | 884 | 443 | 2005 | 716 | 1725 | 2067 | 5772 | 4888 | 84.7 | 0.41 |
| 2530.00 | 1253 | 666 | 3265 | 11780 | 2972 | 4437 | 19936 | 18683 | 93.7 | 3.96 |

Table 1a: C1 to C7 hydrocarbons in HEADSPACE gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 2540.00 | 1130 | 538 | 2283 | 826 | 2002 | 2978 | 6779 | 5649 | 83.3 | 0.41 |
| 2550.00 | 2638 | 798 | 3437 | 1307 | 4155 | 8315 | 12336 | 9698 | 78.6 | 0.31 |
| 2560.00 | 1407 | 681 | 2903 | 1000 | 2585 | 5244 | 8576 | 7168 | 83.6 | 0.39 |
| 2570.00 | 1084 | 553 | 2211 | 682 | 1536 | 2083 | 6066 | 4982 | 82.1 | 0.44 |
| 2580.00 | 1261 | 565 | 2349 | 780 | 1992 | 3409 | 6948 | 5687 | 81.8 | 0.39 |
| 2590.00 | 969 | 454 | 1930 | 632 | 1463 | 2127 | 5449 | 4480 | 82.2 | 0.43 |
| 2600.00 | 529 | 252 | 904 | 250 | 642 | 944 | 2577 | 2048 | 79.5 | 0.39 |
| 2620.00 | 1212 | 482 | 1484 | 419 | 983 | 1183 | 4580 | 3367 | 73.5 | 0.43 |
| 2650.00 | 612 | 301 | 873 | 231 | 554 | 856 | 2571 | 1959 | 76.2 | 0.42 |
| 2680.00 | 639 | 304 | 728 | 150 | 310 | 381 | 2130 | 1491 | 70.0 | 0.48 |
| 2710.00 | 586 | 159 | 446 | 127 | 329 | 694 | 1647 | 1061 | 64.4 | 0.39 |
| 2740.00 | 498 | 97 | 254 | 57 | 194 | 592 | 1102 | 603 | 54.7 | 0.29 |
| 2770.00 | 389 | 66 | 101 | 17 | 44 | 178 | 618 | 228 | 36.9 | 0.39 |
| 2800.00 | 1022 | 115 | 109 | 15 | 25 | 104 | 1286 | 264 | 20.5 | 0.59 |
| 2820.00 | 495 | 69 | 73 | 9 | 12 | 32 | 658 | 164 | 24.9 | 0.78 |
| 2840.00 | 494 | 60 | 38 | 6 | 5 | 7 | 602 | 108 | 18.0 | 1.16 |
| 2860.00 | 504 | 47 | 35 | 9 | 8 | 25 | 602 | 99 | 16.4 | 1.10 |
| 2880.00 | 303 | 29 | 28 | 8 | 8 | 14 | 376 | 72 | 19.3 | 1.03 |
| 2900.00 | 200 | 25 | 22 | 6 | 7 | 19 | 260 | 60 | 23.0 | 0.97 |
| 2920.00 | 469 | 54 | 43 | 12 | 10 | 17 | 589 | 120 | 20.4 | 1.23 |
| 2940.00 | 632 | 72 | 47 | 19 | 13 | 29 | 782 | 150 | 19.2 | 1.40 |
| 2960.00 | 689 | 47 | 38 | 15 | 16 | 33 | 804 | 115 | 14.3 | 0.94 |
| 2980.00 | 282 | 44 | 39 | 23 | 16 | 35 | 404 | 122 | 30.2 | 1.45 |
| 3000.00 | 438 | 48 | 33 | 21 | 12 | 22 | 552 | 114 | 20.6 | 1.74 |
| 3020.00 | 248 | 29 | 23 | 14 | 9 | 24 | 324 | 76 | 23.4 | 1.60 |
| 3040.00 | 111 | 22 | 20 | 30 | 7 | 19 | 191 | 79 | 41.6 | 4.33 |
| 3060.00 | 188 | 27 | 19 | 10 | 6 | 11 | 251 | 63 | 24.9 | 1.70 |

Table 1a: C1 to C7 hydrocarbons in HEADSPACE gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 3080.00 | 235 | 32 | 24 | 13 | 8 | 20 | 314 | 78 | 25.0 | 1.62 |
| 3100.00 | 191 | 29 | 24 | 12 | 7 | 10 | 263 | 72 | 27.2 | 1.59 |
| 3120.00 | 134 | 11 | 9 | 5 | 3 | 8 | 161 | 27 | 17.0 | 1.52 |
| 3140.00 | 259 | 20 | 16 | 9 | 5 | 9 | 309 | 49 | 16.0 | 1.57 |
| 3160.00 | 517 | 46 | 41 | 24 | 14 | 27 | 642 | 125 | 19.5 | 1.70 |
| 3180.00 | 427 | 53 | 52 | 32 | 18 | 39 | 582 | 156 | 26.7 | 1.74 |
| 3200.00 | 680 | 68 | 51 | 30 | 17 | 31 | 846 | 166 | 19.6 | 1.80 |
| 3212.00 | 568 | 81 | 67 | 37 | 22 | 54 | 775 | 207 | 26.7 | 1.66 |
| 3224.00 | 492 | 64 | 48 | 27 | 16 | 35 | 647 | 155 | 24.0 | 1.66 |
| 3236.00 | 767 | 99 | 62 | 34 | 20 | 46 | 982 | 214 | 21.8 | 1.71 |
| 3248.00 | 491 | 69 | 45 | 22 | 15 | 26 | 641 | 150 | 23.4 | 1.46 |
| 3260.00 | 514 | 65 | 43 | 19 | 15 | 23 | 655 | 142 | 21.6 | 1.27 |
| 3272.00 | 642 | 84 | 51 | 18 | 15 | 24 | 810 | 168 | 20.7 | 1.18 |
| 3284.00 | 739 | 79 | 36 | 10 | 9 | 16 | 875 | 135 | 15.5 | 1.11 |
| 3296.00 | 639 | 78 | 34 | 9 | 8 | 10 | 767 | 128 | 16.7 | 1.07 |
| 3308.00 | 879 | 130 | 49 | 10 | 12 | 21 | 1080 | 201 | 18.6 | 0.88 |
| 3320.00 | 529 | 103 | 38 | 7 | 8 | 15 | 685 | 156 | 22.8 | 0.88 |
| 3332.00 | 425 | 77 | 35 | 8 | 9 | 16 | 553 | 129 | 23.2 | 0.92 |
| 3344.00 | 715 | 131 | 52 | 7 | 8 | 15 | 912 | 197 | 21.6 | 0.88 |
| 3356.00 | 326 | 63 | 30 | 4 | 5 | 7 | 427 | 101 | 23.6 | 0.81 |
| 3368.00 | 217 | 41 | 31 | 3 | 4 | 2 | 296 | 78 | 26.5 | 0.67 |
| 3380.00 | 722 | 155 | 117 | 9 | 16 | 17 | 1019 | 297 | 29.1 | 0.61 |
| 3392.00 | 691 | 129 | 126 | 14 | 22 | 19 | 982 | 291 | 29.6 | 0.64 |
| 3404.00 | 734 | 166 | 192 | 21 | 38 | 29 | 1151 | 417 | 36.2 | 0.54 |
| 3416.00 | 721 | 185 | 233 | 25 | 51 | 26 | 1214 | 493 | 40.6 | 0.49 |
| 3428.00 | 735 | 205 | 344 | 36 | 96 | 39 | 1416 | 681 | 48.1 | 0.38 |
| 3440.00 | 416 | 107 | 183 | 28 | 70 | 40 | 804 | 388 | 48.3 | 0.40 |

Table 1a: C1 to C7 hydrocarbons in HEADSPACE gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 3452.00 | 581 | 168 | 341 | 53 | 178 | 157 | 1321 | 739 | 56.0 | 0.30 |
| 3462.00 | 304 | 241 | 357 | 25 | 99 | 33 | 1027 | 723 | 70.4 | 0.26 |
| 3474.00 | 3144 | 3059 | 7546 | 1009 | 3573 | 3198 | 18331 | 15187 | 82.9 | 0.28 |
| 3486.00 | 936 | 1323 | 4277 | 584 | 2215 | 1759 | 9336 | 8400 | 90.0 | 0.26 |
| 3498.00 | 647 | 839 | 3639 | 574 | 2473 | 2397 | 8173 | 7526 | 92.1 | 0.23 |
| 3510.00 | 982 | 397 | 1473 | 340 | 1461 | 1479 | 4654 | 3672 | 78.9 | 0.23 |
| 3522.00 | 1213 | 960 | 4086 | 798 | 3449 | 3382 | 10507 | 9293 | 88.5 | 0.23 |
| 3534.00 | 13474 | 7207 | 14334 | 1463 | 6570 | 4892 | 43048 | 29574 | 68.7 | 0.22 |
| 3546.00 | 1831 | 760 | 2791 | 375 | 2953 | 5206 | 8710 | 6879 | 79.0 | 0.13 |
| 3558.00 | 4239 | 3529 | 8204 | 838 | 3380 | 2129 | 20190 | 15951 | 79.0 | 0.25 |
| 3570.00 | 3448 | 1386 | 4165 | 572 | 2545 | 2289 | 12117 | 8669 | 71.5 | 0.22 |
| 3582.00 | 20735 | 4824 | 6867 | 691 | 2439 | 1809 | 35556 | 14820 | 41.7 | 0.28 |
| 3594.00 | 16723 | 5234 | 9455 | 1315 | 3772 | 2853 | 36498 | 19775 | 54.2 | 0.35 |
| 3606.00 | 2522 | 820 | 1106 | 150 | 836 | 641 | 5435 | 2912 | 53.6 | 0.18 |
| 3618.00 | 15530 | 2245 | 1510 | 179 | 575 | 663 | 20039 | 4509 | 22.5 | 0.31 |
| 3630.00 | 2087 | 551 | 511 | 64 | 164 | 220 | 3377 | 1290 | 38.2 | 0.39 |
| 3642.00 | 2144 | 492 | 367 | 41 | 128 | 169 | 3172 | 1028 | 32.4 | 0.32 |
| 3654.00 | 2242 | 571 | 603 | 75 | 210 | 218 | 3700 | 1459 | 39.4 | 0.36 |
| 3666.00 | 1116 | 248 | 248 | 28 | 86 | 101 | 1726 | 610 | 35.4 | 0.32 |
| 3678.00 | 1221 | 327 | 339 | 37 | 108 | 93 | 2031 | 811 | 39.9 | 0.34 |
| 3690.00 | 344 | 88 | 105 | 11 | 41 | 47 | 589 | 246 | 41.7 | 0.28 |
| 3702.00 | 2694 | 684 | 751 | 87 | 225 | 189 | 4441 | 1747 | 39.3 | 0.38 |
| 3714.00 | 612 | 123 | 143 | 17 | 56 | 69 | 952 | 340 | 35.7 | 0.31 |
| 3726.00 | 1356 | 370 | 405 | 45 | 146 | 173 | 2321 | 966 | 41.6 | 0.31 |
| 3738.00 | 5223 | 951 | 884 | 115 | 308 | 371 | 7482 | 2259 | 30.2 | 0.37 |
| 3750.00 | 763 | 276 | 438 | 65 | 183 | 175 | 1725 | 963 | 55.8 | 0.35 |
| 3762.00 | 5070 | 1681 | 2953 | 349 | 896 | 583 | 10948 | 5879 | 53.7 | 0.39 |

Table 1a: C1 to C7 hydrocarbons in HEADSPACE gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 3774.00 | 1390 | 492 | 785 | 85 | 335 | 318 | 3088 | 1697 | 55.0 | 0.25 |
| 3786.00 | 1191 | 290 | 395 | 46 | 214 | 356 | 2137 | 946 | 44.3 | 0.22 |
| 3798.00 | 1694 | 420 | 406 | 43 | 143 | 210 | 2706 | 1011 | 37.4 | 0.30 |
| 3810.00 | 4117 | 694 | 492 | 64 | 278 | 382 | 5645 | 1528 | 27.1 | 0.23 |
| 3822.00 | 1457 | 270 | 256 | 44 | 150 | 266 | 2176 | 719 | 33.1 | 0.29 |
| 3834.00 | 823 | 190 | 282 | 45 | 296 | 999 | 1636 | 813 | 49.7 | 0.15 |
| 3846.00 | 261 | 59 | 110 | 18 | 105 | 342 | 552 | 291 | 52.8 | 0.17 |
| 3858.00 | 1302 | 265 | 320 | 77 | 346 | 583 | 2311 | 1009 | 43.7 | 0.22 |
| 3870.00 | 996 | 155 | 268 | 74 | 309 | 837 | 1801 | 806 | 44.7 | 0.24 |
| 3882.00 | 1529 | 211 | 166 | 31 | 154 | 411 | 2092 | 562 | 26.9 | 0.20 |
| 3894.00 | 1244 | 155 | 90 | 14 | 68 | 207 | 1572 | 328 | 20.9 | 0.20 |
| 3906.00 | 2326 | 265 | 97 | 12 | 57 | 161 | 2757 | 431 | 15.6 | 0.20 |
| 3918.00 | 764 | 83 | 36 | 5 | 30 | 111 | 919 | 154 | 16.8 | 0.17 |
| 3930.00 | 1379 | 148 | 61 | 12 | 71 | 283 | 1672 | 293 | 17.5 | 0.17 |
| 3942.00 | 5 | 1 | 1 | | 4 | 36 | 11 | 6 | 56.2 | 0.08 |
| 3950.00 | 148 | 17 | 8 | 1 | 5 | 30 | 179 | 31 | 17.5 | 0.15 |

Table 1b: C1 to C7 hydrocarbons in CUTTINGS gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1000.00 | 28 | | | | | | 28 | 1 | 2.2 | 1.02 |
| 1030.00 | 52 | 2 | 1 | | | 2 | 54 | 2 | 4.6 | 0.05 |
| 1060.00 | 33 | 2 | 1 | | | 5 | 38 | 4 | 11.3 | 0.22 |
| 1090.00 | 40 | 2 | 1 | | 1 | 2 | 45 | 5 | 10.1 | 0.28 |
| 1120.00 | 27 | 2 | 1 | | | 1 | 30 | 3 | 10.3 | 0.25 |
| 1150.00 | 46 | 4 | 2 | | 1 | 3 | 53 | 6 | 12.2 | 0.25 |
| 1180.00 | 64 | 4 | 3 | | 1 | 3 | 72 | 7 | 10.5 | 0.30 |
| 1210.00 | 92 | 5 | 10 | | 1 | 8 | 109 | 17 | 15.6 | 0.23 |
| 1240.00 | 167 | 7 | 14 | | 1 | 7 | 190 | 23 | 12.2 | 0.28 |
| 1270.00 | 236 | 2 | 9 | | | 1 | 247 | 12 | 4.7 | 0.15 |
| 1300.00 | 19 | 2 | 2 | | | 2 | 24 | 5 | 19.5 | 0.16 |
| 1330.00 | 45 | 1 | 1 | - | | 1 | 47 | 2 | 4.5 | - |
| 1360.00 | 66 | 2 | 2 | | | 2 | 70 | 4 | 6.1 | 0.05 |
| 1390.00 | 45 | 1 | 1 | - | | 4 | 48 | 2 | 4.8 | - |
| 1420.00 | 41 | 2 | 2 | | 1 | 3 | 46 | 5 | 10.5 | 0.17 |
| 1450.00 | 20 | 2 | 2 | | | 2 | 23 | 4 | 16.5 | 0.15 |
| 1480.00 | 16 | 2 | 2 | | | 1 | 20 | 4 | 19.7 | 0.01 |
| 1510.00 | 22 | 2 | 2 | | | 1 | 26 | 4 | 16.5 | 0.18 |
| 1540.00 | 17 | 2 | 2 | | | 2 | 21 | 5 | 21.9 | 0.20 |
| 1570.00 | 13 | 2 | | | | 3 | 16 | 3 | 17.5 | 0.25 |
| 1600.00 | 22 | 1 | 1 | | | 3 | 25 | 3 | 11.0 | 0.24 |
| 1630.00 | 22 | 3 | | | 1 | 6 | 25 | 4 | 14.3 | 0.28 |
| 1660.00 | 41 | 3 | 2 | | 1 | 11 | 48 | 7 | 14.0 | 0.41 |
| 1690.00 | 31 | 3 | | | 1 | 11 | 36 | 5 | 12.9 | 0.37 |
| 1720.00 | 22 | 2 | 2 | | 1 | 7 | 27 | 5 | 18.0 | 0.37 |
| 1750.00 | 27 | 1 | 1 | - | | 1 | 29 | 2 | 8.1 | - |
| 1780.00 | 48 | 3 | | | 1 | 5 | 52 | 4 | 7.5 | 0.43 |

Table 1b: C1 to C7 hydrocarbons in CUTTINGS gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1810.00 | 27 | 3 | 1 | | | 1 | 32 | 4 | 13.5 | 0.28 |
| 1840.00 | 25 | 2 | 1 | | | 4 | 29 | 4 | 14.9 | 0.45 |
| 1870.00 | 23 | 2 | 1 | | | 3 | 27 | 4 | 14.9 | 0.54 |
| 1900.00 | 66 | 3 | 2 | 1 | 1 | 3 | 72 | 6 | 8.9 | 0.92 |
| 1930.00 | 27 | 3 | 2 | | 1 | 3 | 33 | 6 | 19.3 | 0.54 |
| 1960.00 | 20 | 2 | 2 | | 1 | 6 | 25 | 5 | 19.7 | 0.51 |
| 1990.00 | 20 | 2 | 2 | | 1 | 6 | 25 | 5 | 20.7 | 0.66 |
| 2020.00 | 27 | 3 | 3 | 1 | 1 | 8 | 34 | 7 | 21.6 | 0.58 |
| 2050.00 | 27 | 3 | 4 | 1 | 1 | 10 | 36 | 9 | 25.1 | 0.57 |
| 2080.00 | 2 | 4 | 5 | 1 | 2 | 11 | 14 | 12 | 85.8 | 0.59 |
| 2110.00 | 25 | 4 | 7 | 2 | 3 | 15 | 42 | 17 | 40.0 | 0.54 |
| 2140.00 | 27 | 5 | 12 | 3 | 6 | 19 | 52 | 26 | 49.1 | 0.49 |
| 2170.00 | 3 | | 1 | | 1 | 2 | 4 | 2 | 41.8 | 0.35 |
| 2200.00 | 12 | 4 | 21 | 7 | 19 | 16 | 63 | 51 | 80.6 | 0.34 |
| 2230.00 | 3 | 1 | 3 | 1 | 5 | 5 | 13 | 9 | 72.4 | 0.23 |
| 2260.00 | 4 | 1 | 8 | 3 | 12 | 13 | 28 | 24 | 86.1 | 0.25 |
| 2290.00 | 17 | 5 | 17 | 6 | 26 | 37 | 70 | 53 | 75.8 | 0.24 |
| 2320.00 | 19 | 5 | 16 | 7 | 32 | 81 | 79 | 60 | 75.9 | 0.23 |
| 2350.00 | 26 | 6 | 15 | 8 | 36 | 164 | 92 | 65 | 71.3 | 0.23 |
| 2380.00 | 13 | 2 | 20 | 25 | 82 | 918 | 142 | 129 | 91.0 | 0.31 |
| 2410.00 | 7 | 2 | 18 | 19 | 67 | 795 | 113 | 106 | 93.7 | 0.28 |
| 2440.00 | 5 | 5 | 94 | 108 | 359 | 3189 | 572 | 567 | 99.2 | 0.30 |
| 2470.00 | 4 | 2 | 28 | 27 | 102 | 1020 | 163 | 159 | 97.4 | 0.27 |
| 2500.00 | 8 | 5 | 84 | 88 | 309 | 2414 | 493 | 485 | 98.4 | 0.28 |
| 2510.00 | 13 | 5 | 76 | 70 | 252 | 1616 | 417 | 404 | 96.8 | 0.28 |
| 2520.00 | 17 | 6 | 90 | 89 | 333 | 2270 | 535 | 519 | 96.9 | 0.27 |
| 2530.00 | 20 | 7 | 85 | 82 | 295 | 2275 | 488 | 468 | 95.9 | 0.28 |

Table 1b: C1 to C7 hydrocarbons in CUTTINGS gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 2540.00 | 6 | 3 | 42 | 41 | 162 | 1392 | 253 | 247 | 97.7 | 0.25 |
| 2550.00 | 28 | 5 | 21 | 18 | 70 | 986 | 141 | 113 | 80.2 | 0.25 |
| 2560.00 | 21 | 4 | 44 | 48 | 166 | 1991 | 282 | 262 | 92.7 | 0.29 |
| 2570.00 | 21 | 6 | 73 | 65 | 223 | 1884 | 389 | 368 | 94.6 | 0.29 |
| 2580.00 | 22 | 3 | 46 | 39 | 141 | 1297 | 252 | 230 | 91.2 | 0.28 |
| 2590.00 | 8 | 3 | 36 | 31 | 113 | 1040 | 190 | 183 | 95.8 | 0.28 |
| 2600.00 | 29 | 7 | 53 | 36 | 137 | 949 | 263 | 233 | 88.9 | 0.26 |
| 2620.00 | 22 | 5 | 35 | 21 | 78 | 472 | 160 | 139 | 86.6 | 0.26 |
| 2650.00 | 20 | 6 | 38 | 18 | 62 | 277 | 142 | 122 | 86.0 | 0.29 |
| 2680.00 | 22 | 7 | 43 | 17 | 53 | 225 | 143 | 121 | 84.5 | 0.32 |
| 2710.00 | 13 | 3 | 9 | 4 | 16 | 138 | 45 | 32 | 70.2 | 0.24 |
| 2740.00 | 15 | 2 | 5 | 2 | 6 | 119 | 29 | 14 | 49.8 | 0.25 |
| 2770.00 | 4 | 5 | 2 | 1 | 2 | 39 | 14 | 10 | 68.6 | 0.29 |
| 2800.00 | 12 | 2 | 4 | 1 | 2 | 55 | 22 | 10 | 44.1 | 0.38 |
| 2820.00 | 2 | | 1 | | | 3 | 4 | 2 | 42.4 | 0.92 |
| 2840.00 | 9 | 2 | 3 | 1 | 1 | 6 | 15 | 6 | 39.4 | 0.58 |
| 2860.00 | 12 | 2 | 2 | | 1 | 6 | 17 | 5 | 29.7 | 0.60 |
| 2880.00 | 14 | 2 | 2 | | 1 | 7 | 20 | 6 | 28.3 | 0.51 |
| 2900.00 | 12 | 2 | 3 | 1 | 1 | 11 | 17 | 6 | 33.1 | 0.54 |
| 2920.00 | 11 | 2 | 3 | 1 | 1 | 40 | 17 | 7 | 39.0 | 0.65 |
| 2940.00 | 12 | 2 | 2 | 1 | 1 | 11 | 17 | 6 | 33.7 | 0.57 |
| 2960.00 | 6 | 2 | 1 | 1 | 1 | 8 | 10 | 4 | 43.9 | 0.55 |
| 2980.00 | 16 | 3 | 5 | 2 | 4 | 30 | 30 | 14 | 47.5 | 0.55 |
| 3000.00 | 16 | 3 | 4 | 2 | 3 | 18 | 28 | 12 | 41.8 | 0.78 |
| 3020.00 | 26 | 5 | 5 | 2 | 3 | 21 | 41 | 15 | 37.0 | 0.73 |
| 3040.00 | 16 | 3 | 4 | 2 | 3 | 25 | 28 | 12 | 41.9 | 0.78 |
| 3060.00 | 21 | 5 | 6 | 4 | 4 | 33 | 40 | 18 | 46.3 | 0.89 |

Table 1b: C1 to C7 hydrocarbons in CUTTINGS gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 3080.00 | 19 | 4 | 5 | 3 | 3 | 20 | 33 | 15 | 43.5 | 0.84 |
| 3100.00 | 17 | | 4 | 2 | 2 | 12 | 25 | 8 | 33.9 | 0.80 |
| 3120.00 | 19 | 4 | 5 | 3 | 3 | 21 | 35 | 15 | 44.0 | 0.81 |
| 3140.00 | 17 | 3 | 5 | 3 | 3 | 16 | 31 | 14 | 46.4 | 0.88 |
| 3160.00 | 16 | 4 | 4 | 2 | 3 | 14 | 29 | 14 | 46.8 | 0.78 |
| 3180.00 | 25 | 4 | 7 | 4 | 5 | 24 | 45 | 20 | 43.9 | 0.84 |
| 3200.00 | 24 | 6 | 9 | 6 | 7 | 35 | 52 | 28 | 54.3 | 0.93 |
| 3212.00 | 19 | 5 | 9 | 7 | 7 | 51 | 48 | 29 | 60.5 | 0.96 |
| 3224.00 | 29 | 8 | 12 | 8 | 10 | 53 | 67 | 38 | 56.9 | 0.85 |
| 3236.00 | 24 | 7 | 10 | 7 | 8 | 46 | 56 | 32 | 57.5 | 0.87 |
| 3248.00 | 33 | 8 | 12 | 6 | 9 | 45 | 68 | 35 | 51.3 | 0.72 |
| 3260.00 | 27 | 7 | 9 | 4 | 7 | 32 | 55 | 28 | 50.9 | 0.59 |
| 3272.00 | 30 | 7 | 9 | 3 | 6 | 29 | 55 | 26 | 46.2 | 0.55 |
| 3284.00 | 27 | 7 | 8 | 2 | 5 | 20 | 51 | 23 | 45.8 | 0.45 |
| 3296.00 | 36 | 10 | 11 | 3 | 6 | 24 | 66 | 30 | 44.9 | 0.46 |
| 3308.00 | 31 | 11 | 11 | 2 | 5 | 20 | 60 | 29 | 48.5 | 0.38 |
| 3320.00 | 35 | 8 | 11 | 2 | 5 | 19 | 60 | 25 | 41.9 | 0.36 |
| 3332.00 | 19 | 7 | 8 | 2 | 4 | 23 | 41 | 22 | 52.9 | 0.45 |
| 3344.00 | 31 | 10 | 11 | 2 | 4 | 21 | 59 | 27 | 46.5 | 0.37 |
| 3356.00 | 19 | 6 | 7 | 1 | 3 | 9 | 35 | 17 | 47.1 | 0.39 |
| 3368.00 | 26 | 7 | 14 | 1 | 5 | 9 | 53 | 27 | 51.2 | 0.25 |
| 3380.00 | 27 | 8 | 15 | 2 | 5 | 12 | 58 | 31 | 52.9 | 0.29 |
| 3392.00 | 33 | 8 | 16 | 2 | 7 | 11 | 66 | 33 | 50.1 | 0.30 |
| 3404.00 | 40 | 13 | 28 | 4 | 13 | 30 | 97 | 57 | 58.8 | 0.28 |
| 3416.00 | 23 | 7 | 19 | 3 | 11 | 19 | 64 | 41 | 63.7 | 0.29 |
| 3428.00 | 56 | 14 | 37 | 6 | 27 | 28 | 140 | 84 | 60.0 | 0.21 |
| 3440.00 | 22 | 5 | 17 | 3 | 17 | 23 | 64 | 42 | 65.0 | 0.21 |

Table 1b: C1 to C7 hydrocarbons in CUTTINGS gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 3452.00 | 36 | 7 | 22 | 5 | 30 | 65 | 101 | 64 | 63.9 | 0.17 |
| 3462.00 | 28 | 18 | 74 | 9 | 68 | 73 | 198 | 170 | 85.8 | 0.13 |
| 3474.00 | 48 | 181 | 1773 | 547 | 2377 | 3971 | 4926 | 4878 | 99.0 | 0.23 |
| 3486.00 | 37 | 67 | 825 | 223 | 1272 | 2527 | 2423 | 2387 | 98.5 | 0.17 |
| 3498.00 | 38 | 68 | 841 | 287 | 1567 | 3283 | 2801 | 2763 | 98.6 | 0.18 |
| 3510.00 | 45 | 48 | 444 | 143 | 792 | 2085 | 1472 | 1427 | 96.9 | 0.18 |
| 3522.00 | 57 | 38 | 500 | 221 | 1307 | 3054 | 2123 | 2067 | 97.3 | 0.17 |
| 3534.00 | 212 | 889 | 6074 | 1169 | 5609 | 5094 | 13953 | 13741 | 98.5 | 0.21 |
| 3546.00 | 67 | 200 | 1243 | 225 | 1419 | 2230 | 3154 | 3087 | 97.9 | 0.16 |
| 3558.00 | 351 | 1478 | 10137 | 1869 | 7849 | 5894 | 21685 | 21334 | 98.4 | 0.24 |
| 3570.00 | 137 | 212 | 1882 | 479 | 2133 | 2388 | 4843 | 4706 | 97.2 | 0.22 |
| 3582.00 | 1003 | 1873 | 6313 | 955 | 3966 | 3458 | 14110 | 13107 | 92.9 | 0.24 |
| 3594.00 | 411 | 794 | 2867 | 525 | 2324 | 2654 | 6922 | 6511 | 94.1 | 0.23 |
| 3606.00 | 124 | 218 | 809 | 135 | 629 | 795 | 1915 | 1791 | 93.5 | 0.22 |
| 3618.00 | 809 | 908 | 1882 | 300 | 1118 | 1235 | 5019 | 4209 | 83.9 | 0.27 |
| 3630.00 | 125 | 277 | 645 | 99 | 448 | 661 | 1594 | 1469 | 92.2 | 0.22 |
| 3642.00 | 303 | 504 | 1219 | 182 | 713 | 855 | 2922 | 2619 | 89.6 | 0.26 |
| 3654.00 | 468 | 765 | 2041 | 316 | 1225 | 1363 | 4816 | 4348 | 90.3 | 0.26 |
| 3666.00 | 184 | 463 | 1225 | 196 | 787 | 1058 | 2854 | 2670 | 93.6 | 0.25 |
| 3678.00 | 134 | 263 | 743 | 116 | 474 | 606 | 1730 | 1596 | 92.2 | 0.24 |
| 3690.00 | 68 | 181 | 561 | 83 | 377 | 490 | 1270 | 1202 | 94.7 | 0.22 |
| 3702.00 | 120 | 295 | 874 | 144 | 621 | 953 | 2054 | 1934 | 94.2 | 0.23 |
| 3714.00 | 1129 | 541 | 986 | 100 | 511 | 544 | 3267 | 2138 | 65.4 | 0.20 |
| 3726.00 | 126 | 216 | 710 | 127 | 570 | 1110 | 1748 | 1622 | 92.8 | 0.22 |
| 3738.00 | 240 | 370 | 940 | 184 | 748 | 1359 | 2482 | 2242 | 90.3 | 0.25 |
| 3750.00 | 68 | 146 | 477 | 97 | 424 | 771 | 1211 | 1143 | 94.4 | 0.23 |
| 3762.00 | 82 | 277 | 1210 | 217 | 902 | 1048 | 2687 | 2605 | 96.9 | 0.24 |

**Table 1b:** C1 to C7 hydrocarbons in CUTTINGS gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 3774.00 | 123 | 91 | 368 | 71 | 341 | 554 | 995 | 871 | 87.6 | 0.21 |
| 3786.00 | 110 | 305 | 1161 | 208 | 873 | 1175 | 2656 | 2547 | 95.9 | 0.24 |
| 3798.00 | 85 | 273 | 849 | 146 | 586 | 750 | 1938 | 1853 | 95.6 | 0.25 |
| 3810.00 | 1559 | 405 | 656 | 103 | 470 | 728 | 3193 | 1634 | 51.2 | 0.22 |
| 3822.00 | 1291 | 362 | 633 | 104 | 451 | 709 | 2842 | 1551 | 54.6 | 0.23 |
| 3834.00 | 746 | 167 | 307 | 48 | 222 | 372 | 1491 | 745 | 50.0 | 0.22 |
| 3846.00 | 502 | 121 | 154 | 23 | 97 | 235 | 896 | 394 | 44.0 | 0.24 |
| 3858.00 | 1487 | 326 | 604 | 118 | 526 | 1118 | 3061 | 1574 | 51.4 | 0.23 |
| 3870.00 | 843 | 112 | 73 | 29 | 141 | 694 | 1198 | 355 | 29.6 | 0.20 |
| 3882.00 | 5190 | 454 | 173 | 33 | 160 | 622 | 6008 | 819 | 13.6 | 0.21 |
| 3894.00 | 3465 | 348 | 110 | 16 | 70 | 288 | 4010 | 545 | 13.6 | 0.23 |
| 3906.00 | 4011 | 442 | 81 | 8 | 33 | 176 | 4576 | 564 | 12.3 | 0.25 |
| 3918.00 | 5277 | 543 | 147 | 23 | 96 | 376 | 6086 | 809 | 13.3 | 0.23 |
| 3930.00 | 6654 | 685 | 159 | 20 | 99 | 454 | 7618 | 964 | 12.6 | 0.20 |
| 3942.00 | 661 | 64 | 11 | 1 | 6 | 51 | 744 | 82 | 11.0 | 0.23 |
| 3950.00 | 380 | 39 | 7 | 1 | 2 | 23 | 430 | 50 | 11.6 | 0.33 |

Table 1c: C1 to C7 hydrocarbons in HEADSPACE and CUTTINGS gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1000.00 | 5298 | 4 | 4 | 1 | | 2 | 5307 | 9 | 0.2 | 1.32 |
| 1030.00 | 9066 | 5 | 2 | | | 3 | 9074 | 8 | 0.1 | 0.58 |
| 1060.00 | 6375 | 33 | 3 | | 1 | 6 | 6412 | 37 | 0.6 | 0.32 |
| 1090.00 | 3634 | 4 | 3 | | 1 | 2 | 3642 | 8 | 0.2 | 0.25 |
| 1120.00 | 1919 | 11 | 3 | | 1 | 4 | 1934 | 15 | 0.8 | 0.45 |
| 1150.00 | 2205 | 5 | 3 | | 1 | 3 | 2214 | 9 | 0.4 | 0.23 |
| 1180.00 | 27427 | 140 | 9 | | 1 | 5 | 27577 | 151 | 0.5 | 0.37 |
| 1210.00 | 20611 | 19 | 17 | | 1 | 8 | 20649 | 38 | 0.2 | 0.23 |
| 1240.00 | 32490 | 25 | 20 | | 2 | 7 | 32537 | 47 | 0.1 | 0.24 |
| 1270.00 | 31717 | 14 | 14 | | | 1 | 31746 | 29 | 0.1 | 0.15 |
| 1300.00 | 8757 | 5 | 4 | | | 2 | 8766 | 9 | 0.1 | 0.16 |
| 1330.00 | 6091 | 3 | 2 | - | | 1 | 6096 | 5 | 0.1 | - |
| 1360.00 | 9552 | 2 | 2 | | | 2 | 9557 | 4 | 0.0 | 0.05 |
| 1390.00 | 5515 | 1 | 3 | - | | 4 | 5519 | 4 | 0.1 | - |
| 1420.00 | 7368 | 2 | 5 | | 1 | 3 | 7376 | 8 | 0.1 | 0.23 |
| 1450.00 | 1956 | 2 | 2 | | | 2 | 1960 | 4 | 0.2 | 0.15 |
| 1480.00 | 1920 | 11 | 4 | | | 2 | 1935 | 15 | 0.8 | 0.18 |
| 1510.00 | 988 | 2 | 2 | | | 1 | 993 | 4 | 0.4 | 0.18 |
| 1540.00 | 658 | 6 | 3 | | 1 | 3 | 668 | 10 | 1.4 | 0.16 |
| 1570.00 | 2114 | 5 | 2 | | 1 | 4 | 2123 | 8 | 0.4 | 0.34 |
| 1600.00 | 1707 | 4 | 3 | | 1 | 4 | 1714 | 8 | 0.5 | 0.35 |
| 1630.00 | 1365 | 10 | 2 | | 1 | 8 | 1378 | 13 | 1.0 | 0.41 |
| 1660.00 | 3614 | 14 | 5 | 1 | 2 | 14 | 3636 | 22 | 0.6 | 0.54 |
| 1690.00 | 1460 | 16 | 21 | 1 | 1 | 13 | 1499 | 39 | 2.6 | 0.49 |
| 1720.00 | 1317 | 10 | 3 | | 1 | 9 | 1332 | 15 | 1.1 | 0.49 |
| 1750.00 | 2374 | 19 | 3 | | | 3 | 2396 | 23 | 1.0 | 0.73 |
| 1780.00 | 3681 | 36 | 23 | 1 | 1 | 6 | 3741 | 60 | 1.6 | 0.82 |

**Table 1c:** C1 to C7 hydrocarbons in HEADSPACE and CUTTINGS gas (µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m  * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1810.00 | 3891 | 22 | 4 | 1 | 1 | 2 | 3918 | 27 | 0.7 | 0.97 |
| 1840.00 | 1891 | 15 | 4 | 1 | 1 | 6 | 1912 | 21 | 1.1 | 1.18 |
| 1870.00 | 3421 | 35 | 8 | 3 | 1 | 7 | 3468 | 46 | 1.3 | 2.11 |
| 1900.00 | 4026 | 59 | 16 | 4 | 2 | 8 | 4107 | 81 | 2.0 | 2.31 |
| 1930.00 | 1615 | 32 | 13 | 3 | 2 | 8 | 1665 | 50 | 3.0 | 1.54 |
| 1960.00 | 793 | 22 | 11 | 2 | 2 | 9 | 830 | 37 | 4.4 | 1.14 |
| 1990.00 | 4349 | 113 | 47 | 6 | 5 | 13 | 4519 | 171 | 3.8 | 1.26 |
| 2020.00 | 1702 | 45 | 23 | 3 | 3 | 13 | 1777 | 75 | 4.2 | 0.99 |
| 2050.00 | 3981 | 134 | 70 | 8 | 8 | 20 | 4201 | 220 | 5.2 | 1.04 |
| 2080.00 | 5083 | 218 | 132 | 14 | 15 | 27 | 5462 | 379 | 6.9 | 0.97 |
| 2110.00 | 3139 | 168 | 124 | 14 | 17 | 29 | 3462 | 323 | 9.3 | 0.85 |
| 2140.00 | 3061 | 206 | 180 | 21 | 29 | 36 | 3496 | 435 | 12.4 | 0.72 |
| 2170.00 | 990 | 101 | 131 | 17 | 32 | 24 | 1273 | 282 | 22.2 | 0.54 |
| 2200.00 | 2122 | 257 | 317 | 42 | 80 | 30 | 2818 | 696 | 24.7 | 0.53 |
| 2230.00 | 1055 | 83 | 135 | 21 | 50 | 19 | 1344 | 290 | 21.5 | 0.42 |
| 2260.00 | 1786 | 206 | 300 | 50 | 113 | 43 | 2454 | 668 | 27.2 | 0.44 |
| 2290.00 | 3307 | 362 | 520 | 96 | 227 | 116 | 4510 | 1204 | 26.7 | 0.42 |
| 2320.00 | 1658 | 228 | 433 | 96 | 248 | 217 | 2662 | 1005 | 37.7 | 0.39 |
| 2350.00 | 1021 | 161 | 396 | 108 | 297 | 405 | 1982 | 962 | 48.5 | 0.36 |
| 2380.00 | 825 | 185 | 750 | 304 | 731 | 1756 | 2795 | 1970 | 70.5 | 0.42 |
| 2410.00 | 498 | 219 | 1104 | 417 | 1099 | 2245 | 3337 | 2839 | 85.1 | 0.38 |
| 2440.00 | 2321 | 907 | 3411 | 1276 | 3177 | 6802 | 11092 | 8771 | 79.1 | 0.40 |
| 2470.00 | 870 | 326 | 1493 | 571 | 1411 | 2694 | 4672 | 3802 | 81.4 | 0.41 |
| 2500.00 | 1995 | 917 | 4426 | 1961 | 4892 | 9422 | 14190 | 12195 | 85.9 | 0.40 |
| 2510.00 | 1976 | 880 | 3523 | 1263 | 3248 | 5949 | 10890 | 8914 | 81.9 | 0.39 |
| 2520.00 | 900 | 449 | 2095 | 804 | 2058 | 4338 | 6307 | 5407 | 85.7 | 0.39 |
| 2530.00 | 1273 | 673 | 3350 | 11862 | 3266 | 6712 | 20424 | 19151 | 93.8 | 3.63 |

Table 1c: C1 to C7 hydrocarbons in HEADSPACE and CUTTINGS gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 2540.00 | 1136 | 541 | 2325 | 867 | 2164 | 4370 | 7032 | 5897 | 83.9 | 0.40 |
| 2550.00 | 2666 | 803 | 3458 | 1325 | 4226 | 9302 | 12477 | 9811 | 78.6 | 0.31 |
| 2560.00 | 1428 | 685 | 2947 | 1048 | 2750 | 7235 | 8858 | 7430 | 83.9 | 0.38 |
| 2570.00 | 1105 | 559 | 2284 | 748 | 1759 | 3967 | 6456 | 5351 | 82.9 | 0.42 |
| 2580.00 | 1283 | 568 | 2395 | 820 | 2134 | 4706 | 7200 | 5917 | 82.2 | 0.38 |
| 2590.00 | 977 | 457 | 1966 | 664 | 1576 | 3166 | 5639 | 4662 | 82.7 | 0.42 |
| 2600.00 | 558 | 259 | 957 | 286 | 779 | 1893 | 2840 | 2282 | 80.4 | 0.37 |
| 2620.00 | 1234 | 487 | 1520 | 439 | 1061 | 1655 | 4740 | 3506 | 74.0 | 0.41 |
| 2650.00 | 632 | 306 | 911 | 249 | 616 | 1133 | 2713 | 2082 | 76.7 | 0.40 |
| 2680.00 | 661 | 310 | 771 | 167 | 363 | 606 | 2273 | 1612 | 70.9 | 0.46 |
| 2710.00 | 599 | 162 | 455 | 131 | 345 | 832 | 1692 | 1093 | 64.6 | 0.38 |
| 2740.00 | 513 | 99 | 259 | 59 | 200 | 711 | 1130 | 617 | 54.6 | 0.29 |
| 2770.00 | 394 | 71 | 103 | 18 | 46 | 217 | 632 | 238 | 37.6 | 0.39 |
| 2800.00 | 1034 | 118 | 113 | 16 | 27 | 159 | 1308 | 274 | 20.9 | 0.57 |
| 2820.00 | 497 | 69 | 74 | 10 | 12 | 36 | 662 | 165 | 25.0 | 0.78 |
| 2840.00 | 503 | 61 | 40 | 6 | 6 | 13 | 617 | 114 | 18.5 | 1.08 |
| 2860.00 | 515 | 48 | 38 | 9 | 9 | 32 | 619 | 104 | 16.7 | 1.06 |
| 2880.00 | 317 | 31 | 30 | 8 | 8 | 21 | 395 | 78 | 19.7 | 0.98 |
| 2900.00 | 212 | 26 | 25 | 7 | 8 | 30 | 278 | 66 | 23.7 | 0.91 |
| 2920.00 | 479 | 56 | 46 | 13 | 11 | 57 | 606 | 127 | 20.9 | 1.16 |
| 2940.00 | 643 | 74 | 49 | 19 | 14 | 40 | 799 | 156 | 19.5 | 1.35 |
| 2960.00 | 695 | 49 | 39 | 15 | 17 | 41 | 815 | 120 | 14.7 | 0.92 |
| 2980.00 | 298 | 47 | 44 | 26 | 20 | 64 | 435 | 137 | 31.4 | 1.26 |
| 3000.00 | 455 | 51 | 37 | 23 | 15 | 39 | 581 | 126 | 21.7 | 1.56 |
| 3020.00 | 274 | 34 | 28 | 17 | 12 | 45 | 365 | 91 | 24.9 | 1.37 |
| 3040.00 | 127 | 24 | 24 | 33 | 10 | 43 | 218 | 91 | 41.6 | 3.31 |
| 3060.00 | 210 | 32 | 26 | 14 | 10 | 44 | 290 | 81 | 27.9 | 1.36 |

Table 1c: C1 to C7 hydrocarbons in HEADSPACE and CUTTINGS gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 3080.00 | 254 | 36 | 29 | 16 | 11 | 39 | 347 | 93 | 26.7 | 1.41 |
| 3100.00 | 208 | 29 | 28 | 14 | 10 | 23 | 288 | 80 | 27.8 | 1.40 |
| 3120.00 | 153 | 15 | 14 | 7 | 6 | 29 | 196 | 43 | 21.7 | 1.15 |
| 3140.00 | 276 | 23 | 21 | 11 | 9 | 25 | 340 | 64 | 18.8 | 1.31 |
| 3160.00 | 533 | 49 | 45 | 27 | 17 | 41 | 671 | 139 | 20.6 | 1.53 |
| 3180.00 | 452 | 57 | 59 | 36 | 23 | 64 | 628 | 175 | 28.0 | 1.55 |
| 3200.00 | 704 | 73 | 60 | 37 | 24 | 66 | 897 | 194 | 21.6 | 1.55 |
| 3212.00 | 587 | 86 | 76 | 44 | 30 | 105 | 823 | 236 | 28.7 | 1.49 |
| 3224.00 | 520 | 72 | 60 | 35 | 26 | 88 | 714 | 193 | 27.1 | 1.36 |
| 3236.00 | 791 | 105 | 73 | 40 | 28 | 92 | 1037 | 246 | 23.7 | 1.47 |
| 3248.00 | 524 | 77 | 57 | 28 | 24 | 71 | 709 | 185 | 26.1 | 1.19 |
| 3260.00 | 540 | 72 | 52 | 23 | 22 | 56 | 710 | 170 | 23.9 | 1.05 |
| 3272.00 | 672 | 91 | 60 | 21 | 21 | 52 | 865 | 193 | 22.4 | 1.01 |
| 3284.00 | 767 | 87 | 45 | 13 | 14 | 36 | 925 | 159 | 17.1 | 0.88 |
| 3296.00 | 675 | 88 | 44 | 11 | 14 | 34 | 833 | 158 | 19.0 | 0.81 |
| 3308.00 | 910 | 141 | 60 | 12 | 17 | 42 | 1140 | 230 | 20.2 | 0.72 |
| 3320.00 | 564 | 111 | 49 | 9 | 13 | 34 | 746 | 181 | 24.3 | 0.68 |
| 3332.00 | 444 | 84 | 44 | 10 | 13 | 39 | 594 | 150 | 25.3 | 0.76 |
| 3344.00 | 747 | 141 | 63 | 8 | 12 | 35 | 971 | 225 | 23.1 | 0.69 |
| 3356.00 | 345 | 69 | 37 | 5 | 7 | 16 | 462 | 117 | 25.4 | 0.66 |
| 3368.00 | 243 | 48 | 45 | 4 | 9 | 11 | 348 | 106 | 30.3 | 0.44 |
| 3380.00 | 749 | 163 | 132 | 11 | 21 | 29 | 1077 | 328 | 30.4 | 0.52 |
| 3392.00 | 724 | 137 | 142 | 16 | 29 | 30 | 1048 | 324 | 30.9 | 0.56 |
| 3404.00 | 774 | 179 | 220 | 24 | 51 | 59 | 1248 | 474 | 38.0 | 0.48 |
| 3416.00 | 745 | 192 | 252 | 28 | 62 | 45 | 1278 | 534 | 41.8 | 0.46 |
| 3428.00 | 791 | 218 | 381 | 42 | 123 | 67 | 1555 | 765 | 49.2 | 0.34 |
| 3440.00 | 438 | 112 | 200 | 31 | 87 | 63 | 868 | 430 | 49.5 | 0.36 |

Table 1c: C1 to C7 hydrocarbons in HEADSPACE and CUTTINGS gas
(µl gas/kg rock)

Project: NOCS 33/6-2
Well: NOCS 33/6-2
Depth unit of measure: m * Indicated values in ml gas/kg rock

| Depth | C1 | C2 | C3 | iC4 | nC4 | C5+ | sum C1-C4 | sum C2-C4 | %wet ness | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 3452.00 | 618 | 175 | 363 | 58 | 208 | 223 | 1421 | 804 | 56.5 | 0.28 |
| 3462.00 | 332 | 259 | 432 | 34 | 168 | 106 | 1225 | 893 | 72.9 | 0.21 |
| 3474.00 | 3191 | 3240 | 9320 | 1556 | 5950 | 7168 | 23257 | 20065 | 86.3 | 0.26 |
| 3486.00 | 972 | 1391 | 5102 | 807 | 3487 | 4286 | 11759 | 10787 | 91.7 | 0.23 |
| 3498.00 | 685 | 907 | 4480 | 861 | 4040 | 5679 | 10974 | 10289 | 93.8 | 0.21 |
| 3510.00 | 1027 | 445 | 1917 | 483 | 2253 | 3564 | 6126 | 5098 | 83.2 | 0.21 |
| 3522.00 | 1270 | 998 | 4586 | 1019 | 4756 | 6435 | 12630 | 11360 | 89.9 | 0.21 |
| 3534.00 | 13686 | 8097 | 20408 | 2632 | 12179 | 9987 | 57001 | 43315 | 76.0 | 0.22 |
| 3546.00 | 1898 | 960 | 4034 | 600 | 4372 | 7436 | 11864 | 9966 | 84.0 | 0.14 |
| 3558.00 | 4590 | 5007 | 18341 | 2708 | 11229 | 8023 | 41875 | 37285 | 89.0 | 0.24 |
| 3570.00 | 3585 | 1598 | 6046 | 1052 | 4678 | 4677 | 16960 | 13375 | 78.9 | 0.22 |
| 3582.00 | 21739 | 6697 | 13179 | 1646 | 6404 | 5267 | 49666 | 27927 | 56.2 | 0.26 |
| 3594.00 | 17135 | 6029 | 12322 | 1840 | 6095 | 5507 | 43420 | 26286 | 60.5 | 0.30 |
| 3606.00 | 2646 | 1038 | 1914 | 286 | 1466 | 1435 | 7349 | 4703 | 64.0 | 0.19 |
| 3618.00 | 16340 | 3153 | 3392 | 479 | 1693 | 1897 | 25058 | 8718 | 34.8 | 0.28 |
| 3630.00 | 2212 | 829 | 1155 | 163 | 612 | 880 | 4971 | 2759 | 55.5 | 0.27 |
| 3642.00 | 2447 | 996 | 1586 | 223 | 841 | 1024 | 6094 | 3647 | 59.8 | 0.27 |
| 3654.00 | 2710 | 1337 | 2644 | 391 | 1435 | 1581 | 8516 | 5807 | 68.2 | 0.27 |
| 3666.00 | 1299 | 711 | 1472 | 224 | 874 | 1158 | 4580 | 3280 | 71.6 | 0.26 |
| 3678.00 | 1355 | 590 | 1082 | 152 | 582 | 699 | 3761 | 2406 | 64.0 | 0.26 |
| 3690.00 | 411 | 270 | 666 | 94 | 418 | 537 | 1859 | 1448 | 77.9 | 0.23 |
| 3702.00 | 2814 | 979 | 1624 | 231 | 847 | 1142 | 6495 | 3681 | 56.7 | 0.27 |
| 3714.00 | 1741 | 665 | 1129 | 117 | 566 | 613 | 4219 | 2477 | 58.7 | 0.21 |
| 3726.00 | 1482 | 585 | 1115 | 172 | 715 | 1283 | 4070 | 2588 | 63.6 | 0.24 |
| 3738.00 | 5463 | 1321 | 1824 | 299 | 1056 | 1729 | 9964 | 4500 | 45.2 | 0.28 |
| 3750.00 | 830 | 422 | 915 | 162 | 608 | 947 | 2937 | 2106 | 71.7 | 0.27 |
| 3762.00 | 5152 | 1958 | 4163 | 566 | 1797 | 1631 | 13636 | 8484 | 62.2 | 0.32 |