STATOIL WELL NO. 9/2-2

DRILLING MUD PROPERTIES RECORD SHEET 1 OF 2

MUD SYSTEM: GEL/SEAWATER AREA: TOMMELITEN RIG: ROSS ISLE

| DAY No. | DATE 1987 | DEPTH metre | M.W. sg | F.V. s/qt | 600 | 300 | A.V cps | P.V cps | Y.P | GEL 0 | GEL 10 | pH | API Filt. | CAKE 32nds | HTHP ml. | Chl.ppm *1000 | Calc. PPM. | Pf | %Sol. | %Oil | %Sand | MBT ppb | GYP ppb |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6/ 8 | | | | | | 0 | 0 | 0 | | | | | | | | | | | | | | |
| 2 | 7/ 8 | | | | | | 0 | 0 | 0 | | | | | | | | | | | | | | |
| 3 | 8/ 8 | 181 | | 130 | | | 0 | 0 | 0 | | | 10 | | | | | | | | | | | |
| 4 | 9/ 8 | 189 | | 160 | | | 0 | 0 | 0 | | | 10.5 | | | | | | | | | | | |
| 5 | 10/ 8 | 226 | 1.05 | 140 | | | 0 | 0 | 0 | | | 10.2 | | | | | | | | | | | |
| 6 | 11/ 8 | 350 | 1.05 | 140 | | | 0 | 0 | 0 | | | 10.3 | | | | | | | | | | | |
| 7 | 12/ 8 | 350 | 1.05 | 47 | 49 | 30 | 24.5 | 19 | 11 | | | | | | | | | | | | | | |
| 8 | 13/ 8 | 718 | 1.13 | 46 | 44 | 27 | 22 | 17 | 10 | 1 | 2 | 8.8 | 5 | | | 21000 | 4800 | .05 | 8 | | | | 2.10 |
| 9 | 14/ 8 | 898 | 1.15 | 52 | 53 | 33 | 26.5 | 20 | 13 | 2 | 4 | 9.1 | 4.5 | | | 21500 | 4800 | .05 | 10 | | | | 2.40 |
| 10 | 15/ 8 | 1125 | 1.14 | 55 | 44 | 28 | 22 | 16 | 12 | 1 | 4 | 8.8 | 5 | | | 21500 | 4200 | .05 | 10 | | .25 | | 1.90 |
| 11 | 16/ 8 | 1125 | 1.15 | 50 | 39 | 24 | 19.5 | 15 | 9 | 2 | 2 | 8.9 | 5.5 | | | 21000 | 4200 | .05 | 10 | | | | 1.80 |
| 12 | 17/ 8 | 1157 | 1.1 | 58 | 40 | 28 | 20 | 12 | 16 | 1 | 2 | 9.2 | 6 | | | 20000 | 3600 | .05 | 5 | | | | 1.60 |
| 13 | 18/ 8 | 1379 | 1.1 | 53 | 44 | 29 | 22 | 15 | 14 | 2 | 2 | 8.9 | 5.4 | | | 20000 | 3200 | | 5 | | | | 1.80 |
| 14 | 19/ 8 | 1611 | 1.1 | 54 | 46 | 30 | 23 | 16 | 14 | 1 | 2 | 8.5 | 4.5 | | | 19000 | 3800 | | 6 | | | | 2.00 |
| 15 | 20/ 8 | 1940 | 1.1 | 59 | 48 | 32 | 24 | 16 | 16 | 1 | 2 | 8.4 | 4 | | | 19000 | 4400 | | 6 | | | | 2.10 |
| 16 | 21/ 8 | 2132 | 1.1 | 56 | 44 | 27 | 22 | 17 | 10 | 1 | 2 | 8.3 | 4.3 | | | 19000 | 4400 | | 6 | | | | 1.50 |
| 17 | 22/ 8 | 2487 | 1.15 | 54 | 47 | 29 | 23.5 | 18 | 11 | 1 | 2 | 8.4 | 4 | | | 19000 | 3800 | | 8 | | | | 1.60 |
| 18 | 23/ 8 | 2738 | 1.2 | 54 | 49 | 30 | 24.5 | 19 | 11 | 1 | 2 | 8.2 | 4 | | | 19000 | 3800 | | 10 | | | | 1.50 |
| 19 | 24/ 8 | 2871 | 1.23 | 53 | 46 | 28 | 23 | 18 | 10 | 1 | 2 | 8.3 | 4.1 | | | 19000 | 3800 | | 12 | | | | 1.60 |
| 20 | 25/ 8 | 2871 | 1.3 | 53 | 50 | 30 | 25 | 20 | 10 | 1 | 2 | 8.2 | 4.2 | | | 19000 | 3600 | | 15 | | | | 1.40 |
| 21 | 26/ 8 | 2871 | 1.3 | 54 | 52 | 31 | 26 | 21 | 10 | 1 | 2 | 8.2 | 4.2 | | | 19000 | 3600 | | 14 | | | | 1.50 |
| 22 | 27/ 8 | 2855 | 1.27 | 52 | 49 | 29 | 24.5 | 20 | 9 | 1 | 2 | 8.2 | 4.1 | | | 19000 | 2000 | | 14 | | | | 1.40 |
| 23 | 28/ 8 | 2841 | 1.27 | 45 | 30 | 18 | 15 | 12 | 6 | 1 | 2 | 11 | 5 | | | 19000 | 4400 | .15 | 14 | | | | 1.40 |
| 24 | 29/ 8 | 2841 | 1.27 | 49 | 33 | 19 | 16.5 | 14 | 5 | 1 | 2 | 11 | 5 | | | 19000 | 4400 | .15 | 14 | | | | 1.40 |
| 25 | 30/ 8 | 2871 | 1.27 | 48 | 34 | 20 | 17 | 14 | 6 | 1 | 2 | 10.8 | 5.2 | | | 19000 | 3800 | .1 | 14 | | | | 1.50 |
| 26 | 31/ 8 | 2874 | 1.27 | 56 | 74 | 45 | 37 | 29 | 16 | 5 | 14 | 9 | 5.6 | | | 1300 | 200 | .01 | 11 | | | | |
| 27 | 31/ 8 | 2871 | 1.27 | 56 | 74 | 45 | 37 | 29 | 16 | 5 | 14 | 9 | 5.6 | | | 1300 | 200 | .01 | 11 | | | | |
| 28 | 1/ 9 | 2950 | 1.27 | 64 | 65 | 37 | 32.5 | 28 | 9 | 2 | 7 | 9.8 | 4 | | 14.00 | 1500 | 120 | .15 | 12 | | .25 | | |
| 29 | 2/ 9 | 3038 | 1.31 | 62 | 62 | 37 | 31 | 25 | 12 | 2 | 6 | 9.8 | 4 | | 14.00 | 1400 | 160 | .2 | 15 | | .25 | | |
| 30 | 3/ 9 | 3118 | 1.31 | 63 | 65 | 37 | 32.5 | 28 | 9 | 3 | 9 | 9.7 | 4.1 | | 14.00 | 1800 | 140 | .2 | 15 | | .25 | | |
| 31 | 4/ 9 | 3163 | 1.31 | 68 | 69 | 39 | 34.5 | 30 | 9 | 3 | 10 | 9.6 | 5 | | 15.00 | 1800 | 160 | .2 | 13 | | | | |
| 32 | 5/ 9 | 3245 | 1.31 | 59 | 62 | 35 | 31 | 27 | 8 | 3 | 8 | 10.1 | 4.6 | | 15.00 | 1800 | 140 | .4 | 13 | | .25 | | |
| 33 | 6/ 9 | 3312 | 1.31 | 65 | 68 | 38 | 34 | 30 | 8 | 3 | 9 | 10 | 4.8 | | 14.50 | 1900 | 60 | .4 | 12 | | | | |

STATOIL WELL NO. 9/2-2

DRILLING MUD PROPERTIES RECORD SHEET 2 OF 2

MUD SYSTEM: GEL/SEAWATER AREA: TOMMELITEN RIG: ROSS ISLE

| DAY No. | DATE 1987 | DEPTH metre | M.W. sg | F.V. s/qt | 600 | 300 | A.V cps | P.V cps | Y.P | GEL 0 | GEL 10 | pH | API Filt. | CAKE 32nds | HTHP ml. | Chl.ppm *1000 | Calc. PPM. | Pf | %Sol. | %Oil | %Sand | MBT ppb | GYP ppb |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | 7/ 9 | 3365 | 1.31 | 59 | 59 | 34 | 29.5 | 25 | 9 | 3 | 12 | 9.7 | 5.1 | | 15.00 | 2100 | 120 | .2 | 12 | | | | |
| 35 | 8/ 9 | 3414 | 1.31 | 58 | 61 | 35 | 30.5 | 26 | 9 | 3 | 17 | 9.9 | 5 | | 15.00 | 2300 | 140 | .3 | 12 | | | | |
| 36 | 9/ 9 | 3432 | 1.31 | 62 | 58 | 29 | 29 | 29 | 0 | 3 | 16 | 9.7 | 5.1 | | 16.00 | 2200 | 120 | .3 | 12 | | | | |
| 37 | 10/ 9 | 3512 | 1.31 | 65 | 65 | 37 | 32.5 | 28 | 9 | 3 | 20 | 9.6 | 5 | | 16.00 | 2300 | 100 | .2 | 12 | | | | |
| 38 | 11/ 9 | 3550 | 1.31 | 70 | 64 | 36 | 32 | 28 | 8 | 3 | 17 | 9.8 | 5.1 | | 16.00 | 2400 | 100 | .4 | 12 | | | | |
| 39 | 12/ 9 | 3550 | 1.31 | 75 | 66 | 37 | 33 | 29 | 8 | 3 | 15 | 9.6 | 5.1 | | 16.00 | 2300 | 100 | .3 | 12 | | | | |
| 40 | 13/ 9 | 3550 | 1.31 | 75 | 65 | 36 | 32.5 | 29 | 7 | 3 | 15 | 9.7 | 5.2 | | 17.00 | 2300 | 100 | .3 | 12 | | .25 | | |
| 41 | 14/ 9 | 2713 | 1.31 | 65 | 68 | 38 | 34 | 30 | 8 | 3 | 15 | 11 | 7 | | | 2400 | 120 | .65 | 12 | | .5 | | |
| 42 | 15/ 9 | 920 | 1.31 | 80 | 77 | 45 | 38.5 | 32 | 13 | 5 | 35 | 11.8 | 9.2 | | | 2400 | 140 | 1.3 | 12 | | .5 | | |
| 43 | 16/ 9 | 920 | 1.31 | 85 | 79 | 47 | 39.5 | 32 | 15 | 6 | 45 | 11.8 | 9.5 | | | 2400 | 140 | 1.3 | 12 | | .5 | | |
| 44 | 17/ 9 | 340 | 1.31 | 68 | 66 | 36 | 33 | 30 | 6 | 6 | 40 | 11.8 | 9.5 | | | 2400 | 140 | 1.3 | 12 | | .5 | | |

MUD VOLUME DISTRIBUTION SUMMARY

WELL: 9/2-2 RIG: ROSS ISLE

| Hole size | Hole from-to | Hole length | Mud/Brine built | Dumped | Lost to formation | Lost over solids control equipment | Mud left between csg/csg | Cuttings volume drilled | Mud transf. to next sec | Mud type used for interval |
|---|---|---|---|---|---|---|---|---|---|---|
| 36" | 121-189 m | 68 m | 420 cu.m | *222 cu.m | | | | 45 cu.m | 198 cu.m | Gel/Seawater |
| 26" | 350 m | 161 m | 174 cu.m | *232 cu.m | | | | 55 cu.m | 140 cu.m | Gel/Seawater |
| 17 1/2" | 1125 m | 775 m | 891 cu.m | 353 cu.m | 10 cu.m | 272 cu.m | 32 cu.m | 120 cu.m | 364 cu.m | Gyp/Polymer |
| 12 1/4" | 2871 m | 1746 m | **1103 cu.m | 756 cu.m | | 388 cu.m | ***88 cu.m | 133 cu.m | 235 cu.m | Gyp/Polymer |
| 8 1/2" | 3550 m | 679 m | 597 cu.m | 233 cu.m | | 257 cu.m | | 25 cu.m | 342 cu.m | Gel/Ligno |
| P & A | | | 34 cu.m | 246 cu.m | | 39 cu.m | 91 cu.m | | cu.m | Gel/Ligno |

Totals:

Mud/Brine built : 3219 cu.m
Mud/Brine dumped : 1588 cu.m
Mud/Brine lost to formation : 10 cu.m
Mud/Brine lost over solids control equipment : 956 cu.m
Mud/Brine left between csg/csg : 120 cu.m

Total Mud/Brine left in hole/+ between csg/csg : 211 cu.m
Total Mud/Brine to sea : 2998 cu.m
Total cuttings volume drilled : 378 cu.m

***) 88 cu.m ZnCO3 Spacer.
**) 999 cu.m Gyp/Polymer and 104 cu.m ZnCO3 spacer.
*) Pumped to seabed

STATOIL WELL NO.9/2-2

MATERIAL COST AND CONSUMPTION

RIGG: ROSS ISLE
AREA: NORTH SEA

| PRODUCT | UNIT SIZE | UNIT PRICE NOK | 36" SECTION | COST NOK | 26" SECTION | COST NOK | 17.5" SECTION | COST NOK | 12.25" SECTION | COST NOK | 8.5" SECTION | COST NOK | TEST P & A | COST NOK | TOTAL USED | TOTAL NOK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BARITE | M.T. | 583.00 | 57 | 33231.00 | | .00 | 9 | 5247.00 | 189 | 110187.00 | 115 | 67045.00 | 20 | 11660.00 | 390 | 227370.00 |
| BENTONITE | M.T. | 1482.00 | 19 | 28158.00 | 23 | 34086.00 | 2 | 2964.00 | 2 | 2964.00 | 57 | 84474.00 | | .00 | 103 | 152646.00 |
| CAUSTIC SODA | 25 KG | 75.00 | 9 | 675.00 | 8 | 600.00 | 9 | 675.00 | 12 | 900.00 | 88 | 6600.00 | | .00 | 126 | 9450.00 |
| BICARBONATE | 50 KG | 98.00 | | .00 | | .00 | | .00 | 15 | 1470.00 | | .00 | 18 | 1764.00 | 33 | 3234.00 |
| SODA ASH | 30 KG. | 51.15 | 4 | 204.60 | 2 | 102.30 | 1 | 51.15 | 6 | 306.90 | 8 | 409.20 | | .00 | 21 | 1074.15 |
| GYPSUM | 25 KG. | 23.50 | | .00 | | .00 | 460 | 10810.00 | 575 | 13512.50 | | .00 | | .00 | 1035 | 24322.50 |
| LIME | 20 KG. | 22.88 | | .00 | | .00 | 19 | 434.72 | | .00 | | .00 | | .00 | 19 | 434.72 |
| XC-POLYMER | 25 KG. | 2152.00 | | .00 | | .00 | | .00 | | .00 | | .00 | | .00 | 0 | .00 |
| DRISPAC REG | 50 LBS. | 594.00 | | .00 | | .00 | 70 | 41580.00 | 284 | 168696.00 | | .00 | | .00 | 354 | 210276.00 |
| DRISPAC SL | 50 LBS. | 594.00 | | .00 | | .00 | | .00 | 140 | 83160.00 | | .00 | | .00 | 140 | 83160.00 |
| CMC LV | 25 KG. | 203.00 | | .00 | | .00 | 100 | 20300.00 | | .00 | | .00 | | .00 | 100 | 20300.00 |
| CMC HV | 25 KG. | 208.00 | | .00 | | .00 | 180 | 37440.00 | | .00 | | .00 | | .00 | 180 | 37440.00 |
| CMC EHV | 25 KG. | 208.00 | | .00 | | .00 | 120 | 24960.00 | | .00 | | .00 | | .00 | 120 | 24960.00 |
| SPERCELL C | 25 KG | 80.00 | | .00 | | .00 | | .00 | | .00 | 346 | 27680.00 | 34 | 2720.00 | 380 | 30400.00 |
| DESCO | 25 LBS. | 208.00 | | .00 | | .00 | | .00 | 1 | 208.00 | | .00 | | .00 | 1 | 208.00 |
| ANCOLIG C | 25 KG. | 111.00 | | .00 | | .00 | | .00 | | .00 | 133 | 14763.00 | | .00 | 133 | 14763.00 |
| ANCO RESIN | 25 KG | 448.00 | | .00 | | .00 | | .00 | | .00 | | .00 | | .00 | 0 | .00 |
| ZINKCARBONAT | 50 KG. | 364.00 | | .00 | | .00 | 32 | 11648.00 | 62 | 22568.00 | | .00 | | .00 | 94 | 34216.00 |
| ANCOCIDE | 25 KG. | 434.00 | | .00 | | .00 | 10 | 4340.00 | 12 | 5208.00 | | .00 | | .00 | 22 | 9548.00 |
| ANCO DEFOAMER | 25 LIT. | 64.90 | | .00 | | .00 | | .00 | | .00 | 4 | 259.60 | | .00 | 4 | 259.60 |

| | | | | | | |
|---|---|---|---|---|---|---|
| TOTALS | 62268.60 | 34788.30 | 160449.87 | 409180.40 | 201230.80 | 16144.00 | 884061.97 |
| HOLE DRILLED (METRES) | 148 | 168 | 791 | 1778 | 695 | | 3580 |
| COST PR. METRE | 420.73 | 207.07 | 202.84 | 230.14 | 289.54 | | 246.94 |
| TOTAL DAYS | 2 | 3 | 5 | 10 | 18 | 5 | 43 |
| COST PR. DAY | 31134.30 | 11596.10 | 32089.97 | 40918.04 | 11179.49 | 3228.80 | 20559.58 |
| MUD MIXED (CU.M) | 420 | 174 | 891 | 1103 | 597 | 34 | 3219 |
| COST PR.CU.M | 148.26 | 199.93 | 180.08 | 370.97 | 337.07 | 474.82 | 274.64 |

U-558

STATOIL

SECTOR FOR PETROLEUM TECHNOLOGY

Geological laboratories

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Grading

3

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|---|---|---|
| **Title** | WELL 9/2-2. SOURCE ROCK EVALUATION AND CORRELATION WITH ORGANIC GEOCHEMICAL DATA FROM WELL 9/2-1. | |
| **Requested by** LET-S | **Project** ROUTINE GEOCHEMISTRY | |
| **Date** 17.02.88 | **No. of pages** 303<br>Tables 26<br>Figures 19 | **No. of enclosures** 2 |

**Key words**


**Abstract**

The prsent report is in accordance with Statoils requirements for analytical work and reporting within organic geochemistry.




**Prepared by**

IKU

**Text operator**

**Approved by**

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Trygve Meyer, Sect. manager

17/2 88 Snorre Olaussen

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# REPORT

| REG. NO.: | ACCESSIBILITY: |
|---|---|
| 88.011 | Confidential |

REPORT TITLE:
CONTRACT T-4533, JOBS NO. 31 AND 35

WELL 9/2-2. SOURCE ROCK EVALUATION AND CORRELATION WITH ORGANIC GEOCHEMICAL DATA FROM WELL 9/2-1.

REPORT NO.: 22.1877.00/01/88

Authors and contributors:

W. Krokstad, M. Smelror, T. Throndsen (IFE), W. Andersen, T. Vinge, L. Husvik, G. Haugen, B. Thorvaldsen, M. Schmitt (GCA)

| DATE: | NO. OF PAGES: | No. of enclosures: | PROJECT MANAGER: | SIGN.: |
|---|---|---|---|---|
| 12 Febr.-88 | 306 | 12 | Wenche Krokstad | Wenche Krokstad |

CLIENT:

Statoil, Geolab. Att.: Steinar Ulvøen

SUMMARY:

See pages 7 - 11.

| KEY WORDS: | |
|---|---|
| Organic Geochemistry | Well 9/2-1 |
| Source Rocks | Oil-source rock correlation |
| Well 9/2-2 | Egersund Basin |

## 2.1 General

The analyses and reporting were IKU projects 22.1794.54 and 22.1877.00 according to Statoil contract T-4533, jobs no 31 and 35. The project was authorized by Steinar Ulvøen, Statoil Geolab, Stavanger.

A draft copy of this report will be sent to Statoil for approval. On approval, ten copies of the final report will be forwarded to Statoil and five copies will be stored at IKU. A geochemical data tape with $C_1$-$C_7$ composition of headspace and occluded gas, TOC, extraction, GC, vitrinite and visual kerogen data has been sent to Statoil. Kerogen slides and remaining material have been returned.

## 2.2 Objective

The aim of this report is to give an organic geochemical characterization of possible source rocks and non-indigenous, migrated hydrocarbons in well 9/2-2. A second objective is to compare the results from high quality source rock units in well 9/2-2 with those of well 9/2-1, and in addition to correlate between source rock extracts in well 9/2-2 and reservoir hydrocarbons in the Sandnes Fm of well 9/2-1.

## 2.3 Samples and data supplied by Statoil.

96 canned samples, 32 SWC from Tau, Egersund, Bryne and Gassum Fms together with 59 core chips from core 2 in the Fjerritslev Fm, were submitted for analyses. In addition, copies of gammaray, caliper, sonic, resistivity and density logs were provided.

Usually, IKU describes the lithology of the samples which are selected for organic geochemical analyses. This time, however, (preliminary) SWC and summarized conventional core description were supplied by Statoil. Geological and technical information given by Statoil is presented in tables 1 and 2.

It was informed that the stratigraphy in well 9/2-1 had been reinterpreted since the completion of the source rock evaluation of this well (Krokstad et al 1987). It is notable that the Gassum Fm in the new version is consi-

dered to be absent (table 1). The reinterpreted stratigraphy is used in this report when referring to samples which have been previously reported in Krokstad et al (1987).

## 2.4 Analytical programme.

Table 3a presents the follow-up analyses undertaken on individual samples from well 9/2-2. This table also provides information on lithology. Formation names and some screening results ($T_{max}$, hydrogen index and TOC) of the samples which have been selected for follow-up analyses.

The number of cutting samples, SWC and core chips from well 9/2-2, which have been subjected to the various analytical and preparative procedures, is shown in table 3b.

To provide a better overview of the organic geochemical data available from block 9/2, the analytical programme of well 9/2-1 is presented in tables 3c and 3d. Of note is the previously mentioned somewhat revised stratigraphy in table 3c and four additional samples which have been analysed by pyrolysis-GC (Statoil job no. 31). These claystones are from 3043.0, 3047.0, 3099.0 and 3518.0 m RKB (lg). The results of the pyrolysis-GC analysis of the new samples from well 9/2-1 are reported in tables 25 and 26. The chromatograms of the pyrolysates are presented in fig. 15.

A brief and summarized lithological description of the samples from wells 9/2-2 and 9/2-1, which have been selected for Rock-Eval pyrolysis, is shown in fig. 1.

The preparative and analytical procedures applied to the samples from well 9/2-2 are largely similar to those of the well 9/2-1. As opposed to well 9/2-1, crushed whole rocks only, have been extracted when the extracts were intended to be further analysed. The vitrinite reflectance analyses of the well 9/2-2 were performed at IFE by Torbjørn Throndsen, as opposed to the reflectance measurements of well 9/2-1, that were undertaken at IKU. Some discrepancies in the interpretation of data quality and the selections of most representative vitrinite values could arise from the fact that two interpreters/operators have carried out the microscopy in reflected light. In addition, differences in preparative procedures could have some impact on the analytical results.

## 2.5 *Comments on sample and analytical data quality.*

None of the analysed samples appear to have been contaminated by the drilling mud, although ligno mud have been used below 2832.7m RKB (table 2). Neither are they affected by turbo or diamond bit drilling.

A large number of source rock analyses have been carried out on SWC or core chips, thus avoiding caving problems in the Jurassic section.

Low weights, particularly of the saturated and aromatic hydrocarbon fractions and the Rock Eval $S_1$ and $S_2$, have occasionally caused analytical problems. The gravimetric saturated and aromatic hydrocarbon data from 3237.0, 3420.6, 3428.4 and 3431.0, are considered to be unreliable. Thus, the composition of EOM with respect to these samples, has to be based on Iatroscan data. The low weight of the aromatic compounds together with the generally low proportion of the thiophenic compounds in the Bryne and Fjerritslev Fm organic facies, have led to unsuccesful GC analyses (FPD) of the sulphur aromatics (Fig 14). The FPD traces of the gas chromatograms are dominated by noise. Methylphenanthrene indices could not be assessed from the GC FID trace of the Bryne Fm sample (3237.0m) due to a low aromatic hydrocarbon weight and so, insufficient concentrations of hydrocarbons injected.

Apart from a few samples in the Bryne and Gassum Fms, the Rock-Eval $S_2$ peaks (table 9) are well defined and provides reliable $T_{max}$ measurments. The attempt to ascertain possible hydrocarbon stainings from the Rock-Eval production indices of the Gassum and Skagerrak Fm sandstones (table 6B) failed due to low $S_1$. However, the low $S_1$ itself is indicative of dry reservoirs.

The most significant analytical problem in this evaluation is the presence of phtalate contaminants derived from the MPLC instrument. Depending on the GC column used (DB-5 or DB-1), the contaminant coelutes with n-$C_{25}$ (samples from 2980.0, 3420.6 and 3428.4m) or elutes between n-$C_{25}$ and n-$C_{26}$. This contamination does not have a serious impact on the tabled data (CPI). Occasionally, a phtalate contaminant is observed in the FID trace of the aromatics (3431.0m). Apparantly, it coelutes with DBT, and so no phenanthrene/DBT ratio can be assessed.

The vitrinite reflectance data in the interval 3200-3400 m RKB are generally of good quality, but are poorer at shallower depths due to the lack of high quality vitrinite. The results are, however, sufficiently reliable to establish a satisfactory vitrinite reflectance versus depth trend.

In summary, despite a few analytical problems and some poor samples, the sample and data sets from well 9/2-2 are considered to be of generally very good quality, particularly due to the large number of SWC and core chips available.

# 3. EXPERIMENTAL

## 3.1 Experimental

### 3.1.1 Gas analyses

**Headspace gas:**

A septum was attached to the can and a sample of the headspace gas was taken for analysis of $C_1$, $C_2$, $C_3$, i-$C_4$, n$C_4$ and $C_{5+}$ hydrocarbons.

This analysis was performed on Carlo Erba Fractovap 2150 and 2350 gas chromatographs equipped with 2 m x 1/8" stainless steel columns filled with Porapak Q on Chromosorb using nitrogen as carrier gas. An oven temperature of 150°C was used. After elution of n-butane, the column was back-flushed and $C_{5+}$ compounds were recorded as one peak. A standard gas sample containing methane, ethane, propane, n-butane, n-pentane and n-hexane (100 ppm each) was used for quantification.

The can was then opened and headspace volume, water volume, and sample weight were measured. The canned samples were washed with warm water (30-40°C) on 4.0, 2.0 and 0.125 mm sieves to remove drilling mud and were then dried at 35°C.

**Occluded gas:**

Prior to drying, an aliquot of the 1-4 mm fraction of each sample was crushed in water for 10 minutes using a gas-tight ball mill. The evolved gas was analysed as described for headspace gas.

### 3.1.2 Total Organic Carbon

Bulk samples were crushed in a disk mill or mortar. Aliquots of the samples were then weighed into Leco crucibles, then treated three times with hot 10% HCl in order to remove carbonate, and finally washed four times with distilled water in order to remove any traces of HCl. The crucibles were then placed on a hot plate (60°C) and dried for 24 hours. The total organic carbon (TOC) content of the dried samples was determined using a Leco CS 244 carbon/sulphur analyser.

The instrument was calibrated using a sediment standard with 2.72 % carbon. Calibration and blank runs were carried out every 15th measurement.

### 3.1.3 Rock-Eval pyrolysis

Powdered sample (100 mg shale, 5-10 mg coal) was weighed into a platinum crucible (the base and cover of which are made of sintered steel), and analysed on a Rock-Eval II pyrolyser (Girdel/IFP) under standard conditions (Carrier gas: helium; flow rate: 100 ml/min.; temperature programme: 300°C (3 min.) - 25°C/min. - 550°C).

### 3.1.4 Extractable Organic Matter

Powdered rock was extracted by Soxhlet technique with boiling dichloromethane (DCM) containing 7%(v/v) methanol as solvent in a Soxtec apparatus for 3 hours (1 h boiling, 2 h rinsing).

DCM of organic geochenical grade was used and blank analyses indicated that the occurrence of contaminating hydrocarbons was negligible. Activated copper fillings were used in order to remove any free sulfur from the samples.

After extraction, the solvent was evaporated off using a Büchi Rotavapor and the amount of extracted organic matter (EOM) was determined.

### 3.1.5 Asphaltene precipitation and separation of extractable organic matter (EOM) into compound classes

**Medium-pressure liquid chromatography (MPLC)**

**Iatroscan**

The extractable organic material was diluted with DCM and ca. 20-30 µg of the solution were applied to a precleaned and activated Chromatod (type SII). Three replicates of each sample were analysed. The rods were fully developed with n/hexane (10-11 cm), then dried and redeveloped to half-rod height (5.5 cm) in toluene, and finally developed in DCM+MeOH (93:7v/v, 2.5 cm).

The rods were pased through the flame-ionisation detector (FID) of an Iatroscan TH-10 ($H_2$ = 160 ml/min; air = 2 l/min.; scan speed = 0.38 cm/sec. (gear no. 30)). The FID response was recorded and integrated using a DEC Minichrom system. The retention factors of the aliphatic and aromatic hydrocarbons were then determined by comparison with standards ($nC_{20}$ and fluorene).

The EOM was diluted in DCM (1:3 mg/µl)and the asphaltenes were precipitated using excess n-pentane (40:1 pentane:(DCM+EOM)). The asphaltene fraction was weighed after drying at 50°C for 12 hours.

The remaining maltenes were separated into saturated, aromatic and non-hydrocarbon fractions using an MPLC system with n-hexane as eluant (Radke et al. 1980). The various fractions were concentrated using a Büchi Rota-vapor, then transferred to glass vials and the remaining solvent removed.

### 3.1.6 Gas chromatographic analysis

**Saturated hydocarbons**

The saturated hydrocarbon fractions were diluted with n-hexane and analysed on Carlo Erba Fractovap gas chromatographs equipped with a 15 m DB-1 or DB-5 fused silica column. Hydrogen was used as a carrier gas with a flow rate of about 1.5 ml/min. Injections were performed in splitless mode. The temperature program used was 80°C (2 min.) - 4°C/min. - 280°C.

The data processing was performed on a VG Multichrom lab. data system.

**Aromatics**

The aromatic fraction was diluted with n-hexane and analysed on a Varian Series 3700 gas chromatograph with a SE-54 fused silica column (50 m x 0.3 mm) and dual FID/FPD detectors. Hydrogen was used as a carrier gas with a flow rate of 0.5 ml/min.

A temperature programme of 80°C (2 min.) - 4°C/min. - 280°C was used.

### 3.1.7 Pyrolysis Gas Chromatography (Py-GC Programmed)

**Pyrolysis-Gas Chromatography (S2)**

The thermo-extracted sample was pyrolysed in a helium atmosphere using a furnace type pyrolyzer as described by Solli et al. (1984). The pyrolysis temperature program was 340°C - 50°C/min. - 550°C. The outlet of the furnace was directly connected to a splitter (30:1) which enabled the pyrolysis products to be simultaneously recorded as a bulk "S2" peak by an FID and passed into a gas chromatograph. The pyrolysis products were trapped on the chromatographic column by cooling the front part of the column with liquid nitrogen. On completion of the pyrolysis programme, the collected pyrolysis products were injected on to the column by removing the nitrogen bath. The GC conditions are outlined below.

**GC conditions**

Column: 30 m DB-1, i.d. 0.32 mm, fused silica capillary column.
Carrier gas: Helium, inlet pressure 7.5. psi; flow rate 1.5 ml/min.

Temp. programme: -10°C (1 min.) - 5°C/min. - 310°C (10 min.)

### 3.1.8 Gas chromatography - mass spectrometry (GC-MS)

GC-MS analyses were performed on a VG Quadrupole 12-250 GC-MS system. The HP 5790A Series GC was fitted with a fused silica DB-5 capillary column (30 m x 0.32 mm i.d.). Helium (1.5 ml/min.) was used as carrier gas and the injections were performed in splitless mode.

GC-program: 60°C (2 min.) - 8°C/min. - 120°C (0 min.) - 4°/min. - 280°C.

The saturated hydrocarbons were analysed in multiple ion mode (MID) at a scan cycle time of approximately 2 secs. The mass spectrometers operated at 70eV electron energy with an ion source temperature of 200°C. Data acquisition was performed using VG data systems.

Peaks were identified by comparison with elution patterns in certain mass chromatograms. Peak ratios were calculated from peak heights in the appro

priate mass chromatograms.

### 3.1.9 Vitrinite Reflectance

In this report the term 'vitrinite reflectance' is used throughout although strictly vitrinite is defined only for the bituminous coal range for reflectance values above approximately Rm = 0.50. The vitrinite precursor in the lower reflecting brown coal range is called 'humunite'.

The samples being analysed in this study were not treated with any acid prior to further preparation; bulk rock material was embedded in a cold setting epoxy resin to make briquettes. These were subsequently ground flat and polished using 0.25 µm diamond paste and magnesium oxide as the two final steps.

The analytical equipment used was a Zeiss MPM 03 photometermicroscope. Viewing and measurements were made through a Zeiss Epiplan Neodluoar 40/0.90 oil objective using immersion oil with refractive index n=1.518. The measurements were made through a green fiter with peak transmission at 546nm, and with a photometer sensitive field of about 2.5 µm in diameter. For photometer calibration, a Schott sapphire glass standard was used with a reflectance in oil of Rm=0.588. The readings were performed without a polarizer and using a stationary stage. This has become more or less standard in vitrinite reflectance studies where clastic samples are to be analysed. This procedure is called measurement of random reflectance (Rm). This technique permits smaller particles to be measured which is important for clastic samples, and the results do not deviate significantly in precision from those obtained using a rotating stage technique. The reader is referred to Davis (1978), Ting (1978), Stach et al. (1982) and Bustin et al. (1985) for further information on these topics, and to Bostick (1971) and Bostick and Alpern (1977) for topics related to measurements on clastic samples. On each sample normally as many paticles as possible up to 25 were measured. A representative population was selected among the readings based on observations made during measuring, and an arithmetic mean was calculated for this population. The principles for constituent selection folow that of Bostick (1971, 1979) and Bostick and Alpern (1977).

### 3.1.10 UV-fluorescence of liptinite

The analyses were performed at IFE by Throndsen.

The samples were also examined in ultra-violet light in order to better determine the composition and colour of the fluorescent material present in the sample. The colour of certain liptinite macerals in ultra-violet light can be related to the thermal maturity of the sample kerogen.

### 3.1.11 Evaluation of kerogen type and thermal maturity in transmitted light

The rock samples were crushed and treated with hydrochloric acid and hydrofluoric acid in order to remove the mineral matter and isolate the kerogen. The isolated kerogen was mounted in glycerine jelly on microscope slides as a strew-mount.

The treatment of the isolated kerogen varied according to the requirements and preservation of the samples. This included:

T-slide: total acid residue.
Si-slide: sieved residue.

T-slides were necessary in order to evaluate the kerogen composition of the samples.

Si-slides were required if it was necessary to concentrate larger kerogen fragments or spores/pollen for spore colouration.

The samples were examined using a Leitz Dialux microscope with a white halogen light source. Objective lenses of 10x and 63x magnification were used. The higher magnification allowed a more detailed description of the kerogen, with resolution down to 2µm diameter.

Thermal alteration indices (TAI) were measured from the colour of spores and pollen. The techniques used for this are adapted from Staplin (1969) and Burgess (1974). IKU has used a 1-10 scale for thermal alteration index (TAI)/Spore colouration index (SCI) since December, 1986 (see Interpretation levels).

### 3.1.12 Preparation of kerogen concentrates for pyrolysis-GC

The powdered and pre-extracted rock samples was treated overnight with concentrated HCl (200 l), followed by treatment with not 40% HF (100 ml,) 50°C, overnight). The acids were removed by decanting and repeated washing with hot water (2 hours), 10% ammonium carbonate solution (> 2 hours) and cold water (2x2 hours).

The kerogen was further purified by extraction with methanol, methanol/DCM (1:1) and hexane/CM (1:1). The dried kerogen sample was then analysed for Total Carbon content.

Alternative method. Kerogen concentrates were prepared as above and afterwards extracted by a Soxhlet technique using boiling DCM.

### 3.1.13 Lithological descriptions

Lithological examinations were carried out using a binocular microscope (maximum 50x magnification). Colour were described on dry samples according to the 'Rock Colour Chart' published in 1979 by the Geological Society of America, Boulder, Colorado. Handpicking of the cuttings for organic geochemical analyses was based on the lithological descriptions.

### 3.1.14 The $\delta^{13}C$ isotope analysis

The $\delta^{13}C$ isotope analyses were performed by Geochemische Analysen, Manfred Schmitt (GCA) in Lehrte, F.R.G.

The sampes were filed in a glass capillary and transferred into a combustion system filled with copper dioxide, heated to 900°C. A stream of ultrapure helium and oxygen flushed the reaction products through silver wool (450°C) to remove traces of halogens and sulphur.

$H_2$) and $CO_2$ were trapped in separate cooltraps. After removal of the carrier gas by high vacuum, $CO_2$ and $H_2O$ were sealed off separately in 6 mm glass tubes.

The $^{13}C/^{12}C$-isotope ratio was measured with a high precision mass spectrometer Finnigan MAT 251.

Precision of the preparation lines and the mass spectrometer was daily controlled by measurements of standard substances and by double analyses.

The isotope ratios are given as delta-values (del):

$$del\ (\%) = ((R\ sample - R\ stand.) / (R\ stand.)) * 1000$$

$^{13}C/^{12}C$-isotope ratios are calculated versus PDB.

Table 3a.

Well 9/2-2. Analytical programme. Follow-up analyses of kerogens and indigenous hydrocarbons.

| IKU no | Depth (m RKB) | Sample type | Lithology | TOC | HI | $T_{max}$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-7090 | 1515 | Ctg | Mainly siderite (bulk) | | | | x | | | | | | | | | | |
| C-7092 | 1635 | " | Clst;gy/siderite (bulk) | | | | x | | | | | | | | | | |
| C-7093 | 1965 | " | Clst | | | | x | | | | | | | | | | |
| C-7094 | 1755 | " | " | | | | x | | | | | | | | | | |
| C-7095 | 1815 | " | " | | | | x | | | | | | | | | | |
| C-7096 | 1875 | " | " | | | | x | | | | | | | | | | |
| C-7097 | 1935 | " | " | | | | x | | | | | | | | | | |
| C-7098 | 1995 | " | " | | | | x | | | | | | | | | | |
| C-7099 | 2055 | " | " | | | | x | | | | | | | | | | |
| C-7100 | 2115 | " | " | | | | x | | | | | | | | | | |
| C-7101 | 2175 | " | " | | | | x | | | | | | | | | | |
| C-7102 | 2235 | " | " | | | | x | | | | | | | | | | |
| C-7103 | 2295 | " | " | | | | x | | | | | | | | | | |
| C-7104 | 2355 | " | Clst;dk gy sl calc (bulk) | | | | x | | | | | | | | | | |
| C-7105 | 2415 | " | Clst | | | | x | | | | | | | | | | |

(continue)

Table 3a. (continued)

Well 9/2-2. Analytical programme. Follow-up analyses of kerogens and indigenous hydrocarbons.

| IKU no | Depth (m RKB) | Sample type | Lithology | TOC | HI | $T_{max}$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-7106 | 2475 | " | " | | | | x | | | | | | | | | | |
| C-7107 | 2535 | " | " | | | | x | | | | | | | | | | |
| C-7109 | 2610 | " | Clst;dk gy-bk occ v sdy,glau | | | | x | | | | | | | | | | |
| C-7113 | 2670 | " | Clst | | | | x | | | | | | | | | | |
| C-7117 | 2730 | " | " | | | | x | | | | | | | | | | |
| C-7121 | 2790 | " | " | | | | x | | | | | | | | | | |
| C-7126 | 2865 | " | " | | | | x | | | | | | | | | | |
| C-7128 | 2925 | " | " | | | | x | | | | | | | | | | |
| C-6988 | 2957.00 | swc | Sh/clst;dk gy, m-mic | 4.03 | 358 | 433 | x | | | | | | | | | | |
| C-6989 | 2977.00 | swc | " | 6.97 | 332 | 429 | | x | | | | | | | | | |
| C-6990 | 2980.00 | swc | " | 6.54 | 567 | 430 | | x | x | x | x | x | x | x | x | x | x |
| C-6991 | 2985.00 | swc | " | 8.07 | 369 | 434 | | x | x | x | x | x | x | x | x | x | x |
| C-6993 | 2995.00 | swc | " | 5.81 | 375 | 432 | x | x | | | | | | | | | |
| C-6995 | 3015.00 | swc | Sh;dk-med gy | 2.61 | 206 | 437 | | x | x | x | | | | | | | x |

(continue)

Table 3a. (continued)

Well 9/2-2. Analytical programme. Follow-up analyses of kerogens and indigenous hydrocarbons.

| IKU no | Depth (m RKB) | Sample type | Lithology | TOC | HI | $T_{max}$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-6997 | 3045.00 | swc | Sh;med gy | 1.63 | 187 | 436 | x | x | | | | | | | | | |
| C-6999 | 3060.00 | swc | Sh;med-dk gy | 1.79 | 111 | 450 | x | | | | | | | | | | |
| C-7000 | 3075.00 | swc | " | 1.80 | 97 | 440 | x | | | | | | | | | | |
| C-7003 | 3234.00 | swc | Slst;blk-bn blk,v carb. | 10.67 | 264 | 437 | x | x | x | x | | | | | | | |
| C-7004 | 3237.00 | swc | Slst;blk-bn blk, v carb. | 21.13 | 382 | 442 | x | x | x | x | x | x | x | x | x | x | x |
| C-7008 | 3370.00 | swc | Sh/clst;v slty/sdy | 1.91 | 132 | 441 | x | x | | | | | | | | | |
| C-7010 | 3393.00 | swc | General: | 2.65 | 120 | 439 | x | x | | | | | | | | | |
| C-7011 | 3400.00 | swc | Sh;blk-bn blk | 4.54 | 221 | 441 | | x | | | | | | | | | |
| C-6932 | 3414.30 | core | occ sl slty, | 4.47 | 164 | 439 | x | | | | | | | | | | |
| C-6935 | 3414.90 | core | m-mic,hd-v hd, non-sl calc, carb-specks of coal | 6.19 | 281 | 447 | x | x | x | x | | | | | | | |

(continue)

Table 3a. (continued)

Well 9/2-2. Analytical programme. Follow-up analyses of kerogens and indigenous hydrocarbons.

| IKU no | Depth (m RKB) | Sample type | Lithology | TQC | HI | $T_{max}$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-6950 | 3419.35 | core | | 8.69 | 181 | 447 | x | x | x | x | | | | | | | x |
| C-6954 | 3420.60 | core | | 4.84 | 373 | 445 | | x | x | x | x | x | x | x | x | x | x |
| C-6957 | 3421.50 | core | | 4.75 | 372 | 449 | | x | x | x | | | | | | | |
| C-6969 | 3425.10 | core | | 9.47 | 300 | 446 | | x | | | | | | | | | |
| C-6973 | 3426.60 | core | | 5.59 | 389 | 448 | | x | x | x | | | | | | | |
| C-6977 | 3427.80 | core | | 6.14 | 252 | 448 | x | x | x | x | | | | | | | x |
| C-6979 | 3428.40 | core | | 7.30 | 477 | 449 | | x | x | x | x | x | x | x | x | x | x |
| C-7012 | 3431.00 | swc | | 5.08 | 451 | 447 | | x | x | x | x | x | x | x | x | x | x |
| C-7013 | 3441.00 | swc | Sh;med-dk gy sl slty | 7.78 | 144 | 443 | x | | x | x | | | | | | | x |
| C-7014 | 3442.00 | swc | Sst;Lt gy, vf/slst | 7.47 | 255 | 442 | | x | x | x | | | | | | | x |

Table 3b.

Well 9/2-2. Analytical programme. Number of screening and follow-up analyses.

| | Cuttings | SWC | Core chips | Total |
|---|---|---|---|---|
| - $C_1$-$C_7$ light hydrocarbon analyses of headspace and occluded gas from canned samples. | 96 | | | 96 |
| - Sieving and washing | 96 | | | 96 |
| - Lithological description | 14 | | | 14 |
| - TOC determination | 7 | 32 | 59 | 98 |
| - Rock-Eval pyrolysis | 11 | 32 | 59 | 102 |
| - Vitrinite reflectance and liptinite fluorescence determination (whole rock) | 23 | 11 | 4 | 38 |
| - Kerogen description and TAI determination in transmitted light. | | 12 | 8 | 20 |
| - Soxtech extraction (including separate extr. purification of kerogen concentrates if necessary). | | 9 | 6 | 15 |
| - Iatroscan quantification | | 4 | 2 | 6 |
| - Asphaltene precipitation | | 4 | 2 | 6 |
| - MPLC separation | | 4 | 2 | 6 |
| - GC of aromatics (FID/FPD) | | 4 | 2 | 6 |
| - GC of saturates | | 4 | 2 | 6 |
| - GC-MS of saturates, m/z 163, 177, 191, 205, 217, 218, 231, 259 | | 4 | 2 | 6 |
| - Pyrolysis-GC (S2) on kerogen concentrates (preextracted). | | 8 | 7 | 15 |
| - $^{13}C/^{12}C$ of saturates | | 4 | 2 | 6 |
| - $^{13}C/^{12}C$ of aromatics | | 4 | 2 | 6 |
| - $^{13}C/^{12}C$ of NSO | | 4 | 2 | 6 |
| - $^{13}C/^{12}C$ of asphaltenes | | 4 | 2 | 6 |
| - $^{12}C/^{12}C$ of kerogens | | 7 | 4 | 11 |

(continued)

Table 3b. (continued)
Well 9/2-2. Analytical programme. Number of screening and follow-up analyses.

| | Cuttings | SWC | Core chips | Total |
|---|---|---|---|---|
| - Preparation of kerogen concentrates for visual kerogen description, isotope analysis and Py-GC. | | 12 | 9 | 21 |
| - Handpicking of cutting samples prior to screening analyses. | 11 | | | 11 |

Table 3c: Well 9/2-1. Analytical programme.
Follow-up analyses of kerogens and indigenous hydrocarbons.

| IKU id. | Statoil id. | Sample type | Depth (m RKB dd) | Lithology | Cavings | TOC | HI | Tmax | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-6163 | | Ctg(bulk) | 1945-1960 | Mainly Clst; dk gy, occ Clst; lght brn. Chlk; white | Tr.U.Cret. | | | | x | | | | | | | | | | |
| C-6168 | | Ctg(bulk) | 2140-2155 | " | " | | | | x | | | | | | | | | | |
| C-6173 | | Ctg(bulk) | 2275-2290 | " | " | | | | x | | | | | | | | | | |
| C-6177 | | Ctg(bulk) | 2490-2455 | " | " | | | | x | | | | | | | | | | |
| C-6180 | | Ctg(bulk) | 2530-2545 | " | " | 1.25 | 71 | 434 | x | | | | | | | | | | |
| C-6062 | s 2120 | SWC | 2609.00 | Clst | | 0.96 | 102.08 | 432 | x | | | | | | | | | | |
| C-6067 | s 2125 | SWC | 2641.00 | Clst | | 0.82 | 73.14 | (436) | x | | | | | | | | | | |
| C-6070 | s 2128 | SWC | 2709.00 | Clst; gy | | 0.81 | 59.26 | (439) | x | | | | | | | | | | |
| C-6072 | s 2130 | SWC | 2760.00 | Clst; gy | | 0.77 | 92.21 | 436 | x | | | | | | | | | | |
| C-6074 | s 2132 | SWC | 2858.00 | Clst; gy | | 0.69 | 54.42 | (435) | x | | | | | | | | | | |
| C-6077 | s 2135 | SWC | 2921.00 | Clst; gy | | 0.99 | 76.77 | (438) | x | | | | | | | | | | |
| C-6122 | s 2136 | SWC | 2981.00 | Clst | | 1.18 | 160.17 | 442 | x | | | | | | | | | | |
| C-6123 | s 2137 | SWC | 2989.00 | Clst, med dk gy, calc, subfiss-blky | | | | | | x | | | | | | | | | |
| C-6124 | s 2138 | SWC | 3000.00 | Clst; med dk gy,subfiss-blky | | 6.75 | 442.22 | 432 | x | x | x | x | x | x | x | | x | x | x |
| C-6125 | s 2139 | SWC | 3006.00 | Clst; med dk gy,subfiss-blky | | 5.20 | 377.5 | 435 | | x | x | x | x | x | x | | x | x | x |
| C-6126 | s 2140 | SWC | 3014.50 | Clst; med dk gy,sl calc,blky | | 6.26 | 496.96 | 435 | | | x | x | x | x | x | | x | x | x |
| C-6127 | s 2141 | SWC | 3032.00 | Clst; med dk gy,calc,fiss,waxy | | 13.12 | 553.51 | 437 | x | x | x | x | x | x | x | x | x | x | x |
| C-6128 | s 2142 | SWC | 3035.50 | Clst; med dk gy,v calc,blcy, subfiss | | 7.45 | 516.78 | 439 | | x | x | x | | x | x | x | x | x | x |
| C-6205A | | Ctg | 3040 | Clst; med dk gy,pyr,subfiss | | 4.83 | 399 | 435 | | | x | | x | x | x | x | x | x | |
| C-6129 | s 2143 | SWC | 3043.00 | Clst; md dk gy,(sub)fiss,calc | | 2.88 | 265.53 | 436 | | x | x | x | | | | | | | |
| C-6130 | s 2144 | SWC | 3047.00 | Clst; dk gy,sl calc,subfiss | | 3.72 | 310.48 | 435 | | x | x | x | | | | | | | |
| C-6131 | s 2145 | SWC | 3050.00 | Clst; gy | | 2.15 | 200.47 | 438 | x | | | | | | | | | | |



(continue)

Table 3c (cont.): Well 9/2-1. Analytical programme.
Follow-up analyses of kerogens and indigenous hydrocarbons.

| IKU id. | Statoil id. | Sample type | Depth (m RKB dd) | Lithology | Cavings | TOC | HI | Tmax | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-6132 | s 2146 | SWC | 3078.00 | Clst; gy | | 2.16 | 237.04 | 439 | x | | | | | | | | | | |
| C-6133 | s 2147 | SWC | 3099.00 | Clst | | 2.48 | 248.39 | 440 | x | x | x | x | | | | | | | |
| C-6092 | s 2150 | SWC | 3156.00 | Siltstone | | 2.76 | 108.70 | 445 | x | | | | | | | | | | |
| C-6221D | | Ctg | 3295-3310 | Coal,blk,blky | | 46.65 | 334 | 437 | x | | x | x | x | x | x | x | x | x | |
| C-6222B | | Ctg | 3310-3325 | Clst; dk gy,carbon grading to coal; blk,blky | | | | | x | | | | | | | | | | |
| C-6134 | s 2151 | SWC | 3328.00 | Siltstone | | 10.72 | 80.04 | 445 | x | | | | | | | | | | |
| C-6094 | s 2152 | SWC | 3352.50 | Clst; gy, abndt spicules | | 0.35 | 28.57 | (437) | x | | | | | | | | | | |
| C-6095 | s 2153 | SWC | 3410.00 | Siltstone | | 0.69 | 68.12 | (441) | x | | | | | | | | | | |
| C-6096 | s 2154 | SWC | 3437.00 | Clst/Slst | | 0.72 | 109.72 | 444 | x | | | | | | | | | | |
| C-6135 | s 2155 | SWC | 3460.00 | Clst;Slst; weathered? | | 1.81 | 169.61 | 444 | x | | | | | | | | | | |
| C-6137 | s 2157 | SWC | 3518 | Clst; ol gy,slty,sl calc, carbon | | 4.31 | 262.65 | 446 | x | x | x | x | | | | | | | |
| C-6136 | s 2156 | SWC | 3508.00 | Clst; dk gy,blky-subfiss | | 5.37 | 236.87 | 444 | x | x | x | x | x | x | x | x | x | x | x |
| C-6138 | s 2158 | SWC | 3540.00 | Clst; oliv gy-brnsh gy,carbon | | 8.98 | 577.28 | 446 | | | x | x | x | x | x | x | x | x | x |
| C-6101 | s 2159 | SWC | 3556.50 | Clst; gy | | 0.35 | 28.57 | 443 | x | | | | | | | | | | |
| C-6234A | | Ctg | 3550-3565 | Clst; med dk brnsh,gy,subfiss, pyr | | 4.26 | 209 | 442 | | | x | | x | x | x | x | x | x | |
| C-6102 | s 2160 | SWC | 3582.50 | Clst; bn | | 1.05 | 101.90 | 443 | x | | | | | | | | | | |
| C-6103 | s 2161 | SWC | 3618.00 | Clst | | 1.41 | 117.73 | 445 | x | | | | | | | | | | |
| C-6139 | s 2163 | SWC | 3679.00 | Clst; ol-brnsh gy,slty,sl carbon | | 2.35 | 155.74 | 445 | x | x | x | x | | | | | | | x |

Remarks: Additional analyses after completion of previous report on well 9/2-1:
Pyrolysis-GC on samples C-6129, C-6130, C-6133 and C-6137.

Table 3d: Well 9/2-1. Analytical programme. Follow-up analyses of hydrocarbon stainings and DST 3

| IKU id. | Sample type | Depth (m RKB dd) | Lithology | S1 | S2 | 3 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-61137 | DST | 3210 - 3177 | | | | | x | x | x | x | x | x | x | x | x |
| C-6115 | Core | 3207.3 | Sst | | | x | x | x | x | x | x | x | | | |
| C-6116 | Core | 3214.8 | Sst | | | x | x | x | x | | | | | | |
| C-6117 | Core | 3231.15 | Sst | 3.31 | 0.31 | x | x | x | x | | | x | | | |
| C-6119 | Core | 3238.75 | Sst | 2.83 | 0.29 | x | x | x | x | x | | x | | | |
| C-6120 | Core | 3240.75 | Sst | 0.23 | (0.11) | x | x | x | x | | | | | | |

Table 3e: Well 9/2-1. Analytical programme. Number of screening and follow-up analyses.

| | Cuttings | swc | Core chips | DST 3 |
|---|---|---|---|---|
| - $C_1$-$C_7$ light hydrocarbon analyses of headspace and occluded gas from canned samples. | 105 | | | |
| - Sieving and washing | 105 | | | |
| - Lithological description | 42 | 18 | | |
| - TOC determination | 32 | 54 (Statoil data) | | |
| - Rock-Eval pyrolysis | 35 | 54 (Statoil data) | 5 | |
| - Vitrinite reflectance and liptinite fluorescence determination (whole rock) | 7 | 24 (from previous job) | | |
| - Kerogen description and TAI determination in transmitted light | | 11 | | |
| - Crude oil density determination | | | | 1 |
| - Soxtech extraction (including separate extr. purification of kerogen concentrates if necessary) | 3 | 12 | 5 | |
| - Iatroscan quantification | 3 | 7 | 5 | 1 |
| - Asphaltene precipitation | 3 | 7 | 5 | 1 |
| - GC of total oil | | | | 1 |
| - Topping of crude oil | | | | 1 |
| - GC of $C_2$-$C_8$ | | | | 1 |
| - MPLC separation | 3 | 7 | 5 | 1 |
| - GC of aromatics (FID/FPD) | 4 | 3 | 2 | 1 |
| - GC of saturates | 3 | 7 | 5 | 1 |
| - GC-MS of saturates, m/z 163, 177, 191, 205, 217, 218, 231, 259 | 3 | 7 | 1 | 1 |
| - Pyrolysis-GC (S2) on kerogen concentrates (preextracted) | 1 | 12 | | |

(continue)

Table 3e (cont.):

| | Cuttings | swc | Core chips | DST 3 |
|---|---|---|---|---|
| - $^{13}C/^{12}C$ of saturates | 3 | 7 | 3 | 1 |
| - $^{13}C/^{12}C$ of aromatics | 3 | 7 | 3 | 1 |
| - $^{13}C/^{12}C$ of NSO | 3 | 7 | 3 | 1 |
| - $^{13}C/^{12}C$ of asphaltenes | 3 | 7 | 3 | 1 |
| - $^{13}C/^{12}C$ of kerogens | | 8 | | |
| - Preparation of kerogen slides | | 11 | | |
| - Preparation of kerogen concentrates for visual kerogen description, isotope analysis and Py-GC | 1 | 14 (3 for slides only, 2 for Py-GC and isotope only) | | |
| - Handpicking of cutting samples prior to screening analyses | 35 | | | |
| - Handpicking of cutting samples prior to follow-up analyses | 5 | | | |

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TABLE 4 a.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN HEADSPACE

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7077 | 720 | 58 | | | | | | 58 | | 0.00 | ****** |
| C 7078 | 780 | 6 | | | | | | 6 | | 0.00 | ****** |
| C 7079 | 840 | | | | | | | | | ****** | ****** |
| C 7080 | 915 | 161 | 5 | 2 | 3 | 2 | | 173 | 12 | 6.84 | 1.83 |
| C 7081 | 975 | 101 | 5 | 2 | 3 | 2 | | 113 | 12 | 10.71 | 1.49 |
| C 7082 | 1035 | 120 | 5 | 7 | 4 | 5 | | 141 | 21 | 15.11 | 0.77 |
| C 7083 | 1095 | 187 | 5 | 3 | | | | 194 | 7 | 3.74 | ****** |
| C 7084 | 1155 | 15 | 1 | 1 | 1 | | | 18 | 3 | 16.00 | ****** |
| C 7085 | 1215 | 22 | 2 | 1 | 1 | | | 27 | 5 | 19.33 | ****** |
| C 7086 | 1275 | 20 | 2 | 1 | 3 | | | 27 | 7 | 26.07 | ****** |
| C 7087 | 1335 | 53 | 5 | 1 | 2 | 1 | | 61 | 9 | 14.14 | 2.25 |
| C 7088 | 1395 | 186 | 7 | 3 | 2 | 1 | 2 | 199 | 13 | 6.70 | 1.27 |
| C 7089 | 1455 | 3445 | 26 | 16 | 10 | 4 | | 3501 | 56 | 1.61 | 2.34 |
| C 7090 | 1515 | 42002 | 277 | 168 | 108 | 35 | 89 | 42590 | 588 | 1.38 | 3.11 |
| C 7091 | 1575 | 144 | 4 | 2 | 2 | | 5 | 152 | 8 | 5.13 | ****** |
| C 7092 | 1635 | 45828 | 362 | 212 | 109 | 48 | 117 | 46559 | 731 | 1.57 | 2.28 |
| C 7093 | 1695 | 32302 | 219 | 136 | 83 | 36 | 43 | 32776 | 473 | 1.44 | 2.31 |
| C 7094 | 1755 | 34969 | 258 | 155 | 104 | 46 | 143 | 35532 | 563 | 1.58 | 2.27 |
| C 7095 | 1815 | 17266 | 205 | 142 | 92 | 47 | 207 | 17752 | 486 | 2.74 | 1.95 |
| C 7096 | 1875 | 10886 | 179 | 124 | 76 | 37 | 157 | 11302 | 416 | 3.68 | 2.04 |
| C 7097 | 1935 | 10637 | 242 | 152 | 78 | 35 | 76 | 11144 | 507 | 4.55 | 2.25 |
| C 7098 | 1995 | 9397 | 271 | 202 | 118 | 48 | 88 | 10035 | 639 | 6.37 | 2.48 |

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TABLE 4 a.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN HEADSPACE

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7099 | 2055 | 34022 | 936 | 729 | 448 | 179 | 373 | 36314 | 2292 | 6.31 | 2.50 |
| C 7100 | 2115 | 16419 | 365 | 300 | 225 | 82 | 220 | 17390 | 971 | 5.59 | 2.74 |
| C 7101 | 2175 | 6139 | 156 | 138 | 118 | 40 | 95 | 6591 | 452 | 6.86 | 2.94 |
| C 7102 | 2235 | 9171 | 324 | 340 | 275 | 82 | 169 | 10192 | 1021 | 10.02 | 3.36 |
| C 7103 | 2295 | 9336 | 465 | 461 | 342 | 112 | 328 | 10715 | 1379 | 12.87 | 3.06 |
| C 7104 | 2355 | 996 | 66 | 70 | 46 | 13 | 25 | 1191 | 195 | 16.38 | 3.45 |
| C 7105 | 2415 | 9100 | 622 | 697 | 386 | 174 | 331 | 10979 | 1879 | 17.11 | 2.23 |
| C 7106 | 2475 | 12660 | 733 | 753 | 352 | 191 | 317 | 14689 | 2029 | 13.81 | 1.84 |
| C 7107 | 2535 | 15351 | 995 | 1069 | 426 | 249 | 302 | 18089 | 2739 | 15.14 | 1.71 |
| C 7108 | 2595 | 12224 | 912 | 1075 | 427 | 250 | 293 | 14888 | 2664 | 17.89 | 1.70 |
| C 7109 | 2610 | 11012 | 1038 | 1289 | 497 | 290 | 395 | 14127 | 3114 | 22.04 | 1.72 |
| C 7110 | 2625 | 13095 | 1028 | 1424 | 616 | 331 | 440 | 16495 | 3400 | 20.61 | 1.86 |
| C 7111 | 2640 | 7122 | 631 | 913 | 367 | 200 | 216 | 9234 | 2112 | 22.87 | 1.83 |
| C 7112 | 2655 | 5986 | 530 | 747 | 303 | 161 | 184 | 7726 | 1740 | 22.52 | 1.89 |
| C 7113 | 2670 | 6080 | 567 | 847 | 321 | 181 | 185 | 7997 | 1917 | 23.97 | 1.77 |
| C 7114 | 2685 | 4161 | 420 | 633 | 258 | 150 | 136 | 5621 | 1460 | 25.98 | 1.72 |
| C 7115 | 2700 | 4807 | 404 | 641 | 262 | 178 | 134 | 6292 | 1485 | 23.60 | 1.48 |
| C 7116 | 2715 | 4960 | 383 | 740 | 339 | 255 | 282 | 6677 | 1718 | 25.73 | 1.33 |
| C 7117 | 2730 | 5987 | 428 | 881 | 407 | 341 | 396 | 8045 | 2058 | 25.58 | 1.19 |
| C 7118 | 2745 | 9136 | 705 | 1548 | 704 | 613 | 586 | 12706 | 3570 | 28.09 | 1.15 |
| C 7119 | 2760 | 7495 | 651 | 1521 | 662 | 576 | 516 | 10905 | 3410 | 31.27 | 1.15 |
| C 7120 | 2775 | 9939 | 830 | 2006 | 821 | 725 | 490 | 14322 | 4383 | 30.61 | 1.13 |

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TABLE 4 a.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN HEADSPACE

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7121 | 2790 | 7781 | 724 | 1767 | 647 | 558 | 329 | 11478 | 3697 | 32.21 | 1.16 |
| C 7122 | 2805 | 6155 | 483 | 1130 | 397 | 326 | 174 | 8491 | 2336 | 27.52 | 1.22 |
| C 7123 | 2820 | 5227 | 435 | 1095 | 370 | 311 | 169 | 7438 | 2211 | 29.72 | 1.19 |
| C 7124 | 2835 | 8430 | 879 | 2200 | 670 | 642 | 398 | 12822 | 4391 | 34.25 | 1.04 |
| C 7125 | 2850 | 5165 | 448 | 1143 | 359 | 373 | 256 | 7488 | 2324 | 31.03 | 0.96 |
| C 7126 | 2865 | 5097 | 542 | 1469 | 462 | 567 | 457 | 8137 | 3040 | 37.36 | 0.82 |
| C 7127 | 2880 | 4150 | 758 | 2419 | 707 | 1082 | 877 | 9117 | 4966 | 54.48 | 0.65 |
| C 7171 | 2895 | 1804 | 554 | 2186 | 592 | 1165 | 1177 | 6301 | 4497 | 71.38 | 0.51 |
| C 7172 | 2910 | 380 | 97 | 399 | 113 | 227 | 177 | 1215 | 835 | 68.76 | 0.50 |
| C 7128 | 2925 | 141 | 41 | 174 | 45 | 90 | 68 | 490 | 350 | 71.32 | 0.50 |
| C 7129 | 2940 | 2464 | 746 | 3531 | 828 | 1932 | 1261 | 9501 | 7037 | 74.07 | 0.43 |
| C 7130 | 2955 | 73 | 25 | 102 | 20 | 52 | 39 | 271 | 199 | 73.20 | 0.39 |
| C 7131 | 2970 | 2714 | 581 | 1140 | 133 | 387 | 175 | 4954 | 2240 | 45.22 | 0.34 |
| C 7132 | 2985 | 856 | 200 | 407 | 48 | 150 | 78 | 1661 | 806 | 48.50 | 0.32 |
| C 7133 | 3000 | 278 | 81 | 187 | 22 | 80 | 52 | 649 | 371 | 57.15 | 0.28 |
| C 7134 | 3015 | 16517 | 4860 | 10677 | 1144 | 3736 | 2300 | 36934 | 20417 | 55.28 | 0.31 |
| C 7135 | 3030 | 9808 | 2964 | 7290 | 924 | 3027 | 2014 | 24013 | 14205 | 59.16 | 0.31 |
| C 7136 | 3045 | 1261 | 435 | 930 | 136 | 308 | 167 | 3070 | 1809 | 58.93 | 0.44 |
| C 7137 | 3060 | 47 | 19 | 45 | 6 | 18 | 17 | 136 | 88 | 65.09 | 0.35 |
| C 7138 | 3075 | 354 | 161 | 319 | 46 | 108 | 88 | 989 | 635 | 64.20 | 0.43 |
| C 7139 | 3090 | 1378 | 595 | 1172 | 161 | 365 | 238 | 3670 | 2292 | 62.46 | 0.44 |
| C 7140 | 3105 | 803 | 359 | 627 | 81 | 151 | 84 | 2020 | 1217 | 60.24 | 0.54 |

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TABLE 4 a.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN HEADSPACE

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7141 | 3120 | 97 | 33 | 49 | 5 | 8 | 5 | 193 | 95 | 49.55 | 0.60 |
| C 7142 | 3135 | 83 | 22 | 32 | 3 | 6 | 3 | 146 | 63 | 43.22 | 0.57 |
| C 7143 | 3150 | 626 | 216 | 410 | 46 | 135 | 87 | 1433 | 807 | 56.30 | 0.34 |
| C 7144 | 3165 | 112 | 48 | 96 | 11 | 31 | 23 | 297 | 186 | 62.52 | 0.34 |
| C 7145 | 3180 | 76 | 26 | 41 | 4 | 10 | 9 | 159 | 83 | 52.05 | 0.42 |
| C 7146 | 3195 | 1788 | 525 | 903 | 107 | 262 | 177 | 3585 | 1797 | 50.12 | 0.41 |
| C 7147 | 3210 | 12961 | 3063 | 3727 | 403 | 786 | 426 | 20941 | 7980 | 38.11 | 0.51 |
| C 7148 | 3225 | 191 | 53 | 84 | 11 | 22 | 22 | 361 | 170 | 47.12 | 0.49 |
| C 7149 | 3240 | 38781 | 14394 | 9784 | 836 | 577 | 184 | 64371 | 25590 | 39.75 | 1.45 |
| C 7150 | 3255 | 34467 | 11790 | 5599 | 513 | 296 | 118 | 52665 | 18197 | 34.55 | 1.73 |
| C 7151 | 3270 | 17039 | 3178 | 2433 | 242 | 279 | 166 | 23170 | 6131 | 26.46 | 0.87 |
| C 7152 | 3285 | 7088 | 1595 | 1774 | 188 | 342 | 223 | 10988 | 3900 | 35.49 | 0.55 |
| C 7153 | 3300 | 11398 | 2417 | 2439 | 270 | 509 | 337 | 17034 | 5635 | 33.08 | 0.53 |
| C 7154 | 3315 | 6578 | 1460 | 2125 | 262 | 626 | 388 | 11052 | 4474 | 40.48 | 0.42 |
| C 7155 | 3330 | 6661 | 1062 | 850 | 100 | 170 | 140 | 8842 | 2181 | 24.67 | 0.59 |
| C 7156 | 3345 | 9394 | 2431 | 2810 | 357 | 574 | 298 | 15566 | 6172 | 39.65 | 0.62 |
| C 7157 | 3360 | 6219 | 1575 | 2218 | 297 | 626 | 374 | 10934 | 4715 | 43.12 | 0.47 |
| C 7158 | 3375 | 25300 | 5116 | 3845 | 386 | 483 | 250 | 35131 | 9831 | 27.98 | 0.80 |
| C 7159 | 3390 | 23256 | 5831 | 2657 | 198 | 200 | 79 | 32142 | 8886 | 27.65 | 0.99 |
| C 7160 | 3405 | 9350 | 1953 | 1669 | 159 | 277 | 153 | 13407 | 4057 | 30.26 | 0.57 |
| C 7161 | 3420 | 5734 | 1772 | 1932 | 183 | 327 | 159 | 9948 | 4214 | 42.36 | 0.56 |
| C 7162 | 3435 | 11903 | 2777 | 2467 | 290 | 584 | 358 | 18021 | 6118 | 33.95 | 0.50 |

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TABLE 4 a.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN HEADSPACE

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7163 | 3450 | 38823 | 8510 | 2275 | 143 | 228 | 112 | 49979 | 11156 | 22.32 | 0.63 |
| C 7164 | 3465 | 3309 | 475 | 128 | 9 | 11 | 12 | 3934 | 624 | 15.87 | 0.81 |
| C 7165 | 3480 | 5790 | 1154 | 360 | 28 | 49 | 38 | 7381 | 1591 | 21.56 | 0.56 |
| C 7166 | 3495 | 1561 | 363 | 276 | 31 | 72 | 49 | 2304 | 743 | 32.25 | 0.43 |
| C 7167 | 3510 | 16 | 8 | 8 | 1 | 3 | 8 | 36 | 20 | 55.48 | 0.36 |
| C 7168 | 3525 | 91 | 14 | 10 | 1 | 2 | 3 | 117 | 27 | 22.68 | 0.64 |
| C 7169 | 3540 | 8395 | 1083 | 716 | 76 | 134 | 82 | 10403 | 2008 | 19.30 | 0.57 |
| C 7170 | 3555 | 25156 | 2909 | 1942 | 199 | 353 | 215 | 30558 | 5402 | 17.68 | 0.56 |

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TABLE 4 b.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN OCCLUDED

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7077 | 720 | 73 | 10 | 9 | | | | 91 | 19 | 20.70 | ****** |
| C 7078 | 780 | 52 | 5 | 8 | 3 | | | 68 | 16 | 23.66 | ****** |
| C 7079 | 840 | 68 | 8 | 16 | | | | 91 | 24 | 25.82 | ****** |
| C 7080 | 915 | 130 | 17 | 36 | 19 | | 24 | 202 | 72 | 35.67 | ****** |
| C 7081 | 975 | 150 | 22 | 55 | 31 | | 59 | 259 | 109 | 42.04 | ****** |
| C 7082 | 1035 | 138 | 21 | 56 | 31 | | 61 | 246 | 109 | 44.21 | ****** |
| C 7083 | 1095 | 114 | 18 | 57 | 31 | | 69 | 220 | 106 | 48.14 | ****** |
| C 7084 | 1155 | 29 | 5 | 7 | | | | 41 | 12 | 28.88 | ****** |
| C 7085 | 1215 | 46 | 9 | 20 | 7 | | 15 | 82 | 36 | 43.78 | ****** |
| C 7086 | 1275 | 23 | 3 | | | | | 26 | 3 | 12.99 | ****** |
| C 7087 | 1335 | 66 | 13 | 9 | | | | 87 | 21 | 24.24 | ****** |
| C 7088 | 1395 | 78 | 12 | 14 | 6 | | | 110 | 32 | 29.06 | ****** |
| C 7089 | 1455 | 161 | 16 | 24 | 17 | | | 218 | 57 | 26.31 | ****** |
| C 7090 | 1515 | 273 | 28 | 54 | 27 | | 42 | 383 | 110 | 28.63 | ****** |
| C 7091 | 1575 | 130 | 21 | 48 | 30 | | 55 | 228 | 98 | 43.16 | ****** |
| C 7092 | 1635 | 486 | 51 | 68 | 33 | | 78 | 638 | 152 | 23.85 | ****** |
| C 7093 | 1695 | 599 | 68 | 105 | 66 | | 120 | 837 | 238 | 28.45 | ****** |
| C 7094 | 1755 | 346 | 43 | 82 | 41 | | 132 | 512 | 166 | 32.44 | ****** |
| C 7095 | 1815 | 418 | 45 | 76 | 40 | | 141 | 579 | 161 | 27.75 | ****** |
| C 7096 | 1875 | 299 | 31 | 62 | 2 | 1 | 164 | 396 | 97 | 24.42 | 1.28 |
| C 7097 | 1935 | 329 | 25 | 47 | 26 | 16 | 83 | 444 | 115 | 25.81 | 1.60 |
| C 7098 | 1995 | 391 | 29 | 53 | 36 | 23 | 118 | 531 | 140 | 26.38 | 1.58 |

Formation / Group tops shown in tables 4a and 4b

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TABLE 4 b.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN OCLUDED

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7099 | 2055 | 302 | 22 | 50 | 31 | 18 | 120 | 423 | 121 | 28.54 | 1.77 |
| C 7100 | 2115 | 378 | 36 | 73 | 55 | 31 | 252 | 572 | 194 | 33.88 | 1.77 |
| C 7101 | 2175 | 469 | 47 | 54 | 67 | 32 | 243 | 670 | 201 | 30.02 | 2.08 |
| C 7102 | 2235 | 329 | 40 | 40 | 95 | 45 | 317 | 548 | 219 | 40.02 | 2.10 |
| C 7103 | 2295 | 248 | 34 | 139 | 158 | 81 | 495 | 660 | 411 | 62.36 | 1.96 |
| C 7104 | 2355 | 248 | 42 | 178 | 174 | 100 | 513 | 742 | 494 | 66.56 | 1.74 |
| C 7105 | 2415 | 231 | 44 | 245 | 227 | 162 | 728 | 909 | 679 | 74.64 | 1.40 |
| C 7106 | 2475 | 306 | 84 | 403 | 294 | 238 | 759 | 1325 | 1019 | 76.91 | 1.23 |
| C 7107 | 2535 | 362 | 102 | 511 | 349 | 299 | 813 | 1623 | 1261 | 77.70 | 1.17 |
| C 7108 | 2595 | 403 | 104 | 555 | 373 | 316 | 916 | 1750 | 1348 | 77.00 | 1.18 |
| C 7109 | 2610 | 297 | 75 | 462 | 325 | 269 | 758 | 1428 | 1131 | 79.22 | 1.21 |
| C 7110 | 2625 | 312 | 63 | 405 | 306 | 247 | 751 | 1333 | 1021 | 76.61 | 1.24 |
| C 7111 | 2640 | 359 | 78 | 475 | 328 | 255 | 688 | 1494 | 1135 | 75.97 | 1.29 |
| C 7112 | 2655 | 246 | 65 | 414 | 277 | 221 | 509 | 1223 | 976 | 79.84 | 1.26 |
| C 7113 | 2670 | 233 | 61 | 459 | 317 | 261 | 534 | 1331 | 1098 | 82.49 | 1.22 |
| C 7114 | 2685 | 283 | 88 | 596 | 389 | 339 | 674 | 1695 | 1412 | 83.30 | 1.15 |
| C 7115 | 2700 | 182 | 46 | 344 | 236 | 240 | 434 | 1047 | 866 | 82.67 | 0.98 |
| C 7116 | 2715 | 279 | 43 | 327 | 273 | 308 | 887 | 1230 | 950 | 77.29 | 0.89 |
| C 7117 | 2730 | 250 | 56 | 465 | 349 | 438 | 1243 | 1557 | 1308 | 83.97 | 0.80 |
| C 7118 | 2745 | 256 | 69 | 631 | 457 | 579 | 1298 | 1991 | 1735 | 87.14 | 0.79 |
| C 7119 | 2760 | 251 | 54 | 534 | 378 | 495 | 957 | 1711 | 1460 | 85.34 | 0.76 |
| C 7120 | 2775. | 307 | 61 | 542 | 352 | 445 | 733 | 1707 | 1400 | 82.03 | 0.79 |

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TABLE 4 b.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN OCLUDED

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7121 | 2790 | 228 | 50 | 574 | 387 | 472 | 666 | 1712 | 1484 | 86.68 | 0.82 |
| C 7122 | 2805 | 203 | 59 | 594 | 334 | 403 | 509 | 1593 | 1390 | 87.25 | 0.83 |
| C 7123 | 2820 | 251 | 75 | 729 | 378 | 483 | 669 | 1916 | 1665 | 86.90 | 0.78 |
| C 7124 | 2835 | 377 | 92 | 1083 | 583 | 832 | 1470 | 2968 | 2590 | 87.28 | 0.70 |
| C 7125 | 2850 | 173 | 51 | 693 | 382 | 608 | 1108 | 1907 | 1733 | 90.92 | 0.63 |
| C 7126 | 2865 | 248 | 107 | 1368 | 651 | 1252 | 2537 | 3627 | 3379 | 93.16 | 0.52 |
| C 7127 | 2880 | 226 | 123 | 1727 | 745 | 1812 | 3609 | 4632 | 4406 | 95.12 | 0.41 |
| C 7171 | 2895 | 231 | 93 | 1619 | 711 | 2109 | 5022 | 4762 | 4532 | 95.16 | 0.34 |
| C 7172 | 2910 | 296 | 121 | 2288 | 985 | 3330 | 8287 | 7020 | 6724 | 95.78 | 0.30 |
| C 7128 | 2925 | 247 | 152 | 2674 | 957 | 3556 | 8176 | 7585 | 7339 | 96.75 | 0.27 |
| C 7129 | 2940 | 304 | 166 | 3002 | 957 | 4176 | 8415 | 8604 | 8301 | 96.47 | 0.23 |
| C 7130 | 2955 | 319 | 231 | 4354 | 1376 | 6438 | 14841 | 12718 | 12398 | 97.49 | 0.21 |
| C 7131 | 2970 | 2485 | 3965 | 32577 | 5644 | 26157 | 32283 | 70828 | 68343 | 96.49 | 0.22 |
| C 7132 | 2985 | 2534 | 4794 | 39333 | 6519 | 28985 | 30592 | 82164 | 79630 | 96.92 | 0.22 |
| C 7133 | 3000 | 2405 | 4588 | 40933 | 7530 | 34168 | 44599 | 89625 | 87219 | 97.32 | 0.22 |
| C 7134 | 3015 | 3201 | 5690 | 43447 | 7507 | 32492 | 39430 | 92337 | 89135 | 96.53 | 0.23 |
| C 7135 | 3030 | 1417 | 2870 | 23592 | 4628 | 20354 | 29654 | 52860 | 51444 | 97.32 | 0.23 |
| C 7136 | 3045 | 868 | 1705 | 14230 | 3026 | 12562 | 22087 | 32391 | 31522 | 97.32 | 0.24 |
| C 7137 | 3060 | 666 | 1288 | 11093 | 2443 | 9550 | 16027 | 25039 | 24373 | 97.34 | 0.26 |
| C 7138 | 3075 | 385 | 874 | 7173 | 1590 | 5333 | 9490 | 15356 | 14970 | 97.49 | 0.30 |
| C 7139 | 3090 | 449 | 841 | 6390 | 1293 | 4397 | 7991 | 13371 | 12922 | 96.64 | 0.29 |
| C 7140 | 3105 | 514 | 1201 | 7551 | 1258 | 3513 | 5103 | 14036 | 13522 | 96.34 | 0.36 |

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TABLE 4 b.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN OCLUDED

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7141 | 3120 | 669 | 1314 | 7572 | 982 | 2519 | 2786 | 13055 | 12386 | 94.88 | 0.39 |
| C 7142 | 3135 | 815 | 1204 | 6862 | 1073 | 3228 | 4851 | 13181 | 12366 | 93.82 | 0.33 |
| C 7143 | 3150 | 1304 | 1874 | 14610 | 2748 | 11042 | 16774 | 31576 | 30273 | 95.87 | 0.25 |
| C 7144 | 3165 | 779 | 1690 | 14350 | 2862 | 11281 | 17783 | 30962 | 30183 | 97.48 | 0.25 |
| C 7145 | 3180 | 774 | 1293 | 9724 | 1865 | 7198 | 12711 | 20853 | 20079 | 96.29 | 0.26 |
| C 7146 | 3195 | 604 | 1000 | 7188 | 1358 | 4874 | 9003 | 15024 | 14420 | 95.98 | 0.28 |
| C 7147 | 3210 | 1346 | 2660 | 13041 | 2102 | 6524 | 10863 | 25673 | 24327 | 94.76 | 0.32 |
| C 7148 | 3225 | 704 | 1276 | 8467 | 1579 | 4956 | 9076 | 16983 | 16279 | 95.85 | 0.32 |
| C 7149 | 3240 | 57608 | 34182 | 42281 | 3439 | 5053 | 3693 | 142563 | 84955 | 59.59 | 0.68 |
| C 7150 | 3255 | 56665 | 35607 | 45680 | 4332 | 3500 | 2289 | 145783 | 89119 | 61.13 | 1.24 |
| C 7151 | 3270 | 8051 | 9653 | 18795 | 2269 | 4014 | 5629 | 42783 | 34731 | 81.18 | 0.57 |
| C 7152 | 3285 | 1653 | 2380 | 8303 | 1345 | 3772 | 6591 | 17454 | 15801 | 90.53 | 0.36 |
| C 7153 | 3300 | 1557 | 2756 | 9345 | 1525 | 3985 | 7050 | 19168 | 17612 | 91.88 | 0.38 |
| C 7154 | 3315 | 2472 | 3524 | 14701 | 2742 | 9171 | 15832 | 32611 | 30138 | 92.42 | 0.30 |
| C 7155 | 3330 | 2935 | 3282 | 7359 | 1017 | 2235 | 4289 | 16828 | 13893 | 82.56 | 0.46 |
| C 7156 | 3345 | 1246 | 2628 | 9122 | 1699 | 4812 | 10892 | 19507 | 18262 | 93.61 | 0.35 |
| C 7157 | 3360 | 816 | 1444 | 6836 | 1335 | 4094 | 8876 | 14525 | 13709 | 94.38 | 0.33 |
| C 7158 | 3375 | 3266 | 4311 | 10381 | 1580 | 3540 | 6956 | 23078 | 19812 | 85.85 | 0.45 |
| C 7159 | 3390 | 28414 | 21787 | 23413 | 1776 | 2258 | 1432 | 77647 | 49233 | 63.41 | 0.79 |
| C 7160 | 3405 | 2385 | 3135 | 9058 | 1310 | 3331 | 5121 | 19220 | 16835 | 87.59 | 0.39 |
| C 7161 | 3420 | 2490 | 3457 | 11409 | 1568 | 4293 | 4814 | 23217 | 20727 | 89.28 | 0.37 |
| C 7162 | 3435 | 4201 | 4169 | 10810 | 1423 | 4473 | 6091 | 25077 | 20875 | 83.25 | 0.32 |

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TABLE 4 b.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN OCLUDED

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7163 | 3450 | 54259 | 37240 | 19525 | 947 | 1593 | 781 | 113564 | 59305 | 52.22 | 0.59 |
| C 7164 | 3465 | 4610 | 6219 | 5931 | 472 | 1326 | 1989 | 18559 | 13949 | 75.16 | 0.36 |
| C 7165 | 3480 | 5904 | 6512 | 5732 | 469 | 1245 | 2045 | 19862 | 13957 | 70.27 | 0.38 |
| C 7166 | 3495 | 1328 | 1613 | 4261 | 640 | 2165 | 5255 | 10006 | 8678 | 86.73 | 0.30 |
| C 7167 | 3510 | 9203 | 8858 | 16567 | 2130 | 5374 | 7419 | 42131 | 32929 | 78.16 | 0.40 |
| C 7168 | 3525 | 2949 | 3120 | 7948 | 1223 | 3981 | 8084 | 19222 | 16273 | 84.66 | 0.31 |
| C 7169 | 3540 | 8047 | 6559 | 12298 | 1609 | 3894 | 6444 | 32407 | 24360 | 75.17 | 0.41 |
| C 7170 | 3555 | 12211 | 10365 | 17826 | 2161 | 4617 | 6763 | 47180 | 34969 | 74.12 | 0.47 |

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TABLE 4 c.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS SUMMATION

| | IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 7077 | 720 | 131 | 10 | 9 | | | | 150 | 19 | 12.63 | ****** |
| C | 7078 | 780 | 57 | 5 | 8 | 3 | | | 73 | 16 | 21.84 | ****** |
| C | 7079 | 840 | 68 | 8 | 16 | | | | 91 | 24 | 25.82 | ****** |
| C | 7080 | 915 | 291 | 22 | 38 | 22 | 2 | 24 | 375 | 84 | 22.35 | 12.92 |
| C | 7081 | 975 | 251 | 27 | 57 | 35 | 2 | 59 | 372 | 121 | 32.55 | 16.52 |
| C | 7082 | 1035 | 258 | 27 | 63 | 35 | 5 | 61 | 388 | 130 | 33.60 | 6.71 |
| C | 7083 | 1095 | 301 | 23 | 59 | 31 | | 69 | 414 | 113 | 27.33 | ****** |
| C | 7084 | 1155 | 44 | 6 | 8 | 1 | | | 59 | 15 | 24.96 | ****** |
| C | 7085 | 1215 | 68 | 11 | 21 | 8 | | 15 | 109 | 41 | 37.71 | ****** |
| C | 7086 | 1275 | 43 | 6 | 1 | 3 | | | 54 | 11 | 19.62 | ****** |
| C | 7087 | 1335 | 119 | 18 | 10 | 2 | 1 | | 149 | 30 | 20.08 | 2.25 |
| C | 7088 | 1395 | 264 | 19 | 17 | 8 | 1 | 2 | 309 | 45 | 14.67 | 6.33 |
| C | 7089 | 1455 | 3605 | 42 | 40 | 27 | 4 | | 3719 | 114 | 3.06 | 6.20 |
| C | 7090 | 1515 | 42275 | 305 | 222 | 135 | 35 | 131 | 42973 | 697 | 1.62 | 3.89 |
| C | 7091 | 1575 | 274 | 25 | 50 | 31 | | 59 | 380 | 106 | 27.92 | ****** |
| C | 7092 | 1635 | 46314 | 413 | 279 | 143 | 48 | 195 | 47197 | 883 | 1.87 | 2.98 |
| C | 7093 | 1695 | 32902 | 286 | 240 | 149 | 36 | 163 | 33613 | 712 | 2.12 | 4.13 |
| C | 7094 | 1755 | 35315 | 301 | 237 | 145 | 46 | 276 | 36044 | 729 | 2.02 | 3.16 |
| C | 7095 | 1815 | 17684 | 250 | 218 | 132 | 47 | 348 | 18331 | 646 | 3.53 | 2.80 |
| C | 7096 | 1875 | 11184 | 210 | 186 | 78 | 39 | 320 | 11697 | 513 | 4.38 | 2.01 |
| C | 7097 | 1935 | 10966 | 268 | 199 | 103 | 51 | 159 | 11588 | 621 | 5.36 | 2.04 |
| C | 7098 | 1995 | 9788 | 300 | 255 | 154 | 70 | 206 | 10567 | 779 | 7.37 | 2.19 |

TABLE 4 c.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS SUMMATION

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7099 | 2055 | 34324 | 959 | 778 | 479 | 197 | 493 | 36737 | 2413 | 6.57 | 2.44 |
| C 7100 | 2115 | 16797 | 401 | 372 | 279 | 113 | 471 | 17962 | 1165 | 6.49 | 2.48 |
| C 7101 | 2175 | 6608 | 204 | 191 | 185 | 72 | 337 | 7261 | 653 | 8.99 | 2.55 |
| C 7102 | 2235 | 9500 | 364 | 380 | 370 | 127 | 486 | 10741 | 1241 | 11.55 | 2.91 |
| C 7103 | 2295 | 9584 | 499 | 600 | 500 | 193 | 823 | 11374 | 1791 | 15.74 | 2.60 |
| C 7104 | 2355 | 1244 | 108 | 247 | 220 | 114 | 538 | 1933 | 689 | 35.64 | 1.94 |
| C 7105 | 2415 | 9330 | 666 | 943 | 614 | 336 | 1059 | 11888 | 2558 | 21.51 | 1.83 |
| C 7106 | 2475 | 12966 | 816 | 1157 | 646 | 429 | 1076 | 16013 | 3048 | 19.03 | 1.51 |
| C 7107 | 2535 | 15713 | 1097 | 1580 | 775 | 548 | 1115 | 19712 | 3999 | 20.29 | 1.42 |
| C 7108 | 2595 | 12627 | 1016 | 1630 | 800 | 566 | 1209 | 16638 | 4012 | 24.11 | 1.41 |
| C 7109 | 2610 | 11309 | 1113 | 1751 | 822 | 559 | 1153 | 15555 | 4246 | 27.29 | 1.47 |
| C 7110 | 2625 | 13407 | 1091 | 1830 | 922 | 578 | 1191 | 17828 | 4421 | 24.80 | 1.60 |
| C 7111 | 2640 | 7481 | 708 | 1389 | 695 | 455 | 904 | 10728 | 3247 | 30.26 | 1.53 |
| C 7112 | 2655 | 6232 | 594 | 1161 | 580 | 381 | 693 | 8948 | 2716 | 30.35 | 1.52 |
| C 7113 | 2670 | 6313 | 628 | 1307 | 638 | 442 | 718 | 9328 | 3015 | 32.32 | 1.44 |
| C 7114 | 2685 | 4444 | 508 | 1229 | 647 | 489 | 811 | 7316 | 2872 | 39.26 | 1.32 |
| C 7115 | 2700 | 4989 | 450 | 985 | 498 | 418 | 568 | 7340 | 2351 | 32.03 | 1.19 |
| C 7116 | 2715 | 5239 | 426 | 1067 | 612 | 563 | 1169 | 7907 | 2668 | 33.74 | 1.09 |
| C 7117 | 2730 | 6237 | 484 | 1346 | 756 | 779 | 1640 | 9603 | 3365 | 35.05 | 0.97 |
| C 7118 | 2745 | 9392 | 773 | 2179 | 1161 | 1192 | 1884 | 14697 | 5304 | 36.09 | 0.97 |
| C 7119 | 2760 | 7746 | 705 | 2055 | 1040 | 1071 | 1473 | 12617 | 4871 | 38.61 | 0.97 |
| C 7120 | 2775 | 10245 | 891 | 2549 | 1173 | 1170 | 1223 | 16029 | 5784 | 36.08 | 1.00 |

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TABLE 4 c.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS SUMMATION

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4/nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7121 | 2790 | 8009 | 774 | 2342 | 1034 | 1030 | 995 | 13189 | 5180 | 39.28 | 1.00 |
| C 7122 | 2805 | 6358 | 542 | 1725 | 730 | 729 | 683 | 10084 | 3726 | 36.95 | 1.00 |
| C 7123 | 2820 | 5478 | 510 | 1824 | 748 | 794 | 838 | 9354 | 3876 | 41.44 | 0.94 |
| C 7124 | 2835 | 8808 | 971 | 3283 | 1253 | 1474 | 1868 | 15789 | 6981 | 44.22 | 0.85 |
| C 7125 | 2850 | 5338 | 499 | 1836 | 741 | 981 | 1364 | 9395 | 4057 | 43.18 | 0.76 |
| C 7126 | 2865 | 5345 | 649 | 2837 | 1114 | 1819 | 2994 | 11764 | 6419 | 54.57 | 0.61 |
| C 7127 | 2880 | 4377 | 881 | 4146 | 1452 | 2894 | 4486 | 13749 | 9372 | 68.17 | 0.50 |
| C 7171 | 2895 | 2034 | 647 | 3805 | 1303 | 3274 | 6199 | 11063 | 9029 | 81.61 | 0.40 |
| C 7172 | 2910 | 676 | 218 | 2687 | 1098 | 3557 | 8465 | 8235 | 7559 | 91.79 | 0.31 |
| C 7128 | 2925 | 388 | 192 | 2848 | 1002 | 3646 | 8244 | 8076 | 7688 | 95.20 | 0.27 |
| C 7129 | 2940 | 2768 | 912 | 6533 | 1785 | 6108 | 9676 | 18106 | 15338 | 84.71 | 0.29 |
| C 7130 | 2955 | 392 | 256 | 4455 | 1396 | 6490 | 14881 | 12989 | 12597 | 96.98 | 0.22 |
| C 7131 | 2970 | 5199 | 4545 | 33718 | 5777 | 26544 | 32458 | 75782 | 70584 | 93.14 | 0.22 |
| C 7132 | 2985 | 3390 | 4994 | 39740 | 6567 | 29135 | 30670 | 83826 | 80436 | 95.96 | 0.23 |
| C 7133 | 3000 | 2684 | 4669 | 41121 | 7552 | 34248 | 44651 | 90274 | 87590 | 97.03 | 0.22 |
| C 7134 | 3015 | 19718 | 10549 | 54124 | 8651 | 36228 | 41729 | 129270 | 109552 | 84.75 | 0.24 |
| C 7135 | 3030 | 11225 | 5833 | 30882 | 5552 | 23381 | 31668 | 76873 | 65648 | 85.40 | 0.24 |
| C 7136 | 3045 | 2129 | 2140 | 15159 | 3163 | 12870 | 22254 | 35461 | 33332 | 94.00 | 0.25 |
| C 7137 | 3060 | 713 | 1307 | 11137 | 2449 | 9568 | 16044 | 25175 | 24462 | 97.17 | 0.26 |
| C 7138 | 3075 | 739 | 1036 | 7492 | 1637 | 5441 | 9579 | 16344 | 15605 | 95.48 | 0.30 |
| C 7139 | 3090 | 1827 | 1436 | 7562 | 1454 | 4762 | 8229 | 17041 | 15214 | 89.28 | 0.31 |
| C 7140 | 3105 | 1318 | 1559 | 8178 | 1338 | 3663 | 5187 | 16057 | 14739 | 91.79 | 0.37 |

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TABLE 4 c.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS SUMMATION

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7141 | 3120 | 766 | 1347 | 7621 | 987 | 2527 | 2791 | 13248 | 12482 | 94.22 | 0.39 |
| C 7142 | 3135 | 898 | 1226 | 6893 | 1076 | 3234 | 4854 | 13327 | 12429 | 93.26 | 0.33 |
| C 7143 | 3150 | 1930 | 2090 | 15019 | 2794 | 11177 | 16860 | 33009 | 31080 | 94.15 | 0.25 |
| C 7144 | 3165 | 891 | 1738 | 14446 | 2873 | 11312 | 17806 | 31260 | 30369 | 97.15 | 0.25 |
| C 7145 | 3180 | 850 | 1319 | 9765 | 1869 | 7208 | 12720 | 21012 | 20162 | 95.95 | 0.26 |
| C 7146 | 3195 | 2392 | 1525 | 8091 | 1465 | 5136 | 9180 | 18609 | 16217 | 87.15 | 0.29 |
| C 7147 | 3210 | 14307 | 5723 | 16768 | 2505 | 7311 | 11289 | 46614 | 32307 | 69.31 | 0.34 |
| C 7148 | 3225 | 895 | 1329 | 8551 | 1590 | 4978 | 9097 | 17344 | 16449 | 94.84 | 0.32 |
| C 7149 | 3240 | 96389 | 48576 | 52064 | 4275 | 5629 | 3878 | 206934 | 110545 | 53.42 | 0.76 |
| C 7150 | 3255 | 91132 | 47396 | 51279 | 4845 | 3795 | 2408 | 198448 | 107316 | 54.08 | 1.28 |
| C 7151 | 3270 | 25090 | 12831 | 21227 | 2511 | 4293 | 5794 | 65952 | 40862 | 61.96 | 0.58 |
| C 7152 | 3285 | 8741 | 3975 | 10077 | 1534 | 4115 | 6814 | 28442 | 19701 | 69.27 | 0.37 |
| C 7153 | 3300 | 12955 | 5173 | 11785 | 1796 | 4493 | 7388 | 36202 | 23247 | 64.21 | 0.40 |
| C 7154 | 3315 | 9051 | 4984 | 16826 | 3005 | 9798 | 16220 | 43663 | 34612 | 79.27 | 0.31 |
| C 7155 | 3330 | 9596 | 4345 | 8209 | 1117 | 2404 | 4429 | 25671 | 16075 | 62.62 | 0.46 |
| C 7156 | 3345 | 10640 | 5059 | 11933 | 2056 | 5386 | 11190 | 35073 | 24434 | 69.66 | 0.38 |
| C 7157 | 3360 | 7035 | 3019 | 9055 | 1632 | 4719 | 9251 | 25459 | 18424 | 72.37 | 0.35 |
| C 7158 | 3375 | 28566 | 9427 | 14226 | 1967 | 4023 | 7205 | 58209 | 29643 | 50.92 | 0.49 |
| C 7159 | 3390 | 51669 | 27618 | 26070 | 1974 | 2458 | 1512 | 109789 | 58119 | 52.94 | 0.80 |
| C 7160 | 3405 | 11735 | 5088 | 10727 | 1469 | 3608 | 5274 | 32626 | 20892 | 64.03 | 0.41 |
| C 7161 | 3420 | 8224 | 5228 | 13341 | 1751 | 4620 | 4972 | 33165 | 24941 | 75.20 | 0.38 |
| C 7162 | 3435 | 16104 | 6946 | 13277 | 1712 | 5058 | 6449 | 43098 | 26994 | 62.63 | 0.34 |

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TABLE 4 c.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS SUMMATION

| IKU no. | DEPTH m | C1 | C2 | C3 | iC4 | nC4 | C5+ | SUM C1-C4 | SUM C2-C4 | WET-NESS (%) | iC4 / nC4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7163 | 3450 | 93083 | 45750 | 21800 | 1090 | 1821 | 893 | 163543 | 70461 | 43.08 | 0.60 |
| C 7164 | 3465 | 7919 | 6694 | 6060 | 481 | 1338 | 2001 | 22492 | 14573 | 64.79 | 0.36 |
| C 7165 | 3480 | 11694 | 7666 | 6091 | 497 | 1294 | 2083 | 27242 | 15548 | 57.07 | 0.38 |
| C 7166 | 3495 | 2889 | 1976 | 4537 | 671 | 2236 | 5304 | 12310 | 9421 | 76.53 | 0.30 |
| C 7167 | 3510 | 9219 | 8865 | 16575 | 2131 | 5377 | 7427 | 42167 | 32948 | 78.14 | 0.40 |
| C 7168 | 3525 | 3040 | 3134 | 7958 | 1224 | 3983 | 8087 | 19339 | 16299 | 84.28 | 0.31 |
| C 7169 | 3540 | 16441 | 7642 | 13014 | 1685 | 4028 | 6526 | 42810 | 26368 | 61.59 | 0.42 |
| C 7170 | 3555 | 37367 | 13274 | 19768 | 2360 | 4970 | 6978 | 77738 | 40372 | 51.93 | 0.47 |

CUTTINGS

IKU

# Lithology and Total Organic Carbon measurements

TABLE NO.: 5
WELL NO.: 9/2-2

| Sample | Depth (m) | TOC | Lithology |
|---|---|---|---|
| C-7090 | 1515 | | 90% A. Siderite, brownish grey to dark brownish grey<br>10% B. Pyrite<br>Sm.am. Chert; Chalk/Limestone, white;<br>Sand, white, glauconitic, well cemented |
| C-7092 | 1635 | | 60% A. Claystone, grey, micaceous, silty, occasionally sandy<br>40% B. Siderite, brownish grey, dark brownish grey<br>Sm.am. Pyrite; Chalk |
| C-7104 | 2355 | | 95% A. Claystone, silty, dark grey, dark brownish grey, silty, pyritic, micromicaceous<br>5% B. Limestone, buff to white<br>Sm.am. Pyrite |
| C-7108 | 2595 | 1.33 | 100% A. Claystone, silty, dark grey to black, micromicaceous, slightly pyritic, slightly calcareous.<br>Sm.am. Limestone, white to buff |
| C-7110 | 2625 | 1.29 | 100% A. Claystone, silty, dark grey to black, micromicaceous, slightly pyritic, slightly calcareous, occasionally very sandy and glauconitic<br>Sm.am. Siderite, yellowish brown |
| C-7137 | 3060 | | 100% A. Shale, dark grey to black, micromicaceous, silty, fissile<br>Sm.am. Limestone, grey; Additives; Pyrite |
| C-7139 | 3090 | | 95% A. Shale, dark grey to black, micromicaceous, silty, fissile<br>5% B. Limestone, grey to brownish grey<br>Sm.am. Pyrite; Additives |

CUTTINGS

IKU

# Lithology and Total Organic Carbon measurements

**TABLE NO.:** 5
**WELL NO.:** 9/2-2

| Sample | Depth (m) | TOC | Lithology |
|---|---|---|---|
| C-7145 | 3180 | | *90% A. Sandstone, white to clear, well cemented, fine to medium<br>10% B. Shale, dark grey, fissile, micromicaceous, fissile<br>Sm.am. Chalk, white |
| C-7150 | 3255 | 48.21 | 65% A. Shale, dark grey to black<br>*20% B. Coal, black<br>10% C. Sand, medium to coarse<br>5% D. Chalk, white |
| C-7156 | 3345 | | *85% A. Sand/Sandstone, medium to coarse, angular to subangular, clear to white, mainly silica cemented<br>15% B. Shale, black, very carbonaceous, fissile<br>Sm.am. Coal, black; Dolomite, greyish brown; Chalk, white |
| C-7163 | 3450 | 51.14 | 90% A. Coal, black, hard, grading to<br>5% B. Claystone, black to dark brownish grey<br>5% C. Sand, medium to coarse<br>Sm.am. Chalk, white to buff |
| C-7165 | 3480 | | 95% A. Sand/Sandstone, medium to very coarse, subangular to subrounded, poorly cemented, no significant HC staining.<br>5% B. Chalk/Claystone, dark grey, dark brownish grey, black<br>Sm.am. Chalk, white |
| C-7167 | 3510 | | 40% A. Claystone, micromicaceous, dull red to greyish red, very calcareous<br>50% B. Claystone/Shale, dark grey to black, occasionally fissile<br>5% C. Coal, black<br>5% D. Sand, medium to coarse<br>Sm.am. Chalk/Limestone, white to yellowish brown |

CUTTINGS

# Lithology and Total Organic Carbon measurements

TABLE NO.: 5
WELL NO.: 9/2-2

| Sample | Depth (m) | TOC | Lithology |
|---|---|---|---|
| C-7168 | 3525 | | 75% A. Sand/Sandstone, medium to very coarse, angular<br>10% B. Claystone, dull red to greyish red, very calcareous<br>10% C. Claystone/Shale, dark grey to black, very calcareous, grading to<br>5% D. Coal, black<br>Sm.am. Limestone/Chalk, mainly white |

TABLE 6.A

D A T A F R O M R O C K E V A L P Y R O L Y S I S

CORE 2 (3414.05m - 3430.80m) and SWC

| IKU No. | DEPTH m/ft | S1 | S2 | S3 | TOC | HYDR. INDEX | OXYGEN INDEX | PETROLEUM POTENTIAL | PROD. INDEX S1/(S1+S2) | TEMP. MAX (C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ( mg/g ROCK ) | | | (%) | ( mg/g TOC ) | | S1+S2 | | | |
| C 6988 | 2957 | 1.35 | 14.42 | 0.55 | 4.03 | 358 | 14 | 15.77 | 0.09 | 433 | |
| C 6989 | 2977 | 2.72 | 23.15 | 0.64 | 6.97 | 332 | 9 | 25.87 | 0.11 | 429 | |
| C 6990 | 2980 | 4.31 | 37.10 | 0.70 | 6.54 | 567 | 11 | 41.41 | 0.10 | 430 | |
| C 6991 | 2985 | 3.60 | 29.81 | 1.05 | 8.07 | 369 | 13 | 33.41 | 0.11 | 434 | |
| C 6992 | 2987 | 0.42 | 4.67 | 1.44 | 6.46 | 72 | 22 | 5.09 | 0.08 | 426 | |
| C 6993 | 2995 | 2.17 | 21.77 | 0.68 | 5.81 | 375 | 12 | 23.94 | 0.09 | 432 | |
| C 6994 | 3010 | 1.33 | 15.52 | 0.64 | 4.27 | 363 | 15 | 16.85 | 0.08 | 434 | |
| C 6995 | 3015 | 0.71 | 5.38 | 0.38 | 2.61 | 206 | 15 | 6.09 | 0.12 | 437 | |
| C 6996 | 3025 | 0.65 | 5.18 | 0.59 | 2.57 | 202 | 23 | 5.83 | 0.11 | 439 | |
| C 6997 | 3045 | 0.40 | 3.05 | 0.65 | 1.63 | 187 | 40 | 3.45 | 0.12 | 436 | |
| C 6998 | 3052 | 0.32 | 1.26 | 0.33 | 1.56 | 81 | 21 | 1.58 | 0.20 | 438 | |
| C 6999 | 3060 | 0.27 | 1.99 | 0.36 | 1.79 | 111 | 20 | 2.26 | 0.12 | 440 | |
| C 7000 | 3075 | 0.19 | 1.75 | 0.14 | 1.80 | 97 | 8 | 1.94 | 0.10 | 440 | |
| C 7001 | 3084 | 0.30 | 2.95 | 0.24 | 3.36 | 88 | 7 | 3.25 | 0.09 | 439 | |
| C 7002 | 3128 | 0.20 | 0.81 | 0.50 | 1.24 | 65 | 40 | 1.01 | 0.20 | 438 | |
| C 7003 | 3234 | 2.06 | 28.18 | 0.46 | 10.67 | 264 | 4 | 30.24 | 0.07 | 437 | |
| C 7004 | 3237 | 5.76 | 80.80 | 0.85 | 21.13 | 382 | 4 | 86.56 | 0.07 | 442 | |
| C 7005 | 3264 | 0.02 | 0.02 | 0.00 | 0.57 | 4 | 0 | 0.04 | 0.50 | 396 | 1) 2) |
| C 7006 | 3271 | 0.10 | 0.37 | 0.06 | 0.71 | 52 | 8 | 0.47 | 0.21 | 435 | 2) |
| C 7007 | 3342 | 0.05 | 0.09 | 0.10 | 0.69 | 13 | 14 | 0.14 | 0.36 | 442 | 1) 2) |
| C 7008 | 3370 | 0.25 | 2.52 | 0.46 | 1.91 | 132 | 24 | 2.77 | 0.09 | 441 | |
| C 7009 | 3377 | 0.15 | 1.45 | 0.06 | 1.79 | 81 | 3 | 1.60 | 0.09 | 439 | |

1) Unreliable Tmax due to ill-defined $S_2$-peak or low $S_2$.
2) Unreliable production index due to low $S_1$ and $S_2$.

TABLE 6.A

DATA FROM ROCK EVAL PYROLYSIS

CORE 2 (3414.05m - 3430.80m) and SWC

| IKU No. | DEPTH m/ft | S1 | S2 | S3 | TOC | HYDR. INDEX | OXYGEN INDEX | PETROLEUM POTENTIAL | PROD. INDEX S1/(S1+S2) | TEMP. MAX |
|---|---|---|---|---|---|---|---|---|---|---|
| | | ( mg/g ROCK ) | | | (%) | ( mg/g TOC ) | | S1+S2 | | (C) |
| C 7010 | 3393 | 0.31 | 3.18 | 1.40 | 2.65 | 120 | 53 | 3.49 | 0.09 | 439 |
| C 7011 | 3400 | 0.60 | 10.02 | 1.76 | 4.54 | 221 | 39 | 10.62 | 0.06 | 441 |
| C 6929 | 3414.05 | 0.65 | 8.51 | 0.90 | 4.46 | 191 | 20 | 9.16 | 0.07 | 441 |
| C 6930 | 3414.10 | 0.65 | 8.54 | 0.71 | 4.51 | 189 | 16 | 9.19 | 0.07 | 443 |
| C 6931 | 3414.20 | 0.23 | 1.61 | 2.39 | 1.63 | 99 | 147 | 1.84 | 0.13 | 439 |
| C 6932 | 3414.30 | 0.73 | 7.31 | 1.95 | 4.47 | 164 | 44 | 8.04 | 0.09 | 439 |
| C 6933 | 3414.50 | 0.78 | 11.35 | 0.92 | 6.21 | 183 | 15 | 12.13 | 0.06 | 443 |
| C 6934 | 3414.70 | 0.65 | 9.95 | 1.06 | 5.40 | 184 | 20 | 10.60 | 0.06 | 443 |
| C 6935 | 3414.90 | 0.79 | 17.40 | 0.71 | 6.19 | 281 | 11 | 18.19 | 0.04 | 447 |
| C 6936 | 3415.10 | 0.42 | 6.16 | 0.33 | 3.87 | 159 | 9 | 6.58 | 0.06 | 445 |
| C 6937 | 3415.40 | 0.88 | 10.65 | 0.79 | 6.26 | 170 | 13 | 11.53 | 0.08 | 439 |
| C 6938 | 3415.70 | 0.53 | 6.74 | 0.47 | 4.01 | 168 | 12 | 7.27 | 0.07 | 441 |
| C 6939 | 3416.00 | 0.18 | 1.09 | 1.02 | 1.28 | 85 | 80 | 1.27 | 0.14 | 439 |
| C 6940 | 3416.30 | 0.75 | 6.28 | 0.62 | 4.31 | 146 | 14 | 7.03 | 0.11 | 443 |
| C 6941 | 3416.60 | 0.56 | 7.04 | 0.42 | 4.54 | 155 | 9 | 7.60 | 0.07 | 444 |
| C 6942 | 3416.90 | 0.56 | 9.83 | 0.43 | 3.65 | 269 | 12 | 10.39 | 0.05 | 446 |
| C 6943 | 3417.20 | 0.55 | 8.10 | 0.41 | 4.21 | 192 | 10 | 8.65 | 0.06 | 444 |
| C 6944 | 3417.50 | 0.47 | 6.43 | 0.42 | 3.97 | 162 | 11 | 6.90 | 0.07 | 445 |
| C 6945 | 3417.80 | 0.52 | 9.25 | 0.22 | 4.48 | 206 | 5 | 9.77 | 0.05 | 443 |
| C 6946 | 3418.10 | 0.78 | 12.99 | 0.47 | 5.18 | 251 | 9 | 13.77 | 0.06 | 443 |
| C 6947 | 3418.40 | 1.60 | 17.26 | 0.75 | 13.37 | 129 | 6 | 18.86 | 0.08 | 444 |
| C 6948 | 3418.70 | 0.69 | 12.19 | 0.46 | 5.07 | 240 | 9 | 12.88 | 0.05 | 446 |

TABLE 6.A

DATA FROM ROCK EVAL PYROLYSIS

CORE 2 (3414.05m - 3430.80m) and SWC

| IKU No. | DEPTH m/ft | S1 | S2 | S3 | TOC | HYDR. INDEX | OXYGEN INDEX | PETROLEUM POTENTIAL | PROD. INDEX S1/(S1+S2) | TEMP. MAX (C) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | ( mg/g ROCK ) | | | (%) | ( mg/g TOC ) | | S1+S2 | | |
| C 6949 | 3418.95 | 0.63 | 9.34 | 0.59 | 4.32 | 216 | 14 | 9.97 | 0.06 | 445 |
| C 6950 | 3419.35 | 1.29 | 15.69 | 0.42 | 8.69 | 181 | 5 | 16.98 | 0.08 | 447 |
| C 6951 | 3419.70 | 0.61 | 11.48 | 0.29 | 4.89 | 235 | 6 | 12.09 | 0.05 | 445 |
| C 6952 | 3420.00 | 0.62 | 11.80 | 0.30 | 4.76 | 248 | 6 | 12.42 | 0.05 | 444 |
| C 6953 | 3420.30 | 0.62 | 11.73 | 0.15 | 4.54 | 258 | 3 | 12.35 | 0.05 | 448 |
| C 6954 | 3420.60 | 0.75 | 18.06 | 0.29 | 4.84 | 373 | 6 | 18.81 | 0.04 | 445 |
| C 6955 | 3420.90 | 0.69 | 14.35 | 0.22 | 4.49 | 320 | 5 | 15.04 | 0.05 | 448 |
| C 6956 | 3421.20 | 0.67 | 11.04 | 0.37 | 4.24 | 260 | 9 | 11.71 | 0.06 | 444 |
| C 6957 | 3421.50 | 0.62 | 17.67 | 0.30 | 4.75 | 372 | 6 | 18.29 | 0.03 | 449 |
| C 6958 | 3421.80 | 0.55 | 11.61 | 0.37 | 4.05 | 287 | 9 | 12.16 | 0.05 | 445 |
| C 6959 | 3422.10 | 0.58 | 10.42 | 0.41 | 4.54 | 230 | 9 | 11.00 | 0.05 | 443 |
| C 6960 | 3422.40 | 0.67 | 14.13 | 0.31 | 5.68 | 249 | 5 | 14.80 | 0.05 | 443 |
| C 6961 | 3422.70 | 0.68 | 12.89 | 0.43 | 5.32 | 242 | 8 | 13.57 | 0.05 | 444 |
| C 6962 | 3423.00 | 0.60 | 12.41 | 0.30 | 4.77 | 260 | 6 | 13.01 | 0.05 | 445 |
| C 6963 | 3423.30 | 0.68 | 16.08 | 0.39 | 5.72 | 281 | 7 | 16.76 | 0.04 | 444 |
| C 6964 | 3423.60 | 0.60 | 12.95 | 0.17 | 5.26 | 246 | 3 | 13.55 | 0.04 | 449 |
| C 6965 | 3423.90 | 0.57 | 14.22 | 0.16 | 6.53 | 218 | 2 | 14.79 | 0.04 | 447 |
| C 6966 | 3424.20 | 0.81 | 7.33 | 0.98 | 6.18 | 119 | 16 | 8.14 | 0.10 | 437 |
| C 6967 | 3424.50 | 1.53 | 23.14 | 0.81 | 12.01 | 193 | 7 | 24.67 | 0.06 | 445 |
| C 6968 | 3424.80 | 0.89 | 19.44 | 0.34 | 7.39 | 263 | 5 | 20.33 | 0.04 | 447 |
| C 6969 | 3425.10 | 1.19 | 28.39 | 0.66 | 9.47 | 300 | 7 | 29.58 | 0.04 | 446 |
| C 6970 | 3425.70 | 1.00 | 18.18 | 0.86 | 8.40 | 216 | 10 | 19.18 | 0.05 | 446 |

TABLE 6.A

DATA FROM ROCK EVAL PYROLYSIS

CORE 2 (3414.05m - 3430.80m) and SWC

| IKU No. | DEPTH m/ft | S1 | S2 | S3 | TOC | HYDR. INDEX | OXYGEN INDEX | PETROLEUM POTENTIAL | PROD. INDEX S1/(S1+S2) | TEMP. MAX | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ( mg/g ROCK ) | | | (%) | ( mg/g TOC ) | | S1+S2 | | (C) | |
| C 6971 | 3426.00 | 0.73 | 20.13 | 0.40 | 6.04 | 333 | 7 | 20.86 | 0.03 | 448 | |
| C 6972 | 3426.30 | 0.59 | 15.89 | 0.26 | 5.14 | 309 | 5 | 16.48 | 0.04 | 448 | |
| C 6973 | 3426.60 | 0.72 | 21.72 | 0.37 | 5.59 | 389 | 7 | 22.44 | 0.03 | 448 | |
| C 6974 | 3426.90 | 0.55 | 16.53 | 0.26 | 5.62 | 294 | 5 | 17.08 | 0.03 | 448 | |
| C 6975 | 3427.20 | 0.64 | 7.51 | 0.24 | 5.50 | 137 | 4 | 8.15 | 0.08 | 448 | |
| C 6976 | 3427.50 | 0.56 | 17.38 | 0.22 | 5.94 | 293 | 4 | 17.94 | 0.03 | 449 | |
| C 6977 | 3427.80 | 0.62 | 15.47 | 0.17 | 6.14 | 252 | 3 | 16.09 | 0.04 | 448 | |
| C 6978 | 3428.10 | 0.90 | 21.11 | 0.38 | 6.60 | 320 | 6 | 22.01 | 0.04 | 448 | |
| C 6979 | 3428.40 | 1.22 | 34.80 | 0.42 | 7.30 | 477 | 6 | 36.02 | 0.03 | 449 | |
| C 6980 | 3428.70 | 0.96 | 27.55 | 0.37 | 6.20 | 444 | 6 | 28.51 | 0.03 | 448 | |
| C 6981 | 3429.00 | 0.57 | 9.53 | 1.08 | 4.18 | 228 | 26 | 10.10 | 0.06 | 443 | |
| C 6982 | 3429.30 | 0.70 | 15.58 | 0.42 | 5.85 | 266 | 7 | 16.28 | 0.04 | 447 | |
| C 6983 | 3429.60 | 0.72 | 15.73 | 0.42 | 6.03 | 261 | 7 | 16.45 | 0.04 | 446 | |
| C 6984 | 3429.90 | 0.58 | 14.89 | 0.30 | 4.76 | 313 | 6 | 15.47 | 0.04 | 449 | |
| C 6985 | 3430.20 | 0.75 | 20.30 | 0.41 | 5.69 | 357 | 7 | 21.05 | 0.04 | 448 | |
| C 6986 | 3430.50 | 0.59 | 12.07 | 0.40 | 4.59 | 263 | 9 | 12.66 | 0.05 | 450 | |
| C 6987 | 3430.80 | 0.66 | 15.61 | 1.17 | 4.37 | 357 | 27 | 16.27 | 0.04 | 445 | |
| C 7012 | 3431 | 0.61 | 22.89 | 0.21 | 5.08 | 451 | 4 | 23.50 | 0.03 | 447 | |
| C 7013 | 3441 | 0.45 | 11.22 | 0.28 | 7.78 | 144 | 4 | 11.67 | 0.04 | 443 | |
| C 7014 | 3442 | 1.04 | 19.05 | 0.58 | 7.47 | 255 | 8 | 20.09 | 0.05 | 442 | |
| C 7015 | 3449 | 0.16 | 0.72 | 0.18 | 1.56 | 46 | 12 | 0.88 | 0.18 | 445 | 1) 2) |
| C 7016 | 3480 | 0.12 | 0.25 | 0.90 | 0.75 | 33 | 120 | 0.37 | 0.32 | 442 | 2) |

TABLE 6.A

D A T A F R O M R O C K E V A L P Y R O L Y S I S

CORE 2 (3414.05m - 3430.80m) and SWC

| IKU No. | DEPTH m/ft | S1 ( mg/g ROCK ) | S2 ( mg/g ROCK ) | S3 ( mg/g ROCK ) | TOC (%) | HYDR. INDEX ( mg/g TOC ) | OXYGEN INDEX ( mg/g TOC ) | PETROLEUM POTENTIAL S1+S2 | PROD. INDEX S1/(S1+S2) | TEMP. MAX (C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7017 | 3485 | 0.08 | 0.14 | 0.33 | 0.80 | 18 | 41 | 0.22 | 0.36 | 440 | 1) 2) |
| C 7018 | 3490 | 0.10 | 0.16 | 0.20 | 0.92 | 17 | 22 | 0.26 | 0.38 | 444 | 2) |
| C 7019 | 3491 | 0.24 | 1.14 | 0.33 | 1.92 | 59 | 17 | 1.38 | 0.17 | 444 | |

1) Unreliable Tmax due to ill-defined $S_2$-peak or low $S_2$

2) Unreliable production index due to low $S_1$ and $S_2$

Project no.: 22.1877.00
Well ident.: 9/2-2
Date : 15 - 1 - 88

TABLE 6B.

D A T A F R O M R O C K E V A L P Y R O L Y S I S

Rock Cuttings

| IKU No. | DEPTH m/ft | S1 ( mg/g ROCK ) | S2 ( mg/g ROCK ) | S3 ( mg/g ROCK ) | TOC (%) | HYDR. INDEX ( mg/g TOC ) | OXYGEN INDEX ( mg/g TOC ) | PETROLEUM POTENTIAL S1+S2 | PROD. INDEX S1/(S1+S2) | TEMP. MAX (C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C 7108 | 2595 | 0.12 | 0.88 | 0.43 | 1.33 | 66 | 32 | 1.00 | 0.12 | 436 | |
| C 7110 | 2625 | 0.13 | 1.04 | 0.28 | 1.29 | 81 | 22 | 1.17 | 0.11 | 434 | |
| C 7114 | 2685 | 0.13 | 0.63 | 0.64 | 1.22 | 52 | 52 | 0.76 | 0.17 | 433 | |
| C 7172 | 2910 | 0.26 | 2.10 | 0.41 | 1.50 | 140 | 27 | 2.36 | 0.11 | 432 | |
| C 7129 | 2940 | 0.33 | 2.23 | 0.41 | 1.49 | 150 | 28 | 2.56 | 0.13 | 435 | |
| C 7145 | 3180 | 0.20 | 0.35 | 0.01 | **** | ***** | **** | 0.55 | 0.36 | 433 | |
| C 7150 | 3255 | 11.70 | 153.31 | 2.34 | 48.21 | 318 | 5 | 165.01 | 0.07 | 445 | |
| C 7156 | 3345 | 0.10 | 0.04 | 0.29 | **** | ***** | **** | 0.14 | 0.71 | 402 | 1) |
| C 7163 | 3450 | 0.61 | 10.09 | 0.11 | 51.14 | 20 | 0 | 10.70 | 0.06 | 443 | |
| C 7165 | 3480 | 0.08 | 0.07 | 0.39 | **** | ***** | **** | 0.15 | 0.53 | 437 | 1) |
| C 7168 | 3525 | 0.09 | 0.17 | 0.41 | **** | ***** | **** | 0.26 | 0.35 | 445 | 1) |

DATE : 15 - 1 - 88.

1) Unreliable production index due to low $S_1$ and $S_2$

IKU SINTEF-GRUPPEN

# Visual Kerogen Analysis

Table no.: 7
Well no.: 9/2-2

| Sample | Depth (m) | Composition of residue | Particle size | Preservation palynomorphs | Thermal maturation index | Remarks |
|---|---|---|---|---|---|---|
| C-6989 | 2977.0 SWC | Am: 80-85%<br>Lm: 5%<br>W: 5-10%<br>C: 5% | F-M-L | Fair-Good | 2.0-3.0 | Organic residue dominated by finely dispersed amorphous mattter and unstructured fragments/aggregates of variable size and thicknes. These "spongy-like"amorphous phytoclasts are frequently specked with small, dark woody/coaly fragments and pyrite. |
| C-6990 | 2980.0 SWC | Am: 80-85%<br>Lm: 5%<br>W: 5-10%<br>C: 5% | F-M-L | Fair | 2.0-3.0? | As per sample C-6989. |
| C-6991 | 2985.0 SWC | Am: 80-85%<br>Al: +<br>Lm: 5%<br>W: 5-10%<br>C: 5% | F-M-L | Good-Fair | 2.0-3.0 | As per sample C-6989. Prasinophycean algae recorded. |



**Abbreviations**

Am Amorphous
Al Algal material
Lm Liptinitic material
W Woody material
C Coaly fragments
F Fine
M Medium
L Large

IKU SINTEF-GRUPPEN

# Visual Kerogen Analysis

Table no.: 7
Well no.: 9/2-2

| Sample | Depth (m) | Composition of residue | Particle size | Preservation palynomorphs | Thermal maturation index | Remarks |
|---|---|---|---|---|---|---|
| C-6993 | 2995.0 SWC | Am: 75-80%<br>Lm: 5%<br>W: 10-15%<br>C: 5% | F-M-L | Fair | 2.0-3.0 | Mainly as sample C-6989, but with a slightly increased proportion of dark woody phytoclasts. |
| C-6995 | 3015.0 SWC | Am: 80-85%<br>Lm: <5%<br>W: <5%<br>C: 10-15% | F-M-L | Poor | NDP | Organic residue dominated by degraded (sapropelic) amorphous matter, specked with black coaly fragments and abundant pyrite. Both marine and terrestrial palynomorphs present. |
| C-6997 | 3045.0 SWC | Am: 80%<br>Lm: <5%<br>W: 5%<br>C: 10-15% | F-M-L | Fair | 2.5-3.0 | As per sample C-6995. |
| C-7003 | 3234.0 SWC | Am: <5%<br>Lm: <5%<br>W+C: 90% | F-M-L | No palynomorphs recorded | NPD | Organic residue totally dominated by dark brown and dark woody/coaly frag- |



**Abbreviations**

Am Amorphous
Al Algal material
Lm Liptinitic material
W Woody material
C Coaly fragments
F Fine
M Medium
L Large

IKU SINTEF-GRUPPEN

# Visual Kerogen Analysis

Table no.: 7
Well no.: 9/2-2

| Sample | Depth . (m) | Composition of residue | Particle size | Preservation palynomorphs | Thermal maturation index | Remarks |
|---|---|---|---|---|---|---|
| C-7004 | 3237.0 SWC | Am: <5%<br>Lm: <5%<br>W+C:>90% | F-M-L | No palynomorphs recorded | NPD | Organic residue totally dominated by dark brown and black woody and coaly fragments. |
| C-7008 | 3370.0 SWC | Am: 65-70%<br>Lm: <5%<br>W: 5%<br>C: 25% | F-M-L | Poor-Fair | 3.0-3.5? | Organic residue dominated by degraded amorphous matter, but also containing a significant proportion of black coaly fragments. |
| C-7011 | 3400.0 SWC | Am: 60-65%<br>Lm: 5-10%<br>W: 15-20%<br>C: 5% | F-M-L | Good-Fair | 4.0-4.5 | Organic residue dominate by amorphous material, and containing a significant proportion of woody phytoclasts. |
| C-6935 | 3414.9 Core 2 | Am: 80-85%<br>Lm: 5%<br>W: 5-10%<br>C: 5% | F-M-L | Fair | 4.0-4.5 | Organic residue dominated by dark spongy-like degraded phytoclasts together with more finely dispersed amorphous matter. |



**Abbreviations**

Am Amorphous
Al Algal material
Lm Liptinitic material
W Woody material
C Coaly fragments
F Fine
M Medium
L Large

IKU SINTEF-GRUPPEN

# Visual Kerogen Analysis

Table no.: 7
Well no.: 9/2-2

| Sample | Depth (m) | Composition of residue | Particle size | Preservation palynomorphs | Thermal maturation index | Remarks |
|---|---|---|---|---|---|---|
| C-6950 | 3419.35<br>Core 2 | Am: 45-50%<br>Lm: 10%<br>W+C:40-45% | F-M-L | Fair | 4.0-4.5 | Organic residue rich in dark brown to black elongated woody/coaly phytoclasts in association with degraded amorphous material. |
| C-6954 | 3420.6<br>Core 2 | Am: 75-80%<br>Al: +<br>Lm: 5%<br>W: 10-15%<br>C: 5% | F-M-L | Fair | 4.0-4.5? | Organic residue dominated by amorphous spongy-like phyto-clasts of variable size and thickness, together with finely dispersed amorphous material. The amorphous clasts are frequently specked with small dark woody/coaly fragments and occuasionally pyrite. Most of the amorphous matter is probably of marin origin Algal material is present. |

**Abbreviations**

Am Amorphous
Al Algal material
Lm Liptinitic material
W Woody material
C Coaly fragments
F Fine
M Medium
L Large

IKU SINTEF-GRUPPEN

# Visual Kerogen Analysis

Table no.: 7
Well no.: 9/2-2

| Sample | Depth (m) | Composition of residue | Particle size | Preservation palynomorphs | Thermal maturation index | Remarks |
|---|---|---|---|---|---|---|
| C-6957 | 3421.5<br>Core 2 | Am: 75-80%<br>Al: +<br>Lm: 5%<br>W: 10-15%<br>C: 5% | F-M-L | Fair | 4.0-4.5 | As per sample C-6954 |
| C-6969 | 3425.1<br>Core 2 | Am: 45-50%<br>Al: +<br>Lm: 5%<br>W: 40%<br>C: 5% | F-M-L | Fair | 4.0-4.5 | Organic residue contains a high proportion of dark woody material in addition to the amorphous matter. |
| C-6973 | 3426.6<br>Core 2 | Am: 55-60%<br>Al: +<br>Lm: 5%<br>W: 25-30%<br>C: 5% | F-M-L | Fair | 4.0-4.5 | Fairly comparable to sample C-6969, but with a smaller proportion of dark woody phytoclasts. |



**Abbreviations**

| | | | | | |
|---|---|---|---|---|---|
| Am | Amorphous | Al | Algal material | W | Woody material |
| | | Lm | Liptinitic material | C | Coaly fragments |

| | |
|---|---|
| F | Fine |
| M | Medium |
| L | Large |

IKU SINTEF-GRUPPEN

# Visual Kerogen Analysis

Table no.: 7
Well no.: 9/2-2

| Sample | Depth (m) | Composition of residue | Particle size | Preservation palynomorphs | Thermal maturation index | Remarks |
|---|---|---|---|---|---|---|
| C-6977 | 3427.8<br>Core 2 | Am: 35-40%<br>Al: 5%<br>Lm: 30-35%<br>W+C:15-20% | F-M-L | Good-Fair | 4.0-4.5 | Organic residue rich in terrestrial palynomorphs and and dark brown to black elongated woody/coaly phytoclasts. Fresh water algae present. (comparable to sample C-7012). |
| C- 6979 | 3428.4<br>Core 2 | Am: 55-60%<br>Al: 5-10%<br>Lm: 5%<br>W: 15-20%<br>C: 5% | F-M-L | Fair | 4.0-4.5 | Organic residue with a higher proportion of recognizable algal material than samples above. |
| C-7012 | 3431.0<br>SWC | Am: 40%<br>Al: 5%<br>Lm: 45%<br>W: 10%<br>C: 5% | F-M-L | Fair-Good | 4.0-4.5 | Organic residue rich in terrestrial palynomorphs and dark brown to black elongated woody/coaly phytoclasts. Fresh water algae fairly common. |

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**Abbreviations**

Am Amorphous
Al Algal material
Lm Liptinitic material
W Woody material
C Coaly fragments
F Fine
M Medium
L Large

IKU SINTEF-GRUPPEN

# Visual Kerogen Analysis

Table no.: 7
Well no.: 9/2-2

| Sample | Depth (m) | Composition of residue | Particle size | Preservation palynomorphs | Thermal maturation index | Remarks |
|---|---|---|---|---|---|---|
| C- 7014 | 3442<br>SWC | Am: 40-45%<br>Lm: 15-20%<br>W+C:35-40% | F-M-L | Fair | 4.0-4.5 | Organic residue containing a significant proportion of dark brown to black structured woody/coaly fragments, fairly abundant terrestrial palynomorphs together with amorphous material. |

**Abbreviations**

| | | | | | |
|---|---|---|---|---|---|
| Am | Amorphous | Al | Algal material | W | Woody material |
| | | Lm | Liptinitic material | C | Coaly fragments |

| | |
|---|---|
| F | Fine |
| M | Medium |
| L | Large |

Well number: 9/2-2
Reference number:22.1877
(1/4)

Table 8. VITRINITE REFLECTANCE DATA

| IKU NO | SAMPLE TYPE | DEPTH (M) | VITRINITE REFLECTANCE | REL RAT | STANDARD DEVIATION | FLUORESCENCE |
|---|---|---|---|---|---|---|
| C-7090 | Ctg(bulk) | 1515 | 0.42 (4) | F | 0.05 | --- |
| | | | 0.58 (5) | I | 0.03 | |
| | | | 0.89 (7) | I | 0.03 | |
| | | | 1.26 (9) | I | 0.22 | |
| C-7092 | " | 1635 | 0.40 (5) | F | 0.05 | 4 |
| | | | 0.59 (5) | I | 0.07 | |
| | | | 1.00 (14) | I | 0.15 | |
| | | | 1.67 (1) | I | 0.00 | |
| C-7093 | " | 1695 | 0.38 (12) | F | 0.08 | 4 |
| | | | 0.60 (4) | I | 0.01 | |
| | | | 0.98 (7) | I | 0.11 | |
| | | | 1.40 (2) | I | 0.09 | |
| C-7094 | " | 1755 | 0.41 (3) | F | 0.03 | 4 |
| | | | 0.57 (5) | I | 0.07 | |
| | | | 0.91 (11) | I | 0.11 | |
| | | | 1.34 (6) | I | 0.10 | |
| C-7095 | " | 1815 | 0.32 (3) | LRV | 0.12 | 6-7* |
| | | | 0.63 (4) | I | 0.02 | |
| | | | 1.06 (14) | I | 0.12 | |
| | | | 1.43 (5) | I | 0.07 | |
| C-7096 | " | 1875 | 0.39 (3) | F | 0.02 | 4-5 |
| | | | 0.88 (10) | I | 0.16 | |
| | | | 1.30 (10) | I | 0.07 | |
| | | | 1.89 (1) | I | 0.00 | |
| C-7097 | " | 1935 | 0.34 (4) | F | 0.03 | 4-5 |
| | | | 0.57 (6) | I | 0.10 | |
| | | | 0.92 (10) | I | 0.05 | |
| | | | 1.39 (7) | I | 0.18 | |
| C-7098 | " | 1995 | 0.29 (7) | LRV | 0.04 | 4 |
| | | | 0.56 (3) | I | 0.02 | |
| | | | 0.98 (18) | I | 0.16 | |
| C-7099 | " | 2055 | 0.35 (5) | LRV | 0.08 | 4-5 |
| | | | 0.81 (12) | I | 0.13 | |
| | | | 1.22 (8) | I | 0.09 | |

REL RAT (Reliability Rating): G = Good; F = Fair; P = Poor;
LRV = Low Reflecting Vitrinite; HRV = High Reflecting Vitrinite; LRM = Low Reflecting Material; I = Inertinite.
*: Fluorescence probably based on reworked material.

Well number: 9/2-2
Reference number:22.1877
(2/4)

Table 8 (continued). VITRINITE REFLECTANCE DATA

| IKU NO | SAMPLE TYPE | DEPTH (M) | VITRINITE REFLECTANCE | REL RAT | STANDARD DEVIATION | FLUORESCENCE |
|---|---|---|---|---|---|---|
| C-7100 | Ctg(bulk) | 2115 | 0.25 (1) | LRM | 0.00 | 4? |
| | | | 0.36 (6) | LRV | 0.03 | |
| | | | 0.92 (15) | I | 0.17 | |
| | | | 1.47 (3) | I | 0.07 | |
| C-7101 | " | 2175 | 0.41 (8) | LRV | 0.06 | 4 |
| | | | 0.66 (5) | I | 0.09 | |
| | | | 1.14 (9) | I | 0.16 | |
| | | | 1.58 (3) | I | 0.02 | |
| C-7102 | " | 2235 | 0.40 (6) | LRV | 0.04 | 4-5 |
| | | | 0.67 (3) | I | 0.08 | |
| | | | 0.91 (4) | I | 0.03 | |
| | | | 1.23 (12) | I | 0.12 | |
| C-7103 | " | 2295 | 0.40 (5) | LRV | 0.06 | 5 |
| | | | 0.82 (3) | I | 0.14 | |
| | | | 1.21 (5) | I | 0.07 | |
| | | | 1.70 (2) | I | 0.19 | |
| C-7104 | " | 2355 | 0.43 (6) | LRV | 0.07 | 4-5 |
| | | | 0.66 (1) | I | 0.00 | |
| | | | 1.14 (17) | I | 0.20 | |
| | | | 1.75 (1) | I | 0.00 | |
| C-7105 | " | 2415 | 0.37 (4) | LRV | 0.05 | 5 |
| | | | 0.69 (2) | I | 0.04 | |
| | | | 1.19 (9) | I | 0.15 | |
| C-7106 | " | 2475 | 0.47 (10) | F | 0.06 | 5-6 |
| | | | 0.87 (3) | I | 0.04 | |
| | | | 1.24 (10) | I | 0.11 | |
| | | | 1.73 (2) | I | 0.09 | |
| C-7107 | " | 2535 | 0.48 (4) | F | 0.08 | 4 |
| | | | 1.02 (18) | I | 0.23 | |
| | | | 1.73 (2) | I | 0.10 | |
| C-7109 | " | 2610 | 0.43 (6) | LRV | 0.06 | 5-6 |
| | | | 0.65 (3) | I | 0.04 | |
| | | | 0.90 (11) | I | 0.06 | |
| | | | 1.30 (4) | I | 0.19 | |

REL RAT (Reliability Rating): G = Good; F = Fair; P = Poor;
LRV = Low Reflecting Vitrinite; HRV = High Reflecting Vitrinite; LRM = Low Reflecting Material; I = Inertinite.
*: Fluorescence probably based on reworked material.

Well number: 9/2-2
Reference number:22.1877
(3/4)

Table 8 (continued). VITRINITE REFLECTANCE DATA

| IKU NO | SAMPLE TYPE | DEPTH (M) | VITRINITE REFLECTANCE | REL RAT | STANDARD DEVIATION | FLUORESCENCE |
|---|---|---|---|---|---|---|
| C-7113 | Ctg(bulk) | 2670 | 0.35 (3) | LRV | 0.07 | 5 |
| | | | 0.61 (5) | I | 0.05 | |
| | | | 1.12 (15) | I | 0.24 | |
| | | | 1.75 (2) | I | 0.06 | |
| C-7117 | " | 2730 | 0.83 (3) | I | 0.04 | 5 |
| | | | 1.33 (6) | I | 0.17 | |
| C-7121* | " | 2790 | 0.47 (3) | LRV | 0.04 | 5-6 |
| | | | 0.66 (5) | I | 0.05 | |
| | | | 1.08 (9) | I | 0.15 | |
| | | | 1.70 (6) | I | 0.22 | |
| C-7126 | " | 2865 | 0.60 (5) | HRV | 0.04 | 5-6 |
| | | | 0.91 (11) | I | 0.12 | |
| | | | 1.38 (9) | I | 0.13 | |
| C-7128 | " | 2925 | 0.63 (6) | HRV | 0.02 | 5-6 |
| | | | 0.78 (8) | I | 0.05 | |
| | | | 1.43 (11) | I | 0.22 | |
| C-6988 | SWC | 2957 | 0.38 (4) | LRM | 0.08 | 5-6 |
| | | | 0.58 (9) | F | 0.05 | |
| | | | 0.80 (6) | I | 0.05 | |
| | | | 1.09 (6) | I | 0.14 | |
| C-6993 | SWC | 2995 | 0.41 (7) | LRM | 0.03 | 5 |
| | | | 0.55 (11) | F | 0.04 | |
| | | | 0.70 (8) | I | 0.05 | |
| | | | 0.93 (2) | I | 0.04 | |
| C-6997 | SWC | 3045 | 0.61 (3) | F | 0.03 | 5-6 |
| | | | 0.96 (9) | I | 0.14 | |
| | | | 1.56 (1) | I | 0.00 | |
| C-6999 | SWC | 3060 | 0.53 (4) | F | 0.08 | 5-6 |
| | | | 0.79 (5) | I | 0.06 | |
| | | | 1.34 (13) | I | 0.20 | |
| C-7000 | SWC | 3075 | 0.61 (4) | F | 0.04 | 6 |
| | | | 0.97 (6) | I | 0.15 | |
| | | | 1.57 (14) | I | 0.24 | |
| C-7003 | SWC | 3234 | 0.69 (24) | G | 0.08 | 6 |
| | | | 0.95 (1) | I | 0.00 | |

REL RAT (Reliability Rating): G = Good; F = Fair; P = Poor;
LRV = Low Reflecting Vitrinite; HRV = High Reflecting Vitrinite; LRM = Low Reflecting Material; I = Inertinite.
*: Fluorescence probably based on reworked material.

Well number: 9/2-2
Reference number:22.1877
(4/4)

Table 8 (continued). VITRINITE REFLECTANCE DATA

| IKU NO | SAMPLE TYPE | DEPTH (M) | VITRINITE REFLECTANCE | REL RAT | STANDARD DEVIATION | FLUORESCENCE |
|---|---|---|---|---|---|---|
| C-7004 | SWC | 3237 | 0.71 (25) | G | 0.08 | 6-7 |
| C-7008 | SWC | 3370 | 0.75 (6) | LRV | 0.13 | 6-7 |
| | | | 1.16 (12) | I | 0.11 | |
| | | | 1.63 (7) | I | 0.13 | |
| C-7010 | SWC | 3393 | 0.79 (12) | HRV | 0.05 | 6 |
| | | | 1.29 (12) | I | 0.21 | |
| C-6932 | Core | 3414.3 | 0.72 (4) | F | 0.02 | 6-7 |
| | | | 0.90 (16) | I | 0.07 | |
| | | | 1.19 (5) | I | 0.08 | |
| C-6935 | " | 3414.9 | 0.72 (20) | G | 0.09 | 6-7 |
| | | | 0.91 (7) | I | 0.02 | |
| C-6950 | " | 3419.35 | 0.78 (25) | G | 0.09 | 6 |
| | | | 1.11 (2) | I | 0.10 | |
| C-6967 | " | 3424.5 | 0.76 (16) | G | 0.05 | 6-7 |
| | | | 0.96 (7) | I | 0.06 | |
| | | | 1.28 (2) | I | 0.11 | |
| C-6977 | " | 3427.8 | 0.76 (26) | G | 0.09 | 6 |
| | | | 1.33 (5) | I | 0.29 | |
| C-7013 | SWC | 3441 | 1.42 (25) | I | 0.33 | 6-7 |

REL RAT (Reliability Rating): G = Good; F = Fair; P = Poor;
LRV = Low Reflecting Vitrinite; HRV = High Reflecting Vitrinite; LRM = Low Reflecting Material; I = Inertinite.
*: Fluorescence probably based on reworked material.

Table 9. $^{13}C/^{12}C$ isotope data. Kerogens and compound classes from indigenous hydrocarbons. Well 9/2-2.

| SAMPLE | DEPTH (MRKB) | SAMPLE TYPE | SAT | ARO | NSO | ASPH | KER |
|---|---|---|---|---|---|---|---|
| C-6990 | 2980.00 | SWC | -30.26 | -29.23 | -28.86 | -28.73 | -23.82 |
| C-6991 | 2985.00 | SWC | -30.46 | -29.64 | -29.32 | -29.54 | -28.38 |
| C-6995 | 3015.00 | SWC | | | | | -26.57 |
| C-7004 | 3237.00 | SWC | -26.20 | -24.39 | -25.08 | -24.36 | -23.90 |
| C-6950 | 3419.35 | Core | | | | | -27.84 |
| C-6954 | 3420.60 | Core | -28.87 | -25.91 | -27.00 | -25.62 | -24.86 |
| C-6977 | 3427.80 | Core | | | | | -24.21 |
| C-6979 | 3428.40 | Core | -26.77 | -26.69 | -27.88 | -27.95 | -22.85 |
| C-7012 | 3431.00 | SWC | -26.38 | -25.45 | -26.64 | -25.21 | -22.86 |
| C-7013 | 3441.00 | SWC | | | | | -23.83 |
| C-7014 | 3442.00 | SWC | | | | | -23.61 |

NBS22-STD: -29.90 ± 0.03 N=7

All results are given as delta-values against the PDB-standard.

Project no.: 22.1877.00
Well ident.: 9/2-2
DATE : 5 - 1 - 88.

T A B L E : 10.

WEIGHT OF EOM AND CHROMATOGRAPHIC FRACTIONS

CORE 2 (3414.05m - 3430.80m) and SWC
MPLC - Data

| IKU-No | DEPTH (m) | Rock Extr. (g) | EOM (mg) | Sat. (mg) | Aro. (mg) | HC (mg) | Non HC (mg) | TOC (%) | |
|---|---|---|---|---|---|---|---|---|---|
| C 6990 | 2980.00 | 2.9 | 22.0 | 4.2 | 6.4 | 10.6 | 11.4 | 6.54 | |
| C 6991 | 2985.00 | 1.9 | 12.4 | 3.2 | 3.8 | 7.0 | 5.4 | 8.07 | |
| C 7004 | 3237.00 | 1.4 | 30.0 | 2.0 | 5.9 | 7.9 | 22.1 | 21.13 | 1) |
| C 6954 | 3420.60 | 4.3 | 6.4 | 1.3 | 1.4 | 2.7 | 3.7 | 4.84 | 1) |
| C 6979 | 3428.40 | 3.4 | 5.6 | 1.6 | 1.8 | 3.4 | 2.2 | 7.30 | 1) |
| C 7012 | 3431.00 | 5.1 | 8.0 | 1.8 | 2.4 | 4.2 | 3.8 | 5.08 | 1) |

1) Unreliable sat and aro data due to low weights

Project no.: 22.1877.00
Well ident.: 9/2-2
DATE : 5 - 1 - 88.

T A B L E : 11.

CONCENTRATION OF EOM AND CHROMATOGRAPHIC FRACTIONS

(Weight ppm of rock)

CORE 2 (3414.05m - 3430.80m) and SWC
MPLC - Data

| IKU-No | DEPTH (m) | EOM | Sat. | Aro. | HC | Non HC | |
|---|---|---|---|---|---|---|---|
| C 6990 | 2980.00 | 7586 | 1448 | 2207 | 3655 | 3931 | |
| C 6991 | 2985.00 | 6526 | 1684 | 2000 | 3684 | 2842 | |
| C 7004 | 3237.00 | 21429 | 1429 | 4214 | 5643 | 15786 | 1) |
| C 6954 | 3420.60 | 1488 | 302 | 326 | 628 | 860 | 1) |
| C 6979 | 3428.40 | 1647 | 471 | 529 | 1000 | 647 | 1) |
| C 7012 | 3431.00 | 1569 | 353 | 471 | 824 | 745 | 1) |

1) Unreliable sat and aro data due to low weights

Project no.: 22.1877.00
Well ident.: 9/2-2
DATE : 5 - 1 - 88.

T A B L E : 12.

CONCENTRATION OF EOM AND CHROMATOGRAPHIC FRACTIONS

(mg/g TOC)

CORE 2 (3414.05m - 3430.80) and SWC
MPLC - Data

| IKU-No | DEPTH (m) | EOM | Sat. | Aro. | HC | Non HC | |
|---|---|---|---|---|---|---|---|
| C 6990 | 2980.00 | 116.0 | 22.1 | 33.7 | 55.9 | 60.1 | |
| C 6991 | 2985.00 | 80.9 | 20.9 | 24.8 | 45.7 | 35.2 | |
| C 7004 | 3237.00 | 101.4 | 6.8 | 19.9 | 26.7 | 74.7 | 1) |
| C 6954 | 3420.60 | 30.8 | 6.2 | 6.7 | 13.0 | 17.8 | 1) |
| C 6979 | 3428.40 | 22.6 | 6.4 | 7.3 | 13.7 | 8.9 | 1) |
| C 7012 | 3431.00 | 30.9 | 6.9 | 9.3 | 16.2 | 14.7 | 1) |

1) Unreliable sat and aro data due to low weights

IKU SINTEF-GRUPPEN

Project no.: 22.1877.00
Well ident.: 9/2-2
DATE : 5 - 1 - 88.

T A B L E : 13.

COMPOSITION OF MATERIAL EXTRACTED FROM THE ROCK

CORE 2 (3414.05m - 3430.80m) and SWC
MPLC - Data

| IKU-No | DEPTH (m) | Sat EOM % | Aro EOM % | HC EOM % | SAT Aro x 100 | Non HC EOM % | HC Non HC x 100 | |
|---|---|---|---|---|---|---|---|---|
| C 6990 | 2980.00 | 19.1 | 29.1 | 48.2 | 65.6 | 51.8 | 93.0 | |
| C 6991 | 2985.00 | 25.8 | 30.6 | 56.5 | 84.2 | 43.5 | 129.6 | |
| C 7004 | 3237.00 | 6.7 | 19.7 | 26.3 | 33.9 | 73.7 | 35.7 | 1) |
| C 6954 | 3420.60 | 20.3 | 21.9 | 42.2 | 92.9 | 57.8 | 73.0 | 1) |
| C 6979 | 3428.40 | 28.6 | 32.1 | 60.7 | 88.9 | 39.3 | 154.5 | 1) |
| C 7012 | 3431.00 | 22.5 | 30.0 | 52.5 | 75.0 | 47.5 | 110.5 | 1) |

1) Unreliable sat and aro data due to low weights

IKU SINTEF-GRUPPEN

Project no.: 22.1877.00
Well ident.: 9/2-2
DATE : 15 - 1 - 88.

T A B L E : 14.

WEIGHT OF EOM AND CHROMATOGRAPHIC FRACTIONS

CORE 2 (3414.05m - 3430.80m) and SWC
Iatroscan - data

| IKU-No | DEPTH (m) | Rock Extr. (g) | EOM (mg) | Sat. (mg) | Aro. (mg) | RES 1 (mg) | RES 2 (mg) | TOC (%) |
|---|---|---|---|---|---|---|---|---|
| C 6990 | 2980.00 | 0.19 | 1.50 | 0.20 | 0.37 | 0.81 | 0.12 | 9.14 |
| C 6991 | 2985.00 | 0.22 | 1.60 | 0.29 | 0.33 | 0.87 | 0.12 | 7.77 |
| C 7004 | 3237.00 | 0.06 | 1.40 | 0.04 | 0.20 | 1.00 | 0.16 | 25.04 |
| C 6954 | 3420.60 | 0.77 | 1.40 | 0.13 | 0.32 | 0.75 | 0.20 | 4.81 |
| C 6979 | 3428.40 | 1.11 | 2.70 | 0.44 | 0.57 | 1.58 | 0.11 | 7.30 |
| C 7012 | 3431.00 | 0.56 | 1.00 | 0.13 | 0.22 | 0.56 | 0.08 | 5.13 |

Project no.: 22.1877.00
Well ident.: 9/2-2
DATE : 15 - 1 - 88.

T A B L E : 15.

CONCENTRATION OF EOM AND CHROMATOGRAPHIC FRACTIONS

(Weight ppm of rock)

CORE 2 (3414.05m - 3430.80m) and SWC
Iatroscan - data

| IKU-No | DEPTH (m) | EOM | Sat. | Aro. | RES 1 | RES 2 |
|---|---|---|---|---|---|---|
| C 6990 | 2980.00 | 7895 | 1053 | 1947 | 4263 | 632 |
| C 6991 | 2985.00 | 7273 | 1318 | 1500 | 3955 | 545 |
| C 7004 | 3237.00 | 23333 | 667 | 3333 | 16667 | 2667 |
| C 6954 | 3420.60 | 1818 | 169 | 416 | 974 | 260 |
| C 6979 | 3428.40 | 2432 | 396 | 514 | 1423 | 99 |
| C 7012 | 3431.00 | 1786 | 232 | 393 | 1000 | 143 |

IKU SINTEF-GRUPPEN
Project no.: 22.1877.00
Well ident.: 9/2-2
DATE : 15 - 1 - 88.

T A B L E : 16.

CONCENTRATION OF EOM AND CHROMATOGRAPHIC FRACTIONS

(mg/g TOC)

CORE 2 (3414.05m - 3430.80m) and SWC
Iatroscan - data

| IKU-No | DEPTH (m) | EOM | Sat. | Aro. | RES 1 | RES 2 |
|---|---|---|---|---|---|---|
| C 6990 | 2980.00 | 86.4 | 11.52 | 21.31 | 46.64 | 6.91 |
| C 6991 | 2985.00 | 93.6 | 16.97 | 19.31 | 50.90 | 7.02 |
| C 7004 | 3237.00 | 93.2 | 2.66 | 13.31 | 66.56 | 10.65 |
| C 6954 | 3420.60 | 37.8 | 3.51 | 8.64 | 20.25 | 5.40 |
| C 6979 | 3428.40 | 33.3 | 5.43 | 7.03 | 19.50 | 1.36 |
| C 7012 | 3431.00 | 34.8 | 4.53 | 7.66 | 19.49 | 2.78 |

IKU SINTEF-GRUPPEN

Project no.: 22.1877.00
Well ident.: 9/2-2
DATE : 15 - 1 - 88.

T A B L E : 17.

COMPOSITION OF MATERIAL EXTRACTED FROM THE ROCK

CORE 2 (3414.05m - 3430.80m) and SWC
Iatroscan - data

| IKU-No | DEPTH (m) | Sat EOM % | Aro EOM % | RES 1 EOM % | SAT Aro x 100 | RES 2 EOM % | RES 1 RES 2 x 100 |
|---|---|---|---|---|---|---|---|
| C 6990 | 2980.00 | 13.33 | 24.67 | 54.00 | 54.05 | 8.00 | 675.00 |
| C 6991 | 2985.00 | 18.13 | 20.62 | 54.37 | 87.88 | 7.50 | 725.00 |
| C 7004 | 3237.00 | 2.86 | 14.29 | 71.43 | 20.00 | 11.43 | 625.00 |
| C 6954 | 3420.60 | 9.29 | 22.86 | 53.57 | 40.63 | 14.29 | 375.00 |
| C 6979 | 3428.40 | 16.30 | 21.11 | 58.52 | 77.19 | 4.07 | 1436.36 |
| C 7012 | 3431.00 | 13.00 | 22.00 | 56.00 | 59.09 | 8.00 | 700.00 |

IKU SINTEF-GRUPPEN

Project no.: 22.1877.00
Well ident.: 9/2-2
DATE : 5 - 1 - 88.

TABLE 18

AMOUNT OF ASPHALTENES AND NSO

CORE 2 (3414.05m - 3430.80m) and SWC

| IKU-No. | DEPTH (m) | EOM (mg) | Asphaltenes (mg) | Asphaltenes (%) | NSO (mg) | NSO (%) | |
|---|---|---|---|---|---|---|---|
| C 6990 | 2980.00 | 22.0 | 4.5 | 20.5 | 6.5 | 29.5 | |
| C 6991 | 2985.00 | 12.4 | 3.0 | 24.2 | 4.3 | 34.7 | |
| C 7004 | 3237.00 | 30.0 | 17.6 | 58.7 | 4.9 | 16.3 | |
| C 6954 | 3420.60 | 6.4 | 3.2 | 50.0 | 1.9 | 29.7 | 1) |
| C 6979 | 3428.40 | 5.6 | 3.2 | 57.1 | 2.5 | 44.6 | 1) |
| C 7012 | 3431.00 | 8.0 | 4.5 | 56.3 | 2.3 | 28.8 | 1) |

1) Unreliable NSO data due to low weights

## Table 19:

**Processing data. GC of saturates.**

Project no.: 22.1877.00
Well ident.: 9/2-2
Date : 9 - 12 - 87

Channel:3 Title: HP-5730 Date 9/12/87 Time 18:48
Analysis:877C6990S Sample Name:STATOIL 9/2-2 SWC
Sample 1 Injection 1

| PK.£ | R/T | Height | Area | Identity | Type |
|---|---|---|---|---|---|
| 2 | 8.275 | 56404 | 286916 | n-C13 | 0 |
| 5 | 11.133 | 86858 | 497866 | n-C14 | 0 |
| 9 | 14.019 | 109046 | 571509 | n-C15 | 0 |
| 12 | 16.829 | 101508 | 493677 | n-C16 | 0 |
| 17 | 19.539 | 101981 | 407391 | n-C17 | 0 |
| 18 | 19.789 | 86080 | 485866 | Pristane | 0 |
| 22 | 22.125 | 83455 | 329701 | n-C18 | 0 |
| 23 | 22.435 | 50975 | 273686 | Phytane | LO |
| 26 | 24.600 | 74742 | 318425 | n-C19 | LO |
| 28 | 26.957 | 68211 | 464984 | n-C20 | 0 |
| 29 | 29.224 | 59334 | 441238 | n-C21 | LO |
| 30 | 31.389 | 52787 | 369939 | n-C22 | |
| 31 | 33.459 | 47137 | 214654 | n-C23 | 0 |
| 33 | 35.453 | 42411 | 178691 | n-C24 | LO |
| 34 | 37.363 | 46760 | 222858 | n-C25 | 0 |
| 35 | 39.213 | 30718 | 293544 | n-C26 | FO |
| 36 | 40.995 | 25102 | 214291 | n-C27 | 0 |
| 38 | 42.712 | 20719 | 197031 | n-C28 | 0 |
| 41 | 44.381 | 21947 | 151382 | n-C29 | 0 |
| 43 | 45.981 | 14116 | 102512 | n-C30 | 0 |
| 46 | 47.533 | 13000 | 53456 | n-C31 | LO |
| 47 | 49.037 | 9527 | 39637 | n-C32 | |
| 48 | 50.504 | 8798 | 36801 | n-C33 | |
| 52 | 51.923 | 6724 | 89139 | n-C34 | 0 |
| 54 | 53.491 | 5122 | 50351 | n-C35 | 0 |
| 56 | 55.352 | 3480 | 28081 | n-C36 | |
| 57 | 57.581 | 2180 | 16333 | n-C37 | |

IKU SINTEF-GRUPPEN

Project no.: 22.1877.00
Well ident.: 9/2-2
Date : 11 - 12 - 87

HP 5730A

Channel:2 Title: HP-5710 Date 11/12/87 Time 10: 2
Analysis:877C6991S Sample Name:STATOI_ 9/2-2 SWC
Sample 1 Injection 1

| PK.# | R/T' | Height | Area | Identity | Type |
|---|---|---|---|---|---|
| 1 | 4.427 | 356 | 815 | n-C11 | |
| 2 | 6.752 | 3414 | 9662 | n-C12 | |
| 14 | 9.544 | 27654 | 91482 | n-C13 | LO |
| 29 | 12.557 | 64152 | 287345 | n-C14 | O |
| 44 | 15.603 | 91574 | 448072 | n-C15 | O |
| 57 | 18.573 | 92993 | 458761 | n-C16 | O |
| 70 | 21.443 | 92779 | 535904 | n-C17 | OM |
| 71 | 21.608 | 83440 | 577058 | Pristane | O |
| 79 | 24.173 | 69554 | 387020 | n-C18 | O |
| 80 | 24.424 | 54817 | 404325 | Phytane | O |
| 91 | 26.803 | 61016 | 341565 | n-C19 | OM |
| 99 | 29.309 | 49281 | 290259 | n-C20 | OM |
| 108 | 31.715 | 42845 | 263536 | n-C21 | OM |
| 117 | 34.024 | 39179 | 215774 | n-C22 | OM |
| 124 | 36.243 | 34540 | 192114 | n-C23 | OM |
| 133 | 38.376 | 32744 | 178790 | n-C24 | FOM |
| 141 | 40.424 | 31191 | 186072 | n-C25 | OM |
| 148 | 42.392 | 26506 | 147816 | n-C26 | OM |
| 154 | 44.291 | 22325 | 136921 | n-C27 | OM |
| 160 | 46.125 | 20120 | 160708 | n-C28 | OM |
| 166 | 47.896 | 20860 | 150729 | n-C29 | O |
| 174 | 49.613 | 15939 | 97347 | n-C30 | OM |
| 179 | 51.283 | 17285 | 98663 | n-C31 | OM |
| 188 | 53.971 | 4653 | 59670 | n-C32 | O |
| 191 | 55.101 | 9077 | 99137 | n-C33 | LOM |
| 196 | 57.603 | 5458 | 50107 | n-C34 | LO |
| 200 | 60.696 | 4386 | 52351 | n-C35 | LOM |

Project no.: 22.1877.00
Well ident.: 9/2-2
Date : 11 - 12 - 87

Channel:2 Title: HP-5710 Date 11/12/87 Time 11:45
Analysis:877C7004S Sample Name:STATOIL 9/2-2 SWC
Sample 1 Injection 1

| PK.# | R/T | Height | Area | Identity | Type |
|---|---|---|---|---|---|
| 1 | 4.421 | 384 | 874 | n-C11 | |
| 3 | 6.773 | 5047 | 13790 | n-C12 | |
| 13 | 9.587 | 32694 | 113132 | n-C13 | OM |
| 29 | 12.605 | 54222 | 243422 | n-C14 | O |
| 44 | 15.645 | 85287 | 351307 | n-C15 | OM |
| 55 | 18.611 | 63740 | 261288 | n-C16 | O |
| 67 | 21.485 | 90322 | 425275 | n-C17 | OM |
| 68 | 21.667 | 129555 | 791313 | Pristane | O |
| 77 | 24.211 | 56846 | 279425 | n-C18 | O |
| 78 | 24.445 | 15706 | 112600 | Phytane | O |
| 88 | 26.824 | 66517 | 302923 | n-C19 | O |
| 99 | 29.320 | 45108 | 209324 | n-C20 | O |
| 109 | 31.715 | 49636 | 238649 | n-C21 | O |
| 117 | 34.019 | 49632 | 225677 | n-C22 | FOM |
| 125 | 36.232 | 56293 | 269301 | n-C23 | FOM |
| 133 | 38.360 | 50872 | 264530 | n-C24 | FOM |
| 139 | 40.408 | 62443 | 322838 | n-C25 | O |
| 147 | 42.371 | 48503 | 243211 | n-C26 | LO |
| 154 | 44.269 | 54355 | 259245 | n-C27 | LO |
| 160 | 46.093 | 36509 | 186980 | n-C28 | LOM |
| 164 | 47.869 | 40400 | 199182 | n-C29 | O |
| 169 | 49.581 | 23798 | 122767 | n-C30 | FOM |
| 175 | 51.240 | 23271 | 118763 | n-C31 | OM |
| 181 | 52.949 | 9285 | 58085 | n-C32 | FOM |
| 185 | 55.005 | 7371 | 64925 | n-C33 | FOM |
| 187 | 56.512 | 320 | 1819 | n-C37 | O |
| 188 | 57.515 | 3128 | 37283 | n-C34 | FOM |
| 190 | 60.549 | 2066 | 20027 | n-C35 | M |

Project no.: 22.1877.00
Well ident.: 9/2-2
Date : 10 - 12 - 87

HP [illegible]

Channel:3 Title: HP-5730 Date 10/12/87 Time 12:52
Analysis:877C6954S Sample Name:STATOIL 9/2-2 SWC
Sample 1 Injection 1

| PK.# | R/T | Height | Area | Identity | Type |
|---|---|---|---|---|---|
| 1 | 7.925 | 6903 | 19842 | n-C13 | |
| 2 | 10.677 | 52169 | 179316 | n-C14 | |
| 5 | 13.517 | 118141 | 394671 | n-C15 | |
| 12 | 16.312 | 147317 | 600666 | n-C16 | LO |
| 16 | 19.016 | 161921 | 647407 | n-C17 | O |
| 17 | 19.235 | 55580 | 315572 | Pristane | LO |
| 20 | 21.603 | 157206 | 718743 | n-C18 | LOM |
| 23 | 24.077 | 161036 | 698818 | n-C19 | OM |
| 28 | 26.440 | 149164 | 699783 | n-C20 | O |
| 31 | 28.707 | 153360 | 675656 | n-C21 | LO |
| 35 | 30.877 | 143670 | 635552 | n-C22 | FO |
| 37 | 32.952 | 148096 | 654542 | n-C23 | O |
| 40 | 34.936 | 128227 | 733657 | n-C24 | |
| 41 | 36.851 | 146432 | 807310 | n-C25 | |
| 45 | 38.696 | 116249 | 500599 | n-C26 | LO |
| 48 | 40.477 | 118461 | 587899 | n-C27 | FO |
| 51 | 42.184 | 85897 | 375831 | n-C28 | FO |
| 54 | 43.848 | 84981 | 425028 | n-C29 | O |
| 56 | 45.437 | 57983 | 237741 | n-C30 | LO |
| 59 | 46.989 | 54054 | 228236 | n-C31 | M |
| 60 | 48.483 | 35094 | 141553 | n-C32 | |
| 63 | 49.949 | 34838 | 144288 | n-C33 | LO |
| 66 | 51.357 | 22531 | 100574 | n-C34 | LO |
| 67 | 52.909 | 14957 | 76771 | n-C35 | |
| 69 | 54.749 | 9106 | 61203 | n-C36 | |
| 71 | 56.957 | 6772 | 48439 | n-C37 | |

[illegible]

10645 67396 Phytane

IKU SINTEF-GRUPPEN

Project no.: 22.1877.00
Well ident.: 9/2-2
Date : 10 - 12 - 87

HP 5730A

Channel:3 Title: HP-5730 Date 10/12/87 Time 10:54
Analysis:877C6979S Sample Name:STATOIL 9/2-2 SWC
Sample 1 Injection 1

| PK.# | R/T | Height | Area | Identity | Type |
|---|---|---|---|---|---|
| 1 | 10.699 | 59452 | 187002 | n-C14 | |
| 6 | 13.539 | 116004 | 420698 | n-C15 | O |
| 11 | 16.328 | 139718 | 549946 | n-C16 | LO |
| 15 | 19.027 | 145440 | 585719 | n-C17 | O |
| 16 | 19.272 | 101233 | 584784 | Pristane | LO |
| | | | | | O |
| 22 | 24.088 | 140985 | 597146 | n-C19 | LO |
| 23 | 26.451 | 126915 | 539437 | n-C20 | |
| 26 | 28.717 | 128594 | 527117 | n-C21 | |
| 28 | 30.877 | 120445 | 500847 | n-C22 | |
| 29 | 32.957 | 120430 | 532237 | n-C23 | FO |
| 31 | 34.941 | 108954 | 460739 | n-C24 | |
| 32 | 36.861 | 120094 | 599916 | n-C25 | |
| 34 | 38.701 | 90597 | 397780 | n-C26 | |
| 36 | 40.483 | 95938 | 420287 | n-C27 | LO |
| 38 | 42.189 | 69996 | 357778 | n-C28 | O |
| 40 | 43.848 | 66075 | 258610 | n-C29 | LO |
| 43 | 45.448 | 44608 | 173748 | n-C30 | LO |
| 44 | 47.000 | 36162 | 139866 | n-C31 | |
| 45 | 48.499 | 24850 | 106642 | n-C32 | |
| 46 | 49.960 | 23588 | 95348 | n-C33 | |
| 50 | 51.379 | 16397 | 73072 | n-C34 | LO |
| 53 | 52.936 | 11512 | 61284 | n-C35 | |
| 56 | 54.792 | 7146 | 50555 | n-C36 | |
| 58 | 57.011 | 5638 | 45237 | n-C37 | |

Total

143526 565444 n-C18

14669 86057 Phytane

IKU SINTEF-GRUPPEN

Project no.: 22.1877.00
Well ident.: 9/2-2
Date : 9 - 12 - 87

HP 5730A

Channel:3 Title: HP-5730 Date 9/12/87 Time 9:10
Analysis:877C7012S Sample Name:STATOIL 9/2-2 CORE
Sample 1 Injection 1

| PK.# | R/T | Height | Area | Identity | Type |
|---|---|---|---|---|---|
| 1 | 8.363 | 36684 | 106447 | n-C13 | |
| 2 | 11.192 | 147363 | 543784 | n-C14 | FO |
| 10 | 14.083 | 241043 | 1100477 | n-C15 | O |
| 16 | 16.909 | 292254 | 1611976 | n-C16 | OM |
| 22 | 19.629 | 320027 | 1737595 | n-C17 | O |
| 23 | 19.843 | 147027 | 1063118 | Pristane | O |
| | | | | | OM |
| 30 | 24.701 | 312458 | 1957291 | n-C19 | OM |
| 35 | 27.069 | 278643 | 1705401 | n-C20 | OM |
| 39 | 29.336 | 286333 | 1663669 | n-C21 | O |
| 42 | 31.501 | 258256 | 1505726 | n-C22 | O |
| 44 | 33.581 | 262772 | 1564141 | n-C23 | O |
| 46 | 35.555 | 228270 | 1255748 | n-C24 | |
| 48 | 37.485 | 236785 | 1520351 | n-C25 | LO |
| 51 | 39.304 | 184261 | 977494 | n-C26 | LO |
| 54 | 41.091 | 178798 | 1133424 | n-C27 | O |
| 56 | 42.787 | 127648 | 600308 | n-C28 | O |
| 58 | 44.445 | 119163 | 517596 | n-C29 | LO |
| 59 | 46.035 | 80724 | 336535 | n-C30 | |
| 61 | 47.587 | 69951 | 306080 | n-C31 | LO |
| 62 | 49.085 | 52387 | 240261 | n-C32 | FO |
| 65 | 50.547 | 50033 | 242423 | n-C33 | O |
| 69 | 51.965 | 38294 | 201361 | n-C34 | O |
| 71 | 53.528 | 26136 | 177810 | n-C35 | OM |
| 73 | 55.395 | 16728 | 114056 | n-C36 | |
| 76 | 57.624 | 13122 | 110370 | n-C37 | |
| 77 | 60.323 | 9066 | 89322 | n-C38 | |

Total

1760916 318177 n-C18

215983 29860 Phytane

IKU SINTEF-GRUPPEN

Project no.: 22.1877.00
Well ident.: 9/2-2
DATE : 8 - 12 - 87.

T A B L E 20
Molecular saturate Ratios

TABULATION OF DATA FROM THE GASCHROMATOGRAMS

CORE 2 (3414.05m - 3430.80m) and SWC

| IKU No. | DEPTH (m) | PRISTANE / PHYTANE = A | PRISTANE / n-C17 = B | PHYTANE / n-C18 | A / B | n-C17 / n-C27 | CPI 1 | CPI 2 | |
|---|---|---|---|---|---|---|---|---|---|
| C 6990 | 2980.00 | 1.8 | 1.2 | 0.8 | 1.4 | 4.1 | 1.2 | 1.0 | 1) |
| C 6991 | 2985.00 | 1.4 | 1.1 | 1.0 | 1.0 | 4.2 | 1.2 | 1.0 | |
| C 7004 | 3237.00 | 7.0 | 1.9 | 0.4 | 4.6 | 1.7 | 1.3 | 1.3 | |
| C 6954 | 3420.60 | 4.7 | 0.5 | 0.1 | 5.2 | 1.4 | 1.2 | 1.2 | 1) |
| C 6979 | 3428.40 | 6.8 | 1.0 | 0.2 | 6.6 | 1.5 | 1.2 | 1.2 | 1) |
| C 7012 | 3431.00 | 4.9 | 0.6 | 0.1 | 5.0 | 1.8 | 1.2 | 1.1 | |

1) Slightly increased CPI due to phtalate contaminant superimposed on the n-$C_{25}$ peak

Project no.: 22.1877.00
Well ident.: 9/2-2
Date : 12 - 1 -88

Table 21

M P - I N D I C E S

Core 2 ( 3414.05 - 3430.80m ) and SWC

| IKU No. | Depth (m) | MP-1 | MP-2 |
|---|---|---|---|
| C 6990 | 2980.00 | 0.8 | 1.0 |
| C 6991 | 2985.00 | 0.9 | 1.1 |
| C 7004 | 3237.00 | - | - |
| C 6954 | 3420.60 | 0.6 | 0.6 |
| C 6979 | 3428.40 | 0.6 | 0.6 |
| C 7012 | 3431.00 | 0.6 | 0.6 |

- No detection possible due to low consentration (noisy data)

Project no.: 22.1877.00
Well ident.: 9/2-2
Date : 12 - 1 -88

Table 22

D B T - I N D I C E S

Core 2 ( 3414.05 - 3430.80m ) and SWC

| IKU No. | Depth (m) | 4 --- MDBT 1 | 2+3 --- MDBT 1 |
|---|---|---|---|
| C 6990 | 2980.00 | 0.3 | 0.1 |
| C 6991 | 2985.00 | 0.3 | 0.1 |
| C 7004 | 3237.00 | - | - |
| C 6954 | 3420.60 | - | - |
| C 6979 | 3428.40 | - | - |
| C 7012 | 3431.00 | - | - |

- No detection possible due to low consentration (noisy data)

## Table 23:

**Peak heights in m/z 191, 217 and 218 mass chromatograms**

C-6990 SAT 2890.0 m

Peak heights from m/z 217 and 218 mass chromatograms.

| | m/z 217 | m/z 218 |
|---|---|---|
| Peak identities | Peak heights | Peak heights |
| u | | |
| v | | |
| a | 44 | |
| b | | |
| c | | |
| f | | |
| g | | |
| h | | 72.5 |
| i | | 54.5 |
| j | 80 | |
| k | | |
| n | | 55.5 |
| o | | 50.0 |
| p | | |
| q | 29 | |
| r | 26.5 | 55 |
| s | 17 | 51.5 |
| t | 70 | |

Peak heights from m/z 191.

| | m/z 191 |
|---|---|
| Peak identities | Peak heights |
| P | 5 |
| Q | 2 |
| R | 2.5 |
| S | 5 |
| T | |
| A | 15 |
| B | 20 |
| Z | 3.5 |
| C | 45 |
| X | 3.5 |
| D | 8 |
| E | 95 |
| F | 12 |
| G | 40 |
| H | 27 |
| I | 7 |
| $J_1$ | 15 |
| $J_2$ | 12 |
| $K_1$ | 12.5 |
| $K_2$ | 8.5 |
| $L_1$ | 4.5 |
| $L_2$ | 3 |
| $M_1$ | 2.5 |
| $M_2$ | 1.5 |

C-6991 SAT 2985.0 m

Peak heights from m/z 217 and 218 mass chromatograms.

| | m/z 217 | m/z 218 |
|---|---|---|
| Peak identities | Peak heights | Peak heights |
| u | | |
| v | | |
| a | 39 | |
| b | | |
| c | | |
| f | | |
| g | | |
| h | | 76.5 |
| i | | 62.5 |
| j | 79 | |
| k | | |
| n | | 64.5 |
| o | | 62 |
| p | | |
| q | 30 | |
| r | 28 | 63 |
| s | 15 | 55 |
| t | 75 | |

Peak heights from m/z 191.

| | m/z 191 |
|---|---|
| Peak identities | Peak heights |
| P | 2 |
| Q | 1 |
| R | 1 |
| S | 3 |
| T | |
| A | 15 |
| B | 19 |
| Z | 4 |
| C | 50 |
| X | 3 |
| D | 9 |
| E | 96 |
| F | 12 |
| G | 37 |
| H | 23.5 |
| I | 5 |
| $J_1$ | 13.5 |
| $J_2$ | 10 |
| $K_1$ | 8 |
| $K_2$ | 6 |
| $L_1$ | 2.5 |
| $L_2$ | 1.5 |
| $M_1$ | 1 |
| $M_2$ | 1 |

C-7004 SAT 3237.0 m.

Peak heights from m/z 217 and 218 mass chromatograms.

| | m/z 217 | m/z 218 |
|---|---|---|
| Peak identities | Peak heights | Peak heights |
| u | | |
| v | | |
| a | 15 | |
| b | | |
| c | | |
| f | | |
| g | | |
| h | | 23 |
| i | | 0 |
| j | 15.5 | |
| k | | |
| n | | 17 |
| o | | 21.5 |
| p | | |
| q | 55 | |
| r | 60 | 88.5 |
| s | 51.5 | 92 |
| t | 88 | |

Peak heights from m/z 191.

| | m/z 191 |
|---|---|
| Peak identities | Peak heights |
| P | |
| Q | |
| R | |
| S | 9 |
| T | |
| A | 1 |
| B | 58.5 |
| Z | |
| C | 101 |
| X | 2.5 |
| D | 13 |
| E | 80 |
| F | 21 |
| G | 44.5 |
| H | 32 |
| I | 11 |
| $J_1$ | 20.5 |
| $J_2$ | 13 |
| $K_1$ | 6.5 |
| $K_2$ | 4 |
| $L_1$ | 2 |
| $L_2$ | 1 |
| $M_1$ | |
| $M_2$ | |

C-6954 SAT 3420.6 m

Peak heights from m/z 217 and 218 mass chromatograms.

| Peak identities | m/z 217 Peak heights | m/z 218 Peak heights |
|---|---|---|
| u | | |
| v | | |
| a | 27 | |
| b | | |
| c | | |
| f | | |
| g | | |
| h | | 20 |
| i | | 18 |
| j | 32 | |
| k | | |
| n | | 9.5 |
| o | | 12.5 |
| p | | |
| q | 11 | |
| r | 23 | 18 |
| s | 15 | 17 |
| t | 87.5 | |

Peak heights from m/z 191.

| Peak identities | m/z 191 Peak heights |
|---|---|
| P | |
| Q | |
| R | |
| S | 8 |
| T | |
| A | 2 |
| B | 62 |
| Z | 2.5 |
| C | 86 |
| X | 6.5 |
| D | 14.5 |
| E | 98 |
| F | 27 |
| G | 62 |
| H | 39.5 |
| I | 11.5 |
| $J_1$ | 19.5 |
| $J_2$ | 13 |
| $K_1$ | 6.5 |
| $K_2$ | 4 |
| $L_1$ | 2 |
| $L_2$ | 1 |
| $M_1$ | |
| $M_2$ | |

C-6979 SAT 3428.40 m

Peak heights from m/z 217 and 218 mass chromatograms.

| Peak identities | m/z 217 Peak heights | m/z 218 Peak heights |
|---|---|---|
| u | | |
| v | | |
| a | 51.5 | |
| b | | |
| c | | |
| f | | |
| g | | |
| h | | 44 |
| i | | 34 |
| j | 52 | |
| k | | |
| n | | 24 |
| o | | 30 |
| p | | |
| q | 32 | |
| r | 46 | 56 |
| s | 32.5 | 53 |
| t | 62 | |

Peak heights from m/z 191.

| Peak identities | m/z 191 Peak heights |
|---|---|
| P | 1.5 |
| Q | |
| R | |
| S | 10 |
| T | |
| A | 1 |
| B | 38 |
| Z | 2.5 |
| C | 99 |
| X | 7 |
| D | 13 |
| E | 89 |
| F | 22 |
| G | 66 |
| H | 47 |
| I | 14.5 |
| $J_1$ | 26 |
| $J_2$ | 17 |
| $K_1$ | 10 |
| $K_2$ | 6.5 |
| $L_1$ | 3 |
| $L_2$ | 2 |
| $M_1$ | |
| $M_2$ | |

C-7012 SAT 3431.00 m

Peak heights from m/z 217 and 218 mass chromatograms.

| Peak identities | m/z 217 Peak heights | m/z 218 Peak heights |
|---|---|---|
| u | | |
| v | | |
| a | 36 | |
| b | | |
| c | | |
| f | | |
| g | | |
| h | | 47 |
| i | | 42 |
| j | 30 | |
| k | | |
| n | | 28.5 |
| o | | 40 |
| p | | |
| q | 26 | |
| r | 49 | 75 |
| s | 37.5 | 72 |
| t | 49 | |

Peak heights from m/z 191.

| Peak identities | m/z 191 Peak heights |
|---|---|
| P | 2.5 |
| Q | 1 |
| R | |
| S | 7.5 |
| T | |
| A | 1 |
| B | 32.5 |
| Z | 2 |
| C | 98.5 |
| X | 4 |
| D | 10.5 |
| E | 76 |
| F | 20 |
| G | 56 |
| H | 43 |
| I | 11.5 |
| $J_1$ | 22.5 |
| $J_2$ | 16 |
| $K_1$ | 8 |
| $K_2$ | 5 |
| $L_1$ | 2.5 |
| $L_2$ | 1.5 |
| $M_1$ | 1 |
| $M_2$ | 0.5 |

Table 24a Molecular ratios from terpane and sterane mass chromatograms. Maturity and source characteristic ratios. Well 9/2-2.

| IKU No. | Depth (m) | Sample type | Q/E[1] | Tm/Ts[2] | X/E[3] | Z/E[4] | a/a+j[5] |
|---|---|---|---|---|---|---|---|
| C-6990 | 2980.00 | SWC | 0.02 | 1.33 | 0.04 | 0.04 | 0.35 |
| C-6991 | 2985.00 | SWC | 0.01 | 1.27 | 0.03 | 0.04 | 0.33 |
| C-7004 | 3237.00 | SWC | - | 58.50 | 0.03 | - | 0.49 |
| C-6954 | 3420.60 | Core | - | 31.00 | 0.07 | 0.03 | 0.46 |
| C-6979 | 3428.40 | Core | - | 38.00 | 0.08 | 0.03 | 0.50 |
| C-7012 | 3431.00 | SWC | - | 32.50 | 0.05 | 0.03 | 0.55 |

1) Relative abundance of tricyclic terpanes (Q/E in m/z 191)
2) B/A in m/z 191
3) Relative abundance of unknown (X/E in m/z 191)
4) Relative abundance of bisnorhopane (Z/E in m/z 191)
5) Relative abundance of $C_{27}$ rearranged steranes (a/a+j in m/z 217)

Table 24b Molecular ratios from sterane and terpane mass chromatograms. Maturity ratios. Well 9/2-2.

| IKU code | Depth (m) | Sample type | αβ/αβ+βα[1] | %22S[2] | %ββ[3] | %20S[4] |
|---|---|---|---|---|---|---|
| C-6990 | 2980.00 | SWC | 0.89 | 58.9 | 46.8 | 29.3 |
| C-6991 | 2985.00 | SWC | 0.89 | 59.6 | 45.0 | 28.6 |
| C-7004 | 3237.00 | SWC | 0.79 | 59.5 | 60.9 | 38.5 |
| C-6954 | 3420.60 | Core | 0.78 | 61.0 | 43.6 | 11.2 |
| C-6979 | 3428.40 | Core | 0.80 | 59.2 | 62.6 | 34.0 |
| C-7012 | 3431.00 | SWC | 0.79 | 57.7 | 69.8 | 34.7 |

1) E/E+F in m/z 191
2) Average % distribution between first and second eluting isomers of extended hopanes (G-M in m/z 191)
3) 2(r+s)/(q+t+2(r+s)) in m/z 217
4) q/q+t in m/z 217

Project no.: 22.1877.00
Well ident.: 9/2-2
Date : 12-1-88

T A B L E 25
PYROLYSIS-GC. SEMIQUANTITATIVE DATA

PERCENT

| IKU NO | DEPTH (m) | SAMPLE TYPE | C1 | C2-C5 | C6-C14 | C15+ |
|---|---|---|---|---|---|---|
| C-6990 | 2980.00 | SWC | 9.33 | 15.32 | 33.58 | 41.64 |
| C-6991 | 2985.00 | SWC | 9.30 | 22.40 | 47.54 | 20.57 |
| C-6995 | 3015.00 | SWC | 3.67 | 12.77 | 24.80 | 56.82 |
| C-7003 | 3234.00 | SWC | 15.80 | 21.28 | 29.06 | 32.44 |
| C-7004 | 3237.00 | SWC | 14.61 | 29.29 | 39.92 | 13.08 |
| C-6935 | 3414.90 | CORE | 6.10 | 12.74 | 25.66 | 53.26 |
| C-6950 | 3419.35 | CORE | 6.33 | 19.42 | 30.94 | 43.31 |
| C-6954 | 3420.60 | CORE | 9.46 | 19.94 | 47.93 | 22.67 |
| C-6957 | 3421.50 | CORE | 5.44 | 11.71 | 24.40 | 57.25 |
| C-6973 | 3426.60 | CORE | 9.18 | 25.54 | 43.95 | 19.36 |
| C-6977 | 3427.80 | CORE | 12.74 | 23.14 | 37.45 | 23.80 |
| C-6979 | 3428.40 | CORE | 4.11 | 5.89 | 29.25 | 58.67 |
| C-7012 | 3431.00 | SWC | 7.72 | 8.95 | 27.94 | 54.43 |
| C-7013 | 3441.00 | SWC | 12.99 | 20.22 | 35.73 | 27.02 |
| C-7014 | 3442.00 | SWC | 12.65 | 25.35 | 40.97 | 18.23 |

Additional analyses, 9/2-1
PERCENT

| IKU NO | DEPTH (m) | SAMPLE TYPE | C1 | C2-C5 | C6-C14 | C15+ |
|---|---|---|---|---|---|---|
| C-6129 | 3043.00 | SWC | 13.62 | 19.02 | 37.10 | 28.16 |
| C-6130 | 3047.00 | SWC | 9.82 | 27.76 | 41.56 | 17.27 |
| C-6133 | 3099.00 | SWC | 4.06 | 12.55 | 26.78 | 54.18 |
| C-6137 | 3518.00 | SWC | 10.70 | 19.28 | 36.28 | 30.34 |

(continue)

Project no.: 22.1877.00
Well ident.: 9/2-2
Date : 12-1-88

T A B L E 2 5 (continued)

AREA

| IKU NO | DEPTH (m) | SAMPLE TYPE | C1 | C2-C5 | C6-C14 | C15+ |
|---|---|---|---|---|---|---|
| C-6990 | 2980.00 | SWC | 8895033 | 14604550 | 32014190 | 39704200 |
| C-6991 | 2985.00 | SWC | 2758930 | 6640819 | 14098090 | 6099325 |
| C-6995 | 3015.00 | SWC | 1404290 | 4882374 | 9484221 | 21731090 |
| C-7003 | 3234.00 | SWC | 2576693 | 3470220 | 4739887 | 5290861 |
| C-7004 | 3237.00 | SWC | 1759413 | 3527202 | 4807526 | 1574950 |
| C-6935 | 3414.90 | CORE | 2888946 | 6033359 | 12154540 | 25223170 |
| C-6950 | 3419.35 | CORE | 2472050 | 7584669 | 12087900 | 16920160 |
| C-6954 | 3540.00 | CORE | 1691191 | 3563602 | 8564279 | 4050235 |
| C-6957 | 3421.50 | CORE | 2309052 | 4974160 | 10365210 | 24315870 |
| C-6973 | 3426.60 | CORE | 1013575 | 2818328 | 4850280 | 2136155 |
| C-6977 | 3427.80 | CORE | 2554855 | 4641641 | 7510764 | 4772814 |
| C-6979 | 3428.40 | CORE | 3339916 | 4781049 | 23750460 | 47633640 |
| C-7012 | 3431.00 | SWC | 1222675 | 1417039 | 4425159 | 8620027 |
| C-7013 | 3441.00 | SWC | 2146562 | 3343024 | 5906291 | 4466197 |
| C-7014 | 3442.00 | SWC | 1528335 | 3062334 | 4950295 | 2202762 |

AREA
Additional analyses, 9/2-1

| IKU NO | DEPTH (m) | SAMPLE TYPE | C1 | C2-C5 | C6-C14 | C15+ |
|---|---|---|---|---|---|---|
| C-6129 | 3043.00 | SWC | 3372950 | 4710263 | 9188490 | 6973572 |
| C-6130 | 3047.00 | SWC | 1925117 | 5450494 | 8159445 | 3391304 |
| C-6133 | 3099.00 | SWC | 2304049 | 7126770 | 15204870 | 30768490 |
| C-6237 | 3518.00 | SWC | 3373147 | 6081046 | 11440440 | 9567569 |

(continue)

Project no.: 22.1877.00
Well ident.: 9/2-2
Date : 12-1-88

T A B L E 2 5 (continued)

HEIGHT

| IKU NO | DEPTH (m) | SAMPLE TYPE | C1 | C2-C5 | C6-C14 | C15+ |
|---|---|---|---|---|---|---|
| C-6990 | 2980.00 | SWC | 205033 | 4094021 | 6790490 | 4395095 |
| C-6991 | 2985.00 | SWC | 47553 | 2453715 | 3185724 | 862918 |
| C-6995 | 3015.00 | SWC | 16681 | 1987531 | 1894971 | 1677387 |
| C-7003 | 3234.00 | SWC | 35460 | 1627306 | 1023450 | 567337 |
| C-7004 | 3237.00 | SWC | 28583 | 1556768 | 1265386 | 266998 |
| C-6935 | 3414.90 | CORE | 43738 | 2617308 | 2810211 | 2312544 |
| C-6950 | 3419.35 | CORE | 36032 | 3847948 | 2514258 | 1432048 |
| C-6954 | 3420.60 | CORE | 10777 | 1687162 | 2276674 | 800887 |
| C-6957 | 3421.50 | CORE | 41239 | 2353392 | 2456204 | 2249807 |
| C-6973 | 3426.60 | CORE | 16223 | 1127598 | 1272422 | 366624 |
| C-6977 | 3427.80 | CORE | 98339 | 1925166 | 1946272 | 563141 |
| C-6979 | 3428.40 | CORE | 77081 | 1799836 | 5424792 | 4084130 |
| C-7012 | 3431.00 | SWC | 20372 | 701537 | 1197507 | 791340 |
| C-7013 | 3441.00 | SWC | 55221 | 1410332 | 1428729 | 617332 |
| C-7014 | 3442.00 | SWC | 34935 | 1177383 | 1190106 | 330077 |

HEIGHT
Additional analyses, 9/2-1

| IKU NO | DEPTH (m) | SAMPLE TYPE | C1 | C2-C5 | C6-C14 | C15+ |
|---|---|---|---|---|---|---|
| C-6129 | 3043.00 | SWC | 1363732 | 1949162 | 2150495 | 734126 |
| C-6130 | 3047.00 | SWC | 38693 | 2437779 | 1871767 | 468607 |
| C-6133 | 3099.00 | SWC | 26228 | 3176921 | 2719263 | 2365590 |
| C-6137 | 3518.00 | SWC | 75707 | 2593752 | 2975998 | 1068571 |

Table 26 R-index from py-GC (and some other parameters shown for comparison). Well 9/2-2.

| IKU no. | Depths (m RKB) | Sample type | R-index | HI | $T_{max}$ | pr/ph |
|---|---|---|---|---|---|---|
| C-6990 | 2980.00 | SWC | 0.4(7) | 567 | 430 | 1.8 |
| C-6991 | 2985.00 | " | 0.5(1) | 396 | 434 | 1.4 |
| C-6995 | 3015.00 | " | 0.5(6) | 206 | 437 | |
| C-7003 | 3234.00 | " | 1.2(0) | 264 | 437 | |
| C-7004 | 3237.00 | " | 0.3(8) | 382 | 442 | 7.0 |
| C-6935 | 3414.90 | Core | 0.5(7) | 281 | 447 | |
| C-6950 | 3419.35 | " | 0.6(4) | 181 | 447 | |
| C-6954 | 3420.60 | " | 0.2(7) | 373 | 445 | 4.7 |
| C-6957 | 3421.50 | " | 0.2(5) | 372 | 449 | |
| C-6973 | 3426.60 | " | 0.2(4) | 389 | 448 | |
| C-6977 | 3427.80 | " | 0.5(3) | 252 | 448 | |
| C-6979 | 3428.40 | " | 0.1(9) | 477 | 449 | 6.8 |
| C-7012 | 3431.00 | SWC | 0.2(9) | 451 | 447 | 4.9 |
| C-7013 | 3441.00 | " | 0.5(3) | 144 | 443 | |
| C-7014 | 3442.00 | " | 0.5(6) | 255 | 442 | |
| | | **Well 9/2-1** | | | | |
| C-6129 | 3043.00 | " | 0.5(1) | 266 | 436 | |
| C-6130 | 3047.00 | " | 0.6(4) | 310 | 435 | |
| C-6133 | 3099.00 | " | 0.5(3) | 248 | 440 | |
| C-6137 | 3518.00 | " | 0.3(0) | 263 | 446 | |

( ) insignificant digit.
R = (m+p)-xylene/n-oct-1-ene