

CORE LABORATORIES UK LTD.  
PETROLEUM RESERVOIR ENGINEERING  
ABERDEEN, SCOTLAND

**F O R T R O L I G**  
i h.t. Beskyttelsesinstruksen,  
jfr. offentlighetslovens  
§..... nr.....

SUPPLEMENTARY REPORT

FOR

8.

STATOIL NORWAY A/S

Well : 34/10-4  
North Sea, Norway.

1 8 SEPT. 1980

**REGISTRERT**  
**OLJEDIREKTORATET**

CORE LABORATORIES UK LTD.  
PETROLEUM RESERVOIR ENGINEERING  
ABERDEEN, SCOTLAND

Statoil Norway A/S.  
RFLA : 80145

Core Laboratories U.K. Limited.  
Reservoir Fluid Analysis

*John D. Owen (RFL)*

John D. Owen.  
Manager-RFL.

CORE LABORATORIES UK LTD.  
PETROLEUM RESERVOIR ENGINEERING  
ABERDEEN, SCOTLAND

10th September, 1980

Statoil Norway A/S.  
P.O. Box 300,  
4001, Stavanger,  
NORWAY.

Attention : Mr. Per Thomassen.

Subject : Supplementary report.  
Well : 34/10-4  
North Sea, Norway.  
Our File Number :  
RFLA : 80145

Gentlemen :

On the 9th January, 1980 a report containing the results of a reservoir fluid study performed on reservoir fluid from the subject well was issued from our Aberdeen laboratory under our file number 79192. Subsequently we were requested by Statoil A/S to perform an additional test. This report details the results previously telexed on 13th July, 1980.

At conditions stipulated by Statoil A/S, a multistage separator test was performed in the laboratory. The factors and data derived from this test are presented on page two.

At each primary stage of separation the gas evolved was collected and analysed for hydrocarbon composition. These data are presented on page three.

As always, it has been a pleasure to be of service to Statoil A/S. Should you have any questions concerning this report, please do not hesitate to contact us.

Very truly yours,  
Core Laboratories U.K. Limited.

*John D Owen (urs)*

JDO/pmg:  
10cc/Addressee:

John D. Owen.  
Manager-RFL.

**CORE LABORATORIES UK LTD.**

Petroleum Reservoir Engineering

**ABERDEEN, SCOTLAND**

Page 1 of 3

File RFLA 80145

Company STATOIL Date Sampled .....

Well 34/10-4 County North Sea

Field ..... State Norway

**FORMATION CHARACTERISTICS**

Formation Name .....

Date First Well Completed ....., 19.....

Original Reservoir Pressure .....PSIG @ .....Ft.

Original Produced Gas-Liquid Ratio ..... SCF/Bbl

    Production Rate ..... Bbl/Day

    Separator Pressure and Temperature .....PSIG..... ° F.

    Oil Gravity at 60°F. .... ° API

Datum ..... Ft. Subsea

Original Gas Cap .....

**WELL CHARACTERISTICS**

Elevation ..... Ft.

Total Depth ..... Ft.

Producing Interval ..... Ft.

Tubing Size and Depth .....In. to..... Ft.

Productivity Index .....Bbl/D/PSI @ .....Bbl/Day

Last Reservoir Pressure .....PSIG @ .....Ft.

    Date ....., 19.....

    Reservoir Temperature .....71.7... °C. @ ..... Ft.

    Status of Well .....

    Pressure Gauge .....

Normal Production Rate ..... Bbl/Day

    Gas-Oil Ratio ..... SCF/Bbl

    Separator Pressure and Temperature .....PSIG..... ° F.

    Base Pressure ..... PSIA

Well Making Water ..... % Cut

**SAMPLING CONDITIONS**

Sampled at ..... Ft.

Status of Well .....

    Gas-Oil Ratio .....SCF/Bbl

    Separator Pressure and Temperature .....PSIG..... ° F.

    Tubing Pressure ..... PSIG

    Casing Pressure ..... PSIG

Sampled by ..... FLOPETROL

Type Sampler .....

REMARKS :

**CORE LABORATORIES UK LTD.**  
*Petroleum Reservoir Engineering*  
**ABERDEEN, SCOTLAND**

Page ...2... of ...3.....

File ...RFLA 80145.....

Well ...34/10-4.....

**SEPARATOR TESTS OF ..... RESERVOIR FLUID ..... SAMPLE**

SEPARATOR PRESSURE Bar Absc	SEPARATOR TEMPERATURE °C.	GAS/OIL RATIO (1)	GAS/OIL RATIO (2)	STOCK TANK GRAVITY ° API @ 15°C.	FORMATION VOLUME FACTOR (3)	SEPARATOR VOLUME FACTOR (4)	SPECIFIC GRAVITY OF FLASHED GAS
68.9	41.2	56.5	64.7			1.144	0.610 **
TO							
22.4	85.6	21.7	24.4			1.122	0.673 **
TO							
1.7	77.9	10.7	11.6			1.081	0.929 **
TO							
1.01325	15.0	0.2	0.2	29.2	1.260	1.000	*



\* Insufficient gas for analysis.

\*\* Gas collected and analysed for hydrocarbon composition.

- (1) Gas/Oil ratio in cubic metre of gas @ 15°C and 1.01325 bar absolute per cubic meter of oil @ indicated pressure and temperature.
- (2) Gas/Oil ratio in cubic metre of gas @ 15°C and 1.01325 bar absolute per cubic metre of stock tank oil @ 15°C.
- (3) Formation Volume factor is M3 of saturated oil @ 243.73 bar gauge and 71.7°C per M3 of stock tank oil at 15°C.
- (4) Separator Volume factor is M3 of oil @ indicated pressure and temperature per M3 of stock tank oil @ 15°C.

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ANALYSIS OF SEPARATOR GASES  
FROM SEPARATOR TESTS

Separator Pressure, Bar A	<u>68.9</u>	<u>22.4</u>	<u>1.7</u>
Separator Temperature, °C.	<u>41.2</u>	<u>85.6</u>	<u>77.9</u>

<u>Component :</u>	<u>MOL PERCENT</u>	<u>GPM</u>	<u>MOL PERCENT</u>	<u>GPM</u>	<u>MOL PERCENT</u>	<u>GPM</u>
Hydrogen Sulphide	Nil		Nil		Nil	
Carbon Dioxide	1.50		2.08		2.64	
Nitrogen	1.82		0.55		0.23	
Methane	91.93		85.54		61.56	
Ethane	3.56		7.72		17.36	
Propane	0.63	0.713	1.98	0.545	7.73	2.127
iso-Butane	0.15	0.049	0.55	0.180	2.73	0.893
n-Butane	0.17	0.054	0.65	0.205	3.47	1.094
iso-Pentane	0.07	0.026	0.25	0.092	1.44	0.527
Hexanes	0.04	0.015	0.15	0.054	0.82	0.297
Heptanes Plus	0.09	0.041	0.36	0.163	1.18	0.536
	<u>100.00</u>	<u>0.374</u>	<u>100.00</u>	<u>1.308</u>	<u>100.00</u>	<u>5.817</u>

Calculated gas gravity :	<u>0.610</u>	<u>0.673</u>	<u>0.929</u>
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Calculated gross heating value, BTU per SCF :	<u>1032</u>	<u>1137</u>	<u>1526</u>
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