

Denne rapport  
tilhører



**L&U DOK. SENTER**

L. NR. 30283510011

KODE Well 31/3-1 nr. 25

Returneres etter bruk

WELLSITE GAS ANALYSIS

FOR

STATOIL A/S

WELL: 31/3-1

REF : SCL 152/13

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

WELLSITE GAS ANALYSIS

FOR

STATOIL A/S

WELL: 31/3-1

REF : SCL 152/13

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

28 October 1983

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

Attn: John Self

Subject : Wellsite Gas Analysis  
Well No : 3~~1~~/3-1  
Location: Offshore Deep Sea Bergen  
State : Norway  
Our Ref : SCL 152/13

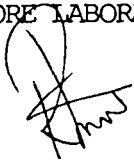
Dear Sirs

This report details the work performed by Core Laboratories chemists R.Upton and G.Bruce during the testing of well 3~~1~~/3-1.

Analysis was performed upon produced gas, the obtained results being included in this report. Also included is a record of events pertinent to the visit of the Core Laboratories chemistry personnel.

We trust that this report has met with your approval and look forward to being of further assistance.

Yours faithfully  
CORE LABORATORIES UK LIMITED



Roger J. Inns  
Laboratory Supervisor.

RJI/ac:  
7cc/addressee:

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

COMPANY:	Statoil A/S	LOCATION:	Offshore Deep Sea Bergen
WELL NO:	31/3-1	STATE:	Norway
FIELD:	Troll	FILE NO:	SCL 152/13

Record of Events R.Upton

15/9/83: R.Upton flew Aberdeen - Bergen Flesland.  
16/9/83: Awaiting details of helicopter check in.  
17/9/83: Checked in Bergen Flesland 0400hrs. Flew to Deep Sea Bergen.  
18/9/83: On stand by. Checked equipment.  
19/9/83: Setting up equipment transferred from the rig Ross Isle.  
20/9/83: Flew Deep Sea Bergen - Bergen Flesland.  
Flew Bergen Flesland - Aberdeen.

Record of Events G.Bruce

19/9/83: G.Bruce flew from rig Ross Isle - Deep Sea Bergen. On standby - waiting on weather.  
20/9/83: On standby - waiting on weather.  
21/9/83: 1011hrs DST No.1, clean up flow, choke manifold opened.  
1102hrs Flow directed through test separator.  
22/9/83: 0117hrs End DST No.1, clean up flow, choke manifold closed.  
10 barrels of acid spotted downhole prior to next flow.  
0912hrs DST No.1 post acid flow, choke manifold opened.  
Flow directed through test separator.  
1830hrs DST No.1 end post acid flow choke manifold closed.  
Rig down equipment.  
23/9/83: G.Bruce flew Deep Sea Bergen - Bergen Flesland.  
24/9/83: Flew Bergen Flesland - Stavanger - Aberdeen.  
25-29/9/83: Awaiting call out for DST No.2, Deep Sea Bergen.  
29/8/83: G.Bruce checked in Aberdeen. Flew to Stavanger - Bergen Flesland.  
30/9/83: Checked in Bergen Flesland 0730hrs. Flew to Deep Sea Bergen. Checked equipment. P.O.O.H. DST No.2 test string. Run in with new packer.  
1/10/83: On standby. Awaiting start of DST No.2, 1519-1529m. Run in hole with test string for DST No.2.  
2/10/83: 1732hrs DST No.2, post gravel pack flow PCT valve opened.  
1733hrs Choke manifold opened on 8/64" ADJ choke.  
1825hrs Due to leaking chocks choke manifold closed.  
1842hrs Open choke manifold to 64/64" ADJ choke and directed flow through heater on 2 x 20/64" ADJ choke.  
1930hrs Flow directed through separator.

Continued/2....

3/10/83: 0031hrs Test Separator by passed.  
0050hrs Choke manifold closed.  
0051hrs PCT valve closed.  
0051 -  
0246hrs 1.6 m<sup>3</sup> acid displaced with filtered seawater and allowed  
to soak.  
0245hrs Post acid flow, PCT valve opened.  
0247hrs Choke manifold opened on 2 x 20/64" ADJ choke.  
0304hrs Flow directed through heater on 2 x 20/64" ADJ choke.  
0334hrs Flow directed through test separator.  
1800hrs Test separator by passed.  
1811hrs Choke manifold closed end post acid flow.  
1812hrs PCT valve closed.

4/10/83: 0156hrs Multi rate flow No.1 PCT vlave opened.  
0157hrs Choke Manifold opened on 28/64" ADJ choke.  
0200hrs Flow directed through heater on 2 x 20/64" ADJ choke.  
0230hrs Flow directed through separator.  
1503hrs Choke manifold closed, end multi rate flow No.1  
1505hrs PCT valve closed.  
Rigged down equipment.

5/10/83: Left Deep Sea Bergen flew - Bergen Flesland.

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WELLSITE GAS ANALYSIS

AND GAS SAMPLING

COMPANY: Statoil A/S

LOCATION: Offshore Deep Sea Bergen

WELL NO: 31/3-1

STATE: Norway

FIELD: Troll

FILE NUMBER: SCL 152/13

DST No: 1  
 Interval Tested: 1519 - 1529m

Flow Period: Clean up flow.

DATE	TIME,hrs	SAMPLING POINT	DRAGER	
			CARBON DIOXIDE % VOLUME	HYDROGEN SULPHIDE PPM VOLUME
21/9/83	1030	Choke Manifold	L 0.1	0
	1040	Choke Manifold	0.75	0
	1050	Choke Manifold	0.8	0
	1100	Choke Manifold	0.65	0
	1115	Choke Manifold	0.5	0
	1130	Choke Manifold	0.6	0
	1145	Choke Manifold	0.6	0
	1230	Test Separator	0.55	0
	1400	Test Separator	0.5	0
	1500	Test Separator	0.3	0
	1600	Test Separator	0.5	0
	1650	Test Separator		0
	1755	Test Separator	0.5	0
	2000	Test Separator		0
	2215	Test Separator		0

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WELLSITE GAS ANALYSIS

AND GAS SAMPLING

COMPANY: Statoil A/S

LOCATION: Offshore Deep Sea Bergen

WELL NO: 3~~1~~/3-1

STATE: Norway

FIELD: Troll

FILE NUMBER: SCL 152/13

DST No: 1

Flow Period: Clean up flow.

Interval Tested: 1519 - 1529m

DATE	TIME, hrs	CARBON DIOXIDE % VOLUME	SAMPLED FROM TEST SEPARATOR (UOP 172-59 @ 11°C 1003 mb)
21/9/83	1330	1.0	
	1400	0.9	
	1430	0.6	
	1500	0.4	
	1530	0.4	
	1600	0.7	
	1633	0.5	
	1650	0.5	
	1755	0.6	
	1830	0.6	
	1909	0.6	
	2000	0.7	
	2045	0.8	
	2215	0.8	
2305	0.8		

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WELLSITE GAS ANALYSIS

AND SAMPLING

COMPANY: Statoil A/S LOCATION: Offshore Deep Sea Bergen  
WELL NO: 31/3-1 STATE: Norway  
FIELD: Troll FILE NO: SCL 152/13  
DST NO. 1 FLOW PERIOD: Clean up flow.  
Interval Tested: 1519 - 1529m

Hydrogen Sulphide

21/9/83: 1314-2100hrs L 0.1 ppm vol @ 760 mmHg & 60°F (ASTM 2385)  
21/9/83: 1348-2100hrs L 0.1 ppm vol @ 1000 mb & 0 °F (UOP 212-77)

Mercaptan Sulphur

21/9/83: 1314-2100hrs L 0.1 ppm wt/vol @ 760 mmHg 60°F (ASTM 2385)  
21/9/83: 1348-2100hrs L 0.1 ppm wt/vol @ 1000 mb 0 °C (UOP 212-77)

Carbonyl Sulphide

21/9/83: 1348-2100hrs L 0.1 ppm wt/vol @ 1000 mb 0°C (UOP 212-77)

Water Content

21/9/83: 1440-1900hrs 270.5 litres of gas sampled @ 1000 mb 0°C  
Result: 0.34 g/cu m.

Mercury Content

21/9/83: 1645hrs L 0.1 mg cu m (Drager)  
21/9/83: 1433-1900hrs 201.0 litres of gas sampled @ 1000 mb & 0°C  
(Corelab procedure). Result: 0.40 micrograms/cu m.  
21/9/83: 1345-2140hrs 544-6 litres of gas sampled @ 1000 mb 0°C.  
Results to follow (Geomat)

L = Less Than



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WELLSITE GAS ANALYSIS

AND GAS SAMPLING

COMPANY:	Statoil A/S	LOCATION:	Offshore Deep Sea Bergen
WELL NO:	31/3-1	STATE:	Norway
FIELD:	Troll	FILE NUMBER:	SCL 152/13
DST No:	1	Flow Period:	Post acid flow.
Interval Tested:	1519-1529m		

DATE	TIME,hrs	SAMPLING POINT	CARBON DIOXIDE % VOLUME	DRAGER HYDROGEN SULPHIDE PPM VOLUME
22/9/83	0934	Choke Manifold	0.5	0
	1030	Choke Manifold	0.5	0
	1300	Test Separator	0.3	0
	1500	Test Separator		0
	1600	Test Separator		0
	1800	Test Separator		0

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WELLSITE GAS ANALYSIS

AND GAS SAMPLING

COMPANY: Statoil A/S LOCATION: Offshore Deep Sea Bergen  
WELL NO: 30/3-1 STATE: Norway  
FIELD: Troll FILE NUMBER: SCL 152/13  
DST No: 1 Flow Period: Post acid flow.  
Interval Tested: 1519 - 1529m

DATE	TIME,hrs	CARBON DIOXIDE % VOLUME	SAMPLED FROM TEST SEPARATOR (UOP 172-59 @ 13°C 1012 mb)
22/9/83	1230	0.4	
	1300	0.6	
	1330	0.7	
	1400	0.7	
	1430	0.6	
	1500	0.4	
	1530	0.5	
	1600	0.4	
	1630	0.5	
	1700	0.3	
	1800	0.4	

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WELLSITE GAS ANALYSIS

AND SAMPLING

COMPANY: Statoil A/S

LOCATION: Offshore Deep Sea Bergen

WELL NO: 31/3-1

STATE: Norway

FIELD: Troll

FILE NO: SCL 152/13

DST NO. 1

FLOW PERIOD: Post acid flow.

Interval Tested: 1519 - 1529m

Hydrogen Sulphide

22/9/83: 1210-1700hrs L 0.1 ppm vol @ 760 mmHg 60°F (ASTM 2385)

22/9/83: 1300-1800hrs L 0.1 ppm vol @ 1000 mb 0 °C (UOP 212-77)

Mercaptan Sulphur

22/9/83: 1210-1700hrs L 0.1 ppm vol wt/vol @ 760 mmHg 60°F (ASTM 2385)

22/9/83: 1300-1800hrs L 0.1 ppm vol wt/vol @ 1000 mb 0 °C (UOP 212-77)

Carbonyl Sulphide

22/9/83: 1300-1800hrs L 0.1 ppm wt/vol @ 1000 mb 0°C (UOP 212-77)

Water Content

22/9/83: 1228-1730hrs 370.0 litres of gas sampled @ 1000 mb 0°C

Result: 1.02 g/cu m

Mercury Content

22/9/83: 1300-1730hrs 204 litres of gas sampled @ 1000 mb 0°C

(Corelab procedure). Result: L 0.05 micrograms/cu m.

L = Less Than

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WELLSITE GAS ANALYSIS

AND GAS SAMPLING

COMPANY: Statoil A/S

LOCATION: Offshore Deep Sea Bergen

WELL NO: 31/3-1

STATE: Norway

FIELD: Troll

FILE NUMBER: SCL 152/13

DST No: 2  
Interval Tested: 1373 - 1383m

Flow Period: Post gravel pack clean up.

DATE	TIME,hrs	SAMPLING POINT	DRAGER	
			CARBON DIOXIDE % VOLUME	HYDROGEN SULPHIDE PPM VOLUME
2/10/83	1755	Choke Manifold	L 0.2	0
	1813	Choke Manifold	0.4	0
	1845	Choke Manifold	0.5	0
	1915	Choke Manifold	0.45	0
	2100	Choke Manifold	0.5	0
	2040	Test Separator	0.5	0
	2200	Test Separator	0.5	0
	2250	Test Separator	0.5	0
	2400	Test Separator	0.5	0

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WELLSITE GAS ANALYSIS

AND GAS SAMPLING

COMPANY: Statoil A/S

LOCATION: Offshore Deep Sea Bergen

WELL NO: 31/3-1

STATE: Norway

FIELD: Troll

FILE NUMBER: SCL 152/13

DST No: 2  
Interval Tested: 1373 - 1383m

Flow Period: Post Gravel pack clean up.

DATE	TIME, hrs	CARBON DIOXIDE % VOLUME	SAMPLED FROM TEST SEPARATOR (UOP 172-59 @ 13°C 1015 mb)
2/10/83	2100	0.6	
	2130	0.6	
	2200	0.6	
	2230	0.5	
	2250	0.5	
	2330	0.5	
	2400	0.4	

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WELLSITE GAS ANALYSIS

AND GAS SAMPLING

COMPANY: Statcil A/S

LOCATION: Offshore Deep Sea Bergen

WELL NO: 31/3-1

STATE: Norway

FIELD: Troll

FILE NUMBER: SCL 152/13

DST No: 2  
 Interval Tested: 1373 - 1383m

Flow Period: Post acid flow.

DATE	TIME,hrs	SAMPLING POINT	DRAGER	
			CARBON DIOXIDE % VOLUME	HYDROGEN SULPHIDE PPM VOLUME
3/10/83	0306	Choke Manifold	0.4	0
	0400	Test Separator		0
	0450	Test Separator		0
	0600	Test Separator		0
	0700	Test Separator		0
	0900	Test Separator		0
	1000	Test Separator		0
	1200	Test Separator		0
	1400	Test Separator		0
	1600	Test Separator		0.35
	1645	Test Separator	0	
			0	

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WELLSITE GAS ANALYSIS

AND GAS SAMPLING

COMPANY: Statoil A/S	LOCATION: Offshore Deep Sea Bergen
WELL NO: 3#/3-1	STATE: Norway
FIELD: Troll	FILE NUMBER: SCL 152/13
DST No: 2	Flow Period: Post acid flow.
Interval Tested: 1373 - 1383m	

DATE	TIME,hrs	CARBON DIOXIDE % VOLUME	SAMPLED FROM TEST SEPARATOR (UOP 172-59 @ 130C 1015 mb)
3/10/83	0400	0.4	
	0430	0.5	
	0450	0.4	
	0600	0.4	
	0700	0.3	
	0900	0.4	
	0930	0.5	
	1000	0.4	
	1040	0.4	
	1200	0.5	
	1230	0.4	
	1305	0.6	
	1330	0.4	
	1400	0.5	
	1430	0.4	
1500	0.5		

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WELLSITE GAS ANALYSIS

AND SAMPLING

COMPANY: Statoil A/S LOCATION: Offshore Deep Sea Bergen  
WELL NO: 31/3-1 STATE: Norway  
FIELD: Troll FILE NO: SCL 152/13  
  
DST NO. 2 FLOW PERIOD: Post acid flow.  
Interval Tested: 1373 - 1383m

Hydrogen Sulphide

3/10/83: 0445-0915hrs L 0.1 ppm vol @ 1000 mb 0°C (UOP 212-77)  
3/10/83: 1000-1500hrs L 0.1 ppm vol @ 760 mmHg 60°F (ASTM 2385)

Mercaptan Sulphur

3/10/83: 0445-0915hrs L 0.1 ppm wt/vol @ 1000 mb 0°C (UOP 212-77)  
3/10/83: 1000-1500hrs L 0.1 ppm wt/vol @ 760 mmHg 60°F (ASTM 2385)

Carbonyl Sulphide

3/10/83: 0445-0915hrs L 0.1 ppm wt/vol @ 1000 mb 0°C (UOP 212-77)

Water Content

3/10/83: 1000-1500hrs 288.8 litres of gas sampled @ 1000 mb 0°C  
Result: 6.11 g/cu m.

Mercury Content

3/10/83: 1026hrs L 0.1 mg cu m Drager  
3/10/83: 0445-0915hrs 308.9 litres of gas sampled @ 1000 mb 0°C  
(Corelab procedure). Result: 0.13 micrograms/cu m.  
3/10/83: 0445-1402hrs 673.6 litres of gas sampled @ 1000 mb 0°C  
Results to follow. (Geomet)

L = Less Than



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WELLSITE GAS ANALYSIS

AND GAS SAMPLING

COMPANY: Statoil A/S

LOCATION: Offshore Deep Sea Bergen

WELL NO: 30/3-1

STATE: Norway

FIELD: Troll

FILE NUMBER: SCL 152/13

DST No: 2  
Interval Tested: 1373 - 1383m

Flow Period: Multi rate flow No.1

DATE	TIME,hrs	SAMPLING POINT	CARBON DIOXIDE % VOLUME	DRAGER
				HYDROGEN SULPHIDE PPM VOLUME
4/10/83	0226	Choke Manifold	0.5	0
	0400	Test Separator		0
	0600	Test Separator		0
	0700	Test Separator		0
	0900	Test Separator	0.35	0
	1000	Test Separator		0
	1200	Test Separator		0
	1300	Test Separator		0
	1400	Test Separator		0

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WELLSITE GAS ANALYSIS

AND GAS SAMPLING

COMPANY: Statoil A/S

LOCATION: Offshore Deep Sea Bergen

WELL NO: 31/3-1

STATE: Norway

FIELD: Troll

FILE NUMBER: SCL 152/13

DST No: 2

Flow Period: Multi rate flow No.1

Interval Tested: 1373 - 1383m

DATE	TIME,hrs	CARBON DIOXIDE % VOLUME	SAMPLED FROM TEST SEPARATOR (UOP 172-59 @ 11.5°C 1009 mb)
4/10/83	0300	0.6	
	0400	0.5	
	0420	0.5	
	0500	0.45	
	0600	0.4	
	0730	0.4	
	0900	0.4	
	1000	0.4	
	1100	0.4	
	1230	0.4	
	1330	0.35	
	1417	0.4	

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WELLSITE GAS ANALYSIS

AND SAMPLING

COMPANY: Statoil A/S LOCATION: Offshore Deep Sea Bergen  
WELL NO: 34/3-1 STATE: Norway  
FIELD: Troll FILE NO: SCL 152/13  
DST NO. 2 FLOW PERIOD: Multi flow No.1  
Interval Tested: 1373-1383m

Hydrogen Sulphide

4/10/83: 0420-1100hrs L 0.1 ppm vol @ 1000 mb 0°C (UOP 212-77)

Mercaptan Sulphur

4/10/83: 0420-1100hrs L 0.1 ppm wt/vol @ 1000 mb 0°C (UOP 212-77)

Carbonyl Sulphide

4/10/83: 0420-1100hrs L 0.1 ppm wt/vol @ 1000 mb 0°C (UOP 212-77)

Water Content

4/10/83: 1000-1415hrs 286.3 litres of gas sampled @ 1000 mb 0°C  
Result: 1.22 g/cu m.

Mercury Content

4/10/83: 1300hrs L 0.1 mg cu m (Drager)  
4/10/83: 1000-1415hrs 255.5 litres of gas sampled @ 1000 mb 0°C  
(Corelab procedure). Result: 0.08 micrograms/cu m.

L = Less Than

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**ABERDEEN, SCOTLAND**

STATOIL A/S

SCL 152/13

CORE LABORATORIES UK LIMITED  
Chemistry Division



Roger J. Inns  
Laboratory Supervisor.