

**General information**

Wellbore name	31/2-18 A
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	<a href="#">link to map</a>
Main area	NORTH SEA
Field	<a href="#">TROLL</a>
Discovery	<a href="#">31/2-1 (Troll Vest)</a>
Well name	31/2-18
Seismic location	NH 9101- REKKE 1446 & KOLONNE 2042
Production licence	<a href="#">054</a>
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	743-L
Drilling facility	<a href="#">TREASURE SAGA</a>
Drilling days	11
Entered date	07.10.1992
Completed date	17.10.1992
Release date	17.10.1994
Publication date	28.05.2003
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS
Discovery wellbore	NO
1st level with HC, age	PALEOCENE
1st level with HC, formation	NO FORMAL NAME
2nd level with HC, age	LATE JURASSIC
2nd level with HC, formation	SOGNEFJORD FM
3rd level with HC, age	MIDDLE JURASSIC
3rd level with HC, formation	KROSSFJORD FM
Kelly bushing elevation [m]	26.0
Water depth [m]	340.0
Total depth (MD) [m RKB]	2005.0
Final vertical depth (TVD) [m RKB]	1889.0
Maximum inclination [°]	50
Bottom hole temperature [°C]	78
Oldest penetrated age	MIDDLE JURASSIC
Oldest penetrated formation	KROSSFJORD FM
Geodetic datum	ED50



NS degrees	60° 54' 10.49" N
EW degrees	3° 34' 41.79" E
NS UTM [m]	6752271.73
EW UTM [m]	531373.19
UTM zone	31
NPDID wellbore	2038

**Wellbore history**

**General**

The purpose of well 31/2-18 was to appraise the structure and oil bearing potential of a fault block in the northern part of the Troll West Gas province (TWGP). The objectives for drilling well 31/2-18 were to evaluate the structure for future development of oil producing wells in the TWGP-North area, and to determine the degree of development required to efficiently develop the oil reservoir in the TWGP-North area. Well 31/2-18A was drilled as a pre-planned sidetrack to Well 31/2-18 in order to evaluate the hydrocarbon potential of the Krossfjord Formation. The primary objective of the sidetrack was to evaluate a seismic anomaly, or "flat spot" which had been identified in the Krossfjord Formation. The location of the anomaly was situated 240 m to the northeast in an up thrown block, adjacent to the original well.

**Operations**

Appraisal well 31/2-18 was spudded with the semi-submersible installation "Treasure Saga" on 15 September 1992, and drilled to a total depth of 1711 m in the Middle Jurassic Fensfjord Formation. The well was drilled with seawater and hi-vis pills down to 940 m and with KCl/Polymer mud from 940 m to TD.

Palaeocene sand was encountered below base Våle Formation, from 1519.9 m to 1528.8 m. This sand is in direct contact with the underlying Late Jurassic Sognefjord Formation, which was encountered over the interval 1528.8 m - 1642.7 m. Gas was proven all through these sands from top of the Palaeocene sand down to 1571.2 m in the Sognefjord Formation. A thin oil leg was identified, with an oil-water contact at 1582.0 m. Sixteen good RFT pressure measurements, including segregated samples at 1575 m and 1582 m, were taken in one run over the interval 1522 m & 1689.5 m. The interval from 1498 m to 1678.5 m (Lower Rogaland Group including the Palaeocene sand, Sognefjord Formation, and Heather Formation) was cored in twelve cores with 86 100 % recovery.

After running wire line logs, well 31/2-18 A was sidetracked with "Treasure Saga" from the original well on 7 October 1992. The sidetrack was initiated at 1470 m, just below the 9-5/8" casing shoe, and reached a total depth of 2005 m in the Krossfjord Formation. The sidetrack was drilled with KCl/Polymer mud.

Equivalent to the primary well bore the Våle Formation occurred from 1497 m to 1520 m, on top of a 9.6 m thick Paleocene sand. This sand was found gas bearing and in communication with the underlying Sognefjord Formation. The Sognefjord Formation was encountered between 1529.6 m and 1654.5 m and proved to be gas bearing down to 1572.9 m MD (1570.8 m TVD RKB). A thin oil zone was identified between 1572.9 m and 1584.5 m, (1570.8 - 1581.9 m TVD RKB). The Krossfjord Formation was encountered at 1915.5 m, and was found to be oil bearing from 1915.5 m to 1925.1 m, (1828.5 - 1835.0 m TVD RKB). Two segregated samples at 1919.3 m and 1584 m and a total of 20 pressure measurements and were taken in two RFT runs. No conventional cores were cut in the sidetrack.

After running wire line logs, the well was plugged back, without testing, to the 9-5/8" casing shoe on 13 October 1992. Wellbore 31/2-18 was subsequently permanently plugged and abandoned as an oil and gas appraisal well on 17 October 1992.

**Testing**

No drill stem test was performed.

**Cuttings at the Norwegian Offshore Directorate**



Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1480.00	2005.00

Cuttings available for sampling?	YES
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**Lithostratigraphy**

Top depth [mMD RKB]	Lithostrat. unit
366	<a href="#">NORDLAND GP</a>
670	<a href="#">HORDALAND GP</a>
1220	<a href="#">ROGALAND GP</a>
1220	<a href="#">BALDER FM</a>
1266	<a href="#">SELE FM</a>
1337	<a href="#">LISTA FM</a>
1497	<a href="#">VÅLE FM</a>
1520	<a href="#">NO FORMAL NAME</a>
1530	<a href="#">VIKING GP</a>
1530	<a href="#">SOGNEFJORD FM</a>
1655	<a href="#">HEATHER FM</a>
1706	<a href="#">FENSFJORD FM</a>
1916	<a href="#">KROSSFJORD FM</a>

**Composite logs**

Document name	Document format	Document size [MB]
<a href="#">2038</a>	pdf	0.26

**Documents - older Norwegian Offshore Directorate WDSS reports and other related documents**

Document name	Document format	Document size [MB]
<a href="#">2038 01 WDSS General Information</a>	pdf	0.34
<a href="#">2038 02 WDSS completion log</a>	pdf	0.13

**Documents - reported by the production licence (period for duty of secrecy expired)**





Document name	Document format	Document size [MB]
<a href="#">2038 31 2 18 A COMPLETION REPORT AND LOG</a>	pdf	20.94

## Logs

Log type	Log top depth [m]	Log bottom depth [m]
CST GR	1671	1972
DLL MSFL DSI AMS GR	1445	1993
FMI GR	1450	2003
LDL DNL NGS AIL AMS	1450	1991
RFT HP GR	1522	1982
VSP	1400	1990

## Casing and leak-off tests

Casing type	Casing diam. [inch]	Casing depth [m]	Hole diam. [inch]	Hole depth [m]	LOT/FIT mud eqv. [g/cm3]	Formation test type
CONDUCTOR	30	452.5	36	454.0	0.00	LOT
INTERM.	18 5/8	921.0	24	940.0	0.00	LOT
INTERM.	9 5/8	1450.0	12 1/4	1465.0	0.00	LOT
OPEN HOLE		2005.0	8 1/2	2005.0	0.00	LOT

## Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1344	1.17	51.0		WATER BASED	
1516	1.17	41.0		WATER BASED	
1620	1.17	37.0		WATER BASED	
1769	1.17	39.0		WATER BASED	
2005	1.17	38.0		WATER BASED	

## Pressure plots





The pore pressure data is sourced from well logs if no other source is specified. In some wells where pore pressure logs do not exist, information from Drill stem tests and kicks have been used. The data has been reported to the NPD, and further processed and quality controlled by IHS Markit.

Document name	Document format	Document size [MB]
<a href="#">2038 Formation pressure (Formasjonstrykk)</a>	pdf	0.16



