



Generell informasjon

Brønnbane navn	31/2-18
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	TROLL
Funn	31/2-1 (Troll Vest)
Brønn navn	31/2-18
Seismisk lokalisering	NH 9101- REKKE 1446 & KOLONNE 2042
Utvinningstillatelse	054
Boreoperatør	Norsk Hydro Produksjon AS
Boretillatelse	741-L
Boreinnretning	TREASURE SAGA
Boredager	23
Borestart	15.09.1992
Boreslutt	07.10.1992
Frigitt dato	07.10.1994
Publiseringsdato	28.05.2003
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	PALEOCENE
1. nivå med hydrokarboner, formasjon.	NO FORMAL NAME
2. nivå med hydrokarboner, alder	LATE JURASSIC
2. nivå med hydrokarboner, formasjon	SOGNEFJORD FM
Avstand, boredekk - midlere havflate [m]	26.0
Vanndybde ved midlere havflate [m]	340.0
Totalt målt dybde (MD) [m RKB]	1711.0
Totalt vertikalt dybde (TVD) [m RKB]	1711.0
Maks inklinasjon [°]	1.6
Temperatur ved bunn av brønnbanen [°C]	71
Eldste penetrerte alder	MIDDLE JURASSIC



Eldste penetrerte formasjon	FENSFJORD FM
Geodetisk datum	ED50
NS grader	60° 54' 10.49" N
ØV grader	3° 34' 41.79" E
NS UTM [m]	6752271.73
ØV UTM [m]	531373.19
UTM sone	31
NPDID for brønnbanen	1988

Brønnhistorie

**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.



Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
950.00	1710.00

Borekaks tilgjengelig for prøvetaking?	YES
--	-----

Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	1498.0	1516.0	[m]
2	1516.0	1533.5	[m]
3	1534.0	1551.8	[m]
4	1552.0	1570.0	[m]
5	1570.0	1588.0	[m]
6	1588.0	1599.0	[m]
7	1599.0	1608.9	[m]
8	1610.5	1627.1	[m]
9	1628.5	1638.1	[m]
10	1638.5	1653.4	[m]
11	1654.0	1666.5	[m]
12	1666.5	1678.5	[m]

Total kjerneprøve lengde [m]	175.8
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



1498-1503m



1503-1508m



1508-1513m



1513-1516m



1516-1521m



1521-1526m



1526-1531m



1531-1534m



1534-1539m



1539-1544m



1544-1549m



1549-1552m



1552-1557m



1557-1562m



1562-1567m



1567-1570m



1570-1575m



1575-1580m



1580-1585m



1585-1588m



1588-1593m



1593-1598m



1598-1599m



1599-1604m



1604-1607m



1610-1615m



1615-1620m



1620-1625m



1625-1627m



1628-1633m



1633-1638m



1638-1638m



1638-1643m



1643-1648m



1648-1653m



1653-1654m



1654-1659m



1659-1664m



1664-1667m



1667-1671m



1671-1676m



1676-1679m

Palynologiske preparater i Sjøkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
1524.0	[m]	C	RRI

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
366	NORDLAND GP
670	HORDALAND GP
1220	ROGALAND GP
1220	BALDER FM
1266	SELE FM
1337	LISTA FM
1497	VÅLE FM
1519	NO FORMAL NAME
1529	VIKING GP
1529	SOGNEFJORD FM
1643	HEATHER FM
1688	FENSFJORD FM

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
1988	pdf	0.22

Dokumenter - eldre Sjøkeldirektoratets WDSS rapporter og andre relaterte dokumenter





Dokument navn	Dokument format	Dokument størrelse [KB]
1988_01_WDSS_General_Information	pdf	0.45
1988_02_WDSS_completion_log	pdf	0.13

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
1988_31_2_18_COMPLETION_REPORT_AND_LOG	pdf	20.94

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
DLL MSFL DSI SP GR	1450	1706
FMI GR	1510	1704
LDL CNL AIL NGL	1450	1708
LSS LDL CAL AMS GR	365	938
LSS LDL CAL AMS GR	921	1450
MWD - YGR RES DIR	372	1498
RFT HP GR	1522	1589
RFT HP GR	1575	1575
RFT HP GR	1582	1582
RFT HP GR	1582	1582
VSP	1000	1700

Foringsrør og formasjonsstyrketester

Type utforing	Utforing diam. [tommer]	Utforing dybde [m]	Brønnbane diam. [tommer]	Brønnbane dyp [m]	LOT/FIT slam eqv. [g/cm3]	Type formasjonstest
CONDUCTOR	30	453.0	36	453.0	0.00	LOT
INTERM.	18 5/8	921.0	24	940.0	1.73	LOT
INTERM.	9 5/8	1450.0	12 1/4	1465.0	1.64	LOT
OPEN HOLE		1711.0	8 1/2	1711.0	0.00	LOT

Boreslam





Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
453	1.05			WATER BASED	
518	1.05			WATER BASED	
940	1.20			WATER BASED	
1344	1.35			WATER BASED	
1350	1.17	28.0		WATER BASED	
1435	1.35	25.0		WATER BASED	
1465	1.17	13.0		WATER BASED	
1503	1.17	27.0		WATER BASED	
1534	1.17	28.0		WATER BASED	
1570	1.17	27.0		WATER BASED	
1610	1.17	27.0		WATER BASED	
1639	1.17	28.0		WATER BASED	
1678	1.17	27.0		WATER BASED	
1711	1.17	29.0		WATER BASED	

Tynnslip i Sokkeldirektoratet

Dybde	Enhet
1500.50	[m]
1501.50	[m]
1515.10	[m]

Trykkplott

Porertrykksdataene kommer fra logging i brønnen hvis ingen annen kilde er oppgitt. I noen brønner der trykk ikke er logget, er det brukt informasjon fra formasjonstester eller brønnspark. Trykkdataene er rapportert inn til Oljedirektoratet og videre prosessert og kvalitetssikret av IHS Markit.

Dokument navn	Dokument format	Dokument størrelse [KB]
1988 Formation pressure (Formasjonstrykk)	pdf	0.14

