



Generell informasjon

Brønnbane navn	31/5-4 A
Type	EXPLORATION
Formål	APPRAISAL
Status	SUSPENDED
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	TROLL
Funn	31/2-1 (Troll Vest)
Brønn navn	31/5-4
Seismisk lokalisering	NH 9056-209 & SP.95
Utvinningstillatelse	085
Boreoperatør	Norsk Hydro Produksjon AS
Boretillatelse	656-L
Boreinnretning	TRANSOCEAN 8
Boredager	65
Borestart	10.10.1990
Boreslutt	13.12.1990
Frigitt dato	13.12.1992
Publiseringsdato	06.06.2006
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	LATE JURASSIC
1. nivå med hydrokarboner, formasjon.	SOGNEFJORD FM
Avstand, boredekk - midlere havflate [m]	24.0
Vanndybde ved midlere havflate [m]	316.0
Totalt målt dybde (MD) [m RKB]	2603.0
Totalt vertikalt dybde (TVD) [m RKB]	1579.2
Maks inklinasjon [°]	93
Temperatur ved bunn av brønnbanen [°C]	66
Eldste penetrerte alder	LATE JURASSIC
Eldste penetrerte formasjon	SOGNEFJORD FM
Geodetisk datum	ED50
NS grader	60° 43' 16.19" N



ØV grader	3° 33' 43.06" E
NS UTM [m]	6732020.10
ØV UTM [m]	530661.48
UTM sone	31
NPDID for brønnbanen	1689

Brønnhistorie

General

Well 31/5-4 A was drilled as a horizontal side track to well 31/5-4 S in the Troll West oil and gas province. The well objective was test production from the 13 m oil layer in the Sognefjord Formation. The test production should evaluate the oil production potential from the Troll West Gas Province, obtain dynamic data from a potential development type well, and obtain static reservoir and geological data to provide proper understanding of well behaviour.

Operations and results

Well bore 31/5-4 A was kicked off from 31/5-4 S at 1569 m on 10 October 1990, using the semi-submersible installation Transocean 8. Due to difficulties in building sufficient angle, the well was plugged back and technically sidetracked from 1604 m. The 9 5/8" casing was set horizontally at 1803 m, and the well drilled horizontally for another 800 m to TD at 2603 m in the Late Jurassic Sognefjord Formation. The well was drilled with Carbotec oil based mud from kick-off to TD. The horizontal section was drilled in the oil bearing part, approximately 1 meter above the oil-water contact. No cores were cut and no fluid samples taken. The well was completed with a prepacked screen in the horizontal section. A clean-up test and a production logging test was conducted with the Transocean 8 before the well was suspended on 13 December 1990 and connected to the vessel Petrojarl I for a long-term production test. Well 31/5-4 A is classified as an oil and gas appraisal well.

Testing

The well was tested from the horizontal interval in the Sognefjord Formation beyond the 9 5/8" casing shoe, i.e. 1801-2603 m RKB / 1578.5 m TVD RKB +/- 0.3 m. The measured test data from the end of the second and final production logging period, with the production logging tool (PLT) at 1825 m / 1578.5 m TVD RKB, were reported as follows: Oil rate = 217 Sm³/day, gas rate = 11869 Sm³/day, water rate = 318 Sm³/day, GOR = 55 Sm³/Sm³, CO₂ content = 1%, oil density = 0.893 g/cm³, relative gas density = 0.64 (air = 1), flowing bottom hole pressure (FBHP) = 158.85 bar, and flowing bottom hole temperature (FBHT) = 69.5 deg. C.

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
340	NORDLAND GP
654	HORDALAND GP
1205	ROGALAND GP
1205	BALDER FM



1292	SELE FM
1393	LISTA FM
1449	SHETLAND GP
1449	HARDRÅDE FM
1461	UNDIFFERENTIATED
1470	CROMER KNOLL GP
1470	RØDBY FM
1507	ÅSGARD FM
1515	VIKING GP
1515	DRAUPNE FM
1621	SOGNEFJORD FM

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
1689	pdf	0.18

Dokumenter - eldre Sjøkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
1689_01_WDSS_General_Information	pdf	0.16
1689_02_WDSS_completion_log	pdf	0.15

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
1689_31_5_4_A_COMPLETION_REPORT_AND_LOG	pdf	26.27

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CBL VDL CCL GR	1391	1792
DIT-E DSI GR	1550	1800
DLL MSFL CAL GR	1803	2595





GR CCL	1433	1800
HYRO CCL	1395	1798
LDL CNL GR CAL	1567	1723
LDL CNL GR CAL	1567	1799
MWD - CDR CDN GR	1803	2285
MWD - CDR GR DIR	432	2585

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
INTERM.	13 3/8	1567.0	17 1/2	1570.0	1.40	LOT
INTERM.	9 5/8	1803.0	12 1/4	1806.0	1.40	LOT
OPEN HOLE		2603.0	8 1/2	2603.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
1571	1.25	21.0	21.0	WATER BASED	
1803	1.25	31.0	12.0	WATER BASED	
2089	1.25	13.0	14.0	WATER BASED	
2227	1.25	14.0	15.0	WATER BASED	
2601	1.20	11.0	11.0	WATER BASED	