

**General information**

Wellbore name	31/2-5 R2
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	TROLL
Discovery	31/2-1 (Troll Vest)
Well name	31/2-5
Seismic location	79421 SP.274
Production licence	054
Drilling operator	A/S Norske Shell
Drill permit	263-L3
Drilling facility	BORGNY DOLPHIN
Drilling days	32
Entered date	22.03.1984
Completed date	22.04.1984
Plugged and abandon date	22.04.1984
Release date	22.04.1986
Publication date	07.11.2005
Purpose - planned	WILDCAT
Reentry	YES
Reentry activity	TESTING
Content	OIL/GAS
Discovery wellbore	NO
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	SOGNEFJORD FM
Kelly bushing elevation [m]	25.0
Water depth [m]	333.0
Total depth (MD) [m RKB]	2525.0
Final vertical depth (TVD) [m RKB]	2525.0
Maximum inclination [°]	1.5
Bottom hole temperature [°C]	79
Oldest penetrated age	TRIASSIC
Oldest penetrated formation	HEGRE GP
Geodetic datum	ED50
NS degrees	60° 46' 16.2" N
EW degrees	3° 25' 53.46" E



NS UTM [m]	6737535.76
EW UTM [m]	523507.71
UTM zone	31
NPDID wellbore	501

Wellbore history

General

Wildcat well 31/2-5 is located in the southern part of the oil province in the Troll West area, some 6 km west of the discovery well 31/2-1, in a downthrown fault block. It was drilled in 1980 and tested in the re-entry 31/2-5 R in 1981. The objective of the second re-entry was to test and quantify the water mobility (oil-water coning behaviour) in the aquifer zone underlying the oil column to provide input for the Field Development Plan of the Troll Field.

Operations and results

Wildcat well 31/2-5 R was re-entered (31/2-5 R2) with the semi-submersible installation Borgny Dolphin on 22 March 1984. The cement suspension plug (1261 m to 1450 m) was drilled out and a test was carried out.

The well was permanently abandoned on 22 April 1984.

Testing

A 3 m interval directly above the oil-water contact (1566-1569 m SS) was production tested. The test was conducted in three periods, a cleanup period (PT-2A), a period before acid treatment (PT-2B), and a period after acid treatment (PT-2C) The oil sample available from the NPD was sampled in PT-2B. The well produced up to 1002 Sm³ (6300 bbl) liquid /day. The water cut decreased in two days from high initial values (> 40%) to a stable value of 20%, independent of the liquid rate. The stable water cut was apparently controlled exclusively by the relative mobilities of oil and water. The rate dependence of the Productivity Index, significant before the acid job, almost disappeared after acidizing.

Oil samples at the Norwegian Offshore Directorate

Test type	Bottle number	Top depth MD [m]	Bottom depth MD [m]	Fluid type	Test time	Samples available
DST		1591.00	1594.00	OIL	13.04.1984 - 00:02	YES

Lithostratigraphy



Top depth [mMD RKB]	Lithostrat. unit
358	NORDLAND GP
781	HORDALAND GP
781	NO FORMAL NAME
808	NO FORMAL NAME
1338	ROGALAND GP
1338	BALDER FM
1389	SELE FM
1419	LISTA FM
1526	SHETLAND GP
1529	VIKING GP
1529	SOGNEFJORD FM
1610	HEATHER FM
1686	FENSEFJORD FM
1782	KROSSFJORD FM
1853	HEATHER FM
1950	BRENT GP
2063	DUNLIN GP
2063	DRAKE FM
2194	COOK FM
2270	AMUNDSEN FM
2301	JOHANSEN FM
2380	AMUNDSEN FM
2397	STATFJORD GP
2464	HEGRE GP

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

Document name	Document format	Document size [MB]
501_01_WDSS_General_Information	pdf	0.15

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	1591	1594	50.8





Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0				66

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	668	125584	0.880	0.631	188

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	443.0	36	446.0	0.00	LOT
SURF.COND.	20	809.0	26	820.0	1.55	LOT
INTERM.	13 3/8	1470.0	17 1/2	1480.0	1.60	LOT
INTERM.	9 5/8	1801.0	12 1/4	1812.0	1.69	LOT
OPEN HOLE		2525.0	8 1/2	2525.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
500	1.05	36.0		water based	
1030	1.21	51.0		water based	
1510	1.25	60.0		water based	
1870	1.50	48.0		water based	
1940	1.15	51.0		water based	
1960	1.25	49.0		water based	
2110	1.15	46.0		water based	