

**General information**

Wellbore name	31/2-5 R
Type	EXPLORATION
Purpose	APPRAISAL
Status	SUSPENDED
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-L2
Drilling facility	BORGNY DOLPHIN
Drilling days	39
Entered date	12.06.1981
Completed date	20.07.1981
Release date	20.07.1983
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	500

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 found a 21 m thick oil zone in excellent reservoir sandstone. The oil column in this location was found to be significantly thicker than in other wells in the area. The objective of the re-entry was to perform a production test in the oil zone.

Operations and results

Wildcat well 31/2-5 was re-entered (31/2-5 R) with the semi-submersible installation Borgny Dolphin on 12 June 1981. The cement suspension plug (1204 -1465 m) was drilled out and a test was carried out.

After testing a cement plug was set from 1261 m to 1450 m and again suspended on 20 July 1981.

Testing

One drill stem test was carried out. The oil zone was perforated from 1582 m to 1588 m and acidized to reduce impairment of the formation caused by completion fluids. The interval was then tested through gravel pack and produced 906 Sm³ (5700 bbl) oil /day on a 64/64" choke. The GOR was 53 Sm³/Sm³ and the oil gravity was 29 deg API. Opening up the choke to 2 x 64/64" the rate increased to 1177 Sm³ (7400 bbl)/day and the GOR increased to 243 Sm³/Sm³. Gas chromatographic analyses of the crude showed a bacterially degraded oil where the n-alkanes were almost absent.

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	FENSFJORD 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

Geochemical information

Document name	Document format	Document size [MB]
500_1	pdf	1.08

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	1582	1588	25.4

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0	3.000			

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	820	47000	0.890	0.655	58

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	421.0	36	421.0	0.00	LOT
SURF.COND.	20	785.0	26	795.0	0.00	LOT
INTERM.	13 3/8	1445.0	17 1/2	1455.0	1.60	LOT
INTERM.	9 5/8	1776.0	12 1/4	1786.0	1.69	LOT
LINER	7	2500.0	8 1/2	2500.0	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		seawater	
1040	1.21	51.0		seawater	
1480	1.20	49.0		waterbased	
1510	1.25	48.0		waterbased	
1870	1.50	48.0		waterbased	
1960	1.25	49.0		waterbased	
2110	1.15	46.0		waterbased	

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]
500 Formation pressure (Formasjonstrykk)	pdf	0.18

