

**General information**

Wellbore name	16/11-1 S
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	16/11-1
Seismic location	16/11-B SP:75.
Production licence	016
Drilling operator	Phillips Petroleum Company Norway
Drill permit	4-L
Drilling facility	OCEAN VIKING
Drilling days	110
Entered date	14.07.1967
Completed date	31.10.1967
Release date	31.10.1969
Publication date	24.09.2004
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	27.0
Water depth [m]	67.0
Total depth (MD) [m RKB]	3050.0
Final vertical depth (TVD) [m RKB]	3020.0
Maximum inclination [°]	16
Bottom hole temperature [°C]	100
Oldest penetrated age	LATE PERMIAN
Oldest penetrated formation	ZECHSTEIN GP
Geodetic datum	ED50
NS degrees	58° 4' 4" N
EW degrees	2° 34' 8" E
NS UTM [m]	6436483.75
EW UTM [m]	474564.38
UTM zone	31
NPDID wellbore	112



Wellbore history

Well 16/11-1 S is located in the Danish Norwegian Basin. The objective of the well was to test the hydrocarbon potential of the Tertiary, Mesozoic and Permian sediments. Specifically, Tertiary sandstones, Cretaceous sandstones and limestones, Jurassic and Triassic sandstones, Permian carbonates and Permian Rotligendes sandstone were considered to be prospective.

Operations and results

Wildcat well 16/11-1 S was spudded with the semi-submersible installation Ocean Viking on 17 July 1967 and drilled to TD at 3050 m (ca 3020 m TVD RKB) in the Late Permian Zechstein Group. The well is classified as deviated, but was not meant to be. During reaming operation at about 1463 m the hole was accidentally sidetracked. This was not discovered until 13 3/8" casing was set and the cement plug drilled through. Hole deviation was then determined to be 16 deg at the casing shoe. In order to prevent a dogleg the deviation was gradually decreased to 12.5 deg at about 2322 m and stabilized at an average of 12 deg to TD. The dip meter log indicates that the hole drifted in a N 45 deg E direction. While drilling at 2952 m the drill string stuck and a fish was left in the hole. A cement plug was set and the fish was bypassed by sidetracking with jet action from the bit. Upon reaching 2952 m, the pipe stuck a second time, which resulted in leaving a new fish. A second cement plug was set and the hole sidetracked using a Neyrpic turbine drill. The pipe stuck a third time at 2954 m and another fish was left. The hole was again sidetracked and mud weight increased to about 16 ppg. Drilling then continued to TD, before 9 5/8" casing was set. Circulation was lost immediately after drilling through the 9 5/8" casing shoe at 2957 m. Five Diaseal "M" squeezes and five DOC squeezes were performed in an attempt to regain circulation with a 16.0 ppg mud, but all attempts were unsuccessful. A Drispac/Flosal/Descos mud system was used to a depth of 2326 m. At this depth the system was converted to a Sodium Chloride - saturated Drispac/Flosal/Sodium Sulphate system. The salt-saturated mud system was used to total depth.

The Tertiary section consisted mainly of clays and shales. Fairly high methane percentages were recorded by the chromatograph in the shaley lower part of this section as the section was drilled. Two zones within the Mesozoic were encountered which could be prospective reservoirs in other areas. These zones were the middle part of the Late Cretaceous chalk and the sandstones of the Early Jurassic. No shows were observed in either zone, but permeability was indicated in the Late Cretaceous chalk by a small salt-water inflow. Electric log calculations of the Early Jurassic sandstones indicated an average porosity of 23 percent and 100 percent water saturation. No sidewall or conventional cores were taken and no fluid samples collected.

The well was permanently abandoned on 31 October 1967 as a dry well.

Testing

No drill stem test was performed

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1841.00	3048.00

Cuttings available for sampling?	NO
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**Lithostratigraphy**

Top depth [mMD RKB]	Lithostrat. unit
94	NORDLAND GP
960	HORDALAND GP
1500	ROGALAND GP
1500	BALDER FM
1535	SELE FM
1567	LISTA FM
1625	SHETLAND GP
1625	EKOFISK FM
1642	TOR FM
1660	HOD FM
2006	CROMER KNOLL GP
2006	RØDBY FM
2025	SOLA FM
2040	ÅSGARD FM
2124	BOKNEFJORD GP
2124	TAU FM
2142	NO FORMAL NAME
2152	TAU FM
2165	VESTLAND GP
2165	SANDNES FM
2236	NO GROUP DEFINED
2236	SMITH BANK FM
2255	ZECHSTEIN GP

Composite logs

Document name	Document format	Document size [MB]
112	pdf	0.30

Geochemical information





Document name	Document format	Document size [MB]
112 1	pdf	0.03
112 2 preliminary results of petroleum geochemical studies of the phillips norway 16 11 1 well	pdf	0.80

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

Document name	Document format	Document size [MB]
112 01 WDSS General Information	pdf	0.20

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

Document name	Document format	Document size [MB]
112 1 Completion Report and Completion I og	pdf	30.92

Documents - Norwegian Offshore Directorate papers

Document name	Document format	Document size [MB]
112 02 NPD Paper No.4 Interpreted Lithology log Well 16 11 1	pdf	44.94
112 01 NPD Paper No.4 Lithology Well 16 11 1	pdf	10.68

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CAL	451	1494
CCL	1732	2241
CDM	470	2924
CDS	793	1049
EPIN	1814	2348
FDC	1814	2348
GR	91	451





IES	451	1831
LL-7	1814	2321
ML C	1494	1830
MLL C	1814	2321
SGR C	451	2947
SNP	1814	2348
SRS	451	2947

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	145.0	36	145.0	0.00	LOT
SURF.COND.	20	450.0	26	469.0	0.00	LOT
INTERM.	13 3/8	1814.0	17 1/2	1829.0	0.00	LOT
INTERM.	9 5/8	3050.0	12 1/4	3050.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
190	1.05	40.0		Baroid	
469	1.05	31.0		Baroid	
1543	1.13	36.0		Baroid	
1829	1.17	45.0		Baroid	
2011	1.40	62.0		Baroid	
2963	1.65	53.0		Baroid	
3049	2.01	54.0		Baroid	