

**General information**

Wellbore name	16/9-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	16/9-1
Seismic location	LINE NS - 9 . SP.530
Production licence	002
Drilling operator	Esso Exploration and Production Norway A/S
Drill permit	12-L
Drilling facility	GLOMAR GRAND ISLE
Drilling days	66
Entered date	08.05.1968
Completed date	12.07.1968
Release date	12.07.1970
Publication date	24.09.2004
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	9.0
Water depth [m]	89.0
Total depth (MD) [m RKB]	3655.0
Final vertical depth (TVD) [m RKB]	3655.0
Bottom hole temperature [°C]	101
Oldest penetrated age	LATE PERMIAN
Oldest penetrated formation	ZECHSTEIN GP
Geodetic datum	ED50
NS degrees	58° 22' 41.48" N
EW degrees	2° 48' 16.99" E
NS UTM [m]	6470980.80
EW UTM [m]	488578.52
UTM zone	31
NPDID wellbore	151

**Wellbore history****General**

Well 16/9-1 is located in the Ling Depression between the Utsira High and the Danish Norwegian Basin. A relatively thick Jurassic/Triassic section was anticipated and was expected to contain porous sandstones. The main objectives were to test the oil and gas potential and investigate the lithology of the sedimentary section on an anticlinal structure between salt dome features.

Operations and results

Wildcat well 16/9-1 was spudded with the vessel Glomar Grand Isle on 8 May 1968 and drilled to TD at 3654 m in salt of the Permian Zechstein Group. Drilling operations were normal to 3654 m (TD), while drilling at this depth on 24 June 1968, a sudden storm struck the Glomar Grand Isle causing the drill pipe to part and drop in the hole. The top of the fish was at 859 m. A jet cutter was run, the drill pipe was cut at 3321 m and recovered on 28 June. Attempts to recover the remaining fish failed and on 7-8 July final logs were run to the top of the fish at 3321 feet. Following final logs, the well was prepared for abandonment. Initial drilling from the sea floor to 402 m was with seawater and gel. Returns were to the sea floor. Below 402 m to 3395 m, the mud system consisted of a sea water/Spersene/XP-20 Salinex mud with 5% to 8% diesel oil. From 3395 to TD a salt saturated mud system was used.

The Danian and Cretaceous carbonates had no shows. The remaining sections penetrated by the well were predominantly clays, shales or evaporites. The well penetrated a 169 m Jurassic section and a 735 m thick Triassic sequence before entering the Late Permian Zechstein Group at 3199 m. Some porous sandstones were present in the Jurassic and Triassic on structure but these had no hydrocarbon shows and were indicated to be water bearing on the electric logs. Two conventional cores were cut, one from 1227 m to 1245 m in the Tertiary Hordaland Group and one from 2396 m to 2404.5 m in the Middle Jurassic Vestland Group. No fluid samples were taken in the well. The well was permanently abandoned on 12 July 1968 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]
1320.00	11985.00

Cuttings available for sampling?	YES
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Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	1226.8	1245.1	[m]
2	2396.0	2404.6	[m]



Total core sample length [m]	26.8
Cores available for sampling?	NO

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1.0	[ft]	DC	
2760.0	[ft]	DC	
2910.0	[ft]	DC	
2970.0	[ft]	DC	
3000.0	[ft]	DC	
3090.0	[ft]	DC	
3120.0	[ft]	DC	
3180.0	[ft]	DC	
3210.0	[ft]	DC	
3240.0	[ft]	DC	
3270.0	[ft]	DC	
3300.0	[ft]	DC	
3360.0	[ft]	DC	
3390.0	[ft]	DC	
3450.0	[ft]	DC	
3480.0	[ft]	DC	
3540.0	[ft]	DC	
3630.0	[ft]	DC	
3660.0	[ft]	DC	
3690.0	[ft]	DC	
3720.0	[ft]	DC	
3750.0	[ft]	DC	
3780.0	[ft]	DC	
3810.0	[ft]	DC	
3840.0	[ft]	DC	
3870.0	[ft]	DC	
3900.0	[ft]	DC	
3930.0	[ft]	DC	
3960.0	[ft]	DC	
3990.0	[ft]	DC	
4020.0	[ft]	DC	
4025.0	[ft]	DC	
4025.0	[ft]	DC	



4035.0 [ft]	DC	
4039.0 [ft]	DC	
4039.0 [ft]	C	
4080.0 [ft]	DC	
4084.0 [ft]	DC	
4110.0 [ft]	DC	
4170.0 [ft]	DC	
4200.0 [ft]	DC	
4230.0 [ft]	DC	
4230.0 [ft]	DC	
4290.0 [ft]	DC	
4320.0 [ft]	DC	
4350.0 [ft]	DC	
4378.5 [ft]	SWC	
4380.0 [ft]	DC	
4410.0 [ft]	DC	
4440.0 [ft]	DC	
4470.0 [ft]	DC	
4500.0 [ft]	DC	
4589.0 [ft]	SWC	
4600.0 [ft]	DC	
4600.0 [ft]	DC	
4610.0 [ft]	DC	
4640.0 [ft]	DC	
4650.0 [ft]	DC	
4680.0 [ft]	DC	
4700.0 [ft]	DC	
4700.0 [ft]	DC	
4740.0 [ft]	DC	
4780.0 [ft]	DC	
4800.0 [ft]	DC	
4860.0 [ft]	DC	
4900.0 [ft]	DC	
4900.0 [ft]	DC	
4980.0 [ft]	DC	
5000.0 [ft]	DC	
5100.0 [ft]	DC	
5110.0 [ft]	DC	
5200.0 [ft]	DC	
5230.0 [ft]	DC	



5300.0	[ft]	DC	
5320.0	[ft]	DC	
5400.0	[ft]	DC	
5500.0	[ft]	DC	
5600.0	[ft]	DC	
5700.0	[ft]	DC	
5800.0	[ft]	DC	
5900.0	[ft]	DC	
6000.0	[ft]	DC	
6026.0	[ft]	SWC	
6050.0	[ft]	DC	
6060.0	[ft]	DC	
6100.0	[ft]	DC	
6100.0	[ft]	DC	
6118.0	[ft]	SWC	
6120.0	[ft]	DC	
6160.0	[ft]	DC	
6200.0	[ft]	DC	
6220.0	[ft]	DC	
6260.0	[ft]	DC	
6300.0	[ft]	DC	
6320.0	[ft]	DC	
6360.0	[ft]	DC	
6370.0	[ft]	SWC	
6400.0	[ft]	DC	
6410.0	[ft]	SWC	
6420.0	[ft]	DC	
6450.0	[ft]	SWC	
6460.0	[ft]	DC	
6500.0	[ft]	DC	
6520.0	[ft]	DC	
6560.0	[ft]	DC	
6593.0	[ft]	SWC	
6600.0	[ft]	DC	
6620.0	[ft]	DC	
6635.0	[ft]	SWC	
6660.0	[ft]	DC	
6690.0	[ft]	SWC	
6700.0	[ft]	DC	
6720.0	[ft]	DC	



6765.0 [ft]	SWC	
6800.0 [ft]	DC	
6863.0 [ft]	SWC	
6900.0 [ft]	DC	
6988.0 [ft]	SWC	
7000.0 [ft]	DC	
7100.0 [ft]	DC	
7167.0 [ft]	SWC	
7200.0 [ft]	DC	
7220.0 [ft]	DC	
7260.0 [ft]	DC	
7300.0 [ft]	DC	
7320.0 [ft]	DC	
7334.0 [ft]	SWC	
7360.0 [ft]	DC	
7400.0 [ft]	DC	
7420.0 [ft]	DC	
7450.0 [ft]	DC	
7460.0 [ft]	DC	
7500.0 [ft]	DC	
7519.0 [ft]	DC	
7520.0 [ft]	DC	
7520.0 [ft]	DC	
7540.0 [ft]	DC	
7580.0 [ft]	DC	
7585.0 [ft]	SWC	
7600.0 [ft]	DC	
7630.0 [ft]	DC	
7652.0 [ft]	SWC	
7660.0 [ft]	DC	
7696.0 [ft]	SWC	
7720.0 [ft]	DC	
7749.0 [ft]	SWC	
7760.0 [ft]	DC	
7762.0 [ft]	SWC	
7772.0 [ft]	SWC	
7780.0 [ft]	SWC	
7800.0 [ft]	DC	
7820.0 [ft]	DC	
7820.0 [ft]	DC	



7840.0	[ft]	DC	
7843.0	[ft]	SWC	
7861.0	[ft]	C	
7865.0	[ft]	C	
7867.0	[ft]	C	
7900.0	[ft]	DC	
7920.0	[ft]	DC	
7954.0	[ft]	SWC	
8000.0	[ft]	DC	
8020.0	[ft]	DC	

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
98	NORDLAND GP
825	HORDALAND GP
1310	ROGALAND GP
1310	BALDER FM
1336	SELE FM
1354	LISTA FM
1393	SHETLAND GP
1393	EKOFISK FM
1425	TOR FM
1600	HOD FM
1829	CROMER KNOLL GP
1829	RØDBY FM
1919	ÅSGARD FM
2295	VIKING GP
2295	DRAUPNE FM
2360	VESTLAND GP
2464	NO GROUP DEFINED
2464	SKAGERRAK FM
3074	SMITH BANK FM
3199	ZECHSTEIN GP

Composite logs





Document name	Document format	Document size [MB]
151	pdf	0.55

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

Document name	Document format	Document size [MB]
151 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]
151 1 Completion Report & Completion log	pdf	4.19

Documents - Norwegian Offshore Directorate papers

Document name	Document format	Document size [MB]
151 01 NPD Paper No.11 Lithology Well 16 9 1	pdf	11.21
151 02 NPD Paper No.11 Interpreted Lithology log Well 16 9 1	pdf	62.64

Logs

Log type	Log top depth [m]	Log bottom depth [m]
FDC	1407	3314
GR BHC SONIC	335	3319
HDT HR	1407	3304
IES	335	1416
IES	1407	2868
LL	2834	3352
MLL ML	335	3321

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	127.0	36	131.0	0.00	LOT
INTERM.	20	336.0	26	358.0	0.00	LOT
INTERM.	13 3/8	1405.0	17 1/2	1418.0	0.00	LOT
OPEN HOLE		3655.0	12 1/4	3655.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
442	1.05	36.0		seawater	
1280	1.17	37.0		seawater	
1547	1.25	48.0		seawater	
1897	1.19	41.0		seawater	
2050	1.22	53.0		seawater	
2858	1.31	43.0		seawater	
3307	1.28	85.0		seawater	
3459	1.34	43.0		seawater	