

General information

Wellbore name	17/4-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	17/4-1
Seismic location	LINE 5836 SP. C1325.
Production licence	007
Drilling operator	Elf Petroleum Norge AS
Drill permit	14-L
Drilling facility	OCEAN VIKING
Drilling days	71
Entered date	17.06.1968
Completed date	26.08.1968
Release date	26.08.1970
Publication date	24.09.2004
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	27.0
Water depth [m]	105.0
Total depth (MD) [m RKB]	3997.0
Bottom hole temperature [°C]	98
Oldest penetrated age	EARLY PERMIAN
Oldest penetrated formation	ROTLIEGEND GP
Geodetic datum	ED50
NS degrees	58° 35' 54" N
EW degrees	3° 16' 5" E
NS UTM [m]	6495507.61
EW UTM [m]	515580.13
UTM zone	31
NPDID wellbore	153

Wellbore history

General

Well 17/4-1 was drilled on a NNE-SSW trending monocline in the Ling Depression between the Sele High and the Utsira High /Patch Bank ridge. The objective was to investigate the sedimentary section down to the pre-Permian, and particularly to test the hydrocarbon potential of the Mesozoic sands and Zechstein dolomites. Furthermore, Early Permian and/or pre-Permian reservoirs were to be evaluated if present.

Operations and results

Wildcat well 17/4-1 was spudded with the semi-submersible installation Ocean Viking on 15 June 1968 and drilled to TD at 3997 m in conglomerate in the Early Permian Rotliegend Group. Initial drilling to 444 m was with seawater, and the returns were to the sea floor. The 17 1/2" hole was drilled out using an LFC-LC/sea water type mud, and the 13 3/8" casing shoe was set at 1803 m. From this depth the mud system was salt saturated. The 12 1/4" hole was drilled down to 3942 m from where the hole diameter was reduced to 8 1/2". An inverted oil-base mud was used from 2900 m to TD.

Sandstones were encountered in the Jurassic and Triassic. They had medium to good porosities, but generally poor permeabilities due to calcite cement. The pre-Zechstein conglomerate was very tight with no porosity. On top of this there were nearly 1200 m of evaporites, apparently undisturbed by halokinesis. The evaporites were overlain by around 300 m of continental Triassic deposits. The Jurassic consisted of fluvial sandstones overlain by carbonaceous dark shales belonging to the Late Jurassic "hot" shale (Draupne Formation). This shale was penetrated at 2122 m and is 95 m thick in the well position. No samples of any kind was recovered from this interval, but analysis of caved cuttings believed to originate from Draupne indicated TOC in the range 2 % to 7 % with potential for oil and gas. The Draupne formation is immature in the well. The Early Cretaceous marine, low energy shales range in age from Hauterivian to Albian, and they reflect deposition in a subsiding basin. There were approximately 280 m of Late Cretaceous carbonates which were deposited in an open marine environment. Deposition of lime muds probably terminated at the end of the Cretaceous, and the Tertiary is mostly represented by low energy marine sediments. A shoaling of the water in Neogene time resulted in shallow marine conditions where both sand and clay were deposited.

Minor gas shows were recorded while drilling the Tertiary section and the Late Jurassic Draupne Formation. Two conventional cores were cut. The first in the interval 2271 m to 2288 m in the Vestland Group, and the second in the interval 3881.5 m to 3884 m in the Rotliegend Group. No fluid sample was taken.

The well was permanently abandoned as dry on 22 August 1968.

Testing

No drill stem test was performed

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
470.00	3997.00

Cuttings available for sampling?	NO
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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	2271.0	2288.0	[m]
2	3881.5	3884.0	[m]

Total core sample length [m]	19.5
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1100.0 [m]		DC	
1120.0 [m]		DC	
1140.0 [m]		DC	
1160.0 [m]		DC	
1180.0 [m]		DC	
1200.0 [m]		DC	
1210.0 [m]		DC	
1225.0 [m]		DC	
1235.0 [m]		C	
1245.0 [m]		C	
2271.1 [m]		C	OD
2272.4 [m]		C	OD
2273.6 [m]		C	OD
2275.1 [m]		C	OD
2276.6 [m]		C	OD
2278.7 [m]		C	OD
2280.0 [m]		C	OD
2281.5 [m]		C	OD
2283.3 [m]		C	OD
2284.7 [m]		C	OD
2286.1 [m]		C	OD
2287.9 [m]		C	OD

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
132	NORDLAND GP

544	HORDALAND GP
1041	ROGALAND GP
1041	BALDER FM
1080	SELE FM
1108	LISTA FM
1150	VÅLE FM
1163	SHETLAND GP
1163	TOR FM
1370	HOD FM
1408	BLODØKS FM
1438	HIDRA FM
1444	CROMER KNOLL GP
1444	RØDBY FM
1706	ÅSGARD FM
2080	MIME FM
2122	VIKING GP
2122	DRAUPNE FM
2217	HEATHER FM
2265	VESTLAND GP
2352	NO GROUP DEFINED
2352	SKAGERRAK FM
2532	SMITH BANK FM
2665	ZECHSTEIN GP
2665	UNDIFFERENTIATED
3829	KUPFERSCHIEFER FM
3834	ROTLEGEND GP

Composite logs

Document name	Document format	Document size [MB]
153	pdf	0.42

Geochemical information

Document name	Document format	Document size [MB]
153_1_Etude_geochimique_complementaire_well_17_4_1	PDF	2.18

153_2 Rapport concernant une etude geochemique 17_4_1	pdf	30.94
153_3 Preliminary results of petroleum geochemical studies of the 17_4_1 well	pdf	1.12
153_4	pdf	0.40

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

Document name	Document format	Document size [MB]
153_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]
153_10 Survey report	pdf	1.26
153_11 Etude des mineraux argileux et majeurs	pdf	7.15
153_12 Etude micropaleontologique cretace inferieur-jura	pdf	1.11
153_13 Completion Report & Completion log	pdf	3.09
153_1 Completion Report & Completion log	pdf	3.09
153_2 Drilling summary	pdf	0.35
153_3 Bore card fiche stratigraphique	pdf	0.81
153_4 Preliminary results of petroleum geochemical studies	pdf	1.12
153_6 Rapport concernant une geochemique complementaire su	pdf	30.94
153_7 Rapport d'implatation	pdf	39.58
153_8 Rapport de fine de sondage	pdf	1.11
153_9 Resultats de analyse dun enchantillon	pdf	7.35
153_5 Programme du forage	pdf	2.77

Documents - Norwegian Offshore Directorate papers

Document name	Document format	Document size [MB]
153_01 NPD Paper No.14 Lithology Well 17_4_1	pdf	17.82

153 02 NPD Paper No.14 Interpreted Lithology log Well 17 4 1	pdf	64.58
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Logs

Log type	Log top depth [m]	Log bottom depth [m]
CDM	1296	2898
CDM	3420	3550
CDM	3800	3992
CST	0	0
FDC	1150	2900
FDC	3420	3800
FDC	3550	3994
GR	140	1203
IES	439	2849
IES IL	2800	3993
LL	1803	2897
MLL ML	1803	2897
SL BHC GR	439	3993
SNP	1804	2900

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	158.0	36	158.0	0.00	LOT
INTERM.	20	439.0	26	444.0	0.00	LOT
INTERM.	13 3/8	1803.0	17 1/2	1812.0	0.00	LOT
OPEN HOLE		3997.0	12 1/4	3997.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
444	1.02			seawater	
1207	1.33	50.0		waterbased	
1812	1.33	53.0		waterbased	
2503	1.37	50.0		waterbased	
3471	1.39	45.0		waterbased	

3957	1.49	50.0	waterbased	
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Thin sections at the Norwegian Offshore Directorate

Depth	Unit
2278.70	[m]
2283.10	[m]
2884.90	[m]
3381.25	[m]
3881.95	[m]
3883.35	[m]