

**General information**

Wellbore name	31/4-4
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	31/4-4
Seismic location	X 954459 + 954235.
Production licence	055
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	267-L
Drilling facility	NORTRYM
Drilling days	63
Entered date	17.12.1980
Completed date	17.02.1981
Release date	17.02.1983
Publication date	07.11.2005
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	25.0
Water depth [m]	214.0
Total depth (MD) [m RKB]	3150.0
Final vertical depth (TVD) [m RKB]	3150.0
Maximum inclination [°]	1
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	60° 40' 1.12" N
EW degrees	3° 6' 54.12" E
NS UTM [m]	6725858.96
EW UTM [m]	506287.02
UTM zone	31
NPDID wellbore	214

**Wellbore history****General**

Wildcat well 31/4-4 is located on the Lomre Terrace north of the Brage Field and east of the Oseberg Field. The primary objective of the well was to test possible sandstone reservoirs of Cretaceous age. The secondary objective was to test sandstone reservoirs of Late Jurassic age, anticipated to be Intra Heather Formation sands.

The well is Reference Well for the Etive, Ness, and Tarbert Formations of the Brent Group.

Operations and results

Well 31/4-4 was spudded with the semi-submersible installation Nortrym on 17 December 1980 and drilled to TD at 3150 m in Early Jurassic sediments of the Statfjord Formation. The well was drilled with seawater and viscous gel down to 900 m and with KCl / polymer mud from 900 m to TD.

No reservoir sands of Cretaceous age were encountered in the well. Poor shows were reported from two limestone stringers and a thin, tight sandstone stringer of Late Cretaceous (Maastrichtian and Late Campanian) age. A Late Jurassic "Intra Heather Sand I" (Sognefjord Formation) was encountered at 2363 m with a gross thickness of 39 m. The net sand interval was 24 m and consisted of fine-grained to very fine-grained argillaceous, micaceous sandstone. Average porosity was calculated to 16 %. Eighty-nine percent water saturation was calculated for this sand indicating that poor oil shows encountered while drilling the interval, were residual. A second "Intra Heather Sand II" (Fensfjord Formation) was penetrated at 2482 m with a gross thickness of 45 m. The sand was water bearing without shows. The lithology was similar to the upper sand. The other reservoir sequences encountered in the well, sandstones in the Middle Jurassic Brent Formation, the Early Jurassic Cook Formation, and the Statfjord Formation, were also water bearing. The gross sand thicknesses of these were 118 m, 21m and 67m, respectively.

A single conventional core was cut between 2490m and 2508m, near the top of the lower Intra Heather Sand interval. It was dated to Oxfordian in age and consisted of 18 m (100%) of very fine-grained sandstone with good porosity, except in some heavily cemented horizons. No fluid sample was taken.

The well was permanently abandoned on 17 February 1981 as a dry hole.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
350.00	3150.00

Cuttings available for sampling?	YES
----------------------------------	-----

**Cores at the Norwegian Offshore Directorate**

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	2490.0	2508.0	[m]

Total core sample length [m]	18.0
Cores available for sampling?	YES

Core photos

2490-2492m



2492-2495m



2495-2498m



2498-2500m



2500-2503m



2503-2506m



2506-2508m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
740.0	[m]	DC	
760.0	[m]	DC	
790.0	[m]	DC	
820.0	[m]	DC	
850.0	[m]	DC	
880.0	[m]	DC	
910.0	[m]	DC	
940.0	[m]	DC	
970.0	[m]	DC	
1000.0	[m]	DC	
1030.0	[m]	DC	
1060.0	[m]	DC	



1090.0 [m]	DC	
1120.0 [m]	DC	
1150.0 [m]	DC	
1180.0 [m]	DC	
1210.0 [m]	DC	
1240.0 [m]	DC	
1270.0 [m]	DC	
1300.0 [m]	DC	
1330.0 [m]	DC	
1360.0 [m]	DC	
1390.0 [m]	DC	
1420.0 [m]	DC	
1450.0 [m]	DC	
1480.0 [m]	DC	
1510.0 [m]	DC	
1540.0 [m]	DC	
1570.0 [m]	DC	
1600.0 [m]	DC	
1630.0 [m]	DC	
1660.0 [m]	DC	
1690.0 [m]	DC	
1720.0 [m]	DC	
1720.0 [m]	DC	
1750.0 [m]	DC	
1780.0 [m]	DC	
1810.0 [m]	DC	
1840.0 [m]	DC	
1870.0 [m]	DC	
1900.0 [m]	DC	
1910.0 [m]	DC	
1930.0 [m]	DC	
1945.0 [m]	DC	
1960.0 [m]	DC	
1970.0 [m]	DC	
1980.0 [m]	DC	
1990.0 [m]	DC	
2000.0 [m]	DC	
2020.0 [m]	DC	
2040.0 [m]	DC	
2050.0 [m]	DC	



2080.0	[m]	DC	
2100.0	[m]	DC	
2115.0	[m]	DC	
2130.0	[m]	DC	
2150.0	[m]	DC	
2160.0	[m]	DC	
2175.0	[m]	DC	
2190.0	[m]	DC	
2200.0	[m]	DC	
2213.0	[m]	SWC	IKU
2216.0	[m]	SWC	IKU
2220.0	[m]	DC	
2227.0	[m]	DC	
2250.0	[m]	DC	
2255.0	[m]	DC	
2280.0	[m]	DC	
2280.0	[m]	C	IKU
2285.0	[m]	DC	PETROSTR
2287.0	[m]	DC	PETROS
2290.0	[m]	DC	PETROS
2295.0	[m]	DC	PETROS
2300.0	[m]	DC	
2302.0	[m]	DC	PETROS
2305.0	[m]	C	IKU
2312.0	[m]	DC	PETROSTR
2317.0	[m]	DC	PETROS
2325.0	[m]	DC	PETROS
2330.0	[m]	DC	PETROS
2330.0	[m]	C	IKU
2335.0	[m]	DC	PETROSTR
2352.0	[m]	DC	PETROSTR
2357.0	[m]	DC	PETROS
2362.0	[m]	DC	PETROS
2364.0	[m]	SWC	IKU
2365.0	[m]	DC	PETROSTR
2367.0	[m]	DC	PETROS
2382.0	[m]	DC	PETROS
2382.0	[m]	SWC	IKU
2385.0	[m]	DC	PETROSTR
2387.0	[m]	DC	PETROS



2410.0	[m]	SWC	IKU
2480.0	[m]	SWC	IKU
2484.9	[m]	SWC	IKU
2489.6	[m]	C	IKU
2493.5	[m]	C	IKU
2498.0	[m]	C	IKU
2502.5	[m]	C	IKU
2506.8	[m]	C	IKU
2507.7	[m]	C	IKU
2522.9	[m]	SWC	IKU
2528.9	[m]	SWC	IKU
2577.0	[m]	SWC	IKU
2628.0	[m]	SWC	IKU
2667.0	[m]	SWC	IKU
2697.0	[m]	SWC	IKU
2716.0	[m]	SWC	IKU
2767.0	[m]	SWC	IKU
2785.9	[m]	SWC	IKU
2788.6	[m]	SWC	IKU
2830.0	[m]	SWC	IKU
2851.0	[m]	SWC	IKU
2855.0	[m]	SWC	IKU
2959.0	[m]	SWC	IKU
2986.0	[m]	SWC	IKU
3022.0	[m]	SWC	IKU
3040.0	[m]	SWC	IKU
3060.0	[m]	SWC	IKU
3080.0	[m]	SWC	IKU
3136.0	[m]	SWC	IKU
3152.0	[m]	SWC	IKU

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
239	NORDLAND GP
733	UTSIRA FM
810	UNDIFFERENTIATED
890	HORDALAND GP
1796	ROGALAND GP



1796	BALDER FM
1853	SELE FM
1893	LISTA FM
2050	VÅLE FM
2067	SHETLAND GP
2195	CROMER KNOLL GP
2300	VIKING GP
2300	DRAUPNE FM
2365	SOGNEFJORD FM
2402	HEATHER FM
2482	FENSFJORD FM
2527	HEATHER FM
2680	BRENT GP
2680	TARBERT FM
2695	NESS FM
2721	ETIVE FM
2798	DUNLIN GP
2935	COOK FM
2956	DUNLIN GP
3087	STATEFJORD GP

Composite logs

Document name	Document format	Document size [MB]
214	pdf	0.49

Geochemical information

Document name	Document format	Document size [MB]
214 1	pdf	0.53
214 2	pdf	1.70

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





Document name	Document format	Document size [MB]
214 01 WDSS General Information	pdf	0.10
214 02 WDSS completion log	pdf	0.27

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

Document name	Document format	Document size [MB]
214 01 Completion Report	pdf	12.43
214 02 Completion log	pdf	2.24

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CST	2060	2410
CST	2066	2735
CST	2480	3152
FDC CNL GR CAL	1909	3153
FDC GR CAL	886	1908
HDT	2000	3153
ISF BHC GR SP	324	3152
RFT	2366	3147
VELOCITY	800	3140

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	324.0	36	325.0	0.00	LOT
SURF.COND.	20	886.0	26	900.0	1.60	LOT
INTERM.	13 3/8	1481.0	17 1/2	1918.0	1.60	LOT
OPEN HOLE		3152.0	12 1/4	3152.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
325	1.04	100.0		seawater	





900	1.11	39.0		seawater	
1918	1.40	53.0	18.0	seawater	
2490	1.30	57.0	17.0	seawater	
3150	1.30	61.0	22.0	seawater	

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]
214 Formation pressure (Formasjonstrykk)	pdf	0.22

