General information

Wellbore name	6507/7-12
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Well name	6507/7-12
Seismic location	INLINE 1572 X-LINE 1670
Production licence	095
Drilling operator	Conoco Norway Inc.
Drill permit	963-L
Drilling facility	MÆRSK JUTLANDER
Drilling days	27
Entered date	17.07.1999
Completed date	12.08.1999
Release date	12.08.2001
Publication date	11.04.2003
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL SHOWS
Discovery wellbore	NO
Kelly bushing elevation [m]	23.2
Water depth [m]	333.0
Total depth (MD) [m RKB]	3976.0
Final vertical depth (TVD) [m RKB]	3974.0
Maximum inclination [°]	8.2
Bottom hole temperature [°C]	128
Oldest penetrated age	LATE JURASSIC
Oldest penetrated formation	SPEKK FM
Geodetic datum	ED50
NS degrees	65° 26' 46.16'' N
EW degrees	7° 18' 17.82'' E
NS UTM [m]	7259419.31
EW UTM [m]	421406.23
UTM zone	32
NPDID wellbore	3812

Wellbore history

General

Exploration well 6507/7-12 is located in the northern part of the Haltenbanken area, approximately 190 nautical miles west of the Norwegian coast. The block lies on the western flank of a series of NNE-SSW faults, which separate the Dønna Terrace from the Nordland Ridge/Trøndelag Platform to the east. The prospect is in the northern part of block 6507/7 and lies in an Early Cretaceous mini-basin developed in the hanging wall of the Revfallet Fault complex. The well was drilled to test a stratigraphic closure in an anticipated sand prone wedge of Albian age (Lower Cretaceous). The well was drilled in a location planned to test the minimum economic field size in terms of a tie-back to the Heidrun TLP. If hydrocarbons were present, the well would be tested through wire line logging and possible DST to determine hydrocarbon phase and deliverability. Secondary targets were in the Aptian, "Lange B" sands and in the Lysing Formation, also to be evaluated by drilling and wire line logging. Planned total depth for the well was ca. 20 meters into the Upper Jurassic Spekk Formation, prognosed at 3908 m RKB.

Operations and results

Exploration well 6507/7-12 was spudded on 17 July 1999 with the semi-submersible installation, "Mærsk Jutlander" and drilled to TD at 3976 m in the Late Jurassic Spekk Formation. The well was drilled with seawater and high viscosity sweeps down to 1316 m, with "BARASILC" water based silicate KCl mud from 1316 m to 2508 m, and with Baroid "Environmul& oil based mud from 2508 m to TD. Porous sands were encountered at all prospective intervals, at depths 70-80 m deeper than prognosed. The wedges previously believed to be of Albian and Aptian were found to be of Aptian and Barremian age, respectively, and sand thickness within the wedges were thinner than anticipated. Oil (3.88 m "net pay" based on wire line data) was found in the Aptian sandstones. However, it was not a commercial success due to lack of permeability, identified from MDT pressure tests. Thin-section analysis from sidewall cores confirmed lack of permeability. Log data showed that shales in this section have totally different acoustic properties than shales above and could be confused with sand. Oil shows in the Early Cretaceous porous zones were mainly faint and weak based on fluorescence cut using acetone as solvent. The secondary objective in Lysing Formation was a 40 m sand with both porosity and permeability, but was drilled outside closure and was clearly water wet. A MDT water sample from Lysing sandstone was taken with a one-gallon chamber at a depth of 2869.8 m MD. The filling was aborted after 2,5 litres due to slow flow of water. Later analysis showed the sample to be contaminated by mud filtrate and with no oil content. Some CO2 and methane-gas were reported from the sample. No conventional cores were cut. The well was permanently plugged and abandoned as a dry well with oil shows on 12 August 1999.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1330.00	3975.00

Cuttings available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1330.0	[m]	DC	RRI
1360.0	[m]	DC	RRI
1390.0	[m]	DC	RRI
1420.0	[m]	DC	RRI
1450.0	[m]	DC	RRI
1480.0	[m]	DC	RRI
1510.0	[m]	DC	RRI
1540.0	[m]	DC	RRI
1570.0	[m]	DC	RRI
1610.0	[m]	DC	RRI
1630.0	[m]	DC	RRI
1660.0	[m]	DC	RRI
1690.0	[m]	DC	RRI
1720.0	[m]	DC	RRI
1750.0	[m]	DC	RRI
1780.0	[m]	DC	RRI
1810.0	[m]	DC	RRI
1840.0	[m]	DC	RRI
1870.0	[m]	DC	RRI
1890.0	[m]	DC	RRI
1930.0	[m]	DC	RRI
1960.0	[m]	DC	RRI
1990.0	[m]	DC	RRI
2020.0	[m]	DC	RRI
2050.0	[m]	DC	RRI
2080.0	[m]	DC	RRI
2110.0	[m]	DC	RRI
2120.0	[m]	DC	RRI
2130.0	[m]	DC	RRI
2140.0	[m]	DC	RRI
2150.0	[m]	DC	RRI
2160.0	[m]	DC	RRI
2170.0	[m]	DC	RRI
2180.0	[m]	DC	RRI
2190.0	[m]	DC	RRI
2200.0	[m]	DC	RRI

2210.0	[m]	DC	RRI
2220.0	[m]	DC	RRI
2230.0	[m]	DC	RRI
2240.0	[m]	DC	RRI
2250.0	[m]	DC	RRI
2260.0	[m]	DC	RRI
2270.0	[m]	DC	RRI
2280.0	[m]	DC	RRI
2290.0	[m]	DC	RRI
2300.0	[m]	DC	RRI
2310.0	[m]	DC	RRI
2320.0	[m]	DC	RRI
2330.0	[m]	DC	RRI
2360.0	[m]	DC	RRI
2370.0	[m]	DC	RRI
2400.0	[m]	DC	RRI
2410.0	[m]	DC	RRI
2420.0	[m]	DC	RRI
2430.0	[m]	DC	RRI
2440.0	[m]	DC	RRI
2460.0	[m]	DC	RRI
2480.0	[m]	DC	RRI
2490.0	[m]	DC	RRI
2500.0	[m]	DC	RRI
2508.0	[m]	DC	RRI
2520.0	[m]	DC	RRI
2530.0	[m]	DC	RRI
2540.0	[m]	DC	RRI
2550.0	[m]	DC	RRI
2560.0	[m]	DC	RRI
2570.0	[m]	DC	RRI
2580.0	[m]	DC	RRI
2590.0	[m]	DC	RRI
2600.0	[m]	DC	RRI
2610.0	[m]	DC	RRI
2620.0	[m]	DC	RRI
2624.0	[m]	DC	RRI
2630.0	[m]	DC	RRI
2650.0	[m]	DC	RRI
2660.0	[m]	DC	RRI

2670.0	[m]	DC	RRI
2680.0	[m]	DC	RRI
2690.0	[m]	DC	RRI
2700.0	[m]	DC	RRI
2710.0	[m]	DC	RRI
2720.0	[m]	DC	RRI
2730.0	[m]	DC	RRI
2740.0	[m]	DC	RRI
2750.0	[m]	DC	RRI
2760.0	[m]	DC	RRI
2770.0	[m]	DC	RRI
2780.0	[m]	DC	RRI
2790.0	[m]	DC	RRI
2800.0	[m]	DC	RRI
2810.0	[m]	DC	RRI
2820.0	[m]	DC	RRI
2825.0	[m]	DC	RRI
2840.0	[m]	DC	RRI
2850.0	[m]	DC	RRI
2860.0	[m]	DC	RRI
2870.0	[m]	DC	RRI
2890.0	[m]	DC	RRI
2900.0	[m]	DC	RRI
2910.0	[m]	DC	RRI
2920.0	[m]	DC	RRI
2930.0	[m]	DC	RRI
2940.0	[m]	DC	RRI
2950.0	[m]	DC	RRI
2960.0	[m]	DC	RRI
2970.0	[m]	DC	RRI
2980.0	[m]	DC	RRI
2990.0	[m]	DC	RRI
3000.0	[m]	DC	RRI
3010.0	[m]	DC	RRI
3020.0	[m]	DC	RRI
3030.0	[m]	DC	RRI
3040.0	[m]	DC	RRI
3055.0	[m]	DC	RRI
3060.0	[m]	DC	RRI
3070.0	[m]	DC	RRI

3080.0	[m]	DC	RRI
3090.0	[m]	DC	RRI
3100.0	[m]	DC	RRI
3110.0	[m]	DC	RRI
3120.0	[m]	DC	RRI
3130.0	[m]	DC	RRI
3140.0	[m]	DC	RRI
3150.0	[m]	DC	RRI
3160.0	[m]	DC	RRI
3170.0	[m]	DC	RRI
3180.0	[m]	DC	RRI
3190.0	[m]	DC	RRI
3200.0	[m]	DC	RRI
3210.0	[m]	DC	RRI
3220.0	[m]	DC	RRI
3230.0	[m]	DC	RRI
3240.0	[m]	DC	RRI
3250.0	[m]	DC	RRI
3260.0	[m]	DC	RRI
3270.0	[m]	DC	RRI
3280.0	[m]	DC	RRI
3290.0	[m]	DC	RRI
3300.0	[m]	DC	RRI
3310.0	[m]	DC	RRI
3320.0	[m]	DC	RRI
3330.0	[m]	DC	RRI
3340.0	[m]	DC	RRI
3345.0	[m]	DC	RRI
3360.0	[m]	DC	RRI
3370.0	[m]	DC	RRI
3380.0	[m]	DC	RRI
3390.0	[m]	DC	RRI
3400.0	[m]	DC	RRI
3410.0	[m]	DC	RRI
3420.0	[m]	DC	RRI
3430.0	[m]	DC	RRI
3440.0	[m]	DC	RRI
3450.0	[m]	DC	RRI
3460.0	[m]	DC	RRI
3470.0	[m]	DC	RRI

3480.0	[m]	DC	RRI
3490.0	[m]	DC	RRI
3500.0	[m]	DC	RRI
3510.0	[m]	DC	RRI
3518.0	[m]	SWC	RRI
3530.0	[m]	DC	RRI
3540.0	[m]	DC	RRI
3549.0	[m]	SWC	RRI
3560.0	[m]	DC	RRI
3570.0	[m]	DC	RRI
3580.0	[m]	DC	RRI
3590.0	[m]	DC	RRI
3600.0	[m]	DC	RRI
3610.0	[m]	DC	RRI
3620.0	[m]	DC	RRI
3640.0	[m]	DC	RRI
3650.0	[m]	DC	RRI
3664.0	[m]	SWC	RRI
3670.0	[m]	DC	RRI
3680.0	[m]	SWC	RRI
3686.5	[m]	SWC	RRI
3693.5	[m]	SWC	RRI
3700.0	[m]	DC	RRI
3710.0	[m]	DC	RRI
3720.0	[m]	DC	RRI
3730.0	[m]	DC	RRI
3744.5	[m]	SWC	RRI
3750.0	[m]	DC	RRI
3759.0	[m]	SWC	RRI
3770.0	[m]	DC	RRI
3780.0	[m]	DC	RRI
3790.0	[m]	DC	RRI
3799.5	[m]	SWC	RRI
3810.0	[m]	DC	RRI
3820.0	[m]	DC	RRI
3826.0	[m]	SWC	RRI
3840.0	[m]	DC	RRI
3853.5	[m]	SWC	RRI
3865.0	[m]	SWC	RRI
3880.0	[m]	DC	RRI

3890.0	[m]	DC	RRI
3900.0	[m]	DC	RRI
3910.0	[m]	DC	RRI
3925.0	[m]	DC	RRI
3932.0	[m]	SWC	RRI
3940.0	[m]	DC	RRI
3950.0	[m]	DC	RRI
3960.0	[m]	DC	RRI
3970.0	[m]	DC	RRI
3975.0	[m]	DC	RRI

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
356	NORDLAND GP
1492	KAI FM
1877	HORDALAND GP
1877	BRYGGE FM
2099	ROGALAND GP
2099	TARE FM
2152	TANG FM
2196	SHETLAND GP
2196	SPRINGAR FM
2377	NISE FM
2595	KVITNOS FM
2858	CROMER KNOLL GP
2858	LYSING FM
2897	LANGE FM
3670	NO FORMAL NAME
3745	LANGE FM
3911	VIKING GP
3911	SPEKK FM

Composite logs

Document name	Document format	Document size [MB]
3812	pdf	0.49

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

Document name	Document format	Document size [MB]
3812_6507_7_12_COMPLETION_LOG	.pdf	2.71
3812_6507_7_12_COMPLETION_REPORT	.pdf	45.65

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AIT IPLT DSI ACTS	2441	3948
CST GR	2788	3967
MDT GR	2870	3950
MWD - CDR GR DIR	409	3976
MWD - CDR GR DIR	2500	2508
VSP	1100	3830

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	415.0	36	516.0	0.00	LOT
SURF.COND.	13 3/8	1308.0	17 1/2	1308.0	1.71	LOT
INTERM.	9 5/8	2500.0	12 1/4	2500.0	1.92	LOT
OPEN HOLE		3976.0	8 1/2	3976.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
409	1.03			SEAWATER	
1316	1.20	1.0		SEAWATER	
1325	1.53	26.0		KCL/POLYMER	
1740	1.54	23.0		BARASIL-S	
2075	1.54	24.0		BARASIL-S	
2508	1.54	27.0		BARASIL-S	
2845	1.54	36.0		OIL (ENVIRON)	

3192	1.54	45.0		OIL (ENVIRON)	
3510	1.54	45.0		OIL (ENVIRON)	
3726	1.57	44.0		OIL (ENVIRON)	
3813	1.57	40.0		OIL (ENVIRON)	
3875	1.57	40.0		OIL (ENVIRON)	
3976	1.57	13.0		KCL/POLYMER	

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]
3812_Formation_pressure_(Formasjonstrykk)	pdf	0.28