General information

Wellbore name	2/5-6
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	2/5-6
Seismic location	
Production licence	006
Drilling operator	Amoco Norway Oil Company
Drill permit	196-L
Drilling facility	NORSKALD
Drilling days	95
Entered date	14.05.1978
Completed date	16.08.1978
Release date	16.08.1980
Publication date	02.04.2007
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS SHOWS
Discovery wellbore	NO
Kelly bushing elevation [m]	25.0
Water depth [m]	68.0
Total depth (MD) [m RKB]	4132.0
Maximum inclination [°]	4.75
Bottom hole temperature [°C]	147
Oldest penetrated age	TRIASSIC
Oldest penetrated formation	SKAGERRAK FM
Geodetic datum	ED50
NS degrees	56° 34' 13.24'' N
EW degrees	3° 37' 16.57'' E
NS UTM [m]	6269872.65
EW UTM [m]	538176.24
UTM zone	31
NPDID wellbore	261

Wellbore history

General

Well 2/5-6 was drilled on the Siv structure, only 800 m northeast of the 2/5-4 discovery well. The Siv structure is a north-south trending anticline. The primary objective of well 2/5-6 was to establish the possibility of Jurassic sands being present along the west side of the Mandal High and to evaluate the hydrocarbon potential of these sands on the Siv structure. Sands of this age had previously been encountered in the BP block 7/12 further to the north. In addition, the well was planned to appraise the Chalk reservoirs found to be oil-bearing by Amoco well 2/5-4.

Operations and results

Wildcat well 2/5-6 was spudded with the semi-submersible installation Norskald on 14 May 1978 and drilled to TD at 4132 m in the Triassic Skagerrak Formation. A bentonite slurry used while drilling the first two intervals, 30" casing was set at 166 m and 20" casing at 540 m. The 17 1/2" hole was drilled using a seawater native solids mud. Problems were encountered as casing point was approached, sloughing shale and tight hole proved troublesome and the mud weight was increased to 10.6 lb/gal before running 13 3/8" casing to 1852 m. The 12 1/4" hole was drilled initially with a gypsum CMC mud. Tight hole was a significant problem until a depth of approximately 2900 m. At 2950 m the mud was converted to a dispersed lignosulphonate system to obtain more stable rheological properties. This mud was used until a depth of 3967 m. Tight hole was experienced on trips at a depth of 2000 m. The pipe was stuck at 3640 m and a fish was left in the hole. The 9 5/8" casing was set above the fish at a depth of 3560 m and a technical sidetrack was performed. The 8 1/2" hole was drilled using the same mud to a depth of 3967 m. At this point, in a Middle Jurassic sand, a salt water flow high in magnesium and calcium delayed operations considerably. The mud was converted to a brine polymer type system and the mud weight was raised to 17.4 lb/gal in order to quell the salt-water flow. This mud was used to TD.

Top Paleocene (Balder Formation) was encountered at 2910 m, top Danian Chalk (Ekofisk Formation) at 3048 m, top Maastrichtian chalk (Tor Formation) at 3151 m, and top Campanian chalk (Hod Formation at 3285 m. The primary objective, the Jurassic sands were encountered at depths of 3912 m (Late Jurassic) and 3946 m (Middle Jurassic). Gross sand thickness for each interval was 13 m and 142 m respectively, with net sand thickness of 10 m and 69 m. The average porosities for these sands were 19.4% (from core) and 25-30% in the Late and Middle Jurassic, respectively. Analysis of electric logs indicated 60% water saturation in these sands and only poor shows were observed. The chalk, the secondary target, was water wet with only poor shows.

One conventional core was cut, after sidetracking, at 3915 - 3925 m in the Late Jurassic sand. A wire line FIT fluid sample was taken at 3919.5 m in the Late Jurassic sand. The sample recovered 8.5 l mud/water and 71 l gas.

The well was permanently abandoned on 16 August 1978 as a dry well with shows.

Testing

No drill stem test was performed

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
200.00	3946.00

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	3915.0	3925.0	[m]

Total core sample length [m]	10.0
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
93	NORDLAND GP
2910	ROGALAND GP
2910	BALDER FM
2923	SELE FM
2929	LISTA FM
3024	VÅLE FM
3048	SHETLAND GP
3048	EKOFISK FM
3151	TOR FM
3285	HOD FM
3596	TYNE GP
3946	VESTLAND GP
4087	NO GROUP DEFINED
4087	SKAGERRAK FM

Geochemical information

Document name	Document format	Document size [MB]
261_1	pdf	0.31
261_2	pdf	1.67
261_3	pdf	0.21
261_4	pdf	0.39

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

Document name	Document format	Document size [MB]
261_01_WDSS_General_Information	pdf	0.21
261_03_WDSS_lithlog	pdf	0.06

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

Document name	Document format	Document size [MB]
261_01_2_5_6_Completion_Report2	pdf	22.76
261_01_2_5_6_Completion_Report_and_Completion_log	pdf	45.21

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CDM	1850	3590
CDM	3972	4135
CDM AP	1865	3585
DLL MSFL	2850	3590
DLL MSFL	3970	4135
FDC CNL	2850	4137
ISF SONIC	166	528
VELOCITY	166	4130

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	167.0	36	168.0	0.00	LOT
SURF.COND.	20	540.0	26	541.0	0.00	LOT
INTERM.	13 3/8	1847.0	17 1/2	1850.0	0.00	LOT
INTERM.	9 5/8	3540.0	12 1/4	3542.0	0.00	LOT
LINER	7	3967.0	8 1/2	3967.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
166	1.01			bentonit	
550	1.01			bentonit	
1855	1.13			Gypsum	
2193	1.55			Gypsum	
2550	1.61			Gypsum	
2988	1.66			seaw/ligno	
3134	1.66			seaw/ligno	
3211	1.70			seaw/ligno	
3544	1.68			seaw/ligno	
3602	1.70			seaw/ligno	
3967	1.98			brine/polym	
4057	2.13			brine/polym	
4132	2.13			brine/polym	

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]
261_Formation_pressure_(Formasjonstrykk)	pdf	0.22