General information

Wellbore name	6507/6-2
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Well name	6507/6-2
Seismic location	B-08-83 SP 1235
Production licence	123
Drilling operator	Saga Petroleum ASA
Drill permit	679-L
Drilling facility	WEST ALPHA
Drilling days	81
Entered date	27.04.1991
Completed date	16.07.1991
Release date	16.07.1993
Publication date	18.12.2008
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL SHOWS
Discovery wellbore	NO
1st level with HC, age	LATE CRETACEOUS
1st level with HC, formation	LYSING FM
Kelly bushing elevation [m]	18.0
Water depth [m]	315.0
Total depth (MD) [m RKB]	4354.0
Final vertical depth (TVD) [m RKB]	4343.0
Maximum inclination [°]	10.7
Bottom hole temperature [°C]	140
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	ÅRE FM
Geodetic datum	ED50
NS degrees	65° 44' 26.42'' N
EW degrees	7° 41' 6.55'' E
NS UTM [m]	7291819.83
EW UTM [m]	439718.65
UTM zone	32
NPDID wellbore	1520

Wellbore history

General

Well 6507/6-2 was drilled in the north-western corner of the block on a rotated fault block on the Dønna Terrace, immediately northwest of the main fault zone separating the Dønna Terrace from the Nordland Ridge. The main objective of the well 6507/6-2 was to test the hydrocarbon potential in the Fangst Group and in the Tilje Formation. A secondary target was to test the reservoir properties and hydrocarbon potential of a Cretaceous dome shaped structure interpreted to be a potential Lysing Formation Equivalent. The source rock properties in the Spekk and Åre Formations would be tested by the well. The commitment was to drill at least 50 m into rocks of Triassic age; with planned TD at 4200 m. No shallow gas warnings were given for this well.

Operations and results

Wildcat well 6507/6-2 was spudded with the semi-submersible installation West Alpha on 27 April 1991and drilled to TD at 4345 m (4343 m TVD RKB) in Late Triassic sediments of the Åre Formation. Only minor problems occurred while drilling. The well was drilled with spud mud down to 1040 m, with KCl mud from 1040 m to 3413 m, and with Hi-Temp polymer mud from 3413 m to TD.

The well mainly penetrated claystones with minor silt and sandstone intervals down to Top Cromer Knoll Group at 2663 m. In the Cromer Knoll Group the lithology was mainly claystone with thin intervals of sandstone and limestone. The reservoir in the Fangst Group was reached at 3727 m, 336 m deeper than prognosed and proved to be dry. However, oil was found in a thin sand bed in the Lange Formation (Turonian age) at 2754 - 2757 m. This sand was neither cored nor production tested, but oil was recovered by RFT sampling.

Sporadic shows were recorded in thin sandstone stringers at several levels in the Lange Formation (2745 to 2753 m, 2885 m, 2945 - 2955 m, and 2946 m). The well encountered a 102 m thick Spekk Formation sequence at 3174 m. The Spekk Formation had excellent hydrocarbon potential with TOC in the range 6 - 8%, and Hydrogen Index in the range 320 to 475 mg HC/g TOC. The highest HI was in the uppermost part of the formation. Shale samples from the Åre Formation had limited source rock potential with TOC around 2.4 % and HI around 100 mg/g HC.

Two conventional cores were cut in the Garn Formation between 3727 to 3740 m. A total of 180 sidewall cores were attempted and 130 were recovered. After having evaluated the wire line logs, it was decided to take fluid samples at 2754.5 and 2886.5 m in the Lange Formation. A segregated sample was taken at 2754.5 m where 178 litre gas, 890 ml oil, and 100 ml water was recovered. Density of the dead oil (stock tank conditions) was 0.8322 g/cm3. It was not possible to get a sample at 2886.5 m.

The well was permanently abandoned on 16 July 1991 as a well with oil shows.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1060.00	4354.00

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	3727.0	3732.2	[m]
2	3732.2	3739.2	[m]

Total core sample length [m]	12.2
Cores available for sampling?	YES

Core photos


3727-3732m


3732-3732m


3732-3737m


3737-3739m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1070.0	[m]	SWC	SAGA
1090.0	[m]	DC	SAGA
1110.0	[m]	DC	SAGA
1130.0	[m]	DC	SAGA
1150.0	[m]	DC	SAGA
1170.0	[m]	SWC	SAGA
1190.0	[m]	DC	SAGA
1210.0	[m]	DC	SAGA
1230.0	[m]	DC	SAGA
1250.0	[m]	DC	SAGA
1270.0	[m]	SWC	SAGA
1290.0	[m]	DC	SAGA

1310.0	[m]	DC	SAGA
1330.0	[m]	DC	SAGA
1370.0	[m]	SWC	SAGA
1390.0	[m]	DC	SAGA
1410.0	[m]	DC	STRAT
1430.0	[m]	DC	STRAT
1450.0	[m]	DC	SAGA
1470.0	[m]	SWC	SAGA
1490.0	[m]	DC	STRAT
1510.0	[m]	DC	STRAT
1530.0	[m]	DC	SAGA
1550.0	[m]	SWC	SAGA
1570.0	[m]	DC	SAGA
1590.0	[m]	DC	SAGA
1610.0	[m]	DC	SAGA
1620.0	[m]	SWC	SAGA
1640.0	[m]	DC	SAGA
1650.0	[m]	SWC	SAGA
1670.0	[m]	DC	STRAT
1680.0	[m]	SWC	SAGA
1700.0	[m]	DC	SAGA
1720.0	[m]	DC	SAGA
1740.0	[m]	DC	STRAT
1760.0	[m]	DC	SAGA
1770.0	[m]	SWC	SAGA
1790.0	[m]	DC	STRAT
1810.0	[m]	DC	STRAT
1830.0	[m]	DC	SAGA
1850.0	[m]	DC	SAGA
1890.0	[m]	DC	SAGA
1930.0	[m]	DC	SAGA
1950.0	[m]	DC	SAGA
2000.0	[m]	DC	SAGA
2020.0	[m]	DC	SAGA
2033.0	[m]	SWC	SAGA
2094.0	[m]	SWC	STRAT
2110.0	[m]	DC	STRAT
2116.0	[m]	SWC	STRAT
2130.0	[m]	DC	STRAT
2144.0	[m]	SWC	STRAT

2150.0	[m]	DC	STRAT
2160.0	[m]	DC	STRAT
2170.0	[m]	DC	STRAT
2180.0	[m]	DC	STRAT
2190.0	[m]	DC	STRAT
2200.0	[m]	DC	STRAT
2210.0	[m]	DC	STRAT
2220.0	[m]	DC	STRAT
2230.0	[m]	DC	STRAT
2240.0	[m]	DC	STRAT
2250.0	[m]	DC	STRAT
2260.0	[m]	DC	STRAT
2280.0	[m]	DC	STRAT
2290.0	[m]	DC	STRAT
2300.0	[m]	DC	STRAT
2310.0	[m]	DC	STRAT
2320.0	[m]	DC	STRAT
2330.0	[m]	DC	STRAT
2340.0	[m]	DC	STRAT
2350.0	[m]	DC	STRAT
2360.0	[m]	DC	STRAT
2370.0	[m]	DC	STRAT
2380.0	[m]	DC	STRAT
2390.0	[m]	DC	STRAT
2400.0	[m]	DC	STRAT
2410.0	[m]	DC	STRAT
2420.0	[m]	DC	STRAT
2430.0	[m]	DC	STRAT
2440.0	[m]	DC	STRAT
2450.0	[m]	DC	STRAT
2460.0	[m]	DC	STRAT
2470.0	[m]	DC	STRAT
2480.0	[m]	DC	STRAT
2490.0	[m]	DC	STRAT
2500.0	[m]	DC	STRAT
2510.0	[m]	DC	STRAT
2520.0	[m]	DC	STRAT
2530.0	[m]	DC	STRAT
2540.0	[m]	DC	STRAT
2550.0	[m]	DC	STRAT

2560.0	[m]	DC	STRAT
2570.0	[m]	DC	STRAT
2580.0	[m]	DC	STRAT
2590.0	[m]	DC	STRAT
2610.0	[m]	DC	STRAT
2620.0	[m]	DC	STRAT
2630.0	[m]	DC	STRAT
2640.0	[m]	DC	STRAT
2650.0	[m]	DC	STRAT
2654.0	[m]	SWC	STRAT
2670.0	[m]	DC	STRAT
2680.0	[m]	DC	STRAT
2690.0	[m]	DC	STRAT
2700.0	[m]	DC	STRAT
2710.0	[m]	DC	STRAT
2720.0	[m]	DC	STRAT
2730.0	[m]	DC	STRAT
2740.0	[m]	DC	STRAT
2752.0	[m]	SWC	STRAT
2760.0	[m]	DC	STRAT
2770.0	[m]	DC	STRAT
2780.0	[m]	DC	STRAT
2790.0	[m]	DC	STRAT
2800.0	[m]	DC	STRAT
2810.0	[m]	DC	STRAT
2820.0	[m]	DC	STRAT
2825.0	[m]	SWC	STRAT
2830.0	[m]	DC	STRAT
2840.0	[m]	DC	STRAT
2850.0	[m]	DC	STRAT
2860.0	[m]	DC	STRAT
2870.0	[m]	DC	STRAT
2875.0	[m]	SWC	STRAT
2880.0	[m]	DC	STRAT
2890.0	[m]	DC	STRAT
2900.0	[m]	DC	STRAT
2915.0	[m]	DC	STRAT
2930.0	[m]	DC	STRAT
2940.0	[m]	DC	STRAT
2950.0	[m]	DC	STRAT

2960.0	[m]	DC	STRAT
2972.0	[m]	SWC	STRAT
2980.0	[m]	DC	STRAT
2990.0	[m]	DC	STRAT
3000.0	[m]	DC	STRAT
3010.0	[m]	DC	STRAT
3020.0	[m]	DC	STRAT
3030.0	[m]	DC	STRAT
3090.0	[m]	DC	STRAT
3100.0	[m]	DC	STRAT
3107.5	[m]	SWC	STRAT
3120.0	[m]	DC	STRAT
3130.0	[m]	DC	STRAT
3140.0	[m]	SWC	STRAT
3150.0	[m]	DC	STRAT
3160.0	[m]	DC	STRAT
3167.0	[m]	SWC	STRAT

Oil samples at the Norwegian Offshore Directorate

Test type	Bottle number	Top depth MD [m]	Bottom depth MD [m]	Fluid type	Test time	Samples available
RFT	RFT-2A	2754.50	2886.50		08.06.1991 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
333	NORDLAND GP
333	NAUST FM
1395	KAI FM
1818	HORDALAND GP
1818	BRYGGE FM
1981	ROGALAND GP
1981	TARE FM
2039	TANG FM
2092	SHETLAND GP
2663	CROMER KNOLL GP

2663	LANGE FM
3154	LYR FM
3174	VIKING GP
3174	SPEKK FM
3276	MELKE FM
3727	FANGST GP
3727	GARN FM
3781	NOT FM
3812	ILE FM
3853	BÅT GP
3853	ROR FM
3904	TILJE FM
4014	ÅRE FM

Geochemical information

Document name	Document format	Document size [MB]
1520_1	pdf	0.34
1520_2	pdf	3.26

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

Document name	Document format	Document size [MB]
1520_01_WDSS_General_Information	pdf	0.62
1520_02_WDSS_completion_log	pdf	0.22

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

Document name	Document format	Document size [MB]
1520_6507_6_2_COMPLETION_REPORT_AND_LOG	pdf	17.86

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL	1875	3308
CBL VDL GR	800	2026
DIL MSFL SLS GR AMS	3307	4287
DIL SLS GR	4202	4343
DIL SLS LDL CNL GR	2027	3323
DIL SLS LDL GR	1038	2044
LDL CNL GR	3307	4260
MWD - GR RES DIR	411	4354
RFT	2054	2886
RFT AMS GR	3728	3968
SHDT GR	3307	4277
VSP	1000	4270

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	405.0	36	406.0	0.00	LOT
INTERM.	20	1040.0	26	1042.0	1.69	LOT
INTERM.	13 3/8	2029.0	17 1/2	2030.0	1.67	LOT
INTERM.	9 5/8	3309.0	12 1/4	3310.0	1.99	LOT
OPEN HOLE		3325.0	8 1/2	3326.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
336	1.05			WATER BASED	30.04.1991
336	1.05			WATER BASED	30.04.1991
336	1.05			WATER BASED	02.05.1991
336	1.05			WATER BASED	03.05.1991
336	1.05			WATER BASED	03.05.1991
336	1.05			WATER BASED	03.05.1991
336	1.05			WATER BASED	03.05.1991
336	1.05			WATER BASED	03.05.1991
336	1.05			WATER BASED	03.05.1991
730	1.44	16.0	7.0	WATER BASED	16.07.1991

1055	1.05			WATER BASED	06.05.1991
1055	1.05			WATER BASED	06.05.1991
1055	1.05			WATER BASED	06.05.1991
1350	1.32	16.0	17.0	WATER BASED	13.05.1991
1487	1.35	16.0	18.0	WATER BASED	13.05.1991
1848	1.45	36.0	25.0	WATER BASED	13.05.1991
1906	1.44	13.0	11.0	WATER BASED	16.07.1991
2050	1.55	21.0	24.0	WATER BASED	14.05.1991
2050	1.55	20.0	20.0	WATER BASED	22.05.1991
2050	1.55	20.0	18.0	WATER BASED	14.05.1991
2050	1.55	21.0	24.0	WATER BASED	14.05.1991
2050	1.55	20.0	20.0	WATER BASED	15.05.1991
2050	1.55	20.0	17.0	WATER BASED	16.05.1991
2050	1.55	14.0	21.0	WATER BASED	21.05.1991
2056	1.55	20.0	17.0	WATER BASED	22.05.1991
2285	1.52	22.0	14.0	WATER BASED	22.05.1991
2285	1.55	22.0	16.0	WATER BASED	22.05.1991
2295	1.52	22.0	16.0	WATER BASED	22.05.1991
2396	1.52	20.0	19.0	WATER BASED	23.05.1991
2531	1.52	14.0	16.0	WATER BASED	24.05.1991
2531	1.52	15.0	16.0	WATER BASED	27.05.1991
2531	1.52	15.0	16.0	WATER BASED	28.05.1991
2548	1.52	15.0	14.0	WATER BASED	28.05.1991
2548	1.52	15.0	14.0	WATER BASED	30.05.1991
2573	1.52	16.0	15.0	WATER BASED	30.05.1991
2573	1.52	16.0	15.0	WATER BASED	28.05.1991
2694	1.52	15.0	16.0	WATER BASED	28.05.1991
2694	1.52	15.0	16.0	WATER BASED	30.05.1991
2727	1.53	22.0	15.0	WATER BASED	30.05.1991
2815	1.52	19.0	15.0	WATER BASED	30.05.1991
2907	1.52	19.0	16.0	WATER BASED	30.05.1991
2907	1.54	18.0	15.0	WATER BASED	04.06.1991
2907	1.54	17.0	18.0	WATER BASED	03.06.1991
2994	1.54	19.0	16.0	WATER BASED	04.06.1991
3013	1.54	21.0	17.0	WATER BASED	04.06.1991
3111	1.54	20.0	17.0	WATER BASED	05.06.1991
3169	1.54	21.0	16.0	WATER BASED	07.06.1991
3217	1.55	20.0	18.0	WATER BASED	07.06.1991
3314	1.55	22.0	16.0	WATER BASED	07.06.1991
3325	1.55	22.0	14.0	WATER BASED	11.06.1991

3325	1.55	21.0	16.0	WATER BASED	11.06.1991
3325	1.55	21.0	16.0	WATER BASED	11.06.1991
3325	1.52	20.0	16.0	WATER BASED	11.06.1991
3327	1.52	21.0	18.0	WATER BASED	13.06.1991
3327	1.52	21.0	18.0	WATER BASED	13.06.1991
3413	1.52	19.0	13.0	WATER BASED	17.06.1991
3460	1.52	21.0	28.0	WATER BASED	18.06.1991
3503	1.52	20.0	10.0	WATER BASED	18.06.1991
3618	1.52	21.0	12.0	WATER BASED	18.06.1991
3722	1.45	14.0	12.0	WATER BASED	15.07.1991
3727	1.52	20.0	10.0	WATER BASED	21.06.1991
3727	1.52	20.0	10.0	WATER BASED	19.06.1991
3732	1.52	21.0	12.0	WATER BASED	21.06.1991
3740	1.52	20.0	10.0	WATER BASED	21.06.1991
3806	1.52	22.0	13.0	WATER BASED	21.06.1991
3849	1.52	21.0	12.0	WATER BASED	25.06.1991
4002	1.50	21.0	12.0	WATER BASED	25.06.1991
4056	1.48	17.0	10.0	WATER BASED	25.06.1991
4100	1.45	18.0	13.0	WATER BASED	25.06.1991
4180	1.45	18.0	13.0	WATER BASED	26.06.1991
4180	1.45	15.0	13.0	WATER BASED	28.06.1991
4273	1.45	18.0	15.0	WATER BASED	01.07.1991
4284	1.45	18.0	14.0	WATER BASED	02.07.1991
4284	1.45	18.0	14.0	WATER BASED	02.07.1991
4296	1.45	17.0	14.0	WATER BASED	02.07.1991
4327	1.45	15.0	15.0	WATER BASED	03.07.1991
4335	1.45	15.0	18.0	WATER BASED	03.07.1991
4343	1.45	16.0	15.0	WATER BASED	05.07.1991
4354	1.45	15.0	23.0	WATER BASED	08.07.1991
4354	1.45	14.0	9.0	WATER BASED	09.07.1991
4354	1.45	16.0	19.0	WATER BASED	09.07.1991
4354	1.45	15.0	23.0	WATER BASED	09.07.1991
4354	1.45	15.0	23.0	WATER BASED	09.07.1991
4354	1.45	17.0	20.0	WATER BASED	11.07.1991
4354	1.45	17.0	20.0	WATER BASED	15.07.1991

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]
1520_Formation_pressure_(Formasjonstrykk)	pdf	0.29