General information

Wellbore name	25/6-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Discovery	25/6-1
Well name	25/6-1
Seismic location	NOD 2 - 84 - 29 SP. 5250
Production licence	117
Drilling operator	Saga Petroleum ASA
Drill permit	493-L
Drilling facility	TREASURE SAGA
Drilling days	48
Entered date	18.12.1985
Completed date	03.02.1986
Release date	03.02.1988
Publication date	17.12.2003
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	YES
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	HUGIN FM
Kelly bushing elevation [m]	26.0
Water depth [m]	121.0
Total depth (MD) [m RKB]	2881.0
Final vertical depth (TVD) [m RKB]	2881.0
Maximum inclination [°]	1.3
Bottom hole temperature [°C]	120
Oldest penetrated age	PRE-DEVONIAN
Oldest penetrated formation	BASEMENT
Geodetic datum	ED50
NS degrees	59° 31' 32.04'' N
EW degrees	2° 48' 2.07'' E
NS UTM [m]	6598746.73
EW UTM [m]	488717.11
UTM zone	31
NPDID wellbore	524

Wellbore history

General

Well 25/6-1 was drilled on the northeastern part of the Utsira High. The main objective of the well was to test for hydrocarbons in a prospect west of the main fault in the southern part of the block. Primary targets were the Middle Jurassic reservoir sandstone belonging to the Vestland Group, which is partly eroded in this area, and the Early Jurassic Statfjord Formation sandstone. Secondary objective was the Early Tertiary sandstone. The total depth target was to drill through a strong seismic reflector between 2.5 and 2.6 second TWT. Shallow gas was expected at 282 to 344 m and 395 m.

Operations and results

Wildcat well 25/6-1 was spudded 18 December 1985 by Wilh. Wilhelmsen's Offshore Services semi-submersible installation Treasure Saga, and completed 3 February 1986 at a depth of 2881, 30 m into rocks of probably Early Palaeozoic/Pre-Cambrian age. The well was drilled with seawater and hi-vis pills down to 260 m, with bentonite gel mud from 260 m to 1028 m, with gypsum/polymer mud fro 1028 m to 2195 m, and with bentonite gel / polymer mud from 2195 m to TD. No shallow gas was encountered.

The Quaternary/Tertiary sequence was 2017 m thick, and consisted of the Nordland, Hordaland, and Rogaland Groups. The Nordland Group was marine claystone with sands frequently developed, especially in the lower part, with 163 m of the sandy Utsira Formation. The Hordaland Group was clay/claystone with some thin sand units. Slightly tuffaceous claystone and a lower sand/marl/ claystone sequence were the main lithologies of the Rogaland Group. A 65.5 m thick Cretaceous sequence represented by Shetland and Cromer Knoll Groups was penetrated. The main lithology was chalky limestone, calcareous claystone grading to marl and minor sand.

The Jurassic sediments represented by the Viking, Vestland, and Dunlin Groups and the Statfjord Formation were encountered at 2233.5 m. Top Vestland Group was at 2277 m and top Statfjord Formation was at 2417 m. The Jurassic sequence was 269.5 m thick and consisted of Upper Jurassic shale, Middle Jurassic sandstones and alternating sandstones and silty claystone in the lower part. A 348 metres thick Triassic sequence represented by the Skagerrak and Smith Bank Formations was penetrated. The sequence consisted of shale/siltstone. The TD target seismic reflector was penetrated at the basement's upper surface.

The upper part of the Vestland Group was found oil bearing with an OWC at 2282.5 m. The Statfjord Formation was found water bearing. Gas readings were mostly between 0% and 0.2% throughout the well. Between 2195 - 2289 m the average gas level increased to 0.4%, and the gas consisted of Cl, C2, C3, iC4 and nC4 from approx. 2236 m. A maximum of 4.27% at 2278 m was recorded, consisting of 12549 ppm C1, 1169 ppm C2, 1651 ppm C3, 267 ppm iC4 and 511 ppm nC4. From 2300 - 2450 m the average gas was 0.1% and consisted of C1-C3. From 2450 - 2881 m, gas values fell from 0.05% to 0.00% and only C1 was recorded. Oil show was observed within loose sandstones from 2278 - 2288.5 m. The show was characterized by a fair-good petroleum odour, with very light brown oil staining of the grains. The fluorescence was weak pale yellow, with a slightly streaming milky (crush) cut, occasionally leaving a white residue upon evaporation. Below 2289 m all oil shows disappeared.

Three segregated samples were recovered with the FMT wire line tool, two of these (2279.8 m and 2283.2 m) from the oil zone and one from 2285 m below OWC. Two conventional cores were cut, core one from 2299 m to 2300 m, and core two from 2300 m and 2309.7 m.

The well was permanently abandoned as an oil discovery.

Testing

One DST was performed in the interval 2276.7 m to 2279.7 m. The main flow period had duration of 22 hours. The average production rate was 298 Sm3 /day with a wellhead pressure of 96 bar. The gas-oil ratio was 130 Sm3 /Sm3 at separator conditions of 43º C and 19.5 bar. The dead oil density was 725 kg/m3 and the specific gas gravity was 0.88 (air=l). Three stage flash to standard condition PVT analysis of reservoir fluid collected during the production test, gave an oil formation volume factor of 1.92 Rm3 /Sm3, a gas to oil ratio of 232.2 Sm3 /Sm3 and a stock tank oil density of 729 kg/m3. The bubble point pressure for the fluid was 106.9 bar. Sand production was not observed during the test, but 0.6 - 0.7 Sm3 water was produced.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
270.00	2881.00

Cuttings available for sampling?	NO

Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	2289.0	2300.0	[m]
2	2300.0	2310.1	[m]

Total core sample length [m]	21.1
Cores available for sampling?	YES

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
DST	DST1	2277.00	2280.00	OIL	30.01.1986 - 00:00	YES

Lithostratigraphy

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

725	UTSIRA FM
886	HORDALAND GP
990	SKADE FM
1013	NO FORMAL NAME
1373	GRID FM
1395	NO FORMAL NAME
1910	ROGALAND GP
1910	BALDER FM
1962	SELE FM
2032	LISTA FM
2137	VÅLE FM
2154	TY FM
2164	SHETLAND GP
2164	HARDRÅDE FM
2192	CROMER KNOLL GP
2192	SOLA FM
2222	MIME FM
2234	VIKING GP
2234	DRAUPNE FM
2256	HEATHER FM
2277	VESTLAND GP
2277	HUGIN FM
2290	SLEIPNER FM
2297	DUNLIN GP
2297	DRAKE FM
2344	AMUNDSEN FM
2417	STATFJORD GP
2503	NO GROUP DEFINED
2503	SKAGERRAK FM
2651	SMITH BANK FM
2851	BASEMENT

Composite logs

Document name	Document format	Document size [MB]
524	pdf	0.44

Geochemical information

Document name	Document format	Document size [MB]
524_1	pdf	1.78
524_2	pdf	1.85
524_3	pdf	1.27

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

Document name	Document format	Document size [MB]
524_01_WDSS_General_Information	pdf	0.25
524_02_WDSS_completion_log	pdf	0.26

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

Document name	Document format	Document size [MB]
524_25_6_1_COMPLETION_REPORT_AND_LOG	pdf	13.56

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2277	2280	7.9

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0	9.600			

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	298		0.725		130

Logs

Log type	Log top depth [m]	Log bottom depth [m]
ACBL VDL GR	750	2178
CDL CNL GR	2178	2560
CDL CNL GR	2480	2875
CDL GR	256	1006
CDL GR	1013	2173
COREGUN-45SWC	0	0
COREGUN-93SWC	0	0
DIFL LSBHC GR	256	1026
DIFL LSBHC GR	1013	2193
DIFL LSBHC GR	2178	2560
DIFL LSBHC GR	2530	2875
DIPLOG	2178	2558
DIPLOG	2370	2855
DLL ML	2178	2560
DLL MLL	2178	2559
FMT	0	0
GR	121	256
MWD	255	2881
SPECTRALOG	2178	2560
VSP	1700	2975

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	255.0	36	260.0	0.00	LOT
SURF.COND.	20	1013.0	26	1028.0	1.42	LOT
INTERM.	13 3/8	2180.0	17 1/2	2195.0	1.74	LOT
INTERM.	9 5/8	2881.0	12 1/4	2881.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
185	1.04			WATER BASED	19.12.1985
190	1.10	9.0	4.4	WATER BASED	05.02.1986
260	1.04			WATER BASED	23.12.1985

627	1.16	7.0	20.6	WATER BASED	23.12.1985
827	1.17	6.0	18.7	WATER BASED	22.12.1985
1028	1.17	5.0	16.8	WATER BASED	23.12.1985
1028	1.17	6.0	20.6	WATER BASED	23.12.1985
1028	1.03			WATER BASED	26.12.1985
1028	1.10	15.0	9.6	WATER BASED	26.12.1985
1028	1.19	6.0	18.2	WATER BASED	26.12.1985
1200	1.10	14.0	7.7	WATER BASED	26.12.1985
1434	1.15	13.0	8.2	WATER BASED	29.12.1985
1653	1.25	15.0	8.7	WATER BASED	30.12.1985
1820	1.25	13.0	9.6	WATER BASED	03.01.1986
1820	1.30	13.0	9.6	WATER BASED	06.01.1986
2090	1.25	12.0	9.6	WATER BASED	03.01.1986
2195	1.30	14.0	9.6	WATER BASED	06.01.1986
2195	1.31	12.0	7.2	WATER BASED	06.01.1986
2195	1.33	13.0	7.2	WATER BASED	08.01.1986
2195	1.33	12.0	7.2	WATER BASED	13.01.1986
2225	1.33	14.0	10.1	WATER BASED	13.01.1986
2270	1.10	9.0	4.4	WATER BASED	05.02.1986
2289	1.25	14.0	7.2	WATER BASED	13.01.1986
2289	1.25	17.0	7.7	WATER BASED	13.01.1986
2289	1.25	16.0	7.2	WATER BASED	13.01.1986
2313	1.25	17.0	7.7	WATER BASED	14.01.1986
2325	1.10	9.0	4.4	WATER BASED	05.02.1986
2325	1.10	10.0	4.8	WATER BASED	05.02.1986
2325	1.10	11.0	4.8	WATER BASED	05.02.1986
2360	1.10	11.0	20.6	WATER BASED	05.02.1986
2360	1.10	12.0	6.3	WATER BASED	05.02.1986
2438	1.25	17.0	7.7	WATER BASED	13.01.1986
2493	1.25	17.0	7.2	WATER BASED	13.01.1986
2561	1.10	13.0	5.8	WATER BASED	19.01.1986
2561	1.25	18.0	7.2	WATER BASED	19.01.1986
2561	1.10	16.0	6.8	WATER BASED	19.01.1986
2590	1.11	12.0	6.8	WATER BASED	19.01.1986
2745	1.11	12.0	6.8	WATER BASED	19.01.1986
2852	1.10	12.0	6.8	WATER BASED	05.02.1986
2881	1.10	12.0	6.8	WATER BASED	05.02.1986
2881	1.10	11.0	5.8	WATER BASED	05.02.1986

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]
524_Formation_pressure_(Formasjonstrykk)	pdf	0.22