General information

Wellbore name	25/8-8 A
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	JOTUN
Discovery	25/8-8 S Jotun
Well name	25/8-8
Seismic location	ES 9403- INLINE 2672 & CDP 2131
Production licence	027 P
Drilling operator	Esso Exploration and Production Norway A/S
Drill permit	830-L
Drilling facility	VILDKAT EXPLORER
Drilling days	13
Entered date	29.09.1995
Completed date	11.10.1995
Release date	11.10.1997
Publication date	29.08.2003
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL/GAS
Discovery wellbore	NO
1st level with HC, age	PALEOCENE
1st level with HC, formation	HEIMDAL FM
Kelly bushing elevation [m]	25.0
Water depth [m]	126.5
Total depth (MD) [m RKB]	2601.0
Final vertical depth (TVD) [m RKB]	2183.1
Maximum inclination [°]	51.7
Oldest penetrated age	PALEOCENE
Oldest penetrated formation	TY FM
Geodetic datum	ED50
NS degrees	59° 25' 51.87'' N
EW degrees	2° 24' 18.73'' E
NS UTM [m]	6588357.70
EW UTM [m]	466254.24
UTM zone	31
NPDID wellbore	2690

Wellbore history

General

Well 25/8-8 S was drilled to test the Paleocene Heimdal Formation sandstones (Tau Prospect) located southeast of the Jotun Field and north east of the Balder Field on the east margin of the South Viking Graben. The well was planned with flexibility to be sidetracked into two other reservoir segments from the same 13 3/8" casing. The well proved oil in the target and two sidetracks were drilled. Well 25/8-8 A was the first sidetrack and the objective was to appraise the discovery in the primary well and to evaluate the sand quality in the eastern segment of the Tau Structure. Well 25/8-8 B was the second sidetrack and the objective was to appraise and evaluate resource potential in the western segment of the 25/8-8 S Discovery and to confirm oil-water and possibly gas-oil contacts.

Operations and results

Exploration well 25/8-8 S was spudded with the semi-submersible installation "Vildkat Explorer" on 22 August 1995 and drilled deviated to TD at 2592 m (2343.7 m TVD SS) in the Late Jurassic Draupne Formation. The well was drilled to 1058 m with seawater and high viscosity gel pills. From 1058 m to TD the well was drilled using an oil-based mud, "Safemul". MWD-GR-Res was used during drilling. MWD-resistivity failed at 872 m and the hole was drilled to 1058 m without resistivity log. No shallow gas was observed. The 13 3/8" casing was set at 1046.5 m.

When the second run with the MDT was done, the MDT cable became stuck. The cable broke at the casing shoe, leaving the tool and about 1000 m of cable in the hole. A fishing job was performed to get the tool and cable out. The fishing job was successful and the rest of the logging program was completed.

The target Heimdal Formation was penetrated at 2236 m and was found hydrocarbon bearing. A GOC is indicated within the interval 2244.9-2252.0 m (2057.0-2063.0 m TVD SS) based on ELAN log analysis, pressure analysis and geochemical analyses. Available well data indicate an OWC at 2283.5 m (2089.3 m TVD SS) with oil saturation up to 5 m TVD deeper. Three 27-metre cores were cut in the Lista and Heimdal Formations in the interval 2228 m to 2309 m. Fluid samples were taken in the first MDT run at 2244.2 m (gas) and 2260.0 m (oil). After testing the well was plugged back to the 13 3/8" casing and the casing pulled to get ready for the first sidetrack, 25/8-8 A.

Sidetrack 25/8-8 A was kicked off from below the 13 3/8" casing shoe at 1080 m on 26 September 1995 and drilled to a TD of 2601.3 m (2158.1 m TVD SS) in the Early Paleocene Ty Formation. The wellbore was drilled with "Safemul" oil based mud from kick off to TD. Based on MDT pressures and extensive MDT sampling 25/8-8 A confirmed oil and gas in the Heimdal Formation with a GOC estimated at 2057.8 m TVD SS and an OWC estimated at 2094.5 m TVD SS. It also proved the amount of sand and reservoir quality decrease eastwards from the original 25/8-8 S well location. Borehole 25/8-8 A was not drill stem tested. Four conventional cores were cut in the Lista and Heimdal Formations in the interval 2414 m to 2522 m. MDT fluid samples were recovered from the Heimdal Formation at depths 2430 m (gas),& 2445.6 m (gas), 2453 m (oil), and 2457.8 m (oil). Post-well organic geochemical analyses indicated some "diesel" contamination in the oil samples. After logging sidetrack 25/8-8A was plugged and abandoned as an oil and gas appraisal well.

The second sidetrack, 25/8-8 B, was kicked off from 1080 m on 11 October 1995 and drilled to a total depth of 2510 m (2152 m TVD SS) in the Paleocene Lista Formation. The well was drilled with oil-based mud from kick off to TD.

Pressures and extensive MDT sampling confirmed the oil and water gradients and

defined the OWC in the Heimdal Formation. The oil water contact was found at 2428.9 m (2094.7 m TVD SS). The well was not drill stem tested. Three cores were cut in the Lista and Heimdal Formations from 2375 m to 2441 m. After logging sidetrack 25/8-8 B was plugged back and abandoned as an oil and gas appraisal well.

The primary wellbore 25/8-8 S was permanently abandoned on October 24, 1995 as an oil and gas discovery, named the 25/8-8 S Jotun Discovery.

Testing

Well 25/8-8 S was drill stem tested. The main interval 2258 m - 2267 m produced a little sand (1%) at 795 Sm3/day and was chocked back to 628 Sm3/day for the main flow. GOR was 70 Sm3/Sm3.& After the main flow, a lower interval 2275-2279 m was perforated with tubing conveyed gun and the two intervals were flowed co-mingled at 1065 Sm3/day with traces of sand. GOR was 70 Sm3/Sm3.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1060.00	2601.30

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	2414.0	2450.0	[m]
2	2450.0	2464.3	[m]
3	2464.3	2496.0	[m]
4	2496.0	2523.7	[m]

Total core sample length [m]	109.6
Cores available for sampling?	YES

Core photos


2414-2419m


2419-2424m


2424-2429m


2429-2434m


2434-2439m


2439-2444m


2444-2449m


2449-2450m


2450-2455m


2455-2460m


2460-2464m


2464-2469m


2469-2474m


2474-2479m


2479-2484m


2484-2489m


2489-2494m


2494-2495m


2495-2500m


2500-2505m


2505-2510m


2510-2515m


2515-2520m


2520-2524m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
2240.0	[m]	SWC	STRAT
2271.0	[m]	SWC	STRAT
2280.0	[m]	SWC	STRAT
2282.0	[m]	SWC	STRAT
2284.0	[m]	SWC	STRAT
2290.0	[m]	DC	STRAT
2296.0	[m]	SWC	STRAT
2300.0	[m]	DC	STRAT
2320.0	[m]	DC	STRAT

2330.0	[m]	DC	STRAT
2335.0	[m]	SWC	STRAT
2340.0	[m]	DC	STRAT
2350.0	[m]	SWC	STRAT
2354.0	[m]	SWC	STRAT
2356.0	[m]	SWC	STRAT
2370.0	[m]	DC	STRAT
2375.0	[m]	SWC	STRAT
2395.0	[m]	SWC	STRAT
2398.0	[m]	SWC	STRAT
2414.0	[m]	C	STRAT
2425.0	[m]	C	STRAT
2426.0	[m]	C	STRAT
2430.0	[m]	C	STRAT
2434.0	[m]	C	STRAT
2436.0	[m]	C	STRAT
2438.0	[m]	C	STRAT
2446.0	[m]	C	STRAT
2449.0	[m]	C	STRAT
2467.0	[m]	C	STRAT
2481.0	[m]	C	STRAT
2495.0	[m]	C	STRAT
2498.0	[m]	C	STRAT
2503.0	[m]	C	STRAT
2511.0	[m]	C	STRAT
2521.0	[m]	C	STRAT
2521.0	[m]	C	STRAT
2530.0	[m]	DC	STRAT
2542.8	[m]	SWC	STRAT
2552.9	[m]	SWC	STRAT
2560.0	[m]	DC	STRAT
2570.0	[m]	DC	STRAT
2582.0	[m]	SWC	STRAT
2590.0	[m]	DC	STRAT
2601.3	[m]	DC	STRAT

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
152	NORDLAND GP
474	UTSIRA FM
610	NO FORMAL NAME
668	HORDALAND GP
668	SKADE FM
1025	NO FORMAL NAME
1185	SKADE FM
1232	NO FORMAL NAME
1291	GRID FM
1310	NO FORMAL NAME
2203	ROGALAND GP
2203	BALDER FM
2286	SELE FM
2351	LISTA FM
2425	HEIMDAL FM
2478	LISTA FM
2554	TY FM

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

Document name	Document format	Document size [MB]
2690_25_8_8_A_COMPLETION_REPORT_AND_LOG	pdf	91.01

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AIT AS GR CAL	1046	2592
CST GR	2240	2585
IPL EPT NGS	1046	2593
MDT GR	2426	2429
MDT GR	2430	2516
MDT GR	2430	2560
MDT GR	2560	2576
MWD - GR RES DIR	1124	2592
VSP	1390	2580

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	214.0	36	214.0	0.00	LOT
SURF.COND.	13 3/8	1046.0	17 1/2	1046.0	0.00	LOT
OPEN HOLE		2601.0	8 1/2	2601.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
841	1.49	61.0		OIL BASED	
996	1.43	38.0		OIL BASED	
1070	1.00	37.0		OIL BASED	
1149	1.43	44.0		OIL BASED	
1334	1.54	51.0		OIL BASED	
2115	1.50	43.0		OIL BASED	
2154	1.43	42.0		OIL BASED	
2230	1.50	54.0		OIL BASED	
2242	1.54	37.0		OIL BASED	
2382	1.50	45.0		OIL BASED	
2414	1.50	49.0		OIL BASED	
2443	1.50	44.0		OIL BASED	
2450	1.54	38.0		OIL BASED	
2495	1.53	37.0		OIL BASED	
2510	1.50	53.0		OIL BASED	
2522	1.53	36.0		OIL BASED	
2601	1.53	36.0		OIL BASED	

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
2430.75	[m]
2436.10	[m]
2447.25	[m]
2449.75	[m]
2456.85	[m]

2461.25	[m]
2461.45	[m]
2476.00	[m]
2454.75	[m]
2485.00	[m]
2428.30	[m]
2433.20	[m]
2448.20	[m]
2457.85	[m]
2458.20	[m]
2463.25	[m]
2465.80	[m]
2485.80	[m]
2504.25	[m]
2506.25	[m]
2517.50	[m]

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]
2690_Formation_pressure_(Formasjonstrykk)	pdf	0.21