General information

Wellbore name	25/10-2 R
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	25/10-2
Seismic location	Line SC-68 & Shotpoint 7026
Production licence	028
Drilling operator	Esso Exploration and Production Norway A/S
Drill permit	43-L2
Drilling facility	GLOMAR GRAND ISLE
Drilling days	68
Entered date	02.05.1972
Completed date	08.07.1972
Plugged and abondon date	08.07.1972
Release date	08.07.1974
Publication date	29.08.2003
Purpose - planned	WILDCAT
Reentry	YES
Reentry activity	DRILLING/PLUGGING
Content	OIL SHOWS
Discovery wellbore	NO
Kelly bushing elevation [m]	9.0
Water depth [m]	121.0
Total depth (MD) [m RKB]	3181.0
Final vertical depth (TVD) [m RKB]	3181.0
Bottom hole temperature [°C]	82
Oldest penetrated age	PRE-DEVONIAN
Oldest penetrated formation	BASEMENT
Geodetic datum	ED50
NS degrees	59° 9' 39.27'' N
EW degrees	2° 11' 35.88'' E
NS UTM [m]	6558399.86
EW UTM [m]	453868.07
UTM zone	31
NPDID wellbore	511

Wellbore history

General

Well 25/10-2 was drilled to test a structural closure on the down faulted west flank of the basement high on which Esso wells 25/11-1 (Balder Discovery well), 25/8-1 and 25/10-1 had been drilled. The original primary objective, as stated in the Operator's Final Well Report from 1972, was Early Paleocene to Late Eocene sands, which had a thin oil leg in the three wells drilled previously. It was anticipated that appreciably thicker Early Eocene sands would be encountered in the oil leg of 25/10-2. Additional prospects were in Middle - Late Eocene sands, Danian carbonates, and sands of Early Cretaceous, Jurassic or Triassic age.

The results of the well given below is reported with today's knowledge of the area (anno 2003) and cannot be compared directly with the original objectives.

Operations and results

Wildcat well 25/10-2 was spudded with the drilling vessel "Glomar Grand Isle" on 5 August 1970 and drilled to TD at 2191 m (7187 feet) in the Paleocene Lista Formation. Drilling operations went without mechanical problems and there was no lost time waiting on weather. Well 25/10-2 was suspended 25 August 1970 as a well with oil shows. The well was re-entered (25/10-2 R) using "Glomar Grand Isle" on 2 May 1972 and drilled to a total depth of 3180.6 m (10435 feet) in basement rock.

After drilling out the plug in the bottom of the casing in the re-entry some difficulty was experienced in staying in the old hole. The well was drilled to a depth of 2369 m where lost circulation was encountered. Later the pipe became stuck, with the bottom of the fish at 2213 m, and it became necessary to sidetrack the hole. Six cones were lost in the hole while drilling at 2497 m in the sidetrack hole; otherwise no problems were experienced. Initial drilling from the sea floor to 396 m was with seawater and gel. From 396 m to 1036 m the hole was drilled with seawater / Spersene / XP 20 / Salinex system. From 1036 m to TD in the primary well entry fresh water / Spersene / XP 20 system was used. The re-entry hole was drilled with fresh water - Spersene - XP-20 system.

Top Rogaland Group is interpreted at 1935 m. The Balder, Sele and Lista Formations contained only thin, scattered sandstone layers, while water bearing sands were encountered in the Heimdal Formation (2085 m to 2146 m) and in the Ty Formation (2270 m - 2375 m). Two hundred and thirty eight m of Late Cretaceous chalk and limestones are developed beneath the Tertiary. Upper Jurassic Draupne shale is missing in the well, instead the Shetland Group is underlain by a heterogeneous sequence which has been dated to be of Late Jurassic (Volgian) age. Mainly greyish red shales and siltstones are found together with white limestones and loose sands and do not fit into the existing nomenclature system. The serrated log patterns indicate that these lithologies are finely interbedded. In the Triassic Group loose, poorly sorted quartz sands were encountered in the interval 2710 m to 2820 m while the interval from 2850 m to 2885 m consists of a well consolidated, poorly sorted, fine grained sandstone. This sandy section does not contain recognizable palynomorphs, but is believed to be of Triassic age due to its stratigraphic position and the continental character of the sediments. An unpredicted Permian conglomerate (Rotliegend), 135 m thick, consisting of pebbles of quartz, feldspar, gneiss and amphibolite in a well cemented or sandy matrix, was encountered beneath the Kupferschiefer highly radioactive shale and Zechstein evaporites and shales. The Basement rock (3152 m - 3181 m) is probably plutonic. It is composed mainly of alkali feldspar, and thus best classified as a syenite. It is medium grained and highly crushed. Its dark greyish red colour is partly due to heavy

staining by hematite. Oil fluorescence and oil cut was obtained from Balder Formation cuttings between 1937 m and 1973 m. Oil shows were encountered in a one-foot Sele Formation sand cored at 1981 m. A very weak fluorescence was recorded from the Sele Formation cores and cuttings between 1983 m and 2027 m. The triassic Group sands between 2682 m to 2688 m and 2689 m to 2707 m had very weak oil shows. The cuttings contained a black tar material in the intergranular porosity, which looked like dead oil. Sidewall cores indicated that the sand was fine grained, with streaks of black hydrocarbon specks, with yellow fluorescence and good yellow cut. The Permian dolomites (Zechstein), shales (Copper shale) and Conglomerate (Rotliegend), had a good fluorescence and cut and some live oil, however, they all had very poor permeability and porosity. No shows were observed in Basement.

A total of 14 cores were cut in the two wellbores. Eight were cut in the Paleocene Balder to Våle Formation sediments. Only one meter was recovered from the lowermost Ty Formation sand (111 m total recovery), five were cut in Zechstein and Rotliegend Groups (49 m total recovery), while core no14 recovered 3 m of the basement rock at TD. Formation Interval Testing (FIT) fluid samples were recovered from depths 2685 m (8810 feet), 2691 m (8829 feet), 2697 m (8850 feet), 2702 m (8865 feet), and 3016 m (9895 feet). Well 25/10-2 R was permanently abandoned 8 July 1972 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]
7000.00	10224.00

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	6478.0	6524.0	[ft]
2	6524.0	6578.0	[ft]
3	6599.0	6652.0	[ft]
4	6652.0	6711.0	[ft]
5	6838.0	6896.0	[ft]
6	6896.0	6953.0	[ft]
7	7161.0	7187.0	[ft]
8	7789.0	7801.0	[ft]
9	9850.0	9874.0	[ft]
10	9874.0	9896.0	[ft]
11	9902.0	9951.0	[ft]
12	9951.0	10003.0	[ft]

13	10006.0	10010.0	[ft]
14	10424.0	10425.0	[ft]

Total core sample length [m]	157.6
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
8850.0	[ft]	DC	CGG
9340.0	[ft]	DC	CGG

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
FIT	FIT-1	2697.50	0.00	WATER	02.07.1972 - 00:24	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
130	NORDLAND GP
505	UTSIRA FM
1052	HORDALAND GP
1935	ROGALAND GP
1935	BALDER FM
1975	SELE FM
2050	LISTA FM
2085	HEIMDAL FM
2146	LISTA FM
2270	TY FM
2375	VÅLE FM
2385	SHETLAND GP
2385	TOR FM
2470	HOD FM
2542	TRYGGVASON FM

2623	VIKING GP
2675	NO GROUP DEFINED
2897	ZECHSTEIN GP
2897	UNDIFFERENTIATED
3007	KUPFERSCHIEFER FM
3014	ROTLIEGEND GP
3152	BASEMENT

Composite logs

Document name	Document format	Document size [MB]
511	pdf	0.50

Geochemical information

Document name	Document format	Document size [MB]
511_1	pdf	1.97
511_2	pdf	0.09

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

Document name	Document format	Document size [MB]
511_25_10_2_R_COMPLETION_REPORT_AND_LOG	pdf	10.89

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	164.0	36	164.0	0.00	LOT
INTERM.	20	397.0	26	397.0	0.00	LOT
INTERM.	13 3/8	1032.0	17 1/2	1032.0	0.00	LOT
INTERM.	9 5/8	2258.0	12 1/4	2258.0	0.00	LOT
OPEN HOLE		3181.0	8 1/2	3181.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
150	0.00			SEAWATER	
400	0.00			SEAWATER	
1031	0.00			FRESHWATER	
3181	0.00			FRESHWATER	

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
9884.00	[ft]
9896.00	[ft]
9910.00	[ft]
9950.00	[ft]
9965.50	[ft]
9976.00	[ft]

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]
511_Formation_pressure_(Formasjonstrykk)	pdf	0.22