

General information

Wellbore name	25/4-8
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORTH SEA
Field	ALVHEIM
Discovery	25/4-3 (Gekko)
Well name	25/4-8
Seismic location	line 1300 & cross line 5150 (NH9603)
Production licence	203
Drilling operator	Marathon Petroleum Norge AS
Drill permit	1065-L
Drilling facility	DEEPSEA BERGEN
Drilling days	20
Entered date	03.06.2003
Completed date	22.06.2003
Release date	22.06.2005
Publication date	22.06.2005
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]	23.0
Water depth [m]	122.0
Total depth (MD) [m RKB]	2286.0
Final vertical depth (TVD) [m RKB]	2286.0
Maximum inclination [°]	0.7
Oldest penetrated age	PALEOCENE
Oldest penetrated formation	HEIMDAL FM
Geodetic datum	ED50
NS degrees	59° 30' 52.34" N
EW degrees	2° 3' 47.24" E
NS UTM [m]	6597875.29
EW UTM [m]	446977.93

UTM zone	31
NPDID wellbore	4765

Wellbore history

General

Well 25/4-8 was the second exploratory test of a large, irregular 4-way closure known as the Gekko structure, discovered by well 25/4-3 in 1974. The reservoir target was the Paleocene Heimdal formation, in a mapped culmination 1.7 km to the WNW of the discovery well. While well 25/4-3 found 8 m of hydrocarbons in a structurally low position, well 25/4-8 was expected to encounter a hydrocarbon column of 45m with an anticipated oil/water contact at 2107 m TVD SS.

Operations and results

Wildcat well 25/8-4 was spudded with the semi-submersible installation Deepsea Bergen on 3 June 2003 and drilled to TD at 2286 m in the Paleocene Heimdal Formation. Some problems with hole fill were experienced in the top 36" hole and repeated drill string stalling and sticking in the 17 1/2" section. After setting the 13 3/8" casing at 796 m these problems ceased and the well was drilled on to TD with no significant problems. The well was drilled with seawater down to 803 m and with Carbosea oil based mud from 803 m to TD.

Significant gas peaks were recorded in the interval 2096 m to 2129 m. Drilled cuttings were adversely affected by the use of PDC bits, especially in the sandstone intervals, and hydrocarbon shows were affected by the use of oil-based mud in the 8 1/2" hole section. Oil shows were however recorded on cores from 2082 m to 2134 m.

Petrophysical evaluation of wire line logs acquired demonstrated that sands within the Lista Formation were gas bearing and that the Heimdal Formation is gas and oil bearing at the location with a gas-oil contact (GOC) at 2121.8 m (2098.8 m TVD SS) and an oil-water contact (OWC) at 2128.5 m (2105.5 m TVD SS). The OWC was 1.5 m shallow compared to that described for the exploration well 25/4-3 and is consistent with shows described from core and cuttings within the Heimdal. Two conventional cores were cut in the interval 2082 m to 2136 m in the Lista and Heimdal Formations. Fluid samples were taken with the MDT tool at 2097 m (gas), 2120 m (gas), and 2127.2 m (oil).

The well was permanently abandoned on 22 June as a gas and oil appraisal well.

Testing

No drill stem test was performed.

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Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1500.00	2286.20
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	2082.0	2107.1	[m]
2	2109.0	2135.6	[m]

Total core sample length [m]	51.7
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		2120.00	0.00	OIL		YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
145	NORDLAND GP
385	UTSIRA FM
509	NO FORMAL NAME
777	HORDALAND GP
1219	GRID FM
1305	NO FORMAL NAME
1922	ROGALAND GP
1922	BALDER FM
2011	SELE FM
2060	LISTA FM
2113	HEIMDAL FM

Composite logs

Document name	Document format	Document size [MB]
4765_25_4_8	pdf	0.28



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NPD Factpages
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Logs

Log type	Log top depth [m]	Log bottom depth [m]
M LWD - GR	205	803
MDT GR	2092	2182
PEX AIT DSM HNGS	145	2284
VSI GR	631	2280

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	206.0	36	208.0	0.00	LOT
SURF.COND.	13 3/8	796.0	17 1/2	803.0	0.00	LOT
OPEN HOLE		2082.0	12 1/4	2082.0	1.45	LOT
OPEN HOLE		2286.0	8 1/2	2286.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
0	1.03			SEAWATER	
560	1.08			SPUD MUD	
803	1.14	45.0		KCL	
1309	1.28	23.0		OIL (ENVIRON)	
2286	1.28	21.0		OIL (ENVIRON)	

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]
4765 Formation pressure (Formasjonstrykk)	pdf	0.22

