

**General information**

Wellbore name	24/6-4
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	<a href="#">link to press release</a>
Factmaps in new window	<a href="#">link to map</a>
Main area	NORTH SEA
Field	<a href="#">ALVHEIM</a>
Discovery	<a href="#">24/6-4 Alvheim</a>
Well name	24/6-4
Seismic location	line 484 & trace 4798- NH 9601
Production licence	<a href="#">088 BS</a>
Drilling operator	Marathon Petroleum Norge AS
Drill permit	1059-L
Drilling facility	<a href="#">DEEPSEA BERGEN</a>
Drilling days	42
Entered date	22.04.2003
Completed date	02.06.2003
Release date	02.06.2005
Publication date	02.06.2005
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL/GAS
Discovery wellbore	YES
1st level with HC, age	PALEOCENE
1st level with HC, formation	HEIMDAL FM
Kelly bushing elevation [m]	23.0
Water depth [m]	121.0
Total depth (MD) [m RKB]	2325.0
Final vertical depth (TVD) [m RKB]	2319.0
Maximum inclination [°]	11.6
Bottom hole temperature [°C]	73
Oldest penetrated age	PALEOCENE
Oldest penetrated formation	HEIMDAL FM
Geodetic datum	ED50
NS degrees	59° 34' 44.7" N
EW degrees	1° 54' 46.08" E
NS UTM [m]	6605192.14



EW UTM [m]	438588.58
UTM zone	31
NPDID wellbore	4745

## Wellbore history

### General

Well 24/6-4 (Boa) was originally spudded as 24/6-3, which was junked for technical reasons. The well was designed to appraise the Kameleon 24/6-2 discovery made in 1998. The well objectives were: to verify the field wide extent of fluid and gas contacts, eliminate geologic risk associated with the Boa structure, provide additional time-depth control, provide gas, oil and water samples, and to test local stratigraphic control of the T57 shale horizon.

### Operations and results

Well 24/6-4 was spudded 22 April 2003 with the semi-submersible installation Deepsea Bergen. The well was drilled to 1329 m when hole problems occurred and a technical sidetrack (24/6-4 T2) was decided. The sidetrack was kicked off at 1010 m and drilled slightly deviated to 1340 m (maximum deviation was 11.6°) where a vertical path was re-established. The well was then drilled as planned to TD at 2325 m in the Paleocene Heimdal Formation. Water based bentonite mud spotted with KCl mud was used in the first well bore down to 1329 m. The sidetrack was drilled with oil-based mud.

Apart from the target Heimdal Formation the only sandy formation penetrated was the Grid Formation from 1147 m to 1301 m. The Heimdal Sandstone was encountered at 2123 m and proved to be both gas and oil-bearing with a gas-oil contact (GOC) at 2147.7 m MD (2118.5 m TVD SS) and an oil-water contact (OWC) at 2176.3 m (2147.1 m TVD SS). This was consistent with shows described from core and cuttings within the Heimdal. No shows were recorded below 2177 m, apart from a possible trace of residual oil, at 2315 m. The GOC in 24/6-2 (Kameleon) was found at 2125 m TVD SS, ca 5 m deeper than in 24/6-4, and the OWC in 24/6-2 was found at 2143 m TVD SS, ca 4 m higher than in 24/6-4. Formation pressure measurements in the two wells showed 2 bars lower pressure in the 24/6-2 hydrocarbon column than in the 24/6-4 HC column. Communication between the two wells was thus found to be unlikely.

A total of 54.65 m of core was cut in two cores in the Heimdal formation, with 99.3% recovery. Coring point was at 2124 m, determined by cuttings and drilling parameter changes. A total of 32 MDT formation pressures were obtained in 39 attempts from 2125.0 m to 2276.0 m. A total of 23 MDT fluid samples, 10 gas samples from 2138 m and 13 oil samples from 2162 m, were obtained.

The well was permanently abandoned as a gas and oil discovery on 24 March 1969.

### Testing

No drill stem test was performed.

## Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1510.00	2325.00



Cuttings available for sampling?	YES
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**Cores at the Norwegian Offshore Directorate**

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	2124.0	2151.7	[m ]
2	2151.7	2178.3	[m ]

Total core sample length [m]	54.3
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		0.00	0.00			YES

**Lithostratigraphy**

Top depth [mMD RKB]	Lithostrat. unit
144	<a href="#">NORDLAND GP</a>
346	<a href="#">UTSIRA FM</a>
884	<a href="#">HORDALAND GP</a>
1148	<a href="#">GRID FM</a>
1301	<a href="#">HORDALAND GP</a>
1925	<a href="#">ROGALAND GP</a>
1925	<a href="#">BALDER FM</a>
2049	<a href="#">SELE FM</a>
2070	<a href="#">LISTA FM</a>
2123	<a href="#">HEIMDAL FM</a>

**Composite logs**





Document name	Document format	Document size [MB]
<a href="#">4745</a>	pdf	0.18

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

Document name	Document format	Document size [MB]
<a href="#">4745_24_6_4_T2_COMPLETION_LOG</a>	.PDF	61.44
<a href="#">4745_24_6_4_T2_COMPLETION_REPORT</a>	.PDF	0.63

**Logs**

Log type	Log top depth [m]	Log bottom depth [m]
DSI GR	1129	2305
LWD - EWR-4 GR SLD CTN BAT	1873	2325
MDT GR	2125	2276
MDT GR	2138	0
PEX HNGS	987	1019
PEX HNGS DSI	1129	1198
PEX HNGS DSI ACTS	1129	2295
VSI GR	1129	2295

**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	205.0	36	207.0	0.00	LOT
SURF.COND.	13 3/8	760.0	17 1/2	1329.0	0.00	LOT
INTERM.	9 5/8	987.0	12 1/4	1344.0	0.00	LOT
OPEN HOLE		2325.0	8 1/2	2325.0	0.00	LOT

**Drilling mud**

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
207	1.20	26.0		BENTONITE MUD	
268	1.20	26.0		BENTONITE MUD	
769	1.20	27.0		BENTONITE MUD	





813	1.28	22.0		OIL (ENVIRON)	
987	1.22	16.0		KCL	
1095	1.25	18.0		OIL (ENVIRON)	
1329	1.20	33.0		BENTONITE MUD	
1340	1.28	31.0		OIL (ENVIRON)	
1345	1.20	29.0		KCL 4%	
1780	1.28	20.0		OIL (ENVIRON)	
2124	1.28	22.0		OIL (ENVIRON)	
2325	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]
<a href="#">4745 Formation pressure (Formasjonstrykk)</a>	pdf	0.20

