



Generell informasjon

Brønnbane navn	24/6-4
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	ALVHEIM
Funn	24/6-4 Alvheim
Brønn navn	24/6-4
Seismisk lokalisering	line 484 & trace 4798- NH 9601
Utvinningstillatelse	088 BS
Boreoperatør	Marathon Petroleum Norge AS
Boretillatelse	1059-L
Boreinnretning	DEEPSEA BERGEN
Boredager	42
Borestart	22.04.2003
Boreslutt	02.06.2003
Frigitt dato	02.06.2005
Publiseringsdato	02.06.2005
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	PALEOCENE
1. nivå med hydrokarboner, formasjon.	HEIMDAL FM
Avstand, boredekk - midlere havflate [m]	23.0
Vanndybde ved midlere havflate [m]	121.0
Totalt målt dybde (MD) [m RKB]	2325.0
Totalt vertikalt dybde (TVD) [m RKB]	2319.0
Maks inklinasjon [°]	11.6
Temperatur ved bunn av brønnbanen [°C]	73
Eldste penetrerte alder	PALEOCENE
Eldste penetrerte formasjon	HEIMDAL FM
Geodetisk datum	ED50



NS grader	59° 34' 44.7" N
ØV grader	1° 54' 46.08" E
NS UTM [m]	6605192.14
ØV UTM [m]	438588.58
UTM sone	31
NPDID for brønnbanen	4745

Brønnhistorie

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.



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1510.00	2325.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2124.0	2151.7	[m]
2	2151.7	2178.3	[m]

Total kjerneprøve lengde [m]	54.3
Kjerner tilgjengelig for prøvetaking?	YES

Oljeprøver i Sokkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST		0.00	0.00			YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
144	NORDLAND GP
346	UTSIRA FM
884	HORDALAND GP
1148	GRID FM
1301	HORDALAND GP
1925	ROGALAND GP
1925	BALDER FM
2049	SELE FM
2070	LISTA FM
2123	HEIMDAL FM



Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
4745	pdf	0.18

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
4745 24 6 4 T2 COMPLETION LOG	.PDF	61.44
4745 24 6 4 T2 COMPLETION REPORT	.PDF	0.63

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [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

Foringsrør og formasjonsstyrketester

Type utforing	Utforing diam. [tommer]	Utforing dybde [m]	Brønnbane diam. [tommer]	Brønnbane dyp [m]	LOT/FIT slam eqv. [g/cm3]	Type formasjonstest
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

Boreslam





Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
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)	

Trykkplott

Porertrykksdataene kommer fra logging i brønnen hvis ingen annen kilde er oppgitt. I noen brønner der trykk ikke er logget, er det brukt informasjon fra formasjonstester eller brønnspark. Trykkdataene er rapportert inn til Oljedirektoratet og videre prosessert og kvalitetssikret av IHS Markit.

Dokument navn	Dokument format	Dokument størrelse [KB]
4745 Formation pressure (Formasjonstrykk)	pdf	0.20

