Generell informasjon

Brønnbane navn	24/9-9 S
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	BØYLA
Funn	24/9-9 S Bøyla
Brønn navn	24/9-9
Seismisk lokalisering	MN DG 043 & 032A
Utvinningstillatelse	340
Boreoperatør	Marathon Petroleum Norge AS
Boretillatelse	1277-L
Boreinnretning	SONGA DEE
Boredager	26
Borestart	12.09.2009
Boreslutt	07.10.2009
Frigitt dato	07.10.2011
Publiseringsdato	07.10.2011
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	PALEOCENE
1. nivå med hydrokarboner, formasjon.	HERMOD FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	120.0
Totalt målt dybde (MD) [m RKB]	2402.0
Totalt vertikalt dybde (TVD) [m RKB]	2226.7
Maks inklinasjon [°]	37.6
Eldste penetrerte alder	PALEOCENE
Eldste penetrerte formasjon	HEIMDAL FM
Geodetisk datum	ED50
NS grader	59° 19' 40.49'' N
ØV grader	1° 50' 17.27'' E

NS UTM [m]	6577295.29
ØV UTM [m]	433882.57
UTM sone	31
NPDID for brønnbanen	6222

Brønnhistorie

General

Well 24/9-9 S is located in the Vana Sub-basin ca 6 km east of the UK border in the North Sea. The primary objective of the well was to establish the presence of hydrocarbons within the Hermod Formation of the Marihøne A prospect. Given success, an optional sidetrack (24/9-9 A) would be drilled to test the A2 segment of the same Hermod Formation. The surface location was placed so as to enable both segments to be tested from the same wellhead location. Further unplanned sidetracks would be contingent on results of the first wells.

Operations and results

Wildcat well 24/9-9 S was spudded with the semi-submersible installation Songa Dee on 12 September 2009 and drilled to TD at 2402 m in the Paleocoene Heimdal Formation. No significant technical problem occurred in the operations. The well was drilled with seawater and hi-vis sweeps down to 144 m, with Glydril mud from 144 m to 1033m, and with Versatec oil based mud from 1033 m to TD.

The target Hermod Formation was encountered at 2202 m (2041.8 m TVD MSL) and proved to be oil bearing. Logging showed a 29.1 m TVD oil leg with OWC at 2238.5m (2070.9m TVD MSL). Average porosity of the oil bearing zone was 27% with an average Sw of 25%. The gross thickness of the reservoir was 52.5 m TVD. The Heimdal Formation sands were water bearing. The only true oil shows recorded were on the cores taken in the reservoir. These extended through the oil-bearing zone and down to the end of the cored interval at 2261 m. The oil based mud used produced a background weak dull yellow direct fluorescence and faint cut fluorescence, which effectively masked any mineral oil show. Additionally the solvent properties of the mud, combined with the structure destroying effect of the PDC bits and the flushing effect due to the overbalanced mud weight may have removed virtually all trace of shows from disaggregated sand grains and minimised or removed shows from sandstone aggregates.

Two cores were cut 2207 to 2261 m in the Hermod Formation. A wire line programme was run comprising 4 runs: 1A Quad combo, 1B MDT, 1C VSP and 1D MDT. The first MDT run proved Oil and Water gradients in addition to sampling the Oil zone at 2221 m. The second MDT run provided additional oil samples from the same oil horizon. Maximum temperature recorded in the first run was 103 deg C, corresponding to a rather high temperature gradient: 47.6 deg C/km with 4 deg C at sea floor. This was the only BHT reported from the well.

The well was plugged back for sidetracking on 7 October 2009 as an oil discovery.

Testing

No drill stem test was performed.

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1050.00	2400.00

Borekaks tilgjengelig for prøvetaking?	YES

Borekjerner i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2207.0	2233.8	[m]
2	2234.0	2260.9	[m]

Total kjerneprøve lengde [m]	53.7
Kjerner tilgjengelig for prøvetaking?	YES

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
1050.0	[m]	DC	CGG
1110.0	[m]	DC	CGG
1140.0	[m]	DC	CGG
1170.0	[m]	DC	CGG
1200.0	[m]	DC	CGG
1290.0	[m]	DC	CGG
1320.0	[m]	DC	CGG
1350.0	[m]	DC	CGG
1410.0	[m]	DC	CGG
1440.0	[m]	DC	CGG
1500.0	[m]	DC	CGG
1530.0	[m]	DC	CGG
1590.0	[m]	DC	CGG
1620.0	[m]	DC	CGG
1650.0	[m]	DC	CGG
1680.0	[m]	DC	CGG
1710.0	[m]	DC	CGG
1740.0	[m]	DC	CGG
1770.0	[m]	DC	CGG
1830.0	[m]	DC	CGG
1880.0	[m]	DC	CGG

1920.0	[m]	DC	CGG
1950.0	[m]	DC	CGG
2000.0	[m]	DC	CGG
2040.0	[m]	DC	CGG
2070.0	[m]	DC	CGG
2100.0	[m]	DC	CGG
2110.0	[m]	DC	CGG
2120.0	[m]	DC	CGG
2130.0	[m]	DC	CGG
2140.0	[m]	DC	CGG
2150.0	[m]	DC	CGG
2170.0	[m]	DC	CGG
2180.0	[m]	DC	CGG
2190.0	[m]	DC	CGG
2200.0	[m]	DC	CGG
2207.2	[m]	C	CGG
2208.0	[m]	C	CGG
2211.2	[m]	C	CGG
2214.4	[m]	C	CGG
2216.7	[m]	C	CGG
2217.7	[m]	C	CGG
2224.1	[m]	C	CGG
2225.5	[m]	C	CGG
2228.9	[m]	C	CGG
2236.6	[m]	C	CGG
2239.2	[m]	C	CGG
2244.7	[m]	C	CGG
2245.8	[m]	C	CGG
2250.6	[m]	C	CGG
2251.7	[m]	C	CGG
2256.6	[m]	C	CGG
2259.8	[m]	C	CGG
2270.0	[m]	DC	CGG
2280.0	[m]	DC	CGG
2290.0	[m]	DC	CGG
2300.0	[m]	DC	CGG
2310.0	[m]	DC	CGG
2330.0	[m]	DC	CGG
2340.0	[m]	DC	CGG
2350.0	[m]	DC	CGG

2360.0	[m]	DC	CGG
2370.0	[m]	DC	CGG
2390.0	[m]	DC	CGG

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
145	NORDLAND GP
403	UTSIRA FM
934	NO FORMAL NAME
1117	HORDALAND GP
1117	GRID FM
1382	NO FORMAL NAME
2068	ROGALAND GP
2068	BALDER FM
2157	SELE FM
2202	HERMOD FM
2268	SELE FM
2304	LISTA FM
2351	NO FORMAL NAME
2368	HEIMDAL FM

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
AIT GPIT PPC DSI	144	2390
MDT GR	253	2267
MDT GR	2221	2221
MWD - GR RES POE DEN PWD DI	2204	2390
MWD - GR RES POR DEN PWD DI RES	1033	2204
MWD - GR RES PWD DI	185	1020

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	192.0	36	194.0	0.00	LOT

SURF.COND.	13 3/8	1022.0	17 1/2	1033.0	0.00	LOT
OPEN HOLE		2402.0	12 1/4	2402.0	1.55	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
920	1.40	38.0		wvjobreportmudchk.com	
1335	1.35	35.0		wvjobreportmudchk.com	
2385	1.39	31.0		Added lime and paravis to active	
2402	1.39	32.0		wvjobreportmudchk.com	
2402	1.39	33.0		wvjobreportmudchk.com	
2402	1.39	33.0		wvjobreportmudchk.com	
2402	1.39	31.0		wvjobreportmudchk.com	
2402	1.39	33.0		wvjobreportmudchk.com	
2402	1.39	33.0		Backloaded 117m3 OBM, 78m3 WBM	

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]
6222_Formation_pressure_(Formasjonstrykk)	pdf	0.22