



Generell informasjon

Brønnbane navn	36/4-1
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Brønn navn	36/4-1
Seismisk lokalisering	BPN 9401 INLINE 2034 CROSSLINE 1196
Utvinningstillatelse	196
Boreoperatør	BP Norway Limited U.A.
Boretillatelse	850-L
Boreinnretning	MÆRSK JUTLANDER
Boredager	29
Borestart	03.09.1996
Boreslutt	01.10.1996
Frigitt dato	01.10.1998
Publiseringsdato	15.08.2008
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	DRY
Funnbrønnbane	NO
Avstand, boredekk - midlere havflate [m]	23.0
Vanndybde ved midlere havflate [m]	261.0
Totalt målt dybde (MD) [m RKB]	2717.0
Totalt vertikalt dybde (TVD) [m RKB]	2714.0
Maks inklinasjon [°]	5.4
Temperatur ved bunn av brønnbanen [°C]	79
Eldste penetrerte alder	PRE-DEVONIAN
Eldste penetrerte formasjon	BASEMENT
Geodetisk datum	ED50
NS grader	61° 43' 56.6" N
ØV grader	4° 2' 1.29" E
NS UTM [m]	6844966.43
ØV UTM [m]	554617.38
UTM sone	31
NPDID for brønnbanen	2847



Brønnhistorie

Well 36/4-1 is located in the Sogn Graben, ca 18 km south-east of the Agat field and ca 60 km west-northwest of Florø town in western Norway. The objective was to establish the presence, quality and fluid content of Jurassic target horizons (Fensfjord, Krossfjord, Sognefjord Formations and Brent/Dunlin Groups). The overlying Cretaceous sand of Late Cenomanian/Early Turonian age (k68) provided a secondary target.

Operations and results

Wildcat well 36/4-1 was spudded with the semi-submersible installation Mærsk Jutlander on 3 September 1996 and drilled to TD in basement rock. Minor delays in the operations were caused by ROV problems during spud and top hole drilling, and BOP problems while setting the 13 3/8" casing at 1108 m. The well was drilled with sea water and gel down to 1108 m and with KCl/Polymer/GEM (Glycol Enhanced Mud) from 1108 m to TD.

The Jurassic was encountered at 2361 m and consisted of 351 m of Heather Formation overlying Basement rock. No primary reservoir was penetrated only low porosity thin sands were encountered with no shows. Wire line logging and sampling confirmed absence of Jurassic reservoir in the 36/4-1 prospect. The secondary target was penetrated 38 m high to prognosis and contained 77 m of sand. This sand showed no indications of hydrocarbons and was at hydrostatic pressure. Dull hydrocarbon shows were observed in sandstone stringers in the interval 1920-1990 m within the Cretaceous Kyrre Formation. No shows were encountered in the remaining part of the well. The failure of the primary target was attributed to lack of reservoir within the prospect. The secondary target probably failed due to lack of trap. Hydrostatic pressure within this sand indicated connection up-dip to the shelf and hence no up-dip seal. Apart from the Heather Formation with TOC in the range 1.5 to 4.3% and average HI of 340 mg HC/g TOC, no significant source rock formations were encountered in the well. The Heather Formation was found immature for hydrocarbon generation all through with measured vitrinite reflection and Tmax not exceeding 0.5 and 435 deg C, respectively. The Draupne shales were absent in the well.

One core was cut at TD from 2715.3 - 2717.4 m to confirm basement lithology. Only 40 cm of core was recovered. The low meterage and poor recovery was caused by hard formation. No wire line fluid samples were taken.

The well was permanently abandoned on at 2 October 1996 as a dry well.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1110.00	2712.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2714.0	2714.4	[m]

Total kjerneprøve lengde [m]	0.4
Kjerner tilgjengelig for prøvetaking?	YES

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
1110.0	[m]	DC	PETROSTR
1130.0	[m]	DC	PETROS
1150.0	[m]	DC	PETROS
1170.0	[m]	DC	PETROS
1190.0	[m]	DC	PETROS
1210.0	[m]	DC	PETROS
1230.0	[m]	DC	PETROS
1240.0	[m]	DC	PETROS
1250.0	[m]	DC	PETROS
1270.0	[m]	DC	PETROS
1280.0	[m]	DC	PETROS
1290.0	[m]	DC	PETROS
1310.0	[m]	DC	PETROS
1330.0	[m]	DC	PETROS
1350.0	[m]	DC	PETROS
1370.0	[m]	DC	PETROS
1390.0	[m]	DC	PETROS
1410.0	[m]	DC	PETROS
1430.0	[m]	DC	PETROS
1450.0	[m]	DC	PETROS
1470.0	[m]	DC	PETROS
1490.0	[m]	DC	PETROS
1510.0	[m]	DC	PETROS
1530.0	[m]	DC	PETROS
1550.0	[m]	DC	PETROS
1570.0	[m]	DC	PETROS
1590.0	[m]	DC	PETROS
1600.0	[m]	DC	RII



1610.0	[m]	DC	RII
1610.0	[m]	DC	PETROS
1620.0	[m]	DC	RII
1630.0	[m]	DC	RII
1630.0	[m]	DC	PETROS
1640.0	[m]	DC	RII
1650.0	[m]	DC	RII
1650.0	[m]	DC	PETROS
1660.0	[m]	DC	RII
1670.0	[m]	DC	RII
1670.0	[m]	DC	PETROSTR
1680.0	[m]	DC	RII
1690.0	[m]	DC	PETROSTR
1700.0	[m]	DC	RII
1710.0	[m]	DC	RII
1710.0	[m]	DC	PETROSTR
1720.0	[m]	DC	RII
1730.0	[m]	DC	RII
1730.0	[m]	DC	PETROSTR
1740.0	[m]	DC	RII
1750.0	[m]	DC	RII
1750.0	[m]	DC	PETROSTR
1760.0	[m]	DC	RII
1770.0	[m]	DC	RII
1770.0	[m]	DC	PETROSTR
1780.0	[m]	DC	RII
1790.0	[m]	DC	RII
1790.0	[m]	DC	PETROSTR
1800.0	[m]	DC	RII
1810.0	[m]	DC	RII
1810.0	[m]	DC	PETROSTR
1820.0	[m]	DC	RII
1830.0	[m]	DC	RII
1830.0	[m]	DC	PETROSTR
1840.0	[m]	DC	RII
1850.0	[m]	DC	RII
1850.0	[m]	DC	PETROSTR
1860.0	[m]	DC	RII
1870.0	[m]	DC	RII
1870.0	[m]	DC	PETROSTR



1880.0	[m]	DC	RII
1890.0	[m]	DC	RII
1890.0	[m]	DC	PETROSTR
1900.0	[m]	DC	RII
1910.0	[m]	DC	RII
1910.0	[m]	DC	PETROSTR
1920.0	[m]	DC	RII
1930.0	[m]	DC	RII
1930.0	[m]	DC	PETROSTR
1940.0	[m]	DC	RII
1940.0	[m]	DC	PETROS
1950.0	[m]	DC	RII
1950.0	[m]	DC	PETROSTR
1960.0	[m]	DC	RII
1970.0	[m]	DC	RII
1970.0	[m]	DC	PETROSTR
1980.0	[m]	DC	RII
1990.0	[m]	DC	RII
1990.0	[m]	DC	PETROSTR
2000.0	[m]	DC	RII
2009.0	[m]	DC	RII
2015.0	[m]	DC	PETROSTR
2021.0	[m]	DC	RII
2030.0	[m]	DC	RII
2033.0	[m]	DC	PETROSTR
2042.0	[m]	DC	RII
2051.0	[m]	DC	PETROSTR
2072.0	[m]	DC	RII
2072.0	[m]	DC	PETROSTR
2081.0	[m]	DC	RII
2090.0	[m]	DC	PETROSTR
2093.0	[m]	DC	RII
2099.0	[m]	DC	RII
2108.0	[m]	DC	PETROSTR
2117.0	[m]	DC	RII
2126.0	[m]	DC	PETROSTR
2135.0	[m]	DC	RII
2144.0	[m]	DC	RII
2144.0	[m]	DC	PETROSTR
2162.0	[m]	DC	RII



2171.0 [m]	DC	RII
2171.0 [m]	DC	PETROSTR
2180.0 [m]	DC	RII
2189.0 [m]	DC	RII
2198.0 [m]	DC	RII
2198.0 [m]	DC	PETROSTR
2207.0 [m]	DC	RII
2216.0 [m]	DC	RII
2216.0 [m]	DC	PETROSTR
2234.0 [m]	DC	RII
2234.0 [m]	DC	PETROSTR
2243.0 [m]	DC	RII
2252.0 [m]	DC	RII
2252.0 [m]	DC	PETROSTR
2261.0 [m]	DC	RII
2261.0 [m]	DC	PETROSTR
2270.0 [m]	DC	RII
2270.0 [m]	DC	PETROSTR
2279.0 [m]	DC	RII
2279.0 [m]	DC	PETROSTR
2288.0 [m]	DC	RII
2288.0 [m]	DC	PETROSTR
2297.0 [m]	DC	RII
2301.0 [m]	DC	PETROSTR
2313.0 [m]	DC	RII
2313.0 [m]	DC	PETROSTR
2319.0 [m]	DC	RII
2325.0 [m]	DC	PETROSTR
2330.0 [m]	DC	PETROS
2333.0 [m]	DC	RII
2337.0 [m]	DC	RII
2340.0 [m]	DC	PETROSTR
2346.0 [m]	DC	PETROS
2349.0 [m]	DC	RII
2352.0 [m]	DC	PETROSTR
2358.0 [m]	DC	PETROS
2361.0 [m]	DC	RII
2364.0 [m]	DC	PETROSTR
2370.0 [m]	DC	RII
2370.0 [m]	DC	PETROSTR



2373.0 [m]	DC	PETROS
2376.0 [m]	DC	PETROS
2382.0 [m]	DC	RII
2382.0 [m]	DC	PETROSTR
2388.0 [m]	DC	RII
2394.0 [m]	DC	PETROSTR
2397.0 [m]	DC	RII
2397.0 [m]	DC	PETROSTR
2403.0 [m]	DC	PETROS
2412.0 [m]	DC	PETROS
2418.0 [m]	DC	PETROS
2424.0 [m]	DC	PETROS
2427.0 [m]	DC	PETROS
2433.0 [m]	DC	PETROS
2439.0 [m]	DC	PETROS
2442.0 [m]	DC	PETROS
2448.0 [m]	DC	PETROS
2454.0 [m]	DC	PETROS
2460.0 [m]	DC	PETROS
2472.0 [m]	DC	PETROS
2478.0 [m]	DC	PETROS
2481.0 [m]	DC	PETROS
2490.0 [m]	DC	PETROS
2496.0 [m]	DC	PETROS
2502.0 [m]	DC	PETROS
2505.0 [m]	DC	PETROS
2517.0 [m]	DC	PETROS
2532.0 [m]	DC	PETROS

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
284	NORDLAND GP
625	HORDALAND GP
625	NO FORMAL NAME
685	NO FORMAL NAME
850	ROGALAND GP
850	BALDER FM
887	LISTA FM



1253	SHETLAND GP
1253	JORSALFARE FM
1299	KYRRE FM
2268	BLODØKS FM
2271	SVARTE FM
2305	CROMER KNOLL GP
2305	RØDBY FM
2332	ÅSGARD FM
2361	VIKING GP
2361	HEATHER FM
2712	BASEMENT

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
2847_1	pdf	0.02
2847_2	pdf	1.43

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
2847_36_4_1_COMPLETION_REPORT_AND_COMPLETION_LOG	pdf	21.18

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CHECKSHOT	710	2717
DSI PEX NGT	1102	2708
PEX HALS ACTS SP	1102	2711
RFT RQPS GR ACTS	1878	2696

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	355.0	36	357.0	0.00	LOT
SURF.COND.	13 3/8	1102.0	17 1/2	1108.0	0.00	LOT
OPEN HOLE		2715.0	12 1/4	2715.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
320	1.05			SEA WATER	
357	1.05			SEA WATER	
442	1.05			WATER BASED MUD	
1108	1.10	20.0		WATER BASED MUD	
1666	1.25	19.0		WATER BASED MUD	
1874	1.25	21.0		WATER BASED MUD	
2031	1.25	26.0		WATER BASED MUD	
2412	1.25	26.0		WATER BASED MUD	
2575	1.29	28.0		WATER BASED MUD	
2716	1.30	28.0		WATER BASED MUD	
2717	1.30	30.0		WATER BASED MUD	

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]
2847 Formation pressure (Formasjonstrykk)	pdf	0.22

