



Generell informasjon





Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 14.5.2024 - 10:16

Brønnbane navn	33/9-17
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Brønn navn	33/9-17
Seismisk lokalisering	E 86 R-93-3D INLINE 497 & CROSSLINE 436
Utvinningstillatelse	172
Boreoperatør	Mobil Exploration Norway INC
Boretillatelse	786-L
Boreinnretning	TREASURE SAGA
Boredager	33
Borestart	02.04.1994
Boreslutt	04.05.1994
Frigitt dato	04.05.1996
Publiseringsdato	18.05.2004
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL SHOWS
Funnbrønnbane	NO
Avstand, boredekk - midlere havflate [m]	26.0
Vanndybde ved midlere havflate [m]	228.0
Totalt målt dybde (MD) [m RKB]	3233.0
Totalt vertikalt dybde (TVD) [m RKB]	3230.0
Maks inklinasjon [°]	5.6
Temperatur ved bunn av brønnbanen [°C]	120
Eldste penetrerte alder	MIDDLE JURASSIC
Eldste penetrerte formasjon	NESS FM
Geodetisk datum	ED50
NS grader	61° 27' 18.58" N
ØV grader	1° 50' 45.79" E
NS UTM [m]	6814193.73
ØV UTM [m]	438481.99
UTM sone	31
NPDID for brønnbanen	2114



Brønnhistorie

General

Well 33/9-17 is located immediately north of the Statfjord field, northwest of the Statfjord Nord field with the Murchison field to the west.

The primary objective of the well was to evaluate the hydrocarbon potential of intra-Draupne sandstone informally named the Munin sandstone unit. It was designed to find commercial hydrocarbons in a structural/stratigraphic play above 3080 meters sub-sea, the interpreted oil/water contact. The secondary objective was to evaluate the Middle Jurassic sandstones of the Brent Group.

Operations and results

Well 33/9-17 was spudded on 2 April 1994 with the semi-submersible rig Treasure Saga and reached a total driller's depth of 3233 m RKB in the Middle Jurassic Brent Group. The well was drilled with seawater and swept with high viscosity mud down to the 12 1/4" section, while KCl/polymer/Glycol mud was used when drilling the 12 1/4" section and to TD.

The Munin sandstone unit (3050 - 3131m) was mostly water bearing with localized hydrocarbon shows. Average water saturation within the reservoir is 89.2%. The unit consisted of 47.3 meters of net reservoir out of a gross interval of 81 meters (N/G = 58.4%). The net reservoir was of excellent quality. Average Munin porosity was 22.6% and permeability was generally over 1 Darcy. The Brent Group (3187 -3233m) has 22.9 meters of good quality reservoir rock from a gross sandstone thickness of 37 meters, but is water bearing. Average porosity for the reservoir rock is 19.7%.

None of the analysed potential source rocks of this well are within the oil window and only limited early generation of hydrocarbons has taken place. The Viking Group claystones do, however, seem to have generated some hydrocarbons. These hydrocarbon products appear to be fairly sulphur-rich.

The best source rocks found in well 33/9-17 are represented by the claystones in the upper and lower sections of the Draupne Formation and in the Munin sandstone unit. These are very rich source rocks and are oil prone. The lower section of the Draupne Formation appears to contain an almost lacustrine assemblage of kerogen.

The Brent Group contains TOC-rich claystones, but they appear to be more gas prone although they could have some oil potential. The Tertiary and Cretaceous sections have at best a fair potential for gas generation although the base of the Cromer Knoll Group grades to the Draupne Formation and could be said to have some potential for oil generation.

Three cores were cut through the Mime Formation of the Cromer Knoll Group and the Draupne Formation of the Viking Group. The last core penetrated some 13 m of the Munin sandstone unit. The Munin sandstone cores had good porosity. An RFT sample taken at 3087 m (logger's depth) in the Munin sandstone unit contained water. RFT formation pressures were obtained in Draupne (Munin sandstone unit), Tarbert Formation and Ness Formation. Traces of oil shows were observed in sandy laminations within claystones of the Draupne Group immediately overlying the Munin sandstones. In the Middle Jurassic Brent Group, no oil shows were observed in sandstones of the Tarbert and Ness Formations and no cores were cut here.

Well 33/9-17 discovered only traces of hydrocarbons within the Munin sandstone unit. These hydrocarbons were not detected during drilling (MWD) but are evident within the whole core (core depths 3045m and 3055m, measured depths 3050.5m and 3060.5m).



Petrophysical analysis confirmed the existence of low oil saturations within the Munin sandstone unit.

The well was plugged and abandoned as a dry hole with oil shows in the Munin sandstone unit on 4 May 1994.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
590.00	3232.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	3029.0	3034.5	[m]
2	3034.5	3041.7	[m]
3	3042.5	3059.1	[m]

Total kjerneprøve lengde [m]	29.3
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



3029-3034m



3034-3035m



3035-3039m



3039-3041m



3042-3047m





3047-3052m 3052-3057m 3057-3059m

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
590.0	[m]	DC	
610.0	[m]	DC	
630.0	[m]	DC	
650.0	[m]	DC	
670.0	[m]	DC	
690.0	[m]	DC	
710.0	[m]	DC	
730.0	[m]	DC	
750.0	[m]	DC	
770.0	[m]	DC	
790.0	[m]	DC	
810.0	[m]	DC	
830.0	[m]	DC	
850.0	[m]	DC	
870.0	[m]	DC	
890.0	[m]	DC	
910.0	[m]	DC	
930.0	[m]	DC	
950.0	[m]	DC	
970.0	[m]	DC	
990.0	[m]	DC	
1010.0	[m]	DC	
1020.0	[m]	DC	
1030.0	[m]	DC	
1040.0	[m]	DC	
1050.0	[m]	DC	
1060.0	[m]	DC	
1070.0	[m]	DC	
1080.0	[m]	DC	
1090.0	[m]	DC	
1100.0	[m]	DC	
1110.0	[m]	DC	
1120.0	[m]	DC	
1130.0	[m]	DC	



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1150.0 [m]	DC	
1170.0 [m]	DC	
1190.0 [m]	DC	
1210.0 [m]	DC	
1230.0 [m]	DC	
1250.0 [m]	DC	
1270.0 [m]	DC	
1290.0 [m]	DC	
1310.0 [m]	DC	
1330.0 [m]	DC	
1350.0 [m]	DC	
1370.0 [m]	DC	
1390.0 [m]	DC	
1410.0 [m]	DC	
1430.0 [m]	DC	
1450.0 [m]	DC	
1470.0 [m]	DC	
1490.0 [m]	DC	
1510.0 [m]	DC	
1530.0 [m]	DC	
1550.0 [m]	DC	
1570.0 [m]	DC	
1590.0 [m]	DC	
1590.0 [m]	DC	
1600.0 [m]	DC	
1610.0 [m]	DC	
1620.0 [m]	DC	
1630.0 [m]	DC	
1640.0 [m]	DC	
1650.0 [m]	DC	
1660.0 [m]	DC	
1670.0 [m]	DC	
1680.0 [m]	DC	
1690.0 [m]	DC	
1710.0 [m]	DC	
1730.0 [m]	DC	
1750.0 [m]	DC	
1770.0 [m]	DC	
1790.0 [m]	DC	
1810.0 [m]	DC	



Faktasider

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1826.0 [m]	SWC	
1840.0 [m]	DC	
1852.5 [m]	SWC	
1866.0 [m]	SWC	
1880.0 [m]	DC	
1890.0 [m]	DC	
1900.0 [m]	DC	
1904.5 [m]	SWC	
1910.0 [m]	DC	
1920.0 [m]	DC	
1930.0 [m]	DC	
1940.0 [m]	DC	
1960.0 [m]	DC	
1985.0 [m]	SWC	
2000.0 [m]	DC	
2020.0 [m]	DC	
2040.0 [m]	DC	
2060.0 [m]	DC	
2083.0 [m]	SWC	
2090.0 [m]	DC	
2100.0 [m]	DC	
2110.0 [m]	DC	
2120.0 [m]	DC	
2140.0 [m]	DC	
2160.0 [m]	DC	
2180.0 [m]	DC	
2200.0 [m]	DC	
2220.0 [m]	DC	
2240.0 [m]	DC	
2260.0 [m]	DC	
2280.0 [m]	DC	
2300.0 [m]	DC	
2320.0 [m]	DC	
2340.0 [m]	DC	
2360.0 [m]	DC	
2380.0 [m]	DC	
2400.0 [m]	DC	
2420.0 [m]	DC	
2440.0 [m]	DC	
2460.0 [m]	DC	



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2480.0	[m]	DC	
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2520.0	[m]	DC	
2540.0	[m]	DC	
2546.0	[m]	SWC	
2560.0	[m]	DC	
2580.0	[m]	DC	
2580.0	[m]	DC	
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2620.0	[m]	DC	
2640.0	[m]	DC	
2660.0	[m]	DC	
2680.0	[m]	DC	
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2720.0	[m]	DC	
2740.0	[m]	DC	
2760.0	[m]	DC	
2780.0	[m]	DC	
2800.0	[m]	DC	
2818.0	[m]	DC	
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2854.0	[m]	DC	
2872.0	[m]	DC	
2890.0	[m]	DC	
2908.0	[m]	DC	
2926.0	[m]	DC	
2944.0	[m]	DC	
2962.0	[m]	DC	
2971.5	[m]	SWC	
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2989.0	[m]	DC	
2995.0	[m]	DC	
2998.0	[m]	DC	
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3005.0	[m]	SWC	
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3013.0	[m]	DC	
3016.0	[m]	DC	
3022.0	[m]	DC	
3022.0	[m]	SWC	



3025.0	[m]	DC	
3026.0	[m]	SWC	
3027.5	[m]	SWC	
3030.0	[m]	C	
3034.0	[m]	C	
3035.0	[m]	C	
3037.0	[m]	C	
3039.0	[m]	C	
3041.0	[m]	C	
3043.8	[m]	C	
3045.8	[m]	C	
3048.0	[m]	SWC	
3053.8	[m]	C	
3057.8	[m]	C	
3059.0	[m]	C	
3061.0	[m]	DC	
3064.0	[m]	DC	
3070.0	[m]	DC	
3076.0	[m]	SWC	
3082.0	[m]	DC	
3090.0	[m]	SWC	
3094.0	[m]	DC	
3097.0	[m]	DC	
3101.0	[m]	SWC	
3109.0	[m]	DC	
3115.0	[m]	DC	
3121.0	[m]	DC	
3127.0	[m]	DC	
3130.0	[m]	DC	
3135.0	[m]	SWC	
3142.0	[m]	DC	
3148.0	[m]	DC	
3151.0	[m]	DC	
3154.0	[m]	DC	
3157.0	[m]	DC	
3160.0	[m]	DC	
3166.0	[m]	DC	
3172.0	[m]	DC	
3178.0	[m]	DC	
3181.0	[m]	DC	



3184.0	[m]	DC	
3187.0	[m]	DC	
3190.0	[m]	DC	
3193.0	[m]	DC	
3199.0	[m]	DC	
3202.0	[m]	DC	
3208.0	[m]	DC	
3213.5	[m]	SWC	
3220.0	[m]	DC	
3226.0	[m]	DC	
3229.0	[m]	DC	
3233.0	[m]	DC	

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
254	NORDLAND GP
947	UTSIRA FM
1105	HORDALAND GP
1668	ROGALAND GP
1668	BALDER FM
1763	LISTA FM
1903	VÅLE FM
1916	SHETLAND GP
1916	JORSALFARE FM
2165	KYRRE FM
2858	TRYGGVASON FM
2930	CROMER KNOLL GP
2930	RØDBY FM
3017	SOLA FM
3022	ÅSGARD FM
3038	VIKING GP
3038	DRAUPNE FM
3050	INTRA DRAUPNE FM SS
3131	DRAUPNE FM
3158	HEATHER FM
3187	BRENT GP
3187	TARBERT FM
3202	NESS FM



Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
2114 33 9 17	pdf	0.59

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
2114 1	pdf	4.56

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
2114 33 9 17 COMPLETION REPORT AND LOG	pdf	286.83

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
AS - CBL VDL	1120	1784
CST GR	1826	3213
DIL SDL LDL CNL AMS GR	572	1795
FMS LDL CNL NGS TCCB AMS	1784	3240
MWD - RGD	255	3233
PI DLL MSFL AS GR	1784	3240
RFT HP GR TCCB AMS	3052	3217
VSP GR	520	3230

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	304.0	36	305.0	0.00	LOT





SURF.COND.	13 3/8	572.0	17 1/2	578.0	0.00	LOT
INTERM.	9 5/8	1782.0	12 1/4	1792.0	0.00	LOT
OPEN HOLE		3233.0	8 1/2	3233.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
257	1.00			WATER BASED	04.05.1994
270	1.50			WATER BASED	02.05.1994
270	1.00			WATER BASED	03.05.1994
270	1.00			WATER BASED	04.05.1994
303	1.00			WATER BASED	05.04.1994
303	1.00			WATER BASED	05.04.1994
422	1.00			WATER BASED	05.04.1994
578	1.00			WATER BASED	08.04.1994
578	1.00			WATER BASED	08.04.1994
578	1.00			WATER BASED	08.04.1994
929	1.26	14.0	12.0	WATER BASED	11.04.1994
1277	1.40	14.0	12.0	WATER BASED	11.04.1994
1645	1.57	30.0	9.2	WATER BASED	02.05.1994
1777	1.47	20.0	25.0	WATER BASED	11.04.1994
1790	1.47	20.0	25.0	WATER BASED	12.04.1994
1790	1.60	19.0	19.0	WATER BASED	13.04.1994
1871	1.60	19.0	19.0	WATER BASED	18.04.1994
2105	1.60	19.0	19.0	WATER BASED	18.04.1994
2105	1.60	26.0	10.4	WATER BASED	18.04.1994
2129	1.56	26.0	10.4	WATER BASED	18.04.1994
2236	1.56	32.0	11.3	WATER BASED	18.04.1994
2428	1.56	32.0	11.3	WATER BASED	18.04.1994
2527	1.56	32.0	11.3	WATER BASED	19.04.1994
2711	1.56	32.0	11.3	WATER BASED	20.04.1994
2814	1.56	32.0	11.3	WATER BASED	21.04.1994
2970	1.56	32.0	11.3	WATER BASED	22.04.1994
3029	1.56	32.0	11.3	WATER BASED	25.04.1994
3036	1.56	32.0	11.3	WATER BASED	25.04.1994
3060	1.56	32.0	11.3	WATER BASED	25.04.1994
3177	1.56	32.0	11.3	WATER BASED	28.04.1994
3233	1.56	32.0	11.3	WATER BASED	28.04.1994



3233	1.56	32.0	11.3	WATER BASED	28.04.1994
3233	1.56	32.0	11.3	WATER BASED	29.04.1994

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]
2114_Formalion_pressure_(Formasjonstrykk)	pdf	0.21

