Generell informasjon

Brønnbane navn	35/11-15 S
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	FRAM H-NORD
Funn	35/11-15 S Fram H-Nord
Brønn navn	35/11-15
Seismisk lokalisering	seismic survey MG0098R01 inline 1115 & crossline 1373
Utvinningstillatelse	090
Boreoperatør	Norsk Hydro Produksjon AS
Boretillatelse	1136-L
Boreinnretning	TRANSOCEAN WINNER
Boredager	89
Borestart	01.04.2007
Boreslutt	28.06.2007
Frigitt dato	28.06.2009
Publiseringsdato	28.06.2009
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	LATE JURASSIC
1. nivå med hydrokarboner, formasjon.	INTRA HEATHER FM SS
Avstand, boredekk - midlere havflate [m]	26.0
Vanndybde ved midlere havflate [m]	363.0
Totalt målt dybde (MD) [m RKB]	3250.0
Totalt vertikalt dybde (TVD) [m RKB]	2987.0
Maks inklinasjon [°]	61.2
Temperatur ved bunn av brønnbanen [°C]	123
Eldste penetrerte alder	MIDDLE JURASSIC
Eldste penetrerte formasjon	HEATHER FM

Geodetisk datum	ED50
NS grader	61° 6' 50.28'' N
ØV grader	3° 31' 19.94'' E
NS UTM [m]	6775754.76
ØV UTM [m]	528143.88
UTM sone	31
NPDID for brønnbanen	5517

Brønnhistorie

General

Well 35/11-15 S is an exploration well in the Fram/Astero area west of the Sognefjord. The well should test the H-Nord prospect in PL090, a 3-way closure located immediately north of the Fram Vest field. The objectives of the well were test the presence and type of hydrocarbons in the Oxfordian Turbidites J56, J54, and J52, and the J45 Callovian Turbidites. The prognosed TD was 3250 m or sufficient depth below Callovian Sandstone to get conclusive data with logging tools. If hydrocarbons were present, the well would be side tracked below the 9 5/8" casing and cores would be cut through the hydrocarbon column in the parallel well bore. An extended wire line-logging program and possibly production testing would be performed in a discovery case. The well actually resulted in five different well tracks. The lithostratigraphy given on this fact page is based on T1, the stratigraphically deepest track.

Operations and results

Well 35/11-15 S was spudded with the semi-submersible installation Transocean Winner on 1 April 2007 and drilled deviated to final TD in the T5 sidetrack at 3250 (2987 m TVD) in the Late Jurassic Heather Formation. The well was drilled as a deviated hole, with an angle of approximately 20 degrees through the reservoir section. After proving hydrocarbons in the target levels the T2 sidetrack kicked off from 2840 m below the 9 5/8" casing and drilled and cored to a total depth of 3213 m in the Heather Fm. A third sidetrack was decided to further appraise a thin oil zone in J56, seen in the T2 track. The two first attempts, T3 and T4, both with kick off at 2060 m were failures. T5 with kick off at 2163 m in T4 was successful. After reaching final TD in T5 severe hole problems occurred with the hole falling in/partially collapsing in the Cromer Knoll Group (2642 - 2660 m) and in the Draupne Formation (2860 - 2900 m). As a result no wire line logs were run below 2640 m in T5. The well was drilled with spud mud down to 467 m and with GLYDRIL KCl/polymer mud from 467 to TD in all well tracks.

Several Tertiary sands without formalised formation names were penetrated. Top Viking Group, Draupne Formation, was encountered at 2697 m (2685.9 m TVD) in T1 and at 2722 m (2684.8 m TVD) in T5. The T1 track proved gas in J56, but the sand development was poor in this location. Oil was proven in J52, and the free water level here was defined at 2941 m TVD. The sidetracked well 35/11-15 S T5 proved oil in J56 in a more favourable position, with well developed sandstones. A probable oil contact was seen at 2950 m TVD. No shows were reported above the Viking Group.

Two cores were cut in T2 from 2928 m to 2980.4 m. Three MDT fluid samples were acquired in T1: a gas sample at 2871.7 m, an oil sample at 2941.0 m, and a water sample at 2970.8 m.

The well was permanently abandoned on 1 July 2007 as an oil and gas discovery.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
565.00	3240.00

Borekaks tilgjengelig for prøvetaking?	YES

Borekjerner i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2928.0	2954.7	[m]
2	2955.0	2980.4	[m]

Total kjerneprøve lengde [m]	52.1
Kjerner tilgjengelig for prøvetaking?	YES

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
595.0	[m]	DC	FUGRO
635.0	[m]	DC	FUGRO
675.0	[m]	DC	FUGRO
715.0	[m]	DC	FUGRO
755.0	[m]	DC	FUGRO
795.0	[m]	DC	FUGRO
835.0	[m]	DC	FUGRO
875.0	[m]	DC	FUGRO
915.0	[m]	DC	FUGRO
955.0	[m]	DC	FUGRO
995.0	[m]	DC	FUGRO
1035.0	[m]	DC	FUGRO
1075.0	[m]	DC	FUGRO
1115.0	[m]	DC	FUGRO
1155.0	[m]	DC	FUGRO
1195.0	[m]	DC	FUGRO
1235.0	[m]	DC	FUGRO
1275.0	[m]	DC	FUGRO
1315.0	[m]	DC	FUGRO
1355.0	[m]	DC	FUGRO
1395.0	[m]	DC	FUGRO
1435.0	[m]	DC	FUGRO
1475.0	[m]	DC	FUGRO
1515.0	[m]	DC	FUGRO
1545.0	[m]	DC	FUGRO
1575.0	[m]	DC	FUGRO

1605.0	[m]	DC	FUGRO
1635.0	[m]	DC	FUGRO
1665.0	[m]	DC	FUGRO
1681.0	[m]	DC	FUGRO
1700.0	[m]	DC	FUGRO
1730.0	[m]	DC	FUGRO
1760.0	[m]	DC	FUGRO
1790.0	[m]	DC	FUGRO
1820.0	[m]	DC	FUGRO
1850.0	[m]	DC	FUGRO
1880.0	[m]	DC	FUGRO
1910.0	[m]	DC	FUGRO
1940.0	[m]	DC	FUGRO
1970.0	[m]	DC	FUGRO
2000.0	[m]	DC	FUGRO
2030.0	[m]	DC	FUGRO
2060.0	[m]	DC	FUGRO
2090.0	[m]	DC	FUGRO
2120.0	[m]	DC	FUGRO
2150.0	[m]	DC	FUGRO
2180.0	[m]	DC	FUGRO
2210.0	[m]	DC	FUGRO
2240.0	[m]	DC	FUGRO
2270.0	[m]	DC	FUGRO
2300.0	[m]	DC	FUGRO
2330.0	[m]	DC	FUGRO
2360.0	[m]	DC	FUGRO
2390.0	[m]	DC	FUGRO
2420.0	[m]	DC	FUGRO
2450.0	[m]	DC	FUGRO
2480.0	[m]	DC	FUGRO
2510.0	[m]	DC	FUGRO
2520.0	[m]	DC	FUGRO
2530.0	[m]	DC	FUGRO
2540.0	[m]	DC	FUGRO
2560.0	[m]	DC	FUGRO
2570.0	[m]	DC	FUGRO
2580.0	[m]	DC	FUGRO
2590.0	[m]	DC	FUGRO
2600.0	[m]	DC	FUGRO

2610.0	[m]	DC	FUGRO
2620.0	[m]	DC	FUGRO
2630.0	[m]	DC	FUGRO
2640.0	[m]	DC	FUGRO
2650.0	[m]	DC	FUGRO
2660.0	[m]	DC	FUGRO
2670.0	[m]	DC	FUGRO
2690.0	[m]	DC	FUGRO
2700.0	[m]	DC	FUGRO
2720.0	[m]	DC	FUGRO
2730.0	[m]	DC	FUGRO
2740.0	[m]	DC	FUGRO
2750.0	[m]	DC	FUGRO
2760.0	[m]	DC	FUGRO
2770.0	[m]	DC	FUGRO
2780.0	[m]	DC	FUGRO
2790.0	[m]	DC	FUGRO
2797.0	[m]	DC	FUGRO
2810.0	[m]	DC	FUGRO
2820.0	[m]	DC	FUGRO
2826.0	[m]	DC	FUGRO
2829.0	[m]	DC	FUGRO
2832.0	[m]	DC	FUGRO
2841.0	[m]	DC	FUGRO
2852.0	[m]	DC	FUGRO
2856.0	[m]	DC	FUGRO
2858.0	[m]	DC	FUGRO
2865.0	[m]	DC	FUGRO
2869.0	[m]	DC	FUGRO
2874.0	[m]	DC	FUGRO
2879.0	[m]	DC	FUGRO
2883.0	[m]	DC	FUGRO
2891.0	[m]	DC	FUGRO
2897.0	[m]	DC	FUGRO
2905.0	[m]	DC	FUGRO
2910.0	[m]	DC	FUGRO
2911.0	[m]	DC	FUGRO
2917.0	[m]	DC	FUGRO
2919.0	[m]	DC	FUGRO
2925.0	[m]	DC	FUGRO

2928.0	[m]	DC	FUGRO
2937.0	[m]	DC	FUGRO
2943.0	[m]	DC	FUGRO
2949.0	[m]	DC	FUGRO
2955.0	[m]	DC	FUGRO
2964.0	[m]	DC	FUGRO
2970.0	[m]	DC	FUGRO
2973.0	[m]	DC	FUGRO
2979.0	[m]	DC	FUGRO
2982.0	[m]	DC	FUGRO
2988.0	[m]	DC	FUGRO
2993.0	[m]	DC	FUGRO
3000.0	[m]	DC	FUGRO
3006.0	[m]	DC	FUGRO
3012.0	[m]	DC	FUGRO
3016.0	[m]	DC	FUGRO
3024.0	[m]	DC	FUGRO
3030.0	[m]	DC	FUGRO
3036.0	[m]	DC	FUGRO
3044.5	[m]	DC	FUGRO
3045.0	[m]	DC	FUGRO
3054.0	[m]	DC	FUGRO
3062.0	[m]	DC	FUGRO
3066.0	[m]	DC	FUGRO
3072.0	[m]	DC	FUGRO
3078.0	[m]	DC	FUGRO
3084.0	[m]	DC	FUGRO
3091.0	[m]	DC	FUGRO
3096.0	[m]	DC	FUGRO
3102.0	[m]	DC	FUGRO
3108.0	[m]	DC	FUGRO
3114.0	[m]	DC	FUGRO
3123.0	[m]	DC	FUGRO
3132.0	[m]	DC	FUGRO
3144.0	[m]	DC	FUGRO
3150.0	[m]	DC	FUGRO
3156.0	[m]	DC	FUGRO
3162.0	[m]	DC	FUGRO
3168.0	[m]	DC	FUGRO
3174.0	[m]	DC	FUGRO

3180.0	[m]	DC	FUGRO
3186.0	[m]	DC	FUGRO
3192.0	[m]	DC	FUGRO
3198.0	[m]	DC	FUGRO
3204.0	[m]	DC	FUGRO
3210.0	[m]	DC	FUGRO
3216.0	[m]	DC	FUGRO
3222.0	[m]	DC	FUGRO
3228.0	[m]	DC	FUGRO
3234.0	[m]	DC	FUGRO
3240.0	[m]	DC	FUGRO

Oljeprøver i Sokkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
MDT		2941.00	0.00	OIL	10.05.2007 - 05:38	YES

Litostratigrafi

Top depth [mMD RKB]	Lithostrat. unit
389	NORDLAND GP
697	UTSIRA FM
786	NO FORMAL NAME
798	HORDALAND GP
1050	NO FORMAL NAME
1094	NO FORMAL NAME
1524	ROGALAND GP
1524	BALDER FM
1589	SELE FM
1644	LISTA FM
1706	NO FORMAL NAME
1714	LISTA FM
1830	NO FORMAL NAME
1890	VÅLE FM
1937	NO FORMAL NAME
1941	VÅLE FM

1947	SHETLAND GP
1947	JORSALFARE FM
2107	KYRRE FM
2470	TRYGGVASON FM
2502	BLODØKS FM
2506	SVARTE FM
2558	CROMER KNOLL GP
2558	RØDBY FM
2623	SOLA FM
2643	ÅSGARD FM
2697	VIKING GP
2697	DRAUPNE FM
2829	HEATHER FM
2930	INTRA HEATHER FM SS
3137	HEATHER FM

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	467.0	36	470.0	0.00	LOT
SURF.COND.	20	528.0	26	530.0	1.25	LOT
INTERM.	13 3/8	1675.0	17 1/2	1680.0	1.31	LOT
INTERM.	9 5/8	2821.0	12 1/4	2825.0	1.74	LOT
OPEN HOLE		3203.0	8 1/2	3203.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
701	1.17	16.0		WATER BASED	
1190	1.25	24.0		WATER BASED	
1657	1.26	24.0		WATER BASED	
1681	1.28	23.0		WATER BASED	
2068	1.24	30.0		WATER BASED	
2163	1.25	28.0		WATER BASED	
2285	1.25	28.0		WATER BASED	
2415	1.32	21.0		WATER BASED	
2619	1.32	23.0		WATER BASED	

2847	1.24	25.0		WATER BASED	
2980	1.24	26.0		WATER BASED	
3013	1.24	28.0		WATER BASED	
3240	1.24	24.0		WATER BASED	
3250	1.25	19.0		WATER BASED	