



Generell informasjon

Brønnbane navn	33/12-4
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	STATFJORD
Funn	33/12-1 Statfjord
Brønn navn	33/12-4
Seismisk lokalisering	LINE MNG 28 SP.380
Utvinningstillatelse	037
Boreoperatør	Mobil Exploration Norway INC
Boretillatelse	130-L
Boreinnretning	NORSKALD
Boredager	62
Borestart	17.05.1975
Boreslutt	17.07.1975
Frigitt dato	17.07.1977
Publiseringsdato	02.12.2014
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	BRENT GP
2. nivå med hydrokarboner, alder	EARLY JURASSIC
2. nivå med hydrokarboner, formasjon	STATFJORD GP
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	146.0
Totalt målt dybde (MD) [m RKB]	2896.0
Temperatur ved bunn av brønnbanen [°C]	99
Eldste penetrerte alder	LATE TRIASSIC
Eldste penetrerte formasjon	STATFJORD GP
Geodetisk datum	ED50
NS grader	61° 14' 19.2" N



ØV grader	1° 53' 27.5" E
NS UTM [m]	6790038.19
ØV UTM [m]	440466.88
UTM sone	31
NPDID for brønnbanen	126

Brønnhistorie

**General**

Well 33/12-3 was drilled on the Statfjord structure in the Tampen Spur area. It was designed to test the erosional escarpment on the east flank of the structure for possible trapping of hydrocarbons in an area downfaulted to the Statfjord Field pay section to the west. Primary objectives of the well were the Early Jurassic Statfjord Group sands and possible Middle Jurassic Brent Formation sands. Well 33/12-3 was junked due to technical problems. The rig was moved 30 m and re-spudded as replacement well 33/12-4.

Operations and results

Appraisal well 33/12-4 was spudded with the semi-submersible installation Nordskald on 17 May and drilled to 2896 m in Late Triassic sediments in the Statfjord Group. The well was drilled with seawater down to 495 m and with water based lignosulphonate mud from 495 m to TD.

The Middle Jurassic Brent Group was encountered at 2675 m, ca 55 m high to prognosis but, as anticipated, well below the Brent oil/water contact of 2609 m (2584 m MSL) in the upthrown block of the field. Scattered poor to fair hydrocarbon indications were noted in the cores but gas readings were low. Average core porosity in the sands is 23 %, ranging from two to 29 %. Measured horizontal permeabilities average 604 mD and range between 0.01 and 2028 mD. The CPI log indicated some 40 feet of prospective net pay with 23 percent average porosity and 53 percent average water saturation.

The top of the Statfjord Group was penetrated at 2757 m, only 2 m low to prognosis. Core 4 at the top of Statfjord recovered sand, siltstones and claystones with no shows. However, poor shows were recorded above and below the cored section. Using a 65% water saturation cut-off Schlumberger's preliminary CPI analysis showed hydrocarbon indications over approximately 7 m of net sand within the Statfjord Group, with porosities ranging between 25 to 30 percent and high water saturations of 59 to 65 percent.

Seven cores were cut. Cores 1 to 4 were cut from 2679.2 m to 2721.3 m, core 5 was cut from 2764.8 m to 2772.5 m, and core 6 and 7 were cut from 2775.5 m to 2790.4 m. No wire line fluid samples were taken.

The well was permanently abandoned on 17 July as an oil appraisal well on the Statfjord Field.

Testing

Two through-casing drill stem test were run to evaluate the best sections of the thin Brent and Statfjord Formation sands. Both tests produced water at a low rate with insignificant amounts of oil and gas:

DST1 tested the interval 2774 to 2778 m at the top of the Statfjord Formation. The test produced 51 m3 water with 3% oil per day. Oil gravity was 32.4 °API. Bottom hole temperature during the test was 95.6 °C.

DST2 tested the interval 2685 to 2688 m in the upper part of the Brent Group. The test produced 65 m3 oil with 5-10% oil per day. Bottom hole temperature during the test was 85 °C.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
495.30	2895.60



Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	8824.0	8837.0	[ft]
2	8837.0	8859.0	[ft]
3	8874.0	8901.0	[ft]
4	8901.0	8928.0	[ft]
5	9071.0	9083.0	[ft]

Total kjerneprøve lengde [m]	30.8
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



8790-8799ft



8799-8802ft



8837-8846ft



8846-8855ft



8855-8859ft



8874-8883ft



8883-8892ft



8892-8901ft



8901-8910ft



8910-8919ft



8919-8928ft



9071-9080ft



9080-9083ft



Palynologiske preparater i Søkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
1720.0	[m]	DC	STAT
7000.0	[ft]	DC	
7090.0	[ft]	DC	
7210.0	[ft]	DC	
7290.0	[ft]	DC	
7400.0	[ft]	DC	
7500.0	[ft]	DC	
7600.0	[ft]	DC	
7700.0	[ft]	DC	
7790.0	[ft]	DC	
7900.0	[ft]	DC	
8000.0	[ft]	DC	
8100.0	[ft]	DC	
8190.0	[ft]	DC	
8310.0	[ft]	DC	
8410.0	[ft]	DC	
8510.0	[ft]	DC	
8600.0	[ft]	DC	
8670.0	[ft]	DC	
8680.0	[ft]	DC	
8690.0	[ft]	DC	
8700.0	[ft]	DC	
8710.0	[ft]	DC	
8882.0	[ft]	C	OD
8899.0	[ft]	C	OD
8915.0	[ft]	C	OD
8915.0	[ft]	DC	OD
8923.0	[ft]	C	OD

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
171	NORDLAND GP
1706	ROGALAND GP
1706	BALDER FM
1766	LISTA FM
1916	SHETLAND GP



2671	VIKING GP
2671	DRAUPNE FM
2673	CROMER KNOLL GP
2675	BRENT GP
2701	DRAKE FM
2776	STATFJORD GP

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
126_GCH_1	pdf	0.54
126_GCH_2	pdf	2.04

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
126_01_WDSS_General_Information	pdf	0.25

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
126_33_12_4_Completion_log	pdf	1.47
126_33_12_4_Completion_Report	pdf	3.33
126_33_12_4_Data_summary_char_Encl_8	pdf	0.21
126_33_12_4_Drilling_program	pdf	1.90
126_33_12_4_Final_geological_summary	pdf	20.97
126_33_12_4_The_biostratigraphy_of_the_interval_1620-9500ft	pdf	1.41
126_33_12_4_The_maturation_and_source_rock_potential	pdf	2.97
126_33_12_4_Well_history_&_operation_report	pdf	5.26

Borestrengtester (DST)





Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	2774	2778	0.0
2.0	2685	2688	0.0

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0				
2.0				

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstygde rel. luft	GOR [m3/m3]
1.0					
2.0					

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CBL	1189	2861
CDM	1635	2886
CDM AP	1635	2886
DLL MSFL	2560	2865
FDC CNL	2537	2891
ISF SON	1635	2889
VELOCITY	1635	2888

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	232.0	36	232.0	0.00	
SURF.COND.	20	480.0	26	495.0	0.00	
INTERM.	13 3/8	1635.0	17 1/2	1646.0	0.00	
INTERM.	9 5/8	2548.0	12 1/4	2550.0	0.00	
PROD.	7	2894.0	8 1/2	2896.0	0.00	



Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm ³]	Viskositet, slam [mPa.s]	Fløtegrense [Pa]	Type slam	Dato, måling
359	1.06	45.0		waterbased	
481	1.07	45.0		waterbased	
1533	1.22	44.0		waterbased	
1725	1.19	40.0		waterbased	
2148	1.56	53.0		waterbased	
2547	1.60	48.0		waterbased	
2895	1.55	44.0		waterbased	