



Generell informasjon

Brønnbane navn	33/9-1
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	33/9-1
Seismisk lokalisering	LINE MNG-28 SP.1-680
Utvinningstillatelse	037
Boreoperatør	Mobil Exploration Norway INC
Boretillatelse	109-L
Boreinnretning	NORSKALD
Boredager	64
Borestart	02.04.1974
Boreslutt	04.06.1974
Frigitt dato	04.06.1976
Publiseringsdato	13.08.2015
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	BRENT GP
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	146.0
Totalt målt dybde (MD) [m RKB]	3126.0
Temperatur ved bunn av brønnbanen [°C]	94
Eldste penetrerte alder	LATE TRIASSIC
Eldste penetrerte formasjon	STATFJORD GP
Geodetisk datum	ED50
NS grader	61° 15' 7.29" N
ØV grader	1° 50' 25.54" E
NS UTM [m]	6791573.15
ØV UTM [m]	437780.23



UTM sone	31
NPDID for brønnbanen	407

Brønnhistorie

General

Well 33/9-1 was drilled on the Statfjord structure. It was the first appraisal well on the structure after well 33/12-1 had discovered oil there in 1973-1974. The primary objective was to test sandstones in the Middle Jurassic Brent Group.

The well is reference well for the Amundsen, Burton, Cook, Drake, Broom, Rannoch, Etive, Tarbert, Heather, and Draupne formations.

Operations and results

Wildcat well 33/9-1 was spudded with the semi-submersible installation Norskald on 2 April 1974 and drilled to TD at 3126 m in Late Triassic sediments of the Statfjord Group.

The target Middle Jurassic Brent Group, Tarbert Formation came in at 2464 m and was oil-bearing down to the OWC at 2584 m in the Etive Formation. The Brent reservoir has 145 m gross pay and 124 m net oil pay. Porosities range from 13.0 to 35.9 percent with the overall average porosity being 25 percent. Average water saturation is 18 percent. Cores taken near top of the reservoir showed porosities up to 37% and permeabilities as high as 4.1 darcy. The Statfjord Group sandstone was penetrated at 2923 m. Statfjord Group sandstone was water wet as expected from the structural position of this well. The sands, however, had very good reservoir qualities with average porosity of 22 percent as calculated from the CPI log.

Two cores were cut in the Tarbert Formation from 2469.2 to 2499.4 m with 18 m recovery (60%) of the total cored interval. No fluid samples were taken on wire line.

The well was permanently abandoned on 4 June 1974 as an oil appraisal.

Testing

Three drill stem tests were performed in the Brent Group.

DST 1 tested the interval 2614.9 to 2616.4 m in the Rannoch Formation. The test produced up to 2226 m³ water /day through a 5/4" choke.

DST 2 tested the interval 2506.1 to 2507.3 m in the Ness Formation. The test produced 220 Sm³ oil /day through a 1/4" choke. The GOR was 142 Sm³/Sm³, the oil gravity was 37.8 °API, and the gas gravity was 0.661.

DST 3 tested the interval 2464.6 to 2473.8 m in the Tarbert Formation. The test produced 230 Sm³ oil /day through a 1/4" choke. The GOR was 161 Sm³/Sm³, the oil gravity was 38.6 °API, and the gas gravity was 0.691.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1620.00	3124.00



Borekaks tilgjengelig for prøvetaking?	NO
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	8101.0	8156.0	[ft]
2	8156.0	8174.5	[ft]

Total kjerneprøve lengde [m]	22.4
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



8101-8156ft



8101-8156ft



8101-8156ft



8156-8174ft



2469-2486m



2469-2486m



2469-2486m



2469-2486m



2469-2486m



2469-2486m



2469-2486m



2469-2486m



2486-2499m



2486-2499m



2486-2499m





2486-2499m

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
7000.0	[ft]	DC	
7100.0	[ft]	DC	
7200.0	[ft]	DC	
7300.0	[ft]	DC	
7400.0	[ft]	DC	
7500.0	[ft]	DC	
7600.0	[ft]	DC	
7690.0	[ft]	DC	
7800.0	[ft]	DC	
7900.0	[ft]	DC	
7980.0	[ft]	DC	
8010.0	[ft]	DC	
8070.0	[ft]	DC	
8190.0	[ft]	DC	
8300.0	[ft]	DC	
8400.0	[ft]	DC	
8490.0	[ft]	DC	
8580.0	[ft]	DC	
8690.0	[ft]	DC	
8790.0	[ft]	DC	
8900.0	[ft]	DC	
8980.0	[ft]	DC	
9090.0	[ft]	DC	
9200.0	[ft]	DC	
9300.0	[ft]	DC	
9400.0	[ft]	DC	
9500.0	[ft]	DC	
9590.0	[ft]	DC	
9700.0	[ft]	DC	
9800.0	[ft]	DC	
9900.0	[ft]	DC	
10000.0	[ft]	DC	
10100.0	[ft]	DC	
10200.0	[ft]	DC	



10250.0 [ft]	DC	
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Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
171	NORDLAND GP
750	UTSIRA FM
821	HORDALAND GP
1661	ROGALAND GP
1661	BALDER FM
1706	SELE FM
1871	SHETLAND GP
2429	CROMER KNOLL GP
2448	VIKING GP
2448	DRAUPNE FM
2452	HEATHER FM
2464	BRENT GP
2464	TARBERT FM
2506	NESS FM
2567	ETIVE FM
2596	RANNOCH FM
2664	BROOM FM
2668	DUNLIN GP
2668	DRAKE FM
2715	COOK FM
2801	BURTON FM
2838	AMUNDSEN FM
2923	STATFJORD GP

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
407_GCH_1	pdf	0.20
407_GCH_2	pdf	1.69

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter





Dokument navn	Dokument format	Dokument størrelse [KB]
407_01_WDSS_General_Information	pdf	0.27

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
407_33_9_1_COMPLETION_LOG	pdf	1.62
407_33_9_1_COMPLETION_REPORT	pdf	5.66

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	2615	2626	12.0
2.0	2506	2507	6.3
3.0	2465	2474	6.3

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0				
2.0				
3.0				

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0					
2.0	220	31000	0.830	0.661	142
3.0	230	37000	0.840	0.691	162

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
BHC	465	3121
CDM	458	3122
CNL GR	2377	2669





DLL SP	1498	2680
FDC CNL	1498	3078
IES	473	3122
IES SP	1551	4957
ML MLL	2377	2685
VELOCITY	465	3121

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	223.0	36	223.0	0.00	
SURF.COND.	20	473.0	26	489.0	0.00	
INTERM.	13 3/8	1497.0	17 1/2	1515.0	0.00	
INTERM.	9 5/8	2676.0	12 1/2	2689.0	0.00	
OPEN HOLE		3126.0	8 1/2	3126.0	0.00	