



Generell informasjon

Brønnbane navn	33/9-11
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Brønn navn	33/9-11
Seismisk lokalisering	
Utvinningstillatelse	037
Boreoperatør	Mobil Exploration Norway INC
Boretillatelse	198-L
Boreinnretning	FERNSTAR
Boredager	73
Borestart	17.06.1978
Boreslutt	28.08.1978
Frigitt dato	28.08.1980
Publiseringsdato	01.07.2004
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	DRY
Funnbrønnbane	NO
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	287.0
Totalt målt dybde (MD) [m RKB]	3528.0
Totalt vertikalt dybde (TVD) [m RKB]	3527.0
Maks inklinasjon [°]	2.4
Temperatur ved bunn av brønnbanen [°C]	99
Eldste penetrerte alder	EARLY JURASSIC
Eldste penetrerte formasjon	STATFJORD GP
Geodetisk datum	ED50
NS grader	61° 29' 26.13" N
ØV grader	1° 52' 46.01" E
NS UTM [m]	6818109.14
ØV UTM [m]	440329.98
UTM sone	31
NPDID for brønnbanen	416



Brønnhistorie

**General**

Wildcat well 33/9-11 was drilled to test the 33/9-Epsilon prospect 6 kilometres north of the 33/9-Beta oil discovery and 10 kilometres northeast of the Murchison Field (UK). The Epsilon structure is a northwest tilted fault block and is expressed as a topographic high at the Kimmerian Unconformity surface. The primary objective was to test the hydrocarbon potential in the Middle Jurassic Brent Sand. The Early Jurassic Statfjord Sand was secondary objective.

Operations and results

Exploration well 33/9-11 was spudded with the semi-submersible installation Fernstar on 17 June 1978. The spud location turned out to be in a 25 m diameter crater in the sea floor. Due to problems with tilting of the temporary guide base two unsuccessful spuds were made before the third and successful spud was made with a modified guide base on 24 June 1978. Final position refers to this hole. The well was drilled with seawater and gel down to 820 m, with KCl polymer mud from 820 m to 1870 m, and with a fresh water/lignosulfonate mud from 1870 m to TD. Diesel and Protectomagic was spotted below 820 m, and from this depth the mud is reported to contain between 4 and 12 % oil. The well was drilled to TD at 3528 m, 91 m into the Early Jurassic Statfjord Formation.

Grey clays and claystone dominated the Tertiary except for the sands in the intervals, 989 to 1034m and 1205 to 1225m. In the Paleocene Balder Formation typical tuffaceous grey and red claystone were present and were also observed above and below the Balder. The Late Cretaceous Shetland Group was comprised of grey and brown claystone and siltstones with only minor sands and carbonates. The electric log pick of the top of the Early Cretaceous Cromer Knoll Group was taken at 3037.8 m. The Early Cretaceous was 58 m thick and consisted of 8.6 m of Barremian limestone at the base and claystone with interbedded marls in the overlying section.

The Late Jurassic Viking Group was encountered at 3096.2 m, 28.8 m high to prognosis. Of the 29.8 m thick shale section the upper 2.8 m was the Draupne Formation and the lower 27 m was the Heather Formation.

The primary objective Brent Group came in at 3126 m. It was 149.6 m thick and had 102 m net sand. The sandstone was argillaceous; medium grained and had fair porosity. Both porosity and permeability were better than in the 33/9-10 well. Brent was water bearing and no shows were seen in the ditch samples. One core was cut from 3134 m to 3152 m. Weak shows were observed in the core in the top of the reservoir from 3134 m to 3136 m, but electric logs indicated the Brent Formation to be water wet. The shows were explained by flushing of the core with diesel and Protectomagic mud. No residual oil was measured in the core plugs. Core porosity averaged 22.2 percent and horizontal liquid permeability averaged 370 mD, ranging up to 1874 mD.

Top Dunlin Group was penetrated at 3275.6 m. It consisted of 161 m silty, micaceous claystone belonging to the Drake Formation. The Statfjord Formation came in at 3436.6 m. The Statfjord sand was kaolinitic, coarse and had fair to good porosity but with several tight calcareous-cemented sand streaks. No shows were seen in the samples and electric log analysis confirmed the Statfjord Formation to be water wet.

The well was permanently abandoned as dry on 28 August 1978.

Testing

No drill stem test was performed.



Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
590.00	3527.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	3134.0	3152.0	[m]

Total kjerneprøve lengde [m]	18.0
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



3134-3136m



3136-3139m



3139-3142m



3142-3144m



3144-3147m



3147-3150m



3150-3152m

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
312	NORDLAND GP
990	UTSIRA FM
1123	HORDALAND GP
1673	ROGALAND GP
1673	BALDER FM



1733	LISTA FM
1893	SHETLAND GP
3038	CROMER KNOLL GP
3096	VIKING GP
3096	DRAUPNE FM
3099	HEATHER FM
3126	BRENT GP
3276	DUNLIN GP
3276	DRAKE FM
3437	STATFJORD GP

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
416	pdf	0.48

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
416_01_WDSS_General_Information	pdf	0.21
416_03_WDSS_lithlog	pdf	0.07

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
416_1_Completion_Report_and_Completion_Log	pdf	4.96

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CAL	830	1873
CDM	1847	3526
CDM AP	1858	3522
DLL MSFL	3047	3526





FDC CNL	1852	3526
ISF SONIC	438	3527
SRS	438	3526

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	437.0	36	440.0	0.00	LOT
SURF.COND.	20	803.0	26	821.0	0.00	LOT
INTERM.	13 3/8	1855.0	17 1/2	1870.0	0.00	LOT
OPEN HOLE		3528.0	8 1/2	3528.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	flytegrense [Pa]	Type slam	Dato, måling
444	1.05			water based	
825	1.10			water based	
1870	1.25			water based	
2404	1.44			water based	
2588	1.49			water based	
2927	1.50			water based	
3192	1.55			water based	
3295	1.57			water based	
3370	1.58			water based	