Generell informasjon

Brønnbane navn	7122/4-1
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	BARENTS SEA
Brønn navn	7122/4-1
Seismisk lokalisering	GFW 3 - 117 SP 1113
Utvinningstillatelse	178
Boreoperatør	Esso Exploration and Production Norway A/S
Boretillatelse	706-L
Boreinnretning	ARCADE FRONTIER
Boredager	62
Borestart	13.11.1991
Boreslutt	13.01.1992
Frigitt dato	13.01.1994
Publiseringsdato	18.05.2004
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	SHOWS
Funnbrønnbane	NO
Avstand, boredekk - midlere havflate [m]	23.5
Vanndybde ved midlere havflate [m]	344.5
Totalt målt dybde (MD) [m RKB]	3015.0
Temperatur ved bunn av brønnbanen [°C]	104
Eldste penetrerte alder	LATE TRIASSIC
Eldste penetrerte formasjon	SNADD FM
Geodetisk datum	ED50
NS grader	71° 44' 50.47'' N
ØV grader	22° 5' 6.39'' E
NS UTM [m]	7961309.50
ØV UTM [m]	537933.23
UTM sone	34
NPDID for brønnbanen	1869

Brønnhistorie

General

Wildcat well 7122/4-1 was drilled in the Northern part of the Hammerfest Basin. The objective of the well was to test the Åsgard prospect, a large, tilted horst with Middle-Lower Jurassic sandstones of the Stø formation as the primary objective. The underlying Nordmela and Tubåen formations were also considered to have potential for reservoired hydrocarbons. The trap was formed by a horst structure dipping towards the North-Northwest. Well 7122/4-1 was the first well on this prospect.

Operations and results

Well 7122/4-1 was spudded with the semi submersible installation Sonate Arcade Frontier on 13 November 1991 and drilled to a total depth of 3015 m in the Triassic Snadd Formation. The well was drilled with seawater and gel down to 815 m, with KCl/polymer from 815 m to 2015 m, and with KCl/NaCl/Polymer from 2015 m to TD.

Good reservoir quality sandstones were encountered in the Stø and Nordmela Formations. Core analysis indicated generally good porosity and permeability. FMT's run in the Stø confirmed good permeability. However, analysis of the wire line logs indicated clearly that the Stø and Nordmela sandstones are water wet. The Tubåen Formation consisted primarily of sandstone, but was very thin in this well. Log analysis indicated that these sandstones are also water wet. Thin, tight sandstones (interbedded with claystone and siltstone) were present through much of the Triassic, generally decreasing in thickness with depth. From 2970 to 2990 m a Carnian sandstone was penetrated. The drill gas was higher through this zone than in any other sandstone in the well, averaging about 0.8 %. The cutting samples showed the reservoir quality to be quite poor, with no visible porosity. Numerous unsuccessful attempts with the FMT tool to obtain a pressure measurement indicated that this zone has extremely low permeability. This was confirmed by the log analysis.

Hydrocarbon shows were first observed in the Early Cretaceous Knurr Formation. There was no fluorescence however a slow, pale milky-white cut was received from the claystone. At 2240 m in the Hekkingen Formation there was again no direct fluorescence, but with a milky-white cut being present. The Hekkingen is quite rich and is a good source rock. Residual hydrocarbon shows are present throughout the Stø and Nordmela Formations. The fluorescence varies from white to yellow and green in colour. The cuts also vary, from milky-white to yellow-white and to greenish. The differences in colour possibly represent variations in the gravity of the residual hydrocarbons. No shows were observed in the Carnian sandstone apart from the elevated drill gas.

Geochemical analysis indicated that the Hekkingen Formation contains rich organic matter with fair to good potential for a mixed gas/oil generation. Poor to fair potential for generating gas exists in parts of the Knurr, Nordmela and Fruholmen formations. The pore pressure remained at 9.1 ppg EMW until approximately 2175 m, just above the top of the Jurassic. From this depth the pore pressure increased to just over 10 ppg EMW, at approximately 2250 m. The pressure then decreased to, and remained at, 9.5 ppg EMW. The top of the organic rich, Jurassic, Hekkingen Formation roughly coincides with the interpreted increase in pore pressure. Four conventional cores were cut, starting 7 meters into the Stø at 2333 m and continuing to 2410 m, 24 m into the Nordmela Formation. One FMT sample consisting predominantly of mud filtrate was obtained at 2327.5 m.

The well was permanently abandoned on 13 January 1992 as a dry hole with shows.

Testing

No drill stem test was performed

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
820.00	3015.00

Borekaks tilgjengelig for prøvetaking?	YES

Borekjerner i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2333.0	2351.0	[m]
2	2339.0	2357.0	[m]
3	2357.0	2381.6	[m]
4	2382.0	2410.0	[m]

Total kjerneprøve lengde [m]	88.6
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder


2333-2338m


2338-2343m


2343-2345m


2345-2350m


2350-2355m


2355-2357m


2357-2362m


2362-2367m


2367-2372m


2372-2377m


2377-2382m


2382-2383m


2382-2387m


2387-2392m


2392-2397m


2397-2402m


2402-2407m


2407-2410m

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
850.0	[m]	SWC	
869.0	[m]	SWC	
875.0	[m]	SWC	
910.0	[m]	SWC	
930.0	[m]	SWC	
970.0	[m]	DC	
1000.0	[m]	SWC	
1050.0	[m]	DC	
1100.0	[m]	DC	
1155.0	[m]	SWC	
1175.0	[m]	DC	
1200.0	[m]	DC	
1250.0	[m]	DC	
1300.0	[m]	SWC	
1380.0	[m]	SWC	
1548.0	[m]	SWC	
1570.0	[m]	DC	
1600.0	[m]	DC	
1630.0	[m]	DC	
1658.0	[m]	SWC	
1690.0	[m]	DC	
1720.0	[m]	DC	
1750.0	[m]	SWC	
1790.0	[m]	SWC	
1803.0	[m]	SWC	
1805.0	[m]	SWC	
1810.0	[m]	SWC	
1850.0	[m]	SWC	

1955.0	[m]	SWC	
1974.0	[m]	SWC	
2000.0	[m]	SWC	
2026.5	[m]	SWC	
2075.0	[m]	SWC	
2118.0	[m]	SWC	
2148.0	[m]	SWC	
2150.0	[m]	DC	
2165.0	[m]	DC	
2180.0	[m]	DC	
2185.0	[m]	DC	
2200.0	[m]	SWC	
2224.0	[m]	SWC	
2240.0	[m]	DC	
2260.0	[m]	DC	
2287.0	[m]	SWC	
2290.0	[m]	DC	
2296.0	[m]	SWC	
2303.0	[m]	SWC	
2317.0	[m]	SWC	
2330.0	[m]	DC	
2342.0	[m]	DC	
2363.0	[m]	C	
2364.8	[m]	C	FUGRO
2386.0	[m]	C	
2389.3	[m]	C	FUGRO
2397.0	[m]	C	
2398.3	[m]	C	FUGRO
2409.8	[m]	C	FUGRO
2410.0	[m]	C	
2430.0	[m]	DC	
2450.0	[m]	DC	
2475.0	[m]	SWC	
2512.0	[m]	SWC	
2529.5	[m]	SWC	
2560.0	[m]	DC	
2590.0	[m]	DC	
2625.5	[m]	SWC	
2645.0	[m]	DC	
2701.0	[m]	SWC	

2715.0	[m]	DC	
2745.0	[m]	DC	
2745.0	[m]	DC	
2775.0	[m]	DC	
2792.5	[m]	SWC	
2835.0	[m]	DC	
2853.0	[m]	SWC	
2865.0	[m]	DC	
2895.0	[m]	DC	
2925.0	[m]	DC	
2948.0	[m]	SWC	
2955.0	[m]	DC	
2978.0	[m]	DC	
3000.0	[m]	DC	
3015.0	[m]	DC	

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
368	NORDLAND GP
500	SOTBAKKEN GP
500	TORSK FM
820	NYGRUNNEN GP
820	KVITING FM
910	ADVENTDALEN GP
910	KOLMULE FM
1887	KOLJE FM
2112	KNURR FM
2225	HEKKINGEN FM
2297	FUGLEN FM
2326	KAPP TOSCANA GP
2326	STØ FM
2386	NORDMELA FM
2430	TUBÅEN FM
2464	FRUHOLMEN FM
2635	SNADD FM

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
1869	pdf	0.47

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
1869_1	pdf	2.63

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
1869_01_WDSS_General_Information	pdf	0.39
1869_02_WDSS_completion_log	pdf	0.18

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
1869_7122_4_1_COMPLETION_REPORT_AND_LOG	pdf	20.65

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CBL	1550	1983
CN ZDL GR SP CAL	1983	3012
DIFL AC ZDL GR SP CAL	804	2004
DIPLOG	1983	3012
DLL MLL LSAC GR SP CAL	1983	3012
FMT GR	2441	3005
MWD	404	815
SWC	850	2000
SWC	2026	3012
ZOVSP	812	3000

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	403.7	36	405.0	0.00	LOT
INTERM.	13 3/8	804.0	17 1/2	806.0	1.64	LOT
INTERM.	9 5/8	1985.6	12 1/4	1986.0	0.00	LOT
OPEN HOLE		3015.0	8 1/2	3015.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
1676	1.32	22.0		WATER BASED	
1678	1.26	18.0		WATER BASED	
1886	1.33	20.0		WATER BASED	
1966	1.33	22.0		WATER BASED	
2015	1.35	20.0		WATER BASED	
2073	1.31	19.0		WATER BASED	
2116	1.30	21.0		WATER BASED	
2327	1.30	22.0		WATER BASED	
2342	1.30	20.0		WATER BASED	
2345	1.30	21.0		WATER BASED	
2372	1.30	20.0		WATER BASED	
2382	1.30	20.0		WATER BASED	
2410	1.30	21.0		WATER BASED	
2450	1.30	19.0		WATER BASED	
2508	1.30	19.0		WATER BASED	
2579	1.30	19.0		WATER BASED	
2648	1.30	20.0		WATER BASED	
3000	1.26	22.0		WATER BASED	
3015	1.26	20.0		WATER BASED	

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]
1869_Formation_pressure_(Formasjonstrykk)	pdf	0.28