



Generell informasjon

Brønnbane navn	25/2-11
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	HUGIN
Funn	25/2-10 S Hugin
Brønn navn	25/2-11
Seismisk lokalisering	8504 - 328 SP. 10253
Utvinningstillatelse	112
Boreoperatør	Elf Petroleum Norge AS
Boretillatelse	536-L
Boreinnretning	NORTRYM
Boredager	80
Borestart	20.02.1987
Boreslutt	10.05.1987
Frigitt dato	10.05.1989
Publiseringsdato	17.12.2003
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	EARLY MIOCENE
1. nivå med hydrokarboner, formasjon.	NO FORMAL NAME
2. nivå med hydrokarboner, alder	EOCENE
2. nivå med hydrokarboner, formasjon	FRIGG FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	118.0
Totalt målt dybde (MD) [m RKB]	2075.0
Totalt vertikalt dybde (TVD) [m RKB]	2071.0
Maks inklinasjon [°]	7.3
Temperatur ved bunn av brønnbanen [°C]	58
Eldste penetrerte alder	EOCENE



Eldste penetrerte formasjon	FRIGG FM
Geodetisk datum	ED50
NS grader	59° 52' 27.86" N
ØV grader	2° 30' 59.58" E
NS UTM [m]	6637677.85
ØV UTM [m]	472930.94
UTM sone	31
NPDID for brønnbanen	1036

Brønnhistorie

General

Well 25/2-11 was the second well to be drilled on the East Frigg Gamma structure in the Viking Graben. Seismic anomalies indicated shallow gas in the area. The well was primarily designed to test the reservoir productivity of the Frigg Formation. Secondly to test for possible gas accumulation in Late Oligocene sands which might represent a continuation of the gas-bearing sands encountered in the 25/2-10 well, which due to technical problems had to be abandoned without logging and testing. TD was prognosed to be 2075 m, the Frigg Formation at 1930 m and the Oligocene sands at 1005 m.

Operations and results

Appraisal well 25/2-11 was spudded 20 February 1987 by Golar-Nor offshore semi-submersible rig Nordtrym and drilled to TD at 2075 m in rocks of Eocene age. Due to the seismic anomalies that indicated shallow gas, the well was spudded 100 m north of the original location.

Hard calcite cemented sands were encountered in Miocene where unconsolidated sands were prognosed. This caused 17 extra days of drilling, under-reaming and sidetracking. Top Oligocene was penetrated 20 m below prognosed depth, and top Frigg formation came 20 m below prognosis. Both targets proved to be hydrocarbon bearing. The main hydrocarbon-bearing reservoir encountered in Oligocene was a sand-lense at 1105.5 - 1111.5 m (1079.8 - 1085.8 MSL). Post-well gas chromatographic analyses of core chip extracts from Oligocene (1051 m and 1107 m) showed extensively biodegraded oil. The Frigg Formation oil/water contact was encountered at 1975 m, and gas/oil contact at 1960 m.

Coring commenced from 1950 m to 1986 m with 50% recovery. Three runs to sample the oil from the Oligocene reservoir interval 1105.5 m to 1111.5 m were made by RFT through casing. No hydrocarbons were recovered. A RFT sample from 1967 m in the Frigg Formation recovered mud filtrate with traces of oil.

The well was plugged and abandoned on 10 may 1987 as a gas and oil appraisal.

Testing

The instability of shales on top of the Frigg formation excluded open hole testing, and a 7" liner had to be set and perforated for testing purposes. Three DSTs were attempted in the interval 1950 m to 1955 m. The two first did not produce but DST3 was successful, producing at maximum 666000 Sm³ gas /day with a 64/64 choke and WHP = 60 bar.



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
240.00	2075.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
2	1951.0	1969.0	[m]
3	1969.0	1969.9	[m]
4	1973.0	1975.0	[m]

Total kjerneprøve lengde [m]	20.9
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



1951-1956m



1956-1961m



1961-1966m



1966-1969m



1973-1975m

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
143	NORDLAND GP
476	UTSIRA FM
521	UNDIFFERENTIATED
1025	HORDALAND GP
1046	SKADE FM
1262	NO FORMAL NAME
1353	NO FORMAL NAME
1450	NO FORMAL NAME



1950 [FRIGG FM](#)

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
1036	pdf	0.31

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
1036_1	pdf	0.46

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
1036_01_WDSS_General_Information	pdf	0.44
1036_02_WDSS_completion_log	pdf	0.15

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
1036_25_2_11_COMPLETION_REPORT_AND_LOG	pdf	4.87

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsventil størrelse [mm]
1.0	1958	1953	25.4

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0	15.000	6.000	18.000	61





Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstygde rel. luft	GOR [m3/m3]
1.0		666000		0.600	

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
BGT	229	780
CBL VDL	50	1208
CBL VDL	890	1930
CST	1047	1210
CST	1245	1565
CST	1950	2055
DIL LSS GR	229	800
DIL LSS GR	764	1226
DIL LSS GR	1214	1940
DIL LSS GR	1935	2074
DLL MSFL GR	900	1200
DLL MSFL GR	1935	2071
LDT CNL NGT	764	1226
LDT CNL NGT	1935	2073
LDT GR	1214	1940
MWD	143	1958
RFT	0	0
RFT	1954	2040
SHDT GR	764	1221

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	229.0	36	357.0	0.00	LOT
SURF.COND.	20	765.0	26	808.0	1.38	LOT
INTERM.	13 3/8	1214.0	17 1/2	1324.0	1.52	LOT
INTERM.	9 5/8	1936.0	12 1/4	1962.0	1.58	LOT
LINER	7	2075.0	8 1/2	2075.0	0.00	LOT



Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
621	1.09	27.0	8.8	WATER BASED	27.02.1987
658	1.09	29.0	8.8	WATER BASED	02.03.1987
678	1.10	32.0	10.7	WATER BASED	02.03.1987
746	1.11	29.0	9.8	WATER BASED	02.03.1987
782	1.05	17.0	9.3	WATER BASED	18.03.1987
785	1.11	28.0	9.8	WATER BASED	05.03.1987
800	1.11	27.0	8.8	WATER BASED	05.03.1987
808	1.05	17.0	7.8	WATER BASED	19.03.1987
840	1.05	17.0	6.8	WATER BASED	23.03.1987
917	1.06	19.0	8.8	WATER BASED	23.03.1987
973	1.07	20.0	6.3	WATER BASED	23.03.1987
1055	1.07	22.0	5.8	WATER BASED	24.03.1987
1073	1.06	23.0	4.9	WATER BASED	25.03.1987
1230	1.07	22.0	6.8	WATER BASED	26.03.1987
1324	1.08	22.0	4.9	WATER BASED	03.04.1987
1508	1.10	23.0	2.9	WATER BASED	06.04.1987
1632	1.15	26.0	5.8	WATER BASED	06.04.1987
1900	1.17	36.0	7.8	WATER BASED	06.04.1987
1947	1.18	35.0	6.8	WATER BASED	07.04.1987

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]
1036 Formation pressure (Formasjonstrykk)	pdf	0.19

