



Generell informasjon

Brønnbane navn	25/2-1
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	ØST FRIGG
Funn	25/2-1 Øst Frigg
Brønn navn	25/2-1
Seismisk lokalisering	LINE 71223 SP 260
Utvinningstillatelse	026
Boreoperatør	Elf Petroleum Norge AS
Boretillatelse	90-L
Boreinnretning	NEPTUNE 7
Boredager	49
Borestart	04.08.1973
Boreslutt	21.09.1973
Frigitt dato	21.09.1975
Publiseringsdato	29.06.2004
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	GAS
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	EOCENE
1. nivå med hydrokarboner, formasjon.	FRIGG FM
Avstand, boredekk - midlere havflate [m]	24.0
Vanndybde ved midlere havflate [m]	104.0
Totalt målt dybde (MD) [m RKB]	2740.0
Temperatur ved bunn av brønnbanen [°C]	88
Eldste penetrerte alder	LATE CRETACEOUS
Eldste penetrerte formasjon	HARDRÅDE FM
Geodetisk datum	ED50
NS grader	59° 55' 30.2" N
ØV grader	2° 23' 2" E
NS UTM [m]	6643380.27
ØV UTM [m]	465555.66



UTM sone	31
NPDID for brønnbanen	353

Brønnhistorie

General

The 25/2-1 well was drilled on the top of the eastern structure on the WSW-ENE trend of the Frigg Field. The objective of this well was the lower tertiary sands, especially Eocene, which are equivalent to the gas - bearing sand section in the western Frigg wells. Their thickness range around 100 m according to the seismic. Sandy interbeds in the upper part of the cretaceous chalk were considered secondary objective.

Operations and results

Well 25/2-1 was spudded with the semi-submersible installation Neptune 7 on 4 August 1973 and drilled to TD at 2740 m in the Late Cretaceous Hardråde Formation.

Top Frigg sand was found at 1915 m, only 8 meters above the average seismic estimate. As expected, the Frigg sand body was found underlying the Eocene green and brown-red shales. The net sands are 88 m thick with excellent reservoir qualities (30 % to 24 % on the cores). The top of the reservoir stands 7 m deeper than in well 25/1-1. The net pay zone in the Frigg Formation includes 56 m of gas bearing and seven m of oil bearing sand. The gas/oil interface at 1971 m was found exactly at the same depth as in the Frigg Field. Two wire-line tests were performed in the gas-zone at 1973 m and 1974 m. The second of these was plugged by sand. A Third wire line test in the transition zone at 1985 m produced some oil with 70% salt water (35 g/l). Paleocene reservoirs below Frigg were of very good quality too, but all Sands below the Frigg Formation were found water wet. Only very weak shows were recorded in the Paleocene (Hermod Formation), the Danian (Ty Formation) and Maastrichtian (Hardråde Formation). Two cores were cut in the Frigg Formation, the first in the interval 1950 m to 1968 m, and the second in the interval 1973 m to 1991 m.

Testing

An open hole test was carried out from 1926 to 1938 m Just after setting the 9" 5/8 casing at 1907 m in order to check a new type of sand screen to be used in further development wells. The test produced 638000 Sm³ gas and minor condensate/day through a 3/4" choke. Produced GOR was 157000 Sm³/Sm³ with a stock tank liquid density of 0.84 g/cm³.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
470.00	2740.00

Borekaks tilgjengelig for prøvetaking?	NO
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Borekjerter i Sokkeldirektoratet



Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	1950.0	1966.3	[m]
2	1984.2	1991.0	[m]

Total kjerneprøve lengde [m]	23.1
Kjerner tilgjengelig for prøvetaking?	NO

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
1840.0	[m]	DC	
1860.0	[m]	DC	
1870.0	[m]	DC	
1880.0	[m]	DC	
1890.0	[m]	DC	
1900.0	[m]	DC	
1927.0	[m]	DC	
2005.0	[m]	DC	
2025.0	[m]	DC	
2045.0	[m]	DC	
2065.0	[m]	DC	
2080.0	[m]	DC	
2100.0	[m]	DC	
2120.0	[m]	DC	
2140.0	[m]	DC	
2165.0	[m]	DC	
2185.0	[m]	DC	
2205.0	[m]	DC	
2225.0	[m]	DC	
2245.0	[m]	DC	
2265.0	[m]	DC	
2285.0	[m]	DC	
2305.0	[m]	DC	
2325.0	[m]	DC	
2355.0	[m]	DC	
2375.0	[m]	DC	
2395.0	[m]	DC	
2415.0	[m]	DC	



2435.0	[m]	DC	
2455.0	[m]	DC	
2475.0	[m]	DC	
2495.0	[m]	DC	
2515.0	[m]	DC	
2535.0	[m]	DC	
2545.0	[m]	DC	

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
127	NORDLAND GP
411	UTSIRA FM
1021	HORDALAND GP
1085	SKADE FM
1089	NO FORMAL NAME
1424	GRID FM
1442	NO FORMAL NAME
1915	FRIGG FM
2003	NO FORMAL NAME
2035	ROGALAND GP
2035	INTRA BALDER FM SS
2146	BALDER FM
2188	HERMOD FM
2360	LISTA FM
2385	VÅLE FM
2538	TY FM
2552	VÅLE FM
2557	TY FM
2653	SHETLAND GP
2653	HARDRÅDE FM

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
353	pdf	0.30





Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
353_01_WDSS_General_Information	pdf	0.26

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
353_10_Sedimentological_study_of_the_base_of_the_tertiary	pdf	2.80
353_11_Sidewall_cores_description	pdf	1.58
353_12_Thermodynamic_study_and_physical_properties	pdf	4.52
353_1_Completion_Report_&_Completion_log	pdf	3.55
353_2_Geological_report	PDF	8.54
353_3_Analyse_des_gas_preleves	pdf	0.51
353_4_Core_description	pdf	0.35
353_5_Fit_puits	pdf	3.51
353_6_Mesures_petrophysical_sur_les_carottes_du_puits	pdf	0.33
353_7_Palynological_study_on_lower_tertiary	pdf	0.98
353_8_Rapport_chronologique_des_operations_realisees_du_24	pdf	1.53
353_9_Results_des_essais_sur_le_reservoir_a_gas_eocene	pdf	1.20

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsventil størrelse [mm]
1.0	1926	1938	19.0

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningsstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0		19.600		





Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0	4	637975		0.840	157000

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CBL	400	1904
CNL GR	1904	1945
DLL	1904	2737
FDC CNL GR	1904	2737
HDT	1904	2737
IES	448	1909
IES	1904	1945
ML MLL	1904	2737
SL GR	448	1909
SL GR	1904	2737
SWC	1908	2455
SWC	2223	2730
VSP	500	2720

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	162.0	36	164.0	0.00	LOT
INTERM.	13 3/8	448.0	17 1/2	460.0	0.00	LOT
INTERM.	9 5/8	1907.0	12 1/4	1913.0	0.00	LOT
OPEN HOLE		2740.0	8 1/2	2740.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
460	1.05	120.0		water based	
826	1.29	59.0	10.0	water based	
1913	1.23	50.0	17.0	water based	
1950	1.24	47.0	12.0	water based	



2528	1.26	52.0	10.0	water based	
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Tynnslip i Sökkeldirektoratet

Dybde	Enhet
1952.00	[m]

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]
353_Formalion_pressure_(Formasjonstrykk)	pdf	0.21

