



Generell informasjon

Brønnbane navn	1/3-6
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	OSELVAR
Funn	1/3-6 Oselvar
Brønn navn	1/3-6
Seismisk lokalisering	LINJE SH 8902 - 161 SP436
Utvinningstillatelse	065
Boreoperatør	Elf Petroleum Norge AS
Boretillatelse	669-L
Boreinnretning	DYVI STENA
Boredager	104
Borestart	11.03.1991
Boreslutt	22.06.1991
Frigitt dato	22.06.1993
Publiseringsdato	19.12.2007
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	GAS/CONDENSATE
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	PALEOCENE
1. nivå med hydrokarboner, formasjon.	FORTIES FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	72.0
Totalt målt dybde (MD) [m RKB]	3586.0
Totalt vertikalt dybde (TVD) [m RKB]	3584.0
Maks inklinasjon [°]	4.5
Temperatur ved bunn av brønnbanen [°C]	142
Eldste penetrerte alder	LATE CRETACEOUS
Eldste penetrerte formasjon	HOD FM
Geodetisk datum	ED50
NS grader	56° 56' 14.92" N



ØV grader	2° 42' 20.81" E
NS UTM [m]	6310606.04
ØV UTM [m]	482095.98
UTM sone	31
NPDID for brønnbanen	1521

Brønnhistorie

**General**

Well 1/3-6 is located between the Gyda, Ula, and Blane fields in the Central Graben of the Norwegian North Sea.

The primary objective was Late Jurassic Ula sands deposited as a rim syncline linked to salt diapirism. The Ula sands had been found hydrocarbon bearing in several wells in the surrounding blocks. Secondary objective was Late Paleocene "Cod sands" (Forties Formation), which could be present in the 1/3-6 area and could pinch out towards the diapir. The prognosed TD was 5030 m below MSL. The "Cod sands" were considered a low-probability target.

Operations and results

Wildcat well 1/3-6 was spudded with the semi-submersible installation Dyvi Stena on 11 March 1991. Drilling performance went on without significant problems but the primary target of the well was not reached. The discovery of a significant hydrocarbon-bearing reservoir in the Paleocene activated the contingency measures of the programme (to set an extra 11 3/4" liner). For safety and technical reasons, and to allow for a proper test of the Paleocene, the well was stopped at 3586 m in the Late Cretaceous Hod Formation. No shallow gas was encountered while drilling. The well was drilled with a KCl polymer mud.

The well encountered 85 m of hydrocarbon bearing Forties sands at 2913.5 m. The pay zone was 44 m thick with a hydrocarbon saturation of 56 %. No hydrocarbon-water contact was found. Apart from the hydrocarbons in the Forties sands oil shows were also recorded from 3519 to 3530 m in the Tor Formation.

One conventional core was cut at 2921 m to 2928.5 m in the Forties sands. Segregated fluid samples were taken at three depths: 2923 m (filtrate and gas), 2937 m (filtrate and gas), and two samples at 2973.5 m (filtrate and gas in one and filtrate only in the other).

The well was permanently abandoned on 22 June 1991 as a gas-condensate discovery.

Testing

Three DST tests were performed. DST 1A and DST 1B both tested the interval 2960.5 - 2977 m. Due to packer failure

during DST 1A this test was abnormally terminated and the re-test DST 1B was performed. DST 1B produced 78 Sm³ oil and 93300 Sm³ gas /day through a 44/64" choke in the final flow period. The GOR was 1196 Sm³/Sm³. The bottom hole temperature in this flow was 107.2 deg C.

DST 2 tested the intervals 2913 - 2924 m + 2929 - 2953 m. The final flow in DST 2 was 153 Sm³ oil and 172500 Sm³ gas /day through a 48/64" choke. The GOR was 1131 Sm³/Sm³ and the condensate gravity was measured to 50.47 deg API. The pressure drawdown in this flow was 290 bar and the bottom hole temperature was 112.2 deg C. The maximum temperature in DST 2 was 123.1 deg C and was recorded in the flow with the lowest rates and lowest drawdown. It was believed to be closer to the true formation temperature than the one recorded in DST 1B.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1220.00	3585.00



Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerner i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2921.0	2928.5	[m]

Total kjerneprøve lengde [m]	7.5
Kjerner tilgjengelig for prøvetaking?	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
97	NORDLAND GP
1600	HORDALAND GP
2823	ROGALAND GP
2823	BALDER FM
2836	SELE FM
2914	FORTIES FM
2999	VÅLE FM
3103	SHETLAND GP
3103	EKOFISK FM
3201	TOR FM
3530	HOD FM

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
1521_1	pdf	0.14
1521_2	pdf	0.82

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
1521_01_WDSS_General_Information	pdf	24.16





1521_02_WDSS_completion_log	pdf	0.19
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Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
1521_1_3_6_COMPLETION_LOG	pdf	2.54
1521_1_3_6_COMPLETION_REPORT	pdf	33.95

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	2961	2977	17.5
2.0	2913	2953	15.8

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningsstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0		3.000		107
2.0		6.800		112

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0	78	93300	0.780	0.780	1196
2.0	153	172500	0.771	0.735	1131

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
DIT-D SLS MSFL GR	2860	3153
DIT-E SLS GR	2860	3590
DLL MSFL GR	2860	3100
FMS GR	2860	3591
LDL CNL GR	2860	3591
LDL CNL GR	2860	3155
LDL CNL GR	2902	3017





MWD - GR RES DIR	186	3586
RFT-B GR	2915	2961
RFT-B HP GR	2916	3360
VSP	905	3575

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	183.0	36	185.0	0.00	LOT
INTERM.	20	2000.0	26	2003.0	1.80	LOT
INTERM.	13 3/8	2861.0	17 1/2	2864.0	2.13	LOT
LINER	9 5/8	3062.0	12 1/4	3065.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
361	1.03			WATER BASED	
550	1.03			WATER BASED	
857	1.55	20.0		WATER BASED	
1255	1.39	38.0		WATER BASED	
1573	1.50	37.0		WATER BASED	
1600	1.55	22.0		WATER BASED	
1820	1.70	41.0		WATER BASED	
1925	1.74	56.0		WATER BASED	
1930	1.75	52.0		WATER BASED	
2070	1.75	63.0		WATER BASED	
2210	1.75	72.0		WATER BASED	
2263	1.75	47.0		WATER BASED	
2356	1.75	40.0		WATER BASED	
2503	1.75	43.0		WATER BASED	
2589	1.75	55.0		WATER BASED	
2651	1.75	58.0		WATER BASED	
2673	1.75	46.0		WATER BASED	
2680	1.75	52.0		WATER BASED	
2683	1.75	35.0		WATER BASED	
2715	1.55	28.0		WATER BASED	
2731	1.75	48.0		WATER BASED	



2800	1.75	48.0		WATER BASED	
2846	1.75	62.0		WATER BASED	
2850	1.75	27.0		WATER BASED	
2851	1.75	45.0		WATER BASED	
2859	1.43	4.0		WATER BASED	
2863	1.75	53.0		WATER BASED	
2870	1.75	45.0		WATER BASED	
2880	1.75	25.0		WATER BASED	
2888	1.43	4.0		WATER BASED	
2921	1.75	33.0		WATER BASED	
2928	1.75	34.0		WATER BASED	
2958	1.43	4.0		WATER BASED	
2958	1.43	4.0		WATER BASED	
2959	1.43			WATER BASED	
2994	1.75	30.0		WATER BASED	
3015	1.40			WATER BASED	
3060	1.55	46.0		WATER BASED	
3061	1.75	43.0		WATER BASED	
3064	1.55	33.0		WATER BASED	
3110	1.75	44.0		WATER BASED	
3150	1.55	23.0		WATER BASED	
3157	1.75	28.0		WATER BASED	
3176	1.64	25.0		WATER BASED	
3200	1.55	30.0		WATER BASED	
3210	1.60	24.0		WATER BASED	
3270	1.55	29.0		WATER BASED	
3300	1.55	33.0		WATER BASED	
3326	1.55	30.0		WATER BASED	
3344	1.55	31.0		WATER BASED	
3388	1.55	30.0		WATER BASED	
3391	1.55	30.0		WATER BASED	
3465	1.55	34.0		WATER BASED	
3529	1.55	32.0		WATER BASED	
3554	1.55	34.0		WATER BASED	
3573	1.55	42.0		WATER BASED	
3586	1.50			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]
1521 Formation pressure (Formasjonstrykk)	pdf	0.21

