



Generell informasjon

Brønnbane navn	31/7-2 S
Type	EXPLORATION
Formål	APPRAISAL
Status	PLUGGED
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Funn	31/7-1 (Brasse)
Brønn navn	31/7-2
Seismisk lokalisering	Inline 2230. Xline 2680 (LN11M03)
Utvinningstillatelse	740
Boreoperatør	Faroe Petroleum Norge AS
Boretillatelse	1658-L
Boreinnretning	DEEPSEA BERGEN
Boredager	45
Borestart	24.05.2017
Boreslutt	08.07.2017
Plugget dato	07.07.2017
Frigitt dato	08.07.2019
Publiseringsdato	07.07.2019
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	LATE JURASSIC
1. nivå med hydrokarboner, formasjon.	SOGNEFJORD FM
Avstand, boredekk - midlere havflate [m]	23.0
Vanndybde ved midlere havflate [m]	120.0
Totalt målt dybde (MD) [m RKB]	2450.0
Totalt vertikalt dybde (TVD) [m RKB]	2447.0
Maks inklinasjon [°]	8.5
Temperatur ved bunn av brønnbanen [°C]	92
Eldste penetrerte alder	MIDDLE JURASSIC
Eldste penetrerte formasjon	TARBERT FM
Geodetisk datum	ED50



NS grader	60° 24' 18.14" N
ØV grader	3° 2' 23.75" E
NS UTM [m]	6696678.96
ØV UTM [m]	502200.06
UTM sone	31
NPDID for brønnbanen	8174

Brønnhistorie

General

Well 31/7-2 S was drilled to appraise the Brasse discovery on the Bjørgvin Arch in the North Sea. The primary objective was to prove continuity of reservoir and hydrocarbon columns and contacts in the southern part of the Brasse structure.

Operations and results

Appraisal well 31/7-2 S was spudded with the semi-submersible installation Deepsea Bergen on 24 May 2017 and drilled as a slightly deviated S-shape well to TD at 2450 m (2447 m TVD) m in the Middle Jurassic Tarbert Formation. Operations proceeded without significant problems. The well was drilled with seawater and hi-vis sweeps down to 910 m and with KCl/GEM/Polymer water-based mud from 910 m to TD.

The target Sognefjord Formation was encountered at 2190 m (2187 m TVD). It was oil bearing with an OWC at 2198 m (2195 m TVD), which is the same as in the discovery well 31/7-1. MDT measurements showed that the pressure in the reservoir was about 20 bar below hydrostatic and approximately 2 bar less than pressure measured in 31/7-1 and 31/7-1 A. This proves good lateral and vertical communication within the reservoir phases. The main cause of the depleted pressures is believed to be production from the Troll East gas field. Oil shows, very weak hydrocarbon odour with 30% uniform pale direct fluorescence and very slow blue white diffuse cut, were described on core down to 2205.

Two cores were cut in the Lower Shetland Group, Draupne Formation and Sognefjord Formation reservoir sandstone. Core 1 was cut from 2161.2 m to 2218.6 m. Core 2 was cut from 2218.6 m to 2273.45 m. Both cores recovered 100%. MDT fluid samples were taken at 2190.5 m (oil), 2271 m (water), 2217.4 m (water), and 2197.3 m (water).

The well was permanently abandoned on 8 July 2017 as an oil appraisal.

Testing

A DST was performed in the Sognefjord reservoir over the interval 2186.5 -2190.8 m (2183.5 - 2187.8m TVDSS). The well flowed 548 Sm³ oil/day. The GOR was 158 Sm³/Sm³, the oil density was 0.844 g/cm³, and the gas gravity was 0.716 (air = 1) with 0.8% CO₂ and 0.5% H₂S. The maximum flowing temperature was 88.5 °C

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
930.00	2450.00



Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerner i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2161.2	2218.6	[m]
2	2218.8	2273.5	[m]

Total kjerneprøve lengde [m]	112.1
Kjerner tilgjengelig for prøvetaking?	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
143	NORDLAND GP
680	UTSIRA FM
822	HORDALAND GP
1842	ROGALAND GP
1842	BALDER FM
1910	SELE FM
1974	LISTA FM
2090	VÅLE FM
2094	SHETLAND GP
2094	HARDRÅDE FM
2177	VIKING GP
2177	DRAUPNE FM
2190	SOGNEFJORD FM
2292	FENSFJORD FM
2377	BRENT GP
2377	TARBERT FM

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	2187	2191	0.0



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

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0	548		0.844	0.716	158

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
FMI PPC MSIP GR	2127	2448
GR	120	2127
LWD - DI	143	210
LWD - DI APWD GR RES	210	910
LWD - DI APWD GR RES SON	910	2135
LWD - DI APWD GR RES SON NEU DEN	2135	2450
MDT GR	2187	2194
MDT GR	2195	2373
PEX HRLA CMR GR	2127	2448
USIT CBL GR	1395	2120
USIT CBL GR	2020	2447
VSI GR	504	2440

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	210.7	36	210.7	0.00	
INTERM.	13 3/8	904.1	17 1/2	910.0	0.00	
		913.0		0.0	1.70	FIT
INTERM.	9 5/8	2128.1	12 1/4	2135.0	0.00	
LINER	7	2447.0	8 1/2	2450.0	0.00	

Boreslam



Dybde MD [m]	Egenvekt, slam [g/cm ³]	Viskositet, slam [mPa.s]	Fløytgrense [Pa]	Type slam	Dato, måling
904	1.40	14.0		KCl/GEM/Polymer	
1073	1.50	33.0		ENVIROMUL OBM	
1110	1.41	19.0		KLC Glykol WBM	
2135	1.24	16.0		KCl/GEM/Polymer	
2135	1.41	36.0		KCl/GEM/Polymer	
2148	1.04	2.0		NaCl Brine	
2150	1.24	19.0		KLC Glykol WBM	
2150	1.25	20.0		WBM	
2189	1.24	19.0		KCl/GEM/Polymer	