



Generell informasjon

Brønnbane navn	36/7-4
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	DUVA
Funn	36/7-4 Duva
Brønn navn	36/7-4
Seismisk lokalisering	ST0703MR13: in-line 994 / x-line 2965
Utvinningstillatelse	636
Boreoperatør	ENGIE E&P Norge AS
Boretillatelse	1630-L
Boreinnretning	TRANSOCEAN ARCTIC
Boredager	71
Borestart	18.07.2016
Boreslutt	26.09.2016
Frigitt dato	26.09.2018
Publiseringsdato	26.09.2018
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	EARLY CRETACEOUS
1. nivå med hydrokarboner, formasjon.	AGAT FM
Avstand, boredekk - midlere havflate [m]	24.0
Vanndybde ved midlere havflate [m]	349.0
Totalt målt dybde (MD) [m RKB]	2726.0
Totalt vertikalt dybde (TVD) [m RKB]	2726.0
Maks inklinasjon [°]	3.2
Temperatur ved bunn av brønnbanen [°C]	86
Eldste penetrerte alder	EARLY CRETACEOUS
Eldste penetrerte formasjon	ÅSGARD FM
Geodetisk datum	ED50



NS grader	61° 24' 59.72" N
ØV grader	4° 4' 8.06" E
NS UTM [m]	6809820.06
ØV UTM [m]	557055.06
UTM sone	31
NPDID for brønnbanen	7988

Brønnhistorie

Wellbore history

General

Well 36/7-4 was drilled to test the Cara prospect ca 5 km northeast of the Gjøa Field in the North Sea. The primary objective was to test for hydrocarbons in the Early Cretaceous Agat Formation.

Operations and results

Wildcat well 36/7-4 was spudded with the semi-submersible installation Transocean Arctic on 18 July 2016 and drilled to TD at 2726 m in the Early Cretaceous Åsgard Formation. Operations proceeded without significant problems. The well was drilled with seawater and hi-vis sweeps down to 587 m and with KCl/glycol mud from 587 m to TD.

Well 36/7-4 successfully penetrated 118.1 of hydrocarbon-bearing Agat Formation sandstone reservoir before reaching a final TD of 2726 m in the Åsgard Formation. The well proved a 51.7 m gas column in good quality reservoir, with a GOC at 2479.2 m. Oil was proven down to close to the base of the Agat sandstone at 2544.4 m, but the reservoir below 2492 m is of reduced quality with low permeability and poor production potential. No oil-water contact (OWC) was seen, neither from pressures, nor on logs or core.

Three cores were cut from 2437 to 2555 m in the Agat Formation, including the Agat Formation basal conglomerates. MDT fluid samples were taken at 2440 m (gas), 2458.13 m (gas), 2484.03 m (oil), 2488 m (oil), 2536.61 m (oil), and 2544.4 m (oil/water).

The well was permanently abandoned on 26 September 2016 as an oil and gas discovery.

Testing

A drill stem test was conducted from the gas column in the interval 2428 to 2470 m.

Very good overall reservoir properties were proven. The maximum gas rate achieved was 1240000 Sm³/day, through a 72/64" fixed choke. The gas gravity was 0.6378 (air = 1). The condensate had a density of 0.801 g/cm³ (45.2 °API). The Gas/Condensate Ratio was 15592 Sm³/Sm³. The gas had 0.5% CO₂ and 0.2 ppm H₂S. Measurements at the end of the main shut-in periods (up to 72 hrs) gave the most representative formation temperatures. The temperature at the gas-oil contact is estimated to 80.0 °C.



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
590.00	2726.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2436.9	2490.7	[m]
2	2491.0	2499.7	[m]
3	2499.7	2554.6	[m]

Total kjerneprøve lengde [m]	117.4
Kjerner tilgjengelig for prøvetaking?	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
372	NORDLAND GP
372	UNDIFFERENTIATED
602	ROGALAND GP
602	LISTA FM
1092	VÅLE FM
1258	SHETLAND GP
1258	JORSALFARE FM
1285	KYRRE FM
2005	TRYGGVASON FM
2215	BLODØKS FM
2220	SVARTE FM
2376	CROMER KNOLL GP
2376	RØDBY FM
2428	AGAT FM
2554	SOLA FM
2620	ÅSGARD FM



Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	2428	2470	28.6

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [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		1240000	0.801	0.637	15592

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CMR ADT HRLA PEX ECS	2364	2724
FMI MSIP GR	2364	2725
MDT GR	2429	2567
MDT GR SP	2435	2536
MSCT SWC	2378	2640
MWD - DIR ECD	373	439
MWD - GR DIR ECD RES	439	587
MWD - GR DIR ECD RES SON	487	590
MWD - GR DIR ECD RES SON	590	1710
MWD - GR ECD RES SON DIR	1710	2115
MWD - GR ECD RES SON NEU POR DEN	2115	2780
MWD - GR RES ECD RES SON	373	587
USIT CBL GR	0	0
VSP GR	1689	2656

Foringsrør og formasjonsstyrketester



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 13.5.2024 - 16:57

Type utforing	Utforing diam. [tommer]	Utforing dybde [m]	Brønnbane diam. [tommer]	Brønnbane dyp [m]	LOT/FIT slam eqv. [g/cm3]	Type formasjonstest
CONDUCTOR	30	439.0	36	439.0	0.00	
SURF.COND.	20	583.0	26	587.0	0.00	
PILOT HOLE		587.0	9 7/8	587.0	0.00	
		590.0		590.0	1.25	LOT
INTERM.	13 3/8	1701.0	17 1/2	1710.0	0.00	
		1713.0		1713.0	1.50	FIT
INTERM.	9 5/8	2364.0	12 1/4	2370.0	0.00	
		2374.0		2374.0	1.48	LOT
LINER	7	2663.0	8 1/2	2726.0	0.00	

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
372	1.03	9.0		Sweeps	
439	1.15	40.0		KCL/Polymer/Glycol	
442	1.49	36.0		Kill/DIsplacment Mud	
504	1.03	13.0		Sweeps	
504	1.49	34.0		Kill/DIsplacment Mud	
535	1.01	1.0		Seawater	
535	1.17	19.0		KCl mud	
587	1.15	40.0		KCL/Polymer/Glycol	
587	1.49	34.0		Kill/DIsplacment Mud	
590	1.15	25.0		KCL/Polymer/Glycol	
917	1.16	24.0		KCL/Polymer/Glycol	
1091	1.17	24.0		KCL/Polymer/Glycol	
1234	1.16	23.0		KCL/Polymer/Glycol	
1488	1.17	22.0		KCL/Polymer/Glycol	
1525	1.16	25.0		KCL/Polymer/Glycol	
1710	1.17	26.0		KCL/Polymer/Glycol	
1710	1.15	27.0		KCL/Polymer/Glycol	
2100	1.19	17.0		KCl mud	
2100	1.17	17.0		KCl mud	
2141	1.17	20.0		KCL/Polymer/GEM	
2374	1.19	22.0		KCL/Polymer/Glycol	



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 13.5.2024 - 16:57

2665	1.19	2.0		NaCl Brine	
2665	1.21	17.0		KCl Polymer GEM	
2726	1.19	22.0		KCL/Polymer/Glycol	