



Generell informasjon

Brønnbane navn	34/6-2 S
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Funn	34/6-2 S (Garantiana)
Brønn navn	34/6-2
Seismisk lokalisering	BE1101-1208.SP 2248
Utvinningstillatelse	554
Boreoperatør	Total E&P Norge AS
Boretillatelse	1412-L
Boreinnretning	BORGLAND DOLPHIN
Boredager	92
Borestart	06.08.2012
Boreslutt	05.11.2012
Frigitt dato	05.11.2014
Publiseringsdato	11.03.2015
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	EARLY JURASSIC
1. nivå med hydrokarboner, formasjon.	COOK FM
Avstand, boredekk - midlere havflate [m]	31.0
Vanndybde ved midlere havflate [m]	385.5
Totalt målt dybde (MD) [m RKB]	4335.0
Totalt vertikalt dybde (TVD) [m RKB]	4081.0
Maks inklinasjon [°]	47
Temperatur ved bunn av brønnbanen [°C]	152
Eldste penetrerte alder	LATE TRIASSIC
Eldste penetrerte formasjon	LUNDE FM
Geodetisk datum	ED50
NS grader	61° 35' 24.47" N



ØV grader	2° 45' 14.08" E
NS UTM [m]	6828709.52
ØV UTM [m]	486937.08
UTM sone	31
NPDID for brønnbanen	6971

Brønnhistorie

General

Well 34/6-2 S was drilled on the Garantiana prospect on the northern continuation of the Visund structure on Tampen Spur in the North Sea. The primary objectives were Early Jurassic sandstones in the Cook Formation and Statfjord Group. Secondary objectives were the Triassic Lunde Formation and sandstones in the Middle Jurassic Brent Group.

Operations and results

Well 34/6-2 S was spudded with the semi-submersible installation Borgland Dolphin on 6 August 2012 and drilled to TD at 4335 m (4081 m TVD). No significant problem was encountered in the operations. The well path was vertical down to 2900 m, and then deviated with a maximum deviation of 47° at 3880 m. The well was drilled with seawater and bentonite mud down to 1480 m, with Aqua-Drill mud from 1480 m to 2047 m, with Carbo-Sea NABM mud from 2047 m to 3948 m, and with Magmateq NABM mud from 3948 m to TD.

No Brent Group sandstones were encountered in the well, only shales and siltstones of the Rannoch Formation. The Cook Formation primary target was encountered at 3654 m (3566 m TVD), top Statfjord Group at 4055 m (3871 m TVD), and top secondary target Lunde Formation at 4252 m (4017 m TVD). An oil-down-to situation was encountered at 3777 m in the Cook Formation, with a hydrocarbon column of 123 m (105 m vertical), a net/gross of 66 % and an average effective porosity and water saturation of 19 %, respectively. The Statfjord Group and Lunde Formation were water wet.

Apart for shows in the Cook Formation weak oil shows were recorded at 3785 to 3795 m and 3978 to 4030 m in the Amundsen Formation, and at 4195 to 4245 m in the Statfjord Formation. No shows were reported above top Cook Formation.

One 54 m core barrel was cut in the Cook Formation from 3663 m to 3717.33 m with 100 % core recovery. RCI oil samples were recovered at 3705.2 m, 3746 m, and 3768.5 m within the Cook Formation reservoir.

The well was plugged back for sidetracking on 5 November 2012. It is classified as an oil discovery.

Testing

A drill stem test was performed from the interval 3677.2 to 3750.2 m. The test produced 670 Sm³ oil and 16500 Sm³ gas /day through a 28/64" choke. The GOR was 33 Sm³/Sm³ and the oil density was 0.871 g/cm³. The gas contained 10 ppm H₂S and 7% CO₂.

Borekaks i Sokkeldirektoratet



Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1500.00	4335.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	3663.0	3717.3	[m]

Total kjerneprøve lengde [m]	54.3
Kjerner tilgjengelig for prøvetaking?	YES

Oljeprøver i Sokkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
MDT		0.00	0.00	WATER		NO

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
417	NORDLAND GP
1268	UTSIRA FM
1321	HORDALAND GP
1849	ROGALAND GP
1849	BALDER FM
1872	SELE FM
1880	LISTA FM
2022	VÅLE FM
2035	SHETLAND GP
2035	JORSALFARE FM
2273	KYRRE FM
3208	TRYGGVASON FM
3449	CROMER KNOLL GP



3449	SOLA FM
3536	BRENT GP
3536	RANNOCH FM
3566	DUNLIN GP
3566	DRAKE FM
3654	COOK FM
3777	BURTON FM
3782	AMUNDSEN FM
4055	STATEFJORD GP
4055	NANSEN FM
4095	EIRIKSSON FM
4252	HEGRE GP
4252	LUNDE FM

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	3677	3750	11.0

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	670				

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
7 PACKER	3639	3639
CBL VDL SBT	3306	3948
DSL CN ZDL MREX FLEX CAL	399	3926
DSL HDIL XMACF EIMG	3310	4238
DSL HDIL XMACF GEOEX CAL	3372	3939
GR GCI	3657	3856



GR RCI	3654	3746
GR RCI	4042	4042
GR RCI	4143	4148
GR SBT	2700	3420
GR VSP	2370	3930
MWD - DIR	477	1485
MWD - DIR GR RES	471	2076
MWD - DIR GR RES ECD	3152	3160
MWD - DIR GR RES FPT	3432	3948
MWD - DIR GR RES SDN FPT	3948	4335
MWD - DIR GR RES SON	2076	3432
MWD - GR RES	2000	3948

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	471.0	36	473.0	0.00	
SURF.COND.	20	1480.0	26	1485.0	1.53	LOT
PILOT HOLE		1491.0	9 7/8	1491.0	0.00	LOT
INTERM.	13 3/8	2047.0	17 1/2	2076.0	1.70	LOT
INTERM.	9 5/8	3425.0	12 1/4	3432.0	1.94	LOT
LINER	7	3948.0	8 1/2	3948.0	2.24	FIT
OPEN HOLE		4335.0	6	4335.0	0.00	

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	flytegrense [Pa]	Type slam	Dato, måling
2076	1.41	17000.0		KCl/Polymer-Glycol	
2106	1.62	40000.0		NABM	
2577	1.62	34000.0		NABM	
3200	1.82	60000.0		NABM	
3432	1.64	37000.0		NABM	
3567	1.74	39000.0		NABM	
3663	1.76	39000.0		NABM	
3780	1.82	54000.0		NABM	
3800	1.85	47000.0		NABM	
3917	1.84	38000.0		NABM	



3948	1.87	51000.0		NABM	
3977	1.85	48000.0		NABM	
4213	1.90	47000.0		NABM	
4335	1.90	42000.0		NABM	

Tynnslip i Sakkeldirektoratet

Dybde	Enhet
3675.87	[m]
3678.66	[m]
3679.95	[m]
3685.87	[m]
3687.98	[m]
3696.53	[m]
3716.12	[m]