



Generell informasjon

Brønnbane navn	35/11-20 A
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Funn	35/11-20 S (Orion)
Brønn navn	35/11-20
Seismisk lokalisering	3D survey WIN14M05 Inline 22570 X-line 11940
Utvinningstillatelse	248 F
Boreoperatør	Wintershall Norge AS
Boretillatelse	1633-L
Boreinnretning	BORGLAND DOLPHIN
Boredager	24
Borestart	14.07.2016
Boreslutt	07.08.2016
Frigitt dato	07.08.2018
Publiseringsdato	07.08.2018
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	LATE JURASSIC
1. nivå med hydrokarboner, formasjon.	INTRA HEATHER FM SS
Avstand, boredekk - midlere havflate [m]	31.0
Vanndybde ved midlere havflate [m]	373.0
Totalt målt dybde (MD) [m RKB]	3973.0
Totalt vertikalt dybde (TVD) [m RKB]	3319.0
Maks inklinasjon [°]	56.8
Eldste penetrerte alder	MIDDLE JURASSIC
Eldste penetrerte formasjon	HEATHER FM
Geodetisk datum	ED50
NS grader	61° 13' 20.29" N
ØV grader	3° 26' 25.57" E



NS UTM [m]	6787789.95
ØV UTM [m]	523655.76
UTM sone	31
NPDID for brønnbanen	8013

Brønnhistorie

Wellbore history

General

Well 35/11-20 A is a geological sidetrack to the 35/11-20 S Antares well, which discovered oil in Oxfordian age Intra-Heather Formation sandstone. The sidetrack was planned to appraise the presence of HC-filled Upper Jurassic Early-Middle Oxfordian sandstone (Orion prospect) with appropriate thickness and quality to be commercially exploited. Secondary target was to prove the presence of HC-filled Brent and Cook formations.

Operations and results

Appraisal well 35/11-20 A was kicked off from the main bore (35/11-20S) at 1815 m in the Shetland Group on 14 July 2016. It was drilled with the semi-submersible installation Borgland Dolphin. Drilling operations proceeded without significant problems, but intermediate logging of the Orion reservoir was aborted as the cable broke at surface and was lost in hole. Fishing was unsuccessful and it was decided to plug back and sidetrack to reach the secondary objective. Final TD for well 35/11-20 A became 3973 m (3319 m TVD) m in Callovian age sediments in the Heather Formation. The well was drilled with Innovert oil based mud from kick-off to TD.

35/11-20A encountered top primary target Oxfordian sandstone at 3869 m (3233 m TVD). The reservoir was 27 m TVD thick, which is thinner than in the main bore, but had much better reservoir quality, characterized by an average porosity of 18% and 64% Net-to-Gross. The top 8 m TVD were found oil bearing with a possible OWC at around 3878 m (3241 m TVD).

Two cores were cut: core 1 from 3870 to 3898.5 m and core 2 from 3898.5 m to 3973 m. Core recoveries were 99% and 100%. The MDT tool was run to collect pressures and fluid samples. The fluid sampling confirmed that both oil & water phases are mobile, but unfortunately, all downhole fluid samples were lost down hole in the incident with the wireline cable.

Well bore 35/11-20 A plugged back and abandoned on 7 August 2016 as an oil appraisal well.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet



Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1800.00	3973.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	3870.0	3898.0	[m]
2	3898.5	3973.7	[m]

Total kjerneprøve lengde [m]	103.2
Kjerner tilgjengelig for prøvetaking?	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
404	NORDLAND GP
724	UTSIRA FM
921	HORDALAND GP
1527	FRIGG FM
1625	ROGALAND GP
1625	BALDER FM
1694	SELE FM
1720	LISTA FM
1945	SHETLAND GP
1945	JORSALFARE FM
2152	KYRRE FM
3239	TRYGGVASON FM
3295	SVARTE FM
3323	CROMER KNOLL GP
3323	RØDBY FM
3333	SOLA FM
3340	ÅSGARD FM
3474	VIKING GP
3474	DRAUPNE FM
3568	HEATHER FM
3869	SOGNEFJORD FM



3901

HEATHER FM

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
LAIT TLD HGNS HNGS	3581	3973
LWD - CORE	3870	3898
LWD - CORE	3898	3973
LWD - DIR	403	501
LWD - GR RES DIR PWD	501	1098
LWD - GR RES DIR PWD	1098	3589
LWD - GR RES NEU DEN PRESS DIR P	3589	3870
MDT	3876	3897
USIT CBL GR	2403	3570
XPT ECS CMR EDTC	3581	3973

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	494.0	36	501.0	0.00	
SURF.COND.	20	1091.8	26	1098.0	1.77	FIT
INTERM.	13 3/8	1789.3	17 1/2	1795.5	1.71	LOT
		1818.0		1818.0	1.67	LOT
INTERM.	9 5/8	3582.5	12 1/4	3589.0	1.65	FIT
OPEN HOLE		3973.0	8 1/2	3973.0	0.00	

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
323	1.39	22.0		INNOVERT	
1693	1.44	28.0		INNOVERT	
1915	1.47	29.0		INNOVERT	
1927	1.44	28.0		INNOVERT	
3589	1.39	22.0		INNOVERT	
3973	1.39	23.0		INNOVERT	

