Generell informasjon

Brønnbane navn	35/11-22 S
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Funn	35/11-22 S (Bergand)
Brønn navn	35/11-22
Seismisk lokalisering	CGG17M01 Inline: 7306 Crossline: 27341
Utvinningstillatelse	248 C
Boreoperatør	Equinor Energy AS
Boretillatelse	1739-L
Boreinnretning	DEEPSEA BERGEN
Boredager	53
Borestart	12.12.2018
Boreslutt	02.02.2019
Plugget og forlatt dato	02.02.2019
Frigitt dato	02.02.2021
Publiseringsdato	30.04.2021
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	JURASSIC
1. nivå med hydrokarboner, formasjon.	HEATHER FM
Avstand, boredekk - midlere havflate [m]	23.0
Vanndybde ved midlere havflate [m]	355.6
Totalt målt dybde (MD) [m RKB]	3882.0
Totalt vertikalt dybde (TVD) [m RKB]	3866.0
Eldste penetrerte alder	JURASSIC
Eldste penetrerte formasjon	STATFJORD GP
Geodetisk datum	ED50
NS grader	61° 5' 2.27'' N
ØV grader	3° 20' 56.92'' E
NS UTM [m]	6772350.65

ØV UTM [m]	518834.79
UTM sone	31
NPDID for brønnbanen	8627

Brønnhistorie

General

Well 35/11-22 S was drilled to test the Bergand prospect in on the Lomre Terrace about 10 kilometres west of the Fram field in the North Sea. The primary exploration objective for well 35/11-22 S was to prove oil in Middle to Early Jurassic reservoir rocks of the Brent Group and the Cook Formation (Dunlin Group). The secondary exploration objective was to prove oil in the Statfjord Group in the Early Jurassic.

Operations and results

Wildcat well 35/11-22 S was spudded with the semi-submersible installation Deepsea Bergen on 12 December 2018 and drilled to TD at 3882 m (3866 m TVD) in the Early Jurassic Statfjord Group. Drilling at 2503 m there was a gas influx, believed to come from a thin sandstone in the Shetland Group. The gain was killed by raising the mud weight from 1.25 to 1.32 sg. Otherwise operations proceeded without significant problems. The well was drilled with seawater and hi-vis pills down to 429 m, with KCl mud from 429 m to 1207 m, and with Innovert oil-based mud from 1207 m to TD.

A 30 m thick Oxfordian to Early Kimmeridgian age Intra Heather sandstone was encountered at 3030 m (3026 m TVD), directly underlying the Draupne Formation. Fluid sampling indicated oil all through this sandstone. No oil/water contact was established. In the primary exploration target, the well encountered the Brent Group with a thickness of about 190 metres, of which 90 metres of effective reservoir rocks with moderate reservoir quality. The thickness of the Cook Formation is about 70 metres, of which 50 metres of effective reservoir rocks with poor to moderate reservoir quality. Both primary targets are water-bearing. The secondary exploration target, in the Statfjord group, has a thickness of about 130 metres, of which 60 metres of water-bearing reservoir rocks with poor reservoir quality. A thin sandstone at 3264 to 3271 m in the Ness Formation had oil shows in the form of direct and cut fluorescence and residue fluorescence.

An open hole side-track 35/11-22 ST2 was drilled to acquire a bypass core over the intra-Heather sandstone interval. The core was cut from 3027.37 to 3077.37 m. No logs were acquired in this side-track. MDT fluid samples were taken in the main bore at 3042 m (oil), 3052 m (?oil), 3058 m (oil), and 3311.5 m (water).

The well was permanently abandoned on 2 February as an oil discovery.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
720.00	3882.00

Borekaks tilgjengelig for prøvetaking?	YES

Borekjerner i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	3026.0	3074.1	[m]

Total kjerneprøve lengde [m]	48.1
Kjerner tilgjengelig for prøvetaking?	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
379	NORDLAND GP
776	UTSIRA FM
858	HORDALAND GP
1723	ROGALAND GP
1723	BALDER FM
1779	SELE FM
1795	LISTA FM
1884	VÅLE FM
2069	SHETLAND GP
2069	JORSALFARE FM
2223	KYRRE FM
2639	TRYGGVASON FM
2656	BLODØKS FM
2663	SVARTE FM
2704	CROMER KNOLL GP
2704	RØDBY FM
2749	SOLA FM
2756	ÅSGARD FM
2783	VIKING GP
2783	DRAUPNE FM
3030	HEATHER FM
3030	INTRA HEATHER FM SS
3060	HEATHER FM
3250	BRENT GP
3250	TARBERT FM

3259	NESS FM
3335	ETIVE FM
3353	RANNOCH FM
3377	OSEBERG FM
3417	DUNLIN GP
3417	DRAKE FM
3495	COOK FM
3565	AMUNDSEN FM
3657	JOHANSEN FM
3676	AMUNDSEN FM
3738	STATFJORD GP

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
AIT PEX XPT	2542	3884
MDT	3042	3311
MSIP	1800	3542
MSIP NGI	1810	3884
MWD LWD - GR RES	429	3882
VSP	1208	3475
XLR	3156	3836

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	429.1	36	429.1	0.00	
INTERM.	13 3/8	1198.8	17 1/2	1207.0	1.52	FIT
INTERM.	9 5/8	2542.0	12 1/4	2553.0	1.70	FIT
OPEN HOLE		3882.0	8 1/2	3882.0	0.00	

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
429	1.35	12.0		KCl/Polymer/GEM	
429	1.39	14.0		KCl/Polymer/GEM	

877	1.35	16.0		KCl/Polymer/GEM	
877	1.36	18.0		KCl/Polymer/GEM	
890	1.35	18.0		KCl/Polymer/GEM	
1070	1.34	21.0		Innovert	
1207	1.23	13.0		Innovert	
1207	1.35	23.0		KCl/Polymer/GEM	
1210	1.24	14.0		Innovert	
1220	1.34	21.0		Innovert	
1220	1.35	20.0		Innovert	
1350	1.34	15.0		Innovert	
1606	1.25	15.0		Innovert	
2190	1.25	15.0		Innovert	
2281	1.34	15.0		Innovert	
2281	1.49	30.0		Innovert	
2503	1.25	16.0		Innovert	
2503	1.30	18.0		Innovert	
2514	1.32	18.0		Innovert	
2546	1.49	27.0		Innovert	
2553	1.52	17.0		Innovert	
2553	1.33	17.0		Innovert	
2556	1.52	17.0		Innovert	
2690	1.49	21.0		Innovert	
2697	1.52	18.0		Innovert	
2729	1.48	26.0		Innovert	
2824	1.52	18.0		Innovert	
2965	1.48	23.0		Innovert	
3026	1.48	27.0		Innovert	
3090	1.52	19.0		Innovert	
3882	1.49	28.0		Innovert	
3882	1.52	23.0		Innovert	