



Generell informasjon

Brønnbane navn	16/2-20 S
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Brønn navn	16/2-20
Seismisk lokalisering	LN0902R12:inline 3065 & crossline 3710
Utvinningstillatelse	501
Boreoperatør	Lundin Norway AS
Boretillatelse	1450-L
Boreinnretning	ISLAND INNOVATOR
Boredager	53
Borestart	30.09.2013
Boreslutt	21.11.2013
Frigitt dato	21.11.2015
Publiseringsdato	21.11.2015
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	SHOWS
Funnbrønnbane	NO
Avstand, boredekk - midlere havflate [m]	30.0
Vanndybde ved midlere havflate [m]	109.5
Totalt målt dybde (MD) [m RKB]	2150.0
Totalt vertikalt dybde (TVD) [m RKB]	2098.0
Maks inklinasjon [°]	23.6
Temperatur ved bunn av brønnbanen [°C]	91
Eldste penetrerte formasjon	BASEMENT
Geodetisk datum	ED50
NS grader	58° 56' 30.84" N
ØV grader	2° 25' 18.62" E
NS UTM [m]	6533876.90
ØV UTM [m]	466725.98
UTM sone	31
NPDID for brønnbanen	7181



Brønnhistorie

General

Well 16/2-20 S was drilled on the Torvastad prospect north of the Johan Sverdrup Field on the Utsira High in the North Sea. The primary objective was to investigate the Jurassic - Early Cretaceous sequence with respect to reservoir facies, hydrocarbons, free water level, pressure communication with the Johan Sverdrup Field, and seismic interpretations and depth conversion.

Operations and results

Wildcat well 16/2-20 S was spudded with the semi-submersible installation Island Innovator on 30 September 2013 and drilled to TD at 2150 m (2098 m TVD) m, 36 m into granitic basement. A 9 7/8" pilot hole was drilled from

seabed to 720 m RKB to check for shallow gas. No shallow gas was observed. The well was drilled deviated due to a ridge on the seafloor that could cause instability for the wellhead and BOP. The well path is vertical down to ca 730 m, deviated with a sail angel of ca 23 ° from 730 to 1900 m, and vertical from 1900 m to TD. The well was drilled with seawater and hi-vis sweeps down to 720 m and with Aquadril mud from 720 m to TD.

An unusual, 21 m thick age-equivalent to the Draupne Formation (Volgian to Ryazanian age) was encountered at 2006.3 m (1954.6 m TVD). It consists of a condensed section at base, a thin shale section, and a 16.6 m thick spiculitic sandstone/siltstone on top. The porosity of these sediments is relatively high, but permeability is very low. Underlying this sequence, at 2027 m (1975.5 m TVD) the well penetrated a 10 m sequence of sandstones belonging to the Statfjord Group, a 77 m sequence of sandstones, limestone and mudstones belonging to the Skagerrak Formation and a 20 m thick Smith Bank Formation resting on the granitic basement. Good oil shows were described in the Statfjord Group.

A total of 52.5 m core was recovered in four cores from the interval 2001 to 2055 m. The core to log depth shifts are -2.34 m, -2.12 m, -1.3 m, and -1.3 m for cores 1 to 4, respectively. RCX fluid samples were taken at 2012.5 m (water), 2026.7 m (one sample with water and one with water and a fraction of oil), and at 2031.3 m (water).

The well was permanently abandoned on 21 November 2013 as a dry well with shows.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
730.00	2150.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2001.0	2027.8	[m]
2	2028.0	2039.8	[m]
3	2040.0	2044.6	[m]
4	2045.0	2054.3	[m]

Total kjerneprøve lengde [m]	52.5
Kjerner tilgjengelig for prøvetaking?	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
140	NORDLAND GP
783	UTSIRA FM
858	UNDIFFERENTIATED
952	HORDALAND GP
952	SKADE FM
1069	NO FORMAL NAME
1130	NO FORMAL NAME
1284	NO FORMAL NAME
1536	NO FORMAL NAME
1718	ROGALAND GP
1718	BALDER FM
1737	SELE FM
1784	LISTA FM
1887	VÅLE FM
1900	SHETLAND GP
1900	TOR FM
1924	HOD FM
1939	CROMER KNOLL GP
1939	RØDBY FM
1978	SOLA FM
1985	ÅSGARD FM
2006	VIKING GP
2006	DRAUPNE FM
2027	STATEJORD GP



2027	EIRIKSSON FM
2038	HEGRE GP
2038	SKAGERRAK FM
2095	SMITH BANK FM
2114	BASEMENT

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
DSL CN ZDL RTEK MLL	1946	2146
DSL IFX RCX	1500	1500
DSL IFX RCX S	1072	1072
DSL IFX S	2012	2031
DSL MAXCORE	1958	2063
DSL MREX FLEX	1946	2141
DSL PCORE	2057	2115
DSL RCX	2009	2115
DSL VSP	630	2130
DSL XMAC ORIT STAR UXPL	1946	2137
MWD - OTK	1895	1999
MWD - OTK APX	120	708
MWD - OTK APX CCN ORD	1914	2147
MWD - SDTK CCN ORD ZTK	683	1954
RCX	690	690

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	219.0	36	223.0	0.00	
SURF.COND.	20	713.0	26	720.0	1.61	FIT
PILOT HOLE		720.0	9 7/8	720.0	0.00	
INTERM.	9 5/8	1948.0	12 1/4	1954.0	1.73	LOT
OPEN HOLE		2150.0	8 1/2	2150.0	0.00	

Boreslam



Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Fløtegrense [Pa]	Type slam	Dato, måling
700	1.35	15.0		Water Based	
1284	1.35	20.0		Water Based	
1780	1.40	25.0		Water Based	
2028	1.16	13.0		Water Based	
2050	1.19	16.0		Water Based	
2150	1.16	18.0		Water Based	