



Generell informasjon

Brønnbane navn	16/2-16 A
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	JOHAN SVERDRUP
Funn	16/2-6 Johan Sverdrup
Brønn navn	16/2-16
Seismisk lokalisering	LN0902-R10-inline 4125 & crossline 3686
Utvinningstillatelse	501
Boreoperatør	Lundin Norway AS
Boretillatelse	1431-L
Boreinnretning	TRANSOCEAN WINNER
Boredager	57
Borestart	13.12.2012
Boreslutt	07.02.2013
Frigitt dato	07.02.2015
Publiseringsdato	11.03.2015
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	JURASSIC
1. nivå med hydrokarboner, formasjon.	DRAUPNE FM
Avstand, boredekk - midlere havflate [m]	26.0
Vanndybde ved midlere havflate [m]	115.0
Totalt målt dybde (MD) [m RKB]	2503.0
Totalt vertikalt dybde (TVD) [m RKB]	2085.0
Maks inklinasjon [°]	50.3
Eldste penetrerte alder	TRIASSIC
Eldste penetrerte formasjon	SKAGERRAK FM
Geodetisk datum	ED50
NS grader	58° 51' 1.14" N
ØV grader	2° 35' 50.55" E



NS UTM [m]	6523604.82
ØV UTM [m]	476766.88
UTM sone	31
NPDID for brønnbanen	7107

Brønnhistorie

General

Well 16/2-16 A is a sidetrack to well 16/2-16 on the northeastern part of the Johan Sverdrup Field on the Utsira High. The primary well bore found the oil/water contact at 1952 m, in line with the other wells in PL501. The main objective was to investigate lateral thickness and facies variations within the Viking Group and the Vestland Group in the area 1000 m to the west of the main wellbore. Further, to provide input to the Johan Sverdrup water injection strategy, and to investigate lateral pressure and free water level variations.

Operations and results

Well 16/2-16 A was kicked off from 693 m in main well bore 16/2-16 on 13 December 2012. It was drilled with the semi-submersible installation Transocean Winner to 2274 where the string stuck. Attempts to free the string failed and in the end, a 434 m fish was left in the hole. The hole was cemented back and a technical sidetrack, 16/2-16 A T2, was kicked off from 1600 m. Drilling continued to final TD at 2503 m (2085 m TVD) in the Triassic Skagerrak Formation. The well was drilled with Versatec oil based mud from kick-off to TD.

The well encountered a gross oil column of approximately 30 m within a Jurassic sequence with largely excellent reservoir quality. No firm FWL could be established. A range for the FWL from a clean oil sample at 2361.9 m (1960.7 m TVD) to approximately 2368 m (1966 m TVD) from water gradient/oil gradient intersection was suggested. This is the deepest contact so far observed in the Johan Sverdrup area. Very weak shows (trace blue-white fluorescent cut) were recorded below the FWL, and a good spot of oil show (stain, odour, yellow-brown fluorescence) was described at 2382.5 m in the Eirikson Formation. No shows were recorded in the Skagerrak Formation.

Five cores were cut in succession in the 16/2-16 A T2 sidetrack from 2324 m in the Draupne Formation to 2420 m in the Skagerrak Formation. MDT fluid samples were taken at 2327.3 m (oil), 2355.0 m (oil), 2361.9 m (oil), and at 2379.9 m (water)

The well was permanently abandoned on 12 December 2012 as an oil appraisal well.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
700.00	2273.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2324.0	2334.6	[m]
2	2339.0	2346.5	[m]
3	2349.5	2364.6	[m]
4	2364.6	2391.9	[m]
5	2392.0	2420.1	[m]

Total kjerneprøve lengde [m]	88.5
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	OIL		NO

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
141	NORDLAND GP
835	UTSIRA FM
933	NO FORMAL NAME
1007	HORDALAND GP
1057	SKADE FM
1261	NO FORMAL NAME
1672	NO FORMAL NAME
1765	ROGALAND GP
1765	BALDER FM
1808	SELE FM
1833	LISTA FM
2013	VÅLE FM
2033	SHETLAND GP



2033	EKOFISK FM
2041	TOR FM
2067	HOD FM
2138	BLODØKS FM
2144	SVARTE FM
2198	CROMER KNOLL GP
2198	RØDBY FM
2310	SOLA FM
2314	ÅSGARD FM
2324	VIKING GP
2324	DRAUPNE FM
2327	INTRA DRAUPNE FM SS
2342	HEATHER FM
2346	VESTLAND GP
2346	HUGIN FM
2351	NO FORMAL NAME
2356	STATFJORD GP
2356	EIRIKSSON FM
2385	HEGRE GP
2385	SKAGERRAK FM

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CMR HNGS ECS	2263	2493
GR RES DEN NEU SON DIR PWD	2263	2323
MDT	2327	2436
MSCT	2309	2469
MSIP GPIT OBMI	2263	2500
MWD - GR RES DEN NEU DIR PWD	2314	2499
MWD - GR RES DEN NEU SON DIR PWD	670	1584
MWD - GR RES DIR PWD	1584	2260
PEX ZAIT ADT	2263	2500

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
INTERM.	9 5/8	2262.0	12 1/4	2273.0	1.60	FIT
OPEN HOLE		2503.0	8 1/2	2503.0	0.00	

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
400	1.50	51.0		Oil Based	
1935	0.00	32.0		Oil Based	
2323	0.00	18.0		Oil Based	
2420	0.00	20.0		Oil Based	
2503	1.21	21.0		Oil Based	
2503	1.20	21.0		Oil Based	