



Generell informasjon

Brønnbane navn	6406/3-9
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORWEGIAN SEA
Funn	6406/3-9
Brønn navn	6406/3-9
Seismisk lokalisering	CE08M1;inline 3661 & crossline 5492
Utvinningstillatelse	431
Boreoperatør	Maersk Oil Norway AS
Boretillatelse	1355-L
Boreinnretning	TRANSOCEAN WINNER
Boredager	139
Borestart	09.11.2011
Boreslutt	26.03.2012
Frigitt dato	15.03.2013
Publiseringsdato	15.03.2013
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	LATE CRETACEOUS
1. nivå med hydrokarboner, formasjon.	LYSING FM
2. nivå med hydrokarboner, alder	LATE CRETACEOUS
2. nivå med hydrokarboner, formasjon	LANGE FM
Avstand, boredekk - midlere havflate [m]	26.0
Vanndybde ved midlere havflate [m]	315.0
Totalt målt dybde (MD) [m RKB]	4183.0
Totalt vertikalt dybde (TVD) [m RKB]	4183.0
Maks inklinasjon [°]	1.2
Temperatur ved bunn av brønnbanen [°C]	145
Eldste penetrerte alder	CRETACEOUS



Eldste penetrerte formasjon	LANGE FM
Geodetisk datum	ED50
NS grader	64° 58' 4.55" N
ØV grader	6° 41' 12.73" E
NS UTM [m]	7207058.17
ØV UTM [m]	390803.20
UTM sone	32
NPDID for brønnbanen	6594

Brønnhistorie



General

Well 6406/3-9 was drilled on the Halten Terrace east of the Kristin field and to the north of the Tyrihans field. The objective was to evaluate the presence of movable hydrocarbons in the Lange sandstones unit (primary target) and Lysing sandstone unit (secondary target); down dip from the 6506/11-2 and 6506/11-4 S wells.

Operations and results

Wildcat well 6406/3-9 was spudded with the semi-submersible installation Transocean Winner on 9 November 2011 and drilled to TD at 4183 m in Albion age shale of the Lange Formation. The well was not drilled within the AFE time and cost estimate. This was primarily due to poor weather conditions (third worst weather recorded ever since 1958), which caused prolonged periods of downtime. Despite this and many other operational problems data acquisition was successful and gave data of good quality. The well was drilled with Seawater and hi-vis sweeps down to 1406 m, with Performadril Water based mud from 1406 m to 2286 m, and with XP-07 oil based mud from 2286 m to TD.

Both the primary Lange sandstone target at 4079 m and the secondary Lysing sands at 3395 m were non-commercial oil discoveries. The primary target Lange sands were encountered 19 m deeper than prognosed (TVD) and were 56 m thick with a net sand value of 2.4 m. The permeability encountered was less than anticipated due to diagenesis. The secondary Lysing sands were 37 m deeper than prognosed (TVD) with net sands approximately 2 m. The only shows reported from the well were from the target Lysing and Lange reservoir sections.

Three cores were cut from 4086 m to 4138 m in the Lange sandstones with 97% recovery. Success case wire line logging programs were run across both targets including a dual packer mini DST across the most promising zone (4102-4103 m) in the Lange sandstones. The result indicated sub-commercial permeabilities. Two good MDT pressure measurements were achieved in the Lysing Formation, giving a gradient of 0.059 bar/m. Fluid samples acquired at 3457.5 m confirm this to be an accurate oil gradient. MDT pressure samples in the Lange sandstones did not give a realistic gradient. However, fluid samples taken at 4102.1 m - although highly contaminated by mud filtrate - confirmed the presence of oil.

The well was permanently abandoned on 26 March 2012 as a minor oil discovery.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1410.00	4183.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	4086.0	4115.6	[m]
2	4116.0	4128.1	[m]
3	4129.0	4137.8	[m]

Total kjerneprøve lengde [m]	50.5
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		4102.15	0.00	OIL	02.03.2012 - 00:00	YES
MDT		0.00	3457.50	OIL	22.01.2012 - 00:00	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
341	NORDLAND GP
341	NAUST FM
1436	KAI FM
1936	HORDALAND GP
1936	BRYGGE FM
2324	ROGALAND GP
2324	TARE FM
2387	TANG FM
2447	SHETLAND GP
2447	SPRINGAR FM
2641	NISE FM
2805	KVITNOS FM
3395	CROMER KNOLL GP
3395	LYSING FM
3500	LANGE FM



4079	NO FORMAL NAME
4135	LANGE FM

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
AIT PEX ECS HNGS	3729	4184
AIT PEX HNGS	340	3738
MDT	4083	4107
MDT DP	4102	4102
MDT PR SA	3424	3457
MSCT GR	3396	3485
MWD - GR RES DIR	340	2286
MWD - GR RES DIR ADN SON	2286	4183
OBMI1 PPC MSIP PPC	2278	3729
OBMI2 PPC MSIP PPC GR	3729	4185
VSP	480	4176

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	LOT
SURF.COND.	20	1397.0	26	1406.0	0.00	LOT
INTERM.	13 3/8	2281.0	17 1/2	2286.0	1.65	LOT
INTERM.	9 7/8	3731.0	12 1/4	3738.0	1.84	LOT
OPEN HOLE		4183.0	8 1/2	4183.0	1.97	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
433	1.03			SPUD MUD	
1335	1.05			Hi-Vis	
1405	1.39			Peformadril	
1406	1.39			Peformadril	
1406	1.39			Sea Water	
1406	1.50			WATER BASED MUD	



1406	1.50			WATER BASED MUD	
1406	1.25			WATER BASED MUD	
1999	1.52			Peformadril	
2286	1.62			Peformadril	
3247	1.74			OIL (ENVIRON)	
3250	1.79			XP-07	
3640	1.75			XP-07	
3743	1.77			XP-07	
4116	1.79			XP-07	
4134	1.79			XP-07	
4183	1.79			XP-07	

Trykkplott

Porertrykksdataene kommer fra logging i brønnen hvis ingen annen kilde er oppgitt. I noen brønner der trykk ikke er logget, er det brukt informasjon fra formasjonstester eller brønnspark. Trykkdataene er rapportert inn til Oljedirektoratet og videre prosessert og kvalitetssikret av IHS Markit.

Dokument navn	Dokument format	Dokument størrelse [KB]
6594 Formation pressure (Formasjonstrykk)	pdf	0.29

