



Generell informasjon

Brønnbane navn	6407/7-7 S
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORWEGIAN SEA
Felt	NJORD
Funn	6407/7-7 S
Brønn navn	6407/7-7
Seismisk lokalisering	NH9701:inline 1556 & crossline 564
Utvinningstillatelse	107
Boreoperatør	Norsk Hydro Petroleum AS
Boretillatelse	1138-L
Boreinnretning	TRANSOCEAN WINNER
Boredager	49
Borestart	03.08.2007
Boreslutt	20.09.2007
Frigitt dato	20.09.2009
Publiseringsdato	21.09.2009
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	GAS/CONDENSATE
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	ILE FM
2. nivå med hydrokarboner, alder	EARLY JURASSIC
2. nivå med hydrokarboner, formasjon	TILJE FM
Avstand, boredekk - midlere havflate [m]	26.0
Vanndybde ved midlere havflate [m]	334.0
Totalt målt dybde (MD) [m RKB]	3886.0
Totalt vertikalt dybde (TVD) [m RKB]	3678.0
Maks inklinasjon [°]	54.7
Temperatur ved bunn av brønnbanen [°C]	141



Eldste penetrerte alder	EARLY JURASSIC
Eldste penetrerte formasjon	ÅRE FM
Geodetisk datum	ED50
NS grader	64° 17' 40.1" N
ØV grader	7° 7' 10.5" E
NS UTM [m]	7131351.02
ØV UTM [m]	408999.47
UTM sone	32
NPDID for brønnbanen	5550

Brønnhistorie

**General**

Well 6407/7-7 S was drilled on the North West Flank of the Njord Field in the Norwegian Sea. The Njord North West Flank consists of two main fault blocks, A and B-main. Well 6407/7-6 was drilled on the B-main structure in 2000 and confirmed the presence of rich gas condensate in the Tilje Formation, with a GWC at 3749 m TVD MSL. Well 6407/7-7 S is the first exploration well to be drilled into the A structure. The primary objective of well 6407/7-7 S was to prove commercial hydrocarbon resources within the Early Jurassic Tilje Formation and the Middle Jurassic Ile Formation.

Operations and results

Well 6407/7-7 S was spudded on 3 August 2007 as a producer 6407/7-B1 Y1H and drilled down to TD of the 17 1/2" section at 2270 m where a 14" casing was set. The exploration well 6407/7-7 S started when drilling out of the 14" casing and into the A-segment of the Njord North West Flank. The hole was vertical down to ca 1290 m. Hole deviation was ca 11 deg at 2270, increasing to 54 deg at 2770 m and falling back again to 6 deg at TD. The well was drilled with the semi-submersible installation Transocean Winner to final TD at 3886 m (3678 m TVD) in Early Jurassic sediments of the Åre Formation. The well was drilled with seawater down to 2270 m and with VERSATEC oil based mud from 2270m to TD.

Top Ile Formation was encountered at 3376 m. Hydrocarbons were discovered in the Ile, Tilje and Åre Formations. MDT pressure points show that the Åre-Tilje reservoir is about 26 bar overpressured compared to the Ile compartment. There were also indications of hydrocarbons in the Lower Cretaceous Lange Formation intra-sands, but too low permeability made it impossible to record pressure points and get fluid samples.

Five cores were cut in the well. Core 1 was cut at 3378 - 3405 m in the Ile Formation. Cores 2 to 5 were cut from 3589 m to 3720.5 m in the Tilje Formation and ca 8 m into the top of the Åre Formation. Condensate and oil samples were taken on MDT wire line at several levels in the Early - Middle Jurassic. Typical fluid characteristics from single stage separation in the PVT laboratory were: condensate from 3397 m in the Ile Formation had GOR = 1250 Sm³/Sm³, oil density = 0.803 g/cm³, and gas gravity of 0.790 (air = 1); condensate from 3623.35 m in the Tilje Formation had GOR = 1340 Sm³/Sm³, oil density = 0.810 g/cm³, and gas gravity of 0.763 (air = 1); condensate from 3718.5 m in the Åre Formation had GOR = 770 Sm³/Sm³, oil density = 0.813 g/cm³, and gas gravity of 0.787 (air = 1); condensate from 3733 m in the Åre Formation had GOR = 540 Sm³/Sm³, oil density = 0.813 g/cm³, and gas gravity of 0.822 (air = 1); while the oil from 3829 m in the Åre Formation had GOR = 440 Sm³/Sm³, oil density = 0.821 g/cm³, and gas gravity of 0.885 (air = 1).

The well was plugged back to the 14" casing from where drilling of the producer 6407/7-B1 Y1H was resumed by performing a side track inside casing. The 6407/7-7 S well bore was permanently abandoned on 20 September 2007 as a condensate/gas discovery.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
420.00	1950.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	3378.0	3405.2	[m]
2	3578.0	3604.7	[m]
3	3605.0	3633.2	[m]
4	3633.2	3686.7	[m]
5	3687.0	3715.0	[m]

Total kjerneprøve lengde [m]	163.6
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
DST		3397.00	0.00	CONDE NSATE	19.05.2010 - 00:00	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
360	NORDLAND GP
360	NAUST FM
1141	KAI FM
1161	HORDALAND GP
1161	BRYGGE FM
1845	ROGALAND GP
1845	TARE FM
2008	TANG FM
2107	SHETLAND GP
2107	SPRINGAR FM
2152	NISE FM
2450	KVITNOS FM
2919	CROMER KNOLL GP



2919	LANGE FM
3227	NO FORMAL NAME
3327	LYR FM
3329	VIKING GP
3329	SPEKK FM
3334	MELKE FM
3346	FANGST GP
3346	NOT FM
3376	ILE FM
3466	BÅT GP
3466	ROR FM
3576	TILJE FM
3712	ÅRE FM

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
5550_01_6407_7_7S_gch_transfer_1	txt	0.00
5550_02_6407_7_7S_gch_results_1	txt	0.01
5550_1	pdf	0.27
5550_2	pdf	2.32

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CMR XPT	3180	3880
GR RES DEN NEU BAT DIR PWD	3182	3886
MDT (2MS EYES LFA PS PA) TLC	3733	3846
MDT (2MS LFA PS PA) TLC	3733	3300
MDT (PS SC 2MS PQ)	3397	3664
MWD - DIR	360	452
MWD - GR RES DIR	452	1253
MWD - GR RES DIR PWD	1253	3182
PEX ECS	2270	3885
RT-SCANNER SON-SCANNER	1905	3890
VI VSP WA VSP	1103	3870





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	434.0	36	440.0	0.00	LOT
SURF.COND.	20	1246.0	26	1250.0	1.74	LOT
INTERM.	14	2266.0	17 1/4	2270.0	1.90	LOT
OPEN HOLE		3886.0	12 1/4	3886.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
2273	1.61	49.0		OIL BASED	
2573	1.60	55.0		OIL BASED	
3182	1.60	55.0		OIL BASED	
3378	1.60	57.0		OIL BASED	
3586	1.61	79.0		OIL BASED	
3715	1.63	74.0		OIL BASED	
3886	1.61	62.0		OIL BASED	
3886	1.65	72.0		OIL BASED	
3886	1.60	69.0		OIL BASED	

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]
5550 Formation pressure (Formasjonstrykk)	pdf	0.30

