



Generell informasjon

Brønnbane navn	6407/6-6
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORWEGIAN SEA
Felt	HALTEN ØST
Funn	6407/6-6 (Gamma)
Brønn navn	6407/6-6
Seismisk lokalisering	ST04M8 inline 2455 & crossline 5495
Utvinningstillatelse	312
Boreoperatør	StatoilHydro ASA
Boretillatelse	1157-L
Boreinnretning	OCEAN VANGUARD
Boredager	35
Borestart	02.01.2008
Boreslutt	05.02.2008
Frigitt dato	05.02.2010
Publiseringsdato	05.02.2010
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	GAS
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	FANGST GP
Avstand, boredekk - midlere havflate [m]	22.0
Vanndybde ved midlere havflate [m]	226.0
Totalt målt dybde (MD) [m RKB]	2508.0
Totalt vertikalt dybde (TVD) [m RKB]	2507.0
Maks inklinasjon [°]	3.17
Temperatur ved bunn av brønnbanen [°C]	92
Eldste penetrerte alder	EARLY JURASSIC
Eldste penetrerte formasjon	TILJE FM
Geodetisk datum	ED50



NS grader	64° 35' 28.82" N
ØV grader	7° 44' 32.03" E
NS UTM [m]	7163686.59
ØV UTM [m]	439783.19
UTM sone	32
NPDID for brønnbanen	5636

Brønnhistorie

General

Well 6407/6-6 was drilled on the Gamma prospect on the eastern limits of the Halten Terrace, ca 5 km south-west of the Mikkell field. The well 6407/6-6 was the first to be drilled in production license 312. The primary objective of the well was to prove hydrocarbons in the Middle Jurassic Garn and Ile Formations in the Fangst Group and to test all prospective formations down to Åre Formation. The secondary target was to understand the origin of a seismic flat event in the Ile Formation. Shallow gas has occurred in neighbouring wells, and a shallow gas warning was given pre-drill at 380 - 420 m

Operations and results

Wildcat well 6407/6-6 was spudded with the semi-submersible installation Ocean Vanguard on 2 January 2008 and drilled to TD at 2508 m in the Early Jurassic Tilje Formation. A 9 7/8" pilot hole was drilled first, as a precaution against shallow gas. No shallow gas was observed. The rig was then skidded 13 m from the pilot hole for spudding of the main hole. No significant problems were encountered in the operations. The well was drilled with seawater and hi-vis pills down to 1060 m and with "Aquadrill" KCl/polymer/glycol mud from 1060 m to TD.

The well penetrated rocks of Quaternary, Tertiary, Cretaceous, and Jurassic age. The well penetrated the Garn reservoir section at 2110 m, 3 m deeper than prognosed. A hydrocarbon discovery was proven in both the Garn and Ile Formations. In Garn, there was a hydrocarbon contact (gas down to) at 2119 m, and in Ile a true gas-water contact was noted at 2233 m. Water was detected in the Ror and Tilje formations. Results from the MDT show the Garn formation to have a permeability of around 4138 mD with a porosity of 26%. The Ile formation shows a permeability of 713 mD with a porosity of 26 %. The Tilje Formation was penetrated at 2421.5 m, 20.5 m shallower than prognosed. No shows other than a weak petroleum odour and a weak milky white to bluish white fluorescence residue on the cores from the reservoirs were reported from the well.

Two conventional cores were cut; at 2115 - 2142 m in the Garn Formation and at 2204 - 2231 m in the Ile Formation. MDT fluid sampling and pressure points were taken in the Garn and Ile Formations. Fluid samples were taken at the following depths: 2117.1 m (gas), 2122.6 m (water), 2227.9 m (gas), and 2245.4 m (water). The samples were of good quality. Further pressure points were taken in the Ror and Tilje Formations. The pressure data showed several different pressure compartments in the Jurassic, with the Garn and Ile reservoirs in different compartments.

The well was permanently abandoned on 5 February 2008 as a gas discovery.

Testing

No drill stem test was performed.



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1063.00	2507.37

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2115.0	2141.3	[m]
2	2204.0	2229.8	[m]

Total kjerneprøve lengde [m]	52.1
Kjerner tilgjengelig for prøvetaking?	YES

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
2117.5	[m]	C	FUGRO
2118.7	[m]	C	FUGRO
2121.0	[m]	C	FUGRO
2121.1	[m]	C	FUGRO
2124.8	[m]	C	FUGRO
2128.2	[m]	C	FUGRO
2132.6	[m]	C	FUGRO
2133.1	[m]	C	FUGRO
2137.1	[m]	C	FUGRO
2205.0	[m]	C	FUGRO
2207.1	[m]	C	FUGRO
2211.1	[m]	C	FUGRO
2212.9	[m]	C	FUGRO
2215.5	[m]	C	FUGRO
2216.8	[m]	C	FUGRO
2218.5	[m]	C	FUGRO
2219.3	[m]	C	FUGRO
2222.9	[m]	C	FUGRO



2225.8	[m]	C	FUGRO
2227.9	[m]	C	FUGRO
2228.4	[m]	C	FUGRO

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
248	NORDLAND GP
248	NAUST FM
1094	KAI FM
1245	HORDALAND GP
1245	BRYGGE FM
1747	ROGALAND GP
1747	TARE FM
1825	TANG FM
1903	SHETLAND GP
2072	CROMER KNOLL GP
2072	LANGE FM
2101	VIKING GP
2101	SPEKK FM
2110	FANGST GP
2110	GARN FM
2163	NOT FM
2200	ILE FM
2270	BÅT GP
2270	ROR FM
2294	TOFTE FM
2355	ROR FM
2365	TOFTE FM
2373	ROR FM
2422	TILJE FM

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
MDT GR ACTS ECRD	2110	2488
MWD LWD - P.PULSE ARCVRES9 CDR6	1055	2508



MWD LWD - POWERPULSE ARCVRES9	226	1060
PEX MSIP HRLA ACTS ECRD	2000	2504
VSP	226	2058

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	296.0	36	298.0	0.00	LOT
PILOT HOLE		547.0	9 7/8	547.0	0.00	LOT
SURF.COND.	13 3/8	1054.0	17 1/2	1060.0	1.66	LOT
SURF.COND.	9 5/8	2056.0	12 1/4	2057.0	1.68	LOT
OPEN HOLE		2508.0	8 1/2	2508.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
360	1.03			SPUD MUD	
547	1.03			SPUD MUD	
944	1.03			SPUD MUD	
1060	1.35			SPUD MUD	
1136	1.35	15.0		AQUADRILL	
1733	1.50	21.0		AQUADRILL	
1740	1.50	21.0		AQUADRILL	
2057	1.50	22.0		AQUADRILL	
2115	1.25	10.0		AQUADRILL	
2143	1.25	16.0		AQUADRILL	
2204	1.25	12.0		AQUADRILL	
2231	1.25	12.0		AQUADRILL	

Tynnslip i Sokkeldirektoratet

Dybde	Enhet
2123.65	[m]
2128.25	[m]
2135.50	[m]
2218.80	[m]



2229.10	[m]
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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]
5636_Formation_pressure_(Formasjonstrykk)	pdf	0.28

