



Generell informasjon

Brønnbane navn	6506/11-7
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORWEGIAN SEA
Felt	MORVIN
Funn	6506/11-7 Morvin
Brønn navn	6506/11-7
Seismisk lokalisering	ST98M4- INLINE 2620 & CROSSLINE 4102
Utvinningstillatelse	134 B
Boreoperatør	Den norske stats oljeselskap a.s
Boretillatelse	990-L
Boreinnretning	SCARABEO 5
Boredager	184
Borestart	25.01.2001
Boreslutt	27.07.2001
Frigitt dato	27.07.2003
Publiseringsdato	07.11.2005
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	FANGST GP
2. nivå med hydrokarboner, alder	EARLY JURASSIC
2. nivå med hydrokarboner, formasjon	BÅT GP
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	356.0
Totalt målt dybde (MD) [m RKB]	4977.5
Totalt vertikalt dybde (TVD) [m RKB]	4972.5
Maks inklinasjon [°]	6
Temperatur ved bunn av brønnbanen [°C]	175



Eldste penetrerte alder	EARLY JURASSIC
Eldste penetrerte formasjon	ÅRE FM
Geodetisk datum	ED50
NS grader	65° 10' 6.69" N
ØV grader	6° 28' 12.96" E
NS UTM [m]	7229792.83
ØV UTM [m]	381477.18
UTM sone	32
NPDID for brønnbanen	3322

Brønnhistorie

**General**

Wildcat well 6506/11-7 was drilled on a rotated and truncated fault block on the northern extension of the Kristin trend, west of the Åsgard Field (Smørbukk Discovery). The purpose of the well was to test the hydrocarbon potential of the M-prospect, with targets in the Middle and Early Jurassic sandstones of the Fangst and Båt Groups. It should acquire information about the reservoir quality and the fluid properties. It should also provide velocity information and establish a good seismic tie.

Operations and results

Well 6506/11-7 was spudded with the semi-submersible installation Scarabeo 5 on 25 January 2001 and drilled to TD at 4978 m in Early Jurassic sediments of the Åre Formation. The well was drilled with seawater and bentonite down to 1398 m, with KCl/polymer/glycol mud from 1398 m to 2710 m, and with Versapro mineral oil based mud from 2710 m to TD

Two sections with sandy sediments were penetrated in the Early Cretaceous (the Lysing Formation from 3336 m to 3465 m and a sandstone member of the Lange Formation from 4152 m to 4343 m). Both these sections were water wet without shows. The Fangst Group was encountered at 4578 m. The Garn and the Ile Formations proved to be hydrocarbon bearing. Indications of hydrocarbons were also seen in the Tofte Formation, but log and test results proved that the formation was tight. The Tilje and the Åre Formations proved to be water bearing in the well position. Seven cores were cut. Core 1 was taken in Early Cretaceous, core 2 in the Garn Formation, cores 3 and 4 in the Ile and Upper Ror Formations, cores 5 and 6 in the Tofte Formation, and core 7 in the Tilje Formation. MDT sampling was performed in the Tofte (4772,5 m), Ile (4678,5 m) and Garn (4601,5 m) Formations. The sampling in Tofte was unsuccessful due to tight formation, and the chambers were found to be filled with mud filtrate. The sampling in Garn and Ile was successful although the samples were contaminated with oil-based mud, and therefore less representative. The samples from Garn were highly contaminated, 37-42 weight % OBM filtrate contaminated, while the Ile samples were less contaminated, 5-7 weight %.

The well was permanently abandoned on 27 July 2001 as an oil and gas discovery.

Testing

Three drill stem tests were performed. Test # 1 in the interval 4751 - 4818 m in the Tofte Formation confirmed tight formation and the test was aborted. Samples taken during reverse circulation indicated influx of formation water, probably from the best zone in the lowermost part of the perforated interval. Test # 2 in the interval 4668 - 4700 m in the Ile Formation produced 540 Sm³ light oil and 211000 Sm³ gas pr day on a 28/64" choke. GOR was 390 Sm³/Sm³. Test # 3 in the interval: 4590 - 4631 m in the Garn Formation produced 240 Sm³ light oil and 127000 Sm³ gas pr day on a 10/64" choke. GOR was 529 Sm³/Sm³. Geochemical fingerprinting of major and biomarker compounds showed very similar oils in Ile and Garn.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1400.00	4320.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	4475.0	4482.6	[m]
2	4591.0	4609.0	[m]
3	4664.0	4675.3	[m]
4	4685.0	4728.6	[m]
5	4755.0	4764.0	[m]
6	4779.0	4790.9	[m]
7	4859.0	4878.4	[m]

Total kjerneprøve lengde [m]	120.7
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



4591-4596m



4596-4601m



4601-4606m



4606-4609m



4664-4669m



4669-4674m



4674-4675m



4685-4690m



4690-4695m



4695-4700m



4700-4705m



4705-4710m



4710-4715m



4715-4720m



4720-4725m



4725-4728m



4755-4760m



4760-4763m



4779-4784m



4784-4789m



4789-4790m



4859-4864m



4864-4869m



4869-4874m



4874-4878m

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
1400.0	[m]	DC	GEOSTR
1420.0	[m]	DC	GEOSTR
1440.0	[m]	DC	GEOSTR
1460.0	[m]	DC	GEOSTR
1480.0	[m]	DC	GEOSTR
1500.0	[m]	DC	GEOSTR
1520.0	[m]	DC	GEOSTR
1540.0	[m]	DC	GEOSTR
1560.0	[m]	DC	GEOSTR
1580.0	[m]	DC	GEOSTR
1600.0	[m]	DC	GEOSTR
1620.0	[m]	DC	GEOSTR
1640.0	[m]	DC	GEOSTR
1660.0	[m]	DC	GEOSTR
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4787.9	[m]	C	GEOSTR
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4953.0	[m]	DC	GEOSTR
4962.0	[m]	DC	GEOSTR
4971.0	[m]	DC	GEOSTR

Oljeprøver i Sökkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST		0.00	0.00	CONDE NSATE	22.06.2001 - 22:55	YES
DST		0.00	0.00	CONDE NSATE	14.07.2001 - 17:30	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
381	NORDLAND GP



381	NAUST FM
1495	KAI FM
1905	HORDALAND GP
1905	BRYGGE FM
2132	ROGALAND GP
2132	TARE FM
2205	TANG FM
2255	SHETLAND GP
2255	SPRINGAR FM
2385	NISE FM
2620	KVITNOS FM
3336	CROMER KNOLL GP
3336	LYSING FM
3465	LANGE FM
4153	NO FORMAL NAME
4315	LANGE FM
4549	LYR FM
4576	VIKING GP
4576	SPEKK FM
4578	FANGST GP
4578	GARN FM
4637	NOT FM
4661	ILE FM
4709	BÅT GP
4709	ROR FM
4752	TOFTE FM
4818	ROR FM
4821	TILJE FM
4927	ÅRE FM

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
3322	pdf	0.63

Geokjemisk informasjon





Dokument navn	Dokument format	Dokument størrelse [KB]
3322_1	pdf	6.25

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
3322_6506_11_7_COMPLETION_LOG	.pdf	1.59
3322_6506_11_7_COMPLETION_REPORT	.PDF	7.33

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	4751	4818	12.0
2.0	4668	4700	11.0
3.0	4590	4631	3.8

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0				161
2.0			49.000	168
3.0			38.000	166

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0					
2.0	680	253000			372
3.0	240	127000			529

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
AIT DSI GR EMS	4312	4977
ASI GR	1500	4300
CMR ECS GR	4575	4977





DSI LDL GR	1387	2712
LDL APS HNGS	4312	4977
MDT GR	4576	4591
MDT GR	4592	4925
MDT GR	4601	4947
MDT GR	4760	4780
MDT GR	4774	4784
MSCT GR	0	0
MSCT GR	4681	4947
MWD - AUTOTRACK PWD CDR	3746	4323
MWD - DIR	444	1398
MWD - MPR	381	1410
MWD - MPR	4323	4972
MWD - MPR DCP	1398	2710
MWD - MPR DCP ORD CCN	2710	3747
VELOCITY	1500	4300
VSP GR	3900	4898

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	440.0	36	444.0	0.00	LOT
SURF.COND.	20	1387.0	26	1390.0	1.77	LOT
INTERM.	13 3/8	2700.0	17 1/2	2710.0	1.92	LOT
INTERM.	9 7/8	4312.0	12 1/4	4313.0	2.12	LOT
LINER	7	4970.0	8 1/2	4970.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
653	1.03			BENTONITE/FW	
1212	1.03	12.0		BENTONITE/FW	
1373	1.03	12.0		BENTONITE/FW	
1398	1.20	19.0		BENTONITE/FW	
1402	1.39	16.0		GLYDRIL MC	
1762	1.50	22.0		GLYDRIL MC	
2530	1.64	31.0		GLYDRIL MC	



3746	1.80	43.0		VERSAPRO	
4323	1.82	35.0		VERSAPRO	
4580	1.92	53.0		VERSAPRO	
4610	1.97	47.0		VERSAPRO	
4730	1.92	49.0		VERSAPRO	
4972	1.92	54.0		VERSAPRO	

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 brønnspar. Trykkdataene er rapportert inn til Oljedirektoratet og videre prosessert og kvalitetssikret av IHS Markit.

Dokument navn	Dokument format	Dokument størrelse [KB]
3322 Formation pressure (Formasjonstrykk)	pdf	0.24

