



Generell informasjon

Brønnbane navn	6306/10-1
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORWEGIAN SEA
Brønn navn	6306/10-1
Seismisk lokalisering	NMI-822 & SP. 380
Utvinningstillatelse	155
Boreoperatør	A/S Norske Shell
Boretillatelse	649-L
Boreinnretning	DYVI STENA
Boredager	102
Borestart	07.09.1990
Boreslutt	17.12.1990
Frigitt dato	17.12.1992
Publiseringsdato	30.06.2005
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL/GAS SHOWS
Funnbrønnbane	NO
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	83.0
Totalt målt dybde (MD) [m RKB]	3187.0
Totalt vertikalt dybde (TVD) [m RKB]	3183.0
Maks inklinasjon [°]	6.9
Temperatur ved bunn av brønnbanen [°C]	114
Eldste penetrerte alder	PRE-DEVONIAN
Eldste penetrerte formasjon	BASEMENT
Geodetisk datum	ED50
NS grader	63° 9' 26.32" N
ØV grader	6° 19' 41.45" E
NS UTM [m]	7006088.05
ØV UTM [m]	365416.35
UTM sone	32
NPDID for brønnbanen	1551

**Brønnhistorie****General**

Well 6306/10-1 was designed to drill the Skalmen prospect, a structural closure located at the northern apex of the Gossa High in block 6306/10. Amplitude anomalies were seen at 280-, 300-, 400-, 1200 to 1300-, and 2200- 2400 ms. The primary objective of the well was to test the hydrocarbon potential of Early Jurassic and Pre-Jurassic sequences, believed to be developed in a sandy facies of deltaic/fluviol origin. Secondary objective was to test potential reservoir developments in the Cretaceous and the Late Jurassic within dip-closure. A third objective was to test the hydrocarbon potential of Paleocene sands. The well should be drilled some 250-300 m into rocks of Pre-Jurassic age and would penetrate the primary objective some 300 m down-dip from the structural culmination.

Operations and results

Wildcat well 6306/10-1 was spudded with the semi-submersible installation Dyvi Stena on 7 September 1990 and drilled to TD at 3187 m in basement rocks. Shallow gas was not observed. Overcompacted sediments and boulders caused some problems, and the well had to be re-spudded several times. Bad weather caused some delay in the drilling procedure, as the string was temporarily hung off several times. The well was drilled with Bentonite and seawater down to 610 m and with PAC/gypsum mud from 610m to TD.

The well encountered close to 150 m of Paleocene Egga sand at 1138 m. Some sand developments were seen also in an Intra-Kvitnos Unit at 1825 m and in a 7 m thick Lysing Formation at 1992 m. The well penetrated a hiatus from Aptian to Early Callovian at 2692 m. The Middle Jurassic section from 2692 m to 2980 m contained about 60 m net sand with relatively low porosities and poor permeabilities, based on petrophysical log evaluation. The logs also showed that this section was gas bearing. Shows were recorded in the Egga Informal unit from 1142 m to 1180 m, in sandstone stringers in the interval 1992 m to 2470 m in the Lysing and Lange Formation, in the Middle Jurassic Viking and Fangst Groups from 2700 m to 2980 m, and on sidewall cores taken in metamorphic basement. Production testing of the Jurassic interval and the basement produced small volumes of gas at very low rates from the Jurassic, while the basement produced no formation fluid to surface.

Various laboratories conducted extensive organic geochemical analyses in this well. These could confirm migrant hydrocarbons (shows) in the Egga sand and in the Middle Jurassic. The Egga hydrocarbons were severely biodegraded, but appeared to originate from a very early mature source. The Middle Jurassic shows and the DST oil showed variable fingerprints, but a more or less waxy, terrestrial nature was interpreted in many samples. The Middle Jurassic contained silty shales in the upper part (Melke) and more coaly shales and coals in the lower part (Garn). Both constitute excellent source rocks for gas and oil. The well is mature for oil generation (%Ro = 0.5) from ca 2200 m depth to TD.

FMT pressure surveys gave a clear water gradient in Egga sand. No gradient could be established over the Jurassic and basement sections. FMT Fluid sampling in the Jurassic gave only mud filtrate. A total of 5 conventional cores were cut in the well: two in the Egga sand, one in the Melke Formation, one in the Garn Formation, and one in basement rock.

The well was permanently abandoned with shows on 17 December 1990.

Testing



Two DST tests were carried out. No 1 perforated from 2995 - to 3187 m in basement. This test did not produce any formation fluid to surface. No 2 perforated from 2716 - to 2827 m in Jurassic rocks. It flowed gas at very low rates of some 1500 Sm³/d. Upon abandonment of the test the tubing content was circulated out. This indicated that condensate and some formation water had been produced (some 1 m³ of condensate and some 4 m³ of water, 13000 ppm C1-).

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
620.00	3169.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	1144.0	1170.0	[m]
2	1172.0	1198.7	[m]
3	2747.0	2758.3	[m]
4	2880.0	2888.0	[m]
5	3156.0	3159.7	[m]

Total kjerneprøve lengde [m]	75.7
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



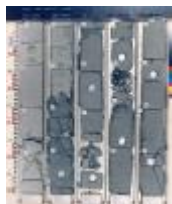
1144-1149m



1149-1154m



1154-1159m



1159-1164m



1164-1169m





1169-1174m

1174-1179m

1179-1184m

1184-1189m

1189-1194m



1194-1198m



2747-2752m



2752-2757m



2757-2758m



2880-2885m



2885-2888m

Palynologiske preparater i Sjøkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
1145.0	[m]	C	RRI
1145.8	[m]	C	RRI
1147.0	[m]	C	RRI
1148.4	[m]	C	RRI
1150.0	[m]	C	RRI
1157.9	[m]	C	RRI
1159.1	[m]	C	RRI
1165.2	[m]	C	RRI
1172.1	[m]	C	RRI
1177.2	[m]	C	RRI
1184.8	[m]	C	RRI

Oljeprøver i Sjøkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST	DST2	2716.00	2827.00		11.12.1990 - 00:00	YES



Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
108	NORDLAND GP
275	HORDALAND GP
275	BRYGGE FM
610	ROGALAND GP
610	TANG FM
1138	EGGA FM (INFORMAL)
1285	SHETLAND GP
1285	SPRINGAR FM
1525	NISE FM
1750	KVITNOS FM
1825	NO FORMAL NAME
1885	KVITNOS FM
1992	CROMER KNOLL GP
1992	LYSING FM
1999	LANGE FM
2692	VIKING GP
2692	MELKE FM
2781	FANGST GP
2781	GARN FM
2980	BASEMENT

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
1551_1	pdf	4.35
1551_2	pdf	2.70

Dokumenter - eldre Søkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
1551_01 WDSS General Information	pdf	0.21
1551_02 WDSS completion log	pdf	0.20





Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
1551_6306_10_1_COMPLETION_REPORT_AND_LOG	pdf	45.22

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsventil størrelse [mm]
1.0	2967	3158	0.0

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0				

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0					

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CBIL GR	2995	3184
CBL VDL	0	1498
CBL VDL GR	2480	2978
CND CNL GR CAL	603	1495
CND CNL GR CAL	1498	2631
CND CNL GR SPL	2995	3184
CND CNL SPL CAL	2642	3141
DIFL AC SP GR	603	1495
DIFL AC SP GR	1498	2631
DIFL AC SP GR	2642	3141
DIFL AC SP GR	2995	3184
DIPMETER	2647	3137
DLL MLL GR	2642	3042





DLL MLL GR	2995	3184
DLL MSFL GR	1075	1325
FMT GR	1138	1280
FMT GR	1828	1849
FMT GR	1828	1849
FMT GR	2721	3115
MWD - GR RES DIR	100	3074
RSCT GR	3101	3139
SWC GR	614	1477
SWC GR	1524	2610
SWC GR	2660	3107
VELOCITY	614	3175
VSP GR	870	3140

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	169.0	36	171.0	0.00	LOT
INTERM.	20	603.0	26	605.0	1.87	LOT
INTERM.	13 3/8	1499.0	17 1/2	1501.0	1.80	LOT
INTERM.	9 5/8	2644.0	12 1/4	2647.0	2.20	LOT
LINER	7	3187.0	8 1/2	3187.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
121	0.00	100.0		WATER BASED	10.09.1990
175	0.00	100.0		WATER BASED	10.09.1990
610	0.00	100.0		WATER BASED	13.09.1990
610	0.00	100.0		WATER BASED	17.09.1990
610	0.00	100.0		WATER BASED	17.09.1990
610	0.00	100.0		WATER BASED	17.09.1990
610	0.00	100.0		WATER BASED	17.09.1990
610	1.30	60.0	15.0	WATER BASED	20.09.1990
610	0.00	100.0		WATER BASED	14.09.1990
1031	1.30	52.0	17.0	WATER BASED	20.09.1990
1144	1.30	51.0	18.0	WATER BASED	24.09.1990



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 9.5.2024 - 14:15

1144	1.30	51.0	18.0	WATER BASED	24.09.1990
1172	1.30	53.0	12.0	WATER BASED	24.09.1990
1200	1.30	51.0	12.0	WATER BASED	25.09.1990
1328	1.30	48.0	13.0	WATER BASED	26.09.1990
1478	1.30	50.0	7.0	WATER BASED	26.09.1990
1510	1.30	68.0	10.0	WATER BASED	28.09.1990
1510	1.30	68.0	10.0	WATER BASED	01.10.1990
1510	1.30	68.0	10.0	WATER BASED	01.10.1990
1510	1.30	98.0	17.0	WATER BASED	01.10.1990
1510	1.30	92.0	5.0	WATER BASED	02.10.1990
1554	1.20	41.0	5.0	WATER BASED	03.10.1990
1850	1.20	44.0	6.0	WATER BASED	04.10.1990
1914	1.21	42.0	5.0	WATER BASED	04.10.1990
1990	1.21	42.0	17.0	WATER BASED	05.10.1990
2045	1.21	45.0	6.0	WATER BASED	08.10.1990
2132	1.25	45.0	6.0	WATER BASED	08.10.1990
2133	1.25	45.0	6.0	WATER BASED	08.10.1990
2133	1.25	44.0	6.0	WATER BASED	09.10.1990
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2133	1.25	42.0	5.0	WATER BASED	11.10.1990
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2133	1.25	46.0	6.0	WATER BASED	15.10.1990
2316	1.25	53.0	7.0	WATER BASED	15.10.1990
2414	1.25	49.0	7.0	WATER BASED	16.10.1990
2497	1.25	48.0	6.0	WATER BASED	17.10.1990
2595	1.25	49.0	8.0	WATER BASED	18.10.1990
2644	1.35	63.0	12.0	WATER BASED	29.10.1990
2644	1.35	63.0	12.0	WATER BASED	25.10.1990
2655	1.25	47.0	7.0	WATER BASED	22.10.1990
2655	1.25	47.0	7.0	WATER BASED	22.10.1990
2655	1.25	47.0	7.0	WATER BASED	22.10.1990
2655	1.35	46.0	8.0	WATER BASED	23.10.1990
2655	1.35	63.0	11.0	WATER BASED	23.10.1990
2683	1.35	50.0	6.0	WATER BASED	29.10.1990
2707	1.35	50.0	6.0	WATER BASED	29.10.1990
2747	1.55	49.0	6.0	WATER BASED	29.10.1990
2783	1.60	53.0	8.0	WATER BASED	30.10.1990
2859	1.60	52.0	8.0	WATER BASED	31.10.1990
2876	1.60	53.0	8.0	WATER BASED	31.10.1990



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 9.5.2024 - 14:15

2889	1.60	59.0	9.0	WATER BASED	01.11.1990
2908	1.60	61.0	10.0	WATER BASED	02.11.1990
2950	1.58	66.0	10.0	WATER BASED	10.12.1990
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2950	1.58	66.0	11.0	WATER BASED	10.12.1990
2950	1.58	66.0	10.0	WATER BASED	11.12.1990
2950	1.58	62.0	9.0	WATER BASED	17.12.1990
2965	1.60	52.0	6.0	WATER BASED	05.11.1990
2976	1.60	54.0	7.0	WATER BASED	05.11.1990
3019	1.60	53.0	7.0	WATER BASED	05.11.1990
3061	1.60	54.0	7.0	WATER BASED	07.11.1990
3074	1.60	56.0	7.0	WATER BASED	08.11.1990
3124	1.60	56.0	7.0	WATER BASED	09.11.1990
3141	1.60	62.0	9.0	WATER BASED	19.11.1990
3141	1.60	57.0	8.0	WATER BASED	12.11.1990
3141	1.60	57.0	8.0	WATER BASED	12.11.1990
3141	1.60	57.0	8.0	WATER BASED	12.11.1990
3141	1.60	60.0	9.0	WATER BASED	13.11.1990
3141	1.60	60.0	9.0	WATER BASED	14.11.1990
3141	1.60	60.0	9.0	WATER BASED	15.11.1990
3141	1.60	60.0	9.0	WATER BASED	16.11.1990
3141	1.60	63.0	9.0	WATER BASED	19.11.1990
3141	1.60	63.0	9.0	WATER BASED	19.11.1990
3141	1.60	53.0	7.0	WATER BASED	20.11.1990
3141	1.60	60.0	8.0	WATER BASED	21.11.1990
3141	1.60	60.0	8.0	WATER BASED	22.11.1990
3141	1.55	60.0	9.0	WATER BASED	26.11.1990
3158	1.55	68.0	8.0	WATER BASED	26.11.1990
3167	1.55	82.0	7.0	WATER BASED	26.11.1990
3182	1.55	82.0	6.0	WATER BASED	26.11.1990
3187	1.55	82.0	7.0	WATER BASED	27.11.1990
3187	1.55	84.0	13.0	WATER BASED	28.11.1990
3187	1.55	84.0	13.0	WATER BASED	30.11.1990
3187	1.55	97.0	12.0	WATER BASED	04.12.1990
3187	1.55	94.0	12.0	WATER BASED	04.12.1990



3187	1.55	88.0	11.0	WATER BASED	04.12.1990
3187	1.55	84.0	10.0	WATER BASED	04.12.1990
3187	1.55	83.0	9.0	WATER BASED	04.12.1990
3187	1.55	68.0	13.0	WATER BASED	05.12.1990
3187	1.55	84.0	13.0	WATER BASED	30.11.1990

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]
1551_Formation_pressure_(Formasjonstrykk)	pdf	0.28

