



Generell informasjon

Brønnbane navn	34/10-30
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	GULLFAKS SØR
Funn	34/10-2 Gullfaks Sør
Brønn navn	34/10-30
Seismisk lokalisering	LINJE 170 SP 405 (3D-SURVEY)
Utvinningstillatelse	050
Boreoperatør	Den norske stats oljeselskap a.s
Boretillatelse	501-L
Boreinnretning	DYVI STENA
Boredager	115
Borestart	16.01.1986
Boreslutt	12.05.1986
Frigitt dato	12.05.1988
Publiseringsdato	28.05.2003
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	BRENT GP
2. nivå med hydrokarboner, alder	EARLY JURASSIC
2. nivå med hydrokarboner, formasjon	STATFJORD GP
3. nivå med hydrokarboner, alder	LATE TRIASSIC
3. nivå med hydrokarboner, formasjon	LUNDE FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	133.0
Totalt målt dybde (MD) [m RKB]	3785.0
Totalt vertikalt dybde (TVD) [m RKB]	3773.0
Maks inklinasjon [°]	11.5



Temperatur ved bunn av brønnbanen [°C]	143
Eldste penetrerte alder	LATE TRIASSIC
Eldste penetrerte formasjon	LUNDE FM
Geodetisk datum	ED50
NS grader	61° 6' 31.07" N
ØV grader	2° 15' 23.92" E
NS UTM [m]	6775275.64
ØV UTM [m]	459930.95
UTM sone	31
NPDID for brønnbanen	877

Brønnhistorie



General

Well 34/10-30 was the fifth well drilled on Gullfaks Sør. The well was the "continuation" of the junked well 34/10-28, which was plugged and abandoned at 528 m. Well 34/10-30 was drilled on the Alpha structure, and designed to test for hydrocarbon accumulations in the North East part of the structure. The main objectives were the Brent and Statfjord sandstones. The Lower Jurassic Cook sandstone, which had been water bearing in the other Gullfaks Sør wells, was considered a secondary objective, as was the penetration of the oil/water contact. Prognosed depth was 3435 m.

Operations

Appraisal well 34/10-30 was spudded with the semi-submersible installation Dyvi Stena on 16 January 1986 and drilled to TD at 3785 m in the Triassic Lunde Formation. Drilling proceeded without significant problems, but 20" casing was set early due to shallow gas in the interval 332-340 m. The well was drilled with spud mud down to 232 m, with PAC/polymer mud from 232 m to 325 m, with gypsum / PAC mud from 325 m to 1898 m, with gypsum/PAC/"Borewell" mud from 1898 m to 2845 m, and with Lignite/"Borewell" mud from 2845 m to TD.

A four-meter thick Brent sandstone was encountered at 2941 m. The sandstone showed a milky white to pale yellow fluorescence with a slow white streaming cut and a C1/C2 mud gas ratio that indicate a gas bearing formation. The Cook Formation was dry. The top of the Statfjord Formation was at 3120 m, approximately 100 m higher than prognosed. The formation was all filled with oil and gas and had a gas-oil contact at 3251.6 m. The Lunde Formation was reached at 3375 m. The formation was oil bearing with no defined oil-water contact. The oil/water contact was expected at 3395 m. This was not the case and drilling of a 6" section thus commenced past the prognosed depth. The oil water contact was difficult to define, but there is reason to believe it to be at approximately 3712 m. Twenty-two cores were cut in the well, 9 in the Lunde Formation, 12 in the Statfjord Formation, and one in the Dunlin Group. One segregated RFT sample was collected in the Lunde Formation at 3554.0 m. The bottom part of the well was plugged back into the 7" liner without permission from NPD. The well was tested and subsequently plugged and abandoned on 12 may 1986 as an oil and gas appraisal well.

Testing

Three drill stem tests were performed. DST No 1 (3460 m to 3473 m) in the Lunde Formation flowed 418 Sm³ oil /d with a GOR of 146 Sm³/Sm³ through a 12.7 mm choke, DST No 2 (3296 m to 3317 m) in the oil zone in the Statfjord Formation flowed 1161 Sm³ oil /d with a GOR of 102 Sm³/Sm³ through a 17.5 mm choke, while DST No 3 (3125 m to 3155 m) in the gas zone in the Statfjord Formation flowed 352 Sm³ oil/d and 1151000 Sm³ gas/d (GOR = 3270 Sm³/Sm³) through a 17.5 mm choke.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
230.00	3782.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerner i Sokkeldirektoratet



Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2942.4	2945.8	[m]
2	3125.0	3146.0	[m]
3	3146.0	3171.7	[m]
4	3173.0	3179.5	[m]
5	3179.5	3186.5	[m]
6	3186.5	3199.5	[m]
7	3199.5	3217.6	[m]
8	3217.5	3235.6	[m]
9	3235.5	3252.8	[m]
10	3252.5	3270.2	[m]
11	3270.5	3288.8	[m]
12	3288.8	3305.2	[m]
13	3306.0	3326.6	[m]
14	3411.0	3429.4	[m]
15	3429.0	3446.0	[m]
16	3446.5	3465.0	[m]
17	3465.0	3478.5	[m]
18	3543.0	3561.3	[m]
19	3561.5	3579.8	[m]
20	3548.0	3597.5	[m]
21	3597.5	3615.0	[m]
22	3615.5	3633.7	[m]

Total kjerneprøve lengde [m]	392.2
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



2942-2946m



3125-3131m



3131-3137m



3137-3143m



3143-3146m



3146-3152m



3152-3158m



3158-3164m



3164-3170m



3170-3172m



3173-3179m



3179-3180m



3180-3185m



3185-3187m



3187-3192m



3192-3198m



3198-3200m



3199-3205m



3205-3211m



3211-3217m



3217-3218m



3218-3222m



3223-3229m



3229-3235m



3235-3236m



3235-3240m



3241-3247m



3247-3253m



3252-3258m



3264-3270m



3270-3271m



3270-3276m



3276-3282m



3288-3289m



3282-3288m



3288-3294m



3294-3300m



3300-3306m



3306-3312m



3312-3318m



3318-3324m



3411-3417m



3417-3423m



3423-3429m



3429-3430m



3429-3435m



3435-3441m



3441-3446m



3446-3452m



3452-3458m



3458-3464m



3464-3465m



3465-3471m



3471-3477m



3477-3479m



3543-3549m



3549-3555m



3555-3581m



3561-3562m



3561-3567m



3567-3573m



3573-3579m



3579-3580m



3579-3585m



3585-3591m



3591-3597m



3597-3598m



3597-3603m



3603-3609m



3609-3615m



3615-3621m



3621-3627m



3627-3633m



3633-3634m

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
2910.0	[m]	DC	GEOCH
2922.0	[m]	DC	GEOCH
2934.0	[m]	DC	GEOCH
2942.3	[m]	DC	GEOCH
2952.0	[m]	DC	GEOCH
3125.9	[m]	C	HYDRO
3133.7	[m]	C	HYDRO
3140.4	[m]	C	HYDRO
3146.8	[m]	C	HYDRO
3153.5	[m]	C	HYDRO
3158.9	[m]	C	HYDRO
3162.4	[m]	C	HYDRO
3167.9	[m]	C	HYDRO
3179.6	[m]	C	HYDRO
3185.9	[m]	C	HYDRO
3192.5	[m]	C	HYDRO
3196.9	[m]	C	HYDRO
3201.7	[m]	C	HYDRO
3204.1	[m]	C	HYDRO
3211.6	[m]	C	HYDRO
3214.4	[m]	C	HYDRO
3217.5	[m]	C	HYDRO
3228.9	[m]	C	HYDRO



3233.3	[m]	C	HYDRO
3240.7	[m]	C	HYDRO
3251.6	[m]	C	HYDRO
3255.6	[m]	C	HYDRO
3261.0	[m]	C	HYDRO
3262.5	[m]	C	HYDRO
3273.3	[m]	C	HYDRO
3283.6	[m]	C	HYDRO
3288.2	[m]	C	HYDRO
3292.1	[m]	C	HYDRO
3294.4	[m]	C	HYDRO
3297.1	[m]	C	HYDRO
3309.4	[m]	C	HYDRO
3316.7	[m]	C	HYDRO
3318.3	[m]	C	HYDRO
3320.6	[m]	C	HYDRO
3323.5	[m]	C	HYDRO
3411.4	[m]	C	HYDRO
3417.7	[m]	C	HYDRO
3420.9	[m]	C	HYDRO
3426.9	[m]	C	HYDRO
3431.7	[m]	C	HYDRO
3440.6	[m]	C	HYDRO
3448.3	[m]	C	HYDRO
3453.8	[m]	C	HYDRO
3459.7	[m]	C	HYDRO
3469.8	[m]	C	HYDRO
3472.9	[m]	C	HYDRO
3474.7	[m]	C	HYDRO

Oljeprøver i Søkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST	TEST1	3460.00	3473.00		15.04.1986 - 03:42	YES
DST	TEST2	3297.00	3318.00		21.04.1986 - 20:50	YES
DST	TEST3	3125.00	3155.00		30.04.1986 - 00:00	YES



Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
158	NORDLAND GP
920	UTSIRA FM
951	HORDALAND GP
1785	ROGALAND GP
1785	BALDER FM
1856	LISTA FM
2006	SHETLAND GP
2918	CROMER KNOLL GP
2941	BRENT GP
2945	DUNLIN GP
2945	DRAKE FM
2950	COOK FM
2983	AMUNDSEN FM
3120	STATFJORD GP
3375	HEGRE GP
3375	LUNDE FM

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
877	pdf	0.81

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
877_1	pdf	1.87
877_2	pdf	0.27

Dokumenter - eldre Sjøkeldirektoratets WDSS rapporter og andre relaterte dokumenter





Dokument navn	Dokument format	Dokument størrelse [KB]
877_01_WDSS_General_Information	pdf	0.28
877_02_WDSS_completion_log	pdf	0.34

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
877_34_10_30_COMPLETION_REPORT_AND_LOG	pdf	36.37

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	3460	3473	12.7
2.0	3297	3318	17.5
3.0	3125	3155	17.5

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0	7.600		25.900	129
2.0		9.000	29.200	126
3.0			43.100	118

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0	418	61000	0.863	0.694	146
2.0	1150	118000	0.859	0.662	102
3.0	352	1151000	0.790	0.658	3271

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CBL VDL GR	155	2832
CBL VDL GR	300	1885





CBL VDL GR	2671	3500
CBL VDL GR	3046	3163
CST GR	1887	2845
DLL MSFL GR	2832	3497
DLL MSFL GR	3500	3783
DLWD - GR RES DIR	236	3500
DLWD - NMR P-K	3125	3319
DLWD - NMR P-K	3411	3479
ISF LSS MSFL GR	319	1405
ISF LSS MSFL GR	1322	1896
ISF LSS MSFL GR	1887	2845
ISF LSS MSFL GR	2832	3365
ISF LSS MSFL GR	2832	3499
ISF LSS MSFL GR	3500	3787
ISF LSS MSFL GR	3500	3677
LDL CNL GR	319	1898
LDL CNL GR	1887	2846
LDL CNL GR	3500	3787
LDL CNL NGS	2832	3500
RFT GR	2919	3146
RFT GR	3133	3302
RFT GR	3542	3766
SHDT GR	2832	3483
SHDT GR	3500	3787
VSP	319	3787

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	231.0	36	235.0	0.00	LOT
SURF.COND.	20	320.0	26	329.0	1.33	LOT
INTERM.	13 3/8	1886.0	17 1/2	1898.0	1.80	LOT
INTERM.	9 5/8	2831.0	12 1/2	2845.0	0.00	LOT
LINER	7	3785.0	8 1/2	3785.0	1.99	LOT

Boreslam



Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
634	1.12	17.0	11.0	WATER BASED	23.01.1986
898	1.15	20.0	12.5	WATER BASED	23.01.1986
1718	1.17	56.0	25.0	WATER BASED	31.01.1986
1776	1.20	58.0	16.0	WATER BASED	03.02.1986
1887	1.27	62.0	15.5	WATER BASED	03.02.1986
1898	1.30	61.0	13.5	WATER BASED	04.02.1986
1905	1.35	52.0	9.8	WATER BASED	11.02.1986
1928	1.40	52.0	9.8	WATER BASED	11.02.1986
2043	1.45	52.0	9.8	WATER BASED	11.02.1986
2100	1.56	56.0	8.4	WATER BASED	11.02.1986
2151	1.55	56.0	8.4	WATER BASED	11.02.1986
2204	1.60	56.0	8.4	WATER BASED	11.02.1986
2476	1.62	51.0	7.4	WATER BASED	12.02.1986
2750	1.62	57.0	10.0	WATER BASED	16.02.1986
2770	1.67	50.0	7.0	WATER BASED	16.02.1986
2777	1.67	55.0	8.0	WATER BASED	16.02.1986
2944	1.65	21.0	4.5	WATER BASED	11.03.1986
3133	1.65	21.0	4.5	WATER BASED	11.03.1986
3146	1.65	21.0	4.5	WATER BASED	11.03.1986
3365	1.60	20.0	4.5	WATER BASED	11.03.1986
3500	1.50	20.0	6.0	WATER BASED	25.03.1986
3675	1.50	23.0	5.7	WATER BASED	01.04.1986
3693	1.50	24.0	5.2	WATER BASED	03.04.1986

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]
877 Formation pressure (Formasjonstrykk)	pdf	0.22

