



Generell informasjon

Brønnbane navn	34/10-11
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	GULLFAKS
Funn	34/10-1 Gullfaks
Brønn navn	34/10-11
Seismisk lokalisering	S 3D 152 SP 365
Utvinningstillatelse	050
Boreoperatør	Den norske stats oljeselskap a.s
Boretillatelse	264-L
Boreinnretning	ROSS RIG (1)
Boredager	132
Borestart	23.10.1980
Boreslutt	05.03.1981
Frigitt dato	05.03.1983
Publiseringsdato	03.12.2014
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	EARLY JURASSIC
1. nivå med hydrokarboner, formasjon.	STATFJORD GP
2. nivå med hydrokarboner, alder	EARLY JURASSIC
2. nivå med hydrokarboner, formasjon	AMUNDSEN FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	229.0
Totalt målt dybde (MD) [m RKB]	2155.0
Totalt vertikalt dybde (TVD) [m RKB]	2155.0
Maks inklinasjon [°]	1.1
Temperatur ved bunn av brønnbanen [°C]	85
Eldste penetrerte alder	LATE TRIASSIC



Eldste penetrerte formasjon	LUNDE FM
Geodetisk datum	ED50
NS grader	61° 13' 20.84" N
ØV grader	2° 17' 32.9" E
NS UTM [m]	6787932.93
ØV UTM [m]	461999.28
UTM sone	31
NPDID for brønnbanen	211

Brønnhistorie



General

Well 34/10-11 was drilled on the Gullfaks Delta structure in the North Sea. The primary objective of the well was to test sandstones of Middle Jurassic age. Secondary objectives were sandstones of Lower Jurassic age.

Operations and results

Appraisal well 34/10-11 was spudded with the semi-submersible installation Ross Rig on 23 October 1980 and drilled to TD at 2155 m in Late Triassic sediments of the Lunde Formation. Bad weather caused 511 hrs lost time (15.7% of total rig time). Significant lost time (509 hrs) was caused also by malfunction and repairs of the BOP. The well was drilled with spud mud down to 463 m, with gel/lignosulphonate/seawater mud from 463 m to 1100 m, with Gypsum/lignosulphonate/seawater mud from 1100 m to 1720 m, and with gel/lignosulphonate/seawater mud from 1720 m to TD.

First oil shows were recorded from 1090 m to 1200 m, intermittent weak shows were seen from 1420 to 1495, and more or less continuous oil shows were recorded on limestone from 1660 m to top reservoir at 1868 m. The well proved oil in sandstones from top of the Early Jurassic Amundsen Formation at 1868 down to the OWC at 2038 m in Late Triassic sediments of the Raude Formation. Below 2038 m shows were recorded down to TD.

Six cores were cut in the interval 1870 m to 1926.5 m in the Amundsen and Nansen formations. Two FIT fluid samplings were attempted. FIT 1 at 2081 m recovered 3 litres 35 °API oil and 7 litres of mud filtrate in the 2 3/4 gallon chamber. The FIT 2 at 2051 m did not recover any fluids.

The well was permanently abandoned on 5 march 1981 as a as an oil appraisal well on the Gullfaks field.

Testing

Two drill stem tests were conducted in the Statfjord Group.

DST1 tested the interval 2018 to 2028 m in the Raude Formation. It produced 399 Sm³ oil and 60880 Sm³ gas /day through a 24/64" choke. GOR was 153 Sm³/Sm³, oil gravity was 36.5°API, and gas gravity was 0.647 (air = 1). The bottom hole temperature in the test was 79.9°C.

DST2 tested the interval 1891 to 1896 m in the Nansen Formation. It produced 389 Sm³ oil and 64560 Sm³ gas /day through a 24/64" choke. GOR was 166 Sm³/Sm³, oil gravity was 36.5°API, and gas gravity was 0.656 (air = 1). The bottom hole temperature in the test was 75.6°C.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
300.00	2155.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	1870.0	1879.7	[m]
2	1887.0	1890.7	[m]
3	1891.5	1893.8	[m]
4	1899.0	1906.5	[m]
5	1909.0	1920.0	[m]
6	1920.0	1925.6	[m]

Total kjerneprøve lengde [m]	39.8
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



1870-1872m



1872-1875m



1875-1878m



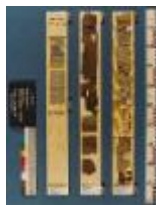
1878-1879m



1887-1889m



1889-1890m



1891-1893m



1899-1901m



1901-1904m



1904-1906m



1909-1911m



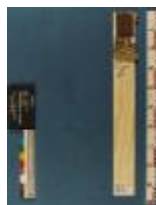
1911-1914m



1914-1917m



1917-1919m



1919-1920m



1920-1921m



1921-1922m



1922-1923m



1920-1927m 1922-1925m 1925-1926m

Oljeprøver i Sokkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST	TEST2	1891.00	1896.00		23.02.1981 - 00:00	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
254	NORDLAND GP
958	UTSIRA FM
980	HORDALAND GP
1530	ROGALAND GP
1530	BALDER FM
1592	LISTA FM
1695	SHETLAND GP
1868	DUNLIN GP
1868	AMUNDSEN FM
1890	STATFJORD GP
1890	NANSEN FM
1935	EIRIKSSON FM
2000	RAUDE FM
2089	HEGRE GP
2089	LUNDE FM

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
211_01_WDSS_General_Information	pdf	0.10
211_02_WDSS_completion_log	pdf	0.17

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)





Dokument navn	Dokument format	Dokument størrelse [KB]
211_34_10_11_Completion_log	pdf	1.32
211_34_10_11_Completion_Report	pdf	26.84
211_34_10_11_Evaluation_Of_Core_Data	pdf	1.70
211_34_10_11_Geological_Re-evaluation_1	pdf	5.21
211_34_10_11_Geological_Re-evaluation_2	pdf	2.89
211_34_10_11_Palaeontological_Stratigraphical_Final_Report	pdf	2.43
211_34_10_11_Petrophysical_Report	pdf	9.10
211_34_10_11_Repeat_Formation_Tester	pdf	0.30
211_34_10_11_Reservoir_Fluid_Study	pdf	0.40
211_34_10_11_Special_Core_Analysis_Study	pdf	0.10
211_34_10_11_Well_Test_Report	pdf	7.35

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsventil størrelse [mm]
1.0	2018	2028	9.5
2.0	1891	1896	9.5

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0				
2.0				

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstygde rel. luft	GOR [m3/m3]
1.0	404	61171000	0.840	0.647	847
2.0	397	67402000	0.830	0.656	

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
BGT GR	459	1445
CBL	255	2116





CBL VDL	1843	2155
DLL MSFL GR	1830	2157
FDC CNL GR CAL	315	2158
GEODIP	1860	2100
HDT DIP	1713	2158
ISF SON GR SP	315	2156
LSS GR	1814	2156
NGS	1713	2158
WAVEFORM	1814	2156

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	315.0	36	316.0	0.00	LOT
SURF.COND.	20	459.0	26	463.0	1.50	LOT
LINER	16	1100.0	22	1100.0	1.60	LOT
INTERM.	13 3/8	1438.0	17 1/2	1445.0	1.77	LOT
INTERM.	9 5/8	1715.0	12 1/4	1720.0	1.93	LOT
LINER	7	2155.0	8 1/2	2155.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
525	1.11	48.0		waterbased	
1300	1.25	51.0		waterbased	
1410	1.37	49.0		waterbased	
1525	1.55	55.0		waterbased	
1760	1.82	51.0		waterbased	
1950	1.86	55.0		waterbased	

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]
211 Formation pressure (Formasjonstrykk)	pdf	0.19

