



Generell informasjon

Brønnbane navn	34/10-7
Type	EXPLORATION
Formål	APPRAISAL
Status	SUSPENDED
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	GULLFAKS
Funn	34/10-1 Gullfaks
Brønn navn	34/10-7
Seismisk lokalisering	S 30-180 SP 328
Utvinningstillatelse	050
Boreoperatør	Den norske stats oljeselskap a.s
Boretillatelse	237-L
Boreinnretning	ROSS RIG (1)
Boredager	77
Borestart	07.01.1980
Boreslutt	23.03.1980
Frigitt dato	23.03.1982
Publiseringsdato	14.11.2012
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	EARLY JURASSIC
1. nivå med hydrokarboner, formasjon.	COOK FM
2. nivå med hydrokarboner, alder	EARLY JURASSIC
2. nivå med hydrokarboner, formasjon	STATFJORD GP
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	204.0
Totalt målt dybde (MD) [m RKB]	2250.0
Totalt vertikalt dybde (TVD) [m RKB]	2250.0
Maks inklinasjon [°]	1.5
Temperatur ved bunn av brønnbanen [°C]	90
Eldste penetrerte alder	LATE TRIASSIC



Eldste penetrerte formasjon	LUNDE FM
Geodetisk datum	ED50
NS grader	61° 12' 13.44" N
ØV grader	2° 16' 28.56" E
NS UTM [m]	6785858.02
ØV UTM [m]	461016.27
UTM sone	31
NPDID for brønnbanen	222

Brønnhistorie

**General**

Well 34/10-7 was drilled on the eastern segment of the Gullfaks Field. The primary objective was to test sandstones of Middle Jurassic age. Secondary objective was sandstones of Early Jurassic age: the Cook and the Statfjord Formations.

Operations and results

Appraisal well 34/10 7 was spudded with the semi-submersible installation Ross Rig on 7 January 1980 and drilled to TD at 2550 m in the Late Triassic Lunde Formation. Two major problems were encountered during drilling. The first one concerned water sensitive clays which caused difficulties when underreaming the hole for both the 16" liner and the 13 3/8" casing. The second problem was the leak off test below the 9 5/8" casing shoe. While circulating prior the second leak off test the formation broke down. Four cement squeezes were required before a proper formation test was obtained. The well was drilled with spud mud down to 845 m and with gel/lignosulphonate mud from 845 m to TD.

Weak to good oil shows were recorded from 1320 m in the lower Hordaland Group and downwards, mostly in limestone. Strong shows with live oil in the mud were recorded between 1380 and 1415 m. Oil shows of variable strength continued all the way down through the Hordaland, Rogaland and Shetland Groups. The Shetland Group was found resting directly on the Early Jurassic Cook Formation sandstone at 1810 m. Oil was found in sandstones of the Cook and Statfjord Formations. No oil/water contact was observed in the Cook Formation. In the Statfjord Formation an oil water contact was found at 2066 m.

A total 53.2 m core (67% recovery) was recovered in 5 cores in the interval from 1813 m to 1892 m. A sixth core was taken with 100% recovery from 1942 to 1949 m. RFT fluid samples were taken at 1821 m in the Cook Formation and at 2055 m in the Statfjord Formation.

The well was suspended on 23 March 1980 as an oil appraisal well.

Testing

One drill stem test was performed from perforation at 1858 - 1856 m in the Cook Formation. The test produced 471 Sm³ oil and 59200 Sm³ gas /day through a 40/64" choke. The GOR was 126 Sm³/Sm³, the oil density was 0.832 g/cm³, and the gas gravity was 0.68 (air = 1) with 0.5% CO₂. The maximum temperature at perforation depth was 77.7 deg C.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
294.00	2248.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerter i Sokkeldirektoratet



Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	1813.0	1819.0	[m]
2	1821.0	1839.0	[m]
3	1839.0	1853.7	[m]
4	1857.0	1865.0	[m]
5	1875.0	1882.2	[m]
6	1942.0	1949.6	[m]

Total kjerneprøve lengde [m]	61.5
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



1813-1815m



1815-1818m



1818-1819m



1821-1823m



1823-1826m



1826-1829m



1829-1831m



1831-1834m



1834-1837m



1837-1839m



1839-1841m



1841-1844m



1844-1847m



1847-1849m



1849-1852m



1852-1853m



1857-1859m



1859-1862m



1862-1865m



1875-1877m



1877-1880m



1880-1882m

Oljeprøver i Sokkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST		1833.00	1840.00			YES
DST	DST 1	1558.00	1865.00		17.03.1980 - 15:00	YES
DST	TEST2	1835.00	1865.00	OIL	01.07.1983 - 00:00	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
229	NORDLAND GP
895	UTSIRA FM
934	NO FORMAL NAME
965	HORDALAND GP
1015	NO FORMAL NAME
1063	NO FORMAL NAME
1100	NO FORMAL NAME
1130	NO FORMAL NAME
1180	NO FORMAL NAME
1308	NO FORMAL NAME
1515	ROGALAND GP
1515	BALDER FM
1568	LISTA FM
1666	SHETLAND GP
1666	JORSALFARE FM
1750	KYRRE FM



1810	DUNLIN GP
1810	COOK FM
1937	BURTON FM
1945	AMUNDSEN FM
2053	STATFJORD GP
2053	NANSEN FM
2140	RAUDE FM
2180	HEGRE GP
2180	LUNDE FM

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
222_01_WDSS_General_Information	pdf	0.13
222_02_WDSS_completion_log	pdf	0.16

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
222_34_10_7_Completion_log	pdf	1.39
222_34_10_7_Completion_report	pdf	23.47
222_34_10_7_Composition_Single_Flash_Bubble_Point_Of_Reservoir_Fluid	pdf	0.44
222_34_10_7_Core_Analysis	pdf	0.44
222_34_10_7_Drilling_Completion_report	pdf	34.36
222_34_10_7_Facies_Description_of_core	pdf	0.31
222_34_10_7_Paleontological_Report	pdf	2.83
222_34_10_7_Paleontological_Study	pdf	0.69
222_34_10_7_Petrophysical_Eval_Cook_Statfjord	pdf	2.75
222_34_10_7_PVT_Analysis_Of_Bottom_Hole_Sample	pdf	0.89
222_34_10_7_Reservoir_Fluid_Study	pdf	0.05
222_34_10_7_Reservoir_Fluid_Study_Sep80	pdf	0.63
222_34_10_7_Source_Rock_Analyses_partII	pdf	0.30
222_34_10_7_Source_Rock_Analysis	pdf	0.45
222_34_10_7_Special_Core_Description	pdf	1.96
222_34_10_7_Special_Core_Studies_Comments	pdf	3.16





222 34 10 7 Special Core Studies Plug samples	pdf	4.49
222 34 10 7 Special Study Fluid Gas samples	pdf	0.22
222 34 10 7 TBP distillation Of Oil DST3	pdf	0.65
222 34 10 7 Well Testing Report DST2	pdf	2.51
222 34 10 7 Well Testing Report DST3	pdf	4.07
222 34 10 7 Well Test Report	pdf	1.42
222 34 10 7 Well Test report DST2 3	pdf	4.52

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsventil størrelse [mm]
1.0	1833	1840	15.9

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]	Gasstyingde rel. luft	GOR [m3/m3]
1.0	471		0.832		126

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
BGT	832	1572
CBL CCL GR	1299	1565
CBL VDL CCL GR	1100	1976
CCL	1243	1926
COMPUTED RØ RHGX PHIX	1699	2248
CYBERDIP	1692	2249
DLL MSFL GR	1692	1989
FDC CNL GR CAL	1685	2249
FDC GR CAL	832	1571
HDT	1692	2249





ISF SON GR SP	228	2248
LS SON	1800	1920
SON	1800	1920

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	291.0	36	292.0	0.00	LOT
SURF.COND.	20	823.0	26	845.0	1.51	LOT
LINER	16	1346.0	19 1/2	1415.0	1.77	LOT
INTERM.	13 3/8	1565.0	18	1572.0	1.90	LOT
INTERM.	9 5/8	1692.0	12 1/4	1700.0	2.02	LOT
LINER	7	1977.0	8 1/2	1990.0	2.05	LOT
OPEN HOLE		2250.0	6	2250.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
0	1.06	56.0		WATER BASED	
204	1.04	120.0		WATER BASED	
350	1.06	56.0		WATER BASED	
695	1.09	65.0		WATER BASED	
823	1.08	52.0		WATER BASED	
1146	1.11	51.0		WATER BASED	
1292	1.12	45.0		WATER BASED	
1390	1.35	75.0		WATER BASED	
1547	1.68	80.0		WATER BASED	
1675	1.75	64.0		WATER BASED	
1788	1.85	53.0		WATER BASED	

Tynnslip i Sokkeldirektoratet

Dybde	Enhet
1818.90	[m]
1818.00	[m]
1822.80	[m]
1823.10	[m]



1825.70	[m]
1828.70	[m]
1834.70	[m]
1838.70	[m]
1877.40	[m]
1849.10	[m]
1815.00	[m]
1823.00	[m]
1826.00	[m]
1833.00	[m]
1836.00	[m]
1845.00	[m]
1879.00	[m]

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]
222_Formation_pressure_(Formasjonstrykk)	pdf	0.20

