



Generell informasjon

Brønnbane navn	34/10-3
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	34/10-3
Seismisk lokalisering	708/709-404 SP 405
Utvinningstillatelse	050
Boreoperatør	Den norske stats oljeselskap a.s
Boretillatelse	211-L
Boreinnretning	NORSKALD
Boredager	86
Borestart	14.03.1979
Boreslutt	07.06.1979
Frigitt dato	07.06.1981
Publiseringsdato	05.12.2012
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	BRENT GP
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	140.0
Totalt målt dybde (MD) [m RKB]	2802.0
Totalt vertikalt dybde (TVD) [m RKB]	2801.0
Maks inklinasjon [°]	4
Temperatur ved bunn av brønnbanen [°C]	93
Eldste penetrerte alder	LATE TRIASSIC
Eldste penetrerte formasjon	LUNDE FM
Geodetisk datum	ED50
NS grader	61° 12' 49.48" N



ØV grader	2° 11' 55.03" E
NS UTM [m]	6787020.80
ØV UTM [m]	456946.80
UTM sone	31
NPDID for brønnbanen	426

Brønnhistorie

**General**

Well 34/10-3 was the second well drilled in the Delta closure in block 34/10 in the Northern North Sea. In the first well, 34/10-1, hydrocarbons were tested and proven to be present throughout the Brent sand. The primary objective of the well 34/10-3 was to test sandstones of Middle Jurassic age. Secondary objectives were sandstones of Early Jurassic and Late Triassic age.

Operations and results

Well was spudded with the semi-submersible installation Norskald on 14 March 1979 and drilled to TD at 2802 m. When coring for core no 10 the core jammed at 2512.5 m and the core head matrix was left in the hole. Fishing commenced for 3 and a half day until most of it was recovered. Otherwise the operation proceeded without any significant problem. The well was drilled with seawater/gel down to 587 m and with Chrome Lignosulphonate mud from 587 m to TD.

Oil shows (yellow fluorescence, cut and "dead oil stain" were recorded at 1410 - 1470 m at the base of the Hordaland Group. Stronger shows were seen from 1814 m in the Shetland Group m and down to top Brent reservoir. Oil in the mud was observed at 1814 m. The Middle Jurassic Brent Group was encountered at 1892 m, directly underlying a thin Albian-Aptian age Cromer Knoll section. The Brent Group was oil bearing down to the oil water contact at 1972 m. Oil shows on cores continued down to 1997 m.

Eight cores were cut in succession from 1904 m to 2025 m in the Brent Group, and one core was cut from 2467 m to 2478.8 m in the Early Jurassic Amundsen Formation. No wire line fluid samples were taken due to problems with sand plugging.

The well was suspended on 7 June 1979 as an oil appraisal well.

Testing

Three drill stem tests were conducted in the Brent Group, one water test and two oil tests. Sand production was a problem in the tests.

DST 1 perforated the interval 1990 to 1995 in the water zone. It produced 420 m³ water/day through a 20/64" choke. The water density was 1.0294 g/cm³. The bottom hole maximum temperature was 75.5 deg C, measured at 1973 m.

DST 2 perforated the interval 1935 to 1940 m. It produced 450 Sm³ oil and 33000 Sm³ gas /day through two parallel chokes of diameters 20/64" and 10 /64". The GOR was 70 Sm³/Sm³, the oil gravity was 29.2 deg API, and the gas gravity was 0.656 (air = 1). The bottom hole maximum temperature was 72 deg C, measured at 1915 m.

DST 3 perforated the interval 1895 to 1900 m. It produced 103 Sm³ oil/day. The gas rate was not recorded. The oil gravity was 29 deg API. The bottom hole maximum temperature was 69.5 deg C, measured at 1871 m.



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
310.00	2802.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	1904.0	1918.7	[m]
2	1919.4	1928.8	[m]
3	1930.9	1933.4	[m]
4	1936.1	1947.7	[m]
5	1953.2	1969.0	[m]
6	1971.1	1989.2	[m]
7	1991.9	2007.3	[m]
8	2007.3	2025.0	[m]
9	2467.0	2478.8	[m]

Total kjerneprøve lengde [m]	117.0
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



1904-1906m



1906-1908m



1909-1912m



1912-1914m



1914-1917m



1917-1918m



1919-1922m



1922-1924m



1924-1927m



1927-1929m



1930-1933m



1936-1938m



1938-1941m



1941-1944m



1944-1946m



1946-1947m



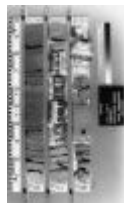
1953-1955m



1955-1958m



1958-1961m



1961-1964m



1964-1966m



1966-1969m



1971-1973m



1973-1976m



1976-1979m



1979-1981m



1981-1984m



1984-1987m



1987-1989m



1989-1991m



1991-1994m



1994-1997m



1997-2000m



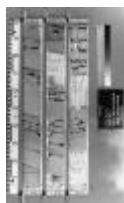
2000-2002m



2003-2005m



2005-2007m



2007-2010m



2010-2012m



2012-2015m



2015-2018m



2018-2020m



2020-2023m



2023-2025m



2467-2469m



2469-2472m



2472-2475m



2475-2477m



2477-2478m

Oljeprøver i Sjøkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST	DST 2	1940.00	1935.00		01.06.1979 - 00:00	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
165	NORDLAND GP
940	UTSIRA FM
958	HORDALAND GP
1118	NO FORMAL NAME
1225	NO FORMAL NAME
1252	NO FORMAL NAME
1425	NO FORMAL NAME
1578	ROGALAND GP
1578	BALDER FM
1637	LISTA FM
1748	SHETLAND GP
1748	JORSALFARE FM
1827	KYRRE FM



1886	CROMER KNOLL GP
1892	BRENT GP
1892	NESS FM
1978	ETIVE FM
2002	RANNOCH FM
2084	BROOM FM
2092	DUNLIN GP
2092	DRAKE FM
2201	COOK FM
2326	BURTON FM
2336	AMUNDSEN FM
2495	STATFJORD GP
2495	NANSEN FM
2561	EIRIKSSON FM
2677	RAUDE FM
2715	HEGRE GP
2715	LUNDE FM

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
426 GCH 1	pdf	1.18
426 GCH 2	pdf	2.07
426 GCH 3	pdf	2.90
426 GCH 4	pdf	0.49

Dokumenter - eldre Søkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
426 01 WDSS General Information	pdf	0.11
426 02 WDSS completion log	pdf	0.19

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
426 34 10 3 ANALYSIS OF OIL	PDF	1.01





426 34 10 3 COMPARION OF 7 OIL SAMPL ES K	PDF	0.26
426 34 10 3 COMPLETION REPORT	PDF	11.67
426 34 10 3 CORE ANALYSES GECO	PDF	0.17
426 34 10 3 CORE ANALYSIS REPORT	PDF	3.38
426 34 10 3 CORRECTION TO GEOLOGICA L PROGNOSIS & DRILLING PROGRAM	PDF	0.38
426 34 10 3 DST 1	pdf	4.28
426 34 10 3 FINAL REPORT CORE 1 9	PDF	1.29
426 34 10 3 Foto	pdf	70.37
426 34 10 3 GEOLOGICAL PROGNOSIS AN D DRILLING PROGRAM	PDF	3.14
426 34 10 3 LABORATORY STUDY ON COR ES	PDF	3.15
426 34 10 3 NPD CPI	PDF	0.54
426 34 10 3 oil and gas flow rates	pdf	4.33
426 34 10 3 PALEONTOLOGICAL STRATIGR APHICAL REPORT	PDF	7.17
426 34 10 3 PALEONTOLOGICAL STUDY	PDF	0.41
426 34 10 3 PETROPHYSICAL EVALUATION	PDF	3.59
426 34 10 3 POROSITY AND PERMABILITY _RESULTS	PDF	0.06
426 34 10 3 POSITIONING OF NORSKALD	PDF	0.62
426 34 10 3 PRESSURE PREDICTION	PDF	2.42
426 34 10 3 PVT STUDY OF BOTTOM HOL E SAMPLE	PDF	1.00
426 34 10 3 SLUTTRAPPORT	PDF	1.56
426 34 10 3 SOURCE ROCK EVALUATION	PDF	2.47
426 34 10 3 SPESICAL CORE ANALYSIS S TUDY	PDF	2.37
426 34 10 3 TESTING PROGRAM	PDF	0.10
426 34 10 3 TEST PROGRAM	PDF	0.77
426 34 10 3 TEST REPORT	PDF	2.66
426 34 10 3 WATER ANALYSIS	PDF	0.34
426 34 10 3 WATHERFLOOD TEST	PDF	0.54
426 34 10 3 WETTABILITY STUDY OF SAM PLES FEB 1980	PDF	4.86

Borestrengtester (DST)





Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	1965	1970	7.9
2.0	1910	1915	7.9
3.0	1870	1875	4.0

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0			31.500	
2.0			30.600	
3.0				69

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0					
2.0	450	33000	0.877	0.656	70
3.0	103		0.882		

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
BHC GR CAL	2490	2795
CBL GR	195	1809
CBL VDL GR	1670	2344
DLL MSFL GR	1809	2346
FDC CNL GR CAL	1809	2798
FDC GR CAL	571	1818
HDT	1809	2797
ISF SON GR SP	175	2797
VELOCITY	620	2705

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	254.0	36	257.0	0.00	LOT



SURF.COND.	20	571.0	26	586.0	1.64	LOT
INTERM.	13 3/8	1475.0	17 1/2	1488.0	1.72	LOT
INTERM.	9 5/8	1812.0	12 1/4	1820.0	2.02	LOT
LINER	7	2346.0	8 1/2	2347.0	2.31	LOT
OPEN HOLE		2802.0	6	2803.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
600	1.08	42.0		waterbased	
835	1.09	40.0		waterbased	
960	1.14	41.0		waterbased	
1555	1.50	42.0		waterbased	
1810	1.55	44.0		waterbased	
1895	1.78	47.0		waterbased	
2405	1.60	50.0		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]
426_Formalion_pressure_(Formasjonstrykk)	pdf	0.20

