



Generell informasjon

Brønnbane navn	6507/7-3
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORWEGIAN SEA
Felt	HEIDRUN
Funn	6507/7-2 Heidrun
Brønn navn	6507/7-3
Seismisk lokalisering	BP 83 - 307 SP. 820
Utvinningstillatelse	095
Boreoperatør	Conoco Norway Inc.
Boretillatelse	475-L
Boreinnretning	NORTRYM
Boredager	52
Borestart	29.07.1985
Boreslutt	18.09.1985
Frigitt dato	18.09.1987
Publiseringsdato	18.12.2008
Opprinnelig formål	APPRAISAL
Reklassifisert fra brønnbane	6507/7-A-53
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	GARN FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	346.0
Totalt målt dybde (MD) [m RKB]	2850.0
Totalt vertikalt dybde (TVD) [m RKB]	2850.0
Maks inklinasjon [°]	1.75
Temperatur ved bunn av brønnbanen [°C]	98
Eldste penetrerte alder	EARLY JURASSIC
Eldste penetrerte formasjon	ÅRE FM
Geodetisk datum	ED50



NS grader	65° 19' 1.31" N
ØV grader	7° 17' 44.79" E
NS UTM [m]	7245042.82
ØV UTM [m]	420591.73
UTM sone	32
NPDID for brønnbanen	482

Brønnhistorie

General

Appraisal well 6507/7-3 was drilled in the northern part of the Haltenbanken area, some 190 km west of the Norwegian coast. It was drilled to evaluate the "B" prospect in the intensely faulted zone that lies at the intersection of the Nordland Ridge in the northeast and the Halten Terrace in the south. The prospect was in a southward plunging horst block formed by a Late Jurassic tensional fault system. The well was drilled down dip from the 6507/7-2 discovery well. It was designed to test the Middle Jurassic sands to determine whether an oil leg was present.

Operations and results

Well 6507/7-3 was spudded with the semi-submersible installation Nortrym on 29 July 1985 and drilled to TD at 2850 m in Early Jurassic sediments of the Åre Formation. Few problems were experienced during operations on 6507/7-3, those that did occur were predominantly related to gumbo and tight hole conditions. There were no serious accidents or problems during the operation. A total of 54 days was spent on drilling, logging, testing, and completion. The well was drilled with sea water and gel sweeps down to 1030 m, and with gypsum/polymer mud from 1030 m to TD.

The Late Cretaceous (Santonian) was found directly overlying the Middle Jurassic (Callovian) Fangst Group as anticipated. No hydrocarbon fluorescence or staining was observed until the top of the Fangst Group at 2367.5 m. The Fangst and Båt Group was found oil bearing down to claystones belonging to the Ror Formation at 2540 m. Patchy fluorescence and a slight hydrocarbon odour persisted down to 2448 m. Using gradients established from electric logs, excellent RFT pressure data, and fluid analysis, the true oil/water contact was however indicated to be at 2491 m. No hydrocarbon fluorescence or staining was observed on cores or ditch cuttings below 2448 m.

Thirteen cores were cut from 2360 to 2470 m and 2500 to 2662 m with 96% recovery from the Late Cretaceous through to the Early Jurassic. Analysis of cores and logs indicated good porosities and permeabilities, particularly in the upper section. RFT fluid sampling was done in the Fangst and Båt Groups at 2390 m, 2393 m, 2395 m, 2410 m, 2417 m, 2432 m, 2433.5 m, and 2444.5 m

The well was abandoned on 18 September 1985 as an oil and gas appraisal well.

Testing

Three drill stem tests were undertaken, all of them testing the oil-bearing sands of the Fangst Group. The intervals perforated were: 2413 - 2430 m (DST 1), 2385 - 2400 m (DST 2), and 2368 - 2380 m (DST 3). At stabilized conditions on various choke sizes, peak production of oil on test was 870 Sm³/day (5465 BOPD), with an oil gravity of 29 deg API. Associated gas production was 93000 Sm³/day (3.285 MMCFD) with a gravity of 0.67 with respect to air. The average temperatures measured at gauge carrier depth were 86.1, 85.9, and 84.8 deg C in DST, DST 2, and DST 3, respectively



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
460.00	2846.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2360.0	2360.7	[m]
2	2361.0	2376.6	[m]
3	2381.0	2386.7	[m]
4	2386.1	2414.5	[m]
5	2415.0	2442.8	[m]
6	2442.8	2471.0	[m]
7	2500.0	2519.7	[m]
8	2521.0	2541.7	[m]
9	2543.0	2569.1	[m]
10	2570.0	2586.5	[m]
11	2587.0	2616.5	[m]
12	2615.5	2643.0	[m]
13	2643.0	2661.0	[m]

Total kjerneprøve lengde [m]	264.4
Kjerner tilgjengelig for prøvetaking?	YES

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
2141.0	[m]	DC	OD
2159.0	[m]	DC	OD
2186.0	[m]	DC	OD
2201.0	[m]	DC	OD
2231.0	[m]	DC	OD
2255.0	[m]	C	OD
2270.0	[m]	DC	OD



2321.0	[m]	DC	OD
2345.0	[m]	DC	OD
2359.1	[m]	C	SAGA
2359.5	[m]	C	SAGA
2360.0	[m]	C	OD
2360.3	[m]	C	OD
2361.0	[m]	C	OD
2361.7	[m]	C	OD
2362.6	[m]	C	OD
2362.9	[m]	C	OD
2363.4	[m]	C	OD
2363.7	[m]	C	OD
2364.0	[m]	C	OD
2365.0	[m]	C	OD
2365.5	[m]	C	SAGA
2365.5	[m]	C	OD
2366.0	[m]	C	OD
2366.3	[m]	C	OD
2367.0	[m]	C	OD
2367.3	[m]	C	OD
2367.4	[m]	C	SAGA
2367.6	[m]	C	SAGA
2367.7	[m]	C	OD
2368.0	[m]	C	OD
2373.0	[m]	C	OD
2376.0	[m]	C	OD
2382.7	[m]	C	OD
2383.5	[m]	C	OD
2404.0	[m]	C	OD
2408.4	[m]	C	OD
2410.9	[m]	C	OD
2469.5	[m]	C	OD
2471.1	[m]	C	OD
2523.1	[m]	C	OD

Oljeprøver i Sökkeldirektoratet



Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST	DST1	2413.00	2430.00		03.09.1985 - 00:00	YES
DST	DST2	2385.00	2400.00		08.09.1985 - 00:00	YES
DST	DST3	2368.00	2380.00		12.09.1985 - 00:00	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
371	NORDLAND GP
371	NAUST FM
1472	KAI FM
1906	HORDALAND GP
1906	BRYGGE FM
1990	ROGALAND GP
1990	TARE FM
2021	TANG FM
2081	SHETLAND GP
2368	FANGST GP
2368	GARN FM
2400	NOT FM
2412	ILE FM
2434	BÅT GP
2434	ROR FM
2499	TILJE FM
2720	ÅRE FM

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
482_1	pdf	0.79
482_2	pdf	2.65

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter





Dokument navn	Dokument format	Dokument størrelse [KB]
482_01_WDSS_General_Information	pdf	0.29
482_02_WDSS_completion_log	pdf	0.22

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
482_01_6507_7_3_COMPLETION_REPORT	pdf	12.38
482_02_6507_7_3_COMPLETION_LOG	pdf	1.92

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	2413	2430	21.0
2.0	2385	2400	24.0
3.0	2368	2380	25.4

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0	6.000	5.000	25.000	88
2.0	6.000	4.000	25.000	87
3.0	6.000	5.000	25.000	85

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstygde rel. luft	GOR [m3/m3]
1.0	772	86027	0.870	0.680	112
2.0	870	93021	0.909	0.737	227
3.0	823	89510	0.808	0.745	417

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CBL VDL GR CCL	1500	2804
CBL VDL GR CCL	2291	2291





CST	2310	2832
DIL LSS GR SP	2292	2847
DLL MSFL GR SP	2292	2706
FDC CNL GR	2140	2846
ISF LSS MSFL GR SP	469	1027
ISF LSS MSFL GR SP	1024	2137
LDT CNL GR	1024	2140
LDT CNL NGS	2292	2845
MWD - GYRO MULTISHOT	375	2834
RFT	2369	2601
SHDT	2235	2845
VSP	473	2834

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	469.0	36	469.0	0.00	LOT
SURF.COND.	20	1024.0	26	1030.0	1.49	LOT
INTERM.	13 3/8	2291.0	17 1/2	2307.0	1.75	LOT
INTERM.	13 3/8	2307.0	17 1/2	2360.0	1.75	LOT
INTERM.	9 5/8	2832.0	12 1/4	2850.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
469	1.14	100.0	57.5	WATER BASED	30.07.1985
469	1.03	100.0	47.8	WATER BASED	31.07.1985
469	1.07	100.0		WATER BASED	30.07.1985
469	1.14	100.0	57.5	WATER BASED	30.07.1985
469	1.03	100.0	47.8	WATER BASED	31.07.1985
1030	1.16	8.0	37.6	WATER BASED	05.08.1985
1030	1.14	7.0	234.6	WATER BASED	01.08.1985
1030	1.16	8.0	37.6	WATER BASED	05.08.1985
1035	1.09	48.0	105.0	WATER BASED	07.08.1985
1630	1.29	59.0	105.0	WATER BASED	08.08.1985
1983	1.38	22.0	148.4	WATER BASED	09.08.1985
2248	1.38	27.0	1056.0	WATER BASED	08.08.1985



2307	1.38	26.0	105.6	WATER BASED	08.08.1985
2307	1.38	25.0	96.0	WATER BASED	12.08.1985
2307	1.26	15.0	67.2	WATER BASED	12.08.1985
2307	1.26	16.0	62.4	WATER BASED	13.08.1985
2307	1.39	23.0	1008.0	WATER BASED	08.08.1985
2307	1.38	26.0	105.6	WATER BASED	08.08.1985
2307	1.38	25.0	96.0	WATER BASED	12.08.1985
2307	1.26	15.0	67.2	WATER BASED	12.08.1985
2307	1.26	16.0	62.4	WATER BASED	13.08.1985
2360	1.26	17.0	67.2	WATER BASED	15.08.1985
2381	1.26	18.0	99.0	WATER BASED	19.08.1985
2419	1.26	19.0	96.0	WATER BASED	19.08.1985
2470	1.26	19.0	96.0	WATER BASED	19.08.1985
2521	1.26	18.0	115.0	WATER BASED	17.08.1985
2566	1.26	18.0	23.0	WATER BASED	21.08.1985
2588	1.26	19.0	110.4	WATER BASED	21.08.1985
2643	1.27	21.0	124.8	WATER BASED	23.08.1985
2776	1.27	19.0	115.2	WATER BASED	26.08.1985
2850	1.27	16.0	105.0	WATER BASED	26.08.1985
2850	1.27	16.0	95.7	WATER BASED	24.08.1985

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]
482 Formation pressure (Formasjonstrykk)	pdf	0.27

