



Generell informasjon

Brønnbane navn	6507/7-8
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	6507/7-8
Seismisk lokalisering	CN 8502 - 482 SP. 570
Utvinningstillatelse	095
Boreoperatør	Conoco Norway Inc.
Boretillatelse	550-L
Boreinnretning	TREASURE HUNTER
Boredager	55
Borestart	09.06.1987
Boreslutt	02.08.1987
Frigitt dato	02.08.1989
Publiseringsdato	18.12.2008
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	GARN FM
2. nivå med hydrokarboner, alder	MIDDLE JURASSIC
2. nivå med hydrokarboner, formasjon	ILE FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	332.0
Totalt målt dybde (MD) [m RKB]	2855.0
Totalt vertikalt dybde (TVD) [m RKB]	2855.0
Maks inklinasjon [°]	1.4
Temperatur ved bunn av brønnbanen [°C]	96
Eldste penetrerte alder	EARLY JURASSIC



Eldste penetrerte formasjon	ÅRE FM
Geodetisk datum	ED50
NS grader	65° 17' 52.68" N
ØV grader	7° 18' 49.87" E
NS UTM [m]	7242895.96
ØV UTM [m]	421377.09
UTM sone	32
NPDID for brønnbanen	1071

Brønnhistorie



General

Well 6507/7-8 is a replacement well for well 6507/7-7 and was drilled on the southern flank of the Heidrun Field on the Halten Terrace. The primary objective was to appraise reserves in this part of the field. Further objectives were to obtain a water sample from the Aldra (Tilje) Formation, evaluate vertical communication between sandstone units in the Tomma Formation (Fangst Group), and to obtain oriented cores from this section for fracture orientation studies.

Operations and results

Appraisal well 6507/7-8 was spudded with the semi-submersible installation Treasure Hunter on 9 June 1987 and drilled to TD at 2855 m in Early Jurassic sediments of the Åre Formation. Some problems with low penetration rate and bit balling occurred in the 17 1/2" section in swelling clay, sometimes interbedded with pebbles. The well was drilled with seawater and gel sweeps down to 1035 m and with KCl/polymer mud from 1035 m to TD.

The top of the Tertiary was encountered at 604 m. No indications of overpressured shallow gas were seen. The top of the Tomma Formation (Fangst Group) was penetrated at 2436.2 m and consisted of two hydrocarbon bearing sandstone units separated by a ca 2 m thick shaley interval at 2468 m. For the two units as a whole the logs gave an average SW of 19.4% over the 60.6 m reservoir and a net/gross ratio of 0.921. RFT pressure data indicated a common pressure regime across the shale band at 2468 m, with an OWC at 2495 m. Oil shows were first observed on cores at 2435.5 m where a uniform light buff coloured oil stain was observed. It had pale yellow fluorescence and gave a pale yellow fast blooming cut. Below this the cut was predominantly fast and streaming. A dark brown residue was observed after the solvent had evaporated. With depth the residue became medium brown. Below 2464 m the shows became patchy with the cut residue becoming a pale yellowish grey. No shows were observed below the OWC.

Seven cores were cut from 2405 m in the Melke Formation, through the Fangst Group, and down to 2525 m in the Ror Formation. The average core recovery was 98%. 30 RFT pressure tests were taken through the reservoir. No fluid samples were taken on wire line.

The well was permanently abandoned on 2 August 1987 as an oil and gas appraisal.

Testing

Two DST's were conducted in the intervals 2473 m to 2480 m (DST 1) and 2438 m to 2441 m (DST 2). DST 1 flowed 30 deg API oil at 187 Sm³/day and gas at 19900 Sm³/day through a 20/64" choke. The gas gravity was 0.68 (air = 1) and the GOR was 106 Sm³/Sm³. DST 2 flowed 29 API oil at 1105 Sm³/day and gas at 136570 Sm³/day through a 52/64" choke. The gas gravity was 0.7 (air = 1) and the GOR was 124 Sm³/Sm³. The gauge temperatures recorded in the tests were 90.3 and 86.7 deg C in DST 1 and DST 2, respectively.

The results of the well test did not indicate vertical communication across the shaley interval at 2468 m.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1035.00	2855.00



Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2405.0	2423.5	[m]
2	2423.5	2441.7	[m]
3	2442.0	2458.9	[m]
4	2460.1	2479.0	[m]
5	2479.0	2497.3	[m]
6	2497.5	2516.8	[m]
7	2516.0	2525.0	[m]

Total kjerneprøve lengde [m]	119.1
Kjerner tilgjengelig for prøvetaking?	YES

Oljeprøver i Sokkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST	DST1	2473.00	2480.00		19.07.1987 - 00:00	YES
DST	DST2	2438.00	2441.00		21.07.1987 - 00:00	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
357	NORLAND GP
357	NAUST FM
1463	KAI FM
1877	HORDALAND GP
1877	BRYGGE FM
1997	ROGALAND GP
1997	TARE FM
2023	TANG FM
2082	SHETLAND GP



2384	VIKING GP
2384	MELKE FM
2436	FANGST GP
2436	GARN FM
2468	NOT FM
2470	ILE FM
2497	BÅT GP
2497	ROR FM
2558	TILJE FM
2787	ÅRE FM

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
1071_01_WDSS_General_Information	pdf	0.40
1071_02_WDSS_completion_log	pdf	0.21

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
1071_01_6507_7_8_COMPLETION_REPORT	pdf	12.90
1071_02_6507_7_8_COMPLETION_LOG	pdf	2.95
1071_03_6507_7_8_Test_report	pdf	12.42

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	2473	2480	7.9
2.0	2441	2438	20.6
2.1	2441	2438	20.6
2.2	2441	2438	20.6

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningsstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0		8.000		





2.0		8.000		
2.1		8.000		
2.2		8.000		

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0	175		0.882	0.670	80
2.0	1145	99000	0.882	0.670	86
2.1	1145		0.887	0.700	86
2.2	1137		0.887	0.700	87

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CBL CCL	2015	2530
DIL MSFL SDT GR SP	2399	2828
DLL LDL CNL NGL CAL GR	2399	2828
FMS GR	2399	2835
MWD - GR RES DIR	473	2855
RFT GR	2439	2797
SDT CBL	800	2398
VSP	1200	2825
VSP	2360	2600

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	468.0	36	1035.0	1.02	LOT
SURF.COND.	20	1027.2	26	1054.0	1.51	LOT
INTERM.	13 3/8	2398.5	17 1/2	2403.0	1.84	LOT
INTERM.	9 5/8	2833.5	12 1/4	2855.0	0.00	LOT

Boreslam



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 12.5.2024 - 06:02

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
466	1.04			WATER BASED	11.06.1987
470	1.04			WATER BASED	15.06.1987
544	1.04			WATER BASED	15.06.1987
1021	1.03			WATER BASED	15.06.1987
1035	1.04			WATER BASED	16.06.1987
1035	1.04			WATER BASED	17.06.1987
1035	1.04			WATER BASED	18.06.1987
1035	1.04			WATER BASED	19.06.1987
1035	1.04			WATER BASED	22.06.1987
1054	1.16			WATER BASED	22.06.1987
1211	1.17			WATER BASED	22.06.1987
1541	1.28			WATER BASED	23.06.1987
1795	1.32			WATER BASED	24.06.1987
1953	1.38			WATER BASED	25.06.1987
2198	1.40			WATER BASED	26.06.1987
2199	1.40			WATER BASED	29.06.1987
2344	1.42			WATER BASED	29.06.1987
2359	1.42			WATER BASED	29.06.1987
2403	1.42			WATER BASED	30.06.1987
2403	1.20			WATER BASED	02.07.1987
2403	1.42	18.0	5.8	WATER BASED	01.07.1987
2405	1.21	11.0	19.0	WATER BASED	03.07.1987
2429	1.21	17.0	8.2	WATER BASED	06.07.1987
2465	1.21	16.0	7.2	WATER BASED	06.07.1987
2513	1.21	15.0	7.2	WATER BASED	06.07.1987
2525	1.21	14.0	6.7	WATER BASED	07.07.1987
2614	1.20	15.0	10.1	WATER BASED	13.07.1987
2658	1.20	15.0	7.2	WATER BASED	13.07.1987
2855	1.20	13.0	2.4	WATER BASED	14.07.1987
2855	1.19	9.0	5.8	WATER BASED	20.07.1987
2855	1.20	16.0	7.7	WATER BASED	13.07.1987
2855	1.21	19.0	5.3	WATER BASED	13.07.1987
2855	1.19	12.0	2.4	WATER BASED	15.07.1987
2855	1.19	12.0	2.4	WATER BASED	16.07.1987
2855	1.19	10.0	6.2	WATER BASED	17.07.1987
2855	1.19	8.0	5.3	WATER BASED	20.07.1987
2855	1.19	8.0	5.3	WATER BASED	21.07.1987



2855	1.19	8.0	5.3	WATER BASED	22.07.1987
2855	1.19	8.0	5.3	WATER BASED	23.07.1987
2855	1.19	8.0	5.3	WATER BASED	24.07.1987
2855	1.19	9.0	5.7	WATER BASED	27.07.1987
2855	1.19	9.0	4.8	WATER BASED	28.07.1987
2855	0.00			WATER BASED	29.07.1987
2855	0.00			WATER BASED	31.07.1987
2855	0.00			WATER BASED	03.08.1987

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]
1071 Formation pressure (Formasjonstrykk)	pdf	0.27

