



Generell informasjon

Brønnbane navn	25/6-1
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Funn	25/6-1
Brønn navn	25/6-1
Seismisk lokalisering	NOD 2 - 84 - 29 SP. 5250
Utvinningstillatelse	117
Boreoperatør	Saga Petroleum ASA
Boretillatelse	493-L
Boreinnretning	TREASURE SAGA
Boredager	48
Borestart	18.12.1985
Boreslutt	03.02.1986
Frigitt dato	03.02.1988
Publiseringsdato	17.12.2003
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	HUGIN FM
Avstand, boredekk - midlere havflate [m]	26.0
Vanndybde ved midlere havflate [m]	121.0
Totalt målt dybde (MD) [m RKB]	2881.0
Totalt vertikalt dybde (TVD) [m RKB]	2881.0
Maks inklinasjon [°]	1.3
Temperatur ved bunn av brønnbanen [°C]	120
Eldste penetrerte alder	PRE-DEVONIAN
Eldste penetrerte formasjon	BASEMENT
Geodetisk datum	ED50
NS grader	59° 31' 32.04" N
ØV grader	2° 48' 2.07" E



NS UTM [m]	6598746.73
ØV UTM [m]	488717.11
UTM sone	31
NPDID for brønnbanen	524

Brønnhistorie

General

Well 25/6-1 was drilled on the northeastern part of the Utsira High. The main objective of the well was to test for hydrocarbons in a prospect west of the main fault in the southern part of the block. Primary targets were the Middle Jurassic reservoir sandstone belonging to the Vestland Group, which is partly eroded in this area, and the Early Jurassic Statfjord Formation sandstone. Secondary objective was the Early Tertiary sandstone. The total depth target was to drill through a strong seismic reflector between 2.5 and 2.6 second TWT. Shallow gas was expected at 282 to 344 m and 395 m.

Operations and results

Wildcat well 25/6-1 was spudded 18 December 1985 by Wilh. Wilhelmsen's Offshore Services semi-submersible installation Treasure Saga, and completed 3 February 1986 at a depth of 2881, 30 m into rocks of probably Early Palaeozoic/Pre-Cambrian age. The well was drilled with seawater and hi-vis pills down to 260 m, with bentonite gel mud from 260 m to 1028 m, with gypsum/polymer mud from 1028 m to 2195 m, and with bentonite gel / polymer mud from 2195 m to TD. No shallow gas was encountered.

The Quaternary/Tertiary sequence was 2017 m thick, and consisted of the Nordland, Hordaland, and Rogaland Groups. The Nordland Group was marine claystone with sands frequently developed, especially in the lower part, with 163 m of the sandy Utsira Formation. The Hordaland Group was clay/claystone with some thin sand units. Slightly tuffaceous claystone and a lower sand/marl/ claystone sequence were the main lithologies of the Rogaland Group. A 65.5 m thick Cretaceous sequence represented by Shetland and Cromer Knoll Groups was penetrated. The main lithology was chalky limestone, calcareous claystone grading to marl and minor sand.

The Jurassic sediments represented by the Viking, Vestland, and Dunlin Groups and the Statfjord Formation were encountered at 2233.5 m. Top Vestland Group was at 2277 m and top Statfjord Formation was at 2417 m. The Jurassic sequence was 269.5 m thick and consisted of Upper Jurassic shale, Middle Jurassic sandstones and alternating sandstones and silty claystone in the lower part. A 348 metres thick Triassic sequence represented by the Skagerrak and Smith Bank Formations was penetrated. The sequence consisted of shale/siltstone. The TD target seismic reflector was penetrated at the basement's upper surface.

The upper part of the Vestland Group was found oil bearing with an OWC at 2282.5 m. The Statfjord Formation was found water bearing. Gas readings were mostly between 0% and 0.2% throughout the well. Between 2195 - 2289 m the average gas level increased to 0.4%, and the gas consisted of C1, C2, C3, iC4 and nC4 from approx. 2236 m. A maximum of 4.27% at 2278 m was recorded, consisting of 12549 ppm C1, 1169 ppm C2, 1651 ppm C3, 267 ppm iC4 and 511 ppm nC4. From 2300 - 2450 m the average gas was 0.1% and consisted of C1-C3. From 2450 - 2881 m, gas values fell from 0.05% to 0.00% and only C1 was recorded. Oil show was observed within loose sandstones from 2278 - 2288.5 m. The show was characterized by a fair-good petroleum odour, with very light brown oil staining of the grains. The fluorescence was weak pale yellow, with a slightly streaming milky (crush) cut, occasionally leaving a white residue upon evaporation. Below 2289 m all oil shows disappeared.



Three segregated samples were recovered with the FMT wire line tool, two of these (2279.8 m and 2283.2 m) from the oil zone and one from 2285 m below OWC. Two conventional cores were cut, core one from 2299 m to 2300 m, and core two from 2300 m and 2309.7 m.

The well was permanently abandoned as an oil discovery.

Testing

One DST was performed in the interval 2276.7 m to 2279.7 m. The main flow period had duration of 22 hours. The average production rate was 298 Sm³/day with a wellhead pressure of 96 bar. The gas-oil ratio was 130 Sm³/Sm³ at separator conditions of 43° C and 19.5 bar. The dead oil density was 725 kg/m³ and the specific gas gravity was 0.88 (air=1). Three stage flash to standard condition PVT analysis of reservoir fluid collected during the production test, gave an oil formation volume factor of 1.92 Rm³/Sm³, a gas to oil ratio of 232.2 Sm³/Sm³ and a stock tank oil density of 729 kg/m³. The bubble point pressure for the fluid was 106.9 bar. Sand production was not observed during the test, but 0.6 - 0.7 Sm³ water was produced.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
270.00	2881.00

Borekaks tilgjengelig for prøvetaking?	NO
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Borekjerter i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2289.0	2300.0	[m]
2	2300.0	2310.1	[m]

Total kjerneprøve lengde [m]	21.1
Kjerter 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	2277.00	2280.00	OIL	30.01.1986 - 00:00	YES



Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
147	NORDLAND GP
725	UTSIRA FM
886	HORDALAND GP
990	SKADE FM
1013	NO FORMAL NAME
1373	GRID FM
1395	NO FORMAL NAME
1910	ROGALAND GP
1910	BALDER FM
1962	SELE FM
2032	LISTA FM
2137	VÅLE FM
2154	TY FM
2164	SHETLAND GP
2164	HARDRÅDE FM
2192	CROMER KNOLL GP
2192	SOLA FM
2222	MIME FM
2234	VIKING GP
2234	DRAUPNE FM
2256	HEATHER FM
2277	VESTLAND GP
2277	HUGIN FM
2290	SLEIPNER FM
2297	DUNLIN GP
2297	DRAKE FM
2344	AMUNDSEN FM
2417	STATFJORD GP
2503	NO GROUP DEFINED
2503	SKAGERRAK FM
2651	SMITH BANK FM
2851	BASEMENT

Spleisede logger





Dokument navn	Dokument format	Dokument størrelse [KB]
524	pdf	0.44

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
524_1	pdf	1.78
524_2	pdf	1.85
524_3	pdf	1.27

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
524_01_WDSS_General_Information	pdf	0.25
524_02_WDSS_completion_log	pdf	0.26

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
524_25_6_1_COMPLETION_REPORT_AND_LOG	pdf	13.56

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsventil størrelse [mm]
1.0	2277	2280	7.9

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningsstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0	9.600			





Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0	298		0.725		130

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
ACBL VDL GR	750	2178
CDL CNL GR	2178	2560
CDL CNL GR	2480	2875
CDL GR	256	1006
CDL GR	1013	2173
COREGUN-45SWC	0	0
COREGUN-93SWC	0	0
DIFL LSBHC GR	256	1026
DIFL LSBHC GR	1013	2193
DIFL LSBHC GR	2178	2560
DIFL LSBHC GR	2530	2875
DIPLOG	2178	2558
DIPLOG	2370	2855
DLL ML	2178	2560
DLL MLL	2178	2559
FMT	0	0
GR	121	256
MWD	255	2881
SPECTRALOG	2178	2560
VSP	1700	2975

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	255.0	36	260.0	0.00	LOT
SURF.COND.	20	1013.0	26	1028.0	1.42	LOT
INTERM.	13 3/8	2180.0	17 1/2	2195.0	1.74	LOT
INTERM.	9 5/8	2881.0	12 1/4	2881.0	0.00	LOT

Boreslam



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 10.5.2024 - 02:58

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
185	1.04			WATER BASED	19.12.1985
190	1.10	9.0	4.4	WATER BASED	05.02.1986
260	1.04			WATER BASED	23.12.1985
627	1.16	7.0	20.6	WATER BASED	23.12.1985
827	1.17	6.0	18.7	WATER BASED	22.12.1985
1028	1.17	5.0	16.8	WATER BASED	23.12.1985
1028	1.17	6.0	20.6	WATER BASED	23.12.1985
1028	1.03			WATER BASED	26.12.1985
1028	1.10	15.0	9.6	WATER BASED	26.12.1985
1028	1.19	6.0	18.2	WATER BASED	26.12.1985
1200	1.10	14.0	7.7	WATER BASED	26.12.1985
1434	1.15	13.0	8.2	WATER BASED	29.12.1985
1653	1.25	15.0	8.7	WATER BASED	30.12.1985
1820	1.25	13.0	9.6	WATER BASED	03.01.1986
1820	1.30	13.0	9.6	WATER BASED	06.01.1986
2090	1.25	12.0	9.6	WATER BASED	03.01.1986
2195	1.30	14.0	9.6	WATER BASED	06.01.1986
2195	1.31	12.0	7.2	WATER BASED	06.01.1986
2195	1.33	13.0	7.2	WATER BASED	08.01.1986
2195	1.33	12.0	7.2	WATER BASED	13.01.1986
2225	1.33	14.0	10.1	WATER BASED	13.01.1986
2270	1.10	9.0	4.4	WATER BASED	05.02.1986
2289	1.25	14.0	7.2	WATER BASED	13.01.1986
2289	1.25	17.0	7.7	WATER BASED	13.01.1986
2289	1.25	16.0	7.2	WATER BASED	13.01.1986
2313	1.25	17.0	7.7	WATER BASED	14.01.1986
2325	1.10	9.0	4.4	WATER BASED	05.02.1986
2325	1.10	10.0	4.8	WATER BASED	05.02.1986
2325	1.10	11.0	4.8	WATER BASED	05.02.1986
2360	1.10	11.0	20.6	WATER BASED	05.02.1986
2360	1.10	12.0	6.3	WATER BASED	05.02.1986
2438	1.25	17.0	7.7	WATER BASED	13.01.1986
2493	1.25	17.0	7.2	WATER BASED	13.01.1986
2561	1.10	13.0	5.8	WATER BASED	19.01.1986
2561	1.25	18.0	7.2	WATER BASED	19.01.1986
2561	1.10	16.0	6.8	WATER BASED	19.01.1986
2590	1.11	12.0	6.8	WATER BASED	19.01.1986



2745	1.11	12.0	6.8	WATER BASED	19.01.1986
2852	1.10	12.0	6.8	WATER BASED	05.02.1986
2881	1.10	12.0	6.8	WATER BASED	05.02.1986
2881	1.10	11.0	5.8	WATER BASED	05.02.1986

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]
524 Formation pressure (Formasjonstrykk)	pdf	0.22

