



Generell informasjon

Brønnbane navn	31/2-8
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Brønn navn	31/2-8
Seismisk lokalisering	8007-158 X-OVER 8100-406.
Utvinningstillatelse	054
Boreoperatør	A/S Norske Shell
Boretillatelse	334-L
Boreinnretning	BORGNY DOLPHIN
Boredager	64
Borestart	16.06.1982
Boreslutt	18.08.1982
Frigitt dato	18.08.1984
Publiseringsdato	23.05.2006
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL SHOWS
Funnbrønnbane	NO
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	345.5
Totalt målt dybde (MD) [m RKB]	3375.0
Totalt vertikalt dybde (TVD) [m RKB]	3373.0
Maks inklinasjon [°]	5
Temperatur ved bunn av brønnbanen [°C]	91
Eldste penetrerte alder	TRIASSIC
Eldste penetrerte formasjon	HEGRE GP
Geodetisk datum	ED50
NS grader	60° 57' 33.02" N
ØV grader	3° 29' 49.84" E
NS UTM [m]	6758502.04
ØV UTM [m]	526925.96
UTM sone	31
NPDID for brønnbanen	78



Brønnhistorie

General

Well 31/2-8 was drilled in the northern part of block 31/2, some 3 km NW of the Troll Field boundary, to test a downthrown Jurassic fault-block outside the Troll Field. The primary objective was the Late Jurassic, shallow marine sands of the Viking Group, especially the Sognefjord Formation. The Early Jurassic was secondary objective and would be evaluated by drilling into Triassic sediments.

Operations and results

Wildcat well 31/2-8 was spudded with the semi-submersible installation Borgny Dolphin on 16 June 1982 and drilled to TD at 3375 m in the Triassic Hegre Group. A gas zone (confirmed by logs) between 510 - 530 m did not cause any problems during drilling of the 14 3/4" pilot hole. Maximum gas reading through this zone was 10 %. The hole was drilled to 840 m and under-reamed to 26" without incident. The 17 1/2" section was drilled first by an 8 1/2" pilot hole down to 1063 m to provide better control when drilling through a potential gas charged fault plane. No indications of gas were seen. 3 cores were taken in the 12 1/4" section. Two washouts occurred when drilling the 8 1/2" hole below 3317 m. The well was drilled with seawater gel down to 840 m, with KCl/polymer from 840 m to 1745 m, with seawater and Drispac from 1745 m to 2743 m and with Drispac/lignosulphonate from 2743 m to TD.

Only 13 m of Shetland Group chalk was found on top of the Kimmerian unconformity at 1821 m. The Viking Group contained a 15.5 m thick Draupne shale on top of a 680 m thick sequence of sandstone units interbedded in the Heather Formation. The Middle to Early Jurassic was also well developed. Shows occurred sporadically in limestones, siltstone, and claystones through the Early Tertiary and Late Cretaceous. When entering into the Late Jurassic reservoir sands at 1836.5 m (Sognefjord Formation) ditch gas readings went up to more than 4% from a background lower than 1%, but without oil indications in the uppermost section. On the cores taken, very good oil shows were observed in the coarser grained, clean sands between 1841.8 m and 1854.8 m. In the carbonate-cemented band down to 1856.6 m, direct fluorescence became patchy. In the deeper, very fine to fine, micaceous sands the quality of the shows deteriorated further until they disappeared completely around 1872 m. Below the Sognefjord Formation, the only shows encountered was in a sidewall sample at 3050.5 m (at the top of the Statfjord Formation). From log analysis the Jurassic sands were interpreted to be oil bearing from 1836.5 m to ca. 1868 m; below this depth no hydrocarbons were seen.

Three conventional cores were cut in the interval 1841.8 m to 1888.5 m in the Late Jurassic. One RFT sample at 1849 m recovered 1800 ml mud contaminated formation water and 100 ml of emulsified hydrocarbons.

The well was completed on 18 August 1982 as a well with shows.

Testing

Oil shows on cores and preliminary log interpretation led to a DST in the interval 1843 m to 1848 m in Late Jurassic sandstone. After some technical problems the well was flowed for 2 minutes followed by a one-hour build-up. The well was then flowed until it died after having produced approximately 33 barrels of formation fluid with a trace of oil. A wire line sandballer found 22 m of sand on top of the bridge plug.



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
500.00	3375.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	1841.8	1851.5	[m]
2	1852.5	1869.7	[m]
3	1870.0	1888.9	[m]

Total kjerneprøve lengde [m]	45.8
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



1841-1847m



1847-1851m



1852-1857m



1857-1863m



1863-1868m



1868-1869m



1870-1875m



1875-1880m



1880-1886m



1886-1888m

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
1821.7	[m]	SWC	SHELL
1826.0	[m]	SWC	SHELL



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 14.5.2024 - 11:40

1830.5	[m]	SWC	SHELL
1832.8	[m]	SWC	SHELL
1836.0	[m]	SWC	SHELL
1837.2	[m]	SWC	SHELL
1839.5	[m]	SWC	SHELL
1857.5	[m]	C	SHELL
1858.4	[m]	C	SHELL
1860.7	[m]	C	SHELL
1863.4	[m]	C	SHELL
1864.3	[m]	C	SHELL
1868.8	[m]	C	SHELL
1870.9	[m]	C	SHELL
1873.6	[m]	C	SHELL
1878.1	[m]	C	SHELL
1880.8	[m]	C	SHELL
1881.7	[m]	C	SHELL
1937.5	[m]	SWC	SHELL
1941.5	[m]	SWC	SHELL
1964.5	[m]	SWC	SHELL
1965.5	[m]	SWC	SHELL
1969.8	[m]	SWC	SHELL
1979.7	[m]	SWC	SHELL
1989.5	[m]	SWC	SHELL
2003.0	[m]	SWC	SHELL
2015.5	[m]	SWC	SHELL
2032.0	[m]	SWC	SHELL
2043.5	[m]	SWC	SHELL
2055.0	[m]	SWC	SHELL
2068.5	[m]	SWC	SHELL
2082.6	[m]	SWC	SHELL
2093.0	[m]	SWC	SHELL
2107.5	[m]	SWC	SHELL
2120.0	[m]	SWC	SHELL
2133.8	[m]	SWC	SHELL
2145.2	[m]	SWC	SHELL
2160.5	[m]	SWC	SHELL
2168.5	[m]	SWC	SHELL
2181.5	[m]	SWC	SHELL
2198.5	[m]	SWC	SHELL
2217.5	[m]	SWC	SHELL



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 14.5.2024 - 11:40

2250.5	[m]	SWC	SHELL
2267.1	[m]	SWC	SHELL
2285.2	[m]	SWC	SHELL
2314.5	[m]	SWC	SHELL
2330.5	[m]	SWC	SHELL
2349.5	[m]	SWC	SHELL
2355.6	[m]	SWC	SHELL
2368.0	[m]	SWC	SHELL
2385.8	[m]	SWC	SHELL
2398.5	[m]	SWC	SHELL
2407.1	[m]	SWC	SHELL
2424.5	[m]	SWC	SHELL
2436.0	[m]	SWC	SHELL
2452.0	[m]	SWC	SHELL
2473.5	[m]	SWC	SHELL
2491.5	[m]	SWC	SHELL
2497.0	[m]	SWC	SHELL
2516.0	[m]	SWC	SHELL
2532.5	[m]	SWC	SHELL
2548.0	[m]	SWC	SHELL
2565.9	[m]	SWC	SHELL
2575.0	[m]	SWC	SHELL
2578.0	[m]	SWC	SHELL
2581.5	[m]	SWC	SHELL
2595.5	[m]	SWC	SHELL
2612.0	[m]	SWC	SHELL
2618.0	[m]	SWC	SHELL
2632.5	[m]	SWC	SHELL
2642.5	[m]	SWC	SHELL
2665.5	[m]	SWC	SHELL
2672.5	[m]	SWC	SHELL
2687.0	[m]	SWC	SHELL
2709.3	[m]	SWC	SHELL
2722.3	[m]	SWC	SHELL
2725.0	[m]	SWC	SHELL
2773.9	[m]	SWC	SHELL
2778.0	[m]	SWC	SHELL
2784.2	[m]	SWC	SHELL
2792.3	[m]	SWC	SHELL
2815.0	[m]	SWC	SHELL



2840.9	[m]	SWC	SHELL
2867.5	[m]	SWC	SHELL
2892.4	[m]	SWC	SHELL
2920.9	[m]	SWC	SHELL
2943.8	[m]	SWC	SHELL
2968.8	[m]	SWC	SHELL
2977.7	[m]	SWC	SHELL
3035.5	[m]	SWC	SHELL
3046.5	[m]	SWC	SHELL
3056.8	[m]	SWC	SHELL
3065.8	[m]	SWC	SHELL
3228.0	[m]	SWC	SHELL

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
371	NORDLAND GP
772	HORDALAND GP
1428	ROGALAND GP
1428	BALDER FM
1472	SELE FM
1514	LISTA FM
1808	SHETLAND GP
1821	VIKING GP
1821	DRAUPNE FM
1837	SOGNEFJORD FM
1999	HEATHER FM
2189	FENSFJORD FM
2254	KROSSFJORD FM
2266	HEATHER FM
2517	BRENT GP
2720	DUNLIN GP
2720	DRAKE FM
2825	COOK FM
2896	AMUNDSEN FM
2967	JOHANSEN FM
3035	AMUNDSEN FM
3048	STATFJORD GP
3274	HEGRE GP



Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
78	pdf	0.64

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
78_1	pdf	3.22
78_2	pdf	1.09
78_3	pdf	0.78

Dokumenter - eldre Søkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
78_01_WDSS_General_Information	pdf	0.19
78_02_WDSS_completion_log	pdf	0.24

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
78_01_31_2_8_Completion_Report	PDF	11.09
78_02_31_2_8_Completion_log	pdf	1.07
78_02_31_2_8_Drilling_programme	pdf	1.22
78_02_31_2_8_Drilling_programme_encl_1	pdf	2.28
78_02_31_2_8_Drilling_programme_encl_2	pdf	2.91
78_02_31_2_8_Drilling_programme_encl_3	pdf	0.17
78_03_31_2_8_Drill_steam_test_program	pdf	0.64
78_03_31_2_8_Overlagringstrykk	pdf	0.76
78_03_31_2_8_Water_analysis_by_Geco	pdf	0.13
78_03_31_2_8_Water_analysis_DST2_by_Geco	pdf	0.12
78_03_31_2_8_Well_testing_report_by_Flopetrol	pdf	1.35





78_04_31_2_8_Biostratigraphy_appendix_3_by_Shell	pdf	6.69
78_05_31_2_8_Geochemistry_of_six_cores_by_Shell	pdf	0.53
78_05_31_2_8_Geochem_source_rock_analysis_by_Shell	pdf	0.72
78_05_31_2_8_Geochem_source_rock_analysis_encl_1	pdf	0.27
78_06_31_2_8_Routine_core_analysis_by_Geco	pdf	3.34
78_06_31_2_8_Special_core_analysis_by_Geco	pdf	1.61
78_07_31_2_8_Palynofacies_invest_in_the_jura_by_Shell	pdf	1.45
78_08_31_2_8_Well_summary_by_Anchor	pdf	1.83

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsventil størrelse [mm]
1.0	1843	1848	0.0

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]	Gasstyngde rel. luft	GOR [m3/m3]
1.0					

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CBL VDL	469	1735
CBL VDL	792	2725
CST	1577	1601
CST	1751	2725
CST	2732	3373
DLL MSFL CAL	1735	2729





FDC CNL GR	2732	3379
FDC CNL GR CAL	469	834
FDC CNL GR CAL	777	1742
FDC CNL GR CAL	1735	2740
HDT	1735	2740
HDT	2732	3379
ISF BHC GR	370	833
ISF BHC GR	775	1741
ISF BHC GR	1735	2738
ISF BHC GR	2732	3378
LDT CNL NGT	2732	3379
LDT NGT	1735	2729
RFT	0	0
RFT	1	3
WST	575	3370

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	469.5	36	480.0	0.00	LOT
SURF.COND.	20	826.0	26	840.0	1.80	LOT
INTERM.	13 3/8	1734.0	17 1/2	1745.0	1.61	LOT
INTERM.	9 5/8	2732.0	12 1/4	2743.0	1.89	LOT
OPEN HOLE		3375.0	8 1/2	3375.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
485	1.07	52.0		waterbased	
845	1.27	51.0		waterbased	
1745	1.36	55.0		waterbased	
1870	1.21	49.0		waterbased	
2743	1.23	50.0		waterbased	
3375	1.24	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]
78 Formation pressure (Formasjonstrykk)	pdf	0.24

