



Generell informasjon





Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 13.5.2024 - 03:58

Brønnbane navn	15/3-4
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Funn	15/3-4 (Sigrun)
Brønn navn	15/3-4
Seismisk lokalisering	line 783 402 SP 490
Utvinningstillatelse	025
Boreoperatør	Elf Petroleum Norge AS
Boretillatelse	304-L
Boreinnretning	BORGSTEN DOLPHIN
Boredager	179
Borestart	03.10.1981
Boreslutt	30.03.1982
Frigitt dato	30.03.1984
Publiseringsdato	10.08.2013
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	HUGIN FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	107.0
Totalt målt dybde (MD) [m RKB]	4259.0
Temperatur ved bunn av brønnbanen [°C]	139
Eldste penetrerte alder	TRIASSIC
Eldste penetrerte formasjon	SKAGERRAK FM
Geodetisk datum	ED50
NS grader	58° 49' 5.28" N
ØV grader	1° 52' 59.82" E
NS UTM [m]	6520489.03
ØV UTM [m]	435502.74
UTM sone	31
NPDID for brønnbanen	314



Brønnhistorie

General

Well 15/3-4 was drilled on the Gudrun Terrace, east of the 15/3-1 S Gudrun Discovery in the North Sea. The main objective of the well was to test sandstones of the Late and Middle Jurassic, which were found to contain gas and condensate in wells 15/3-1 S and 15/3-3. The secondary target was the Eocene sands where oil shows were encountered in well 15/5-3.

Operations and results

Wildcat well 15/3-4 was spudded with the semi-submersible installation Borgsten Dolphin on 3 October 1981 and drilled to TD at 4259 m in the Triassic Skagerrak Formation. After the 13 3/8" casing had been cemented drilling was interrupted for 13 days due to a combination of bad weather and repairs on the BOP stack. When running in hole at TD the drill string stuck leaving a fish with top at 4098 m. Hence, no logs were run between 4098 m and TD.

The Eocene sands from 1628 to 2025 m (Grid Formation sands) were found water bearing. The Brent Group was encountered with top Hugin Formation at 3786 m and top Sleipner Formation at 3856 m. Sandstones in the Brent Group contained oil and gas in four different intervals: 3786 to 3817 m, 3819.5 to 3826.5 m, 3849.9 to 3854.8 m, and 3872.2 to 3876.4 m. The four zones were in different pressure regimes. The interval from 3819.5 to 3826.5 m had a low hydrocarbon saturation based on the logs, but the cores from this section had good shows with a similar bulk hydrocarbon composition as in the uppermost interval. Triassic sands below 4050 m were found water bearing. Good oil shows were seen on all cores from the Hugin Formation, otherwise no shows were reported from the well.

Five cores were cut in the well. Core 1 was cut in the Grid Formation from 1678 to 1694 m with 27% recovery. Coring of the Grid sands was difficult due to their unconsolidated nature. Cores 2 - 5 were cut in the interval 3792 to 3839 m in the Hugin Formation with recovery from 65% to 100%. RFT fluid samples were taken at 3802.5 m (water, mud and filtrate), 3823.5 m (water, mud and filtrate), and 3850.2 m (gas and water). FIT fluid samples were taken at 3822.5 m (water and dissolved gas), 3852.6 m (oil, gas and water), and 3873.5 m (oil, gas and water).

The well was permanently abandoned on 30 March 1982 as an oil and gas discovery.

Testing

One DST was performed through perforations in the interval 3789 to 3807.5 m. The test produced 615 Sm³ oil and 245000 Sm³ Gas/day through a 40/64" choke. The GOR was 400 Sm³/Sm³, the oil density was 0.816 g/cm³, and the gas gravity was 0.803 (air = 1). The gas contained 7.4 % CO₂. Bottom hole temperature during the DST, at reference depth 3800 m, was 127.8 deg C.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
210.00	4254.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	1678.0	1683.0	[m]
2	3792.0	3795.6	[m]
3	3796.1	3806.0	[m]
4	3806.0	3821.1	[m]
5	3821.0	3839.3	[m]

Total kjerneprøve lengde [m]	51.9
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



Høy: 1678-1682m



Lav: 1678-1682m



Høy: 1682-1683m



Lav: 1682-1683m



Høy: 3792-3795m



Lav: 3792-3795m



Høy: 3796-3799m



Lav: 3796-3799m



Høy: 3799-3803m



Lav: 3799-3803m



Høy: 3803-3807m



Lav: 3803-3807m



Høy: 3813-3816m



Lav: 3813-3816m



Høy: 3816-3819m



Lav: 3816-
3819m



Høy: 3820-
3824m



Lav: 3820-
3824m



Høy: 3824-
3827m



Lav: 3824-
3827m



Høy: 3827-
3832m



Lav: 3827-
3832m



Høy: 3832-
3836m



Lav: 3832-
3836m



Høy: 3836-
3839m



Lav: 3836-
3839m

Palynologiske preparater i Sjøkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
1501.0	[m]	SWC	HYDRO
1530.0	[m]	SWC	HYDRO
1561.5	[m]	SWC	HYDRO
1593.0	[m]	SWC	HYDRO
1630.0	[m]	SWC	HYDRO
1697.0	[m]	SWC	HYDRO
1718.0	[m]	SWC	HYDRO
1738.0	[m]	SWC	HYDRO
1754.0	[m]	SWC	HYDRO
1778.0	[m]	SWC	HYDRO
1800.0	[m]	SWC	HYDRO
1824.5	[m]	SWC	HYDRO
1856.0	[m]	SWC	HYDRO
1874.0	[m]	SWC	HYDRO



1909.0	[m]	SWC	HYDRO
1954.5	[m]	SWC	HYDRO
1983.5	[m]	SWC	HYDRO
2000.0	[m]	SWC	HYDRO
2032.0	[m]	SWC	HYDRO
2058.5	[m]	SWC	HYDRO
2071.0	[m]	SWC	HYDRO
2085.0	[m]	SWC	HYDRO
2098.0	[m]	SWC	HYDRO
2172.0	[m]	SWC	HYDRO
2182.0	[m]	SWC	HYDRO
2194.0	[m]	SWC	HYDRO
3792.7	[m]	C	APT
3797.8	[m]	C	APT
3802.2	[m]	C	APT
3813.3	[m]	C	APT
3817.1	[m]	C	APT
3821.0	[m]	C	APT
3821.4	[m]	C	APT
3830.6	[m]	C	APT
3833.5	[m]	C	APT
3839.1	[m]	C	APT

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
132	NORDLAND GP
682	UTSIRA FM
913	HORDALAND GP
925	SKADE FM
1635	GRID FM
2258	ROGALAND GP
2258	BALDER FM
2314	SELE FM
2423	LISTA FM
2463	HEIMDAL FM
2580	LISTA FM
2612	TY FM
2763	SHETLAND GP



2763	JORSALFARE FM
3017	KYRRE FM
3314	BLODØKS FM
3390	SVARTE FM
3525	CROMER KNOLL GP
3525	RØDBY FM
3608	ÅSGARD FM
3675	VIKING GP
3675	DRAUPNE FM
3742	HEATHER FM
3786	VESTLAND GP
3786	HUGIN FM
3856	SLEIPNER FM
4044	SKAGERRAK FM

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
314 1	pdf	0.17
314 2	pdf	0.21
314 3	pdf	0.25
314 4	pdf	0.59

Dokumenter - eldre Sökkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
314 01 WDSS General Information	pdf	0.18
314 02 WDSS completion log	pdf	0.27

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
314 15 3 4 Completion log	pdf	2.52
314 15 3 4 Completion report	pdf	24.14

Borestrengtester (DST)





Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	3789	3807	15.8

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	615	245000	0.816	0.803	399

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
3436	0	0
BGT	921	2823
CBL	175	2819
CBL	3382	3946
CST	2850	3700
CST	3720	3949
CST	3949	4095
CYBERLOOK	3775	3830
HDT CYBERDIP	2819	4095
ISF GR BHC SL	132	4094
LDT CNL GR CAL	192	4096
MSFL DLL GR CAL	3682	3935
NGT	3682	3946
RFT	3802	3850
RFT	3823	3823

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	192.0	36	192.0	0.00	LOT



SURF.COND.	20	921.0	26	937.0	1.45	LOT
INTERM.	13 3/8	2818.0	17 1/2	2833.0	1.78	LOT
INTERM.	9 5/8	3681.0	12 1/4	3700.0	2.05	LOT
LINER	7	3946.0	8 1/2	3948.0	2.07	LOT
OPEN HOLE		4259.0	5 7/8	4259.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
220	1.07	66.0		waterbased	
540	1.10	65.0		waterbased	
1240	1.17	45.0		waterbased	
1730	1.24	58.0		waterbased	
2020	1.24	75.0		waterbased	
2330	1.29	65.0		waterbased	
3110	1.34	54.0		waterbased	
3330	0.00			waterbased	
3380	1.38	54.0		waterbased	
3615	1.55	54.0		waterbased	
3970	1.50	58.0		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 brønnspar. Trykkdataene er rapportert inn til Oljedirektoratet og videre prosessert og kvalitetssikret av IHS Markit.

Dokument navn	Dokument format	Dokument størrelse [KB]
314 Formation pressure (Formasjonstrykk)	pdf	0.21

