



Generell informasjon

Brønnbane navn	2/1-5
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Brønn navn	2/1-5
Seismisk lokalisering	BP 019 - 80 - 61A SP 1367
Utvinningstillatelse	019 B
Boreoperatør	BP Norway Limited U.A.
Boretillatelse	353-L
Boreinnretning	SEDCO 707
Boredager	144
Borestart	13.11.1982
Boreslutt	05.04.1983
Frigitt dato	05.04.1985
Publiseringsdato	12.03.2011
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	LATE JURASSIC
1. nivå med hydrokarboner, formasjon.	ULA FM
Avstand, boredekk - midlere havflate [m]	24.0
Vanndybde ved midlere havflate [m]	66.0
Totalt målt dybde (MD) [m RKB]	4454.0
Totalt vertikalt dybde (TVD) [m RKB]	4454.0
Maks inklinasjon [°]	9
Temperatur ved bunn av brønnbanen [°C]	157
Eldste penetrerte alder	MIDDLE JURASSIC
Eldste penetrerte formasjon	BRYNE FM
Geodetisk datum	ED50
NS grader	56° 47' 54.06" N
ØV grader	3° 12' 21.39" E
NS UTM [m]	6295099.08



ØV UTM [m]	512578.71
UTM sone	31
NPDID for brønnbanen	63

Brønnhistorie

General

Well 2/1-5 was drilled on the Cod Terrace of the Central Graben in the southern North Sea. The primary objective was test a Late Jurassic sandstone prospect on the south side of a large, central salt culmination in block 2/1. The prospect was developed by analogy with the 2/1-3 oil discovery (Gyda) on the north-western slope of the same salt high. There, the reservoir is a 60 to 90 m thick sand within the Farsund formation, with closure formed primarily by pinch out/truncation beneath the Mandal Formation on lapping on the central salt high. Secondary objectives were possible deeper reservoirs such as the Ula and Bryne Formations and the Triassic down to top salt.

Operations and results

Wildcat well 2/1-5 was spudded with the semi-submersible installation Sedco 707 on 13 November 1982 and drilled to TD at 4454 m. In the Cretaceous sequence the string got stuck and the well had to be sidetracked from 2882 m. After a drilling break at 4186 m an oil kick occurred with 21.5 m influx and oil appearing in the mud. RFT measurements in sandstone units below the oil kick showed pore pressures on a gradient equivalent to a mud weight of 2.10 g/cm. This gave little margin for safe onward drilling to Top Salt and the well was terminated in dark, carbonaceous mudstone of uncertain, possibly Early Jurassic age. The well was drilled with seawater/gel down to 635 m, with gypsum/lignosulfonate mud from 635 m to 3830 m, and with Lignosulphonate/lignite mud from 3830 m to TD.

Well 2/1-5 reached the Base Cretaceous Unconformity and the "Hot shale" at 3882 m as predicted. Coring was initiated when traces of sand were observed near the predicted "top reservoir", but only dark, carbonaceous mudstone/siltstone was recovered. In total, 300 metres of mudstone/siltstone were then drilled without any clear trace of the expected equivalent of the 2/1-3 reservoir sandstone. Then, at 4193 m a porous, highly over pressured sandstone unit was penetrated, causing an oil kick and creating new hope for the prospect. However, the thickness of this oil sand was only 6 m, rendering it uneconomic as a single productive reservoir zone. The sand is classified as Ula formation. Several thin bands of sandstones occur within the mudstone sequence below the "kick sand", but these were all well cemented and thus unproductive. Oil shows were seen in sidewall cores in these bands of cemented sandstone down to as deep as 4300 m.

One core was cut from 3929.0 to 3946.3 m in the Farsund Formation. The RFT tool was run on wire line for pressure sampling, but no fluid samples were taken.

The well was permanently abandoned on 5 April 1983 as a minor oil discovery.

Testing

No drill stem test was performed.



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
180.00	4454.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	3928.9	3947.3	[m]

Total kjerneprøve lengde [m]	18.4
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



3928-3934m



3935-3941m



3942-3947m

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
4202.0	[m]	DC	SAGA
4226.0	[m]	DC	SAGA
4253.0	[m]	DC	SAGA
4280.0	[m]	DC	SAGA
4316.0	[m]	DC	SAGA
4337.0	[m]	DC	SAGA
4370.0	[m]	DC	SAGA
4391.0	[m]	DC	SAGA
4415.0	[m]	DC	SAGA
4439.0	[m]	DC	SAGA



4454.0 [m]	DC	SAGA
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Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
90	NORDLAND GP
1785	HORDALAND GP
2886	ROGALAND GP
2886	BALDER FM
2907	SELE FM
2929	FORTIES FM
2961	LISTA FM
3002	VIDAR FM
3101	VÅLE FM
3136	SHETLAND GP
3136	EKOFISK FM
3237	TOR FM
3597	HOD FM
3741	BLODØKS FM
3758	HIDRA FM
3768	CROMER KNOLL GP
3768	RØDBY FM
3790	SOLA FM
3797	TUXEN FM
3833	ÅSGARD FM
3882	TYNE GP
3882	MANDAL FM
3914	FARSUND FM
4053	HAUGESUND FM
4193	VESTLAND GP
4193	ULA FM
4199	BRYNE FM

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
63	pdf	0.77





Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
63_1	pdf	1.20

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
63_01_WDSS_General_Information	pdf	0.17
63_02_WDSS_completion_log	pdf	0.42

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
63_2_1_5_Completion_Report	pdf	17.09

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CBL VDL	550	800
CBL VDL	1750	2050
CST GR	3900	4100
CST GR	4090	4300
CST GR	4130	4210
CST GR	4210	4458
DLL MSFL GR SP CAL	4150	4453
HDT	3821	4217
HDT	3821	4180
HDT	3821	4458
ISF BHC GR SP	162	635
ISF BHC GR SP	3830	4217
ISF BHC MSFL GR SP CAL	626	3830
ISF BHC MSFL GR SP CAL	4218	4457





LDL CNL NGS GR CAL	3821	4457
RFT GR	4194	4374
RFT GR	4195	4214
RFT GR	4200	4200

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	161.0	36	167.0	0.00	LOT
SURF.COND.	18 5/8	625.0	24	635.0	1.58	LOT
INTERM.	13 3/8	2001.0	17 1/2	2008.0	1.86	LOT
INTERM.	9 5/8	3817.0	12 1/4	3830.0	2.13	LOT
OPEN HOLE		4454.0	8 3/8	4454.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
650	1.20	35.0		WATERBASED	
1010	1.28	45.0		WATERBASED	
1380	1.45	72.0		WATERBASED	
2030	1.51	56.0		WATERBASED	
2940	1.68	54.0		WATERBASED	
4450	2.13	67.0		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]
63_Formalion_pressure_(Formasjonstrykk)	PDF	0.21

