



Generell informasjon

Brønnbane navn	1/3-9 S
Type	EXPLORATION
Formål	APPRAISAL
Status	RE-CLASS TO DEV
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	TAMBAR
Funn	1/3-3 Tambar
Brønn navn	1/3-9
Seismisk lokalisering	BPNHR97-13 X-OVER BPNHR97-22
Utvinningstillatelse	065
Boreoperatør	BP Norway Limited U.A.
Boretillatelse	928-L
Boreinnretning	MÆRSK JUTLANDER
Boredager	85
Borestart	08.05.1998
Boreslutt	31.07.1998
Frigitt dato	31.07.2000
Publiseringsdato	30.04.2010
Opprinnelig formål	APPRAISAL
Reklassifisert til brønnbane	1/3-K-1
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]	23.0
Vanndybde ved midlere havflate [m]	68.0
Totalt målt dybde (MD) [m RKB]	4516.0
Totalt vertikalt dybde (TVD) [m RKB]	4359.0
Maks inklinasjon [°]	25.9
Temperatur ved bunn av brønnbanen [°C]	168
Eldste penetrerte alder	LATE JURASSIC
Eldste penetrerte formasjon	ULA FM
Geodetisk datum	ED50



NS grader	56° 58' 57.93" N
ØV grader	2° 57' 31.44" E
NS UTM [m]	6315608.87
ØV UTM [m]	497491.85
UTM sone	31
NPDID for brønnbanen	3362

Brønnhistorie

General

Well 1/3-9 S is located on the Tambar Field on the Cod Terrace in the North Sea. The objective was to appraise the possibility of commercial quantities of hydrocarbons in the Ula Formation sandstones of the JU8 prospect (the Ula Formation is sometimes referred to as the "Gyda Sandstone Member" in this part of the North Sea). The well was planned deviated to avoid shallow gas anomalies and to fully appraise the target sand.

Operations and results

Well 1/3-9 S was spudded with the semi-submersible installation Mærsk Jutlander on 8 May 1998 and drilled to 3100 m where hole problems led to plug-back and a sidetrack (1/3-9 S T2) with kick-off at 1836 m. Final TD of the well was set at 4516 m in the Late Jurassic Ula Formation. The well was drilled with seawater and hi-vis pills down to 1050 m, with Barasilc WBM from 1050 m to 3185 m, and with Enviromul OBM from 3185 m to TD. Total Non-Productive time for the well was 40%, most of which was due to contamination of the mud system, the side-track of the well and the TD logging performance. The 12 1/4" Section was notably different from plan, after an unexpected water kick was taken at 2535 m. This not only reduced the mud systems ability to accept contaminants, with a required MW increase up to 1.7sg, but also severely reduced the ROP, due to high overbalance drilling, later in the section. This also resulted in setting the 9 5/8" casing high, leaving reactive shales open whilst drilling the 8 1/2" section.

The Palaeocene Forties sands of the 1/3-6 and 1/3-7 wells were not encountered. The target Ula Formation sandstone was encountered at 4266.3 m, 33.7 m high to prognosis. It was oil-bearing with an estimated OWC at ca 4375 m. Oil shows, both fluorescence in cuttings samples and drilled gas with the compositional range of C1 - C5, were observed through the interval 4273 - 4377 m, within this unit. No other shows were recorded in the well. Analysis of MDT pressure revealed a 550 psi difference compared to well 1/3-3 and Gyda well 2/1-6. This is interpreted as being a result of depletion from Gyda oil production, and suggests there is significant communication through the aquifer between the JU8 structure and the Gyda Field.

A total of 105 m of core was cut in two cores in the Ula Formation. A total recovery of 99.7% was obtained, representing the two longest core recoveries in the area. MDT oil samples were taken at 4279.5 m, 4304.98 m, and at 4346.49 m. Following extensive logging of the well, a 7" liner was run in preparation for future development. The well was temporarily suspended on 31 July 1998, with a combined trawl guard and corrosion cap left on top. In June 2001 it was re-entered and reclassified to development well on the Tambar and Tambar Øst Fields.

Well 1/3-9 S is classified as an appraisal of the 1/3-3 Tambar Discovery.

Testing

No drill stem test was performed.



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1070.00	3100.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	4273.0	4322.7	[m]
2	4323.0	4378.1	[m]

Total kjerneprøve lengde [m]	104.8
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



4273-4278m



4278-4283m



4283-4288m



4288-4293m



4293-4298m



4298-4303m



4303-4308m



4308-4313m



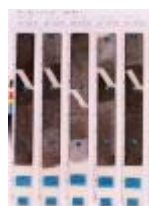
4313-4318m



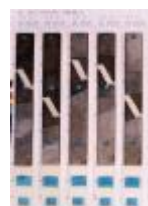
4318-4322m



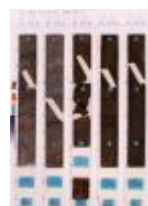
4323-4328m



4328-4333m



4333-4338m



4338-4343m



4343-4348m



4348-4353m



4353-4358m



4358-4363m



4368-4373m



4373-4378m



4378-4378m

Palynologiske preparater i Sjøkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
4274.2	[m]	C	APT
4274.4	[m]	C	APT
4275.4	[m]	C	APT
4277.5	[m]	C	APT
4287.3	[m]	C	APT
4289.4	[m]	C	APT
4289.5	[m]	C	APT
4309.7	[m]	C	APT
4322.8	[m]	C	APT
4325.7	[m]	C	APT
4328.0	[m]	C	APT
4331.5	[m]	C	APT
4334.9	[m]	C	APT
4338.6	[m]	C	APT
4375.0	[m]	C	APT
4376.0	[m]	C	APT
4376.0	[m]	C	APT
4378.0	[m]	C	APT
4378.0	[m]	C	APT

Litostratigrafi



Topp Dyb [mMD RKB]	Litostrat. enhet
3103	ROGALAND GP
3103	BALDER FM
3125	SELE FM
3155	LISTA FM
3254	VIDAR FM
3259	LISTA FM
3292	VÅLE FM
3319	SHETLAND GP
3319	EKOFISK FM
3409	TOR FM
3758	HOD FM
3895	BLODØKS FM
3898	HIDRA FM
3900	CROMER KNOLL GP
3900	RØDBY FM
3933	SOLA FM
3935	TUXEN FM
3942	ÅSGARD FM
4119	TYNE GP
4119	MANDAL FM
4135	FARSUND FM
4266	VESTLAND GP
4266	ULA FM
4414	NO FORMAL NAME
4431	ULA FM

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
3362_1	pdf	0.44
3362_2	pdf	2.49
3362_3	pdf	0.12

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)





Dokument navn	Dokument format	Dokument størrelse [KB]
3362 1 3 9 S COMPLETION LOG	.pdf	2.39
3362 1 3 9 S COMPLETION REPORT	.pdf	31.90

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CSAT GR	1050	4518
CSAT GR	3106	4518
DSI IPL	3157	4518
MDT GR	4266	4308
MDT GR	4266	4396
MDT GR	4278	4395
PI GR	3150	4518

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	159.0	36	165.0	0.00	LOT
SURF.COND.	13 3/8	1042.0	17 1/2	1050.0	1.98	LOT
PILOT HOLE		1050.0	9 7/8	0.0	0.00	LOT
INTERM.	9 5/8	3180.0	12 1/4	3185.0	1.90	LOT
LINER	7	4514.0	8 1/2	4516.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
160	1.03	1.0		WATERBASED	
501	1.03	1.0		WATERBASED	
1050	1.25	1.0		WATER BASED MUD	
1658	1.30	16.0		WATER BASED MUD	
1920	1.70	25.0		WATER BASED MUD	
2180	1.70	26.0		WATER BASED MUD	





2293	1.70	26.0		WATER BASED MUD	
2348	1.70	26.0		WATER BASED MUD	
2515	1.70	24.0		WATER BASED MUD	
2932	1.67	45.0		WATER BASED MUD	
2935	1.70	26.0		WATER BASED MUD	
3087	1.70	30.0		WATER BASED MUD	
3100	1.67	36.0		WATER BASED MUD	
3185	1.70	27.0		WATER BASED MUD	
3185	1.70	27.0		WATER BASED MUD	
3466	1.54	29.0		OIL BASED MUD	
3573	1.54	28.0		OIL BASED MUD	
4042	1.54	30.0		OIL BASED MUD	
4100	1.54	29.0		OIL BASED MUD	
4253	1.54	32.0		OIL BASED MUD	
4323	1.54	26.0		OIL BASED MUD	
4377	1.54	30.0		OIL BASED MUD	
4493	1.54	31.0		OIL BASED MUD	
4516	1.54	30.0		OIL BASED MUD	

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]
3362 Formation pressure (Formasjonstrykk)	pdf	0.21

