

**General information**

Wellbore name	2/1-12
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	2/1-12
Seismic location	SG9502-INLINE 428 & X-LINE 1758
Production licence	019 C
Drilling operator	BP Norway Limited U.A.
Drill permit	946-L
Drilling facility	MÆRSK JUTLANDER
Drilling days	34
Entered date	08.01.1999
Completed date	10.02.1999
Plugged and abandon date	10.02.1999
Release date	10.02.2001
Publication date	18.12.2002
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	23.0
Water depth [m]	68.0
Total depth (MD) [m RKB]	3550.0
Final vertical depth (TVD) [m RKB]	3550.0
Maximum inclination [°]	1.4
Bottom hole temperature [°C]	125
Oldest penetrated age	MIDDLE JURASSIC
Oldest penetrated formation	BRYNE FM
Geodetic datum	ED50
NS degrees	56° 52' 13.28" N
EW degrees	3° 18' 46.44" E
NS UTM [m]	6303139.22
EW UTM [m]	519074.96
UTM zone	31
NPDID wellbore	3648



Wellbore history

General

In September of 1998 BP Norge became operator of the PL 019C licence. The 2/1-12 well was the first well in the licence. The main prospect was the Upper Jurassic Ula Formation. The prospect was prognosed as a four-way dip closure, sealed by Upper Jurassic mudstones. Secondary targets were provided by the Vale Formation sandstones (Tertiary) and by limestones of the Tor Formation (Cretaceous). Well control was provided by the Saga operated wells 2/2-2 (1982) and 2/2-5 (1992) and by the BP well 2/1-5 (1982).

Operations and results

Wildcat well 2/1-12 was spudded with the semi-submersible installation "Maersk Jutlander" on 8 January 1999 and reached a Total Depth of 3550.0 m on the 31st January 1999 in sediments of the Middle Jurassic Bryne Formation. A 12 1/4" pilot hole was drilled to 950 m and logged with the CDR tool and was then opened to 17 1/2". No indications of shallow gas were observed on logs.

At 2808 m, the well was shut in due to a 300 bbl water influx. Shut-in drill pipe pressure was 225 psi and Shut-in casing pressure 345psi. The influx was circulated out with 1.60 sg mud. Analysis of the DxC Exponent and sonic logs shows that the pore pressure was risen to 1.53 sg in the mudstone sequence overlying the Lista Formation at 2704 m. Drilling continued until a flow check was performed at a negative drill break and the well was found to be flowing.

At 3133 m a crack was noticed in the shaft of the top drive. The bit was pulled into the 9 5/8" casing and repairs were undertaken. These repairs required the well to be static for 42 hrs. After the repairs were completed, circulation was established and after 30 minutes of circulation gas increased to 41.2% and dark brown oil was observed over the shakers and in the header box. No shows were seen in the cuttings or in the electrical logs. Geochemical analysis of a sample of the oil showed it to be similar to the Gyda oil. The well was drilled entirely water based with sea water and bentonite hi-vis pills through 36" and 17 1/2" sections down to 950 m, sodium silicate (Barasilc) mud from 950 m to 2930 m, and with KCl polymer mud from 2930 m to TD.

The Ula Formation was encountered at 3250.7 m, 16.5 m higher than prognosed. The sand was of good quality, but no hydrocarbon shows were observed and LWD resistivity logs indicated the reservoir was water-wet.

MDT pressure measurements and sidewall cores were obtained in 8" hole. A detailed pressure survey of the Ula Formation was carried out using the MDT tool and showed the reservoir pressure lay on a water gradient. No conventional cores were taken. No fluid samples were collected. The well was plugged and abandoned as a dry hole on 11 February 1999.

Testing

No drill stem test was performed

Lithostratigraphy



Top depth [mMD RKB]	Lithostrat. unit
91	NORDLAND GP
1607	HORDALAND GP
2150	VADE FM
2227	NO FORMAL NAME
2622	ROGALAND GP
2622	BALDER FM
2648	SELE FM
2672	FORTIES FM
2750	LISTA FM
2813	VIDAR FM
2903	LISTA FM
2920	VÅLE FM
2929	SHETLAND GP
2929	EKOFISK FM
2990	TOR FM
3140	CROMER KNOLL GP
3140	RØDBY FM
3144	SOLA FM
3153	TUXEN FM
3158	ÅSGARD FM
3250	TYNE GP
3250	MANDAL FM
3251	VESTLAND GP
3251	ULA FM
3341	TYNE GP
3341	FARSUND FM
3384	HAUGESUND FM
3513	VESTLAND GP
3513	ULA FM
3548	BRYNE FM

Composite logs

Document name	Document format	Document size [MB]
3648	pdf	0.34



**Geochemical information**

Document name	Document format	Document size [MB]
3648_1	pdf	1.01

Documents - reported by the production licence (period for duty of secrecy expired)

Document name	Document format	Document size [MB]
3648_2_1_12_COMPLETION_LOG	.pdf	2.85
3648_2_1_12_COMPLETION_REPORT	.pdf	24.89

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AMS MDT GR	3526	3553
CST GR	3222	3545
LWD - CDR	163	944
LWD - CDR ADN GST ISONIC	2911	3535
LWD - CDR ISONIC	944	2911

Casing and leak-off tests

Casing type	Casing diam. [inch]	Casing depth [m]	Hole diam. [inch]	Hole depth [m]	LOT/FIT mud eqv. [g/cm3]	Formation test type
SURF.COND.	30	164.0	36	165.0	0.00	LOT
INTERM.	13 3/8	937.0	17 1/2	950.0	1.80	LOT
INTERM.	9 5/8	2922.0	12 1/4	2922.0	1.77	LOT
OPEN HOLE		3550.0	8 1/2	3550.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
130	0.00			DUMMY	
140	1.03			WATER BASED MUD	





340	1.54	30.0		WATER BASED MUD	
829	1.03			SEAWATER	
950	1.03			SEAWATER	
953	1.30	17.0		WATER BASED MUD	
1600	1.39	29.0		WATER BASED MUD	
2200	1.50	35.0		WATER BASED MUD	
2801	1.50	28.0		WATER BASED MUD	
2808	1.60	27.0		WATER BASED MUD	
2866	1.60	28.0		WATER BASED MUD	
2903	1.60	26.0		WATER BASED MUD	
2925	1.60	25.0		WATER BASED MUD	
2925	1.62	27.0		WATER BASED MUD	
2930	1.55	26.0		WATER BASED MUD	
2944	1.54	30.0		WATER BASED MUD	
3133	1.53	28.0		WATER BASED MUD	
3154	1.54	25.0		WATER BASED MUD	
3200	1.54	30.0		WATER BASED MUD	
3321	1.54	36.0		WATER BASED MUD	
3542	1.54	30.0		WATER BASED MUD	
3550	1.54	30.0		WATER BASED MUD	

Pressure plots

The pore pressure data is sourced from well logs if no other source is specified. In some wells where pore pressure logs do not exist, information from Drill stem tests and kicks have been used. The data has been reported to the NPD, and further processed and quality controlled by IHS Markit.





Document name	Document format	Document size [MB]
3648 Formation pressure (Formasjonstrykk)	pdf	0.23

