General information

Wellbore name	2/1-3
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	GYDA
Discovery	2/1-3 Gyda
Well name	2/1-3
Seismic location	2-109 SP.782
Production licence	019 B
Drilling operator	BP Norway Limited U.A.
Drill permit	229-L
Drilling facility	SEDCO H
Drilling days	148
Entered date	03.11.1979
Completed date	29.03.1980
Release date	29.03.1982
Publication date	12.03.2011
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	YES
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	ULA FM
Kelly bushing elevation [m]	30.0
Water depth [m]	66.0
Total depth (MD) [m RKB]	4297.0
Final vertical depth (TVD) [m RKB]	4296.0
Maximum inclination [°]	3
Bottom hole temperature [°C]	162
Oldest penetrated age	LATE PERMIAN
Oldest penetrated formation	ZECHSTEIN GP
Geodetic datum	ED50
NS degrees	56° 54' 41.39'' N
EW degrees	3° 6' 30.39'' E
NS UTM [m]	6307680.64
EW UTM [m]	506603.55

UTM zone	31
NPDID wellbore	251

Wellbore history

General

Well 2/1-3 was drilled on the Cod Terrace on the margin between the southern Vestland Arch and the Central Trough in the North Sea. The primary objective of the well was to test Late Jurassic sandstone within a fault sealed dip closure, against the downthrown side of a westerly heading fault complex at the base of the Cretaceous. Triassic sandstone was a secondary objective.

Operations and results

Wildcat well 2/1-3 was spudded with the semi-submersible installation SEDCO H on 3 November 1979 and drilled to TD at 4297 in the Late Permian Zechstein Group. The well was drilled with Seawater down to 625 m and with Lignosulphonate mud from 625 m to TD.

Top of the Tyne Group, Mandal Formation, was encountered at 3791 m, with the Late Jurassic sandstone at 3819.5 m. The Late Jurassic sandstone reservoir was oil-bearing all through. The reservoir is a 59.5 m thick homogeneous fine to medium grained sandstone with a porosity from 15% to 22%. The sandstone grades into a well cemented argillaceous siltstone below. No oil/water contact was established. Oil shows were recorded in Tor Formation limestone at 3000 - 3005 m, throughout the Late Jurassic reservoir sandstone, and in Middle Jurassic Bryne Formation sandstone at 4020 to 4040 m.

Four cores were cut from 3823.0 to 3893.5 m in the Ula Formation reservoir sandstones.

The well was permanently abandoned on 29 March 1980 as an oil discovery.

Testing

Three drill stem tests were performed in the Late Jurassic sandstones.

DST 1A perforated the interval 3863 to 3872.1 m and produced 226 Sm3 oil and 18689 Sm3 gas per day through a 40/64" choke. The GOR was reported to be 150 Sm3/Sm3 and the oil gravity was 41 deg API. The maximum bottom hole temperature recorded in the test was 151.1 deg C.

DST 2 perforated the interval 3838.5 to 3844.6 m and produced 1051 Sm3 oil and 54991 Sm3 gas per day through a 32/64" choke. The GOR was reported to be 116 Sm3/Sm3 and the oil gravity was 39 deg API. The maximum bottom hole temperature recorded in the test was 150.0 deg C.

DST 3 perforated the interval 3819.0 to 3825.1 m and produced 933 Sm3 oil and 39077 Sm3 gas per day through a 32/64" choke. The GOR was reported to be 108 Sm3/Sm3 and the oil gravity was 38 deg API. The maximum bottom hole temperature recorded in the test was 150.8 deg C.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
180.00	4296.00

Cuttings available for sampling?	NO

Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	3823.0	3832.2	[m]
2	3838.0	3855.7	[m]
3	3856.4	3862.2	[m]
4	3875.0	3893.5	[m]

Total core sample length [m]	51.1
Cores available for sampling?	YES

Core photos


3823-3827m


3827-3832m


3832-3832m


3838-3842m


3842-3847m


3847-3851m


3851-3855m


3856-3860m


3860-3862m


3875-3878m


3879-3884m


3884-3888m


3888-3893m


3893-3893m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
3792.0	[m]	DC	PETROSTR
3801.0	[m]	DC	PETROS
3804.0	[m]	DC	PETROS
3810.0	[m]	DC	PETROS
3816.0	[m]	DC	PETROS
3822.0	[m]	DC	PETROS
3823.0	[m]	C	PETROS
3825.8	[m]	C	PETROS
3844.8	[m]	C	PETROS
3848.1	[m]	C	PETROS
3853.1	[m]	C	PETROS
3858.5	[m]	C	PETROS
3862.0	[m]	C	PETROS
3876.0	[m]	C	PETROS
3877.0	[m]	C	PETROS
3877.8	[m]	C	PETROS
3877.8	[m]	C	PETROS
3881.3	[m]	C	PETROS
3883.1	[m]	C	PETROS
3885.8	[m]	C	PETROS
3887.7	[m]	C	PETROS
3889.4	[m]	C	PETROS
3891.2	[m]	C	PETROS
3893.5	[m]	C	PETROS
3897.0	[m]	DC	PETROS
3903.0	[m]	DC	PETROS
3909.0	[m]	DC	PETROS
3915.0	[m]	DC	PETROS
3921.0	[m]	DC	PETROS
3927.0	[m]	DC	PETROS
3933.0	[m]	DC	PETROS
3939.0	[m]	DC	PETROS
3945.0	[m]	DC	PETROS
3951.0	[m]	DC	PETROS
3957.0	[m]	DC	PETROS
3963.0	[m]	DC	PETROS
3969.0	[m]	DC	PETROS
3975.0	[m]	DC	PETROS
3981.0	[m]	DC	PETROS

3987.0	[m]	DC	PETROS
3993.0	[m]	DC	PETROS

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
96	NORDLAND GP
1523	HORDALAND GP
2798	ROGALAND GP
2798	BALDER FM
2838	SELE FM
2845	FORTIES FM
2910	LISTA FM
2987	SHETLAND GP
2987	EKOFISK FM
3000	TOR FM
3424	HOD FM
3520	BLODØKS FM
3524	HIDRA FM
3534	CROMER KNOLL GP
3534	RØDBY FM
3579	TUXEN FM
3625	ÅSGARD FM
3791	TYNE GP
3791	MANDAL FM
3820	VESTLAND GP
3820	ULA FM
3991	BRYNE FM
4101	SKAGERRAK FM
4163	SMITH BANK FM
4219	ZECHSTEIN GP

Composite logs

Document name	Document format	Document size [MB]
251	pdf	0.71

Geochemical information

Document name	Document format	Document size [MB]
251_1	pdf	0.17
251_2	pdf	1.43
251_3	pdf	2.85
251_4	pdf	7.44

Documents - older Norwegian Offshore Directorate WDSS reports and other related documents

Document name	Document format	Document size [MB]
251_01_WDSS_General_Information	pdf	0.13
251_02_WDSS_completion_log	pdf	0.28

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

Document name	Document format	Document size [MB]
251_2_1_3_Completion_log	pdf	2.51
251_2_1_3_Completion_report	pdf	7.23

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	3863	3872	15.9
2.0	3839	3845	12.7
3.0	3819	3825	12.7

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0				
2.0				
3.0				

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	226	19000	0.820		150
2.0	1051	55000	0.830		116
3.0	933	39000	0.835		108

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CALI	625	1825
CBL VDL GR	3395	3927
CDL CNL GR	3538	4270
CDM	3587	4221
CDM AP	3587	4221
DLL MLL	3587	3940
FMT	0	0
GR CAL	550	0
IEL BHC GR AC	30	4273
TEMP	95	2250
VELOCITY	30	4273

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
CONDUCTOR	30	139.0	36	143.0	0.00	LOT
SURF.COND.	18 5/8	595.0	24	608.0	1.81	LOT
INTERM.	13 3/8	1899.0	17 1/2	1910.0	1.92	LOT
INTERM.	9 5/8	3558.0	12 1/4	3566.0	2.00	LOT
LINER	7	3935.0	8 1/2	4267.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
930	1.15			waterbased	
1422	1.30			waterbased	
2227	1.57			waterbased	

2813	1.60			waterbased	
3409	1.63			waterbased	
4297	1.68			waterbased	

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]
251_Formation_pressure_(Formasjonstrykk)	PDF	0.22