

**General information**

Wellbore name	2/3-4
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	2/3-4
Seismic location	SG 8252 - 374 SP. 185
Production licence	022
Drilling operator	Norwegian Gulf Exploration Company AS
Drill permit	418-L
Drilling facility	GLOMAR MORAY F.I
Drilling days	58
Entered date	28.05.1984
Completed date	24.07.1984
Release date	24.07.1986
Publication date	18.05.2004
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	38.0
Water depth [m]	56.0
Total depth (MD) [m RKB]	3386.0
Final vertical depth (TVD) [m RKB]	3386.0
Bottom hole temperature [°C]	109
Oldest penetrated age	LATE PERMIAN
Oldest penetrated formation	ZECHSTEIN GP
Geodetic datum	ED50
NS degrees	56° 46' 45.61" N
EW degrees	3° 48' 27.89" E
NS UTM [m]	6293254.69
EW UTM [m]	549360.76
UTM zone	31
NPDID wellbore	129

**Wellbore history****General**

Well 2/3-4 was drilled by Gulf Oil Corporation - Norway Branch as a non-obligatory well on behalf of the participants in Production Licence 022. All obligatory work had been previously been done. The well is situated 275 km SSW of Stavanger. Geologically, the location was chosen on the "Ula Trend" on the NE flank of the Central Graben in the southern Norwegian North Sea. The principal objective of the well was to test structural closure of Upper Jurassic Ula Formation sandstone. This formation was believed to exist within 100 m below the nearest representative mappable seismic reflection, the Base Cretaceous Unconformity. The well was also planned to penetrate an Oligocene sand down-dip from a very small gas accumulation defined by a seismic flat spot anomaly, and which was therefore believed to be water wet at the location. The chalk reservoir was not predicted to be hydrocarbon bearing, nor was the well located within its mapped closure.

Operations and results

Exploration well 2/3-4 was spudded with the jack-up installation Glomar Moray Firth I on 28 May 1984 and drilled to a total depth of 3386.3 m in Permian (Zechstein) evaporites. The well was drilled with seawater and gel down to 651 m and with Safemul oil based mud from 651 m to TD. Some swelling of the Miocene clay occurred during drilling of the 17 1/2" hole, otherwise no major problems occurred. Well 2/3-4 was the first exploration well for which NPD approved that conventional wire line logs was replaced with a suite of MWD logs.

The primary objective, Ula Formation sands, was penetrated at 3006 m and was 207 m thick. The porosity of particularly the uppermost 170 m was excellent, generally between 25% and 30%. Electric logs, and a formation fluid sample (from FMT), indicated that the reservoir was water bearing throughout. Shows detection was made difficult due to the mud used. However, spectrofluorometric analyses on cuttings samples while drilling indicated that real shows could be present in the interval between 3045 m and 3006 m. The formation pressure gradient of 1.51 psi/m (0.46 psi/ft) within the reservoir further confirmed that the pore fluid was water, and that no vertical permeability barriers were present. Two segregated FMT samples were taken at 3011.5 m and 3073 m, both contained water. One core was cut from 3125.3 m to 3144.3 m in the Ula Formation sandstone. An anomalous high gamma ray peak was observed at 3030.6 m. The well was permanently abandoned as a dry well on 24 July 1984.

Testing

No drill stem test was performed

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
200.00	3386.00

Cuttings available for sampling?	YES
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Cores at the Norwegian Offshore Directorate



Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	3125.4	3144.0	[m]

Total core sample length [m]	18.6
Cores available for sampling?	YES

Core photos



3125-3128m



3129-3132m



3133-3136m



3137-3140m



3141-3143m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1400.0	[m]	DC	RRI
1450.0	[m]	DC	RRI
1500.0	[m]	DC	RRI
1550.0	[m]	DC	RRI
1600.0	[m]	DC	RRI
1650.0	[m]	DC	RRI
1700.0	[m]	DC	RRI
1710.0	[m]	DC	RRI
1720.0	[m]	DC	RRI
1740.0	[m]	DC	RRI
1750.0	[m]	DC	RRI
1780.0	[m]	DC	RRI
1790.0	[m]	DC	RRI
1810.0	[m]	DC	RRI
1820.0	[m]	DC	RRI
1830.0	[m]	DC	RRI
1840.0	[m]	DC	RRI
1850.0	[m]	DC	RRI
1870.0	[m]	DC	RRI



1880.0	[m]	DC	RRI
1900.0	[m]	DC	RRI
1905.0	[m]	DC	RRI
1915.0	[m]	DC	RRI
1920.0	[m]	DC	RRI
1930.0	[m]	DC	RRI
1945.0	[m]	DC	RRI
1950.0	[m]	DC	RRI
1960.0	[m]	DC	RRI
1970.0	[m]	DC	RRI
1975.0	[m]	DC	RRI
1990.0	[m]	DC	RRI
2005.0	[m]	DC	RRI
2020.0	[m]	DC	RRI
2035.0	[m]	DC	RRI
2050.0	[m]	DC	RRI
2060.0	[m]	DC	RRI
2065.0	[m]	DC	RRI
2080.0	[m]	DC	RRI
2095.0	[m]	DC	RRI
2105.0	[m]	DC	RRI
2110.0	[m]	DC	RRI
2125.0	[m]	DC	RRI
2140.0	[m]	DC	RRI
2155.0	[m]	DC	RRI
2160.0	[m]	DC	RRI
2170.0	[m]	DC	RRI
2185.0	[m]	DC	RRI
2190.0	[m]	DC	RRI
2200.0	[m]	DC	RRI
2215.0	[m]	DC	RRI
2230.0	[m]	DC	RRI
2245.0	[m]	DC	RRI
2260.0	[m]	DC	RRI
2270.0	[m]	DC	RRI
2275.0	[m]	DC	RRI
2290.0	[m]	DC	RRI
2300.0	[m]	DC	RRI
2305.0	[m]	DC	RRI
2320.0	[m]	DC	RRI



2335.0	[m]	DC	RRI
2350.0	[m]	DC	RRI
2365.0	[m]	DC	RRI
2380.0	[m]	DC	RRI
2395.0	[m]	DC	RRI
2400.0	[m]	DC	RRI
2410.0	[m]	DC	RRI
2425.0	[m]	DC	RRI
2440.0	[m]	DC	RRI
2450.0	[m]	DC	RRI
2455.0	[m]	DC	RRI
2470.0	[m]	DC	RRI
2485.0	[m]	DC	RRI
2500.0	[m]	DC	RRI
2505.0	[m]	DC	RRI
2515.0	[m]	DC	RRI
2525.0	[m]	DC	RRI
2530.0	[m]	DC	RRI
2535.0	[m]	DC	RRI
2545.0	[m]	DC	RRI
2560.0	[m]	DC	RRI
2575.0	[m]	DC	RRI
2590.0	[m]	DC	RRI
2600.0	[m]	DC	RRI
2605.0	[m]	DC	RRI
2610.0	[m]	DC	RRI
2620.0	[m]	DC	RRI
2650.0	[m]	DC	RRI
2660.0	[m]	DC	RRI
2670.0	[m]	DC	RRI
2675.0	[m]	DC	RRI
2680.0	[m]	DC	RRI
2690.0	[m]	DC	RRI
2695.0	[m]	DC	RRI
2710.0	[m]	DC	RRI
2785.0	[m]	DC	RRI
2800.0	[m]	DC	RRI
3000.0	[m]	DC	RRI
3006.0	[m]	DC	RRI
3034.0	[m]	DC	RRI



3060.0	[m]	DC	RRI
3113.0	[m]	DC	RRI
3135.5	[m]	DC	RRI
3142.0	[m]	DC	RRI
3144.0	[m]	DC	RRI
3180.0	[m]	DC	RRI
3188.0	[m]	DC	RRI
3204.0	[m]	DC	RRI
3236.0	[m]	DC	RRI
3248.0	[m]	DC	RRI
3256.0	[m]	DC	RRI
3268.0	[m]	DC	RRI
3302.0	[m]	DC	RRI
3322.0	[m]	DC	RRI
3334.0	[m]	DC	RRI
3342.0	[m]	DC	RRI

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
96	NORDLAND GP
1434	HORDALAND GP
2527	ROGALAND GP
2527	BALDER FM
2548	SELE FM
2592	LISTA FM
2613	MAUREEN FM
2719	SHETLAND GP
2719	EKOFISK FM
2796	TOR FM
2925	CROMER KNOLL GP
2925	RØDBY FM
2930	SOLA FM
3005	TYNE GP
3005	MANDAL FM
3006	VESTLAND GP
3006	ULA FM
3215	BRYNE FM
3332	NO GROUP DEFINED



3332	SMITH BANK FM
3377	ZECHSTEIN GP

Composite logs

Document name	Document format	Document size [MB]
129	pdf	0.52

Geochemical information

Document name	Document format	Document size [MB]
129_1	pdf	0.40

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

Document name	Document format	Document size [MB]
129_01_WDSS_General_Information	pdf	0.21
129_02_WDSS_completion_log	pdf	0.30

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

Document name	Document format	Document size [MB]
129_2_3_4_COMPLETION_LOG	pdf	1.98
129_2_3_4_COMPLETION_REPORT	pdf	23.56

Logs

Log type	Log top depth [m]	Log bottom depth [m]
DIFL ACL CDL CN GR CAL	1685	2965
DIFL ACL CDL CN GR CAL	2959	3139
DIFL ACL CDL CN GR CAL	3060	3381
DIFL ACL CDL GR CAL	611	1764
DIPLOG	2959	3382





FMT	0	0
MWD - GR	644	1780
MWD - GR	1828	2959
MWD - GR RES	195	644
TEMP	20	620
TEMP	500	2940
VELOCITY	611	3381
VSP	1600	3370
XY CAL GR	157	648

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	183.5	36	335.3	0.00	LOT
SURF.COND.	20	644.5	26	650.5	1.49	LOT
INTERM.	13 3/8	1770.6	17 1/2	1786.0	1.74	LOT
INTERM.	9 5/8	2963.9	12 1/4	2967.8	1.92	LOT
OPEN HOLE		3386.0	8 1/2	3386.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
128	1.43			WATER BASED	29.05.1984
201	1.32			WATER BASED	31.05.1984
201	1.32			WATER BASED	31.05.1984
201	1.04			WATER BASED	04.06.1984
639	1.14	330.0	200.0	OIL BASED	15.06.1984
651	1.05	6.0	29.0	WATER BASED	05.06.1984
1213	1.26	31.0	22.0	OIL BASED	17.06.1984
1771	1.38	37.0	25.0	OIL BASED	25.06.1984
2157	1.40	32.0	25.0	OIL BASED	28.06.1984
2563	1.41	39.0	27.0	OIL BASED	02.07.1984
2795	1.41	34.0	11.1	OIL BASED	04.07.1984
2889	1.41	32.0	10.6	OIL BASED	04.07.1984
2968	1.49	35.0	15.4	OIL BASED	06.07.1984
3001	1.53	36.0	14.9	OIL BASED	11.07.1984
3125	1.56	36.0	14.9	OIL BASED	13.07.1984

**Thin sections at the Norwegian Offshore Directorate**

Depth	Unit
3136.00	[m]

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]
129 Formation pressure (Formasjonstrykk)	pdf	0.23

