

**General information**

Wellbore name	2/1-7
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	2/1-7
Seismic location	80 - 30A SP. 1630
Production licence	019 B
Drilling operator	BP Petroleum Dev. of Norway AS
Drill permit	431-L
Drilling facility	GLOMAR MORAY F.I
Drilling days	182
Entered date	06.09.1984
Completed date	06.03.1985
Release date	06.03.1987
Publication date	15.02.2006
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	38.0
Water depth [m]	69.0
Total depth (MD) [m RKB]	5464.0
Final vertical depth (TVD) [m RKB]	5464.0
Bottom hole temperature [°C]	178
Oldest penetrated age	EARLY PERMIAN
Oldest penetrated formation	ROTLIEGEND GP
Geodetic datum	ED50
NS degrees	56° 51' 51.32" N
EW degrees	3° 5' 40.36" E
NS UTM [m]	6302420.54
EW UTM [m]	505764.55
UTM zone	31
NPDID wellbore	137



Wellbore history

General

Wildcat well 2/1-7 was drilled on a structure in the centre of the block. The primary target was Rothliegendes sandstone in a large fault bounded structure mapped at base Zechstein Group level. A secondary objective was Late Jurassic Ula Formation sandstone in an extension of the 2/1-3 Gyda discovery. In the 2/1-3 well two sequences of Ula Formation sandstone had been encountered, and the upper of the two had been oil-bearing

Operations and results

Wildcat well 2/1-7 was spudded with the 3-leg jack installation Glomar Moray Firth 1 on 6 September 1984 and drilled to TD at 5464 m in the Permian Rotliegendes Group. Pumping lost circulation material, without changing the mud weight, stopped loss of mud at 1710 m. Top chalk came in at 3190 m. This whole sequence was drilled with turbine. At 3746 m the drill string got stuck, and the tight interval was located between 2600-2900 m. The string was freed by circulating acidic mud. Full circulation was maintained during this whole operation. While pulling out to change bit at 5077 m the drill string was lost in the hole. At the same time 170 bbls of mud was lost. One reason for this mud loss could be the "piston effect" caused by the drill string falling down the hole. The pipe was fished out piece by piece, and the stabilisers above the bit were milled out. At 5081 m the drill string was screwed off 300 m above the bit. Fishing was successful and drilling continued. Drilling was stopped at 5113 a to perform pressure test. During this operation, before reliable results were obtained, the RFT-tool got stuck in the hole. After extensive fishing the operator decided to plug back and sidetrack the hole. The technical sidetrack was kicked off at 5092 m, and drilled to 5119 m. Problems at this depth made another sidetrack necessary, and the hole was plugged back to 4747 m. The new sidetrack was kicked off from 5080 m and drilled to a TD of 5464 m, which made this hole 4 m short of being the deepest hole so far drilled in the Norwegian Sector. The well was drilled water based with KCl/polymer mud below 760 m, converting to a salt saturated mud from 4340 m. At 4238 m a diesel pill was used in the mud to free stuck pipe.

The upper Ula sand, found oil bearing in the 2/1-3 well, was absent in the well. This confirmed the seismic mapping which picked the sub crop of the "2/1-3 Sand" beneath the base Mandal Formation to the north of the 2/1-7 well location. A 37 m thick Ula Formation water bearing sandstone was penetrated further down in the Late Jurassic, at 4024 m. The primary objective, Rotliegendes sand in the bottom of the well, showed good reservoir qualities, but was also water bearing. There were no significant hydrocarbon shows in any section of the well. The well severely downgraded the prospectivity of the Rotliegendes sandstone, and was thought to be dry due to absence of Carboniferous source rocks. Four cores were cut in the Rotliegendes sandstone, three of which cover the interval 5115.05 - 5127.0 m, and one between 5147.0 - 5165.0 m. No wire line fluid samples were obtained in the well.

The well was permanently abandoned on 6 March 1985 as a dry well.

Testing

No drill stem test was performed in the well.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
300.00	5465.00



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	5115.1	5124.3	[m]
2	5124.3	5125.5	[m]
3	5125.5	5127.0	[m]
4	5147.0	5165.0	[m]

Total core sample length [m]	30.0
Cores available for sampling?	YES

Core photos

5115-5121m



5121-5124m



5124-5125m



5125-5127m



5147-5153m



5153-5159m



5159-5165m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
3870.0	[m]	DC	OD
3890.0	[m]	DC	OD
3910.0	[m]	DC	OD
3931.0	[m]	DC	OD
3949.0	[m]	DC	OD
3967.0	[m]	DC	OD



3985.0	[m]	DC	OD
4021.0	[m]	DC	OD
4039.0	[m]	DC	OD
4057.0	[m]	DC	OD

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
106	NORDLAND GP
1830	HORDALAND GP
2917	ROGALAND GP
2917	BALDER FM
2939	SELE FM
2948	FORTIES FM
3018	LISTA FM
3066	ANDREW FM
3102	VIDAR FM
3157	LISTA FM
3173	VÅLE FM
3187	SHETLAND GP
3187	EKOFISK FM
3275	TOR FM
3648	HOD FM
3786	HIDRA FM
3802	CROMER KNOLL GP
3802	RØDBY FM
3886	ÅSGARD FM
3974	TYNE GP
3974	MANDAL FM
3996	HAUGESUND FM
4024	VESTLAND GP
4024	ULA FM
4061	BRYNE FM
4105	NO GROUP DEFINED
4105	SMITH BANK FM
4332	ZECHSTEIN GP
4332	UNDIFFERENTIATED
5083	KUPFERSCHIEFER FM
5084	ROTLIEGEND GP



Composite logs

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

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

Document name	Document format	Document size [MB]
137_01_WDSS_General_Information	pdf	0.31
137_02_WDSS_completion_log	pdf	0.38

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

Document name	Document format	Document size [MB]
137_01_2_1_7_Completion_report	pdf	2.44
137_02_2_1_7_Completion_log	pdf	2.75

Logs

Log type	Log top depth [m]	Log bottom depth [m]
BHC MSFL GR SP CAL	3876	4930
CBL VDL GR CCL	450	1000
CYBERDIP	3876	4293
CYBERLOOK	5083	5187
DLL GR SP	5083	5189
DLL MSFL NGT SP	3876	5078
ISF SLS GR SP	170	2462
ISF SLS MSFL GR CAL SP	5083	5193
ISF SLS MSFL GR SP CAL	2473	3879
ISF SLS MSFL GR SP CAL	3876	4291
LDL CNL GR	5082	5194
LDL CNL NGT	3876	5071
RFT GR	5076	5103
RFT GR	5110	5187





RFT GR	5115	5145
SHDT GR	3876	4293
VSP GR	150	5185

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	171.0	36	171.0	0.00	LOT
SURF.COND.	20	745.0	26	755.0	1.70	LOT
INTERM.	13 3/8	2473.0	17 1/2	2490.0	1.92	LOT
INTERM.	9 5/8	3873.0	12 1/4	3878.0	2.12	LOT
LINER	7	5076.0	8 1/2	5464.0	2.20	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
151	1.03			WATER BASED	11.09.1984
186	1.03			WATER BASED	11.09.1984
202	1.03			WATER BASED	11.09.1984
220	1.06			WATER BASED	13.09.1984
521	1.08	4.0	3.8	WATER BASED	14.09.1984
745	1.15	20.0	14.9	WATER BASED	18.09.1984
745	1.15	10.0	5.8	WATER BASED	16.09.1984
745	1.15	20.0	14.9	WATER BASED	18.09.1984
755	1.12	5.0	3.8	WATER BASED	16.09.1984
755	1.13	10.0	5.8	WATER BASED	16.09.1984
755	1.13	10.0	5.8	WATER BASED	16.09.1984
937	1.15	14.0	5.8	WATER BASED	19.09.1984
1170	1.21	14.0	6.7	WATER BASED	20.09.1984
1397	1.38	14.0	5.8	WATER BASED	23.09.1984
1684	1.45	16.0	6.7	WATER BASED	23.09.1984
1739	1.45	23.0	8.2	WATER BASED	25.09.1984
1840	1.48	26.0	8.6	WATER BASED	25.09.1984
2136	1.50	32.0	9.6	WATER BASED	26.09.1984
2277	1.55	30.0	8.2	WATER BASED	27.09.1984
2316	1.55	33.0	6.2	WATER BASED	29.09.1984
2448	1.55	30.0	8.2	WATER BASED	29.09.1984



2490	1.55	29.0	8.6	WATER BASED	29.09.1984
2500	1.56	24.0	7.2	WATER BASED	07.10.1984
2683	1.57	23.0	7.2	WATER BASED	08.10.1984
2899	1.58	20.0	6.7	WATER BASED	09.10.1984
2958	1.57	19.0	5.8	WATER BASED	10.10.1984
3066	1.58	17.0	13.4	WATER BASED	11.10.1984
3123	1.58	17.0	12.5	WATER BASED	14.10.1984
3127	1.58	18.0	6.7	WATER BASED	14.10.1984
3178	1.58	24.0	8.2	WATER BASED	14.10.1984
3228	1.58	25.0	8.6	WATER BASED	15.10.1984
3249	1.58	20.0	7.7	WATER BASED	16.10.1984
3274	1.59	24.0	10.1	WATER BASED	17.10.1984
3301	1.59	23.0	8.6	WATER BASED	18.10.1984
3361	1.58	30.0	12.0	WATER BASED	21.10.1984
3416	1.58	28.0	11.0	WATER BASED	21.10.1984
3497	1.58	28.0	6.7	WATER BASED	22.10.1984
3562	1.58	31.0	7.7	WATER BASED	24.10.1984
3612	1.58	32.0	8.2	WATER BASED	25.10.1984
3663	1.58	31.0	8.6	WATER BASED	29.10.1984
3702	1.60	31.0	8.2	WATER BASED	29.10.1984
3732	1.60	34.0	8.6	WATER BASED	29.10.1984
3746	1.60	34.0	8.6	WATER BASED	31.10.1984
3747	1.58	34.0	8.6	WATER BASED	06.11.1984
3757	1.58	34.0	9.1	WATER BASED	08.11.1984
3776	1.58	33.0	10.2	WATER BASED	09.11.1984
3858	1.62	36.0	13.4	WATER BASED	12.11.1984
3878	1.65	37.0	14.4	WATER BASED	12.11.1984
3904	1.80	30.0	9.6	WATER BASED	19.11.1984
3919	1.85	30.0	9.6	WATER BASED	19.11.1984
3968	1.86	33.0	11.5	WATER BASED	20.11.1984
4024	1.85	34.0	11.0	WATER BASED	21.11.1984
4148	1.85	35.0	10.1	WATER BASED	22.11.1984
4236	1.85	31.0	9.6	WATER BASED	23.11.1984
4290	1.86	32.0	11.5	WATER BASED	26.11.1984
4333	1.84	47.0	10.6	WATER BASED	26.11.1984
4530	1.84	51.0	13.4	WATER BASED	27.11.1984
4677	1.90	57.0	13.0	WATER BASED	28.11.1984
4870	1.94	62.0	13.0	WATER BASED	29.11.1984
4970	1.94	56.0	10.2	WATER BASED	30.11.1984
5066	1.96	70.0	17.3	WATER BASED	03.12.1984



5077	1.96	70.0	12.5	WATER BASED	03.12.1984
5077	1.90	50.0	10.6	WATER BASED	20.12.1984
5077	1.90	50.0	10.6	WATER BASED	20.12.1984
5080	1.93	52.0	10.1	WATER BASED	29.01.1985
5081	1.92	61.0	16.3	WATER BASED	03.01.1985
5081	1.92	56.0	13.4	WATER BASED	03.01.1985
5081	1.92	61.0	16.3	WATER BASED	03.01.1985
5083	1.92	54.0	14.4	WATER BASED	25.12.1984
5089	1.93	47.0	12.0	WATER BASED	10.01.1985
5089	1.93	44.0	10.6	WATER BASED	14.01.1985
5089	1.93	54.0	12.0	WATER BASED	10.01.1985
5089	1.93	47.0	12.0	WATER BASED	10.01.1985
5089	1.93	44.0	10.6	WATER BASED	14.01.1985
5092	1.92	35.0	6.2	WATER BASED	31.01.1985
5092	1.92	34.0	6.2	WATER BASED	03.02.1985
5092	1.92	34.0	6.2	WATER BASED	03.02.1985
5096	1.92	52.0	8.6	WATER BASED	03.02.1985
5110	1.92	49.0	9.1	WATER BASED	29.01.1985
5113	1.92	66.0	10.6	WATER BASED	14.01.1985
5113	1.92	47.0	6.7	WATER BASED	03.02.1985
5113	1.92	39.0	5.8	WATER BASED	21.01.1985
5113	1.92	66.0	10.6	WATER BASED	14.01.1985
5113	1.92	39.0	5.8	WATER BASED	21.01.1985
5113	1.92	51.0	10.6	WATER BASED	14.01.1985
5115	1.92	50.0	7.2	WATER BASED	05.02.1985
5124	1.92	101.0	22.0	WATER BASED	06.02.1985
5126	1.92	77.0	13.0	WATER BASED	07.02.1985
5127	1.92	40.0	8.2	WATER BASED	10.02.1985
5147	1.92	30.0	3.8	WATER BASED	10.02.1985
5165	1.92	28.0	1.4	WATER BASED	13.02.1985
5165	1.92	28.0	1.4	WATER BASED	11.02.1985
5165	1.92	28.0	1.4	WATER BASED	13.02.1985
5185	1.72	29.0	3.4	WATER BASED	14.02.1985
5379	1.72	29.0	3.4	WATER BASED	17.02.1985
5431	1.72	29.0	3.4	WATER BASED	17.02.1985
5460	1.71	34.0	3.8	WATER BASED	17.02.1985
5465	1.70	34.0	5.8	WATER BASED	18.02.1985

Thin sections at the Norwegian Offshore Directorate



Depth	Unit
5115.05	[m]
5116.35	[m]
5116.65	[m]
5119.35	[m]
5122.35	[m]
5125.00	[m]
5125.35	[m]
5126.35	[m]
5148.65	[m]
5156.35	[m]
5164.65	[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]
137 Formation pressure (Formasjonstrykk)	PDF	0.21

