

**General information**

Wellbore name	7/11-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	COD
Discovery	7/11-1 Cod
Well name	7/11-1
Seismic location	NJV 5704 SP: 1238
Production licence	018
Drilling operator	Phillips Petroleum Company Norway
Drill permit	10-L
Drilling facility	OCEAN VIKING
Drilling days	111
Entered date	26.02.1968
Completed date	15.06.1968
Release date	15.06.1970
Publication date	15.01.2013
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS/CONDENSATE
Discovery wellbore	YES
1st level with HC, age	EOCENE
1st level with HC, formation	INTRA BALDER FM SS
2nd level with HC, age	PALEOCENE
2nd level with HC, formation	FORTIES FM
Kelly bushing elevation [m]	27.0
Water depth [m]	78.0
Total depth (MD) [m RKB]	3974.0
Maximum inclination [°]	11.5
Bottom hole temperature [°C]	145
Oldest penetrated age	LATE PERMIAN
Oldest penetrated formation	ZECHSTEIN GP
Geodetic datum	ED50
NS degrees	57° 4' 15.6" N
EW degrees	2° 26' 24.4" E
NS UTM [m]	6325570.43



EW UTM [m]	466051.28
UTM zone	31
NPDID wellbore	149

Wellbore history

General

Well 7/11-1 was drilled on eastern side of the Breiflabb Basin in the southern North Sea, ca 3km from the UK Border. The main objective was to test the hydrocarbon potential of the Tertiary and the Mesozoic sediments. Specific objectives were Paleocene sandstone, the Late Cretaceous carbonate section, and the Jurassic. Sandstones in the Early Cretaceous and Triassic were seen as possible secondary targets.

Operations and results

Wildcat well 7/11-1 was spudded with the semi-submersible installation Ocean Viking on 26 February 1986 and drilled to TD at 3974 m in Late Permian Zechstein Salt. The only significant drilling problem encountered was sloughing of shale between ca 1675 m and 2315 m. Deviation was negligible above 3500 m, from where it increased from 4.5 deg to 11.5 deg at approximately 3960 m. The true vertical depth therefore probably is 4-5 m short of measured depth at TD. A Drispac-Flosal-Desco mud system was used to a depth of 3290 m. At this depth the system was converted to a sodium chloride saturated Drispac-Flosal-Desco system. The salt saturated system was used to total depth.

The well proved gas and condensate in three tests in a 5 m thick intra-Balder Formation sand (DST 5) and the Forties Formation from top at 2904 m down to 2989 m (DST 3 and 4). Below this depth DST 1 and 2 produced only minor amounts of hydrocarbons due to tight formation. Top salt came in under the Late Cretaceous Hidra Formation at 3740 m.

Three cores were taken in the Paleocene sandstone in the intervals 2922.7 - 2932.8 m, 2932.8 - 2949.9 m, and 2952.9 - 2966.9 m. A fourth core at TD had no recovery. No wire line fluid samples were taken.

The well was permanently abandoned on 15 June 1968 as a gas/condensate discovery.

Testing

Five drill stem tests were performed.

DST 1 was performed from the interval 3124 to 3161 m. This test produced only diesel with "dark brown dissolved hydrocarbon".

DST 2 was performed from the interval 3101 to 3108 m. This test produced 0.8 m3 oil in water out of 5 m3 in total.

DST 3 was performed from the interval 2977 to 2989 m. The test produced 106 Sm3 condensate and 167000 Sm3 gas /day through a 5/8" choke. This corresponds to a Gas/Condensate Ratio of 1575 Sm3/Sm3. Reported reservoir temperature was 113 deg C.

DST 4 was performed from the interval 2904 to 2956 m. The test produced 135 Sm3 condensate and 714000 Sm3 gas /day through a 3/4" choke. This corresponds to a Gas/Condensate Ratio of 5280 Sm3/Sm3. Maximum flow on variable chokes up to 2" was up to 430 Sm3 condensate and 1254000 Sm3 gas /day . Reported reservoir temperature was 110 deg C.

DST 5 was performed from the interval 2877 to 2882 m. The test produced 76 Sm3



condensate and 184000 Sm³ gas /day through a 26/64" choke. This corresponds to a Gas/Condensate Ratio of 2412 Sm³/Sm³. Reported reservoir temperature was 109 deg C.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
484.63	3962.40

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	9589.0	9618.5	[ft]
2	9622.0	9644.0	[ft]
3	9688.0	9701.0	[ft]

Total core sample length [m]	19.7
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
105	NORDLAND GP
1527	HORDALAND GP
2868	ROGALAND GP
2868	BALDER FM
2883	SELE FM
2904	FORTIES FM
3069	MAUREEN FM
3173	SHETLAND GP
3173	TOR FM



3454	HOD FM
3700	BLODØKS FM
3703	HIDRA FM
3740	ZECHSTEIN GP

Geochemical information

Document name	Document format	Document size [MB]
149_GCH_1	pdf	0.82
149_GCH_2	pdf	1.39

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

Document name	Document format	Document size [MB]
149_01_WDSS_General_Information	pdf	0.21

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

Document name	Document format	Document size [MB]
149_7_11_1_CLASTIC_SEDIMENTS	PDF	1.68
149_7_11_1_COD	PDF	6.31
149_7_11_1_COMPLEX_LITHOLOGY_ANALYSIS	PDF	8.71
149_7_11_1_CONTINUOUS_DIPMETER	PDF	3.97
149_7_11_1_CORE_ANALYSIS_CALCULATION_CORE_NO-3	PDF	0.11
149_7_11_1_CORE_DESCRIPTION	PDF	0.36
149_7_11_1_CORE_DESCRIPTION_CORE_NO-1	PDF	0.15
149_7_11_1_CORE_STUDY	PDF	1.06
149_7_11_1_DIAGRAM_PSI_TESTING	PDF	2.87
149_7_11_1_DRILLING_FLUID_SUMMARY	PDF	4.40
149_7_11_1_DRILLING_MUD_RECORD	PDF	3.14
149_7_11_1_DRILLING_MUD_REPORT	PDF	5.72
149_7_11_1_DRILLING_MUD_REPORT_1	PDF	10.12
149_7_11_1_DRILL_STEM_TEST_DATA	PDF	2.71





149 7 11 1 DRILL STEM TEST DATA TEST NO-1	PDF	0.50
149 7 11 1 DRILL STEM TEST DATA TEST NO-2	PDF	0.87
149 7 11 1 DRILL STEM TEST DATA TEST NO-3	PDF	0.69
149 7 11 1 DRILL STEM TEST DATA TEST NO-4	PDF	1.22
149 7 11 1 DRILL STEM TEST DATA TEST NO-5	PDF	1.19
149 7 11 1 FORMATION TEST	PDF	1.02
149 7 11 1 GAS LIQUID AND COMPOSITE WELL STREAM COMPOSITIONS	PDF	0.14
149 7 11 1 KONTINENTALSOKKELEN MIDLE RTIDIG AVBRUDD I ARBEIDE	PDF	0.40
149 7 11 1 LOG ANALYSIS	PDF	1.81
149 7 11 1 RAPPORT GEOCHIMIQUE COMPLEMENTAIRE	PDF	1.36
149 7 11 1 THE MICROPALAEONTOLOGY AND STRATIGRAPHY	PDF	17.09
149 7 11 1 VELOCITY SURVEY	PDF	2.82
149 7 11 1 VELOG PROCESSING CODE FIELD	PDF	9.24
149 7 11 1 WELL COMPLETION REPORT	PDF	1.61
149 7 11 1 WELL COMPLETION REPORT 1	PDF	1.59
149 7 11 1 WET SAMPLES	PDF	0.07

Documents - Norwegian Offshore Directorate papers

Document name	Document format	Document size [MB]
149 01 NPD Paper No.10 Lithology Well 7 11 1	pdf	24.45
149 02 NPD Paper No.10 Interpreted Lithology log Well 7 11 1	pdf	68.80
149 03 NPD Paper No.10 Lithologic Correlation chart Well 7 11 1	pdf	32.57
149 04 NPD Paper No.10 Paleocene Correlation map Well 7 11 1	pdf	12.36

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	3124	3162	0.0





2.0	3102	3109	6.3
3.0	2979	2988	15.8
4.0	2904	2956	19.0
5.0	2877	2882	10.3

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0				
2.0				
3.0				113
4.0				110
5.0				109

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0					
2.0					
3.0	106	167000			1575
4.0	135	714000			5280
5.0	76	184000			2412

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL	2165	3124
CCL	2744	3128
CDM	452	3970
FDC	1965	3970
GR	61	452
IES	452	3149
LL	3125	3970
ML	3125	3970
MLL	452	3970
SGR	452	3970
SNP	1965	3148
VSP	452	3974

**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	141.0	36	141.0	0.00	LOT
SURF.COND.	20	457.0	26	463.0	0.00	LOT
INTERM.	13 3/8	1965.0	17 1/2	1982.0	0.00	LOT
INTERM.	9 5/8	3124.0	12 1/4	3145.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
0	1.14	60.0		waterbased	
1219	1.07	40.0		waterbased	
1981	1.14	60.0		waterbased	
2469	1.39	50.0		waterbased	
2896	1.49	50.0		waterbased	
3139	1.55	50.0		waterbased	
3974	1.43	40.0		waterbased	

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
9500.00	[ft]
9500.00	[ft]
9510.00	[ft]
9530.00	[ft]
9560.00	[ft]
9570.00	[ft]
9590.00	[ft]
9890.00	[ft]
10150.00	[ft]
9638.50	[ft]