



General information

Wellbore name	15/9-15
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	GUNGNE
Discovery	15/9-15 Gungne
Well name	15/9-15
Seismic location	8122 - 726 SP 147
Production licence	046
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	330-L
Drilling facility	ROSS RIG (1)
Drilling days	66
Entered date	28.05.1982
Completed date	01.08.1982
Release date	01.08.1984
Publication date	21.05.2015
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS/CONDENSATE
Discovery wellbore	YES
1st level with HC, age	TRIASSIC
1st level with HC, formation	SKAGERRAK FM
Kelly bushing elevation [m]	25.0
Water depth [m]	83.0
Total depth (MD) [m RKB]	3200.0
Final vertical depth (TVD) [m RKB]	3199.0
Maximum inclination [°]	2
Bottom hole temperature [°C]	116
Oldest penetrated age	TRIASSIC
Oldest penetrated formation	SKAGERRAK FM
Geodetic datum	ED50
NS degrees	58° 18' 7.45" N
EW degrees	1° 55' 19.67" E
NS UTM [m]	6462994.43
EW UTM [m]	436823.95



UTM zone	31
NPDID wellbore	74

Wellbore history

General

Well 15/9-15 was drilled south of the Sleipner Øst Field in the Viking Graben of the North Sea. The objectives were to test possible hydrocarbon accumulations in Paleocene and Mesozoic sandstones in the 15/9 My structure.

Operations and results

Wildcat well 15/9-15 was spudded with the semi-submersible installation Ross Rig on 28 May 1982 and drilled to TD at 3200 m in the Triassic Skagerrak Formation. During drilling the 12 1/4" section, a significant volume of mud was lost at 2200 m. The thief zone was most probably in the Frigg sand. 3 days were spent locating the zone and pumping LCM pills. Otherwise no significant problem was encountered in the operations, which proceeded with little downtime. The well was drilled with spud mud down to 515 m and with gypsum/lignosulphonate mud from 515 m to TD.

The Paleocene sandstones were missing in this well. The Mesozoic sandstones were encountered at 2806. The upper part consisted of tight Melke Formation sandstones without shows. From 2821 m (top Skagerrak Formation) they were gas bearing down to a true gas/water contact at 2923 m. No oil shows were recorded outside of the hydrocarbon-bearing reservoir in this well.

Four cores were cut across the reservoir from 2805 m in the Heather Formation to 2878.2 m in the Skagerrak Formation. The core-to-log depth shift was 2.8 m for all four cores. RFT fluid samples were taken at 282.5 m (gas, condensate and mud filtrate), 2838.5 m (gas, condensate and mud filtrate), and at 2907 m (gas, condensate and mud filtrate) fluid samples were taken.

The well was permanently abandoned on 1 August 1982 as a gas and condensate discovery.

Testing

Two Drill Stem Tests were performed.

DST 1 tested the interval 2880 m to 2890 m. It produced 298000 Sm³ gas and 155 Sm³ condensate through a 32/64" choke. The GOR was 1922 Sm³/Sm³, the condensate density was 0.760 g/cm³, and the gas gravity was 0.718 with 0.2% CO₂. The maximum temperature was 106.8 °C.

DST 2 tested the interval 2830 m to 2850 m. It produced 293900 Sm³ gas and 124 Sm³ condensate through a 28/64" choke. The GOR was 2478 Sm³/Sm³, the condensate density was 0.757 g/cm³, and the gas gravity was 0.710 with 0.5% CO₂. The maximum temperature was 105.7 °C.

Both Drill Stem Tests included a flow period with a three-step multirate drawdown test. Check the well completion report and well test report for further details, such as flow parameters for other choke sizes.

**Cuttings at the Norwegian Offshore Directorate**

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
170.00	2769.00

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	2805.0	2823.4	[m]
2	2823.4	2841.6	[m]
3	2841.6	2859.9	[m]
4	2859.9	2878.2	[m]

Total core sample length [m]	73.2
Cores available for sampling?	YES

Core photos

2805-2810m



2810-2815m



2815-2820m



2820-2823m



2820-2923m



2823-2828m



2828-2833m



2833-2838m



2833-2838m



2838-2841m



2838-2841m



2841-2846m



2841-2846m



2846-2851m



2846-2851m



2851-2856m



2851-2856m



2856-2859m



2856-2859m



2859-2864m



2859-2864m



2864-2869m



2864-2869m



2869-2874m



2869-2874m



2874-2878m



2874-2878m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
2752.5	[m]	SWC	RRI
2768.0	[m]	SWC	RRI
2777.0	[m]	SWC	RRI
2793.0	[m]	SWC	RRI
2818.6	[m]	C	APT
2821.0	[m]	C	APT
2821.8	[m]	C	APT
2822.4	[m]	C	APT
2828.4	[m]	C	APT
2829.4	[m]	C	APT
2830.6	[m]	C	APT
2831.4	[m]	C	APT
2832.0	[m]	C	APT
2832.3	[m]	C	APT
2836.8	[m]	C	APT
2849.2	[m]	C	APT



2849.8	[m]	C	APT
2851.5	[m]	C	APT
2851.7	[m]	C	APT
2853.6	[m]	C	APT
2853.8	[m]	C	APT
2857.7	[m]	C	APT
2862.8	[m]	C	APT
2866.9	[m]	C	APT
2868.7	[m]	C	APT
2872.1	[m]	C	APT
2874.9	[m]	C	APT
2876.5	[m]	C	APT

Oil samples at the Norwegian Offshore Directorate

Test type	Bottle number	Top depth MD [m]	Bottom depth MD [m]	Fluid type	Test time	Samples available
DST	TEST1	2880.00	2890.00		20.07.1982 - 00:00	YES
DST	TEST2	2830.00	2850.00		25.07.1982 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
108	NORDLAND GP
884	UTSIRA FM
1129	HORDALAND GP
2027	FRIGG FM
2208	ROGALAND GP
2208	BALDER FM
2243	SELE FM
2332	LISTA FM
2418	SHETLAND GP
2418	TOR FM
2606	HOD FM
2672	BLODØKS FM
2719	CROMER KNOLL GP
2751	VIKING GP



2751	DRAUPNE FM
2806	HEATHER FM
2821	HEGRE GP
2821	SKAGERRAK FM

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

Document name	Document format	Document size [MB]
74 01 WDSS General Information	pdf	0.18
74 02 WDSS completion log	pdf	0.25

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

Document name	Document format	Document size [MB]
74 01 Conventional core analysis	pdf	0.39
74 02 Well test report RFT DST 1 and DST 2	pdf	5.35
74 03 Compositional analysis on samples	pdf	1.04
74 04 PVT Study report	pdf	1.18
74 05 TBP distillation of condensate	pdf	0.59
74 15 9 15 Completion report and log	pdf	19.09
74 15 9 15 COMPLETION LOG	pdf	1.95
74 15 9 15 COMPLETION REPORT	pdf	19.09

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2880	2890	25.0
2.0	2830	2850	22.0

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





Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	188	467000	0.770	0.736	2551
2.0	202	510000	0.767	0.740	2507

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL GR	100	1172
CBL VDL GR	1050	2463
CBL VDL GR	2300	3139
CST	1287	2464
CST	2670	3189
CST	2701	3194
CST	2734	3189
DLL MSFL GR	2800	2950
GEODIP	2800	2950
HDT	2463	3202
ISF BHC GR	172	1191
ISF BHC MSFL GR	1178	3201
LDT CNL GR	1178	2470
LDT GR	498	1191
RFT	2823	3090

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	171.5	36	171.5	0.00	LOT
SURF.COND.	20	498.0	26	515.0	1.65	LOT
INTERM.	13 3/8	1178.0	17 1/2	1192.0	1.68	LOT
INTERM.	9 5/8	2463.0	12 1/4	2478.0	1.87	LOT
LINER	7	3199.0	8 1/2	3200.0	0.00	LOT

Drilling mud



Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
350	1.11			waterbased	
515	1.09			waterbased	
1190	1.13			waterbased	
1920	1.20			waterbased	
2435	1.21			waterbased	
2630	1.40			waterbased	
2680	1.50			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]
74 Formation pressure (Formasjonstrykk)	pdf	0.23

