

**General information**

Wellbore name	15/6-7
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	15/6-7
Seismic location	DX91-156-112 & SP259/DX 91-156-004-SP24
Production licence	166
Drilling operator	Deminex Norge AS
Drill permit	758-L
Drilling facility	VILDKAT EXPLORER
Drilling days	46
Entered date	24.04.1993
Completed date	08.06.1993
Release date	08.06.1995
Publication date	31.10.2003
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	25.0
Water depth [m]	107.0
Total depth (MD) [m RKB]	3540.0
Final vertical depth (TVD) [m RKB]	3539.0
Maximum inclination [°]	3.3
Bottom hole temperature [°C]	120
Oldest penetrated age	TRIASSIC
Oldest penetrated formation	SMITH BANK FM
Geodetic datum	ED50
NS degrees	58° 35' 21.41" N
EW degrees	1° 52' 19.06" E
NS UTM [m]	6495019.48
EW UTM [m]	434420.13
UTM zone	31
NPDID wellbore	2084



Wellbore history

General

Well 15/6-7 was the first well in licence 166. The primary objective of the well was to test the hydrocarbon potential of the Middle Jurassic, Hugin Formation of Callovian age within a seismically defined structural trap. There were no secondary objectives for the well, however, other potential reservoir horizons, albeit outside closure, were anticipated within the early Tertiary succession. The well programme was designed to maximize the evaluation of these sections as

required.

Operations and results

Exploration well 15/6-7 was spudded on 24 April 1993 with the semi-submersible installation "Vildkat Explorer" and drilled to TD at 3540 m in the Triassic Smith Bank Formation. The well was drilled with gel and seawater down to 505 m, with PHPA/KCl mud from 505 m to 1173 m, with PHPA/KCl/Glycol mud from 1173 m to 2788 m, and with PHPA/KCl mud from 2788 m to TD.

The Quaternary and Tertiary sequence represented by the Nordland, Hordaland and Rogaland Group is dominated by mudstone lithologies with occasional thick sandstone developments in the Utsira, Grid, and Heimdal Formations. Background gas values ranged from less than 0.1% to 0.5% with rare isolated gas peaks. The Late Cretaceous succession in the well, 493 m thick, is dominated by carbonate lithologies of the Shetland Group; below 3150 m these become increasingly and atypically sandy. A number of gas peaks were recorded over the interval 3025 m to 3157 m with a maximum gas peak of 5.42% recorded at 3154 m. The Early Cretaceous, 14.5 m thick, represented by the Cromer Knoll Group is substantially thinner than anticipated and consists of arenaceous limestones interbedded with thin calcareous sandstones. The Upper Jurassic Draupne Formation was penetrated at 3233 m, 36 m low to prognosis. Intra Draupne Formation Sandstone was encountered at 3292 m. A formation fluid influx of 3.9 m³ equivalent to a calculated pore pressure of 1.5 sg (RFT) occurred at 3327 m (3331 m loggers depth), a gas peak of 0.74% was associated with this influx. The mud weight was increased from 1.30 sg to 1.52 sg during well control operations. The top Heather Formation was penetrated at 3352.5 m, 75.5 m deeper than anticipated. Background gas values within the Draupne and Heather Formations gradually decreased with depth from 4% to 0.18% at the base of the Heather Formation. The primary objective, the Hugin Formation, was penetrated at 3390.5 m, 4.5 m shallower than anticipated. The Hugin Formation consists of interbedded mudstones and sandstones with the sandstone beds increasing in thickness with depth. The well failed to penetrate any hydrocarbon bearing horizons. The primary objective Hugin Formation was water bearing. This was confirmed by RFT and petrophysical evaluation of the logs.

One conventional core was cut over the interval 3414 m to 3432 m (15.7 m recovered) in the Triassic Skagerrak Formation. Three RFT runs, 3/1, 3/2 and 3/3, were performed in the 8.5" hole section in the Draupne, Hugin and Skagerrak Formations, over the interval 3433-3331 m. A segregated sample was taken on run 3/3. The sample recovered 5 l of muddy water in the 6-gallon chamber. The 1-gallon chamber was plugged.

The well was permanently plugged and abandoned as a dry hole on 8 June 1993.

Testing

No drill stem test was performed.

**Cuttings at the Norwegian Offshore Directorate**

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
510.00	3540.00

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	3414.0	3429.7	[m]

Total core sample length [m]	15.7
Cores available for sampling?	YES

Core photos

3414-3419m



3419-3424m



3424-3429m



3429-3430m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1700.0	[m]	SWC	RRI
1715.0	[m]	DC	RRI
1725.0	[m]	DC	RRI
1735.0	[m]	SWC	RRI
1750.0	[m]	SWC	RRI
1766.0	[m]	SWC	RRI
1780.0	[m]	DC	RRI
1795.0	[m]	DC	RRI
1805.0	[m]	DC	RRI



1822.0	[m]	SWC	RRI
1832.0	[m]	SWC	RRI
1862.0	[m]	SWC	RRI
1870.0	[m]	SWC	RRI
1880.0	[m]	DC	RRI
1889.0	[m]	SWC	RRI
1950.0	[m]	DC	RRI
1957.0	[m]	SWC	RRI
1965.0	[m]	DC	RRI
2022.0	[m]	SWC	RRI
2030.0	[m]	DC	RRI
2050.0	[m]	DC	RRI
2069.0	[m]	SWC	RRI
2109.0	[m]	SWC	RRI
2125.0	[m]	DC	RRI
2140.0	[m]	DC	RRI
2155.0	[m]	DC	RRI
2167.0	[m]	SWC	RRI
2183.0	[m]	SWC	RRI
2197.0	[m]	SWC	RRI
2215.0	[m]	DC	RRI
2230.0	[m]	DC	RRI
2269.0	[m]	SWC	RRI
2277.0	[m]	SWC	RRI
2290.0	[m]	DC	RRI
2297.0	[m]	SWC	RRI
2310.0	[m]	DC	RRI
2325.0	[m]	DC	RRI
2336.0	[m]	SWC	RRI
2350.0	[m]	DC	RRI
2360.0	[m]	DC	RRI
2370.0	[m]	SWC	RRI
2385.0	[m]	DC	RRI
2394.0	[m]	SWC	RRI
2425.0	[m]	DC	RRI
2440.0	[m]	DC	RRI
2463.0	[m]	SWC	RRI
2473.0	[m]	SWC	RRI
2490.0	[m]	DC	RRI
2505.0	[m]	DC	RRI



2530.0	[m]	DC	RRI
2537.0	[m]	SWC	RRI
2555.0	[m]	DC	RRI
2570.0	[m]	DC	RRI
2585.0	[m]	DC	RRI
2597.0	[m]	SWC	RRI
2607.0	[m]	SWC	RRI
2613.0	[m]	SWC	RRI
2625.0	[m]	DC	RRI
2640.0	[m]	DC	RRI
2650.0	[m]	DC	RRI
2660.0	[m]	SWC	RRI
2675.0	[m]	DC	RRI
3163.0	[m]	SWC	RRI
3175.0	[m]	SWC	RRI
3195.0	[m]	SWC	RRI
3209.5	[m]	SWC	RRI
3215.5	[m]	SWC	RRI
3236.0	[m]	SWC	RRI
3244.5	[m]	SWC	RRI
3257.0	[m]	SWC	RRI
3261.0	[m]	DC	RRI
3281.0	[m]	SWC	RRI
3291.5	[m]	SWC	RRI
3306.0	[m]	DC	RRI
3318.0	[m]	DC	RRI
3336.0	[m]	SWC	RRI
3354.0	[m]	DC	RRI
3374.0	[m]	SWC	RRI
3408.0	[m]	DC	RRI
3411.0	[m]	DC	RRI
3414.0	[m]	DC	RRI
3418.0	[m]	C	RRI
3420.7	[m]	C	RRI
3423.1	[m]	C	RRI
3429.7	[m]	C	RRI

Lithostratigraphy



Top depth [mMD RKB]	Lithostrat. unit
132	NORDLAND GP
772	UTSIRA FM
993	HORDALAND GP
1117	SKADE FM
1233	NO FORMAL NAME
1307	NO FORMAL NAME
1406	UNDIFFERENTIATED
1836	GRID FM
2108	NO FORMAL NAME
2258	ROGALAND GP
2258	BALDER FM
2302	SELE FM
2369	LISTA FM
2427	HEIMDAL FM
2606	LISTA FM
2645	VÅLE FM
2676	SHETLAND GP
2676	EKOFISK FM
2740	TOR FM
2984	HOD FM
3188	BLODØKS FM
3196	SVARTE FM
3219	CROMER KNOLL GP
3219	RØDBY FM
3230	ÅSGARD FM
3233	VIKING GP
3233	DRAUPNE FM
3292	INTRA DRAUPNE FM SS
3353	HEATHER FM
3391	VESTLAND GP
3391	HUGIN FM
3411	NO GROUP DEFINED
3411	SKAGERRAK FM
3476	SMITH BANK FM

Composite logs





Document name	Document format	Document size [MB]
2084	pdf	0.66

Geochemical information

Document name	Document format	Document size [MB]
2084_1	pdf	1.99
2084_2	pdf	0.45

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

Document name	Document format	Document size [MB]
2084_15_6_7_COMPLETION_REPORT_AND_LOG	pdf	35.51

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL GR CCL	2282	2765
CST GR	1350	2602
CST GR	1372	2732
CST GR	3019	3525
CST GR	3156	3524
DLL MSFL SDT AS AMS	2775	3540
DLL MSFL SDT AS GR	492	1152
DLL MSFL SDT AS GR SP	1157	2768
LDL CNL NGS AMS	1157	2764
LDL CNL NGS AMS	2775	3543
MWD - BGD	132	505
MWD - BGD GR	505	1173
MWD - DPR	2800	3146
MWD - DPR	3409	3536
MWD - RDG	3246	3410
MWD - RGD	1173	2788
RFT	3331	3433
SHDT FMS GR AMS	3098	3544





SHDT GR AMS	1700	2715
VSP AMS	1085	3515

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	217.0	36	220.0	0.00	LOT
INTERM.	20	492.0	26	505.0	1.36	LOT
INTERM.	13 3/8	1157.0	17 1/2	1173.0	1.84	LOT
INTERM.	9 5/8	2773.0	12 1/4	2788.0	1.74	LOT
OPEN HOLE		3540.0	8 1/2	3540.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
180	1.03			WATER BASED	
220	1.05			WATER BASED	
505	1.20			WATER BASED	
1173	1.14	190.0		WATER BASED	
2067	1.30	170.0		WATER BASED	
2100	1.30	180.0		WATER BASED	
2213	1.30	220.0		WATER BASED	
2440	1.30	180.0		WATER BASED	
2614	1.30	180.0		WATER BASED	
2690	1.30	190.0		WATER BASED	
2700	1.30	130.0		WATER BASED	
2700	1.54	230.0		WATER BASED	
2788	1.30	290.0		WATER BASED	
3120	1.30	180.0		WATER BASED	
3226	1.50	260.0		WATER BASED	
3414	1.52	200.0		WATER BASED	
3540	1.52	230.0		WATER BASED	

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]
2084 Formation pressure (Formasjonstrykk)	pdf	0.22

