

**General information**

Wellbore name	30/9-10
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	OSEBERG SØR
Discovery	30/9-10 Oseberg Sør
Well name	30/9-10
Seismic location	NH 8502-332 X-OVER NH 8502-430
Production licence	104
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	646-L
Drilling facility	VILDKAT EXPLORER
Drilling days	53
Entered date	31.07.1990
Completed date	21.09.1990
Plugged and abandon date	11.05.2000
Release date	21.09.1992
Publication date	06.01.2014
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	YES
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	INTRA DRAUPNE FM SS
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	TARBERT FM
Kelly bushing elevation [m]	25.0
Water depth [m]	99.0
Total depth (MD) [m RKB]	3649.0
Final vertical depth (TVD) [m RKB]	3642.0
Maximum inclination [°]	11
Bottom hole temperature [°C]	131
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	60° 23' 23.2" N



EW degrees	2° 47' 13.16" E
NS UTM [m]	6694997.50
EW UTM [m]	488258.20
UTM zone	31
NPDID wellbore	1514

Wellbore history

**General**

Well 30/9-10 was drilled in the Omega South segment on the Oseberg Fault Block in the North Sea. The primary objective was to test the hydrocarbon potential in the Tarbert Formation. Secondary objectives were to test the Cook Formation and the Statfjord Group.

Operations and results

Wildcat well was spudded with the semi-submersible installation Vildkat on 31 July 1990 and drilled to TD at 3649 m in the Early Jurassic Statfjord Group. An 8 1/2" pilot hole was drilled from 210 to 350 m to check a possible shallow gas zone at 329 m. No gas was encountered. No significant problem was encountered in the operations. The well was drilled with spud mud down to 1059 m and with KCl/polymer mud from 1059 m to TD.

The Draupne Formation was encountered at 2717 m and Intra Draupne Formation sandstone was penetrated from 2756 m to top Tarbert Formation at 2783 m. The Draupne Formation sandstone and the Upper Tarbert Formation were found to be oil bearing from 2756 - 2833 m. Poor to moderate oil shows continued down to 2858 m. No oil shows were recorded below this depth or above top Draupne Formation. The Middle Tarbert is poor or tight, and non-moveable hydrocarbons were present in the Lower Tarbert, which are interpreted from core analysis to be residual oil. The net pay was determined to be 55 m, with an average water saturation of 36.4% and average porosity of 17.5%. RFT data defines an oil gradient through Draupne and Upper Tarbert sandstones, which intersects with the Lower Tarbert water gradient at 2833 m in the Middle Tarbert. However, it is uncertain whether the oil gradient in the Upper Tarbert and the water gradient of the Lower Tarbert belong to the same pressure system. Consequently an oil-water contact was not proven in the well. The Cook Formation and the Statfjord Group were found water bearing with no shows.

Three cores were cut from 2725 m to 2732.5 m in the Draupne Formation. Poor recovery was obtained in these cores. Another four cores were cut from 2747 m in the Draupne Formation, through Intra Draupne Formation sandstone, the Tarbert Formation, and to 2894.5 m in the Ness Formation. Good recovery was obtained in these cores. RFT fluid samples were taken at 2775 m (oil, gas and water/filtrate) and 2822 m (oil, gas and water/filtrate).

The well was suspended on 21 September 1990 as an oil discovery.

Testing

Two drill stem tests were performed.

DST 1A tested the interval 2757 - 2776 m in Intra Draupne Formation sandstones. It produced oil and gas at average rates of 379 Sm³/day and 42100 Sm³/day respectively on a 15.9 mm choke. The GOR was 111 Sm³/Sm³, with oil gravity 0.861 g/cc and gas gravity 0.754 (air =1). The flowing well head pressure was 43.6 bars and the bottom hole temperature 107.0 degrees C. The well produced 0.8% CO₂ and no H₂S.

DST 1B tested the intervals 2757.0 - 2776.0 m Intra Draupne Formation sandstones and 2779.7 - 2824.7 m in upper Tarbert Formation. Oil flowed at an average rate of 986 Sm³/day and gas flowed at an average rate of 84800 Sm³/day on a 19.1 mm choke. The GOR was 86 Sm³/Sm³, with oil gravity 0.861 g/cc and gas gravity 0.754 (air=1). The flowing well head pressure was 80.8 bars and the bottom hole temperature 108.4 degrees C. The well produced 0.6% CO₂ and no H₂S.

**Cuttings at the Norwegian Offshore Directorate**

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1070.00	3642.00

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	2725.0	2725.1	[m]
2	2726.0	2729.0	[m]
3	2730.0	2732.1	[m]
4	2747.0	2771.0	[m]
5	2774.5	2824.1	[m]
6	2825.0	2871.3	[m]
7	2872.5	2895.0	[m]

Total core sample length [m]	147.6
Cores available for sampling?	YES

Core photos

2725-2731m



2731-2750m



2750-2755m



2755-2760m



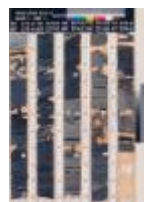
2760-2765m



2765-2770m



2770-2775m



2775-2780m



2780-2785m



2785-2790m



2790-2795m



2795-2800m



2800-2805m



2805-2810m



2810-2815m



2815-2810m



2820-2824m



2825-2830m



2830-2835m



2835-2840m



2840-2845m



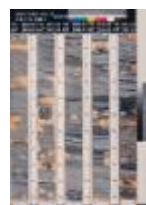
2845-2850m



2850-2855m



2855-2860m



2860-2865m



2865-2870m



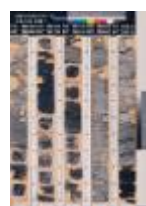
2870-2875m



2875-2880m



2880-2885m



2885-2890m



2890-2895m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1090.0	[m]	DC	RRI
1130.0	[m]	DC	RRI
1250.0	[m]	DC	RRI



1310.0 [m]	DC	RRI
1330.0 [m]	DC	RRI
1370.0 [m]	DC	RRI
1450.0 [m]	DC	RRI
1470.0 [m]	DC	RRI
1490.0 [m]	DC	RRI
1510.0 [m]	DC	RRI
1530.0 [m]	DC	RRI
1550.0 [m]	DC	RRI
1570.0 [m]	DC	RRI
1590.0 [m]	DC	RRI
1610.0 [m]	DC	RRI
1630.0 [m]	DC	RRI
1650.0 [m]	DC	RRI
1670.0 [m]	DC	RRI
1690.0 [m]	DC	RRI
1710.0 [m]	DC	RRI
1730.0 [m]	DC	RRI
1750.0 [m]	DC	RRI
1770.0 [m]	DC	RRI
1870.0 [m]	DC	RRI
1890.0 [m]	DC	RRI
1910.0 [m]	DC	RRI
1930.0 [m]	DC	RRI
1950.0 [m]	DC	RRI
1970.0 [m]	DC	RRI
1990.0 [m]	DC	RRI
2010.0 [m]	DC	RRI
2030.0 [m]	DC	RRI
2050.0 [m]	DC	RRI
2060.0 [m]	DC	RRI
2070.0 [m]	DC	RRI
2090.0 [m]	DC	RRI
2105.0 [m]	DC	RRI
2120.0 [m]	DC	RRI
2135.0 [m]	DC	RRI
2150.0 [m]	DC	RRI
2165.0 [m]	DC	RRI
2180.0 [m]	DC	RRI
2190.0 [m]	DC	RRI



2210.0	[m]	DC	RRI
2225.0	[m]	DC	RRI
2240.0	[m]	DC	RRI
2255.0	[m]	DC	RRI
2270.0	[m]	DC	RRI
2285.0	[m]	DC	RRI
2300.0	[m]	DC	RRI
2315.0	[m]	DC	RRI
2330.0	[m]	DC	RRI
2345.0	[m]	DC	RRI
2360.0	[m]	DC	RRI
2375.0	[m]	DC	RRI
2410.0	[m]	DC	RRI
2440.0	[m]	DC	RRI
2470.0	[m]	DC	RRI
2500.0	[m]	DC	RRI
2530.0	[m]	DC	RRI
2560.0	[m]	DC	RRI
2590.0	[m]	DC	RRI
2613.0	[m]	SWC	HYDRO
2620.0	[m]	DC	RRI
2650.0	[m]	DC	RRI
2685.0	[m]	DC	RRI
2703.0	[m]	SWC	HYDRO
2706.0	[m]	SWC	HYDRO
2709.0	[m]	SWC	HYDRO
2710.0	[m]	SWC	HYDRO
2712.0	[m]	SWC	HYDRO
2715.0	[m]	DC	RRI
2715.0	[m]	SWC	HYDRO
2719.0	[m]	SWC	HYDRO
2722.0	[m]	SWC	HYDRO
2723.0	[m]	SWC	HYDRO
2725.0	[m]	C	HYDRO
2726.2	[m]	C	HYDRO
2727.2	[m]	C	HYDRO
2728.8	[m]	C	HYDRO
2730.6	[m]	C	HYDRO
2731.9	[m]	C	HYDRO
2737.0	[m]	C	HYDRO



2740.5 [m]	SWC	HYDRO
2742.5 [m]	SWC	HYDRO
2745.0 [m]	SWC	HYDRO
2747.0 [m]	C	HYDRO
2748.8 [m]	C	HYDRO
2749.7 [m]	C	HYDRO
2750.3 [m]	C	HYDRO
2750.9 [m]	C	HYDRO
2755.2 [m]	C	HYDRO
2759.2 [m]	C	HYDRO
2763.3 [m]	C	HYDRO
2767.6 [m]	C	HYDRO
2769.9 [m]	C	HYDRO
2771.9 [m]	C	HYDRO
2773.4 [m]	C	HYDRO
2775.5 [m]	C	HYDRO
2777.5 [m]	C	HYDRO
2779.2 [m]	C	HYDRO
2781.1 [m]	C	HYDRO
2781.8 [m]	C	HYDRO
2782.0 [m]	C	HYDRO
2782.0 [m]	C	HYDRO
2792.0 [m]	C	HYDRO
2792.5 [m]	C	HYDRO
2796.6 [m]	C	HYDRO
2797.2 [m]	C	HYDRO
2803.1 [m]	C	HYDRO
2804.0 [m]	C	HYDRO
2812.7 [m]	C	HYDRO
2813.9 [m]	C	HYDRO
2815.0 [m]	C	HYDRO
2819.3 [m]	C	HYDRO
2825.1 [m]	C	HYDRO
2827.0 [m]	C	HYDRO
2830.6 [m]	C	HYDRO
2836.8 [m]	C	HYDRO
2839.2 [m]	C	HYDRO
2844.0 [m]	C	HYDRO
2845.9 [m]	C	HYDRO
2848.8 [m]	C	HYDRO



2851.1 [m]	C	HYDRO
2857.3 [m]	C	HYDRO
2864.5 [m]	C	HYDRO
2867.3 [m]	C	HYDRO
2868.1 [m]	C	HYDRO
2869.1 [m]	C	HYDRO
2872.5 [m]	C	HYDRO
2876.5 [m]	C	HYDRO
2883.0 [m]	C	HYDRO
2886.4 [m]	C	HYDRO
2891.3 [m]	C	HYDRO
2892.9 [m]	C	HYDRO
2899.0 [m]	C	HYDRO
2908.0 [m]	SWC	HYDRO
2914.5 [m]	SWC	HYDRO
2925.0 [m]	DC	RRI
2932.0 [m]	SWC	HYDRO
2947.0 [m]	SWC	HYDRO
2953.0 [m]	SWC	HYDRO
2965.0 [m]	DC	RRI
2975.0 [m]	DC	RRI
2984.0 [m]	SWC	HYDRO
2992.0 [m]	DC	RRI
3002.0 [m]	DC	RRI
3011.0 [m]	SWC	HYDRO
3022.0 [m]	DC	RRI
3026.0 [m]	SWC	HYDRO
3028.0 [m]	SWC	HYDRO
3036.0 [m]	SWC	HYDRO
3051.0 [m]	SWC	HYDRO
3066.0 [m]	SWC	HYDRO
3082.0 [m]	DC	RRI
3085.0 [m]	SWC	HYDRO
3091.5 [m]	SWC	HYDRO
3095.0 [m]	SWC	HYDRO
3109.0 [m]	SWC	HYDRO
3112.0 [m]	SWC	HYDRO
3115.5 [m]	SWC	HYDRO
3130.0 [m]	DC	RRI
3130.0 [m]	SWC	HYDRO



3131.0 [m]	SWC	HYDRO
3140.0 [m]	DC	RRI
3152.0 [m]	DC	RRI
3162.0 [m]	SWC	HYDRO
3172.0 [m]	DC	RRI
3180.0 [m]	SWC	HYDRO
3192.0 [m]	DC	RRI
3201.0 [m]	SWC	HYDRO
3212.0 [m]	DC	RRI
3232.0 [m]	DC	RRI
3242.0 [m]	DC	RRI
3248.0 [m]	SWC	HYDRO
3262.0 [m]	DC	RRI
3272.0 [m]	DC	RRI
3282.0 [m]	DC	RRI
3295.0 [m]	DC	RRI
3302.0 [m]	DC	RRI
3315.0 [m]	SWC	HYDRO
3322.0 [m]	DC	RRI
3332.0 [m]	DC	RRI
3342.0 [m]	DC	RRI
3352.0 [m]	DC	RRI
3362.0 [m]	DC	RRI
3372.0 [m]	DC	RRI
3382.0 [m]	DC	RRI
3392.0 [m]	DC	RRI
3402.0 [m]	DC	RRI
3412.0 [m]	DC	RRI
3425.0 [m]	SWC	HYDRO
3432.0 [m]	DC	RRI
3446.0 [m]	SWC	HYDRO
3452.0 [m]	DC	RRI
3462.0 [m]	DC	RRI
3478.5 [m]	SWC	HYDRO
3482.0 [m]	DC	RRI
3502.0 [m]	DC	RRI
3512.0 [m]	DC	RRI
3521.0 [m]	SWC	HYDRO
3532.0 [m]	DC	RRI
3542.0 [m]	DC	RRI



3552.0	[m]	DC	RRI
3562.0	[m]	DC	RRI
3572.0	[m]	DC	RRI
3582.0	[m]	DC	RRI
3591.0	[m]	SWC	HYDRO
3602.0	[m]	DC	RRI
3622.0	[m]	DC	RRI
3625.0	[m]	SWC	HYDRO
3637.0	[m]	DC	RRI
3638.0	[m]	SWC	HYDRO
3646.0	[m]	DC	RRI

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	DST1A	2757.00	2776.00		10.12.1990 - 00:00	YES
DST	DST1B	2779.70	2824.70		10.12.1990 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
124	NORDLAND GP
634	UTSIRA FM
848	HORDALAND GP
2057	ROGALAND GP
2057	BALDER FM
2131	SELE FM
2200	LISTA FM
2372	SHETLAND GP
2689	CROMER KNOLL GP
2717	VIKING GP
2717	DRAUPNE FM
2756	INTRA DRAUPNE FM SS
2784	BRENT GP
2784	TARBERT FM
2871	NESS FM



3096	RANNOCH FM
3114	OSEBERG FM
3117	DUNLIN GP
3117	DRAKE FM
3404	COOK FM
3424	BURTON FM
3502	AMUNDSEN FM
3622	STATFJORD GP

Geochemical information

Document name	Document format	Document size [MB]
1514_1	pdf	0.55
1514_2	pdf	1.21
1514_3	pdf	4.04

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

Document name	Document format	Document size [MB]
1514_01_WDSS_General_Information	pdf	0.23
1514_02_WDSS_completion_log	pdf	0.23

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

Document name	Document format	Document size [MB]
1514_30_9_10_Completion_log	pdf	3.43
1514_30_9_10_Completion_Report	pdf	26.04

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2757	2776	15.9
2.0	2757	2824	19.1





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	379	421000	0.861	0.754	111
2.0	986	848000	0.861	0.754	86

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL	2125	2690
CST	2702	3638
DIL LSS GR SP AMS	1041	2705
DIL SDT GR SP AMS	2762	2868
DLL MSFL GR AMS	2701	2891
FMS4 GR AMS	2702	3651
LDL CNL	1041	2685
LDL CNL	2701	2879
LDL CNL GR AMS	2820	3651
LWD GR RES DIR	210	350
MWD - GR RES DIR	124	3565
NGL	2702	2870
NGL	2820	3642
RFT AMS	2757	3103
RFT AMS	2762	2868
RFT AMS	3622	3634
VSP	2200	3650

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	209.0	36	210.0	0.00	LOT
INTERM.	13 3/8	1040.0	17 1/2	1059.0	1.87	LOT



INTERM.	9 5/8	2701.0	12 1/4	2716.0	1.87	LOT
LINER	7	2996.0	8 1/2	3649.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
124	1.20			WATER BASED	31.07.1990
210	1.20			WATER BASED	01.08.1990
224	1.20			WATER BASED	02.08.1990
350	1.16	11.0	10.0	WATER BASED	19.09.1990
483	1.20			WATER BASED	03.08.1990
1059	1.20			WATER BASED	06.08.1990
1059	1.20			WATER BASED	06.08.1990
1132	1.20	10.0	8.0	WATER BASED	06.08.1990
1984	1.40	29.0	9.0	WATER BASED	09.08.1990
2306	1.41	29.0	9.0	WATER BASED	10.08.1990
2465	1.40	26.0	12.0	WATER BASED	13.08.1990
2716	1.42	25.0	9.0	WATER BASED	13.08.1990
2716	1.42	20.0	11.0	WATER BASED	14.08.1990
2716	1.42	25.0	9.0	WATER BASED	13.08.1990
2725	1.27	15.0	9.0	WATER BASED	15.08.1990
2730	1.27	16.0	8.0	WATER BASED	16.08.1990
2747	1.28	17.0	8.0	WATER BASED	17.08.1990
2774	1.28	16.0	8.0	WATER BASED	20.08.1990
2825	1.28	22.0	8.0	WATER BASED	20.08.1990
2873	1.27	19.0	7.0	WATER BASED	20.08.1990
2895	1.90	19.0	1.0	WATER BASED	21.08.1990
2895	1.26	19.0	7.0	WATER BASED	22.08.1990
3002	1.22	13.0	5.0	WATER BASED	31.08.1990
3002	1.22	13.0	5.0	WATER BASED	03.09.1990
3002	1.22	17.0	10.0	WATER BASED	03.09.1990
3002	1.22	18.0	11.0	WATER BASED	04.09.1990
3002	1.22	19.0	11.0	WATER BASED	05.09.1990
3002	1.22	22.0	10.0	WATER BASED	06.09.1990
3002	1.22	22.0	10.0	WATER BASED	07.09.1990
3002	1.15	11.0	12.0	WATER BASED	10.09.1990
3002	1.15	11.0	13.0	WATER BASED	10.09.1990
3002	1.15	11.0	13.0	WATER BASED	10.09.1990



3002	1.15	11.0	13.0	WATER BASED	11.09.1990
3002	1.15	11.0	13.0	WATER BASED	13.09.1990
3002	1.15	11.0	13.0	WATER BASED	14.09.1990
3002	1.15	11.0	13.0	WATER BASED	17.09.1990
3002	1.15	11.0	10.0	WATER BASED	17.09.1990
3002	1.16	11.0	10.0	WATER BASED	18.09.1990
3002	1.22	18.0	11.0	WATER BASED	03.09.1990
3002	1.15	11.0	13.0	WATER BASED	17.09.1990
3258	1.27	18.0	7.0	WATER BASED	23.08.1990
3649	1.27	23.0	8.0	WATER BASED	27.08.1990
3649	1.27	14.0	6.0	WATER BASED	27.08.1990
3649	1.27	21.0	9.0	WATER BASED	27.08.1990
3649	1.27	20.0	8.0	WATER BASED	29.08.1990
3649	1.27	20.0	7.0	WATER BASED	29.08.1990

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]
1514 Formation pressure (Formasjonstrykk)	pdf	0.23

