General information

Wellbore name	30/9-12
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	OSEBERG
Discovery	30/6-1 Oseberg
Well name	30/9-12
Seismic location	NH 8831- ROW 143 & COLUMN 520
Production licence	104
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	671-L
Drilling facility	VILDKAT EXPLORER
Drilling days	33
Entered date	07.04.1991
Completed date	09.05.1991
Release date	09.05.1993
Publication date	29.06.2004
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	TARBERT FM
Kelly bushing elevation [m]	25.0
Water depth [m]	104.0
Total depth (MD) [m RKB]	2994.0
Final vertical depth (TVD) [m RKB]	2994.0
Maximum inclination [°]	3.4
Bottom hole temperature [°C]	118
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	COOK FM
Geodetic datum	ED50
NS degrees	60° 25' 57.09'' N
EW degrees	2° 51' 34.9'' E
NS UTM [m]	6699747.91
EW UTM [m]	492276.08

UTM zone	31
NPDID wellbore	1717

Wellbore history

General

The well 30/9-12 is located on the southern part of the Alpha and Gamma structure in the Oseberg Sør area, some 4 km south of well 30/9-2, and approximately 100 m to the south of the licence boundary PL 079/104. The main target of the well was to appraise the southern extension of the Oseberg field, i.e. to improve the seismic mapping of the Alpha South/Gamma structural complex; to improve stratigraphical mapping and control of the hydrocarbon bearing Brent Group in the area; to test an oil/water contact in relation to the Oseberg Field and the C-structure; and to test communication relations in the Oseberg Field.

Operations and results

Appraisal well 30/9-12 was spudded with the semi-submersible installation Vildkat Explorer on the 7 April 1991 and drilled to TD at 2994 m in the Cook Formation of the Dunlin Group. The well was drilled with spud mud to 1016 m and with KCl polymer mud from 1016 m to TD. Shallow gas predicted at 184 m proved to be the base of a boulder zone, probably a glacially eroded horizon.

The well proved a column of 10.3 m of moveable hydrocarbons oil in the Tarbert Formation with an oil down-to contact at 2674.5 m, However, as no oil/water contact was established, uncertainty remained as to the amount of hydrocarbon resources within the southern part of the Alpha South structure. A total of 70.4 m of net sand was calculated for the Brent sequence, with an average porosity of 21.5% and calculated average Sw of 26.1% in the Tarbert Formation.

The pressure data obtained from the well indicated a significant depletion caused by production from Oseberg B.

Good oil shows were recorded on cuttings from limestone stringers in the interval 2325 m to 2554 m in the Cretaceous and on sandstones (conventional and sidewall cores) in the interval 2658 m to 2673 m in the Tarbert Formation. A total of 10 conventional cores were cut, one in the Heather Formation and nine through the entire Brent sequence and into the top Dunlin. A total of 30 sidewall cores were attempted in the interval 2580 m to 2969.5 m. and 25 were recovered. One wire line RFT fluid sample was taken at 2667 m in the Tarbert Formation. It recovered 5 l of 0.87 g/cm3 oil and some gas.

The well bore was plugged back to 950 m for sidetracking and permanently abandoned on 9 May 1991 as an oil appraisal.

Testing

No drill stem test was performed

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1030.00	2992.00

Cuttings available for sampling?	YES

Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	2617.0	2639.0	[m]
2	2663.0	2691.0	[m]
3	2691.0	2712.0	[m]
4	2714.0	2726.0	[m]
5	2726.0	2730.0	[m]
6	2730.0	2734.0	[m]
7	2734.0	2739.5	[m]
8	2739.5	2753.0	[m]
9	2758.5	2786.0	[m]
10	2788.0	2804.2	[m]

Total core sample length [m]	153.7
Cores available for sampling?	YES

Core photos


2617-2622m


2622-2627m


2627-2632m


2632-2637m


2637-2666m


2666-2671m


2671-2676m


2676-2681m


2681-2686m


2686-2690m


2691-2696m


2696-2701m


2701-2708m


2708-2713m


2713-2718m


2718-2723m


2723-2725m


2726-2730m


2730-2735m


2735-2739m


2739-2744m


2744-2749m


2749-2752m


2758-2763m


2763-2768m


2768-2773m


2773-2778m


2778-2783m


2783-2790m


2790-2795m


2795-2800m


2800-2804m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1050.0	[m]	DC	STRAT
1070.0	[m]	DC	STRAT
1100.0	[m]	DC	STRAT

1130.0	[m]	DC	STRAT
1160.0	[m]	DC	STRAT
1190.0	[m]	DC	STRAT
1220.0	[m]	DC	STRAT
1250.0	[m]	DC	STRAT
1280.0	[m]	DC	STRAT
1310.0	[m]	DC	STRAT
1340.0	[m]	DC	STRAT
1360.0	[m]	DC	STRAT
1400.0	[m]	DC	STRAT
1430.0	[m]	DC	STRAT
1460.0	[m]	DC	STRAT
1490.0	[m]	DC	STRAT
1520.0	[m]	DC	STRAT
1550.0	[m]	DC	STRAT
1580.0	[m]	DC	STRAT
1610.0	[m]	DC	STRAT
1640.0	[m]	DC	STRAT
1820.0	[m]	DC	STRAT
1850.0	[m]	DC	STRAT
1880.0	[m]	DC	STRAT
1910.0	[m]	DC	STRAT
1940.0	[m]	DC	STRAT
1970.0	[m]	DC	STRAT
2030.0	[m]	DC	STRAT
2060.0	[m]	DC	STRAT
2090.0	[m]	DC	STRAT
2110.0	[m]	DC	STRAT
2150.0	[m]	DC	STRAT
2180.0	[m]	DC	STRAT
2210.0	[m]	DC	STRAT
2240.0	[m]	DC	STRAT
2270.0	[m]	DC	HYDRO
2300.0	[m]	DC	HYDRO
2360.0	[m]	DC	STRAT
2390.0	[m]	DC	STRAT
2450.0	[m]	DC	STRAT
2480.0	[m]	DC	STRAT
2510.0	[m]	DC	STRAT
2520.0	[m]	DC	STRAT

2522.0	[m]	C	HYDRO
2530.0	[m]	DC	STRAT
2542.5	[m]	SWC	HYDRO
2554.0	[m]	SWC	HYDRO
2560.0	[m]	SWC	HYDRO
2563.0	[m]	SWC	HYDRO
2566.0	[m]	SWC	HYDRO
2572.0	[m]	DC	STRAT
2580.0	[m]	SWC	HYDRO
2591.0	[m]	SWC	HYDRO
2600.0	[m]	SWC	HYDRO
2605.0	[m]	SWC	HYDRO
2609.0	[m]	SWC	HYDRO
2610.0	[m]	SWC	HYDRO
2611.0	[m]	SWC	HYDRO
2613.0	[m]	SWC	HYDRO
2617.1	[m]	C	HYDRO
2626.6	[m]	C	HYDRO
2632.3	[m]	C	HYDRO
2638.0	[m]	C	HYDRO
2643.0	[m]	SWC	HYDRO
2647.5	[m]	SWC	HYDRO
2657.0	[m]	SWC	HYDRO
2667.0	[m]	C	HYDRO
2672.8	[m]	C	HYDRO
2676.9	[m]	C	HYDRO
2685.0	[m]	C	HYDRO
2688.3	[m]	C	HYDRO
2693.4	[m]	C	HYDRO
2699.8	[m]	C	HYDRO
2706.5	[m]	C	HYDRO
2709.2	[m]	C	HYDRO
2723.5	[m]	C	HYDRO
2726.0	[m]	C	HYDRO
2728.0	[m]	C	HYDRO
2728.5	[m]	C	HYDRO
2731.5	[m]	C	HYDRO
2732.8	[m]	C	HYDRO
2738.6	[m]	C	HYDRO
2742.7	[m]	C	HYDRO

2751.8	[m]	C	HYDRO
2752.7	[m]	C	HYDRO
2785.0	[m]	C	HYDRO
2785.9	[m]	C	HYDRO
2790.0	[m]	C	HYDRO
2791.9	[m]	C	HYDRO
2799.9	[m]	C	HYDRO
2804.1	[m]	C	HYDRO
2815.0	[m]	DC	STRAT
2825.0	[m]	DC	STRAT
2835.0	[m]	DC	STRAT
2845.0	[m]	DC	STRAT
2855.0	[m]	DC	STRAT
2864.0	[m]	SWC	HYDRO
2875.0	[m]	DC	STRAT
2885.0	[m]	DC	STRAT
2895.0	[m]	DC	STRAT
2905.0	[m]	DC	STRAT
2915.0	[m]	DC	STRAT
2926.0	[m]	SWC	HYDRO
2935.0	[m]	DC	STRAT
2942.0	[m]	DC	STRAT
2948.5	[m]	SWC	HYDRO
2960.0	[m]	DC	STRAT
2969.5	[m]	SWC	HYDRO
2982.0	[m]	DC	STRAT

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
129	NORDLAND GP
676	UTSIRA FM
842	HORDALAND GP
980	SKADE FM
1012	NO FORMAL NAME
1350	GRID FM
1380	NO FORMAL NAME
2019	ROGALAND GP
2019	BALDER FM

2083	SELE FM
2247	LISTA FM
2317	VÅLE FM
2325	SHETLAND GP
2325	HARDRÅDE FM
2523	CROMER KNOLL GP
2523	RØDBY FM
2543	SOLA FM
2545	MIME FM
2560	ÅSGARD FM
2563	VIKING GP
2563	DRAUPNE FM
2609	HEATHER FM
2660	BRENT GP
2660	TARBERT FM
2676	NESS FM
2752	UNDIFFERENTIATED
2791	DUNLIN GP
2791	DRAKE FM
2944	COOK FM

Composite logs

Document name	Document format	Document size [MB]
1717	pdf	0.40

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

Document name	Document format	Document size [MB]
1717_01_WDSS_General_Information	pdf	0.85
1717_02_WDSS_completion_log	pdf	0.19

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

Document name	Document format	Document size [MB]
1717_30_9_12_COMPLETION_REPORT_AND_LOG	pdf	11.92

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL GR	1000	2528
CST	2542	2969
DIL LSS LDL CNL NGL	2490	2993
DIL LSS LDL SP GR	1003	2543
DLL MSFL LDL CNL GR	2475	2800
FMS4 GR CAL	2527	2995
MWD - GR RES DIR	128	2994
RFT B HP GR	2661	2780
VSP	1100	2570
VSP	2580	2990

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	214.0	36	216.0	0.00	LOT
INTERM.	13 3/8	1002.0	17 1/2	1019.0	1.61	LOT
INTERM.	9 5/8	2528.0	12 1/4	2545.0	1.69	LOT
OPEN HOLE		2994.0	8 1/2	2994.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
182	1.22			WATER BASED	08.04.1991
216	1.05			WATER BASED	09.04.1991
610	1.05			WATER BASED	10.04.1991
1016	1.05			WATER BASED	11.04.1991
1016	1.20			WATER BASED	12.04.1991
1016	1.20			WATER BASED	15.04.1991
1061	1.20	15.0	8.0	WATER BASED	15.04.1991

1675	1.40	19.0	11.0	WATER BASED	15.04.1991
2276	1.40	22.0	9.0	WATER BASED	17.04.1991
2302	1.42	23.0	10.0	WATER BASED	17.04.1991
2400	1.22	12.0	7.0	WATER BASED	08.05.1991
2400	1.26	20.0	12.0	WATER BASED	10.05.1991
2405	1.41	22.0	10.0	WATER BASED	18.04.1991
2464	1.39	20.0	10.0	WATER BASED	19.04.1991
2545	1.39	21.0	9.0	WATER BASED	22.04.1991
2545	1.40	20.0	8.0	WATER BASED	22.04.1991
2545	1.40	20.0	8.0	WATER BASED	22.04.1991
2545	1.40	20.0	9.0	WATER BASED	23.04.1991
2548	1.40	17.0	6.0	WATER BASED	25.04.1991
2622	1.21	12.0	7.0	WATER BASED	25.04.1991
2664	1.20	13.0	7.0	WATER BASED	26.04.1991
2691	1.22	13.0	7.0	WATER BASED	30.04.1991
2704	1.20	13.0	7.0	WATER BASED	30.04.1991
2727	1.20	12.0	6.0	WATER BASED	30.04.1991
2738	1.20	13.0	8.0	WATER BASED	30.04.1991
2759	1.20	12.0	6.0	WATER BASED	02.05.1991
2788	1.20	14.0	8.0	WATER BASED	02.05.1991
2805	1.20	14.0	7.0	WATER BASED	03.05.1991
2805	1.21	14.0	7.0	WATER BASED	06.05.1991
2994	1.21	13.0	7.0	WATER BASED	06.05.1991
2994	1.22	13.0	7.0	WATER BASED	07.05.1991
2994	1.22	13.0	7.0	WATER BASED	06.05.1991