General information

Wellbore name	30/6-22
Type	EXPLORATION
Purpose	APPRAISAL
Status	SUSPENDED
Factmaps in new window	link to map
Main area	NORTH SEA
Field	OSEBERG ØST
Discovery	30/6-19 (Beta Sadel)
Well name	30/6-22
Seismic location	NH 8606 - 670 KOL. 660
Production licence	053
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	578-L
Drilling facility	POLAR PIONEER
Drilling days	54
Entered date	21.05.1988
Completed date	13.07.1988
Release date	13.07.1990
Publication date	29.03.2014
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	NESS FM
Kelly bushing elevation [m]	23.0
Water depth [m]	179.0
Total depth (MD) [m RKB]	3336.0
Final vertical depth (TVD) [m RKB]	3330.0
Maximum inclination [°]	10.5
Bottom hole temperature [°C]	123
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	60° 43' 57.26'' N
EW degrees	2° 58' 53.12'' E
NS UTM [m]	6733159.80
EW UTM [m]	498986.72

UTM zone	31
NPDID wellbore	1225

Wellbore history

General

Well 30/6-22 was drilled on the 30/6-19 Beta Saddle Discovery between the Veslefrikk field and the 30/6-5 Oseberg East (Beta South) discovery. The discovery well 30/6-19 found oil in the Brent Group. The objectives of well 30/6-22 were to narrow the range in the oil/water contact levels in the Tarbert/Ness and the Etive/Rannoch/Oseberg Formations and to get information about lateral variation in reservoir quality.

Operations and results

Appraisal well 30/6 22 was spudded 21 May 1988 by Polar Frontier Drilling semi submersible rig Polar Pioneer and drilled to TD at 3336 m in the Late Jurassic Statfjord Group. Drilling went without problems, but the prospect was intersected 50 m away from where it was decided, in north-eastern direction. The well was drilled with spud mud down to 963 m and with KCl/polymer mud from 963 m to TD.

Top Brent Group, Tarbert Formation was penetrated at 2874 m. Moveable oil was confirmed by logs, RFT pressure gradients and tests in sandstones in the Ness and Etive formations from 2908 m (2880 m TVD MSL). The OWC was not clearly defined, but indicated from RFT pressure gradients to be at 2935 m (2907 m TVD MSL). The Oseberg Formation was water bearing. The Cook Formation had good oil shows but it was tight and impossible to test. No shows were recorded in the Statfjord Formation.

Six cores were cut in the well: The Brent Group was cored in five cores in the interval 2854 - 3009.9 m and one core was cut in the Cook Formation in the interval 3122.5 - 3150.4 m. RFT-tests indicated oil from 2910 m (Ness Formation) and mud filtrate from 2934 m (Etive Formation).

The well was suspended on 13 July as an oil appraisal.

Testing

Two DST tests were performed.

DST 1 tested the interval 2917.2 - 2936.2 m in the Etive Formation. It produced 294 Sm3 oil and 19430 Sm3 gas /day through a 32/64" choke. The GOR was 67 Sm3/Sm3, the oil density was 0.892 g/cm3, and the gas gravity was 0.76 (air = 1) with no measurable H2S and 4 % CO2. The maximum flowing bottom hole temperature measured at sensor point 2852.8 m was 122.9 deg C.

DST 2 tested the interval 2908.8 - 2912.3 m in the Ness Formation. It produced 480 Sm3 oil and 31680 Sm3 gas /day through a 32/64" choke. The GOR was 66 Sm3/Sm3, the oil density was 0.823 g/cm3, and the gas gravity was 0.765 (air = 1) with no measurable H2S and 4 % CO2. The maximum flowing bottom hole temperature measured at sensor point 2854.2 m was 123.7 deg C.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
970.00	3335.00

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	2854.0	2881.6	[m]
2	2881.6	2905.5	[m]
3	2906.0	2921.5	[m]
4	2921.6	2958.4	[m]
5	2958.5	3009.9	[m]
6	3122.5	3150.3	[m]

Total core sample length [m]	182.9
Cores available for sampling?	YES

Core photos


2854-2859m


2859-2864m


2864-2869m


2869-2874m


2874-2879m


2879-2881m


2881-2886m


2886-2891m


2891-2896m


2896-2901m


2901-2905m


2906-2911m


2911-2916m


2916-2921m


2921-2921m


2921-2926m


2926-2931m


2931-2936m


2936-2941m


2941-2946m


2946-2951m


2951-2956m


2956-2958m


2958-2963m


2963-2968m


2968-2973m


2973-2978m


2978-2983m


2983-2988m


2988-2993m


2993-2998m


2998-3003m


3003-3008m


3008-3009m


3122-2127m


3127-3132m


3132-3237m


3137-3142m


3142-3147m


3147-3150m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
2000.0	[m]	DC	STRAT
2010.0	[m]	DC	STRAT
2030.0	[m]	DC	STRAT
2040.0	[m]	DC	STRAT
2060.0	[m]	DC	STRAT
2090.0	[m]	DC	STRAT
2100.0	[m]	DC	STRAT
2120.0	[m]	DC	STRAT
2130.0	[m]	DC	STRAT
2150.0	[m]	DC	STRAT
2160.0	[m]	DC	STRAT
2180.0	[m]	DC	STRAT
2210.0	[m]	DC	STRAT
2220.0	[m]	DC	STRAT
2240.0	[m]	DC	STRAT
2250.0	[m]	DC	STRAT
2270.0	[m]	DC	STRAT
2280.0	[m]	DC	STRAT
2300.0	[m]	DC	STRAT
2310.0	[m]	DC	STRAT
2330.0	[m]	DC	STRAT
2340.0	[m]	DC	STRAT
2360.0	[m]	DC	STRAT
2370.0	[m]	DC	STRAT
2390.0	[m]	DC	STRAT
2400.0	[m]	DC	STRAT
2420.0	[m]	DC	STRAT
2430.0	[m]	DC	STRAT
2450.0	[m]	DC	STRAT
2460.0	[m]	DC	STRAT
2480.0	[m]	DC	STRAT
2485.0	[m]	DC	PETROSTR
2490.0	[m]	DC	STRAT
2495.0	[m]	DC	PETROSTR
2500.0	[m]	DC	STRAT
2505.0	[m]	DC	PETROSTR

2510.0	[m]	DC	STRAT
2520.0	[m]	DC	STRAT
2525.0	[m]	DC	PETROSTR
2530.0	[m]	DC	STRAT
2535.0	[m]	DC	PETROSTR
2540.0	[m]	DC	STRAT
2545.0	[m]	DC	PETROSTR
2550.0	[m]	DC	STRAT
2555.0	[m]	DC	PETROSTR
2570.0	[m]	DC	STRAT
2575.0	[m]	DC	PETROSTR
2585.0	[m]	DC	PETROS
2590.0	[m]	DC	STRAT
2595.0	[m]	DC	PETROSTR
2600.0	[m]	DC	STRAT
2605.0	[m]	DC	PETROSTR
2610.0	[m]	DC	STRAT
2615.0	[m]	DC	PETROSTR
2625.0	[m]	DC	PETROS
2630.0	[m]	DC	STRAT
2635.0	[m]	DC	PETROSTR
2640.0	[m]	DC	STRAT
2645.0	[m]	DC	PETROS
2655.0	[m]	DC	PETROS
2660.0	[m]	DC	STRAT
2665.0	[m]	DC	PETROSTR
2670.0	[m]	DC	STRAT
2675.0	[m]	DC	PETROSTR
2690.0	[m]	DC	STRAT
2695.0	[m]	DC	PETROSTR
2700.0	[m]	DC	STRAT
2715.0	[m]	DC	PETROSTR
2720.0	[m]	DC	STRAT
2730.0	[m]	DC	STRAT
2735.0	[m]	DC	PETROSTR
2745.0	[m]	DC	PETROS
2750.0	[m]	DC	STRAT
2755.0	[m]	DC	PETROSTR
2760.0	[m]	DC	STRAT
2765.0	[m]	DC	PETROSTR

2780.0	[m]	DC	STRAT
2785.0	[m]	DC	PETROSTR
2790.0	[m]	DC	STRAT
2790.0	[m]	DC	PETROSTR
2810.0	[m]	DC	STRAT
2820.0	[m]	DC	STRAT
2840.0	[m]	DC	STRAT
2850.0	[m]	DC	STRAT
2854.0	[m]	C	STRAT
2860.0	[m]	C	STRAT
2865.0	[m]	C	STRAT
2870.0	[m]	C	STRAT
2874.0	[m]	C	STRAT
2880.0	[m]	C	STRAT
2883.0	[m]	C	STRAT
2889.0	[m]	C	STRAT
2899.0	[m]	C	STRAT
2902.0	[m]	C	STRAT
2906.0	[m]	C	STRAT
2913.0	[m]	C	STRAT
2920.0	[m]	C	STRAT
2923.0	[m]	C	STRAT
2930.0	[m]	C	STRAT
2935.0	[m]	C	STRAT
2940.0	[m]	C	STRAT
2947.0	[m]	C	STRAT
2950.0	[m]	C	STRAT
2954.0	[m]	C	STRAT
2957.0	[m]	C	STRAT
2965.0	[m]	C	STRAT
2972.0	[m]	C	STRAT
2976.0	[m]	C	STRAT
2982.0	[m]	C	STRAT
2984.0	[m]	C	STRAT
2990.0	[m]	C	STRAT
2995.0	[m]	C	STRAT
3000.0	[m]	C	STRAT
3004.0	[m]	C	STRAT
3009.0	[m]	C	STRAT
3020.0	[m]	DC	STRAT

3030.0	[m]	DC	STRAT
3040.0	[m]	DC	STRAT
3050.0	[m]	DC	STRAT
3060.0	[m]	DC	STRAT
3070.0	[m]	DC	STRAT
3080.0	[m]	DC	STRAT
3090.0	[m]	DC	STRAT
3100.0	[m]	DC	STRAT
3110.0	[m]	DC	STRAT
3123.0	[m]	C	STRAT
3127.0	[m]	C	STRAT
3134.0	[m]	C	STRAT
3137.0	[m]	C	STRAT
3144.0	[m]	C	STRAT
3149.0	[m]	C	STRAT
3160.0	[m]	DC	STRAT
3170.0	[m]	DC	STRAT
3180.0	[m]	DC	STRAT
3190.0	[m]	DC	STRAT
3200.0	[m]	DC	STRAT
3212.0	[m]	DC	STRAT
3220.0	[m]	DC	STRAT
3230.0	[m]	DC	STRAT
3240.0	[m]	DC	STRAT
3250.0	[m]	DC	STRAT
3260.0	[m]	DC	STRAT
3270.0	[m]	DC	STRAT
3280.0	[m]	DC	STRAT
3290.0	[m]	DC	STRAT
3300.0	[m]	DC	STRAT
3310.0	[m]	DC	STRAT
3320.0	[m]	DC	STRAT
3335.0	[m]	DC	STRAT

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	DST1	2917.00	2936.00	OIL	08.07.1988 - 00:00	YES
DST	DST2	2908.75	2912.25	OIL	07.07.1988 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
202	NORDLAND GP
721	UTSIRA FM
885	HORDALAND GP
1893	ROGALAND GP
1893	BALDER FM
1998	LISTA FM
2147	VÅLE FM
2175	SHETLAND GP
2485	CROMER KNOLL GP
2497	VIKING GP
2497	DRAUPNE FM
2628	HEATHER FM
2875	BRENT GP
2875	TARBERT FM
2887	NESS FM
2916	ETIVE FM
2938	RANNOCH FM
2943	OSEBERG FM
2998	DUNLIN GP
2998	DRAKE FM
3122	COOK FM
3170	AMUNDSEN FM
3290	STATFJORD GP

Geochemical information

Document name	Document format	Document size [MB]
1225_1	pdf	0.32

1225_2	pdf	0.16
1225_3	pdf	1.58

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

Document name	Document format	Document size [MB]
1225_01_WDSS_General_Information	pdf	0.23
1225_02_WDSS_completion_log	pdf	0.22

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

Document name	Document format	Document size [MB]
1225_30_6_22_COMPLETION_REPORT_AND_LOG	pdf	18.34

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2917	2036	12.7
2.0	2909	2912	12.7

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	294	19430	0.829	0.780	68
2.0	480	31680	0.823	0.765	66

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL GR	2600	2340
DIL LSS GR SP	190	2797
DIS SDT NGS GR	3337	3780
LDL CNL DLL MSFL GR AMS	2780	3334
MWD	202	800
RFT	2881	3309
RFT	2902	2934
RFT	2930	2949
SHDT	2780	3338
VSP	1000	3240

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	292.0	36	292.0	0.00	LOT
INTERM.	13 3/8	948.0	17 1/2	963.0	1.74	LOT
INTERM.	9 5/8	2781.0	12 1/4	2798.0	1.69	LOT
LINER	7	3333.0	8 1/2	3336.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
292	1.05	9.0	5.0	WATER BASED	24.05.1988
292	1.05	9.0	5.0	WATER BASED	24.05.1988
517	1.03			WATER BASED	23.04.1987
530	1.03			WATER BASED	27.04.1987
575	1.03			WATER BASED	29.04.1987
662	1.05	9.0	5.0	WATER BASED	26.05.1988
677	1.03			WATER BASED	27.04.1987
963	1.05	9.0	5.0	WATER BASED	26.05.1988
963	1.05	9.0	5.0	WATER BASED	27.05.1988
975	1.03			WATER BASED	30.04.1987
975	1.03			WATER BASED	04.05.1987
975	1.03			WATER BASED	27.04.1987
975	1.03			WATER BASED	05.05.1987

975	1.20	17.0	21.0	WATER BASED	06.05.1987
1162	1.21	16.0	21.0	WATER BASED	06.05.1987
1310	1.40	24.0	12.0	WATER BASED	30.05.1988
1438	1.40	24.0	22.0	WATER BASED	06.05.1987
1598	1.40	23.0	20.0	WATER BASED	06.05.1987
1601	1.40	24.0	22.0	WATER BASED	11.05.1987
1603	1.40	22.0	18.0	WATER BASED	07.05.1987
1679	1.28	7.0	12.0	WATER BASED	12.05.1987
1786	1.27	14.0	15.0	WATER BASED	12.05.1987
1804	1.27	29.0	18.0	WATER BASED	12.05.1987
1936	1.43	27.0	9.0	WATER BASED	30.05.1988
2007	1.27	13.0	17.0	WATER BASED	14.05.1987
2152	1.29	23.0	16.0	WATER BASED	14.05.1987
2180	1.43	28.0	9.0	WATER BASED	30.05.1988
2205	1.27	15.0	15.0	WATER BASED	14.05.1987
2295	1.27	21.0	17.0	WATER BASED	18.05.1987
2392	1.27	16.0	12.0	WATER BASED	18.05.1987
2411	1.27	16.0	12.0	WATER BASED	18.05.1987
2429	1.43	29.0	9.0	WATER BASED	31.05.1988
2532	1.45	28.0	9.0	WATER BASED	02.06.1988
2551	1.27	15.0	14.0	WATER BASED	18.05.1987
2560	1.25	18.0	8.0	WATER BASED	12.07.1988
2638	1.45	26.0	9.0	WATER BASED	02.06.1988
2758	1.45	27.0	10.0	WATER BASED	03.06.1988
2798	1.45	20.0	10.0	WATER BASED	07.06.1988
2798	1.45	21.0	10.0	WATER BASED	07.06.1988
2798	1.45	21.0	10.0	WATER BASED	07.06.1988
2854	1.25	14.0	5.0	WATER BASED	09.06.1988
2888	1.25	15.0	5.0	WATER BASED	10.06.1988
2916	1.25	17.0	6.0	WATER BASED	07.07.1988
2916	1.25	17.0	6.0	WATER BASED	08.07.1988
2916	1.25	17.0	6.0	WATER BASED	12.07.1988
2916	1.25	17.0	6.0	WATER BASED	06.07.1988
2916	1.25	18.0	8.0	WATER BASED	12.07.1988
2922	1.25	14.0	5.0	WATER BASED	13.06.1988
2954	1.25	16.0	6.0	WATER BASED	01.07.1988
2954	1.25	16.0	6.0	WATER BASED	04.07.1988
2954	1.25	15.0	6.0	WATER BASED	05.07.1988
2954	1.25	16.0	6.0	WATER BASED	29.06.1988
2980	1.25	21.0	7.0	WATER BASED	13.06.1988

3010	1.25	20.0	7.0	WATER BASED	13.06.1988
3030	1.25	16.0	5.0	WATER BASED	27.06.1988
3030	1.25	15.0	5.0	WATER BASED	27.06.1988
3030	1.25	16.0	5.0	WATER BASED	28.06.1988
3089	1.25	19.0	7.0	WATER BASED	13.06.1988
3150	1.25	19.0	6.0	WATER BASED	15.06.1988
3235	1.25	17.0	7.0	WATER BASED	15.06.1988
3254	1.25	15.0	5.0	WATER BASED	22.06.1988
3269	1.25	15.0	5.0	WATER BASED	23.06.1988
3269	1.25	16.0	5.0	WATER BASED	27.06.1988
3333	1.25	16.0	6.0	WATER BASED	21.06.1988
3336	1.25	21.0	7.0	WATER BASED	17.06.1988
3336	1.25	16.0	6.0	WATER BASED	20.06.1988
3336	1.25	16.0	5.0	WATER BASED	20.06.1988
3336	1.25	19.0	6.0	WATER BASED	20.06.1988