

**General information**

Wellbore name	6608/10-3
Type	EXPLORATION
Purpose	APPRAISAL
Status	SUSPENDED
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Field	NORNE
Discovery	6608/10-2 Norne
Well name	6608/10-3
Seismic location	B-18-83& SP. 1345
Production licence	128
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	753-L
Drilling facility	ROSS RIG (2)
Drilling days	64
Entered date	07.01.1993
Completed date	11.03.1993
Release date	11.03.1995
Publication date	24.09.2002
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL/GAS
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	FANGST GP
2nd level with HC, age	EARLY JURASSIC
2nd level with HC, formation	BÅT GP
Kelly bushing elevation [m]	24.0
Water depth [m]	382.0
Total depth (MD) [m RKB]	2921.0
Final vertical depth (TVD) [m RKB]	2919.5
Maximum inclination [°]	5.5
Bottom hole temperature [°C]	115
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	ÅRE FM
Geodetic datum	ED50
NS degrees	66° 2' 6.66" N
EW degrees	8° 4' 57.97" E



NS UTM [m]	7324321.37
EW UTM [m]	458426.47
UTM zone	32
NPDID wellbore	1732

Wellbore history

General

The main objective of well 6608/10-3 was to appraise oil accumulation in the Jurassic Fangst and Båt groups in the Northern Fault Block on the Norne field off shore Mid Norway.

Operations and results

Appraisal well 6608/10-3 was spudded by the semi-submersible installation "Ross Rig" on 7 January 1993 and drilled to a total depth of 2921 m, into rocks of Lower Jurassic age. The well was drilled water based. Seawater/bentonite spud mud was used down to 469 m, seawater/CMC EHV spud mud from 469 m to 874 m, and Gyp/PAC polymer mud from 874 m to TD. Oil and gas was encountered in the Early to Middle Jurassic Båt and Fangst Groups. Eleven cores were cut in the interval 2560 m to 2765 m, from the lower part of the Melke Formation, through the Fangst Group and into the Tilje Formation of the Båt Group. Four segregated FMT samples were taken at 2599.2 m in the Garn Formation (gas, mud filtrate, and small amount of oil), 2603.2 m in the Garn Formation (mud filtrate, gas, and oil), 2624.5 m in the Ile Formation (gas, and oil), and at 2715.2 m in the Tilje Formation (mud filtrate and water with small amount of gas). The well was suspended on 11 March as an oil and gas appraisal well. The well was re-entered on 8 August 1995 with the semi-submersible installation "Ross Isle". The re-entry, 6608/10-3 R, was permanently plugged and abandoned as an oil and gas appraisal well.

Testing

One drill stem test was performed in well 6608/10-3 in the Ile Formation (perforated interval 2617-2648 m). The well produced 1250 Sm³/D of oil with a density of 860 kg/m³ at standard conditions and 102500 Sm³/D of gas with a relative density of 0.65 (air=1.0) through a 60/64" (23.44 mm) choke.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
890.00	2754.00

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	2560.0	2576.4	[m]



2	2576.4	2604.0	[m]
3	2604.0	2605.0	[m]
4	2618.0	2622.0	[m]
5	2627.0	2652.7	[m]
6	2653.0	2680.1	[m]
7	2680.1	2702.0	[m]
8	2703.0	2704.0	[m]
9	2705.0	2710.6	[m]
10	2710.6	2738.0	[m]
11	2738.6	2765.0	[m]

Total core sample length [m]	184.1
Cores available for sampling?	YES

Core photos



2560-2565m



2565-2570m



2570-2575m



2575-2576m



2576-2604m



2606-2611m



2611-2616m



2616-2621m



2621-2622m



2627-2632m



2632-2637m



2637-2642m



2642-2647m



2647-2652m



2652-2653m



2653-2658m



2658-2663m



2663-2668m



2668-2673m



2673-2678m



2678-2680m



2680-2685m



2685-2690m



2690-2695m



2695-2700m



2700-2703m



2703-2704m



2705-2710m



2710-2711m



2711-2715m



2715-2710m



2720-2725m



2725-2730m



2730-2735m



2735-2738m



2738-2743m



2743-2748m



2748-2753m



2753-2758m



2758-2763m



2763-2766m

**Palynological slides at the Norwegian Offshore Directorate**

Sample depth	Depth unit	Sample type	Laboratory
1580.0	[m]	DC	GEOST
1597.5	[m]	SWC	STATO
1620.0	[m]	DC	GEOST
1640.0	[m]	DC	GEOST
1654.0	[m]	SWC	STATO
1660.0	[m]	DC	GEOST
1681.0	[m]	SWC	STATO
1690.0	[m]	SWC	STATO
1700.0	[m]	DC	GEOST
1720.0	[m]	DC	GEOST
1740.0	[m]	DC	GEOST
1760.0	[m]	DC	GEOST
1766.0	[m]	SWC	STATO
1780.0	[m]	DC	GEOST
1800.0	[m]	DC	GEOST
1823.0	[m]	SWC	STATO
1840.0	[m]	DC	GEOST
1860.0	[m]	DC	GEOST
1890.0	[m]	SWC	STATO
1900.0	[m]	DC	GEOST
1920.0	[m]	DC	GEOST
1932.0	[m]	SWC	STATO
1940.0	[m]	DC	GEOST
1950.0	[m]	SWC	STATO
1956.0	[m]	SWC	STATO
1974.0	[m]	DC	GEOST
1992.0	[m]	DC	GEOST
2004.0	[m]	DC	GEOST
2028.0	[m]	DC	GEOST
2040.0	[m]	DC	GEOST
2058.0	[m]	DC	GEOST
2070.0	[m]	DC	GEOST
2082.0	[m]	DC	GEOST
2095.0	[m]	SWC	STATO
2112.0	[m]	SWC	STATO
2130.0	[m]	DC	GEOST



2141.0 [m]	SWC	STATO
2154.0 [m]	DC	GEOST
2163.0 [m]	SWC	STATO
2178.0 [m]	DC	GEOST
2186.0 [m]	SWC	STATO
2190.0 [m]	DC	GEOST
2202.0 [m]	DC	GEOST
2220.0 [m]	DC	GEOST
2230.0 [m]	SWC	STATO
2244.0 [m]	DC	GEOST
2262.0 [m]	DC	GEOST
2268.0 [m]	SWC	STATO
2274.0 [m]	DC	GEOST
2292.0 [m]	DC	GEOST
2310.0 [m]	DC	GEOST
2322.0 [m]	SWC	STATO
2334.0 [m]	DC	GEOST
2352.0 [m]	DC	GEOST
2362.0 [m]	SWC	STATO
2376.0 [m]	DC	GEOST
2383.0 [m]	SWC	STATO
2391.0 [m]	DC	GEOST
2400.0 [m]	DC	GEOST
2410.0 [m]	SWC	STATO
2413.0 [m]	SWC	STATO
2421.0 [m]	DC	GEOST
2424.5 [m]	SWC	STATO
2435.0 [m]	SWC	STATO
2445.0 [m]	DC	GEOST
2446.0 [m]	SWC	STATO
2454.0 [m]	DC	GEOST
2463.0 [m]	DC	GEOST
2472.0 [m]	SWC	STATO
2481.0 [m]	DC	GEOST
2490.0 [m]	DC	GEOST
2498.0 [m]	SWC	STATO
2499.0 [m]	DC	GEOST
2508.0 [m]	DC	GEOST
2510.0 [m]	SWC	STATO
2517.0 [m]	DC	GEOST



2526.0	[m]	DC	GEOST
2528.0	[m]	SWC	STATO
2535.0	[m]	DC	GEOST
2537.0	[m]	SWC	STATO
2544.0	[m]	DC	GEOST
2553.0	[m]	DC	GEOST
2560.0	[m]	SWC	STATO
2566.0	[m]	SWC	STATO
2572.6	[m]	SWC	STATO
2573.9	[m]	SWC	STATO
2581.0	[m]	SWC	STATO
2586.0	[m]	SWC	STATO
2589.0	[m]	SWC	STATO
2595.5	[m]	SWC	STATO
2604.3	[m]	SWC	STATO
2609.3	[m]	SWC	STATO
2612.7	[m]	SWC	STATO
2615.6	[m]	SWC	STATO
2617.4	[m]	SWC	STATO
2621.1	[m]	SWC	STATO
2627.4	[m]	SWC	STATO
2630.5	[m]	SWC	STATO
2637.3	[m]	SWC	STATO
2640.4	[m]	SWC	STATO
2645.1	[m]	SWC	STATO
2649.5	[m]	SWC	STATO
2658.5	[m]	SWC	STATO
2661.1	[m]	SWC	STATO
2661.6	[m]	SWC	STATO
2670.6	[m]	SWC	STATO
2673.9	[m]	SWC	STATO
2678.9	[m]	SWC	STATO
2681.8	[m]	SWC	STATO
2687.5	[m]	SWC	STATO
2691.2	[m]	SWC	STATO
2695.7	[m]	SWC	STATO
2701.1	[m]	SWC	STATO
2708.6	[m]	SWC	STATO
2709.2	[m]	SWC	STATO
2709.6	[m]	SWC	STATO



2710.8	[m]	SWC	STATO
2717.5	[m]	SWC	STATO
2720.7	[m]	SWC	STATO
2726.4	[m]	SWC	STATO
2733.5	[m]	SWC	STATO
2740.9	[m]	SWC	STATO
2743.2	[m]	SWC	STATO
2749.0	[m]	SWC	STATO
2754.5	[m]	SWC	STATO
2760.0	[m]	SWC	STATO
2765.5	[m]	SWC	STATO
2769.0	[m]	DC	GEOST
2769.5	[m]	SWC	STATO
2784.0	[m]	DC	GEOST
2787.0	[m]	DC	GEOST
2791.5	[m]	SWC	STATO
2795.0	[m]	SWC	STATO
2796.0	[m]	DC	GEOST
2803.0	[m]	SWC	STATO
2820.0	[m]	DC	GEOST
2823.0	[m]	DC	GEOST
2832.0	[m]	DC	GEOST
2841.0	[m]	DC	GEOST
2847.0	[m]	DC	GEOST
2859.0	[m]	DC	GEOST
2868.0	[m]	DC	GEOST
2874.0	[m]	SWC	STATO
2882.0	[m]	SWC	STATO
2889.5	[m]	SWC	STATO
2895.0	[m]	DC	GEOST
2898.0	[m]	DC	GEOST
2907.0	[m]	DC	GEOST
2916.0	[m]	DC	GEOST
2919.0	[m]	DC	GEOST

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
402	NORDLAND GP



402	NAUST FM
1368	KAI FM
1592	HORDALAND GP
1592	BRYGGE FM
1858	ROGALAND GP
1858	TARE FM
1915	TANG FM
1951	SHETLAND GP
1951	SPRINGAR FM
2131	NISE FM
2394	CROMER KNOLL GP
2394	LYR FM
2407	VIKING GP
2407	SPEKK FM
2413	MELKE FM
2574	FANGST GP
2574	GARN FM
2610	NOT FM
2617	ILE FM
2657	BÅT GP
2657	TOFTE FM
2712	TILJE FM
2791	ÅRE FM

Composite logs

Document name	Document format	Document size [MB]
1732	pdf	0.43

Geochemical information

Document name	Document format	Document size [MB]
1732_1	pdf	1.82
1732_2	pdf	1.33

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





Document name	Document format	Document size [MB]
1732_6608_10_3_COMPLETION_REPORT_AND_LOG	pdf	83.38

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2617	2648	23.4

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0				98

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	1250	102500	0.860	0.650	82

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL GR	646	2871
CDL CNL GR	1575	2914
DIFL ACL ZDL GR	863	1587
DIFL DAC GR	1574	2555
DIPL MAC SL	2430	2915
DIPLOG GR	1900	2555
DLL MLL GR	2539	2800
FMT HP GR	2498	2862
HRDIP GR	2563	2905
MWD	472	2920
SWC	894	2901
VSP	1240	2900

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	466.0	36	466.0	0.00	LOT
INTERM.	20	863.0	26	863.0	1.40	LOT
INTERM.	13 3/8	1574.0	17 1/2	1574.0	1.85	LOT
INTERM.	9 5/8	2542.0	12 1/4	2542.0	1.97	LOT
LINER	7	2921.0	8 1/2	2921.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1250	1.20	22.0		WATER BASED	
1595	1.34	22.0		WATER BASED	
1803	1.60	35.0		WATER BASED	
1940	1.60	25.0		WATER BASED	
1960	1.60	33.0		WATER BASED	
2053	1.60	35.0		WATER BASED	
2362	1.60	36.0		WATER BASED	
2499	1.60	26.0		WATER BASED	
2555	1.60	28.0		WATER BASED	
2562	1.20	25.0		WATER BASED	
2574	1.20	23.0		WATER BASED	
2627	1.20	21.0		WATER BASED	
2627	1.20	24.0		WATER BASED	
2920	1.20	24.0		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]
1732 Formation pressure (Formasjonstrykk)	pdf	0.28

