

**General information**

Wellbore name	6610/7-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Well name	6610/7-1
Seismic location	NH 81 - 02 - 431 SP 2439
Production licence	084
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	371-L
Drilling facility	NORDRAUG
Drilling days	63
Entered date	18.04.1983
Completed date	19.06.1983
Release date	19.06.1985
Publication date	25.06.2005
Purpose - planned	WILDCAT
Reentry	NO
Content	SHOWS
Discovery wellbore	NO
Kelly bushing elevation [m]	25.0
Water depth [m]	265.0
Total depth (MD) [m RKB]	3333.0
Final vertical depth (TVD) [m RKB]	3332.0
Maximum inclination [°]	3.45
Bottom hole temperature [°C]	100
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	RED BEDS (INFORMAL)
Geodetic datum	ED50
NS degrees	66° 17' 32.82" N
EW degrees	10° 16' 52.92" E
NS UTM [m]	7353283.54
EW UTM [m]	557489.79
UTM zone	32
NPDID wellbore	12



Wellbore history

General

Well 6610/7-1 is located in the Helgeland Basin outside Mid Norway and was drilled on a tilted fault block in the southeastern corner of the block. The purpose of this wildcat well was primarily to gather information about the hydrocarbon potential and stratigraphy of the Helgeland Basin. The main targets were sandstones of Middle to Lower Jurassic age.

The well is Reference Well for the Ror Formation.

Operations and results

Wildcat well 6610/7-1 was spudded with the semi-submersible installation Nordraug on 18 April 1983 and drilled to TD at 3333 m in the Late Triassic sediments Red Beds. Operations were interrupted by a 10.5 days seamen's strike. No serious technical problems occurred during drilling. The well was drilled to 815 m using spud mud. From 815 m to 2115 m the well was drilled with gypsum/lignosulphonate mud, and from 2115 m to TD with gel/lignosulphonate/lignite mud.

The well was water bearing but hydrocarbon shows were observed on cores and cuttings in Early Jurassic sandstone beds from 2656 m to 2715 m. The Spekk Formation from 2271 m to 2315 m is a good to rich source rock with around 9 % TOC and potential for gas and oil. It is more gas-prone in the lower part. It has reached early oil window maturity in well position. The Åre Formation consists mainly of low-TOC sand with abundant seams of coals, carbargillites and organic-rich shales. The coals/carbargillites have TOC contents ranging 37 - 59 % and are quite liptinitic, containing kerogen type II/III-III with good potential for oil and gas generation locally and a rich overall potential for gas.

Four cores were cut, one from the Early Cretaceous sequence and three from the Early Jurassic sands. A segregated sample was taken at 2748 m. It contained mud filtrate.

The well was permanently abandoned on 19 June 1983 as a dry hole with oil shows in Early Jurassic sandstone.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
360.00	3332.00

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	2183.0	2200.6	[m]
2	2661.0	2677.0	[m]
3	2677.5	2686.5	[m]
4	2706.0	2725.2	[m]

Total core sample length [m]	61.8
Cores available for sampling?	YES

Core photos

2183-2190m



2190-2197m



2197-2200m



2661-2668m



2668-2675m



2675-2677m



2677-2684m



2684-2686m



2706-2713m



2713-2720m



2720-2725m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
950.0	[m]	DC	DONG
970.0	[m]	DC	OD
1000.0	[m]	DC	IKU
1020.0	[m]	DC	IKU



1020.0 [m]	DC	OD
1040.0 [m]	DC	DONG
1050.0 [m]	DC	IKU
1060.0 [m]	DC	OD
1070.0 [m]	DC	IKU
1080.0 [m]	DC	DONG
1100.0 [m]	DC	IKU
1100.0 [m]	DC	OD
1120.0 [m]	DC	DONG
1120.0 [m]	DC	IKU
1140.0 [m]	DC	IKU
1140.0 [m]	DC	OD
1150.0 [m]	DC	IKU
1160.0 [m]	DC	DONG
1170.0 [m]	DC	IKU
1180.0 [m]	DC	OD
1190.0 [m]	DC	DONG
1200.0 [m]	DC	IKU
1210.0 [m]	DC	DONG
1220.0 [m]	DC	IKU
1240.0 [m]	DC	IKU
1240.0 [m]	DC	OD
1250.0 [m]	DC	DONG
1250.0 [m]	DC	IKU
1270.0 [m]	DC	DONG
1275.0 [m]	SWC	IKU
1275.0 [m]	SWC	OD
1290.0 [m]	DC	DONG
1290.0 [m]	DC	IKU
1300.0 [m]	SWC	IKU
1300.0 [m]	SWC	OD
1320.0 [m]	DC	OD
1325.0 [m]	SWC	OD
1325.0 [m]	SWC	IKU
1332.0 [m]	SWC	OD
1332.0 [m]	SWC	IKU
1335.0 [m]	SWC	IKU
1335.0 [m]	SWC	OD
1340.0 [m]	DC	IKU
1340.0 [m]	DC	OD



1345.0 [m]	SWC	OD
1345.0 [m]	SWC	IKU
1360.0 [m]	DC	OD
1363.0 [m]	SWC	OD
1380.0 [m]	DC	OD
1390.0 [m]	DC	IKU
1405.0 [m]	SWC	IKU
1405.0 [m]	SWC	OD
1410.0 [m]	DC	IKU
1420.0 [m]	DC	OD
1430.0 [m]	DC	IKU
1440.0 [m]	DC	OD
1460.0 [m]	DC	IKU
1460.0 [m]	DC	OD
1480.0 [m]	DC	OD
1480.0 [m]	DC	IKU
1500.0 [m]	DC	OD
1505.0 [m]	SWC	IKU
1520.0 [m]	SWC	IKU
1520.0 [m]	DC	OD
1540.0 [m]	DC	OD
1560.0 [m]	DC	IKU
1560.0 [m]	DC	OD
1570.0 [m]	SWC	IKU
1580.0 [m]	DC	OD
1597.0 [m]	SWC	IKU
1600.0 [m]	DC	OD
1602.0 [m]	SWC	IKU
1616.0 [m]	SWC	OD
1620.0 [m]	SWC	OD
1620.0 [m]	SWC	IKU
1620.0 [m]	DC	OD
1630.0 [m]	DC	IKU
1630.0 [m]	SWC	IKU
1630.0 [m]	SWC	OD
1640.0 [m]	DC	OD
1650.0 [m]	DC	IKU
1650.0 [m]	DC	OD
1667.0 [m]	SWC	OD
1667.0 [m]	SWC	IKU



1680.0 [m]	DC	IKU
1680.0 [m]	DC	OD
1700.0 [m]	DC	OD
1701.0 [m]	SWC	IKU
1720.0 [m]	DC	IKU
1748.0 [m]	SWC	IKU
1748.0 [m]	SWC	OD
1750.0 [m]	DC	IKU
1790.0 [m]	DC	IKU
1800.0 [m]	DC	OD
1810.0 [m]	DC	IKU
1830.0 [m]	SWC	OD
1842.0 [m]	SWC	OD
1842.0 [m]	SWC	IKU
1860.0 [m]	DC	IKU
1878.0 [m]	SWC	OD
1878.0 [m]	SWC	IKU
1890.0 [m]	DC	IKU
1910.0 [m]	DC	IKU
1910.0 [m]	DC	OD
1930.0 [m]	DC	IKU
1950.0 [m]	DC	IKU
1960.0 [m]	DC	IKU
1971.0 [m]	SWC	IKU
1971.0 [m]	SWC	OD
1977.0 [m]	SWC	OD
1977.0 [m]	SWC	IKU
1980.0 [m]	DC	IKU
2000.0 [m]	DC	IKU
2024.0 [m]	DC	IKU
2048.0 [m]	DC	IKU
2072.0 [m]	DC	IKU
2096.0 [m]	DC	IKU
2102.0 [m]	DC	OD
2141.0 [m]	DC	OD
2144.0 [m]	DC	IKU
2168.0 [m]	DC	OD
2183.5 [m]	C	IKU
2189.0 [m]	DC	IKU
2192.0 [m]	DC	IKU



2192.5 [m]	C	IKU
2196.9 [m]	C	IKU
2200.4 [m]	C	IKU
2210.0 [m]	DC	OD
2225.0 [m]	DC	IKU
2231.0 [m]	DC	IKU
2231.0 [m]	DC	OD
2235.0 [m]	SWC	OD
2235.0 [m]	SWC	IKU
2246.0 [m]	DC	IKU
2267.0 [m]	DC	IKU
2270.0 [m]	DC	OD
2270.0 [m]	DC	OD
2272.0 [m]	SWC	IKU
2272.0 [m]	SWC	OD
2273.0 [m]	DC	IKU
2279.0 [m]	DC	IKU
2287.0 [m]	SWC	IKU
2287.0 [m]	SWC	OD
2291.0 [m]	DC	OD
2294.0 [m]	SWC	OD
2295.0 [m]	SWC	IKU
2309.0 [m]	DC	OD
2309.0 [m]	DC	IKU
2313.0 [m]	SWC	IKU
2313.0 [m]	SWC	OD
2330.0 [m]	DC	OD
2335.0 [m]	SWC	OD
2335.0 [m]	SWC	IKU
2348.0 [m]	DC	OD
2348.0 [m]	DC	IKU
2350.0 [m]	SWC	OD
2350.0 [m]	SWC	IKU
2360.0 [m]	SWC	IKU
2360.0 [m]	SWC	OD
2369.0 [m]	DC	OD
2379.0 [m]	DC	IKU
2390.0 [m]	DC	IKU
2390.0 [m]	DC	OD
2400.0 [m]	SWC	OD



2400.0	[m]	SWC	IKU
2408.0	[m]	DC	IKU
2420.0	[m]	DC	OD
2420.0	[m]	DC	OD
2423.0	[m]	DC	OD
2423.0	[m]	DC	IKU
2441.0	[m]	DC	OD
2450.0	[m]	SWC	IKU
2450.0	[m]	SWC	OD
2450.0	[m]	DC	OD
2450.0	[m]	DC	OD
2471.0	[m]	DC	IKU
2480.0	[m]	DC	OD
2490.0	[m]	SWC	OD
2490.0	[m]	SWC	IKU
2498.0	[m]	DC	OD
2507.0	[m]	DC	IKU
2525.0	[m]	SWC	OD
2525.0	[m]	SWC	IKU
2528.0	[m]	DC	OD
2540.0	[m]	DC	OD
2543.0	[m]	DC	OD
2546.0	[m]	DC	IKU
2570.0	[m]	SWC	OD
2570.0	[m]	SWC	IKU
2579.0	[m]	DC	OD
2585.0	[m]	DC	IKU
2600.0	[m]	SWC	OD
2600.0	[m]	SWC	IKU
2615.0	[m]	DC	IKU
2618.0	[m]	DC	OD
2631.0	[m]	C	OD
2632.0	[m]	SWC	OD
2632.0	[m]	SWC	IKU
2652.0	[m]	SWC	IKU
2652.0	[m]	SWC	OD
2657.0	[m]	DC	OD
2657.0	[m]	DC	IKU
2661.2	[m]	C	IKU
2665.4	[m]	C	IKU



2671.1 [m]	C	IKU
2676.7 [m]	C	IKU
2677.6 [m]	C	IKU
2679.9 [m]	C	IKU
2686.5 [m]	C	IKU
2695.0 [m]	SWC	IKU
2695.0 [m]	SWC	OD
2699.0 [m]	DC	OD
2706.0 [m]	C	IKU
2711.4 [m]	C	IKU
2718.1 [m]	C	IKU
2724.0 [m]	C	IKU
2738.0 [m]	DC	OD
2740.0 [m]	SWC	IKU
2755.0 [m]	SWC	OD
2755.0 [m]	SWC	IKU
2768.5 [m]	SWC	OD
2768.5 [m]	SWC	IKU
2783.0 [m]	DC	OD
2789.0 [m]	DC	IKU
2813.0 [m]	SWC	IKU
2813.0 [m]	SWC	OD
2822.0 [m]	DC	OD
2834.0 [m]	DC	IKU
2855.0 [m]	SWC	IKU
2855.3 [m]	SWC	OD
2879.0 [m]	SWC	OD
2879.0 [m]	SWC	OD
2879.0 [m]	SWC	IKU
2903.0 [m]	SWC	IKU
2928.0 [m]	SWC	IKU
2928.5 [m]	SWC	OD
2945.2 [m]	SWC	IKU
2960.0 [m]	DC	IKU
2980.0 [m]	SWC	IKU
3000.1 [m]	SWC	IKU
3045.0 [m]	SWC	OD
3045.0 [m]	SWC	IKU
3068.0 [m]	SWC	IKU
3068.0 [m]	SWC	OD



3071.0 [m]	DC	IKU
3080.0 [m]	DC	IKU
3086.0 [m]	DC	IKU
3107.0 [m]	DC	IKU
3128.0 [m]	DC	IKU
3148.0 [m]	SWC	IKU
3148.0 [m]	SWC	OD
3161.0 [m]	DC	IKU
3174.3 [m]	SWC	IKU
3174.5 [m]	SWC	OD
3193.4 [m]	SWC	IKU
3193.4 [m]	SWC	OD
3206.5 [m]	SWC	OD
3206.5 [m]	SWC	IKU
3209.0 [m]	DC	IKU
3216.0 [m]	SWC	OD
3216.0 [m]	SWC	IKU
3227.0 [m]	DC	IKU
3241.5 [m]	SWC	OD
3258.0 [m]	SWC	OD
3299.0 [m]	SWC	OD
3311.0 [m]	SWC	OD
3333.0 [m]	DC	IKU

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
290	NORDLAND GP
290	NAUST FM
890	MOLO FM
952	HORDALAND GP
952	BRYGGE FM
1121	ROGALAND GP
1121	TARE FM
1250	TANG FM
1290	NO FORMAL NAME
1312	TANG FM
1335	SHETLAND GP
1335	SPRINGAR FM



1620	CROMER KNOLL GP
1620	LANGE FM
2177	NO FORMAL NAME
2190	LANGE FM
2271	VIKING GP
2271	SPEKK FM
2315	MELKE FM
2606	FANGST GP
2606	NOT FM
2658	ILE FM
2679	BÅT GP
2679	ROR FM
2746	TILJE FM
2855	ÅRE FM
3193	GREY BEDS (INFORMAL)
3237	RED BEDS (INFORMAL)

Composite logs

Document name	Document format	Document size [MB]
12	pdf	0.49

Geochemical information

Document name	Document format	Document size [MB]
12_1	pdf	1.10
12_2	pdf	2.43
12_3	pdf	6.22

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

Document name	Document format	Document size [MB]
12_01 WDSS General Information	pdf	0.16
12_02 WDSS completion log	pdf	0.32



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

Document name	Document format	Document size [MB]
12_01_Completion_Report_and_Completion_log	pdf	15.53
12_02_Biostratigraphy_390-2100m_NPD	pdf	0.78
12_03_Biostratigraphy_Report	pdf	7.49
12_04_Organic_Geochemistry	pdf	0.83
12_05_Petrophysical_Report_RFT	pdf	1.84
12_06_Source_Rock_HC_Staining_Correlation	pdf	4.54
12_07_Special_Core_Analysis	pdf	20.04
12_08_WST_Geogram_Processing_Schlumberger	pdf	24.59

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL GR	290	2092
CBL VDL GR	550	1245
CST	1260	1570
CST	1583	2108
CST	2117	2450
CST	2470	2876
CST	2850	3000
CST	2876	3045
CST	3053	3325
HDT	801	1920
ISF SONIC MSFL SP CAL GR	2098	3328
ISF SONIC SP GR	353	2112
LDL CNL PEF CAL NGS	2098	3329
LDL PEF CAL GR	353	2108
RFT GR	1293	1304
RFT GR	2659	3111
S-HDT	2098	3329
VSP	510	3330

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	353.0	36	355.0	0.00	LOT
SURF.COND.	20	801.0	26	812.0	1.46	LOT
INTERM.	13 3/8	1252.0	17 1/2	1265.0	1.74	LOT
INTERM.	9 5/8	2097.0	12 1/4	2115.0	1.76	LOT
OPEN HOLE		3333.0	8 1/2	3333.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
318	1.04			spud mud	
658	1.09			spud mud	
815	1.10			spud mud	
1260	1.45	48.0	14.0	water based	
2116	1.50	51.0	12.0	water based	
2334	1.24	52.0		water based	
3022	1.23	54.0	11.0	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]
12 Formation pressure (Formasjonstrykk)	pdf	0.29

