



General information

Wellbore name	7120/7-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	BARENTS SEA
Field	SNØHVIT
Discovery	7120/7-1 (Askeladd Vest)
Well name	7120/7-1
Seismic location	513 - 122 SP 826
Production licence	077
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	341-L
Drilling facility	NORDRAUG
Drilling days	70
Entered date	31.07.1982
Completed date	08.10.1982
Release date	08.10.1984
Publication date	11.02.2005
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS
Discovery wellbore	YES
1st level with HC, age	JURASSIC
1st level with HC, formation	STØ FM
Kelly bushing elevation [m]	25.0
Water depth [m]	233.5
Total depth (MD) [m RKB]	2839.0
Final vertical depth (TVD) [m RKB]	2839.0
Maximum inclination [°]	1.75
Bottom hole temperature [°C]	102
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	TUBÅEN FM
Geodetic datum	ED50
NS degrees	71° 18' 36.29" N
EW degrees	20° 11' 22.21" E
NS UTM [m]	7912388.54
EW UTM [m]	471011.63



UTM zone	34
NPDID wellbore	85

Wellbore history

General

Well 7120/7-1 is located on the Ringvassøy-Loppa Fault Complex, in the Snøhvit Field area. It was drilled to test possible hydrocarbon accumulations in sandstones of Middle to Early Jurassic age in the Alpha structure.

Operations and results

Well 7120/7-1 was spudded with the semi-submersible installation Neptuno Nordraug on 31 July 1982 and drilled to TD at 2839 m in Late Triassic sediments of the Tubåen Formation. The 26" section was first pilot-drilled with a 12 1/4" bit to 752 m. Logging of the pilot hole confirmed a gas bearing sandstone from 375 to 392 m and it was decided to set the 20" casing above the sand and then set the 13-3/8" casing around the planned 20" casing shoe depth. Some gas problems delayed plug-back operations, but otherwise operations went smoothly, and the well was abandoned 4 days ahead of schedule. The well was drilled with seawater/gel down to 865 m, with gypsum/polymer mud from 865 m to 1917 m, and with gel/lignosulphonate mud from 1917 m to TD.

Hydrocarbon accumulations were discovered in the target sandstone sequence (Stø Formation) from 2408 m to 2473 m. The sandstones showed good to excellent reservoir properties. Weak shows were recorded in claystones in the interval from 1941 m to 2172 m and sporadically in the lower part of the Hekkingen Formation. Shows were recorded in sandstones throughout the reservoir and down to 2620 m. Sporadic shows were recorded from this depth down to TD. Organic geochemical analyses show an excellent source rock with high TOC (3 % to almost 9 %) with type II/ III kerogen in the lower part of the Hekkingen Formation, from 2274 m to its base. Source potential for gas and condensate was seen in the Cretaceous Kolje Formation from 1995 m to 2205 m and in the Early Jurassic Tubåen Formation from 2651 m to 2799 m. The well is immature down to ca 2000 m (%Ro ca 0.5) and at peak oil window maturity at TD (%Ro ca 0.8). In contrast to the weak shows recorded on rig the post-well organic geochemical analyses proved strong shows throughout the Late Jurassic Fuglen and Hekkingen shales. A show of a waxy oil, different from the Hekkingen shows, was detected at 2510 m to 2525 m. Four cores were cut in sequence in the reservoir zone from 2410 m to 2478.7 m. One segregated RFT sample at 2477.5 m in the transition zone showed water as the only moveable fluid.

The well was permanently abandoned on 8 October 1982 as a gas discovery.

Testing

Two DST's were performed in the Middle Jurassic Stø Formation sandstone. The first test was performed in the water zone, from 2487 m to 2505 m. Due to technical problems formation water was not flowed to the surface before the well died, but analysis of the test string content showed a rather clean formation water. The second test was performed in the gas zone, from 2415m to 2435 m. The test flowed 489000 Sm³ gas and 18.8 m³ condensate through a 48/64" choke. The condensate gravity was 49.91 deg API, the gas gravity was 0.68 (air = 1), and GOR was 26000 Sm³/m³. A planned multi-rate test had to be cancelled due to a gas leak in the riser.



Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
320.00	2840.00

Cuttings available for sampling?	NO
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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	2410.0	2428.8	[m]
2	2428.8	2441.7	[m]
3	2441.8	2460.4	[m]
4	2460.4	2478.7	[m]

Total core sample length [m]	68.7
Cores available for sampling?	YES

Core photos



2410-2415m



2415-2420m



2420-2425m



2425-2428m



2428-2433m



2433-2438m



2438-2441m



2441-2446m



2446-2451m



2451-2456m



2456-2460m



2460-2465m



2465-2470m



2470-2475m



2475-2478m

**Palynological slides at the Norwegian Offshore Directorate**

Sample depth	Depth unit	Sample type	Laboratory
520.0	[m]	DC	PAS
625.0	[m]	DC	PAS
655.0	[m]	DC	PAS
670.0	[m]	DC	PAS
720.0	[m]	DC	PAS
735.0	[m]	DC	PAS
765.0	[m]	DC	PAS
780.0	[m]	DC	PAS
795.0	[m]	DC	PAS
810.0	[m]	DC	PAS
840.0	[m]	DC	PAS
885.0	[m]	DC	PAS
900.0	[m]	DC	OD
908.0	[m]	DC	PAS
910.0	[m]	DC	OD
920.0	[m]	DC	OD
930.0	[m]	DC	OD
940.0	[m]	DC	OD
945.0	[m]	DC	
950.0	[m]	DC	OD
960.0	[m]	DC	OD
970.0	[m]	DC	OD
980.0	[m]	DC	
980.0	[m]	DC	OD
990.0	[m]	DC	OD
1000.0	[m]	DC	OD
1010.0	[m]	DC	OD
1010.0	[m]	DC	
1020.0	[m]	DC	OD
1030.0	[m]	DC	OD
1040.0	[m]	DC	OD
1040.0	[m]	DC	
1050.0	[m]	DC	OD
1060.0	[m]	DC	OD
1065.0	[m]	DC	



1070.0 [m]	DC	OD
1080.0 [m]	DC	OD
1090.0 [m]	DC	OD
1100.0 [m]	DC	OD
1100.0 [m]	DC	
1110.0 [m]	DC	OD
1120.0 [m]	DC	OD
1123.0 [m]	SWC	PAS
1130.0 [m]	DC	OD
1135.0 [m]	DC	
1151.0 [m]	SWC	PAS
1165.0 [m]	DC	
1180.0 [m]	DC	PAS
1195.0 [m]	SWC	PAS
1195.0 [m]	DC	
1220.0 [m]	DC	
1250.0 [m]	DC	
1252.0 [m]	SWC	PAS
1260.0 [m]	DC	OD
1270.0 [m]	DC	OD
1280.0 [m]	DC	OD
1280.0 [m]	DC	
1290.0 [m]	DC	OD
1300.0 [m]	DC	OD
1310.0 [m]	DC	OD
1315.0 [m]	DC	
1320.0 [m]	DC	OD
1330.0 [m]	DC	OD
1340.0 [m]	DC	OD
1345.0 [m]	DC	
1350.0 [m]	DC	OD
1360.0 [m]	DC	OD
1365.0 [m]	DC	
1370.0 [m]	DC	OD
1380.0 [m]	DC	OD
1390.0 [m]	DC	OD
1395.0 [m]	DC	
1397.0 [m]	SWC	PAS
1425.0 [m]	DC	
1460.0 [m]	DC	



1487.0 [m]	SWC	PAS
1490.0 [m]	DC	
1495.0 [m]	DC	PAS
1500.0 [m]	DC	OD
1503.0 [m]	DC	OD
1509.0 [m]	DC	OD
1518.0 [m]	DC	
1524.0 [m]	DC	OD
1545.0 [m]	DC	OD
1551.0 [m]	DC	
1566.0 [m]	DC	OD
1584.0 [m]	DC	
1587.0 [m]	DC	OD
1593.0 [m]	DC	
1608.0 [m]	DC	OD
1611.0 [m]	DC	
1626.0 [m]	DC	
1629.0 [m]	DC	OD
1641.0 [m]	DC	
1650.0 [m]	DC	OD
1659.0 [m]	DC	
1671.0 [m]	DC	
1671.0 [m]	DC	OD
1686.0 [m]	DC	
1698.0 [m]	DC	OD
1701.0 [m]	DC	
1713.0 [m]	DC	
1719.0 [m]	DC	OD
1721.0 [m]	SWC	PAS
1731.0 [m]	DC	
1735.0 [m]	SWC	PAS
1740.0 [m]	DC	
1752.0 [m]	DC	
1770.0 [m]	DC	
1779.0 [m]	DC	
1782.0 [m]	DC	
1791.0 [m]	DC	
1797.0 [m]	DC	
1803.0 [m]	DC	
1809.0 [m]	DC	



1821.0 [m]	DC	
1830.0 [m]	DC	
1839.0 [m]	DC	PAS
1839.0 [m]	DC	
1854.0 [m]	DC	PAS
1863.0 [m]	DC	
1869.0 [m]	DC	PAS
1893.0 [m]	DC	
1899.0 [m]	DC	PAS
1914.0 [m]	DC	PAS
1923.0 [m]	DC	
1929.0 [m]	DC	PAS
1950.0 [m]	SWC	PAS
1956.0 [m]	DC	
1959.0 [m]	DC	PAS
1986.0 [m]	DC	
1997.0 [m]	SWC	PAS
2016.0 [m]	DC	
2019.0 [m]	DC	PAS
2034.0 [m]	DC	PAS
2046.0 [m]	DC	
2051.0 [m]	SWC	PAS
2064.0 [m]	DC	PAS
2076.0 [m]	DC	
2079.0 [m]	DC	PAS
2095.0 [m]	SWC	PAS
2106.0 [m]	DC	
2109.0 [m]	DC	PAS
2124.0 [m]	DC	PAS
2136.0 [m]	DC	
2139.0 [m]	DC	PAS
2163.0 [m]	SWC	PAS
2166.0 [m]	DC	
2180.0 [m]	SWC	PAS
2196.0 [m]	SWC	PAS
2196.0 [m]	DC	
2226.0 [m]	DC	
2229.0 [m]	DC	PAS
2254.0 [m]	SWC	PAS
2256.0 [m]	DC	



2274.0 [m]	DC	PAS
2286.0 [m]	DC	
2289.0 [m]	DC	PAS
2312.5 [m]	SWC	PAS
2316.0 [m]	DC	
2319.0 [m]	DC	PAS
2334.0 [m]	DC	PAS
2349.0 [m]	DC	
2355.0 [m]	SWC	PAS
2364.0 [m]	DC	PAS
2379.0 [m]	DC	PAS
2379.0 [m]	DC	
2385.0 [m]	DC	PAS
2394.0 [m]	DC	PAS
2400.0 [m]	DC	PAS
2403.0 [m]	DC	PAS
2409.0 [m]	DC	
2409.0 [m]	DC	
2410.4 [m]	C	PAS
2426.2 [m]	C	PAS
2434.1 [m]	C	PAS
2442.9 [m]	C	PAS
2450.0 [m]	C	PAS
2458.9 [m]	C	PAS
2468.4 [m]	C	PAS
2544.0 [m]	DC	PAS
2574.0 [m]	DC	PAS
2589.0 [m]	DC	PAS
2604.0 [m]	DC	PAS
2619.0 [m]	DC	PAS
2634.0 [m]	DC	PAS
2664.0 [m]	DC	PAS
2679.0 [m]	DC	PAS
2694.0 [m]	DC	PAS
2704.0 [m]	SWC	PAS
2724.0 [m]	DC	PAS
2735.5 [m]	SWC	PAS
2768.5 [m]	SWC	PAS
2799.0 [m]	DC	PAS
2819.0 [m]	SWC	PAS



2829.0	[m]	DC	PAS
2840.0	[m]	SWC	PAS

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	TEST2	2415.00	2435.00		29.09.1982 - 14:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
258	NORDLAND GP
645	SOTBAKKEN GP
645	TORSK FM
992	NYGRUNNEN GP
992	KVEITE FM
1170	ADVENTDALEN GP
1170	KOLMULE FM
1746	KOLJE FM
2248	HEKKINGEN FM
2390	FUGLEN FM
2408	KAPP TOSCANA GP
2408	STØ FM
2522	NORDMELA FM
2650	TUBÅEN FM

Composite logs

Document name	Document format	Document size [MB]
85	pdf	0.48

Geochemical information





Document name	Document format	Document size [MB]
85_1	pdf	1.19
85_2	pdf	1.09
85_3	pdf	0.26
85_4	pdf	6.61
85_5	pdf	2.08

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

Document name	Document format	Document size [MB]
85_01 WDSS General Information	pdf	0.16
85_02 WDSS completion log	pdf	0.20

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

Document name	Document format	Document size [MB]
85_01 Completion Report	pdf	11.91
85_02 Completion log	pdf	1.74

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2487	2505	12.0
2.0	2415	2435	19.0

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0			26.700	92
2.0	10.000	14.600	19.000	88

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0					
2.0	19	489000	0.780	0.680	26010





Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL	525	1904
CBL VDL CCL	2394	2840
CBL VDL GR	257	849
CST	908	1907
CST	1950	2391
CST	2394	2840
DLL CNL GR	2400	2840
HDT	1903	2837
ISF MSFL GR	1904	2492
ISF SONIC GR	752	1915
ISF SONIC GR	2400	2840
ISF SONIC MSFL GR	318	750
LDT CNL GR	1917	2493
LDT CNL NGT	2400	2840
LDT GR	318	1916
RFT	2409	2830
VELOCITY	340	2839

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	319.0	36	319.0	0.00	LOT
SURF.COND.	20	365.5	26	370.0	1.15	LOT
INTERM.	13 3/8	849.0	17 1/2	865.0	1.48	LOT
INTERM.	9 5/8	1904.0	12 1/4	1917.0	1.71	LOT
LINER	7	2839.0	8 1/2	2839.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
870	1.15	40.0	22.0	water based	
1650	1.16	54.0	18.0	water based	



1920	1.22	53.0	15.0	water based	
2341	1.30	54.0	14.0	water based	
2780	1.36	53.0	13.0	water based	
2839	1.36	55.0	12.0	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]
85 Formation pressure (Formasjonstrykk)	pdf	0.27

