



General information

Wellbore name	7220/6-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	BARENTS SEA
Well name	7220/6-1
Seismic location	NH0352-inline 8352 & x-line 5106
Production licence	225
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	1088-L
Drilling facility	EIRIK RAUDE
Drilling days	69
Entered date	20.01.2005
Completed date	29.03.2005
Release date	29.03.2007
Publication date	17.09.2007
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL SHOWS
Discovery wellbore	NO
Kelly bushing elevation [m]	25.0
Water depth [m]	368.0
Total depth (MD) [m RKB]	1540.0
Final vertical depth (TVD) [m RKB]	1540.0
Maximum inclination [°]	1.4
Bottom hole temperature [°C]	46
Oldest penetrated age	PRE-DEVONIAN
Oldest penetrated formation	BASEMENT
Geodetic datum	ED50
NS degrees	72° 33' 12.56" N
EW degrees	20° 59' 26.86" E
NS UTM [m]	8060886.89
EW UTM [m]	700186.92
UTM zone	33
NPDID wellbore	5039



Wellbore history

General

Well 7220/6-1 is located on the Loppa High in the Barents Sea. The primary objective was to test reservoir properties and moveable hydrocarbons in the Permian and Carboniferous carbonates and mixed carbonates and clastics of the Gipsdalen Group (A3 prospect). Secondary objective was to evaluate the Triassic (Carnian) interval (A1 Lead), a high-risk oil leg down-flank from a major gas anomaly. The gas anomaly would not be penetrated by the well.

Operations and results

Wildcat well 7220/6-1 was spudded with the semi-submersible installation on 20 January 2005 and drilled to TD at 1540 m in pre-Carboniferous basement rock. The well was drilled with seawater and hi-vis pills down to 480 m, with Glydril mud from 480 m to 1130 m, with a water based bentonite mud (Drilplex) from 1130 m to 1428 m, and with Drilplex treated with Glydril from 1428 m to TD.

The main result of well 7220/6-1 was the confirmation of the prognosed reservoir levels and the source/migration concept. The actual depths within the Triassic and Palaeozoic sections were encountered somewhat shallower than the prognosis. None of the target formations contained economical amounts of hydrocarbons. Even though the well did not prove commercial hydrocarbons, residual hydrocarbons and good oil shows were obtained in carbonates of the Gipsdalen Group, Ørn Formation from 1138 m and down to 1430 m. The gross reservoir thickness and basic lithology were as prognosed, whereas the fracture density was less than expected. Some intervals in the Paleozoic section were indicated by the logs to be source rocks (high gamma ray readings). These were analysed geochemically and found to be non-source rocks (TOC from 0.27 to 0.69 %). The whole well was thermally immature/very early mature (vitrinite reflection in the range 0.4 - 0.6 %).

Three conventional cores were cut, covering the upper part of the Ørn Formation. The cores showed variable reservoir quality, but contained several zones with good reservoir quality and good oil shows. A total of 50 rotary sidewall cores were recovered from the well section. MDT water samples were taken at 1151.5m, 1184.5 m, 1338 m, and at 1377.1 m. Traces of oil (10 ml) was noted in the sample from 1184.5 m. The oil had, after 3 weeks exposure to atmospheric conditions, a measurable gravity of 29 deg API and was found to be mildly biodegraded.

The well was permanently abandoned on 29 March as a dry well with shows.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
480.00	1537.00

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	1149.0	1166.5	[m]
2	1167.0	1197.5	[m]
3	1197.4	1204.4	[m]

Total core sample length [m]	55.0
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
394	NORDLAND GP
476	KAPP TOSCANA GP
476	SNADD FM
1138	GIPSDALEN GP
1138	ØRN FM
1436	FALK FM
1483	BASEMENT

Composite logs

Document name	Document format	Document size [MB]
5039	pdf	0.21

Geochemical information

Document name	Document format	Document size [MB]
5039_1	pdf	0.39
5039_2	pdf	0.56

Logs





Log type	Log top depth [m]	Log bottom depth [m]
AIT PEX	1123	1537
CMR GR	1123	1536
DSI GR	550	1123
FMI DSI GR	1123	1537
FMI GR	1123	1196
MDT	1139	1192
MDT DP	1150	1481
MSCT	1205	1485
MWD LWD MPR DCP - RES GR	394	1130
MWD LWD OTK - RES GR	1130	1540
PEX	1123	1196
UBI HNGS	1123	1534
VSP	729	1503

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	391.0	36	0.0	0.00	LOT
CONDUCTOR	30	454.0	36	454.0	0.00	LOT
SURF.COND.	20	476.0	26	479.0	1.15	LOT
INTERM.	13 3/8	543.0	17 1/2	546.0	1.39	LOT
INTERM.	9 5/8	1124.0	12 1/4	1130.0	2.05	LOT
OPEN HOLE		1540.0	8 1/2	1540.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
470	1.09	13.0		WATER BASED	
547	1.09	14.0		WATER BASED	
664	1.20	14.0		WATER BASED	
749	1.21	14.0		WATER BASED	
1130	1.21	14.0		WATER BASED	
1197	1.13	14.0		WATER BASED	
1204	1.13	15.0		WATER BASED	
1428	1.13	12.0		WATER BASED	



1540	1.20	11.0		WATER BASED	
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Thin sections at the Norwegian Offshore Directorate

Depth	Unit
1149.70	[m]
1149.95	[m]
1150.50	[m]
1153.25	[m]
1155.95	[m]
1156.60	[m]
1161.40	[m]
1168.80	[m]
1169.90	[m]
1191.55	[m]
1199.90	[m]
2136.75	[m]
1143.45	[m]
1150.95	[m]
1154.80	[m]
1160.70	[m]
1162.45	[m]
1172.82	[m]
1176.24	[m]
1176.52	[m]
1176.87	[m]
1190.36	[m]
1190.50	[m]
1191.92	[m]
1194.95	[m]
1195.87	[m]
1140.00	[m]
1145.00	[m]
1207.00	[m]
1210.00	[m]
1215.00	[m]
1220.00	[m]
1225.00	[m]
1230.00	[m]
1235.00	[m]



1240.00	[m]
1245.00	[m]
1250.00	[m]
1255.00	[m]
1260.00	[m]
1265.00	[m]
1270.00	[m]
1275.00	[m]
1280.00	[m]
1285.00	[m]
1290.00	[m]
1295.00	[m]
1300.00	[m]
1305.00	[m]
1310.00	[m]
1315.00	[m]
1320.00	[m]
1325.00	[m]
1330.00	[m]
1335.00	[m]
1340.00	[m]
1345.00	[m]
1350.00	[m]
1355.00	[m]
1360.00	[m]
1365.00	[m]
1370.00	[m]
1375.00	[m]
1380.00	[m]
1385.00	[m]
1390.00	[m]
1397.00	[m]
1400.00	[m]
1405.00	[m]
1412.00	[m]
1415.00	[m]
1420.00	[m]
1425.00	[m]
1427.00	[m]
1435.00	[m]



1440.00	[m]
1445.00	[m]
1450.00	[m]
1455.00	[m]
1460.00	[m]
1465.00	[m]
1470.00	[m]
1477.00	[m]
1480.00	[m]
1482.00	[m]
1155.86	[m]
1160.82	[m]
1169.76	[m]
1170.95	[m]
1179.75	[m]
1185.82	[m]
1183.72	[m]
1196.24	[m]
1202.45	[m]

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]
5039 Formation pressure (Formasjonstrykk)	pdf	0.21

