

**General information**

Wellbore name	7228/7-1 S
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	BARENTS SEA
Well name	7228/7-1
Seismic location	3D ST 9403- INLINE 1378 & CROSSLINE 1557
Production licence	202
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	989-L
Drilling facility	TRANSOCEAN ARCTIC
Drilling days	35
Entered date	05.12.2000
Completed date	08.01.2001
Plugged date	08.01.2001
Release date	08.01.2003
Publication date	11.02.2003
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	24.0
Water depth [m]	288.0
Total depth (MD) [m RKB]	2087.0
Final vertical depth (TVD) [m RKB]	1987.0
Maximum inclination [°]	30.1
Bottom hole temperature [°C]	60
Oldest penetrated age	EARLY PERMIAN
Oldest penetrated formation	UNDEFINED GP
Geodetic datum	ED50
NS degrees	72° 15' 28.9" N
EW degrees	28° 8' 59.7" E
NS UTM [m]	8018306.53
EW UTM [m]	539111.27
UTM zone	35
NPDID wellbore	3015



Wellbore history

General

Well 7228/7-1S is situated in the Nordkapp basin. The Nordkapp basin is the most pronounced structural element east of Loppa High, with a basinal-axis oriented NE-SW. From top Cretaceous and down to TD of the well the sediments are steeply dipping due to salt diapirism, with the salt diapir located SE of the surface location. The main objective of well 7228/7-1S was to test the hydrocarbon potential of the Upper Triassic Snadd Formation sandstones. Secondary objectives were to test the hydrocarbon potential in Early to Middle Jurassic sandstones, the Stø, Nordmela and Tubåen Formations, and the Middle Triassic Kobbe Formation sandstones. The well path is deviated and designed to penetrate below the salt diapir.

Operations and results

Wildcat well was spudded on 5 December 2000 with the semi-submersible installation "Transocean Arctic" and drilled to a TD of 2087 m in Early Permian sediments. No shallow gas was expected, but since this was a new area a 9 7/8" pilot hole was drilled. No shallow gas was observed by the ROV. Tracks 7228/7-1 S and 7228/7-1 S T2 were both finished in the Hekkingen Formation due to hole problems in the 17 1/2" section. The 7228/7-1 S track was drilled with sea water and hi-vis bentonite pills down to 372 m, with sea water / hi-vis pills / polymer-treated bentonite mud from 372 m to 507 m, with NaCl / Polymer from 507 m to 709 m, and with sea water from 709 m to 1362 m. The 7228/7-1 S T2 track was kicked off 7228/7-1 S at 1332 m and drilled to 1348 m with a NaCl / sea water / polymer / glycol system. Track 7228/7-1 S T3 was kicked off from below the 20" casing shoe in 7228/7-1 S and drilled with "Glydril" mud (KCl / Polymer / glycol) from 530 m to TD. The observed formation tops were encountered shallower than prognosed, outside the uncertainty range. The deviation from prognosed depths increased with depth, from 79.0 m for the Cretaceous Knurr Formation to 229.5 m for the Triassic Snadd Formation. The Fuglen Formation was encountered below the Hekkingen Formation. It was so thin (12.5 m) that it was below the seismic resolution. Several good reservoir zones were penetrated in the Jurassic section, the Stø Formation, the Nordmela Formation and the Tubåen Formation. At 1712 m the well drilled unexpectedly into a Permian block rather than the target Snadd Formation sandstone. One core was cut in the Stø and Nordmela Formations. No MDT sampling was performed in the well. The Jurassic reservoirs were water wet. This was verified from cuttings and MWD logs. A weak hydrocarbon odour was recorded from the core in the Stø Formation, but only dead, tarry oil was seen, and laboratory studies of the core verified a water-wet formation. Total gas readings increased gradually from approximately 0.1% below the 20" casing shoe to nearly 1 % in the interval between 850 to 950 m. Further down to 1310 m the gas level gradually dropped to approximately 0.2%. From there on gas level increased to between 1-2 %. From a few metres above top Hekkingen Formation and down to TD of the 17 1/2" section, significant amounts of heavier components (C2 - C5) were recorded by the gas chromatograph. Also in the interval between 810 to 1010 m minor amounts of gas heavier than C2 were recorded. No cut fluorescence was seen in the Hekkingen claystones (with Isopropanol as cutting agent). In the 8 1/2" section, including the primary target Snadd Formation, no good visual shows were seen and gas readings were generally low. When "hot shot" dating confirmed the unexpected Permian sediments, the well was plugged back to the 13 3/8" shoe and permanently abandoned as a dry well on 8 January 2001.

Testing

No drill stem test was performed.

**Cuttings at the Norwegian Offshore Directorate**

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1120.00	1347.00

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	1367.0	1394.9	[m]

Total core sample length [m]	27.9
Cores available for sampling?	YES

Core photos

1367-1372m



1372-1377m



1377-1382m



1382-1387m



1387-1392m



1392-1395m

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
311	NORDLAND GP
334	ADVENTDALEN GP



334	KOLMULE FM
1300	KNURR FM
1314	HEKKINGEN FM
1348	FUGLEN FM
1362	KAPP TOSCANA GP
1362	STØ FM
1378	NORDMELA FM
1397	TUBÅEN FM
1480	FRUHOLMEN FM
1598	SNADD FM
1712	UNDEFINED GP

Composite logs

Document name	Document format	Document size [MB]
3015	pdf	0.14

Geochemical information

Document name	Document format	Document size [MB]
3015 1	pdf	1.83
3015 2	pdf	1.82
3015 3	pdf	2.53
3015 4	pdf	6.02

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

Document name	Document format	Document size [MB]
3015 7228 7 1 S COMPLETION REPORT	.PDF	58.84

Logs

Log type	Log top depth [m]	Log bottom depth [m]
MWD AUTOTRACK+MAP	1367	2087





MWD-MPR	372	1367
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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	372.0	36	375.0	0.00	LOT
INTERM.	20	502.0	26	510.0	1.62	LOT
INTERM.	13 3/8	1323.0	17 1/2	1325.0	1.73	LOT
OPEN HOLE		2087.0	8 1/2	2087.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
372	1.03	14.0		SEAWATER/PAC	
505	1.20	16.0		SEAWATER/PAC	
507	1.20	16.0		SEAWATER/PAC	
586	1.20	20.0		BRINE	
893	1.39	15.0		GLYDRILL	
1041	1.39	25.0		GLYDRILL	
1158	1.39	24.0		GLYDRILL	
1163	1.40	24.0		GLYDRILL	
1278	1.30	13.0		BRINE	
1280	1.35	22.0		BRINE	
1333	1.45	25.0		GLYDRILL	
1348	1.37	25.0		BRINE	
1348	1.35	21.0		BRINE	
1367	1.35	19.0		GLYDRILL	
1424	1.35	19.0		GLYDRILL	
1618	1.35	19.0		GLYDRILL	
1822	1.35	19.0		GLYDRILL	
2055	1.35	21.0		GLYDRILL	
2087	1.35	21.0		GLYDRILL	