



Generell informasjon

Brønnbane navn	7220/5-1
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	BARENTS SEA
Felt	JOHAN CASTBERG
Funn	7220/8-1 Johan Castberg
Brønn navn	7220/5-1
Seismisk lokalisering	3D survey WG08STR10-inline 1514 & crossline 3698
Utvinningstillatelse	532
Boreoperatør	Statoil Petroleum AS
Boretillatelse	1393-L
Boreinnretning	TRANSOCEAN BARENTS
Boredager	58
Borestart	27.01.2012
Boreslutt	24.03.2012
Frigitt dato	24.03.2014
Publiseringsdato	24.03.2014
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	STØ FM
Avstand, boredekk - midlere havflate [m]	40.0
Vanndybde ved midlere havflate [m]	388.0
Totalt målt dybde (MD) [m RKB]	1740.0
Totalt vertikalt dybde (TVD) [m RKB]	1740.0
Maks inklinasjon [°]	4.46
Temperatur ved bunn av brønnbanen [°C]	52
Eldste penetrerte alder	LATE TRIASSIC
Eldste penetrerte formasjon	FRUHOLMEN FM



Geodetisk datum	ED50
NS grader	72° 31' 0.67" N
ØV grader	20° 20' 29.15" E
NS UTM [m]	8054765.92
ØV UTM [m]	678905.94
UTM sone	33
NPDID for brønnbanen	6775

Brønnhistorie

**General**

Well 7220/5-1 was drilled to appraise the 7220/8-1 Skrugard Discovery in the Bjarmøyrenna Fault complex west of the Loppa High in the Barents Sea. The Skrugard structure is divided into three segments by erosion features, making saddle points that separate the three gas-oil contacts. The discovery well 7220/8-1 is located in the southern segment, while the appraisal well 7220/5-1 is located in the middle segment. The appraisal well is located approximately 3 km to the North of the Skrugard discovery well. The main objectives of well 7220/5-1 were to prove gas and oil volumes in the Skrugard middle segment and communication between the middle and southern segments. This implied proving the exact depths of the gas-oil-contact and oil-water-contact and collecting fluid sampling from the reservoir. Another objective was to perform an extended leak-off test or similar in the cap seal and in the reservoir and to core and analyse the cap seal and reservoir.

Operations and results

Prior to the main bore a 9 5/8" pilot hole (7220/5-U-1) was drilled down to 875 m MD RT to check for shallow gas. This was approximately the setting depth of the 9 5/8" casing. No shallow gas was observed. Appraisal well 7220/5-1 was spudded with the semi-submersible installation Transocean Barents on 27 January 2012 and drilled to TD at 1740 m in the Late Triassic Fruholmen Formation. No significant problem was encountered in the operations. The well was drilled with seawater and hi-vis pills down to 898 m and with KCl/Polymer/Glycol mud from 898 m to TD.

The well penetrated Tertiary and Cretaceous Claystones and Sandstones, as well as Late Jurassic Claystones above the Reservoir. Top reservoir, Stø Formation sandstone, was encountered at 1337 m. In the Reservoir, the well penetrated Sandstones of Jurassic age within the Stø, Nordmela and Tubåen Formations, and Triassic age sandstones within the Fruholmen Formation. A 28 m thick gas column and a 47 m thick oil column were proven in the primary target of the Stø Formation. Results from the well indicate that two flat-spots seen on seismic represent the gas-oil contact (GOC) at 1365 m and the oil-water contact (OWC) at 1412 m. Oil shows continued down to 1419 m. No oil shows were recorded below this depth or above top Stø Formation.

Eight cores were cut in the well. The first was cut from 1175 m to 1183 m in shales of the Kolmule Formation with 86% recovery. This core was preserved in oil. The other 7 cores were cut from 1322 m to 1624 m with very good recovery. They comprise the Fuglen Formation shales, the Fuglen/Stø boundary, the Stø Formation including the contacts, the Nordmela Formation, and the upper 46 m of the Tubåen Formation. MDT fluid samples were taken at 1351.8 m (gas), 1381 m (HC), 1404 m (oil), 1428.1 m (water, and 1611 m (water).

The well was permanently abandoned on 24 March as an oil and gas appraisal well.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
900.00	1740.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
2	1339.0	1349.0	[m]
3	1349.0	1402.2	[m]
4	1402.0	1455.5	[m]
5	1455.0	1489.8	[m]
6	1491.0	1544.3	[m]
7	1544.0	1569.0	[m]
8	1570.0	1623.2	[m]

Total kjerneprøve lengde [m]	282.9
Kjerner tilgjengelig for prøvetaking?	YES

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
900.0	[m]	DC	FUGRO
910.0	[m]	DC	FUGRO
920.0	[m]	DC	FUGRO
930.0	[m]	DC	FUGRO
940.0	[m]	DC	FUGRO
950.0	[m]	DC	FUGRO
960.0	[m]	DC	FUGRO
970.0	[m]	DC	FUGRO
980.0	[m]	DC	FUGRO
990.0	[m]	DC	FUGRO
1000.0	[m]	DC	FUGRO
1010.0	[m]	DC	FUGRO
1020.0	[m]	DC	FUGRO
1030.0	[m]	DC	FUGRO
1040.0	[m]	DC	FUGRO
1050.0	[m]	DC	FUGRO
1060.0	[m]	DC	FUGRO
1080.0	[m]	DC	FUGRO
1100.0	[m]	DC	FUGRO
1120.0	[m]	DC	FUGRO



1140.0 [m]	DC	FUGRO
1160.0 [m]	DC	FUGRO
1166.0 [m]	DC	FUGRO
1172.0 [m]	DC	FUGRO
1175.0 [m]	C	FUGRO
1178.0 [m]	C	FUGRO
1178.0 [m]	DC	FUGRO
1181.0 [m]	C	FUGRO
1187.9 [m]	SWC	FUGRO
1192.7 [m]	SWC	FUGRO
1195.3 [m]	SWC	FUGRO
1200.5 [m]	SWC	FUGRO
1208.0 [m]	SWC	FUGRO
1215.0 [m]	SWC	FUGRO
1222.5 [m]	SWC	FUGRO
1226.5 [m]	SWC	FUGRO
1232.1 [m]	SWC	FUGRO
1234.5 [m]	SWC	FUGRO
1236.0 [m]	SWC	FUGRO
1237.0 [m]	SWC	FUGRO
1238.8 [m]	SWC	FUGRO
1239.8 [m]	SWC	FUGRO
1241.1 [m]	SWC	FUGRO
1243.2 [m]	SWC	FUGRO
1246.0 [m]	SWC	FUGRO
1248.0 [m]	SWC	FUGRO
1248.6 [m]	SWC	FUGRO
1250.6 [m]	SWC	FUGRO
1252.2 [m]	SWC	FUGRO
1253.0 [m]	SWC	FUGRO
1256.1 [m]	SWC	FUGRO
1258.5 [m]	SWC	FUGRO
1259.2 [m]	SWC	FUGRO
1260.4 [m]	SWC	FUGRO
1262.2 [m]	SWC	FUGRO
1263.3 [m]	SWC	FUGRO
1265.4 [m]	SWC	FUGRO
1269.6 [m]	SWC	FUGRO
1272.3 [m]	SWC	FUGRO
1276.6 [m]	SWC	FUGRO



1277.2 [m]	SWC	FUGRO
1280.0 [m]	SWC	FUGRO
1282.3 [m]	SWC	FUGRO
1287.6 [m]	SWC	FUGRO
1293.0 [m]	SWC	FUGRO
1300.0 [m]	SWC	FUGRO
1304.0 [m]	DC	FUGRO
1307.0 [m]	SWC	FUGRO
1308.9 [m]	SWC	FUGRO
1310.5 [m]	SWC	FUGRO
1313.0 [m]	DC	FUGRO
1316.0 [m]	DC	FUGRO
1319.0 [m]	DC	FUGRO
1322.0 [m]	C	FUGRO
1325.0 [m]	C	FUGRO
1328.0 [m]	C	FUGRO
1331.0 [m]	C	FUGRO
1334.0 [m]	C	FUGRO
1337.0 [m]	C	FUGRO
1339.1 [m]	C	FUGRO
1339.5 [m]	C	FUGRO
1342.9 [m]	C	FUGRO
1345.9 [m]	C	FUGRO
1348.7 [m]	C	FUGRO
1350.9 [m]	C	FUGRO
1353.8 [m]	C	FUGRO
1356.9 [m]	C	FUGRO
1358.7 [m]	C	FUGRO
1361.9 [m]	C	FUGRO
1364.9 [m]	C	FUGRO
1367.1 [m]	C	FUGRO
1370.4 [m]	C	FUGRO
1373.2 [m]	C	FUGRO
1376.2 [m]	C	FUGRO
1379.9 [m]	C	FUGRO
1380.2 [m]	C	FUGRO
1384.5 [m]	C	FUGRO
1393.0 [m]	C	FUGRO
1396.5 [m]	C	FUGRO
1401.0 [m]	C	FUGRO



1407.8 [m]	C	FUGRO
1411.5 [m]	C	FUGRO
1415.4 [m]	C	FUGRO
1417.7 [m]	C	FUGRO
1420.7 [m]	C	FUGRO
1423.8 [m]	C	FUGRO
1425.5 [m]	C	FUGRO
1429.6 [m]	C	FUGRO
1432.5 [m]	C	FUGRO
1434.9 [m]	C	FUGRO
1436.8 [m]	C	FUGRO
1440.2 [m]	C	FUGRO
1440.8 [m]	C	FUGRO
1443.7 [m]	C	FUGRO
1444.2 [m]	C	FUGRO
1447.6 [m]	C	FUGRO
1450.8 [m]	C	FUGRO
1453.2 [m]	C	FUGRO
1455.4 [m]	C	FUGRO
1457.8 [m]	C	FUGRO
1460.6 [m]	C	FUGRO
1463.5 [m]	C	FUGRO
1466.5 [m]	C	FUGRO
1470.0 [m]	C	FUGRO
1472.4 [m]	C	FUGRO
1475.7 [m]	C	FUGRO
1478.9 [m]	C	FUGRO
1481.7 [m]	C	FUGRO
1484.6 [m]	C	FUGRO
1487.7 [m]	C	FUGRO
1491.1 [m]	C	FUGRO
1494.0 [m]	C	FUGRO
1497.3 [m]	C	FUGRO
1500.1 [m]	C	FUGRO
1506.7 [m]	C	FUGRO
1512.7 [m]	C	FUGRO
1518.5 [m]	C	FUGRO
1523.5 [m]	C	FUGRO
1529.5 [m]	C	FUGRO
1536.0 [m]	C	FUGRO



1542.0 [m]	C	FUGRO
1545.8 [m]	C	FUGRO
1550.7 [m]	C	FUGRO
1556.7 [m]	C	FUGRO
1562.4 [m]	C	FUGRO
1568.5 [m]	C	FUGRO
1573.8 [m]	C	FUGRO
1576.5 [m]	C	FUGRO
1580.4 [m]	C	FUGRO
1585.0 [m]	C	FUGRO
1590.6 [m]	C	FUGRO
1596.6 [m]	C	FUGRO
1602.6 [m]	C	FUGRO
1608.8 [m]	C	FUGRO
1617.8 [m]	C	FUGRO
1622.8 [m]	C	FUGRO
1628.0 [m]	DC	FUGRO
1634.0 [m]	DC	FUGRO
1640.0 [m]	DC	FUGRO
1646.0 [m]	DC	FUGRO
1652.0 [m]	DC	FUGRO
1658.0 [m]	DC	FUGRO
1664.0 [m]	DC	FUGRO
1670.0 [m]	DC	FUGRO
1676.0 [m]	DC	FUGRO
1682.0 [m]	DC	FUGRO
1688.0 [m]	DC	FUGRO
1694.0 [m]	DC	FUGRO
1700.0 [m]	DC	FUGRO
1706.0 [m]	DC	FUGRO
1712.0 [m]	DC	FUGRO
1718.0 [m]	DC	FUGRO
1724.0 [m]	DC	FUGRO
1730.0 [m]	DC	FUGRO
1736.0 [m]	DC	FUGRO
1740.0 [m]	DC	FUGRO

Oljeprøver i Sökkeldirektoratet



Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
MDT		1404.00	0.00	OIL		YES
MDT		1404.10	0.00	OIL		YES
MDT		0.00	1381.00	OIL		YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
428	NORDLAND GP
478	SOTBAKKEN GP
478	TORSK FM
1035	ADVENTDALEN GP
1035	KOLMULE FM
1238	KNURR FM
1296	HEKKINGEN FM
1312	FUGLEN FM
1337	KAPP TOSCANA GP
1337	STØ FM
1415	NORDMELA FM
1578	TUBÅEN FM
1695	FRUHOLMEN FM

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
FMI GR	872	1158
MWD - ARCVIS6 TELE	1285	1735
MWD - ARCVISION9 TELE	490	898
MWD - GVR ARCVIS6 TELE	1166	1315
MWD - PERI15 TELE VADN6	898	1166
MWD - TELE	428	493
ZAIS MSIP PEX	872	1160
ZAIS MSIP PEX	1050	1739



Foringsrør og formasjonsstyrketester

Type utforing	Utforing diam. [tommer]	Utforing dybde [m]	Brønnbane diam. [tommer]	Brønnbane dyp [m]	LOT/FIT slam eqv. [g/cm3]	Type formasjonstest
CONDUCTOR	30	490.0	36	493.0	0.00	LOT
PILOT HOLE		878.0	9 7/8	878.0	0.00	LOT
SURF.COND.	13 3/8	893.0	17 1/2	898.0	1.24	LOT
INTERM.	9 5/8	1164.0	12 1/4	1166.0	1.58	LOT
LINER	7	1503.0	8 1/2	1740.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
760	1.17	11.0		Low Sulphate/KCl/Polymer/Glycol	
900	1.12	8.0		KCl/Polymer/Glycol	
1092	1.13	14.0		KCl/Polymer/Glycol	
1166	1.17	15.0		KCl/Polymer/Glycol	
1166	1.16	17.0		KCl/Polymer/Glycol	
1177	1.25	13.0		Low Sulphate/KCl/Polymer/Glycol	
1272	1.17	11.0		Low Sulphate/KCl/Polymer/Glycol	
1361	1.25	13.0		Low Sulphate/KCl/Polymer/Glycol	
1500	1.17	11.0		Low Sulphate/KCl/Polymer/Glycol	
1545	1.25	14.0		Low Sulphate/KCl/Polymer/Glycol	
1740	1.17	11.0		Low Sulphate/KCl/Polymer/Glycol	
1740	1.25	15.0		Low Sulphate/KCl/Polymer/Glycol	



Trykkplott

Porertrykksdataene kommer fra logging i brønnen hvis ingen annen kilde er oppgitt. I noen brønner der trykk ikke er logget, er det brukt informasjon fra formasjonstester eller brønnspark. Trykkdataene er rapportert inn til Oljedirektoratet og videre prosessert og kvalitetssikret av IHS Markit.

Dokument navn	Dokument format	Dokument størrelse [KB]
6775 Formation pressure (Formasjonstrykk)	pdf	0.22

