



Generell informasjon

Brønnbane navn	7220/4-1
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	BARENTS SEA
Funn	7220/4-1 (Kramsnø)
Brønn navn	7220/4-1
Seismisk lokalisering	3D survey WG08STR10 : inline 1324 & xline 4288
Utvinningstillatelse	532
Boreoperatør	Statoil Petroleum AS
Boretillatelse	1494-L
Boreinnretning	WEST HERCULES
Boredager	65
Borestart	22.12.2013
Boreslutt	25.02.2014
Frigitt dato	25.02.2016
Publiseringsdato	25.02.2016
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	GAS
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	STØ FM
2. nivå med hydrokarboner, alder	MIDDLE JURASSIC
2. nivå med hydrokarboner, formasjon	NORDMELA FM
3. nivå med hydrokarboner, alder	TRIASSIC
3. nivå med hydrokarboner, formasjon	SNADD FM
Avstand, boredekk - midlere havflate [m]	31.0
Vanndybde ved midlere havflate [m]	403.0
Totalt målt dybde (MD) [m RKB]	3240.0
Totalt vertikalt dybde (TVD) [m RKB]	3239.0
Maks inklinasjon [°]	4.8



Temperatur ved bunn av brønnbanen [°C]	105
Eldste penetrerte alder	MIDDLE TRIASSIC
Eldste penetrerte formasjon	SNADD FM
Geodetisk datum	ED50
NS grader	72° 35' 19.67" N
ØV grader	20° 14' 5.97" E
NS UTM [m]	8062450.07
ØV UTM [m]	674650.00
UTM sone	33
NPDID for brønnbanen	7307

Brønnhistorie



General

Well 7220/4-1 was drilled to test the Kramsnø prospect in the Johan Castberg area of the Barents Sea. The primary objective was to prove commercial volumes of hydrocarbons in the Stø, Nordmela and Tubåen formations and confirm the GOC and OWC seen on seismics. Secondary objective was to investigate the Snadd Formation and acquire data for exploration of the Triassic play.

Operations and results

Wildcat well 7220/4-1 was spudded with the semi-submersible installation West Hercules on 22 December 2013 and drilled to TD at 3240 m in the Triassic Snadd Formation. No significant problem was encountered in the operations. The well was drilled with Seawater and hi-vis pills down to 744 m, with KCl/polymer/glycol mud from 744 m to 2128 m, and with Low sulphate/KCl/polymer/glycol from 2128 m to TD.

A potential source rock section is proven by sidewall cores and elevated Gamma Ray in the interval 2220 to 2228 m within the Knurr Formation (Late Barremian). This section has TOC from 2.5 to 4.1% and Rock-Eval Hydrogen Index in the range 270 to 370 mg HC/g TOC. The Hekkingen Formation source rock is not present in the well. In the reservoir, the well penetrated sandstone and siltstone of the Jurassic Stø and Nordmela Formations. MDT pressure gradients show a gas column from top Stø Formation at 2267 m and down to a gas/water contact at 2400 m in the Nordmela Formation. The reservoir quality in Stø, Nordmela and Tubåen formations is deteriorated by extensive quartz cementation. There was no oil leg in the well, but weak oil shows are recorded from 2387 m and downwards in the cored section in Nordmela and Tubåen formations. Further weak oil shows (cut fluorescence) are described on cuttings down to 2503 m in the Tubåen Formation.

Triassic sandstones and claystones were encountered in the Fruholmen and Snadd Formations. Gas was found in two zones in the Snadd Formation: from 3002 m with gas down-to contact at 3047 m and from 3117 with gas down-to contact at 3162 m. The overall reservoir quality in Snadd is poor due to the low net thickness of permeable sandstones.

Three cores with a total recovery of 185.4 m were taken in the Stø, Nordmela and Tubåen formations. The core-log depth shifts are -1.7 m, -2.8 m and - 3.3 m for cores 1, 2, and 3, respectively. MDT fluid samples were taken at 2334.4 m (gas), 2393.6 m (gas), 2417.5 m (water), and 3009 m (gas),

The well was permanently abandoned on 25 February 2014 as a gas discovery.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
755.00	3240.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2274.0	2318.2	[m]
2	2319.0	2389.7	[m]
3	2390.0	2460.6	[m]

Total kjerneprøve lengde [m]	185.5
Kjerner tilgjengelig for prøvetaking?	YES

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
755.0	[m]	DC	ROBERTSO
790.0	[m]	DC	ROBERT
825.0	[m]	DC	ROBERT
860.0	[m]	DC	ROBERT
895.0	[m]	DC	ROBERT
930.0	[m]	DC	ROBERT
960.0	[m]	DC	ROBERT
990.0	[m]	DC	ROBERT
1020.0	[m]	DC	ROBERT
1050.0	[m]	DC	ROBERT
1080.0	[m]	DC	ROBERT
1110.0	[m]	DC	ROBERT
1140.0	[m]	DC	ROBERT
1170.0	[m]	DC	ROBERT
1200.0	[m]	DC	ROBERT
1230.0	[m]	DC	ROBERT
1260.0	[m]	DC	ROBERT
1290.0	[m]	DC	ROBERT
1320.0	[m]	DC	ROBERT
1350.0	[m]	DC	ROBERT
1380.0	[m]	DC	ROBERT
1410.0	[m]	DC	ROBERT
1440.0	[m]	DC	ROBERT
1470.0	[m]	DC	ROBERT
1500.0	[m]	DC	ROBERT
1530.0	[m]	DC	ROBERT



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 14.5.2024 - 01:03

1560.0	[m]	DC	ROBERT
1590.0	[m]	DC	ROBERT
1620.0	[m]	DC	ROBERT
1650.0	[m]	DC	ROBERT
1680.0	[m]	DC	ROBERT
1710.0	[m]	DC	ROBERT
1740.0	[m]	DC	ROBERT
1770.0	[m]	DC	ROBERT
1800.0	[m]	DC	ROBERT
1830.0	[m]	DC	ROBERT
1860.0	[m]	DC	ROBERT
1890.0	[m]	DC	ROBERT
1920.0	[m]	DC	ROBERT
1950.0	[m]	DC	ROBERT
1980.0	[m]	DC	ROBERT
2010.0	[m]	DC	ROBERT
2040.0	[m]	DC	ROBERT
2070.0	[m]	DC	ROBERT
2100.0	[m]	DC	ROBERT
2140.0	[m]	DC	ROBERT
2146.0	[m]	DC	ROBERT
2152.0	[m]	DC	ROBERT
2158.0	[m]	DC	ROBERT
2164.0	[m]	DC	ROBERT
2170.0	[m]	DC	ROBERT
2176.0	[m]	DC	ROBERT
2182.0	[m]	DC	ROBERT
2188.0	[m]	DC	ROBERT
2194.0	[m]	DC	ROBERT
2200.0	[m]	DC	ROBERT
2206.0	[m]	DC	ROBERT
2212.0	[m]	DC	ROBERT
2218.0	[m]	DC	ROBERT
2224.0	[m]	DC	ROBERT
2230.0	[m]	DC	ROBERT
2236.0	[m]	DC	ROBERT
2242.0	[m]	DC	ROBERT
2248.0	[m]	DC	ROBERT
2248.0	[m]	SWC	ROBERT
2254.0	[m]	DC	ROBERT



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 14.5.2024 - 01:03

2260.0	[m]	DC	ROBERT
2260.0	[m]	SWC	ROBERT
2266.0	[m]	DC	ROBERT
2274.0	[m]	DC	ROBERT
2274.2	[m]	C	ROBERT
2275.1	[m]	C	ROBERT
2282.6	[m]	C	ROBERT
2291.8	[m]	C	ROBERT
2297.7	[m]	C	ROBERT
2302.3	[m]	C	ROBERT
2304.6	[m]	C	ROBERT
2308.3	[m]	C	ROBERT
2314.5	[m]	C	ROBERT
2319.3	[m]	C	ROBERT
2325.5	[m]	C	ROBERT
2331.1	[m]	C	ROBERT
2335.2	[m]	C	ROBERT
2338.5	[m]	C	ROBERT
2343.9	[m]	C	ROBERT
2348.9	[m]	C	ROBERT
2353.7	[m]	C	ROBERT
2358.2	[m]	C	ROBERT
2363.6	[m]	C	ROBERT
2369.8	[m]	C	ROBERT
2374.6	[m]	C	ROBERT
2379.5	[m]	C	ROBERT
2383.6	[m]	C	ROBERT
2388.8	[m]	C	ROBERT
2392.8	[m]	C	ROBERT
2398.8	[m]	C	ROBERT
2400.8	[m]	C	ROBERT
2405.6	[m]	C	ROBERT
2407.8	[m]	C	ROBERT
2410.7	[m]	C	ROBERT
2413.9	[m]	C	ROBERT
2417.5	[m]	C	ROBERT
2421.5	[m]	C	ROBERT
2426.4	[m]	C	ROBERT
2434.8	[m]	C	ROBERT
2439.4	[m]	C	ROBERT



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 14.5.2024 - 01:03

2443.7 [m]	C	ROBERT
2448.9 [m]	C	ROBERT
2453.2 [m]	C	ROBERT
2457.9 [m]	C	ROBERT
2460.1 [m]	C	ROBERT
2464.0 [m]	DC	ROBERT
2470.0 [m]	DC	ROBERT
2476.0 [m]	DC	ROBERT
2482.0 [m]	DC	ROBERT
2488.0 [m]	DC	ROBERT
2494.0 [m]	DC	ROBERT
2500.0 [m]	DC	ROBERT
2515.0 [m]	DC	ROBERT
2516.0 [m]	DC	ROBERT
2533.0 [m]	DC	ROBERT
2548.0 [m]	DC	ROBERT
2563.0 [m]	DC	ROBERT
2566.0 [m]	SWC	ROBERT
2581.0 [m]	DC	ROBERT
2596.0 [m]	DC	ROBERT
2611.0 [m]	DC	ROBERT
2629.0 [m]	DC	ROBERT
2644.0 [m]	DC	ROBERT
2659.0 [m]	DC	ROBERT
2677.0 [m]	DC	ROBERT
2692.0 [m]	DC	ROBERT
2707.0 [m]	DC	ROBERT
2725.0 [m]	DC	ROBERT
2740.0 [m]	DC	ROBERT
2755.0 [m]	DC	ROBERT
2773.0 [m]	DC	ROBERT
2788.0 [m]	DC	ROBERT
2803.0 [m]	DC	ROBERT
2821.0 [m]	DC	ROBERT
2836.0 [m]	DC	ROBERT
2838.0 [m]	SWC	ROBERT
2851.0 [m]	DC	ROBERT
2869.0 [m]	DC	ROBERT
2884.0 [m]	DC	ROBERT
2899.0 [m]	DC	ROBERT



2917.0 [m]	DC	ROBERT
2932.0 [m]	DC	ROBERT
2934.0 [m]	SWC	ROBERT
2947.0 [m]	DC	ROBERT
2965.0 [m]	DC	ROBERT
2980.0 [m]	DC	ROBERT
2980.0 [m]	SWC	ROBERT
2995.0 [m]	DC	ROBERT
3013.0 [m]	DC	ROBERT
3028.0 [m]	DC	ROBERT
3043.0 [m]	DC	ROBERT
3100.0 [m]	SWC	ROBERT
3109.0 [m]	DC	ROBERT
3124.0 [m]	DC	ROBERT
3139.0 [m]	DC	ROBERT
3157.0 [m]	DC	ROBERT
3172.0 [m]	DC	ROBERT
3185.0 [m]	SWC	ROBERT
3187.0 [m]	DC	ROBERT
3205.0 [m]	DC	ROBERT
3226.0 [m]	DC	ROBERT
3240.0 [m]	DC	ROBERT

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
434	NORDLAND GP
434	NAUST FM
490	SOTBAKKEN GP
490	TORSK FM
1294	ADVENTDALEN GP
1294	KOLMULE FM
2171	KOLJE FM
2185	KNURR FM
2267	KAPP TOSCANA GP
2267	STØ FM
2293	NORDMELA FM
2405	TUBÅEN FM
2513	FRUHOLMEN FM



2513	KRABBE MBR
2676	REKE MBR
2875	AKKAR MBR
2990	SNADD FM

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CMR HRLA PEX ECS HNGS	2128	3236
FMI MSIP GR	431	1343
FMI MSIP GR	1635	3263
MDT GR	2268	3204
MDT GR	2334	3204
MSCT GR	2160	3050
MSCT GR	2500	3050
MSCT GR	3050	3258
MWD-PDX5 RAB6 ARC6 TELE675	1355	2274
MWD-TELE ARCVRES	434	1355
USIT CBL	0	0
VSP	1270	3160
ZAIT HRLA PEX EXCS GR	734	1344

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	36	484.0	42	488.0	0.00	
SURF.COND.	20	734.5	26	744.0	1.18	FIT
INTERM.	13 3/8	1338.7	17 1/2	1355.0	1.40	LOT
LINER	9 5/8	2127.0	12 1/4	2128.0	1.33	LOT
OPEN HOLE		3240.0	8 1/2	3240.0	0.00	

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
488	1.03	12.0		Spud Mud	
744	1.12	14.0		KCl/Polymer/Glycol	



748	1.12	14.0		KCl/Polymer/Glycol	
1220	1.12	19.0		KCl/Polymer/Glycol	
1355	1.12	15.0		KCl/Polymer/Glycol	
1920	1.23	17.0		Low Sulphate/KCl/Poly mer/Glycol	
1920	1.28	24.0		Low Sulphate/KCl/Poly mer/Glycol	
1972	1.12	29.0		KCl/Polymer/Glycol	
2128	1.12	27.0		KCl/Polymer/Glycol	
2134	1.22	19.0		KCl/Polymer/Glycol	
2165	1.22	18.0		Low Sulphate/KCl/Poly mer/Glycol	
2395	1.22	20.0		Low Sulphate/KCl/Poly mer/Glycol	
3240	1.28	24.0		Low Sulphate/KCl/Poly mer/Glycol	
8000	1.12	19.0		KCl/Polymer/Glycol	