



Generell informasjon

Brønnbane navn	7225/3-2
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	BARENTS SEA
Funn	7225/3-1 (Norvarg)
Brønn navn	7225/3-2
Seismisk lokalisering	inline 1627 & crossline 2183
Utvinningstillatelse	535
Boreoperatør	Total E&P Norge AS
Boretillatelse	1444-L
Boreinnretning	LEIV EIRIKSSON
Boredager	100
Borestart	29.04.2013
Boreslutt	07.08.2013
Frigitt dato	07.08.2015
Publiseringsdato	07.08.2015
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	GAS
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	TRIASSIC
1. nivå med hydrokarboner, formasjon.	KOBBE FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	381.0
Totalt målt dybde (MD) [m RKB]	2210.0
Totalt vertikalt dybde (TVD) [m RKB]	2209.0
Maks inklinasjon [°]	3.3
Temperatur ved bunn av brønnbanen [°C]	65
Eldste penetrerte alder	TRIASSIC
Eldste penetrerte formasjon	KLAPPMYSS FM
Geodetisk datum	ED50
NS grader	72° 57' 5.17" N



ØV grader	25° 58' 23.34" E
NS UTM [m]	8095573.09
ØV UTM [m]	466396.98
UTM sone	35
NPDID for brønnbanen	7149

Brønnhistorie

**General**

Well 7225/3-2 was drilled on the Norvarg Dome on the Bjarmeland Platform in the Barents Sea. The objective of the well was to appraise the 7225/3-1 Norvarg gas discovery. Primary target was channel sandstones in the Kobbe Formation. Triassic sandstones within the Carnian section and the Upper Snadd Formation as well as Jurassic sandstones in the Stø Formation were secondary targets.

Operations and results

Appraisal well 7225/3-2 was spudded with the semi-submersible installation Leiv Eiriksson on 29 April 2013 and drilled to TD at 2210 m in the Early Triassic Klappmyss Formation. During drilling operations of the 26" hole section at 500 m the drill string parted. The fish was successfully retrieved. After this, the hole packed off at 525 m and 535 m in the 26" section. Most of the NPT in the well were related to these events. Further operation proceeded without significant problems. The well was drilled with seawater and hi-vis pills down to 554 m, with Glydril water based mud from 554 m to 1073 m, and with a water based mud from 1073 m to TD.

Three main gas-filled reservoir layers were encountered in the Kobbe Formation. Channel A with top at 1590 m had a thickness of 18.7 m, a NTG of 76% and an average porosity and water saturation of 17% and 40% respectively. Channel D with top at 1775 m had a thickness of 33.1 m, a NTG of 51% and an average porosity and water saturation of 13% and 44% respectively. A third sandstone, "Anomaly 2", with top at 1909.6 m had a thickness of 18.3 m, a NTG of 89% and an average porosity and water saturation of 13% and 48% respectively. All three had gas-down-to contacts. The secondary targets were water-wet. Shows (fluorescence and cut) were described on sandstones in the Kobbe Formation between 1550 m and 1950 m.

Four 54 m core barrels were cut in the Kobbe Formation, with very low ROP, from 1553 to 1610 m (two cores) and from 1727 to 1757 m (two cores). While the recovery of last two cores was 100%, the first two gave respectively 86.1 and 76.4% recovery. MDT fluid samples were taken at 1600.7 m (dry gas), 1778.31 m (filtrate + gas), 1788.59 m (filtrate), 1913.01 m (filtrate + gas + oil?), and 1923.64 m (filtrate + gas + oil?).

The well was permanently abandoned on 7 August 2013 as a gas appraisal.

Testing

Two Drill Stem Tests were performed in two channel sandstones in the Kobbe Formation

DST 1 tested 207.33 m of perforations from 1725.05 to 1932.38 m. It produced 28500 Sm³ gas/day through a 40/64" choke. The maximum temperature in the test, measured during the clean-up flow was 54.9 °C.

DST 2 tested 23 m of perforation from 1587.5 to 1610.5 m. It produced 167400 Sm³ gas/day through a 36/64" choke. The maximum temperature in the test, measured at end of build-up after the clean-up flow was 48.6 °C.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
554.00	2205.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sakkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	1553.0	1561.6	[m]
2	1563.0	1598.2	[m]
3	1727.0	1734.5	[m]
4	1734.5	1757.0	[m]

Total kjerneprøve lengde [m]	73.8
Kjerner tilgjengelig for prøvetaking?	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
406	NORDLAND GP
406	NO FORMAL NAME
478	ADVENTDALEN GP
478	KOLMULE FM
639	KNURR FM
674	HEKKINGEN FM
702	FUGLEN FM
729	KAPP TOSCANA GP
729	STØ FM
790	FRUHOLMEN FM
807	SNADD FM
1168	UNDIFFERENTIATED
1517	SASSENDALEN GP
1517	KOBBE FM
2141	KLAPPMYSS FM

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	1725	1932	12.5
2.0	1587	1610	20.6



Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0				
2.0				

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0		23400			
2.0		176200			

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
DP GR	1913	1923
GR MDT	732	1020
GR PPC	554	687
GR PPC MSIP CBL FMI ECS CAL	627	2200
HNGR APS TLD HRLA MCFL SP CMR CA	1072	2211
HNGS GR CAL HRLA MCFL SP MSIP AP	681	1073
LWD - RAB RES ECD GR DI FPWD	1073	2210
LWD - RAB RES GR PWD DI	687	1073
LWD - RES GR PWD DI SEIS	474	687
MDT 3D GR	1096	1290
MDT 3D GR	1554	1781
MSCT GR 40XL SWC	1552	1974
VSP GR	386	2140

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	474.0	36	474.0	0.00	
SURF.COND.	20	547.0	26	554.0	0.00	
INTERM.	13 3/8	681.0	17 1/2	687.0	1.18	
INTERM.	9 5/8	1072.0	12 1/4	1073.0	1.75	



LINER	7	2208.0	8 1/2	2210.0	2.30	
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Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
470	1.37	9.0		KCl/Polymer-Glycol	
475	1.35			Spud mud	
554	1.35			Spud mud	
640	1.37	8.0		KCl/Polymer-Glycol	
687	1.12	7.0		KCl/Polymer-Glycol	
1073	1.36	12.0		KCl/Polymer-Glycol	
1223	1.37	10.0		KCl/Polymer-Glycol	
1554	1.36	12.0		KCl/Polymer-Glycol	
1757	1.36	12.0		KCl/Polymer-Glycol	
2210	1.35			Calcium Chloride	

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]
7149 Formation pressure (Formasjonstrykk)	PDF	0.26

