



Generell informasjon

Brønnbane navn	15/9-15
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	GUNGNE
Funn	15/9-15 Gungne
Brønn navn	15/9-15
Seismisk lokalisering	8122 - 726 SP 147
Utvinningstillatelse	046
Boreoperatør	Den norske stats oljeselskap a.s
Boretillatelse	330-L
Boreinnretning	ROSS RIG (1)
Boredager	66
Borestart	28.05.1982
Boreslutt	01.08.1982
Frigitt dato	01.08.1984
Publiseringsdato	21.05.2015
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	GAS/CONDENSATE
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	TRIASSIC
1. nivå med hydrokarboner, formasjon.	SKAGERRAK FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	83.0
Totalt målt dybde (MD) [m RKB]	3200.0
Totalt vertikalt dybde (TVD) [m RKB]	3199.0
Maks inklinasjon [°]	2
Temperatur ved bunn av brønnbanen [°C]	116
Eldste penetrerte alder	TRIASSIC
Eldste penetrerte formasjon	SKAGERRAK FM
Geodetisk datum	ED50
NS grader	58° 18' 7.45" N



ØV grader	1° 55' 19.67" E
NS UTM [m]	6462994.43
ØV UTM [m]	436823.95
UTM sone	31
NPDID for brønnbanen	74

Brønnhistorie

General

Well 15/9-15 was drilled south of the Sleipner Øst Field in the Viking Graben of the North Sea. The objectives were to test possible hydrocarbon accumulations in Paleocene and Mesozoic sandstones in the 15/9 My structure.

Operations and results

Wildcat well 15/9-15 was spudded with the semi-submersible installation Ross Rig on 28 May 1982 and drilled to TD at 3200 m in the Triassic Skagerrak Formation. During drilling the 12 1/4" section, a significant volume of mud was lost at 2200 m. The thief zone was most probably in the Frigg sand. 3 days were spent locating the zone and pumping LCM pills. Otherwise no significant problem was encountered in the operations, which proceeded with little downtime. The well was drilled with spud mud down to 515 m and with gypsum/lignosulphonate mud from 515 m to TD.

The Paleocene sandstones were missing in this well. The Mesozoic sandstones were encountered at 2806. The upper part consisted of tight Melke Formation sandstones without shows. From 2821 m (top Skagerrak Formation) they were gas bearing down to a true gas/water contact at 2923 m. No oil shows were recorded outside of the hydrocarbon-bearing reservoir in this well.

Four cores were cut across the reservoir from 2805 m in the Heather Formation to 2878.2 m in the Skagerrak Formation. The core-to-log depth shift was 2.8 m for all four cores. RFT fluid samples were taken at 282.5 m (gas, condensate and mud filtrate), 2838.5 m (gas, condensate and mud filtrate), and at 2907 m (gas, condensate and mud filtrate) fluid samples were taken.

The well was permanently abandoned on 1 August 1982 as a gas and condensate discovery.

Testing

Two Drill Stem Tests were performed.

DST 1 tested the interval 2880 m to 2890 m. It produced 298000 Sm³ gas and 155 Sm³ condensate through a 32/64" choke. The GOR was 1922 Sm³/Sm³, the condensate density was 0.760 g/cm³, and the gas gravity was 0.718 with 0.2% CO₂. The maximum temperature was 106.8 °C.

DST 2 tested the interval 2830 m to 2850 m. It produced 293900 Sm³ gas and 124 Sm³ condensate through a 28/64" choke. The GOR was 2478 Sm³/Sm³, the condensate density was 0.757 g/cm³, and the gas gravity was 0.710 with 0.5% CO₂. The maximum temperature was 105.7 °C.

Both Drill Stem Tests included a flow period with a three-step multirate drawdown test. Check the well completion report and well test report for further details, such as flow parameters for other choke sizes.



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
170.00	2769.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerter i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2805.0	2823.4	[m]
2	2823.4	2841.6	[m]
3	2841.6	2859.9	[m]
4	2859.9	2878.2	[m]

Total kjerneprøve lengde [m]	73.2
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



2805-2810m



2810-2815m



2815-2820m



2820-2823m



2820-2923m



2823-2828m



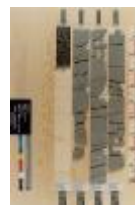
2828-2833m



2833-2838m



2833-2838m



2838-2841m



2838-2841m



2841-2846m



2841-2846m



2846-2851m



2846-2851m



2851-2856m



2851-2856m



2856-2859m



2856-2859m



2859-2864m



2859-2864m



2864-2869m



2864-2869m



2869-2874m



2869-2874m



2874-2878m



2874-2878m

Palynologiske preparater i Sjøkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
2752.5	[m]	SWC	RRI
2768.0	[m]	SWC	RRI
2777.0	[m]	SWC	RRI
2793.0	[m]	SWC	RRI
2818.6	[m]	C	APT
2821.0	[m]	C	APT
2821.8	[m]	C	APT
2822.4	[m]	C	APT
2828.4	[m]	C	APT



2829.4	[m]	C	APT
2830.6	[m]	C	APT
2831.4	[m]	C	APT
2832.0	[m]	C	APT
2832.3	[m]	C	APT
2836.8	[m]	C	APT
2849.2	[m]	C	APT
2849.8	[m]	C	APT
2851.5	[m]	C	APT
2851.7	[m]	C	APT
2853.6	[m]	C	APT
2853.8	[m]	C	APT
2857.7	[m]	C	APT
2862.8	[m]	C	APT
2866.9	[m]	C	APT
2868.7	[m]	C	APT
2872.1	[m]	C	APT
2874.9	[m]	C	APT
2876.5	[m]	C	APT

Oljeprøver i Søkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST	TEST1	2880.00	2890.00		20.07.1982 - 00:00	YES
DST	TEST2	2830.00	2850.00		25.07.1982 - 00:00	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
108	NORDLAND GP
884	UTSIRA FM
1129	HORDALAND GP
2027	FRIGG FM
2208	ROGALAND GP
2208	BALDER FM
2243	SELE FM



2332	LISTA FM
2418	SHETLAND GP
2418	TOR FM
2606	HOD FM
2672	BLODØKS FM
2719	CROMER KNOLL GP
2751	VIKING GP
2751	DRAUPNE FM
2806	HEATHER FM
2821	HEGRE GP
2821	SKAGERRAK FM

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
74 01 WDSS General Information	pdf	0.18
74 02 WDSS completion log	pdf	0.25

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
74 01 Conventional core analysis	pdf	0.39
74 02 Well test report RFT DST 1 and DS T 2	pdf	5.35
74 03 Compositional analysis on samples	pdf	1.04
74 04 PVT Study report	pdf	1.18
74 05 TBP distillation of condensate	pdf	0.59
74 15 9 15 Completion report and log	pdf	19.09
74 15 9 15 COMPLETION LOG	pdf	1.95
74 15 9 15 COMPLETION REPORT	pdf	19.09

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	2880	2890	25.0
2.0	2830	2850	22.0





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	188	467000	0.770	0.736	2551
2.0	202	510000	0.767	0.740	2507

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CBL VDL GR	100	1172
CBL VDL GR	1050	2463
CBL VDL GR	2300	3139
CST	1287	2464
CST	2670	3189
CST	2701	3194
CST	2734	3189
DLL MSFL GR	2800	2950
GEODIP	2800	2950
HDT	2463	3202
ISF BHC GR	172	1191
ISF BHC MSFL GR	1178	3201
LDT CNL GR	1178	2470
LDT GR	498	1191
RFT	2823	3090

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	171.5	36	171.5	0.00	LOT
SURF.COND.	20	498.0	26	515.0	1.65	LOT
INTERM.	13 3/8	1178.0	17 1/2	1192.0	1.68	LOT
INTERM.	9 5/8	2463.0	12 1/4	2478.0	1.87	LOT



LINER	7	3199.0	8 1/2	3200.0	0.00	LOT
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Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
350	1.11			waterbased	
515	1.09			waterbased	
1190	1.13			waterbased	
1920	1.20			waterbased	
2435	1.21			waterbased	
2630	1.40			waterbased	
2680	1.50			waterbased	

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]
74 Formation pressure (Formasjonstrykk)	pdf	0.23

