



Generell informasjon

Brønnbane navn	15/9-20 S
Type	EXPLORATION
Formål	WILDCAT
Status	RE-CLASS TO DEV
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	SLEIPNER ØST
Funn	15/9-9 Sleipner Øst
Brønn navn	15/9-20
Seismisk lokalisering	ST 8215 R-3D
Utvinningstillatelse	046
Boreoperatør	Den norske stats oljeselskap a.s
Boretillatelse	787-L
Boreinnretning	SLEIPNER A
Boredager	33
Borestart	16.02.1994
Boreslutt	20.03.1994
Frigitt dato	20.03.1996
Publiseringsdato	18.01.2007
Opprinnelig formål	WILDCAT
Reklassifisert til brønnbane	15/9-A-22
Gjenåpnet	NO
Innhold	GAS
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	PALEOCENE
1. nivå med hydrokarboner, formasjon.	HEIMDAL FM
2. nivå med hydrokarboner, alder	TRIASSIC
2. nivå med hydrokarboner, formasjon	SKAGERRAK FM
Avstand, boredekk - midlere havflate [m]	78.0
Vanndybde ved midlere havflate [m]	82.0
Totalt målt dybde (MD) [m RKB]	3626.0
Totalt vertikalt dybde (TVD) [m RKB]	2801.0
Maks inklinasjon [°]	53.7
Eldste penetrerte alder	TRIASSIC
Eldste penetrerte formasjon	SMITH BANK FM



Geodetisk datum	ED50
NS grader	58° 22' 1.89" N
ØV grader	1° 54' 31.98" E
NS UTM [m]	6470257.29
ØV UTM [m]	436165.07
UTM sone	31
NPDID for brønnbanen	2319

Brønnhistorie

General

Wildcat well 15/9-20 S was drilled from the Sleipner A platform on the Sleipner øst Field. It started off as development well 15/9-A-22, which was designed to provide gas production from the Heimdal reservoir in the central part of the Sleipner Øst Field, and to contribute with geological and reservoir technical data for optimal reservoir management in this area. Due to unexpected geology in the deeper part of the well the Cretaceous and below was reclassified to exploration well 15/9-20 S.

Operations and results

Well 15/9-20 S was spudded from the fixed installation Sleipner A on 16 February 1994 and drilled deviated to TD at 3624 m in the Triassic Smith Bank Formation. No significant problems were reported from the operations. The well was drilled with seawater/PAC mud from below 26" conductor to 506 m, with KCl/PHPA/PAC mud from 506 m to 1735 m, with KCl/PHPA/PAC/Glycol mud from 1735 m to 2928 m, and with ester mud from 2928 m to TD. No shallow gas was encountered.

The well penetrated the Heimdal Formation target at 2931 m (2279.6 m TVD MSL), 11.6 m TVD deeper than prognosis. The Heimdal Formation was 104 m thick (71.2 m TVD) and proved to be gas filled as expected. Under the Heimdal Formation the well drilled 204 m Late Cretaceous limestone overlying 8 m Blodøks Formation. At 3247 m (2490.2 m TVD MSL) the well drilled unexpected into Jurassic/Triassic sandy sediments, which proved to have a 30 - 50 m TVD hydrocarbon leg.

Five conventional cores were cut from 2940 - 3043 m in the Heimdal and into the top of the Tor Formation. A sixth core was cut from 3216 - 3244 m, from base Hod Formation and into the Blodøks Formation. One RFT segregated sample was taken at 3272.6 m in the Skagerrak Formation.

Well bore 15/9-20 S was plugged back and permanently abandoned on 1 June 1994 as a gas discovery.

Testing

The well was perforated on wire line over the interval 3229 - 3238 m in the base of the Hod Formation and stimulated with acid, but the result was negative and the interval was plugged. Two drill stem tests were performed in the Heimdal Formation sandstone. DST 1 tested the interval 2942 - 2956 m and DST 2 tested the interval 2933 - 2942 m.

Kjernebilder



2940-2945m



2945-2950m



2950-2954m



2954-2959m



2959-2964m



2964-2969m



2969-2974m



2974-2977m



2977-2982m



2982-2987m



2987-2992m



2992-2997m



2997-3002m



3002-3006m



3006-3010m



3010-3015m



3015-3015m



3015-3020m



3020-3025m



3025-3030m



3030-3035m



3035-3040m



3040-3045m



3216-3221m



3221-3226m



3226-3231m



3231-3236m



3236-3241m



3241-3244m



Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
160	NORDLAND GP
911	UTSIRA FM
1131	HORDALAND GP
1279	SKADE FM
1308	NO FORMAL NAME
2645	ROGALAND GP
2645	BALDER FM
2713	SELE FM
2820	LISTA FM
2931	HEIMDAL FM
3035	SHETLAND GP
3035	TOR FM
3195	HOD FM
3239	BLODØKS FM
3247	VIKING GP
3247	DRAUPNE FM
3249	HEATHER FM
3259	NO GROUP DEFINED
3259	SKAGERRAK FM
3503	SMITH BANK FM

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
2319 15 9 20 S COMPLETION LOG	pdf	1.18

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
DIL BHC GR	2922	3627
LDL BHC GR	1729	2917
LDL CNL GR	2922	3627
MWD - DPR GR	506	2928





RFT HP GR	2942	3577
VSP	1788	3588

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	26	283.0	30	285.0	0.00	LOT
SURF.COND.	18 5/8	501.0	20	504.0	0.00	LOT
INTERM.	13 3/8	1729.0	17 1/2	1731.0	1.65	LOT
INTERM.	9 5/8	2922.0	12 1/4	2922.0	1.78	LOT
LINER	7	3624.0	8 1/2	3626.0	1.92	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	flytegrense [Pa]	Type slam	Dato, måling
506	1.11	26.0		WATER BASED	
1073	1.30	25.0		WATER BASED	
1541	1.35	29.0		WATER BASED	
1735	1.35	32.0		WATER BASED	
2255	1.64	41.0		WATER BASED	
2653	1.64	51.0		WATER BASED	
2921	1.20	20.0		OIL BASED	
2928	1.64	44.0		WATER BASED	
2940	1.20	20.0		OIL BASED	
3015	1.23	24.0		OIL BASED	
3206	1.23	25.0		OIL BASED	
3244	1.24	25.0		OIL BASED	
3307	1.33	30.0		OIL BASED	
3626	1.28	24.0		OIL BASED	

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]
2319 Formation pressure (Formasjonstrykk)	pdf	0.23

