



Generell informasjon

Brønnbane navn	34/8-4 A
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	VISUND
Funn	34/8-4 S
Brønn navn	34/8-4
Seismisk lokalisering	NH 9001- REKKE 589 & SP. 698
Utvinningstillatelse	120
Boreoperatør	Norsk Hydro Produksjon AS
Boretillatelse	711-L
Boreinnretning	TRANSOCEAN 8
Boredager	100
Borestart	18.02.1992
Boreslutt	27.05.1992
Frigitt dato	27.05.1994
Publiseringsdato	22.04.2005
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	EARLY JURASSIC
1. nivå med hydrokarboner, formasjon.	STATFJORD GP
2. nivå med hydrokarboner, alder	LATE TRIASSIC
2. nivå med hydrokarboner, formasjon	LUNDE FM
Avstand, boredekk - midlere havflate [m]	23.5
Vanndybde ved midlere havflate [m]	309.0
Totalt målt dybde (MD) [m RKB]	3567.0
Totalt vertikalt dybde (TVD) [m RKB]	3313.0
Maks inklinasjon [°]	33.3
Temperatur ved bunn av brønnbanen [°C]	123
Eldste penetrerte alder	LATE TRIASSIC



Eldste penetrerte formasjon	LUNDE FM
Geodetisk datum	ED50
NS grader	61° 19' 29.58" N
ØV grader	2° 25' 18.67" E
NS UTM [m]	6799274.11
ØV UTM [m]	469049.02
UTM sone	31
NPDID for brønnbanen	1909

Brønnhistorie

General

Well 34/8-4 A on the Visund Field was initiated as a sidetrack to well 34/8-4 S, which had been temporarily plugged and abandoned. The original well had missed the planned Statfjord Formation target due to structural complexities of the area. The sidetrack should reach the target location, Statfjord Formation, approximately 420 m north-northwest of the surface location in an area of good seismic control. The main objective was to test Statfjord Formation hydrocarbon potential, fluid composition and aquifer characteristics. Secondary objectives were to evaluate the Lunde Formation B/C aquifer characteristics, to establish stratigraphic control of the Base Cretaceous - top Statfjord interval, and to determine the mechanism for hydraulic communication with the Brent reservoir in well 34/8-4S through gravity slide Brent segment and/or through Dunlin Group reservoir.

Operations and results

Well 34/8-4 S was re-entered with the semi submersible installation Transocean 8 on 18 February 1992. The sidetrack 34/8-4 A was kicked off from below the 13 3/8" shoe at 2187 m in the primary well bore and drilled to TD at 3567 m in the late Triassic Lunde Formation. No significant problems were encountered during drilling. The well was drilled with a KCl / polymer mud from kick-off to TD.

A major unconformity was found between the top of the Early Jurassic (Pliensbachian) at 2902.5 m and the overlying Early Cretaceous (Hauterivian). A sandstone member of the Amundsen Formation was encountered from 2942 m to 2989.5 m. One core was taken in this unit and recorded good hydrocarbon shows. Subsequent wire line logs and DST results confirmed that the interval is oil bearing. A gross reservoir thickness of 31.0 m was defined, giving a net pay thickness of 22.38 m. The Statfjord Formation occurred between 3057 m and 3143 m. A total of 7 cores were cut through this interval. Good oil shows were observed throughout. The Lunde Formation was present from 3143 m to TD, at 3567 m and consisted of claystone and distinct interbedded sandstone units. Good shows were recorded in cores in individual sandstone bodies in the upper part of the formation. A total gross reservoir of 205.5 m and a net pay of 115.5 m were defined. An OWC was identified at 3340.5 m.

Altogether sixteen cores were cut from the Dunlin Group and Statfjord and Lunde Formations with a total of 174 m recovered. RFT samples were taken at 3294.5 m (46 °API oil, gas and water/filtrate) and at 3326.5 m (42 °API oil, gas and water/filtrate). The first oil show was recorded at 2909 m at the top of the Jurassic section and the last at 3342 m in the Lunde Formation.

The well was suspended on 27 May 1992 as an oil appraisal.

Testing



Five DST tests were performed in this well, one in the Lunde Formation, three in the Statfjord Formation, and one in the Dunlin Group. The following flow data are from end of main flow.

DST 1 in the Lunde Formation perforated the interval 3322.9 m to 3340.9 m and flowed 936 Sm³ oil and 212000 Sm³ gas / day. The GOR was 226 Sm³/Sm³, oil density (@15 °C) was 0.815 g/cm³, and the gas gravity (air = 1) was 0.77 with 1.4 % CO₂ and <0.1 ppm H₂S.

DST 2 in the Statfjord Formation perforated the interval 3214.0 m to 3228.0 m and flowed 35 Sm³ oil and 15700 Sm³ gas / day. The GOR was 448 Sm³/Sm³, oil density (@15 °C) was 0.802 g/cm³, and the gas gravity (air = 1) was 0.81 with 1.2 % CO₂ and <0.1 ppm H₂S.

DST 3 in the Statfjord Formation perforated the interval 3160.6 m to 3184.6 m and flowed 821 Sm³ oil and 171000 Sm³ gas / day. The GOR was 208 Sm³/Sm³, oil density (@15 °C) was 0.820 g/cm³, and the gas gravity (air = 1) was 0.74 with 1.2 % CO₂ and no H₂S.

DST 4 in the Statfjord Formation perforated the interval 3056.0 m to 3108.0 m and flowed 831 Sm³ oil and 181000 Sm³ gas / day. The GOR was 218 Sm³/Sm³, oil density (@15 °C) was 0.821 g/cm³, and the gas gravity (air = 1) was 0.74 with 1.2 % CO₂ and 0.5 ppm H₂S.

DST 5 in the Dunlin Group perforated the interval 2988.5 m to 3019.5 m and flowed 992 Sm³ oil and 225000 Sm³ gas / day. The GOR was 227 Sm³/Sm³, oil density (@15 °C) was 0.820 g/cm³, and the gas gravity (air = 1) was 0.74 with 1.2 % CO₂ and 0.5 ppm H₂S.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
2190.00	3567.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerter i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2909.0	2914.1	[m]
2	2994.0	3006.1	[m]
3	3063.0	3071.8	[m]
4	3072.5	3087.7	[m]
5	3088.0	3102.6	[m]
6	3103.0	3112.4	[m]
7	3113.5	3117.7	[m]
8	3118.5	3134.7	[m]



9	3135.0	3146.3	[m]
10	3146.5	3155.0	[m]
11	3156.0	3183.0	[m]
12	3183.0	3196.2	[m]
13	3197.5	3197.8	[m]
14	3198.5	3201.0	[m]
15	3247.5	3258.4	[m]
16	3329.0	3342.5	[m]

Total kjerneprøve lengde [m]	172.8
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



2909-2913m



2913-2914m



2994-2998m



2998-3002m



3002-3006m



3006-3006m



3063-3067m



3067-3071m



3071-3072m



3072-3076m



3076-3080m



3080-3084m



3084-3087m



3088-3092m



3092-3096m



3096-3100m



3100-3102m



3103-3107m



3107-3111m



3111-3112m



3113-3117m



3118-3123m



3123-3128m



3128-3133m



3133-3134m



3135-3140m



3140-3145m



3145-3146m



3146-3151m



3151-3154m



3156-3161m



3161-3166m



3166-3171m



3171-3176m



3176-3181m



3181-3182m



3183-3188m



3188-3193m



3193-3196m



3197-3198m



3198-3201m



3247-3252m



3252-3257m



3257-3258m



3329-3334m



3334-3339m



3339-3342m



Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
2910.1	[m]	C	HYDRO
2912.5	[m]	C	HYDRO
2965.0	[m]	SWC	HYDRO
2985.0	[m]	SWC	HYDRO
3000.3	[m]	C	HYDRO
3003.8	[m]	C	HYDRO
3020.0	[m]	SWC	HYDRO
3050.0	[m]	SWC	HYDRO
3055.0	[m]	SWC	HYDRO
3069.0	[m]	C	HYDRO
3074.0	[m]	C	HYDRO
3094.1	[m]	C	HYDRO
3110.2	[m]	C	HYDRO
3116.6	[m]	C	HYDRO
3117.4	[m]	C	HYDRO
3119.5	[m]	C	HYDRO
3125.3	[m]	C	HYDRO
3149.9	[m]	C	HYDRO
3150.3	[m]	C	HYDRO
3159.5	[m]	C	HYDRO
3181.3	[m]	C	HYDRO
3186.6	[m]	C	HYDRO
3194.7	[m]	C	HYDRO
3220.0	[m]	SWC	HYDRO
3225.0	[m]	SWC	HYDRO
3230.0	[m]	SWC	HYDRO
3235.0	[m]	SWC	HYDRO
3250.8	[m]	SWC	HYDRO
3275.0	[m]	SWC	HYDRO
3330.6	[m]	C	HYDRO
3340.6	[m]	C	HYDRO

Oljeprøver i Sokkeldirektoratet



Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST	DST1	3322.90	3340.90	OIL	09.04.1992 - 17:30	YES
DST	DST2	0.00	0.00	OIL	22.04.1992 - 00:00	YES
DST	DST4	0.00	0.00	OIL	12.05.1992 - 22:15	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
333	NORDLAND GP
1072	UTSIRA FM
1109	HORDALAND GP
1820	ROGALAND GP
1820	BALDER FM
1863	SELE FM
1876	LISTA FM
2031	SHETLAND GP
2894	CROMER KNOLL GP
2903	DUNLIN GP
2903	AMUNDSEN FM
3057	STATFJORD GP
3143	HEGRE GP
3143	LUNDE FM

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
1909	pdf	0.56

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
1909_1	pdf	5.30





Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
1909_01_WDSS_General_Information	pdf	1.18
1909_02_WDSS_completion_log	pdf	0.19

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	3323	3341	14.2
2.0	3214	3228	12.7
3.0	3160	3184	19.0
4.0	3056	3108	12.7
5.0	2988	3019	14.3

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0	23.000		49.000	118
2.0	1.000		7.000	105
3.0	11.000		27.000	113
4.0	26.000		45.000	110
5.0	26.000		44.000	109

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0	936	211536	0.815	0.770	226
2.0	35	15680	0.800	0.810	448
3.0	821	170768	0.820	0.740	208
4.0	831	181158	0.821	0.740	218
5.0	992	225184	0.820	0.740	227

Logger





Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
ASI GR	2235	3485
CST GR	2300	3522
DIL LSS LDL CNL NGT SP	1838	3564
DLL MSFL LDL CNL GR AMS	2960	3156
DLL MSFL LSS GR AMS	2140	3393
MDT GR AMS	2991	3413
MDT GR AMS	3294	3448
MWD - GR RES DIR	2187	3504
SHDT GR AMS	2850	3537

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	417.0	36	420.0	0.00	LOT
INTERM.	18 5/8	1146.0	26	1150.0	1.58	LOT
INTERM.	13 3/8	2161.0	17 1/2	2165.0	1.78	LOT
INTERM.	9 5/8	3567.0	12 1/4	3567.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
550	1.71	22.0		WATER BASED	
2188	1.64	30.0		WATER BASED	
2230	1.70	27.0		WATER BASED	
2250	1.64	31.0		WATER BASED	
2434	1.64	30.0		WATER BASED	
2509	1.63	35.0		WATER BASED	
2615	1.64	34.0		WATER BASED	
2700	1.70	20.0		WATER BASED	
2813	1.64	37.0		WATER BASED	
2909	1.64	36.0		WATER BASED	
2914	1.64	40.0		WATER BASED	
2994	1.64	40.0		WATER BASED	
3012	1.70	33.0		WATER BASED	
3037	1.70	20.0		WATER BASED	



3042	1.65	37.0		WATER BASED	
3073	1.66	40.0		WATER BASED	
3103	1.66	41.0		WATER BASED	
3114	1.66	41.0		WATER BASED	
3120	1.66	39.0		WATER BASED	
3144	1.70	30.0		WATER BASED	
3147	1.66	40.0		WATER BASED	
3150	1.70	32.0		WATER BASED	
3156	1.66	37.0		WATER BASED	
3156	1.66	37.0		WATER BASED	
3183	1.65	37.0		WATER BASED	
3197	1.70	32.0		WATER BASED	
3198	1.65	39.0		WATER BASED	
3200	1.65	39.0		WATER BASED	
3202	1.65	39.0		WATER BASED	
3248	1.70	32.0		WATER BASED	
3259	1.65	35.0		WATER BASED	
3272	1.65	35.0		WATER BASED	
3342	1.65	39.0		WATER BASED	
3447	1.65	33.0		WATER BASED	
3500	1.71	35.0		WATER BASED	
3504	1.65	37.0		WATER BASED	
3567	1.64	38.0		WATER 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]
1909 Formation pressure (Formasjonstrykk)	pdf	0.23

