



Generell informasjon





Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 12.5.2024 - 05:01

Brønnbane navn	6610/3-1 R
Type	EXPLORATION
Formål	WILDCAT
Status	SUSPENDED
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORWEGIAN SEA
Brønn navn	6610/3-1
Seismisk lokalisering	ST 9104-437 & SP. 335
Utvinningstillatelse	177
Boreoperatør	Den norske stats oljeselskap a.s
Boretillatelse	748-L2
Boreinnretning	ROSS ISLE
Boredager	87
Borestart	16.09.1993
Boreslutt	11.12.1993
Frigitt dato	11.12.1995
Publiseringsdato	27.06.2005
Opprinnelig formål	WILDCAT
Gjenåpnet	YES
Årsak til gjenåpning	DRILLING
Innhold	SHOWS
Funnbrønnbane	NO
Avstand, boredekk - midlere havflate [m]	23.0
Vanndybde ved midlere havflate [m]	309.0
Totalt målt dybde (MD) [m RKB]	4200.0
Totalt vertikalt dybde (TVD) [m RKB]	4193.0
Maks inklinasjon [°]	11.3
Temperatur ved bunn av brønnbanen [°C]	153
Eldste penetrerte alder	LATE TRIASSIC
Eldste penetrerte formasjon	RED BEDS (INFORMAL)
Geodetisk datum	ED50
NS grader	66° 55' 29.7" N
ØV grader	10° 54' 6.28" E
NS UTM [m]	7424470.29
ØV UTM [m]	583170.04
UTM sone	32
NPDID for brønnbanen	2193



Brønnhistorie

General

Wildcat well 6610/3-1 is located ca 80 km southwest of the Røst Island in the Lofoten archipelago of Northern Norway. The main objective was to test the hydrocarbon potential in the Early Jurassic (Tilje Formation) sandstones. A secondary objective was to test the possibility of development of sandy fans from Early Tertiary (Paleocene) to Early Cretaceous. The secondary objective had been fulfilled by drilling of the primary entry 6610/3-1, which was temporarily abandoned in February 1993 due to problems induced by severe weather conditions. The re-entry was done to fulfil the primary objectives.

Operations and results

Wildcat well 6610/3-1R is the re-entry of well 6610/3-1. It was entered with the semi-submersible installation Ross Isle on 15 September 1993 just below the 13 3/8" casing shoe in well 6610/3-1 (kick-off point at 1750 m in intra-Tang sandstone). Well 6610/3-1R was drilled to TD at 4200 m in the Triassic Red Beds. No significant technical problems were encountered during drilling. The well bore was drilled with ANCO 2000 mud from kick-off to TD.

The Tilje Formation was encountered from 3771 m to 3935 m with sandstone interbedded with siltstone and with limestone and claystone stringers. The sandstone was mostly fine-grained and mostly silica and calcite cemented. An FMT pressure log was run, but no gradient could be established due to tight/impermeable Formation. The well penetrated three source rock formations: the Spekk Formation (3534 m to 3614 m), the Melke Formation (3614 m to 3705 m), and the Åre Formation coals (3935 m to 4147 m). Moderate to minor shows of unproducible character were detected at scattered intervals in the Lange Formation. These were indicated by wet gas occurrences, sediment extracts and oil recovered through mud injection in a test interval. Trace shows were also recorded on claystones/limestones and silty layers in the Spekk and Melke Formation. No producible oil or gas was encountered in the well. The Spekk Formation had high TOC, typically 7 - 9 %, but very moderate hydrogen index, typically 60 to 90 mg HC/g TOC. Assuming a Type II kerogen for the Spekk Formation Tmax values indicated post oil window maturity (typically 455 - 460 deg C) while vitrinite reflectance indicated peak - late oil window (%Ro around 0.8). The Åre coals had Tmax values around 480 deg C and vitrinite reflectance values around 1.15. Again Tmax indicated higher maturity than did the vitrinite reflectance, but both techniques indicate coals into the gas window.

Three cores were cut in 6610/3-1R. One of these was cut from 3315 m to 3324.25 m in Intra Lange Sandstone, one from 3720 m to 3724.12 m in the Ile Formation, and one from 3741.3 m to 3747.9 m in the Tofte Formation. A segregated FMT fluid sample was taken at 4064.6 m. The reported content was mud filtrate under atmospheric pressure in both chambers.

The well was suspended on 11 December 1993 as a dry hole with shows

Testing

Well 6610/3-1R was tested in 2 intervals in Intra Lange Sandstone. Test no. 1 tested the interval 3370 m to 3412 m. Test no. 2 tested the interval 3201 m to 3249 m. No fluids were produced. Both test intervals were tight.



Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
2	3315.0	3324.3	[m]
3	3720.0	3724.4	[m]
4	3741.0	3747.6	[m]

Total kjerneprøve lengde [m]	20.3
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



3315-3319m



3319-3323m



3323-3324m



3720-3724m



3741-3746m



3746-3747m

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
2543.0	[m]	SWC	STATO
2550.0	[m]	SWC	STATO
2578.0	[m]	SWC	STATO
2610.0	[m]	DC	RRI
2630.0	[m]	DC	RRI
2650.0	[m]	DC	RRI
2670.0	[m]	DC	RRI
2690.0	[m]	DC	RRI
2704.0	[m]	SWC	STATO
2716.0	[m]	SWC	STATO



2736.0	[m]	SWC	STATO
2762.0	[m]	SWC	STATO
2780.0	[m]	DC	RRI
2790.0	[m]	SWC	STATO
2808.0	[m]	SWC	STATO
2825.0	[m]	SWC	STATO
2840.0	[m]	DC	RRI
2860.0	[m]	SWC	STATO
2875.0	[m]	SWC	STATO
2882.0	[m]	SWC	STATO
2890.0	[m]	SWC	STATO
2922.5	[m]	SWC	STATO
2938.0	[m]	SWC	STATO
2957.5	[m]	SWC	STATO
2970.0	[m]	DC	RRI
2980.0	[m]	SWC	STATO
2990.0	[m]	DC	RRI
2998.0	[m]	SWC	STATO
3012.0	[m]	SWC	STATO
3025.0	[m]	SWC	STATO
3036.0	[m]	DC	RRI
3040.0	[m]	SWC	STATO
3050.0	[m]	SWC	STATO
3060.0	[m]	SWC	STATO
3069.0	[m]	DC	RRI
3078.0	[m]	DC	RRI
3087.0	[m]	DC	RRI
3095.0	[m]	SWC	STATO
3105.0	[m]	DC	RRI
3116.0	[m]	SWC	STATO
3126.0	[m]	DC	RRI
3135.0	[m]	SWC	STATO
3153.0	[m]	DC	RRI
3162.0	[m]	DC	RRI
3171.0	[m]	DC	RRI
3181.0	[m]	SWC	STATO
3192.0	[m]	SWC	STATO
3213.0	[m]	DC	RRI
3222.0	[m]	DC	RRI
3230.0	[m]	SWC	STATO



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3240.0 [m]	DC	RRI
3249.0 [m]	DC	RRI
3258.0 [m]	DC	RRI
3267.0 [m]	DC	RRI
3276.0 [m]	DC	RRI
3285.0 [m]	DC	RRI
3294.0 [m]	DC	RRI
3303.0 [m]	DC	RRI
3303.0 [m]	DC	STATO
3319.9 [m]	C	STATO
3320.0 [m]	C	SAGA
3322.5 [m]	C	SAGA
3323.6 [m]	C	SAGA
3323.7 [m]	C	STATO
3323.8 [m]	C	STATO
3336.0 [m]	DC	RRI
3348.0 [m]	DC	RRI
3360.0 [m]	SWC	STATO
3369.0 [m]	DC	STATO
3378.0 [m]	DC	RRI
3384.0 [m]	DC	RRI
3393.0 [m]	SWC	STATO
3411.0 [m]	DC	RRI
3420.0 [m]	DC	RRI
3429.0 [m]	DC	STATO
3432.0 [m]	DC	RRI
3444.0 [m]	SWC	STATO
3450.0 [m]	DC	STATO
3456.0 [m]	DC	RRI
3468.0 [m]	DC	STATO
3470.0 [m]	SWC	STATO
3474.5 [m]	SWC	STATO
3486.0 [m]	DC	RRI
3534.0 [m]	DC	RRI
3537.0 [m]	SWC	STATO
3543.5 [m]	SWC	STATO
3550.0 [m]	SWC	STATO
3555.0 [m]	SWC	STATO
3558.0 [m]	DC	STATO
3561.0 [m]	DC	RRI



3563.5 [m]	SWC	STATO
3566.0 [m]	SWC	STATO
3567.0 [m]	DC	STATO
3568.0 [m]	SWC	STATO
3578.0 [m]	SWC	STATO
3589.5 [m]	SWC	STATO
3597.0 [m]	DC	STATO
3598.0 [m]	SWC	STATO
3608.0 [m]	SWC	STATO
3616.0 [m]	SWC	STATO
3628.0 [m]	SWC	STATO
3645.0 [m]	SWC	STATO
3651.0 [m]	DC	RRI
3656.0 [m]	SWC	STATO
3657.0 [m]	DC	RRI
3664.5 [m]	SWC	STATO
3675.0 [m]	DC	RRI
3683.0 [m]	SWC	STATO
3689.0 [m]	SWC	STATO
3705.0 [m]	SWC	STATO
3709.0 [m]	SWC	STATO
3711.0 [m]	DC	STATO
3712.0 [m]	SWC	STATO
3720.0 [m]	C	STATO
3720.0 [m]	C	SAGA
3720.4 [m]	C	SAGA
3721.0 [m]	C	STATO
3721.0 [m]	C	SAGA
3723.7 [m]	C	STATO
3724.0 [m]	C	SAGA
3724.4 [m]	C	SAGA
3727.0 [m]	SWC	STATO
3733.5 [m]	SWC	STATO
3740.0 [m]	DC	STATO
3741.0 [m]	C	STATO
3741.0 [m]	C	SAGA
3742.0 [m]	C	SAGA
3743.5 [m]	C	STATO
3743.5 [m]	C	SAGA
3744.0 [m]	C	STATO



3746.5 [m]	C	SAGA
3746.7 [m]	C	STATO
3747.0 [m]	SWC	STATO
3747.0 [m]	C	STATO
3747.6 [m]	C	SAGA
3762.0 [m]	SWC	STATO
3777.0 [m]	SWC	STATO
3786.0 [m]	SWC	STATO
3843.0 [m]	SWC	STATO
3852.0 [m]	DC	RRI
3860.0 [m]	SWC	STATO
3868.5 [m]	SWC	STATO
3870.0 [m]	DC	STATO
3872.0 [m]	SWC	STATO
3877.0 [m]	SWC	STATO
3882.0 [m]	DC	RRI
3888.0 [m]	SWC	STATO
3897.0 [m]	DC	STATO
3904.0 [m]	SWC	STATO
3912.0 [m]	DC	RRI
3920.0 [m]	SWC	STATO
3927.0 [m]	DC	RRI
3936.0 [m]	SWC	STATO
3948.0 [m]	SWC	STATO
3950.0 [m]	DC	STATO
3978.0 [m]	SWC	STATO
3997.5 [m]	SWC	STATO
4028.0 [m]	SWC	STATO
4035.5 [m]	SWC	STATO
4045.0 [m]	SWC	STATO
4053.0 [m]	DC	RRI
4059.0 [m]	DC	STATO
4059.0 [m]	SWC	STATO
4068.0 [m]	DC	RRI
4083.0 [m]	DC	STATO
4102.5 [m]	SWC	STATO
4114.0 [m]	SWC	STATO
4155.0 [m]	DC	RRI
4164.0 [m]	DC	RRI
4173.0 [m]	DC	RRI



4182.0	[m]	DC	RRI
4191.0	[m]	DC	RRI
4200.0	[m]	DC	RRI

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
332	NORDLAND GP
332	NAUST FM
349	MOLO FM
555	HORDALAND GP
555	BRYGGE FM
1366	ROGALAND GP
1366	TARE FM
1472	TANG FM
1556	NO FORMAL NAME
1585	TANG FM
1640	NO FORMAL NAME
1805	TANG FM
1842	SHETLAND GP
1842	SPRINGAR FM
2044	NISE FM
2284	NO FORMAL NAME
2324	NISE FM
2505	CROMER KNOLL GP
2505	LYSING FM
2542	LANGE FM
2655	LYSING FM
2695	LANGE FM
2884	NO FORMAL NAME
3047	LANGE FM
3203	NO FORMAL NAME
3412	LANGE FM
3418	LYR FM
3534	VIKING GP
3534	SPEKK FM
3614	MELKE FM
3705	FANGST GP
3705	NOT FM



3711	ILE FM
3730	BÅT GP
3730	TOFTE FM
3772	TILJE FM
3935	ÅRE FM
4147	GREY BEDS (INFORMAL)
4170	RED BEDS (INFORMAL)

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
2193 6610 3 1 R	pdf	0.72

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
2193 1	pdf	2.83

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
2193 6610 3 1 R COMPLETION REPORT AND LOG	pdf	42.35

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CBL VDL GR	1650	3470
CORGUN GR	2543	3474
CORGUN GR	3521	3566
CORGUN GR	3568	4198
DIFL MAC GR	1742	3476
DIFL MAC GR	3464	4200
DLL MLL SL	2875	3476





FMT GR	3117	4075
FMT GR	3511	3737
FMT GR	3972	4069
HRDIP GR	1742	3568
HRDIP GR	3475	4200
MWD DPR	1750	4200
VSP	760	3460
VSP	1980	4190
ZDL CN GR	1742	3475
ZDL CN GR	3464	4201

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
INTERM.	9 5/8	3469.0	12 1/4	3469.0	0.00	LOT
OPEN HOLE		4200.0	8 1/2	4200.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
522	1.50	21.0	8.0	DUMMY	09.12.1993
522	1.50	21.0	8.0	DUMMY	10.12.1993
1550	1.50	21.0	7.5	DUMMY	08.12.1993
1744	1.25	10.0	9.0	WATER BASED	17.09.1993
1750	1.25	24.0	7.5	WATER BASED	17.09.1993
1886	1.25	16.0	4.0	WATER BASED	20.09.1993
2065	1.25	23.0	5.0	WATER BASED	20.09.1993
2275	1.25	22.0	4.5	WATER BASED	20.09.1993
2365	1.25	19.0	4.5	WATER BASED	22.09.1993
2411	1.25	18.0	4.0	WATER BASED	22.09.1993
2496	1.25	23.0	5.5	WATER BASED	23.09.1993
2496	1.25	23.0	5.5	WATER BASED	23.09.1993
2496	1.25	23.0	5.5	WATER BASED	23.09.1993
2496	1.25	23.0	5.5	WATER BASED	23.09.1993
2579	1.25	22.0	5.5	WATER BASED	24.09.1993
2579	1.25	22.0	5.5	WATER BASED	24.09.1993
2680	1.25	23.0	5.0	WATER BASED	28.09.1993



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2814	1.25	21.0	5.0	WATER BASED	28.09.1993
2854	1.25	19.0	5.0	WATER BASED	28.09.1993
3005	1.25	21.0	5.5	WATER BASED	28.09.1993
3098	1.25	20.0	6.0	WATER BASED	30.09.1993
3119	1.25	23.0	5.0	WATER BASED	30.09.1993
3190	1.40	20.0	6.5	DUMMY	02.12.1993
3190	1.50	19.0	6.5	DUMMY	02.12.1993
3190	1.50	20.0	6.5	DUMMY	03.12.1993
3190	1.50	19.0	6.5	DUMMY	06.12.1993
3190	1.50	21.0	7.0	DUMMY	06.12.1993
3190	1.50	19.0	7.0	DUMMY	06.12.1993
3190	1.50	20.0	7.0	DUMMY	08.12.1993
3262	1.25	20.0	5.5	WATER BASED	01.10.1993
3315	1.25			WATER BASED	04.10.1993
3325	1.25	22.0	6.0	WATER BASED	04.10.1993
3340	1.25	20.0	5.5	WATER BASED	04.10.1993
3343	1.40	20.0	7.0	DUMMY	02.12.1993
3343	1.40	21.0	6.0	DUMMY	02.12.1993
3343	1.40	21.0	6.0	DUMMY	02.12.1993
3355	1.30	22.0	5.0	WATER BASED	05.10.1993
3412	1.40	19.0	6.0	DUMMY	02.12.1993
3416	1.33	21.0	5.5	WATER BASED	06.10.1993
3435	1.40	20.0	5.5	DUMMY	24.11.1993
3435	1.40	20.0	6.0	DUMMY	25.11.1993
3435	1.40	22.0	7.0	DUMMY	02.12.1993
3460	1.33	26.0	7.5	WATER BASED	11.10.1993
3530	1.33	21.0	6.0	WATER BASED	11.10.1993
3540	1.78	38.0	7.0	WATER BASED	01.11.1993
3547	1.78	46.0	8.0	WATER BASED	01.11.1993
3547	1.65	38.0	8.5	WATER BASED	25.10.1993
3547	1.65	35.0	8.0	WATER BASED	27.10.1993
3547	1.70	38.0	8.5	WATER BASED	27.10.1993
3547	1.70	41.0	8.0	WATER BASED	01.11.1993
3547	1.78	45.0	9.5	WATER BASED	01.11.1993
3547	1.78	42.0	8.0	WATER BASED	01.11.1993
3547	1.65	40.0	9.0	WATER BASED	22.10.1993
3547	1.78	42.0	8.5	WATER BASED	01.11.1993
3547	1.78	38.0	7.0	WATER BASED	01.11.1993
3550	1.80	39.0	9.0	WATER BASED	22.11.1993
3550	1.80	38.0	6.5	WATER BASED	16.11.1993



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3550	1.80	34.0	7.0	WATER BASED	10.11.1993
3550	1.80	33.0	6.0	WATER BASED	11.11.1993
3550	1.80	35.0	7.5	WATER BASED	12.11.1993
3550	1.80	39.0	5.5	WATER BASED	16.11.1993
3550	1.80	32.0	8.0	WATER BASED	16.11.1993
3550	1.80	37.0	5.0	WATER BASED	16.11.1993
3550	1.80	40.0	7.5	WATER BASED	17.11.1993
3550	1.80	40.0	7.5	WATER BASED	18.11.1993
3550	1.80	40.0	8.0	WATER BASED	19.11.1993
3568	1.40	27.0	7.5	WATER BASED	11.10.1993
3568	1.58	35.0	8.0	WATER BASED	11.10.1993
3568	1.58	36.0	8.0	WATER BASED	11.10.1993
3568	1.58	39.0	9.0	WATER BASED	12.10.1993
3568	1.58	39.0	9.0	WATER BASED	14.10.1993
3568	1.58	33.0	8.0	WATER BASED	14.10.1993
3568	1.58	34.0	7.5	WATER BASED	15.10.1993
3568	1.58	32.0	7.0	WATER BASED	21.10.1993
3568	1.58	32.0	7.0	WATER BASED	21.10.1993
3568	1.58	32.0	7.0	WATER BASED	21.10.1993
3568	1.58	35.0	8.0	WATER BASED	21.10.1993
3568	1.58	31.0	7.0	WATER BASED	21.10.1993
3574	1.78	44.0	7.0	WATER BASED	02.11.1993
3574	1.85	46.0	8.0	WATER BASED	03.11.1993
3592	1.65	40.0	9.0	WATER BASED	22.10.1993
3635	1.65	35.0	8.0	WATER BASED	27.10.1993
3635	1.65	38.0	8.5	WATER BASED	25.10.1993
3640	1.70	41.0	8.0	WATER BASED	01.11.1993
3640	1.70	38.0	8.5	WATER BASED	27.10.1993
3699	1.78	45.0	9.5	WATER BASED	01.11.1993
3720	1.78	42.0	8.5	WATER BASED	01.11.1993
3740	1.78	46.0	8.0	WATER BASED	01.11.1993
3740	1.78	44.0	7.0	WATER BASED	02.11.1993
3740	1.85	46.0	8.0	WATER BASED	03.11.1993
3741	1.80	46.0	10.5	WATER BASED	09.11.1993
3741	1.78	42.0	8.0	WATER BASED	01.11.1993
3749	1.80	35.0	6.0	WATER BASED	09.11.1993
3820	1.80	34.0	7.0	WATER BASED	10.11.1993
3930	1.80	33.0	6.0	WATER BASED	11.11.1993
3972	1.80	35.0	7.5	WATER BASED	12.11.1993
4026	1.80	39.0	5.5	WATER BASED	16.11.1993



4138	1.80	32.0	8.0	WATER BASED	16.11.1993
4200	1.80	38.0	6.5	WATER BASED	16.11.1993
4200	1.80	39.0	9.0	WATER BASED	22.11.1993
4200	1.80	40.0	7.5	WATER BASED	18.11.1993
4200	0.00	40.0	7.5	WATER BASED	17.11.1993
4200	1.80	37.0	5.0	WATER BASED	16.11.1993
4200	1.80	40.0	8.0	WATER BASED	19.11.1993

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]
2193 Formation pressure (Formasjonstrykk)	pdf	0.28

