

**General information**

Wellbore name	6607/5-2
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Well name	6607/5-2
Seismic location	NRGS - 84 - 479 & SP. 1005
Production licence	126
Drilling operator	Esso Exploration and Production Norway A/S
Drill permit	694-L
Drilling facility	DYVI STENA
Drilling days	103
Entered date	07.08.1991
Completed date	17.11.1991
Release date	17.11.1993
Publication date	29.05.2002
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	25.0
Water depth [m]	523.0
Total depth (MD) [m RKB]	4684.0
Final vertical depth (TVD) [m RKB]	4666.0
Maximum inclination [°]	15
Bottom hole temperature [°C]	140
Oldest penetrated age	LATE CRETACEOUS
Oldest penetrated formation	KVITNOS FM
Geodetic datum	ED50
NS degrees	66° 41' 3.38" N
EW degrees	7° 21' 22.52" E
NS UTM [m]	7397329.73
EW UTM [m]	427403.49
UTM zone	32
NPDID wellbore	1789



Wellbore history

Well 6607/5-2 was designed to drill the Amundsen II prospect on the NE-SW trending Bodø High. Block 6507/5 is located in the NW corner of the Nordland II, which is a geological province separated from the Halten and Dønna Terrace by the deep Træna Basin to the east. The main objective of the well was to test the hydrocarbon potential of the Middle-Lower Jurassic shallow marine sandstones. The prognosed formation pressure was supposed to follow the general behavior of the Haltenbanken Region, where a pressure regression might be experienced towards the Base Cretaceous at 4080 m. The objective Middle Jurassic sandstones were expected to exhibit a potentially high level of overpressure. No shallow gas warnings were given.

Operations and results

Wildcat well 6607/5-2 was spudded on 7 August 1991 by the semi-submersible installation "Dyvi Stena" and completed 16 November 1991 at a total depth of 4684 m in intrusive rocks within the Upper Cretaceous Kvitnos Formation. Bentonite mud was used to 1225 m, water based KCl polymer mud was used from 1225 m to TD. There were no lost time accidents. The 523 m of water depth made this well the deepest well to date drilled on the Norwegian continental shelf. The well bore was maintained in excellent conditions over the entire well. Only 0.9 day of hole instability NPT was accumulated for this well. Throughout the well, immediate mud weight increase was made to counter excessive drag thus contributing to hole stability. During logging at TD, RFT results indicated a maximum pore pressure of 1.51 g/cm³. Following open hole logging of the 8 1/2" section, on request, the hole was plugged back and sidetracked at 3998 m RKB to permit a core cutting from 4161 - 4188.5 m in the Nise Formation sand, prior to resuming plug and abandon. No fluid samples were taken.

The well did not penetrate the primary objective of Middle-Early Jurassic sandstones. The seismic reflectors interpreted as Jurassic turned out to be of Cretaceous age. This was considered to be the primary risk of the well from the start. Two Upper Cretaceous sandstone reservoir intervals (3748 - 3768 and 4167 - 4308 m) were encountered. Cutting samples indicated poor reservoir quality and since no shows were present, the well was drilled to TD. After TD was reached the well was sidetracked to obtain a core in the lower sandstone for sedimentological and diagenetic studies. Shows were not present in the core, and core analysis determined the permeability to be very poor. Wire line log interpretation indicated both sandstones to be water wet. It is possible that two dolerite intrusives, the first from 3793 - 3885 and the second from 4642 to TD at 4684 m have altered both sandstones. Minor fluorescence and cut were observed in five sidewall cores between 2564.5 and 2732.5 m. Weak, scattered shows were also present. The well was permanently plugged and abandoned as a dry well on 17 November 1991.

Testing

No drill stem test was performed

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1250.00	4683.00

Cuttings available for sampling?	YES
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**Cores at the Norwegian Offshore Directorate**

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	4161.0	4188.3	[m]

Total core sample length [m]	27.3
Cores available for sampling?	YES

Core photos

4161-4166m



4166-4171m



4171-4176m



4176-4181m



4181-4186m



4186-4189m



4161-4166m



4166-4171m



4171-4176m



4176-4181m



4181-4186m



4186-4189m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1240.0	[m]	SWC	STRATLAB
1270.0	[m]	SWC	STRATLAB
1295.0	[m]	SWC	STRATLAB



1333.0 [m]	SWC	STRATLAB
1360.0 [m]	SWC	STRATLAB
1399.0 [m]	SWC	STRATLAB
1430.0 [m]	DC	STRATLAB
1460.0 [m]	DC	STRATLAB
1490.0 [m]	DC	STRATLAB
1520.0 [m]	DC	STRATLAB
1540.0 [m]	DC	STRATLAB
1560.0 [m]	SWC	STRATLAB
1590.0 [m]	DC	STRATLAB
1616.5 [m]	SWC	STRATLAB
1640.0 [m]	DC	STRATLAB
1700.0 [m]	DC	STRATLAB
1730.0 [m]	DC	STRATLAB
1750.0 [m]	SWC	STRATLAB
1780.0 [m]	DC	STRATLAB
1802.0 [m]	SWC	STRATLAB
1830.0 [m]	DC	STRATLAB
1860.0 [m]	DC	STRATLAB
1880.0 [m]	DC	STRATLAB
1900.0 [m]	DC	
1930.0 [m]	SWC	
1960.0 [m]	DC	STRATLAB
1985.0 [m]	SWC	
2000.0 [m]	SWC	
2010.0 [m]	DC	STRATLAB
2020.0 [m]	SWC	
2050.0 [m]	DC	
2070.0 [m]	DC	STRATLAB
2088.0 [m]	SWC	
2090.0 [m]	DC	STRATLAB
2100.0 [m]	DC	STRATLAB
2110.0 [m]	DC	STRATLAB
2116.5 [m]	SWC	
2120.0 [m]	DC	STRATLAB
2130.0 [m]	DC	STRATLAB
2135.2 [m]	SWC	
2140.0 [m]	DC	STRATLAB
2150.0 [m]	DC	STRATLAB
2170.0 [m]	SWC	



2184.0	[m]	SWC	
2210.0	[m]	DC	
2210.0	[m]	DC	STRATLAB
2234.0	[m]	SWC	OD
2240.0	[m]	C	STRATLAB
2248.5	[m]	SWC	STRATLAB
2255.0	[m]	SWC	OD
2270.0	[m]	DC	STRATLAB
2282.0	[m]	SWC	OD
2295.0	[m]	DC	STRATLAB
2304.0	[m]	SWC	STRATLAB
2318.0	[m]	SWC	OD
2320.0	[m]	DC	STRATLAB
2340.0	[m]	DC	STRATLAB
2350.0	[m]	DC	STRATLAB
2355.5	[m]	SWC	OD
2370.0	[m]	DC	STRATLAB
2377.5	[m]	SWC	STRATLAB
2380.0	[m]	DC	
2390.0	[m]	DC	STRATLAB
2400.0	[m]	DC	STRATLAB
2402.0	[m]	SWC	OD
2405.0	[m]	DC	STRATLAB
2420.0	[m]	DC	STRATLAB
2435.0	[m]	DC	STRATLAB
2450.0	[m]	DC	STRATLAB
2450.5	[m]	SWC	OD
2450.5	[m]	SWC	OD
2465.0	[m]	DC	STRATLAB
2480.0	[m]	DC	STRATLAB
2495.0	[m]	DC	STRATLAB
2497.5	[m]	SWC	STRATLAB
2510.0	[m]	DC	STRATLAB
2519.5	[m]	SWC	OD
2525.0	[m]	DCC	STRATLAB
2538.0	[m]	SWC	STRATLAB
2540.0	[m]	DC	STRATLAB
2555.0	[m]	DC	STRATLAB
2564.5	[m]	SWC	OD
2565.0	[m]	SWC	STRATLAB



2570.0	[m]	DC	STRATLAB
2585.0	[m]	DC	STRATLAB
2591.5	[m]	SWC	OD
2595.0	[m]	DC	STRATLAB
2605.0	[m]	DC	STRATLAB
2615.0	[m]	DC	STRATLAB
2624.0	[m]	SWC	STRATLAB
2625.0	[m]	DC	STRATLAB
2640.0	[m]	DC	STRATLAB
2655.0	[m]	DC	STRATLAB
2670.0	[m]	DC	STRATLAB
2675.5	[m]	SWC	OD
2685.0	[m]	DC	STRATLAB
2695.0	[m]	DC	STRATLAB
2710.0	[m]	DC	STRATLAB
2732.5	[m]	SWC	OD
2740.0	[m]	DC	STRATLAB
2765.0	[m]	DC	STRATLAB
2790.0	[m]	DC	STRATLAB
2800.0	[m]	SWC	OD
2815.0	[m]	DC	STRATLAB
2840.0	[m]	DC	STRATLAB
2845.0	[m]	SWC	OD
2865.0	[m]	DC	STRATLAB
2870.0	[m]	DC	STRATLAB
2875.0	[m]	DC	STRATLAB
2886.5	[m]	SWC	OD
2890.0	[m]	DC	STRATLAB
2915.0	[m]	DC	STRATLAB
2925.0	[m]	SWC	STRATLAB
2940.0	[m]	DC	STRATLAB
2957.0	[m]	SWC	OD
2965.0	[m]	DC	STRATLAB
2990.0	[m]	DC	STRATLAB
2991.0	[m]	DC	STRATLAB
3015.0	[m]	DC	STRATLAB
3040.0	[m]	DC	STRATLAB
3067.0	[m]	SWC	OD
3070.0	[m]	DC	STRATLAB
3095.0	[m]	DC	STRATLAB



3120.0 [m]	DC	STRATLAB
3145.0 [m]	DC	STRATLAB
3170.0 [m]	DC	STRATLAB
3195.0 [m]	DC	STRATLAB
3220.0 [m]	DC	STRATLAB
3240.0 [m]	DC	OD
3265.0 [m]	DC	STRATLAB
3268.5 [m]	SWC	STRATLAB
3280.0 [m]	DC	STRATLAB
3280.0 [m]	DC	OD
3297.5 [m]	SWC	OD
3300.0 [m]	DC	STRATLAB
3320.0 [m]	DC	OD
3320.0 [m]	DC	OD
3360.0 [m]	DC	OD
3400.0 [m]	DC	OD
3415.0 [m]	DC	STRATLAB
3440.0 [m]	DC	OD
3480.0 [m]	DC	OD
3500.0 [m]	DC	STRATLAB
3500.0 [m]	DC	OD
3520.0 [m]	DC	OD
3525.5 [m]	SWC	OD
3525.5 [m]	SWC	
3545.0 [m]	DC	STRATLAB
3560.0 [m]	DC	OD
3570.0 [m]	DC	STRATLAB
3600.0 [m]	DC	
3600.0 [m]	DC	OD
3640.0 [m]	DC	OD
3660.0 [m]	DC	OD
3680.0 [m]	DC	OD
3695.0 [m]	DC	
3705.0 [m]	DC	
3714.0 [m]	DC	STRATLAB
3720.0 [m]	DC	OD
3726.0 [m]	DC	STRATLAB
3735.0 [m]	DC	STRATLAB
3747.0 [m]	DC	STRATLAB
3756.0 [m]	DC	STRATLAB



3759.0 [m]	DC	STRATLAB
3760.0 [m]	DC	OD
3762.0 [m]	DC	STRATLAB
3765.0 [m]	DC	
3800.0 [m]	DC	OD
3820.0 [m]	DC	OD
3840.0 [m]	DC	OD
3880.0 [m]	DC	OD
3920.0 [m]	DC	OD
3960.0 [m]	DC	OD
3966.0 [m]	DC	STRATLAB
3981.0 [m]	DC	STRATLAB
3999.0 [m]	DC	
4000.0 [m]	SWC	STRATLAB
4000.0 [m]	DC	OD
4020.0 [m]	DC	OD
4020.0 [m]	DC	
4029.0 [m]	DC	
4040.0 [m]	SWC	STRATLAB
4040.0 [m]	DC	OD
4050.0 [m]	DC	
4071.0 [m]	DC	STRATLAB
4078.0 [m]	SWC	STRATLAB
4080.0 [m]	DC	OD
4083.0 [m]	SWC	STRATLAB
4086.0 [m]	DC	STRATLAB
4090.0 [m]	SWC	STRATLAB
4101.0 [m]	DC	STRATLAB
4120.0 [m]	DC	OD
4122.0 [m]	DC	STRATLAB
4123.0 [m]	SWC	STRATLAB
4140.0 [m]	DC	
4140.0 [m]	DC	OD
4158.0 [m]	DC	
4160.0 [m]	SWC	STRATLAB
4160.0 [m]	DC	OD
4161.0 [m]	C	STRATLAB
4161.1 [m]	C	OD
4161.1 [m]	C	OD
4162.7 [m]	C	OD



4168.2 [m]	C	OD
4170.0 [m]	SWC	STRATLAB
4171.1 [m]	C	STRATLAB
4171.2 [m]	C	OD
4172.4 [m]	C	OD
4176.0 [m]	C	STRATLAB
4179.0 [m]	DC	STRATLAB
4180.0 [m]	DC	OD
4182.2 [m]	C	RRI
4182.3 [m]	C	OD
4182.6 [m]	C	OD
4182.6 [m]	C	STRATLAB
4183.8 [m]	C	RRI
4185.4 [m]	C	RRI
4186.3 [m]	C	OD
4187.0 [m]	C	RRI
4187.6 [m]	C	RRI
4200.0 [m]	DC	OD
4200.0 [m]	DC	STRATLAB
4216.0 [m]	SWC	STRATLAB
4221.0 [m]	DC	STRATLAB
4240.0 [m]	DC	OD
4242.0 [m]	DC	STRATLAB
4263.0 [m]	DC	STRATLAB
4278.0 [m]	DC	
4280.0 [m]	DC	OD
4284.0 [m]	DC	
4300.0 [m]	DC	OD
4305.0 [m]	DC	STRATLAB
4313.0 [m]	SWC	STRATLAB
4320.0 [m]	DC	OD
4326.0 [m]	DC	STRATLAB
4330.0 [m]	SWC	STRATLAB
4338.0 [m]	DC	
4340.0 [m]	DC	OD
4360.0 [m]	DC	OD
4362.0 [m]	DC	STRATLAB
4380.0 [m]	DC	
4380.0 [m]	DC	OD
4398.0 [m]	DC	



4398.0 [m]	SWC	STRATLAB
4400.0 [m]	DC	OD
4401.0 [m]	DC	
4420.0 [m]	DC	STRATLAB
4440.0 [m]	DC	OD
4441.0 [m]	DC	STRATLAB
4461.0 [m]	DC	STRATLAB
4480.0 [m]	DC	OD
4482.0 [m]	DC	STRATLAB
4500.0 [m]	DC	
4500.0 [m]	DC	OD
4502.0 [m]	SWC	STRATLAB
4515.0 [m]	DC	STRATLAB
4520.0 [m]	DC	OD
4530.0 [m]	DC	
4560.0 [m]	SWC	STRATLAB
4560.0 [m]	DC	OD
4566.0 [m]	DC	
4584.0 [m]	DC	
4600.0 [m]	DC	OD
4602.0 [m]	DC	
4620.0 [m]	DC	OD
4640.0 [m]	DC	OD

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
549	NORDLAND GP
2003	KAI FM
2317	HORDALAND GP
2317	BRYGGE FM
2381	ROGALAND GP
2381	TARE FM
2588	SHETLAND GP
2588	SPRINGAR FM
3707	NISE FM
3792	NO FORMAL NAME
4166	DELFIN FM (INFORMAL)
4308	NISE FM



4422	KVITNOS FM
4640	NO FORMAL NAME

Composite logs

Document name	Document format	Document size [MB]
1789	pdf	0.77

Geochemical information

Document name	Document format	Document size [MB]
1789_1	pdf	1.97

Documents - older Norwegian Offshore Directorate WDSS reports and other related documents

Document name	Document format	Document size [MB]
1789_01_WDSS_General_Information	pdf	0.68
1789_02_WDSS_completion_log	pdf	0.22

Documents - reported by the production licence (period for duty of secrecy expired)

Document name	Document format	Document size [MB]
1789_6607_5_2_COMPLETION_LOG	pdf	6.98
1789_6607_5_2_COMPLETION_REPORT	pdf	28.26

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL	2300	3681
CNL LDT GR	3690	4684
DIFL SP GR	2200	3698
DLL AS	3690	4667
DLL MSFL	3690	4684





DLL SP LSS CNL LDT GR	1222	3700
FMS IMAGE	4149	4334
FMS-DIP	3690	4684
FMS-IMAGE	3727	3870
MWD	548	4684
RFT	3752	4261
SWC	1240	2195
SWC	2234	3680
SWC	3730	4665
VSP	3600	4544

Casing and leak-off tests

Casing type	Casing diam. [inch]	Casing depth [m]	Hole diam. [inch]	Hole depth [m]	LOT/FIT mud eqv. [g/cm3]	Formation test type
CONDUCTOR	30	584.0	36	585.0	0.00	LOT
INTERM.	20	1223.0	26	1225.0	0.00	LOT
INTERM.	13 3/8	2200.0	17 1/2	2202.0	0.00	LOT
INTERM.	9 5/8	3690.0	12 1/4	3693.0	0.00	LOT
OPEN HOLE		4684.0	8 1/2	4684.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
222	1.40	21.0		WATER BASED	
586	1.04			WATER BASED	
620	1.04			WATER BASED	
1010	1.05			WATER BASED	
1053	1.05			WATER BASED	
1235	1.05			WATER BASED	
1600	1.20	16.0		WATER BASED	
1800	1.29	10.0		WATER BASED	
2110	1.33	6.0		WATER BASED	
2215	1.39	13.0		WATER BASED	
2218	1.49	20.0		WATER BASED	
2221	1.49	18.0		WATER BASED	
2305	1.56	23.0		WATER BASED	
2340	1.56	25.0		WATER BASED	



2546	1.56	22.0		WATER BASED	
2579	1.56	23.0		WATER BASED	
2863	1.56	20.0		WATER BASED	
3027	1.56	21.0		WATER BASED	
3171	1.56	18.0		WATER BASED	
3212	1.56	27.0		WATER BASED	
3279	1.56	18.0		WATER BASED	
3320	1.56	18.0		WATER BASED	
3362	1.56	20.0		WATER BASED	
3433	1.56	21.0		WATER BASED	
3552	1.56	21.0		WATER BASED	
3577	1.56			WATER BASED	
3586	1.52	13.0		WATER BASED	
3611	1.56	18.0		WATER BASED	
3691	1.56	18.0		WATER BASED	
3702	1.56	20.0		WATER BASED	
3713	1.56	16.0		WATER BASED	
3755	1.58	14.0		WATER BASED	
3813	1.56	16.0		WATER BASED	
3854	1.56	16.0		WATER BASED	
3869	1.56	16.0		WATER BASED	
3894	1.56	15.0		WATER BASED	
3947	1.56	16.0		WATER BASED	
4012	1.56	16.0		WATER BASED	
4014	1.56	16.0		WATER BASED	
4017	1.56	16.0		WATER BASED	
4027	1.56	16.0		WATER BASED	
4036	1.56	16.0		WATER BASED	
4047	1.56	17.0		WATER BASED	
4078	1.56	18.0		WATER BASED	
4093	1.56	16.0		WATER BASED	
4130	1.56	18.0		WATER BASED	
4149	1.56	18.0		WATER BASED	
4161	1.56	18.0		WATER BASED	
4179	1.56	15.0		WATER BASED	
4188	1.56	18.0		WATER BASED	
4281	1.56	15.0		WATER BASED	
4288	1.56	16.0		WATER BASED	
4330	1.56	16.0		WATER BASED	
4371	1.56	17.0		WATER BASED	



4377	1.56	17.0		WATER BASED	
4380	1.56	17.0		WATER BASED	
4457	1.56	17.0		WATER BASED	
4524	1.56	16.0		WATER BASED	
4579	1.56	17.0		WATER BASED	
4614	1.56	16.0		WATER BASED	
4631	1.56	18.0		WATER BASED	
4675	1.56	17.0		WATER BASED	
4684	1.56	17.0		WATER BASED	

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
4186.01	[m]
4179.72	[m]
4174.65	[m]
4169.71	[m]
4166.38	[m]
4164.42	[m]

Pressure plots

The pore pressure data is sourced from well logs if no other source is specified. In some wells where pore pressure logs do not exist, information from Drill stem tests and kicks have been used. The data has been reported to the NPD, and further processed and quality controlled by IHS Markit.

Document name	Document format	Document size [MB]
1789 Formation pressure (Formasjonstrykk)	PDF	0.28

