



General information

Wellbore name	6507/5-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Field	SKARV
Discovery	6507/5-1 Skarv
Well name	6507/5-1
Seismic location	INLINE 274 SP 1170 - 1180
Production licence	212
Drilling operator	Amoco Norway Oil Company
Drill permit	919-L
Drilling facility	MÆRSK JUTLANDER
Drilling days	131
Entered date	24.12.1997
Completed date	03.05.1998
Plugged date	03.05.1998
Plugged and abandon date	13.10.2019
Release date	03.05.2000
Publication date	15.11.2001
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS/CONDENSATE
Discovery wellbore	YES
1st level with HC, age	LATE CRETACEOUS
1st level with HC, formation	LANGE FM
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	FANGST GP
3rd level with HC, age	EARLY JURASSIC
3rd level with HC, formation	BÅT GP
Kelly bushing elevation [m]	23.3
Water depth [m]	323.2
Total depth (MD) [m RKB]	4224.0
Final vertical depth (TVD) [m RKB]	4222.0
Bottom hole temperature [°C]	147
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	ÅRE FM



Geodetic datum	ED50
NS degrees	65° 44' 36.11" N
EW degrees	7° 39' 4.6" E
NS UTM [m]	7292152.72
EW UTM [m]	438172.23
UTM zone	32
NPDID wellbore	3683

Wellbore history

General

The purpose of the 6507/5-1 well was to test the Jurassic sandstones of the Donnatello prospect and potential Cretaceous sandstones. The prospect is located between the Norne and Heidrun fields, in the area of the Dønna Terrace in Nordland II, and about 200km off the coast of Helgeland in North Norway. The well was drilled to allow for future re-entry and re-completion as a producer.

Operations and results

Well 6507/5-1 was drilled with the semisubmersible rig Maersk Jutlander. Water based mud was used down to 1065, oil based mud from there to TD. The well was spudded on December 24th 1997, and TD was reached March 7th 1998. The well reached a TD of 4224 m MD in the Early Jurassic Åre formation. Gas condensate and oil were discovered in Jurassic sandstones of the Fangst and Båt groups, as well as additional oil discovered in sandstones of the Cretaceous Lange Formation. Six cores were cut in the Garn, Not, Ile, and Ror Formations from 3392.5 to 3542.7 m RKB. Another three cores were cut in the Ror, Tofte, Tilje, and Åre Formations from 3562 to 3698.6 m. Thirteen MDT samples containing variable proportions of gas, oil, and mud filtrate were taken in the Lange, Garn, Ile, and Tilje Formations while four MDT samples containing water were taken in the Åre Formation. Following the discovery, Donnatello was renamed Skarv and the well was suspended as an oil and gas discovery.

Testing

Before testing the well was cleaned and displaced to a Calcium Chloride brine. Three separate cased hole drill stem tests were run. Two tests were conducted in the Jurassic and one in the Cretaceous Lange formation. DST1 in the Jurassic Tilje formation produced 628 m3 oil with 109,804 m3 of gas per day through a 15.87mm choke. DST2a in the Jurassic Garn formation produced 178m3 of oil with 741,460 m3 of gas per day through a 15.87mm choke. DST2b from the Jurassic Garn and Ile formations combined produced 148m3 of oil and 580,560m3 of gas per day through a 12.70mm choke. DST3 in the Cretaceous Lange formation produced 925m3 of oil and 222,155m3 of gas per day through a 14.28mm choke.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1080.00	4223.00

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	3392.5	3392.7	[m]
2	3395.0	3422.1	[m]
3	3422.1	3449.8	[m]
4	3449.8	3470.9	[m]
5	3470.9	3498.4	[m]
6	3498.4	3542.7	[m]
7	3562.0	3613.5	[m]
8	3616.0	3645.6	[m]
9	3645.0	3698.6	[m]

Total core sample length [m]	282.6
Cores available for sampling?	YES

Core photos

3392-3393m



3395-3400m



3400-3405m



3405-3410m



3410-3415m



3415-3420m



3420-3422m



3422-3427m



3427-3432m



3432-3437m



3437-3442m



3442-3447m



3447-3449m



3449-3454m



3454-3459m



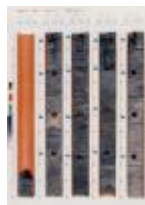
3459-3464m



3464-3469m



3469-3470m



3470-3475m



3475-3480m



3480-3485m



3485-3490m



3490-3495m



3495-3498m



3498-3503m



3503-3508m



3508-3513m



3513-3518m



3518-3523m



3523-3528m



3528-3533m



3533-3538m



3538-3542m



3562-3567m



3567-3572m



3572-3577m



3577-3582m



3582-3587m



3587-3592m



3592-3597m



3597-3602m



3602-3607m



3607-3612m



3612-3613m



3616-3621m



3621-3626m



3626-3631m



3631-3636m



3636-3641m



3641-3645m



3645-3650m



3650-3655m



3655-3660m



3660-3665m



3665-3670m



3670-3675m



3675-3680m



3680-3685m



3685-3690m



3690-3695m



3695-3698m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1440.0	[m]	DC	RRI
1500.0	[m]	DC	RRI
1560.0	[m]	DC	RRI
1560.0	[m]	SWC	RRI
1590.0	[m]	DC	RRI
1620.0	[m]	DC	RRI
1650.0	[m]	DC	RRI
1680.0	[m]	DC	RRI
1710.0	[m]	DC	RRI



1740.0	[m]	DC	RRI
1770.0	[m]	DC	RRI
1800.0	[m]	DC	RRI
1820.0	[m]	DC	RRI
1830.0	[m]	DC	RRI
1860.0	[m]	DC	RRI
1880.0	[m]	DC	RRI
1900.0	[m]	DC	RRI
1920.0	[m]	DC	RRI
1939.0	[m]	DC	RRI
1966.0	[m]	DC	RRI
1987.0	[m]	DC	RRI
2002.0	[m]	DC	RRI
2020.0	[m]	DC	RRI
2032.0	[m]	DC	RRI
2050.0	[m]	DC	RRI
2062.0	[m]	DC	RRI
2068.0	[m]	DC	RRI
2076.0	[m]	DC	RRI
2086.0	[m]	DC	RRI
2101.0	[m]	DC	RRI
2125.0	[m]	DC	RRI
2137.0	[m]	DC	RRI
2149.0	[m]	DC	RRI
2167.0	[m]	DC	RRI
2182.0	[m]	DC	RRI
2194.0	[m]	DC	RRI
2209.0	[m]	DC	RRI
2233.0	[m]	DC	RRI
2257.0	[m]	DC	RRI
2266.0	[m]	DC	RRI
2281.0	[m]	DC	RRI
2299.0	[m]	DC	RRI
2311.0	[m]	DC	RRI
2326.0	[m]	DC	RRI
2344.0	[m]	DC	RRI
2359.0	[m]	DC	RRI
2374.0	[m]	DC	RRI
2380.0	[m]	DC	RRI
2404.0	[m]	DC	RRI



2416.0	[m]	DC	RRI
2434.0	[m]	DC	RRI
2446.0	[m]	DC	RRI
2464.0	[m]	DC	RRI
2476.0	[m]	DC	RRI
2497.0	[m]	DC	RRI
2509.0	[m]	DC	RRI
2527.0	[m]	DC	RRI
2539.0	[m]	DC	RRI
2557.0	[m]	DC	RRI
2569.0	[m]	DC	RRI
2587.0	[m]	DC	RRI
2599.0	[m]	DC	RRI
2614.0	[m]	DC	RRI
2626.0	[m]	DC	RRI
2644.0	[m]	DC	RRI
2659.0	[m]	DC	RRI
2674.0	[m]	DC	RRI
2689.0	[m]	DC	RRI
2704.0	[m]	DC	RRI
2715.8	[m]	SWC	RRI
2725.0	[m]	DC	RRI
2734.0	[m]	DC	RRI
2749.0	[m]	DC	RRI
2769.0	[m]	SWC	RRI
2779.0	[m]	DC	RRI
2794.0	[m]	DC	RRI
2809.0	[m]	DC	RRI
2824.4	[m]	SWC	RRI
2839.0	[m]	DC	RRI
2854.0	[m]	DC	RRI
2865.0	[m]	SWC	RRI
2890.0	[m]	SWC	RRI
2899.0	[m]	DC	RRI
2914.0	[m]	DC	RRI
2929.0	[m]	DC	RRI
2949.0	[m]	SWC	RRI
2964.0	[m]	SWC	RRI
2974.0	[m]	DC	RRI
2992.5	[m]	SWC	RRI



3005.0	[m]	SWC	RRI
3021.5	[m]	SWC	RRI
3030.5	[m]	SWC	RRI
3044.0	[m]	SWC	RRI
3064.0	[m]	DC	RRI
3079.0	[m]	DC	RRI
3088.0	[m]	DC	RRI
3094.0	[m]	DC	RRI
3103.0	[m]	DC	RRI
3109.0	[m]	DC	RRI
3118.0	[m]	DC	RRI
3123.0	[m]	SWC	RRI
3146.5	[m]	SWC	RRI
3154.0	[m]	DC	RRI
3174.5	[m]	SWC	RRI
3192.0	[m]	SWC	RRI
3196.0	[m]	SWC	RRI
3198.5	[m]	SWC	RRI
3214.0	[m]	DC	RRI
3229.0	[m]	DC	RRI
3245.0	[m]	DC	RRI
3251.0	[m]	C	RRI
3268.0	[m]	C	RRI
3288.0	[m]	C	RRI
3300.0	[m]	C	RRI
3327.5	[m]	C	RRI
3338.0	[m]	C	RRI
3352.0	[m]	C	RRI
3360.0	[m]	C	RRI
3362.0	[m]	DC	RRI
3365.0	[m]	C	RRI
3368.0	[m]	DC	RRI
3370.0	[m]	C	RRI
3375.0	[m]	C	RRI
3384.0	[m]	DC	RRI
3392.0	[m]	DC	RRI
3395.7	[m]	C	RRI
3402.5	[m]	C	RRI
3417.8	[m]	C	RRI
3431.6	[m]	C	RRI



3433.1 [m]	C	RRI
3448.3 [m]	C	RRI
3456.3 [m]	C	RRI
3460.0 [m]	C	RRI
3465.0 [m]	C	RRI
3470.9 [m]	C	RRI
3473.0 [m]	C	RRI
3474.4 [m]	C	RRI
3477.0 [m]	C	RRI
3480.6 [m]	C	RRI
3482.9 [m]	C	RRI
3490.0 [m]	C	RRI
3500.3 [m]	C	RRI
3507.6 [m]	C	RRI
3515.1 [m]	C	RRI
3521.0 [m]	C	RRI
3523.4 [m]	C	RRI
3542.6 [m]	C	RRI
3567.5 [m]	C	RRI
3574.4 [m]	C	RRI
3575.2 [m]	C	RRI
3579.5 [m]	C	RRI
3585.1 [m]	C	RRI
3595.1 [m]	C	RRI
3601.7 [m]	C	RRI
3608.4 [m]	C	RRI
3617.9 [m]	C	RRI
3623.5 [m]	C	RRI
3633.6 [m]	C	RRI
3642.8 [m]	C	RRI
3647.8 [m]	C	RRI
3653.1 [m]	C	RRI
3655.6 [m]	C	RRI
3657.4 [m]	C	RRI
3673.7 [m]	C	RRI
3682.7 [m]	C	RRI
3690.8 [m]	C	RRI
3696.9 [m]	C	RRI
3707.0 [m]	DC	RRI
3716.0 [m]	DC	RRI



3724.0	[m]	C	RRI
3734.0	[m]	DC	RRI
3743.0	[m]	DC	RRI
3752.0	[m]	DC	RRI
3761.0	[m]	DC	RRI
3767.0	[m]	DC	RRI
3779.0	[m]	DC	RRI
3788.0	[m]	DC	RRI
3797.0	[m]	DC	RRI
3815.0	[m]	DC	RRI
3824.0	[m]	DC	RRI
3833.0	[m]	DC	RRI
3842.0	[m]	DC	RRI
3851.0	[m]	DC	RRI
3857.0	[m]	DC	RRI
3941.0	[m]	DC	RRI
3989.0	[m]	DC	RRI
3998.0	[m]	DC	RRI
4142.0	[m]	DC	RRI
4151.0	[m]	DC	RRI
4160.0	[m]	DC	RRI
4169.0	[m]	DC	RRI
4178.0	[m]	DC	RRI
4187.0	[m]	DC	RRI
4196.0	[m]	DC	RRI

Oil samples at the Norwegian Offshore Directorate

Test type	Bottle number	Top depth MD [m]	Bottom depth MD [m]	Fluid type	Test time	Samples available
DST	DST1	3607.00	3653.00	OIL	02.04.1998 - 07:35	YES
DST	DST2	3430.00	3442.00	CONDE NSATE	13.04.1998 - 18:00	YES
DST	DST2A	3494.00	3514.00	CONDE NSATE	15.04.1998 - 21:30	YES
DST	DST3	2993.00	3001.00	OIL	26.04.1998 - 08:53	YES

**Lithostratigraphy**

Top depth [mMD RKB]	Lithostrat. unit
347	NORDLAND GP
347	NAUST FM
1381	KAI FM
1802	HORDALAND GP
1802	BRYGGE FM
1987	ROGALAND GP
1987	TARE FM
2032	TANG FM
2076	SHETLAND GP
2076	NISE FM
2523	KVITNOS FM
2716	CROMER KNOLL GP
2716	LYSING FM
2718	LANGE FM
3178	VIKING GP
3178	SPEKK FM
3194	MELKE FM
3380	FANGST GP
3380	GARN FM
3434	NOT FM
3476	ILE FM
3517	BÅT GP
3517	ROR FM
3577	TOFTE FM
3579	TILJE FM
3688	ÅRE FM

Composite logs

Document name	Document format	Document size [MB]
3683	pdf	0.69

Geochemical information





Document name	Document format	Document size [MB]
3683_1	pdf	1.88
3683_2	pdf	1.68

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

Document name	Document format	Document size [MB]
3683_6507_5_1_COMPLETION_REPORT	pdf	79.48

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	3607	3653	15.9
2.1	3430	3442	15.9
2.2	3430	3514	12.7
3.0	2993	3001	14.3

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0	8.000		37.000	
2.1	19.000		36.000	
2.2	22.000			
3.0	18.000		42.000	

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	628	109000	0.857	0.700	175
2.1	178	741000	0.759	0.670	4164
2.2	148	580000	0.767	0.675	3926
3.0	925	222000	0.829	0.670	240

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AIT DSI GR	1053	3221





AIT DSI GR	3200	4220
CMR	2770	3120
CMR2000	3350	3800
IPLT	1053	3223
IPLT	3200	4225
MDT	1382	3091
MDT	3381	3873
MDT	3406	3770
MDT	3582	4182
MSCT	1382	3199
MSCT	2715	3031
MSCT	3251	4132
MWD CDR GR RES	350	485
MWD CDR GR RES	496	1063
MWD CDR GR RES	3239	4224
MWD DIR	442	496
MWD RAB GR RES	1069	3236
OBDT	2804	3192
UBI	3095	3187
UBI	3126	3210
UBI	3228	4210
USIT	2890	3085
USIT	3100	3700
W VSP	1800	2300
ZO VSP	1580	2180
ZO VSP	2180	4130

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	480.0	36	496.0	0.00	LOT
SURF.COND.	20	1053.0	26	1065.0	1.67	LOT
INTERM.	9 5/8	3199.0	12 1/4	3236.0	1.95	LOT
LINER	7	3863.0	8 1/2	4224.0	0.00	LOT
OPEN HOLE		4224.0	8 1/2	4224.0	0.00	LOT

Drilling mud



Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
350	1.60			kill mud	
350	1.20			spud mud	
442	1.60			kill mud	
442	1.00			spud mud	
496	1.60			kill mud	
496	1.00			spud mud	
571	1.00			spud mud	
571	1.50			kill mud	
1053	1.50			kill mud	
1053	1.00			spud mud	
1065	1.50			kill mud	
1065	1.30			spud mud	
1065	1.00			sea water	
1065	1.40			oil based	
3199	1.40			oil based	
3235	1.40			oil based	
3236	1.50			oil based	
3241	1.40			oil based	
3472	1.40			oil based	
3542	1.40			oil based	
3932	1.40			oil based	
4085	1.46			oil based	
4224	1.46			oil based	

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]
3683 Formation pressure (Formasjonstrykk)	pdf	0.28

