

**General information**

Wellbore name	35/11-6
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	VEGA
Discovery	35/11-2 Vega Sør
Well name	35/11-6
Seismic location	MN9003 - 302 & SP 632
Production licence	090
Drilling operator	Mobil Exploration Norway INC
Drill permit	714-L
Drilling facility	SOVEREIGN EXPLOR
Drilling days	82
Entered date	30.01.1992
Completed date	20.04.1992
Release date	20.04.1994
Publication date	15.06.2005
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL SHOWS
Discovery wellbore	NO
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	INTRA HEATHER FM SS
Kelly bushing elevation [m]	27.0
Water depth [m]	370.0
Total depth (MD) [m RKB]	3995.0
Final vertical depth (TVD) [m RKB]	3989.0
Maximum inclination [°]	2.5
Bottom hole temperature [°C]	144
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	61° 11' 45.82" N
EW degrees	3° 27' 55.46" E
NS UTM [m]	6784876.16
EW UTM [m]	525017.66



UTM zone	31
NPDID wellbore	1879

Wellbore history

**General**

Block 35/11 is located on the northwestern edge of the Horda Platform, on the Lomre and Uer Terrace. The Northern part of the Viking Graben is immediately to the Northwest. The block lies due north of the Troll Field. The well was drilled to appraise the 35/11-2 Discovery, which proved oil and gas in the Middle Jurassic and had shows in Late Jurassic Intra Heather Sandstones. The primary objective was to evaluate the Middle Jurassic sandstones of the Brent Group, and the location was chosen such that the OWC of the Tarbert Formation could be identified. The secondary objective was the Late Jurassic Intra Heather Sandstones, which were thought to be much thicker than in the 35/11-2 location.

Operations and results

Wildcat well 35/11-6 was spudded with the semi-submersible installation Sovereign Explorer on 30 January 1992 and drilled to TD at 3990 m in the Early Jurassic Statfjord Formation. The well was drilled with seawater and viscous pills to 985 m and with KCl/polymer mud from 985 m to TD. In the Late Jurassic, sandstones were found in the Upper Heather and Sognefjord Formations. In the Upper Heather Formation a very porous and permeable sandstone contained 1.2 m of oil. A core was taken at the base of this interval and an RFT sample at 3072.7 m recovered gas and heavy oil. RFT pressure and sampling data indicated that the zone had excellent permeability in places. The pressure data did not support communication with 35/11-2, and a large sampling pressure draw down indicated a limited accumulation. The sandstone in the Sognefjord Formation, although thicker, was much less porous and contained only traces of residual oil. Two cores were taken in this Formation and an RFT at 3174.5 m recovered only traces of hydrocarbons. In the Middle Jurassic Brent Group, shows were observed in cores but these were probably residual as petrophysical results showed only low oil saturations. The reservoir quality of the sandstones was generally poor and many of the RFT pretests taken were either dry or supercharged. An RFT sample at 3522.4 m contained mud filtrate and only traces of gas.

No oil shows were recorded above top Jurassic and below base Brent Group. Organic geochemical analyses showed that both the Draupne and Heather Formations contained good to excellent source rocks for oil and gas generation. The top of the oil window is reached at about base Draupne Formation at 3000 m, peak-oil generation (0.8% Ro) at around 3250-3350 m, and the base of the oil window (1.0% Ro) at about 3700 m. The analyses showed that the Intra Heather RFT sample from 3072.7 m was a low-mature heavy oil (equivalent to a 0.7% Ro source rock), suggesting the live oil could have a rather local origin in either base Draupne or top Heather shales.

Eleven cores were cut, recovering a total of 231 m of core. One was cut in the Upper Heather Formation, two in the Sognefjord Formation and eight in the Brent Group. Three RFT samples were taken, one at 3174.5 m in the Sognefjord Formation (mud filtrate with only trace of gas and light oil), one at 3072.7 m in the Intra Heather sandstone (water, gas and 37.7 deg.API oil), and one at 3522.4 m in the Tarbert Formation (mud filtrate with only trace of gas and oil).

The well was permanently abandoned on 20 April 1992. The well contained a limited accumulation of live oil. It is classified as well with shows.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate



Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
990.00	3989.00

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	3072.0	3076.0	[m]
2	3162.0	3180.7	[m]
3	3181.0	3193.2	[m]
4	3501.0	3513.0	[m]
5	3516.0	3542.0	[m]
6	3544.0	3558.0	[m]
7	3558.0	3581.0	[m]
8	3581.0	3608.8	[m]
9	3608.8	3636.0	[m]
10	3636.5	3673.0	[m]
11	3673.0	3705.3	[m]

Total core sample length [m]	233.7
Cores available for sampling?	YES

Core photos



3072-3076m



3076-3077m



3162-3166m



3166-3170m



3170-3174m



3174-3178m



3178-3180m



3181-3185m



3185-3189m



3189-3193m



3193-3193m



3501-3506m



3506-3511m



3511-3513m



3516-3521m



3521-3526m



3526-3531m



3531-3536m



3536-3541m



3541-3542m



3544-3549m



3549-3554m



3554-3558m



3558-3563m



3563-3568m



3568-3573m



3573-3578m



3578-3581m



3581-3586m



3586-3591m



3591-3596m



3596-3601m



3601-3606m



3606-3608m



3608-3613m



3613-3618m



3618-3623m



3623-3628m



3628-3633m



3633-3636m



3636-3641m



3641-3646m



3646-3651m



3651-3656m



3656-3661m



3661-3666m



3666-3671m



3671-3673m



3673-3678m



3678-3683m



3683-3688m



3688-3693m



3693-3698m



3698-3703m



3704-3705m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
990.0	[m]	DC	MOBIL
1000.0	[m]	DC	MOBIL
1010.0	[m]	DC	MOBIL
1020.0	[m]	DC	MOBIL
1030.0	[m]	DC	MOBIL
1050.0	[m]	DC	MOBIL
1070.0	[m]	DC	MOBIL
1090.0	[m]	DC	MOBIL
1110.0	[m]	DC	MOBIL
1120.0	[m]	DC	MOBIL
1130.0	[m]	DC	MOBIL
1150.0	[m]	DC	MOBIL
1170.0	[m]	DC	MOBIL
1190.0	[m]	DC	MOBIL
1210.0	[m]	DC	MOBIL
1230.0	[m]	DC	MOBIL



1250.0	[m]	DC	MOBIL
1270.0	[m]	DC	MOBIL
1290.0	[m]	DC	MOBIL
1310.0	[m]	DC	MOBIL
1330.0	[m]	DC	MOBIL
1350.0	[m]	DC	MOBIL
1370.0	[m]	DC	MOBIL
1380.0	[m]	DC	MOBIL
1390.0	[m]	DC	MOBIL
1400.0	[m]	DC	MOBIL
1410.0	[m]	DC	MOBIL
1430.0	[m]	DC	MOBIL
1440.0	[m]	DC	MOBIL
1450.0	[m]	DC	MOBIL
1470.0	[m]	DC	MOBIL
1500.0	[m]	DC	MOBIL
1520.0	[m]	DC	MOBIL
1540.0	[m]	DC	MOBIL
1600.0	[m]	DC	MOBIL
1640.0	[m]	DC	MOBIL
1660.0	[m]	DC	MOBIL
1680.0	[m]	DC	MOBIL
1720.0	[m]	DC	MOBIL
1740.0	[m]	DC	MOBIL
1760.0	[m]	DC	MOBIL
1820.0	[m]	DC	MOBIL
1860.0	[m]	DC	MOBIL
1880.0	[m]	DC	MOBIL
1920.0	[m]	DC	MOBIL
2000.0	[m]	SWC	MOBIL
2029.0	[m]	SWC	MOBIL
2054.0	[m]	SWC	MOBIL
2077.0	[m]	SWC	MOBIL
2152.0	[m]	SWC	MOBIL
2180.0	[m]	SWC	MOBIL
2205.0	[m]	SWC	MOBIL
2227.0	[m]	SWC	MOBIL
2313.0	[m]	SWC	MOBIL
2360.0	[m]	DC	RRI
2405.0	[m]	SWC	MOBIL



2424.5	[m]	SWC	MOBIL
2451.5	[m]	SWC	MOBIL
2480.0	[m]	SWC	MOBIL
2532.5	[m]	SWC	MOBIL
2562.5	[m]	SWC	MOBIL
2580.0	[m]	DC	RRI
2603.0	[m]	DC	RRI
2623.5	[m]	SWC	MOBIL
2650.0	[m]	SWC	MOBIL
2669.0	[m]	DC	RRI
2676.0	[m]	SWC	MOBIL
2690.0	[m]	DC	RRI
2711.0	[m]	SWC	MOBIL
2720.0	[m]	DC	RRI
2733.0	[m]	SWC	MOBIL
2756.5	[m]	SWC	MOBIL
2768.0	[m]	SWC	MOBIL
2775.0	[m]	SWC	MOBIL
2802.0	[m]	SWC	MOBIL
2821.5	[m]	SWC	MOBIL
2840.0	[m]	SWC	MOBIL
2865.0	[m]	SWC	MOBIL
2876.0	[m]	DC	RRI
2891.0	[m]	SWC	MOBIL
2898.5	[m]	SWC	MOBIL
2905.0	[m]	SWC	MOBIL
2915.0	[m]	SWC	MOBIL
2924.0	[m]	DC	MOBIL
2938.5	[m]	SWC	MOBIL
2960.0	[m]	DC	MOBIL
2960.0	[m]	SWC	MOBIL
2986.0	[m]	SWC	MOBIL
2996.0	[m]	DC	MOBIL
3012.0	[m]	SWC	MOBIL
3026.0	[m]	DC	MOBIL
3032.0	[m]	DC	MOBIL
3038.5	[m]	SWC	MOBIL
3055.0	[m]	SWC	MOBIL
3059.0	[m]	DC	MOBIL
3062.5	[m]	SWC	MOBIL



3072.0	[m]	C	MOBIL
3073.0	[m]	C	MOBIL
3074.0	[m]	C	MOBIL
3076.0	[m]	C	MOBIL
3076.9	[m]	C	MOBIL
3080.0	[m]	DC	MOBIL
3093.0	[m]	SWC	MOBIL
3115.0	[m]	SWC	MOBIL
3116.0	[m]	DC	MOBIL
3133.0	[m]	SWC	MOBIL
3149.0	[m]	DC	MOBIL
3154.0	[m]	SWC	MOBIL
3164.0	[m]	C	MOBIL
3172.0	[m]	C	MOBIL
3178.0	[m]	C	MOBIL
3179.0	[m]	C	MOBIL
3179.8	[m]	C	MOBIL
3184.0	[m]	C	MOBIL
3186.0	[m]	C	MOBIL
3190.0	[m]	C	MOBIL
3191.9	[m]	C	MOBIL
3193.2	[m]	C	MOBIL
3202.0	[m]	SWC	MOBIL
3223.0	[m]	SWC	MOBIL
3247.5	[m]	SWC	MOBIL
3273.0	[m]	SWC	MOBIL
3295.0	[m]	SWC	MOBIL
3317.0	[m]	SWC	RRI
3340.0	[m]	SWC	RRI
3359.0	[m]	DC	RRI
3374.0	[m]	SWC	RRI
3401.0	[m]	DC	RRI
3418.0	[m]	SWC	RRI
3437.5	[m]	SWC	RRI
3445.5	[m]	SWC	MOBIL
3454.0	[m]	SWC	RRI
3476.0	[m]	DC	RRI
3494.0	[m]	SWC	RRI
3510.0	[m]	C	RRI
3517.5	[m]	C	GEOSTRAT



3520.9	[m]	C	GEOSTR
3525.5	[m]	C	GEOSTR
3529.0	[m]	C	MOBIL
3536.8	[m]	C	GEOSTRAT
3541.0	[m]	C	MOBIL
3541.8	[m]	C	GEOSTRAT
3545.0	[m]	C	MOBIL
3549.0	[m]	C	MOBIL
3551.6	[m]	C	GEOSTRAT
3559.3	[m]	C	GEOSTR
3560.0	[m]	C	MOBIL
3568.4	[m]	C	GEOSTRAT
3569.0	[m]	C	MOBIL
3574.0	[m]	C	MOBIL
3574.3	[m]	C	GEOSTRAT
3581.0	[m]	C	MOBIL
3582.5	[m]	C	GEOSTRAT
3588.6	[m]	C	GEOSTR
3589.5	[m]	C	MOBIL
3595.6	[m]	C	GEOSTRAT
3600.7	[m]	C	GEOSTR
3601.0	[m]	C	MOBIL
3622.5	[m]	C	GEOSTRAT
3644.9	[m]	C	GEOSTR
3649.4	[m]	C	GEOSTR
3651.0	[m]	C	RRI
3660.0	[m]	C	RRI
3667.3	[m]	C	GEOSTRAT
3673.5	[m]	C	GEOSTR
3680.0	[m]	C	RRI
3689.0	[m]	C	RRI
3702.0	[m]	C	RRI
3723.0	[m]	SWC	RRI
3731.5	[m]	SWC	RRI
3765.5	[m]	SWC	RRI
3772.2	[m]	SWC	RRI
3788.5	[m]	SWC	RRI
3809.0	[m]	DC	RRI
3830.0	[m]	DC	RRI
3851.0	[m]	DC	RRI



3884.0	[m]	DC	RRI
3956.0	[m]	SWC	RRI

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
396	NORDLAND GP
736	UTSIRA FM
843	HORDALAND GP
1625	ROGALAND GP
1625	BALDER FM
1688	SELE FM
1723	LISTA FM
1923	VÅLE FM
1955	SHETLAND GP
2772	CROMER KNOLL GP
2772	RØDBY FM
2800	SOLA FM
2816	ÅSGARD FM
2902	VIKING GP
2902	DRAUPNE FM
3061	HEATHER FM
3157	SOGNEFJORD FM
3196	HEATHER FM
3516	BRENT GP
3516	TARBERT FM
3526	NESS FM
3605	ETIVE FM
3635	RANNOCH FM
3678	OSEBERG FM
3721	DUNLIN GP
3721	DRAKE FM
3773	COOK FM
3864	AMUNDSEN FM
3887	JOHANSEN FM
3924	AMUNDSEN FM
3943	STATEFJORD GP



Composite logs

Document name	Document format	Document size [MB]
1879	pdf	0.47

Geochemical information

Document name	Document format	Document size [MB]
1879 1	pdf	5.99

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

Document name	Document format	Document size [MB]
1879 01 WDSS General Information	pdf	0.57
1879 02 WDSS completion log	pdf	0.23

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

Document name	Document format	Document size [MB]
1879 35 11 6 COMPLETION LOG	pdf	3.28
1879 35 11 6 COMPLETION REPORT	pdf	67.66

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CST GR	2000	3295
CST GR	3317	3956
CST GR	3395	3940
DIT LSS GR AMS	3138	3987
DIT SDT AMS GR	1988	3306
DIT SDT LDT GR AMS	979	1995
DLL MSFL VDL AMS GR	2695	3303
LDT CNT AMS GR	1988	3307
LDT CNT MSFL AMS NGT	3298	3987





MOBIL LSAL SWAL GR	945	1990
MOBIL LSAL SWAL GR	1988	3292
MOBIL LSAL SWAL GR	3298	3987
MWD - GR RES DIR	396	3990
RFT HP GR P S	2737	3188
RFT HP GR P S	3072	3192
RFT HP GR P S	3518	3855
SHDT GR	2064	3307
SHDT GR	3298	3987
VSP	400	3980

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	455.0	36	462.0	0.00	LOT
INTERM.	20	979.0	26	985.0	1.58	LOT
INTERM.	13 3/8	1988.0	17 1/2	1996.0	1.63	LOT
INTERM.	9 5/8	3296.0	12 1/4	3310.0	1.86	LOT
OPEN HOLE		3995.0	8 1/2	3995.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
462	1.07			WATER BASED	
985	1.07			WATER BASED	
1273	1.20	17.0		WATER BASED	
1541	1.20	17.0		WATER BASED	
1740	1.28	17.0		WATER BASED	
1996	1.28	26.0		WATER BASED	
2078	1.18	23.0		WATER BASED	
2117	1.18	22.0		WATER BASED	
2135	1.18	19.0		WATER BASED	
2173	1.18	21.0		WATER BASED	
2344	1.20	22.0		WATER BASED	
2576	1.23	23.0		WATER BASED	
2770	1.20	20.0		WATER BASED	
3031	1.22	16.0		WATER BASED	



3072	1.24	14.0		WATER BASED	
3080	1.24	14.0		WATER BASED	
3129	1.24	17.0		WATER BASED	
3162	1.24	16.0		WATER BASED	
3180	1.24	11.0		WATER BASED	
3194	1.26	15.0		WATER BASED	
3206	1.26	14.0		WATER BASED	
3304	1.26	19.0		WATER BASED	
3475	1.52	19.0		WATER BASED	
3645	1.51	27.0		WATER BASED	
3672	1.51	27.0		WATER BASED	
3704	1.51	27.0		WATER BASED	
3800	1.50	24.0		WATER BASED	
3877	1.50	24.0		WATER BASED	
3990	1.49	24.0		WATER BASED	

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
3175.03	[m]
3163.48	[m]
3184.49	[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]
1879 Formation pressure (Formasjonstrykk)	pdf	0.23

