

**General information**

Wellbore name	35/8-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	VEGA
Discovery	35/8-1 Vega
Well name	35/8-1
Seismic location	79 - 2 - 35A SP 460
Production licence	058
Drilling operator	Norwegian Gulf Exploration Company AS
Drill permit	258-L
Drilling facility	SEDCO 704
Drilling days	182
Entered date	27.07.1980
Completed date	24.01.1981
Release date	24.01.1983
Publication date	01.08.2010
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS/CONDENSATE
Discovery wellbore	YES
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	TARBERT FM
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	NESS FM
3rd level with HC, age	MIDDLE JURASSIC
3rd level with HC, formation	ETIVE FM
Kelly bushing elevation [m]	26.0
Water depth [m]	376.0
Total depth (MD) [m RKB]	4344.9
Final vertical depth (TVD) [m RKB]	4344.0
Bottom hole temperature [°C]	152
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	61° 21' 26.37" N



EW degrees	3° 21' 44.09" E
NS UTM [m]	6802804.70
EW UTM [m]	519372.88
UTM zone	31
NPDID wellbore	205

Wellbore history

General

Well 35/8-1 is located on the Marflo Spur, ca 30 km west of the Gjøa Field in the northern North Sea. The principal objective of this well was to test the hydrocarbon potential of sandstones within the Jurassic section beneath the Late Cimmerian Unconformity.

Operations and results

Wildcat well 35/8-1 was spudded with the semi-submersible installation Sedco-704 on 27 July 1980 and drilled to TD at 4345 m in Late Triassic sediments of the Statfjord Formation. The well was drilled without significant technical problems, but two well kicks occurred. After penetrating the Jurassic sand reservoir at 3516m a sudden rapid gas increase was noted, but due to mechanical problems could not be measured. This increase was associated with a quantity of reservoir fluids entering the borehole. During controlling of the kick, a large proportion of gas was vented and light low gravity yellowish oil recovered from the mud. A second kick with formation fluids entering the well bore was taken after coring core no 3 at 3549.6 to 3567.1 m. The well was drilled with seawater and viscous slugs down to 890 m, with gypsum/Lignosulphonate mud from 890 m to 2196 m, and with KCl/polymer mud from 2196 m to TD.

The top sections down to Top Rogaland Group, Balder Formation at 1683 m contained a number of sands and sandy intervals. From top Rogaland and throughout the Cretaceous section down to top Draupne Formation at 3186 m the lithology was mainly claystone and limestone. The heather Formation came in at 3200 m with two thin Intra-Heather Formation sandstones at 3219 and 3250 m. Heather Formation shale continued down to the Brent Group at 3516 m. Frequent sandstones were penetrated in the Brent and Dunlin Groups, and in the Statfjord Formation.

No shows or other hydrocarbon indications were recorded in the well above the first Intra Heather Formation sandstone at 3219 m. Indications of hydrocarbons while drilling occurred in Late, Middle and Early Jurassic sandstones. Log analysis indicated a gross hydrocarbon column of 140.5 m in the Brent Group down to a clear hydrocarbon/water contact at 3657 m in the Eive Formation. The gross hydrocarbon sand thickness was 115 m with an apparent net hydrocarbon thickness of 94 m. Average porosity in the net sand was 17% with an average water saturation of 25%. Apparent residual oil was indicated below the gas column in the Brent and in both Early Jurassic sands (Cook and Statfjord Formations). The Intra Heather Formation sandstones at 3219 and 3250 m were also interpreted as hydrocarbons based on shows and the logs.

Thirteen cores, totalling 187 m, were cut in the Brent Sand reservoir from 3522.6 m to 3709.7 m. Coring continued until hydrocarbon shows were no longer encountered. RFT fluid samples were taken at at 3524 m (1.5 Sm³ gas + 2.15 litres 39 deg API oil + trace mud in suspension), 3524.5 m (ca 1.4 Sm³ gas + 1.3 litres 45.5 deg API oil + trace mud), 3637.5 m (2.1 Sm³ gas + 3.1 litres 43 deg API oil + trace mud), 3671 m (mud filtrate + "a grey brown cloudy liquid with sour odour" + trace of dissolved gas), 3576 m (9.8 litres mud filtrate with trace oil and small amount of gas), and at 3576.5 m (0.3 Sm³ gas + 0.35 litres 43 deg API oil + 1.4 litres mud filtrate). In addition to the RFT samples



and samples taken during DST, samples with oil were recovered from the mud at 3515 m, 3518 m, and at 3567 m.

The well was permanently abandoned on 24 June 1981 as a gas/condensate discovery

Testing

Two intervals in the Brent Group sands were tested.

DST's no 1, 2, and 3 tested the interval 3636.3 to 3646.9 m in the Etive Formation. The two first DST's failed for technical reasons. DST3 gave flow rates of 650000 Sm³ gas, with 218 Sm³ condensate per day through a 40/64" choke. The Gas/condensate ratio was 2992 Sm³/Sm³, and the condensate gravity was 44.5 deg API. The H₂S content was below detection and the gas stream contained only trace amounts of CO₂. The maximum stable temperature recorded in DST3 was 134.4 deg C.

DST4 tested the interval 3565.2 to 3578.0 m in the Tarbert Formation. It flowed 920000 Sm³ gas with 229 Sm³ condensate per day through a 48/64" choke. The Gas/condensate ratio was 4007 Sm³/Sm³, and the condensate gravity was 45.6 deg API. The gas stream contained traces of H₂S and 1% CO₂. Maximum temperature recorded in DST4 was 130.6 deg C.

No water was produced in any of the tests.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
570.00	4343.50

Cuttings available for sampling?	NO
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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	3522.6	3528.7	[m]
2	3536.1	3549.6	[m]
3	3549.6	3567.1	[m]
4	3567.7	3569.8	[m]
5	3569.8	3587.3	[m]
6	3587.3	3601.8	[m]
7	3602.4	3610.4	[m]
8	3610.4	3628.1	[m]
9	3628.1	3647.3	[m]
10	3647.3	3666.0	[m]
11	3666.0	3671.9	[m]
12	3672.0	3690.9	[m]
13	3690.9	3709.7	[m]



Total core sample length [m]	178.4
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
570.0	[m]	DC	OD
590.0	[m]	DC	OD
610.0	[m]	DC	OD
630.0	[m]	DC	OD
650.0	[m]	DC	OD
670.0	[m]	DC	OD
690.0	[m]	DC	OD
710.0	[m]	DC	OD
730.0	[m]	DC	OD
750.0	[m]	DC	OD
770.0	[m]	DC	OD
790.0	[m]	DC	OD
810.0	[m]	DC	OD
830.0	[m]	DC	OD
840.0	[m]	DC	OD
860.0	[m]	DC	OD
920.0	[m]	DC	OD
940.0	[m]	DC	OD
960.0	[m]	DC	OD
980.0	[m]	DC	OD
1000.0	[m]	DC	OD
1020.0	[m]	DC	OD
1040.0	[m]	DC	OD
1060.0	[m]	DC	OD
1080.0	[m]	DC	OD
1100.0	[m]	DC	OD
1120.0	[m]	DC	OD
1140.0	[m]	DC	OD
1160.0	[m]	DC	OD
1180.0	[m]	DC	OD
1200.0	[m]	DC	OD
1220.0	[m]	DC	OD
1240.0	[m]	DC	OD



1260.0 [m]	DC	OD
1280.0 [m]	DC	OD
1300.0 [m]	DC	OD
1320.0 [m]	DC	OD
1340.0 [m]	DC	OD
1360.0 [m]	DC	OD
1380.0 [m]	DC	OD
1400.0 [m]	DC	OD
1420.0 [m]	DC	OD
1440.0 [m]	DC	OD
1460.0 [m]	DC	OD
1480.0 [m]	DC	OD
1500.0 [m]	DC	OD
1520.0 [m]	DC	OD
1540.0 [m]	DC	OD
1560.0 [m]	DC	OD
1560.0 [m]	DC	OD
1580.0 [m]	DC	OD
1600.0 [m]	DC	OD
1620.0 [m]	DC	OD
1640.0 [m]	DC	OD
1660.0 [m]	DC	OD
1680.0 [m]	DC	OD
1700.0 [m]	DC	OD
1720.0 [m]	DC	OD
1740.0 [m]	DC	OD
1760.0 [m]	DC	OD
1780.0 [m]	DC	OD
1800.0 [m]	DC	OD
1820.0 [m]	DC	OD
1840.0 [m]	DC	OD
1860.0 [m]	DC	OD
1880.0 [m]	DC	OD
1900.0 [m]	DC	OD
1920.0 [m]	DC	OD
1940.0 [m]	DC	OD
1960.0 [m]	DC	OD
1980.0 [m]	DC	OD
2000.0 [m]	DC	OD
2020.0 [m]	DC	OD



2030.0	[m]	DC	OD
2040.0	[m]	DC	OD
2060.0	[m]	DC	OD
2080.0	[m]	DC	OD
2090.0	[m]	DC	OD
2100.0	[m]	DC	OD
2120.0	[m]	DC	OD
2140.0	[m]	DC	OD
2150.0	[m]	DC	OD
2160.0	[m]	DC	OD
2180.0	[m]	DC	OD
2200.0	[m]	DC	OD
2210.0	[m]	DC	OD
2220.0	[m]	DC	OD
2240.0	[m]	DC	OD
2260.0	[m]	DC	OD
2270.0	[m]	DC	OD
2280.0	[m]	DC	OD
2300.0	[m]	DC	OD
2320.0	[m]	DC	OD
2330.0	[m]	DC	OD
2340.0	[m]	DC	OD
2360.0	[m]	DC	OD
2380.0	[m]	DC	OD
2390.0	[m]	DC	OD
2400.0	[m]	DC	OD
2420.0	[m]	DC	OD
2440.0	[m]	DC	OD
2450.0	[m]	DC	OD
2460.0	[m]	DC	OD
2480.0	[m]	DC	OD
2500.0	[m]	DC	OD
2510.0	[m]	DC	OD
2520.0	[m]	DC	OD
2540.0	[m]	DC	OD
2560.0	[m]	DC	OD
2570.0	[m]	DC	OD
2580.0	[m]	DC	OD
2600.0	[m]	DC	OD
2620.0	[m]	DC	OD



2630.0	[m]	DC	OD
2635.0	[m]	DC	OD
2660.0	[m]	DC	OD
2680.0	[m]	DC	OD
2690.0	[m]	DC	OD
2700.0	[m]	DC	OD
2720.0	[m]	DC	OD
2740.0	[m]	DC	OD
2750.0	[m]	DC	OD
2760.0	[m]	DC	OD
2780.0	[m]	DC	OD
2800.0	[m]	DC	OD
2810.0	[m]	DC	OD
2820.0	[m]	DC	OD
2840.0	[m]	DC	OD
2860.0	[m]	DC	OD
2870.0	[m]	DC	OD
2880.0	[m]	DC	OD
2900.0	[m]	DC	OD
2920.0	[m]	DC	OD
2920.0	[m]	DC	OD
2940.0	[m]	DC	OD
2960.0	[m]	DC	OD
2980.0	[m]	DC	OD
3000.0	[m]	DC	OD
3020.0	[m]	DC	OD
3040.0	[m]	DC	OD
3060.0	[m]	DC	OD
3080.0	[m]	DC	OD
3085.0	[m]	DC	OD
3100.0	[m]	DC	OD
3120.0	[m]	DC	OD
3125.0	[m]	DC	OD
3140.0	[m]	DC	OD
3160.0	[m]	DC	OD
3165.0	[m]	DC	OD
3175.0	[m]	DC	OD
3180.0	[m]	DC	OD
3200.0	[m]	DC	OD
3213.0	[m]	DC	OD



3237.0 [m]	DC	OD
3255.0 [m]	DC	OD
3303.0 [m]	DC	OD
3321.0 [m]	DC	OD
3339.0 [m]	DC	OD
3360.0 [m]	DC	OD
3381.0 [m]	DC	OD
3399.0 [m]	DC	OD
3422.0 [m]	DC	OD
3423.0 [m]	DC	OD
3440.0 [m]	DC	OD
3441.0 [m]	DC	OD
3462.0 [m]	DC	OD
3483.0 [m]	DC	OD
3501.0 [m]	DC	OD
3522.8 [m]	C	OD
3527.7 [m]	C	GEOSTRAT
3531.5 [m]	C	OD
3538.0 [m]	C	GEOSTRAT
3541.4 [m]	C	OD
3544.0 [m]	C	GEOSTRAT
3550.1 [m]	C	GEOSTR
3551.8 [m]	C	OD
3558.6 [m]	C	GEOSTRAT
3562.8 [m]	C	OD
3567.4 [m]	C	GEOSTRAT
3571.9 [m]	C	OD
3578.2 [m]	C	GEOSTRAT
3581.4 [m]	C	OD
3589.9 [m]	C	GEOSTRAT
3591.8 [m]	C	OD
3599.8 [m]	C	GEOSTRAT
3601.0 [m]	C	OD
3611.0 [m]	C	OD
3615.6 [m]	C	GEOSTRAT
3620.5 [m]	C	GEOSTR
3621.7 [m]	C	OD
3626.5 [m]	C	GEOSTRAT
3632.4 [m]	C	OD
3636.5 [m]	C	GEOSTRAT



3643.4 [m]	C	OD
3651.5 [m]	C	OD
3654.0 [m]	C	GEOSTRAT
3661.3 [m]	C	OD
3669.5 [m]	C	GEOSTRAT
3669.8 [m]	C	OD
3680.7 [m]	C	OD
3691.5 [m]	C	OD
3701.8 [m]	C	GEOSTRAT
3702.7 [m]	C	OD
3704.5 [m]	C	OD
3720.0 [m]	DC	OD
3738.0 [m]	DC	OD
3762.0 [m]	DC	OD
3780.0 [m]	DC	OD
3800.0 [m]	DC	OD
3818.0 [m]	DC	OD
3840.0 [m]	DC	OD
3860.0 [m]	DC	OD
3882.0 [m]	DC	OD
3900.0 [m]	DC	OD
3920.0 [m]	DC	OD
3942.0 [m]	DC	OD
3962.0 [m]	DC	OD
3980.0 [m]	DC	OD
4000.0 [m]	DC	OD
4020.0 [m]	DC	OD
4042.0 [m]	DC	OD
4060.0 [m]	DC	OD
4080.0 [m]	DC	OD
4102.0 [m]	DC	OD
4120.0 [m]	DC	OD
4140.0 [m]	DC	OD
4162.0 [m]	DC	OD
4182.0 [m]	DC	OD
4200.0 [m]	DC	OD
4222.0 [m]	DC	OD
4222.0 [m]	DC	OD
4240.0 [m]	DC	OD
4260.0 [m]	DC	OD



4280.0	[m]	DC	OD
4300.0	[m]	DC	OD

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
402	NORDLAND GP
818	UTSIRA FM
964	HORDALAND GP
1218	NO FORMAL NAME
1620	NO FORMAL NAME
1683	ROGALAND GP
1683	BALDER FM
1745	SELE FM
1754	LISTA FM
1870	VÅLE FM
1893	SHETLAND GP
1893	JORSALFARE FM
2102	KYRRE FM
3047	TRYGGVASON FM
3170	BLODØKS FM
3172	SVARTE FM
3180	CROMER KNOLL GP
3180	ÅSGARD FM
3186	VIKING GP
3186	DRAUPNE FM
3200	HEATHER FM
3219	INTRA HEATHER FM SS
3258	HEATHER FM
3516	BRENT GP
3516	TARBERT FM
3578	NESS FM
3628	ETIVE FM
3680	RANNOCH FM
3743	BROOM FM
3744	DUNLIN GP
3744	DRAKE FM
3831	COOK FM
3982	BURTON FM



3995	AMUNDSEN FM
4093	STATEFJORD GP

Geochemical information

Document name	Document format	Document size [MB]
205_1	pdf	2.90
205_2	pdf	3.97
205_3	pdf	0.54
205_4	pdf	5.94

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

Document name	Document format	Document size [MB]
205_01_WDSS_General_Information	pdf	0.12
205_02_WDSS_completion_log	pdf	0.33

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

Document name	Document format	Document size [MB]
205_35_8_1_Completion_log	pdf	2.49
205_35_8_1_Completion_report	pdf	40.68

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	3636	3645	15.9
2.0	3636	3645	15.9
3.0	3636	3645	15.9
4.0	3565	3575	19.5

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0				
2.0				





3.0				
4.0				

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	204	651000	0.804		3197
2.0	204	651000	0.804		3197
3.0	204	651000	0.804		3197
4.0	229	920000	0.799	0.656	4070

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL	2177	3511
DIPMETER	2177	3511
FDC	565	736
FDC CNL	876	2174
FDC CNL	2177	3511
HDT CYPER	2177	3511
ISF SON	565	736
ISF SON	876	2174
ISF SON	2177	3511
TEMP	565	736
TEMP	876	2174

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	565.1	36	577.3	0.00	LOT
SURF.COND.	20	877.5	26	890.0	0.00	LOT
INTERM.	13 3/8	2184.6	17 1/2	2196.3	1.65	LOT
INTERM.	9 5/8	3493.6	12 1/4	3522.6	1.99	LOT
LINER	7	4343.7	8 1/2	4352.0	0.00	LOT

Drilling mud



Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
750	1.08	85.0		WATER BASED	
1040	1.13	48.0		WATER BASED	
2675	1.21	51.0		WATER BASED	
2900	1.29	50.0		WATER BASED	
3190	1.34	54.0		WATER BASED	
3570	1.74	62.0		WATER BASED	

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
3639.70	[m]
3532.60	[m]
3523.47	[m]
3647.00	[m]
3527.60	[m]
3680.95	[m]
3643.40	[m]
3632.00	[m]
3685.45	[m]
3671.35	[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]
205 Formation pressure (Formasjonstrykk)	pdf	0.23

