



General information





Wellbore name	2/8-11
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	VALHALL
Discovery	2/8-6 Valhall
Well name	2/8-11
Seismic location	
Production licence	006
Drilling operator	Amoco Norway Oil Company
Drill permit	164-L
Drilling facility	ROSS RIG (1)
Drilling days	63
Entered date	10.08.1976
Completed date	11.10.1976
Release date	11.10.1978
Publication date	16.10.2012
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	LATE CRETACEOUS
1st level with HC, formation	TOR FM
2nd level with HC, age	LATE CRETACEOUS
2nd level with HC, formation	HOD FM
Kelly bushing elevation [m]	25.0
Water depth [m]	70.0
Total depth (MD) [m RKB]	2655.0
Bottom hole temperature [°C]	74
Oldest penetrated age	EARLY CRETACEOUS
Oldest penetrated formation	RØDBY FM
Geodetic datum	ED50
NS degrees	56° 16' 56.3" N
EW degrees	3° 22' 15.61" E
NS UTM [m]	6237700.30
EW UTM [m]	522970.75
UTM zone	31
NPDID wellbore	1224



Wellbore history

**General**

Well 2/8-11 was drilled as a field delineation well intended to help establish the commerciality of the southern North Sea Valhall Field, which was discovered by well 2/8-6 and confirmed by wells 2/8-8, 2/8-9 and 2/8-10. The primary objective was to test the Late Cretaceous chalk reservoirs and to estimate the presence of hydrocarbons.

Operations and results

Appraisal well 2/8-11 was spudded with the semi-submersible installation Ross Rig on 10 August 1976 and drilled to TD at 2655 m in the Early Cretaceous Rødby Formation. The well was drilled in a total of 33 days without any major drilling problems. However, 13 days were spent on logging in the 12 1/4-inch hole and setting and cementing two completion strings comprising of a 7-inch liner cemented inside the 9 5/8-inch casing. The well was drilled with seawater/bentonite/caustic soda down to 381 m, with Drispac/Dextrid/lignosulphonate mud from 381 m to 1294 m, and with Drispac/Dextrid/lignosulphonate/Soltex mud from 1294 m to TD.

The well penetrated a normal Quarternary-Tertiary sequence with the top Paleocene Ash Marker at 2437 m, 51m lower than predicted. The Late Cretaceous Maastrichtian chalk (Tor Formation) was encountered at 2468 m with a total thickness of 15 m and with an oil column of the same magnitude. The porosity was 40-50% and the water saturation close to zero. The two Coniacian-Turonian reservoirs, (upper and lower Hod Formation) had porosities of 30-40% and water saturations averaging 50% with 18.5 m pay in the upper reservoir and 33.5 m pay in the lower reservoir. The Turonian shale was penetrated at 2612 m and the top of the Early Cretaceous was reached at 2624 m giving a total chalk thickness of 144 m.

Two cores were cut in the Tor Formation from 2477 m to 2489 m. No wire line fluid samples were taken.

The well was permanently abandoned on 11 October 1976 as an oil appraisal.

Testing

Two tests were performed in the well. Both test intervals were fractured using the Kiel water-frac process. The tests produced water/oil emulsions that broke up in the separator.

DST 1 tested the productivity from 2553 to 2560 m in the lower Hod Formation, both before and after fracturing. Before fracturing the well produced 63 Sm³ oil /day through a 5/8" (15.9 mm) choke. The GOR was 167 Sm³/Sm³, oil gravity was 36 deg API and gas gravity was 0.826 (air = 1). After fracturing the well produced 385 Sm³ oil /day through a 1/2" (12.7 mm) choke. The GOR was 267 Sm³/Sm³, oil gravity was 38.5 deg API and gas gravity was 0.685 (air = 1).

DST 2 tested the productivity from 2469 to 2476 m in the Tor Formation. After fracturing the well produced 826 Sm³ oil /day through a 1/2" (12.7 mm) choke. The GOR was 253 Sm³/Sm³, oil gravity was 37.5 deg API and gas gravity was 0.672 (air = 1).

**Cores at the Norwegian Offshore Directorate**

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	8128.0	8147.0	[ft]
2	8147.0	8168.0	[ft]

Total core sample length [m]	12.2
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
95	NORDLAND GP
2437	ROGALAND GP
2437	BALDER FM
2449	SELE FM
2457	LISTA FM
2468	SHETLAND GP
2468	TOR FM
2483	HOD FM
2612	BLODØKS FM
2615	HIDRA FM
2624	CROMER KNOLL GP
2624	RØDBY FM

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

Document name	Document format	Document size [MB]
1224 01 WDSS General Information	pdf	0.27

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

Document name	Document format	Document size [MB]
1224 2 8 11 Completionlog	pdf	1.44
1224 2 8 11 Completion_report	pdf	17.67



**Documents - Norwegian Offshore Directorate papers**

Document name	Document format	Document size [MB]
1224_01_NPD_Paper_No.32_Geology_of_the_southernmost_part_of_the_Norwegian_section_of_the_Central_Trough_Well_2_8_11	pdf	24.44
1224_02_NPD_Paper_No.32_Late_Cretaceous-early_Tertiary_Correlation_chart_Valhall-Hod_Fields_Profile_1_Well_2_8_11	pdf	0.54
1224_03_NPD_Paper_No.32_Late_Cretaceous-early_Tertiary_Correlation_chart_Valhall-Hod_Fields_Profile_2_Well_2_8_11	pdf	0.36

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2553	2560	12.5
2.0	2469	2476	19.0

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

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	378	10477	0.830		1550
2.0	842	21521	0.840		

Logs

Log type	Log top depth [m]	Log bottom depth [m]
DIP	1282	2655
DLL MSFL GR CAL	1282	2655
FDC CNL GR CAL	1282	2655
IES SONIC GR SP	1282	2655
ISF SONIC GR SP	377	1295
VDL VBL CCL GR	94	2615





VELOCITY	377	2655
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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	166.0	36	170.0	0.00	LOT
SURF.COND.	20	377.0	26	381.0	0.00	LOT
INTERM.	13 3/8	1283.0	17 1/2	1295.0	0.00	LOT
LINER	7	2582.0	8 1/2	2655.0	0.00	LOT
INTERM.	9 5/8	2648.0	12 1/4	2655.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
165	1.40			bento/water	
381	1.06			seawater	
1294	1.34			seawater	
2477	1.89			seawater	