Generell informasjon

Brønnbane navn	2/8-11
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	VALHALL
Funn	2/8-6 Valhall
Brønn navn	2/8-11
Seismisk lokalisering	
Utvinningstillatelse	006
Boreoperatør	Amoco Norway Oil Company
Boretillatelse	164-L
Boreinnretning	ROSS RIG (1)
Boredager	63
Borestart	10.08.1976
Boreslutt	11.10.1976
Frigitt dato	11.10.1978
Publiseringsdato	16.10.2012
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	LATE CRETACEOUS
1. nivå med hydrokarboner, formasjon.	TOR FM
2. nivå med hydrokarboner, alder	LATE CRETACEOUS
2. nivå med hydrokarboner, formasjon	HOD FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	70.0
Totalt målt dybde (MD) [m RKB]	2655.0
Temperatur ved bunn av brønnbanen [°C]	74
Eldste penetrerte alder	EARLY CRETACEOUS
Eldste penetrerte formasjon	RØDBY FM
Geodetisk datum	ED50
NS grader	56° 16' 56.3'' N

ØV grader	3° 22' 15.61'' E
NS UTM [m]	6237700.30
ØV UTM [m]	522970.75
UTM sone	31
NPDID for brønnbanen	1224

Brønnhistorie

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 2/8-11was 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 spend 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).

Borekjerner i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	8128.0	8147.0	[ft]
2	8147.0	8168.0	[ft]

Total kjerneprøve lengde [m]	12.2
Kjerner tilgjengelig for prøvetaking?	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
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

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
1224_01_WDSS_General_Information	pdf	0.27

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
1224_2_8_11_Completionlog	pdf	1.44
1224_2_8_11_Completion_report	pdf	17.67

Dokumenter - Sokkeldirektoratets publikasjoner

Dokument navn	Dokument format	Dokument størrelse [KB]
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

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsventil størrelse [mm]
1.0	2553	2560	12.5
2.0	2469	2476	19.0

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0				
2.0				

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0	378	10477	0.830		1550
2.0	842	21521	0.840		

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [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

Foringsrør og formasjonsstyrketester

Type utforing	Utforing diam. [tommer]	Utforing dybde [m]	Brønnbane diam. [tommer]	Brønnbane dyp [m]	LOT/FIT slam eqv. [g/cm3]	Type formasjonstest
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

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
165	1.40			bento/water	
381	1.06			seawater	
1294	1.34			seawater	
2477	1.89			seawater	