General information

Wellbore name	25/10-5
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	BALDER
Discovery	25/11-1 Balder
Well name	25/10-5
Seismic location	BALMG 203 SP: 109.
Production licence	028
Drilling operator	Esso Exploration and Production Norway A/S
Drill permit	291-L
Drilling facility	GLOMAR BISCAY II
Drilling days	33
Entered date	15.06.1981
Completed date	17.07.1981
Release date	17.07.1983
Publication date	07.11.2005
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	EOCENE
1st level with HC, formation	INTRA BALDER FM SS
Kelly bushing elevation [m]	25.0
Water depth [m]	125.0
Total depth (MD) [m RKB]	2011.0
Bottom hole temperature [°C]	55
Oldest penetrated age	LATE JURASSIC
Oldest penetrated formation	VIKING GP
Geodetic datum	ED50
NS degrees	59° 10' 49.24'' N
EW degrees	2° 19' 26.97'' E
NS UTM [m]	6560481.03
EW UTM [m]	461373.07
UTM zone	31
NPDID wellbore	365

Wellbore history

General

The 25/10-5 well was drilled to establish the presence of an accumulation of Eocene oil sand in the western part of the Balder Field, and evaluate the geologic concept of sand-shale distribution and reservoir quality.

Operations and results

Wildcat well 25/10-5 was spudded with the semi-submersible installation Glomar Biscay II on 15 June 1981 and drilled to TD at 2011 m in the Late Jurassic Viking Group. The well was drilled with sea water/gel/lignosulphonate.

The top of the Early Eocene reservoir was encountered at 1733 m (1708 m sub sea), as prognosed. The reservoir consisted of thin sandstone beds interbedded with shale and was oil bearing. A 49.5 m gross oil column was found down to an OWC at 1782.5 m. The net oil sandstone thickness was 18.2 m. Late Eocene Grid Formation sandstone was penetrated at 1398 m to 1443 m and Paleocene Heimdal Formation sandstone from 1905 m to 1929 m. These were both water wet without shows.

Four cores were cut in the Lower Eocene reservoir sequence. No wire line test or fluid sampling was carried out.

The well was permanently abandoned on 17 July 1981 as an oil appraisal well.

Testing

Two drill stem tests were performed in the Early Eocene reservoir. DST 1 perforated the interval 1756 m to 1753 m and produced 171 Sm3 oil/day. The oil gravity was 25.3 deg API and the gas/oil ratio was 59 m3/m3. DST2 perforated the intervals 1732 - 1740 m and 1756 - 1763 m. It produced 515 Sm3 oil/day. The oil gravity in DST2 was 25.5 deg API and the gas/oil ratio was 59 m3/m3.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
240.00	2011.00

Cuttings available for sampling?	YES

Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	1739.0	1742.9	[m]
2	1776.7	1777.7	[m]
3	1781.0	1781.9	[m]

4	1785.2	1792.8	[m]

Total core sample length [m]	13.3
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1150.0	[m]	DC	
1180.0	[m]	DC	
1210.0	[m]	DC	
1240.0	[m]	DC	
1280.0	[m]	DC	
1310.0	[m]	DC	
1340.0	[m]	DC	
1380.0	[m]	DC	
1397.5	[m]	SWC	
1430.0	[m]	DC	
1443.5	[m]	SWC	
1470.0	[m]	DC	
1490.0	[m]	DC	
1520.0	[m]	DC	
1550.0	[m]	DC	
1580.0	[m]	DC	
1600.0	[m]	DC	
1630.0	[m]	DC	
1660.0	[m]	DC	
1690.0	[m]	DC	
1720.0	[m]	DC	
1735.4	[m]	SWC	
1741.4	[m]	C	
1742.5	[m]	C	
1746.0	[m]	SWC	
1749.5	[m]	SWC	
1750.0	[m]	DC	
1752.0	[m]	SWC	
1765.5	[m]	SWC	
1766.6	[m]	SWC	
1771.0	[m]	SWC	

1779.5	[m]	SWC	
1785.0	[m]	SWC	
1788.3	[m]	C	
1795.6	[m]	SWC	
1802.5	[m]	SWC	
1807.2	[m]	SWC	
1812.2	[m]	SWC	
1818.5	[m]	SWC	
1820.5	[m]	SWC	
1824.0	[m]	SWC	
1827.5	[m]	SWC	
1839.5	[m]	SWC	
1850.0	[m]	SWC	
1851.5	[m]	SWC	
1858.5	[m]	SWC	
1877.0	[m]	SWC	
1891.0	[m]	SWC	
1903.7	[m]	SWC	
1946.0	[m]	SWC	
1949.0	[m]	SWC	
1955.5	[m]	SWC	
1958.0	[m]	SWC	
1967.0	[m]	SWC	
1976.0	[m]	SWC	

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	1740.00	1732.00		11.07.1981 - 00:00	YES
DST	DST2	1763.00	1756.00		12.07.1981 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
150	NORDLAND GP
578	UTSIRA FM

943	HORDALAND GP
1077	SKADE FM
1101	NO FORMAL NAME
1399	GRID FM
1443	NO FORMAL NAME
1733	ROGALAND GP
1733	INTRA BALDER FM SS
1804	BALDER FM
1820	SELE FM
1831	HERMOD FM
1848	SELE FM
1859	LISTA FM
1906	HEIMDAL FM
1939	LISTA FM
1950	HEIMDAL FM
1955	LISTA FM
1991	SHETLAND GP
1991	EKOFISK FM
2001	VIKING GP

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

Document name	Document format	Document size [MB]
365_01_WDSS_General_Information	pdf	0.09
365_02_WDSS_completion_log	pdf	0.17

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

Document name	Document format	Document size [MB]
365_01_Geological_Completion_Report	pdf	5.78
365_03_Drilling_And_Evaluation_Program	pdf	4.68
365_04_Paleontological_Study	pdf	1.10
365_05_02_Final_Well_Report	pdf	47.70
365_05_Test_Glomar_Biscay_	pdf	27.12
365_06_PVT_Study_Report_Test_1	pdf	6.63
365_07_PVT_Study_Report_Test_2	pdf	11.02
365_08_PVT_Study_Report_Test_2_Surface_Sampl	pdf	11.77

365_5_03_Completion_log	pdf	1.27

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	1756	1763	12.7
2.0	1732	1740	25.4

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	170	10000	0.900	0.640	59
2.0	515	30000	0.900	0.640	59

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CDL CNL	1340	2008
CDM AP	1340	2008
DLL MLL GR	1700	2008
IEL BHC ACL GR SP	145	2007
SWC	1397	2007
VELOCITY	145	2007

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	211.0	36	211.0	0.00	LOT
INTERM.	13 3/8	484.5	17 1/2	500.0	1.75	LOT
INTERM.	9 5/8	1345.0	12 1/4	1370.0	1.90	LOT
LINER	7	1991.0	8 1/2	2011.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
500	1.07			seawater	
1220	1.08			seawater	
1656	1.17			seawater	
2011	1.25			seawater	