

**General information**

Wellbore name	25/11-15
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	GRANE
Discovery	25/11-15 Grane
Well name	25/11-15
Seismic location	EU90-161& SP. 142/EB88-115& SP. 2526
Production licence	169
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	704-L
Drilling facility	TRANSOCEAN 8
Drilling days	46
Entered date	10.11.1991
Completed date	25.12.1991
Release date	25.12.1993
Publication date	20.06.2011
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	YES
1st level with HC, age	PALEOCENE
1st level with HC, formation	HEIMDAL FM
Kelly bushing elevation [m]	24.0
Water depth [m]	127.0
Total depth (MD) [m RKB]	2035.0
Final vertical depth (TVD) [m RKB]	2035.0
Maximum inclination [°]	2.5
Bottom hole temperature [°C]	85
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	59° 11' 3.5" N
EW degrees	2° 29' 3.82" E
NS UTM [m]	6560840.35
EW UTM [m]	470534.45



UTM zone	31
NPDID wellbore	1872

Wellbore history

General

Well 25/11-15 was drilled east of the Balder Field complex on the Utsira High in the North Sea. The main objective was to test the hydrocarbon potential of the Paleocene Heimdal Sand in the Hermod prospect.

Operations and results

Wildcat well 25/11-15 was spudded with the semi-submersible installation Transocean 8 on 10 November 1991 and drilled to TD at 2035 m in the Early Jurassic Statfjord Formation. Due to shallow gas warning an 8 1/2" pilot was drilled from 239 to 390 m. No shallow gas was found. The well was drilled with seawater and viscous bentonite sweeps down to 1312 m and with KCl/PHPA/Polymer mud from 1312 m to TD.

The Balder Formation was encountered at 1660 m. It contained rare sandstone stringers close to the top and these had good oil shows. This was the only oil show recorded outside of the Heimdal Formation. A 64 m thick Heimdal Formation Sandstone was penetrated from 1734 m to 1798 m. The sandstone was oil bearing down to a well-defined OWC at 1787 m. The net pay thickness was 51.88 m with an average porosity of 34.5% and an average Sw of 12.5%.

Seven cores were cut from 1680 m to 1799 m, starting 7 m below the top Sele Formation and ending 1 m below the base of the Heimdal Formation. A total of 20 good RFT pressure points were recorded giving a fluid density of 0.86 g/cc in the hydrocarbon bearing zone. Two fluid samples were attempted, but were abandoned after problems with sand plugging.

The well was permanently abandoned on 25 December 1991 as an oil Discovery.

Testing

A single production test was performed over the interval 1736 - 1775 m in the Heimdal Formation. The well flowed 525 Sm³ oil and 7500 Sm³ gas /day through a 25.4 mm choke. The GOR was 14 Sm³/Sm³ and the oil was 0.940 g/cm³. The gas gravity was 0.640 with 0.3% CO₂ and 0.2 ppm H₂S. The bottom hole temperature, recorded at 1695.08 m gauge depth, was 76.6 deg C.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1320.00	2035.00

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	1680.0	1696.0	[m]
2	1696.8	1705.8	[m]
3	1708.0	1728.0	[m]
4	1728.0	1740.0	[m]
5	1740.5	1762.6	[m]
6	1762.6	1781.1	[m]
7	1781.1	1796.6	[m]

Total core sample length [m]	113.1
Cores available for sampling?	YES

Core photos

1680-1785m



1685-1689m



1689-1694m



1694-1699m



1699-1704m



1699-1704m



1704-1705m



1708-1713m



1713-1718m



1718-1723m



1723-1728m



1728-1733m



1733-1738m



1738-1745m



1745-1750m



1750-1754m



1754-1759m



1759-1764m



1764-1769m



1769-1774m



1774-1779m



1779-1784m



1784-1789m



1789-1794m



1794-1796m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1325.0	[m]	SWC	HYDRO
1350.0	[m]	SWC	HYDRO
1375.0	[m]	SWC	HYDRO
1425.0	[m]	SWC	HYDRO
1460.0	[m]	SWC	HYDRO
1485.0	[m]	SWC	HYDRO
1495.0	[m]	SWC	HYDRO
1497.0	[m]	SWC	HYDRO
1570.0	[m]	SWC	HYDRO
1605.0	[m]	SWC	HYDRO
1617.0	[m]	SWC	HYDRO
1640.0	[m]	SWC	HYDRO
1652.0	[m]	SWC	HYDRO
1675.0	[m]	SWC	HYDRO
1678.0	[m]	SWC	HYDRO
1680.0	[m]	C	HYDRO
1684.0	[m]	C	HYDRO
1689.0	[m]	C	HYDRO
1694.0	[m]	C	HYDRO
1696.9	[m]	C	HYDRO
1703.0	[m]	C	HYDRO
1707.0	[m]	SWC	HYDRO
1708.2	[m]	C	HYDRO



1713.0	[m]	C	HYDRO
1717.0	[m]	C	HYDRO
1722.0	[m]	C	HYDRO
1726.4	[m]	C	HYDRO
1730.9	[m]	C	OD
1732.0	[m]	C	HYDRO
1732.8	[m]	C	OD
1735.6	[m]	C	HYDRO
1741.2	[m]	C	HYDRO
1749.0	[m]	C	HYDRO
1756.0	[m]	C	HYDRO
1764.0	[m]	C	HYDRO
1770.5	[m]	C	HYDRO
1777.5	[m]	C	HYDRO
1784.9	[m]	C	HYDRO
1784.9	[m]	C	OD
1791.4	[m]	C	HYDRO
1792.8	[m]	C	HYDRO
1796.0	[m]	C	HYDRO
1815.0	[m]	SWC	HYDRO
1850.0	[m]	SWC	HYDRO
1952.0	[m]	SWC	HYDRO
1964.0	[m]	SWC	HYDRO
1988.0	[m]	SWC	HYDRO
1989.3	[m]	SWC	HYDRO
1990.8	[m]	SWC	HYDRO

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	1736.00	1775.00		18.12.1991 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
151	NORDLAND GP



652	UTSIRA FM
750	NO FORMAL NAME
798	HORDALAND GP
798	SKADE FM
1018	NO FORMAL NAME
1032	SKADE FM
1108	NO FORMAL NAME
1491	GRID FM
1506	NO FORMAL NAME
1660	ROGALAND GP
1660	BALDER FM
1674	SELE FM
1678	LISTA FM
1734	HEIMDAL FM
1798	LISTA FM
1807	VÅLE FM
1818	SHETLAND GP
1818	TOR FM
1867	HOD FM
1893	BLODØKS FM
1904	HIDRA FM
1926	CROMER KNOLL GP
1926	RØDBY FM
1942	SOLA FM
1954	ÅSGARD FM
1978	VIKING GP
1978	DRAUPNE FM
1983	STATFJORD GP

Geochemical information

Document name	Document format	Document size [MB]
1872_1	pdf	0.16
1872_2	pdf	1.23
1872_3	pdf	0.46

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





Document name	Document format	Document size [MB]
1872_01_WDSS_General_Information	pdf	0.51
1872_02_WDSS_completion_log	pdf	0.15

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

Document name	Document format	Document size [MB]
1872_25_11_15_COMPLETION_REPORT_AND_LOG	pdf	17.18

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	1736	1774	25.4

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0				76

Test number	Oil [Sm ³ /day]	Gas [Sm ³ /day]	Oil density [g/cm ³]	Gas grav. rel.air	GOR [m ³ /m ³]
1.0	525	7500	0.940	0.640	14

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CST	1290	2006
DIL LSS GR SP AMS	238	1259
DIL LSS GR SP AMS	1274	2018
DLL MSFL LDL CNL NGL SP AMS	1274	2016
MWD - GR RES DIR	150	2035
RFT GR AMS	1485	1504
RFT GR AMS	1661	1997
RFT GR AMS	1735	1736
SHDT GR AMS	1274	2021





VSP	570	2010
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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	237.0	36	240.0	0.00	LOT
INTERM.	9 5/8	1273.0	12 1/4	1275.0	1.71	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
238	1.20	19.0	8.0	WATER BASED	12.11.1991
239	1.20	19.0	8.0	WATER BASED	12.11.1991
450	1.20	18.0	4.0	WATER BASED	13.11.1991
1312	1.20	18.0	9.0	WATER BASED	14.11.1991
1312	1.22	19.0	15.0	WATER BASED	19.11.1991
1312	1.20	19.0	11.0	WATER BASED	19.11.1991
1312	1.20	18.0	8.0	WATER BASED	15.11.1991
1530	1.13	20.0	14.0	WATER BASED	19.11.1991
1697	1.15	17.0	8.0	WATER BASED	19.11.1991
1726	1.16	16.0	9.0	WATER BASED	20.11.1991
1726	1.16	16.0	9.0	WATER BASED	22.11.1991
1768	1.19	15.0	9.0	WATER BASED	28.11.1991
1769	1.20	14.0	11.0	WATER BASED	29.11.1991
1769	1.20	14.0	12.0	WATER BASED	02.12.1991
1769	1.35	20.0	14.0	WATER BASED	02.12.1991
1769	1.29	15.0	9.0	WATER BASED	02.12.1991
1769	1.29	15.0	10.0	WATER BASED	03.12.1991
1769	1.29	15.0	9.0	WATER BASED	04.12.1991
1769	1.21	13.0	7.0	WATER BASED	05.12.1991
1776	1.26	17.0	16.0	WATER BASED	06.12.1991
1776	1.27	19.0	14.0	WATER BASED	10.12.1991
1776	1.27	18.0	13.0	WATER BASED	10.12.1991
1776	1.27	18.0	14.0	WATER BASED	11.12.1991
1776	1.26	14.0	13.0	WATER BASED	11.12.1991
1776	1.26	14.0	13.0	WATER BASED	13.12.1991
1776	1.26	14.0	13.0	WATER BASED	16.12.1991



1776	1.26	14.0	13.0	WATER BASED	16.12.1991
1776	1.26	14.0	13.0	WATER BASED	17.12.1991
1776	1.26	14.0	13.0	WATER BASED	18.12.1991
1776	1.25	14.0	13.0	WATER BASED	19.12.1991
1776	1.25	14.0	13.0	WATER BASED	20.12.1991
1776	1.25	12.0	10.0	WATER BASED	23.12.1991
1776	1.28	19.0	15.0	WATER BASED	10.12.1991
1776	1.26	14.0	13.0	WATER BASED	12.12.1991
1776	1.26	14.0	13.0	WATER BASED	16.12.1991
1781	1.15	16.0	9.0	WATER BASED	22.11.1991
1781	1.15	16.0	9.0	WATER BASED	21.11.1991
1906	1.18	18.0	11.0	WATER BASED	22.11.1991
2035	1.18	16.0	10.0	WATER BASED	25.11.1991
2035	1.18	16.0	9.0	WATER BASED	27.11.1991
2035	1.16	17.0	10.0	WATER BASED	25.11.1991
2035	1.17	14.0	8.0	WATER BASED	25.11.1991
2035	1.18	17.0	10.0	WATER BASED	26.11.1991

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]
1872 Formation pressure (Formasjonstrykk)	pdf	0.21

