

**General information**

Wellbore name	25/7-5
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	ALVHEIM
Discovery	25/7-5
Well name	25/7-5
Seismic location	NH 9603- INLINE 1156 & CROSSLINE 5382
Production licence	203
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	896-L
Drilling facility	WEST VANGUARD
Drilling days	46
Entered date	16.07.1997
Completed date	30.08.1997
Release date	30.08.1999
Publication date	29.05.2002
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	YES
1st level with HC, age	PALEOCENE
1st level with HC, formation	HERMOD FM
2nd level with HC, age	PALEOCENE
2nd level with HC, formation	HEIMDAL FM
Kelly bushing elevation [m]	22.0
Water depth [m]	124.0
Total depth (MD) [m RKB]	2736.0
Final vertical depth (TVD) [m RKB]	2735.0
Maximum inclination [°]	2.4
Bottom hole temperature [°C]	99
Oldest penetrated age	PALEOCENE
Oldest penetrated formation	VÅLE FM
Geodetic datum	ED50
NS degrees	59° 29' 39.81" N



EW degrees	2° 1' 3.44" E
NS UTM [m]	6595668.94
EW UTM [m]	444369.86
UTM zone	31
NPDID wellbore	3132

Wellbore history

General

Well 25/7-5 was the first exploration well drilled in PL203 and was designed to test the hydrocarbon potential of a sand prospect within the Sele Formation in the northwest corner of block 25/7. This prospect was a stratigraphic trap with structural elements formed by the pinch out of the Hermod T80 sand. Oil was prognosed to be encountered within the Hermod T80 sand. A very small closure in the top of the underlying Heimdal sand was also expected to contain hydrocarbons, but this closure was not defined as a secondary target due to the small volumes expected within the structure. The well commitment was to drill to a total depth of 2735 m within the Shetland Group. The objectives of the well were to test commercial oil volumes within the Hermod T80 sand, to test the geological and geophysical models for the presence of the Hermod T80 sand, and to test the model for hydrocarbon migration within the license area.

Operations and results

The semi-submersible drilling rig "West Vanguard" was used to drill wildcat well 25/7-5. The well was spudded 16 July 1997 and reached a total depth of 2736m on the 7 August 1997 in the Early Paleocene Våle Formation. The well was drilled water based with spud mud to 1338 m and with the ANCO 2000 mud system from 1338 m to TD. Total rig time for the well, including testing, was 46.7 days.

Oil was encountered within the Hermod T80 sands between 2044 - 2052 m. There was 3.5 m of net reservoir within the interval (N/G 0,4372) with an average porosity of 0.25 and an excellent permeability of up to 6 Darcy. The rest of the non-reservoir sand was tightly cemented with calcite. No Oil-Water contact was seen in these sands. The Heimdal formation was penetrated at 2126 m and contained approximately 1m of oil in the top of the reservoir (0.85 gm/cc density). The reservoir quality of these sands is excellent with an average porosity of 0.234 and permeabilities in the low Darcy range. Approximately 6m of residual hydrocarbons were found under the Oil-Water contact at 2127m. The well was cored (11 cores) from 1976m in the top of the Balder Formation tuffaceous clay stone unit and down through the Sele, Hermod and Lista formations and into the Heimdal sands. Coring was stopped at 2150m, 24m into the Heimdal Formation. Core recovery was generally excellent. MDT oil samples were taken at 2045.4 m and 2116.4 m. MDT samples containing both water and oil were taken at 2126.3 m and 2126.6 m, while MDT samples containing only water was taken at 2127.1 m

The well was permanently plugged and abandoned as an oil discovery on 30 August 1997.

Testing

One Drill Stem test was performed over the Hermod T80 sands (perforation 2043 - 2052 m) with a stable flow rate of 900 Sm³ oil/day through a 48/64"choke. The GOR was 88 Sm³ /Sm³ and the oil gravity was 0.870 gm/cc. Traces of produced sand and water were found in the oil.



Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1350.00	2737.00

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
2	1977.0	1983.0	[m]
3	1983.0	2002.8	[m]
4	2003.0	2031.5	[m]
5	2031.5	2048.0	[m]
6	2048.0	2057.5	[m]
7	2058.0	2059.7	[m]
8	2060.0	2076.1	[m]
9	2078.0	2084.7	[m]
10	2093.0	2122.0	[m]
11	2122.0	2149.8	[m]

Total core sample length [m]	161.4
Cores available for sampling?	YES

Core photos



1977-1982m



1982-1983m



1983-1988m



1988-1993m



1993-1998m



1998-2002m



2003-2008m



2008-2013m



2013-2018m



2018-2023m



2028-2031m



2031-2036m



2036-2041m



2041-2046m



2046-2048m



2048-2053m



2053-2057m



2058-2060m



2060-2065m



2065-2070m



2070-2075m



2075-2076m



2078-2083m



2083-2084m



2093-2098m



2098-2103m



2103-2108m



2108-2113m



2113-2118m



2118-2122m



2122-2127m



2127-2132m



2132-2137m



2137-2142m



2142-2147m



2147-2150m

**Palynological slides at the Norwegian Offshore Directorate**

Sample depth	Depth unit	Sample type	Laboratory
1350.0	[m]	DC	RRI
1370.0	[m]	DC	RRI
1390.0	[m]	DC	RRI
1410.0	[m]	DC	RRI
1430.0	[m]	DC	RRI
1460.0	[m]	DC	RRI
1470.0	[m]	DC	RRI
1490.0	[m]	DC	RRI
1510.0	[m]	DC	RRI
1530.0	[m]	DC	RRI
1550.0	[m]	DC	RRI
1570.0	[m]	DC	RRI
1590.0	[m]	DC	RRI
1610.0	[m]	DC	RRI
1630.0	[m]	DC	RRI
1650.0	[m]	DC	RRI
1670.0	[m]	DC	RRI
1690.0	[m]	DC	RRI
1710.0	[m]	DC	RRI
1730.0	[m]	DC	RRI
1750.0	[m]	DC	RRI
1770.0	[m]	DC	RRI
1790.0	[m]	DC	RRI
1810.0	[m]	DC	RRI
1830.0	[m]	SWC	RRI
1850.0	[m]	SWC	RRI
1860.0	[m]	SWC	RRI
1870.0	[m]	DC	RRI
1870.0	[m]	SWC	RRI
1875.0	[m]	SWC	RRI
1880.0	[m]	DC	RRI
1890.0	[m]	DC	RRI
1890.0	[m]	SWC	RRI
1900.0	[m]	DC	RRI
1901.0	[m]	SWC	RRI



1907.0	[m]	DC	RRI
1914.0	[m]	SWC	RRI
1927.0	[m]	DC	RRI
1937.0	[m]	DC	RRI
1947.0	[m]	DC	RRI
1951.0	[m]	SWC	RRI
1957.0	[m]	DC	RRI
1977.0	[m]	C	RRI
1982.0	[m]	C	RRI
1988.0	[m]	C	RRI
1994.0	[m]	C	RRI
1999.0	[m]	C	RRI
2005.0	[m]	C	RRI
2012.0	[m]	C	RRI
2018.0	[m]	C	RRI
2019.0	[m]	C	RRI
2020.0	[m]	C	RRI
2023.0	[m]	C	RRI
2028.0	[m]	C	RRI
2033.0	[m]	C	RRI
2038.0	[m]	C	RRI
2044.0	[m]	C	RRI
2046.0	[m]	C	RRI
2050.0	[m]	C	RRI
2052.0	[m]	C	RRI
2054.0	[m]	C	RRI
2056.0	[m]	C	RRI
2057.0	[m]	C	RRI
2059.0	[m]	C	RRI
2061.0	[m]	C	RRI
2063.0	[m]	C	RRI
2067.0	[m]	C	RRI
2068.0	[m]	C	RRI
2072.0	[m]	C	RRI
2075.0	[m]	DC	RRI
2078.0	[m]	C	RRI
2084.0	[m]	C	RRI
2093.0	[m]	C	RRI
2096.0	[m]	C	RRI
2102.0	[m]	C	RRI



2108.0 [m]	C	RRI
2114.0 [m]	C	RRI
2120.0 [m]	C	RRI
2125.0 [m]	C	RRI
2127.0 [m]	C	RRI
2137.0 [m]	C	RRI
2141.0 [m]	C	RRI
2147.0 [m]	C	RRI
2160.0 [m]	DC	RRI
2170.0 [m]	DC	RRI
2180.0 [m]	DC	RRI
2190.0 [m]	DC	RRI
2196.0 [m]	SWC	RRI
2210.0 [m]	DC	RRI
2222.0 [m]	DC	RRI
2226.0 [m]	SWC	RRI
2240.0 [m]	DC	RRI
2250.0 [m]	DC	RRI
2260.0 [m]	DC	RRI
2270.0 [m]	DC	RRI
2275.0 [m]	SWC	RRI
2280.0 [m]	SWC	RRI
2290.0 [m]	DC	RRI
2300.0 [m]	DC	RRI
2310.0 [m]	DC	RRI
2320.0 [m]	DC	RRI
2330.0 [m]	DC	RRI
2340.0 [m]	DC	RRI
2350.0 [m]	DC	RRI
2360.0 [m]	DC	RRI
2370.0 [m]	DC	RRI
2380.0 [m]	DC	RRI
2390.0 [m]	DC	RRI
2400.0 [m]	DC	RRI
2410.0 [m]	DC	RRI
2420.0 [m]	DC	RRI
2430.0 [m]	DC	RRI
2440.0 [m]	DC	RRI
2460.0 [m]	DC	RRI
2470.0 [m]	DC	RRI



2480.0	[m]	DC	RRI
2490.0	[m]	DC	RRI
2500.0	[m]	DC	RRI
2510.0	[m]	DC	RRI
2520.0	[m]	DC	RRI
2535.0	[m]	DC	RRI
2545.0	[m]	DC	RRI
2555.0	[m]	DC	RRI
2565.0	[m]	DC	RRI
2609.0	[m]	SWC	RRI
2648.0	[m]	SWC	RRI
2661.0	[m]	SWC	RRI

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	2043.00	2052.00		18.08.1997 - 06:32	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
146	NORDLAND GP
410	UTSIRA FM
702	HORDALAND GP
1184	GRID FM
1324	NO FORMAL NAME
1915	ROGALAND GP
1915	BALDER FM
2017	SELE FM
2044	HERMOD FM
2061	SELE FM
2071	LISTA FM
2126	HEIMDAL FM
2490	LISTA FM
2526	TY FM
2688	VÅLE FM



Composite logs

Document name	Document format	Document size [MB]
3132	pdf	0.34

Geochemical information

Document name	Document format	Document size [MB]
3132_1	pdf	1.84
3132_2	pdf	1.95
3132_3	pdf	1.90
3132_4	pdf	1.98
3132_5	pdf	1.88
3132_6	pdf	0.14

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

Document name	Document format	Document size [MB]
3132_25_7_5_COMPLETION_LOG	pdf	8.98
3132_25_7_5_COMPLETION_REPORT	pdf	15.94

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2043	2052	17.5

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0	7.000	5.260	18.981	67

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	900	78000	0.870	0.671	88





Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL AMS GR	1205	1876
CST AMS GR	1870	2704
FMI DSI AMS GR	1810	2730
MDT ACTS GR	2044	2625
MWD DPR GR-DIR	146	2736
PEX NGT	1810	2732
VSP	1400	2730

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	207.5	36	209.0	0.00	LOT
INTERM.	13 3/8	1332.0	17 1/2	1338.0	0.00	LOT
INTERM.	9 5/8	1860.0	12 1/4	1866.0	0.00	LOT
LINER	7	2736.0	8 1/2	2736.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
209	1.06			WATER BASED	
350	1.27	17.0		WATER BASED	
671	1.06			WATER BASED	
702	1.06			WATER BASED	
850	1.27	17.0		WATER BASED	
1221	1.06			WATER BASED	
1338	1.45	29.0		WATER BASED	
1341	1.45	23.0		WATER BASED	
1800	1.21	15.0		WATER BASED	
1886	1.45	26.0		WATER BASED	
1986	1.20	17.0		WATER BASED	
2058	1.20	19.0		WATER BASED	
2060	1.23	18.0		WATER BASED	



2093	1.25	19.0		WATER BASED	
2144	1.21	17.0		WATER BASED	
2148	1.25	19.0		WATER BASED	
2148	1.21	18.0		WATER BASED	
2491	1.23	17.0		WATER BASED	

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]
3132_Formalion_pressure_(Formasjonstrykk)	pdf	0.22

