General information

Wellbore name	16/2-8
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORTH SEA
Field	JOHAN SVERDRUP
Discovery	16/2-6 Johan Sverdrup
Well name	16/2-8
Seismic location	LN0902-inline 2120 & crossline 6672
Production licence	265
Drilling operator	Statoil Petroleum AS
Drill permit	1346-L
Drilling facility	TRANSOCEAN LEADER
Drilling days	34
Entered date	17.07.2011
Completed date	19.08.2011
Release date	19.08.2013
Publication date	19.08.2013
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	INTRA DRAUPNE FM SS
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	HUGIN FM
Kelly bushing elevation [m]	23.5
Water depth [m]	112.0
Total depth (MD) [m RKB]	2140.0
Final vertical depth (TVD) [m RKB]	2140.0
Maximum inclination [°]	1
Bottom hole temperature [°C]	81
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	SKAGERRAK FM
Geodetic datum	ED50
NS degrees	58° 48' 57'' N

EW degrees	2° 32' 30.6'' E
NS UTM [m]	6519785.69
EW UTM [m]	473535.66
UTM zone	31
NPDID wellbore	6562

Wellbore history

General

Statoil well 16/2-8 (Aldous Major South) was drilled about 4.2 kilometres west of the Lundin oil discovery well 16/2-6 (Avaldsnes) on the Utsira High in the North Sea. The 16/2-6 Avaldsnes discovery was proven in September 2010 in Middle-Late Jurassic reservoir rocks. The main objective of well 16/2-8 was to investigate the hydrocarbon potential in Late Jurassic sandstones in the Draupne Formation and the Middle Jurassic Hugin/Sleipner Formations. The secondary and third objectives were to explore the hydrocarbon potential in the Triassic Skagerrak Formation and in Chalks of the Late Cretaceous Shetland Group, respectively.

Operations and results

Wildcat well 16/2-8 was spudded with the semi-submersible installation Transocean Leader on 17 July 2011 and drilled to TD at 2140 m in the Triassic Skagerrak Formation. Neither shallow gas nor shallow water flow was observed and the well was drilled without significant problems. The well was drilled with seawater and bentonite sweeps down to 213 m, with seawater and bentonite/PAC RE sweeps from 213 m to 945 m, with Performadril WBM spec 6a from 945 m to 1573 m, and with Performadril Low sulphate WBM from 1573 m to TD.

The top of the main reservoir, in the Draupne Formation, was picked at 1877 m. The reservoir (Draupne and Hugin Formations) showed excellent reservoir properties and contained oil. An oil column of 67.5 m was present down to 1944.5 m (1921 m TVD MSL), close to the contact level seen in the 16/2-6 Avaldsnes well. Pressure data showed that the 16/2-8 Aldous Major South and the 16/2-6 Avaldsnes discoveries are in the same pressure regime and thus in communication. The secondary objective, Skagerrak Formation was water wet. The third objective, the Shetland Group chalk had moderate to poor oil shows in the very top, from 1573 to 1622 m, with a pronounced wet gas peak from 1573 to 1601 m.

Six cores were cut in the well. Cores 1 to 4 were cut from 1880.5 m to 1953.21 m in the Rødby Formation, across Draupne and Hugin formations and into the Sleipner Formation. Cores no 5 and 6 were cut from 1995 m to 2048.8 m in the Statfjord and Skagerrak formations. MDT wire line fluid samples were taken at 1882.1 m (oil), 1931.2 m (oil), 1945.0 m (water), 1945.4 m (water), and at 1947.2 m (water).

Well 16/2-8 proved communication between the Aldous Major South discovery in PL265 and the Avaldsnes discovery in PL501 made by Well 16/2-6 in august 2010. The two discoveries will be developed together under the name Johan Sverdrup Field. Well 16/2-8 was permanently abandoned on 19 August 2011 as an oil appraisal.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
950.00	2140.00

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	1880.5	1907.7	[m]
2	1907.7	1935.3	[m]
3	1935.3	1952.0	[m]
4	1952.0	1953.2	[m]
5	1995.0	2022.5	[m]
6	2022.5	2048.8	[m]

Total core sample length [m]	126.5
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
950.0	[m]	DC	
970.0	[m]	DC	
990.0	[m]	DC	
1010.0	[m]	DC	
1030.0	[m]	DC	
1050.0	[m]	DC	
1070.0	[m]	DC	
1090.0	[m]	DC	
1110.0	[m]	DC	
1130.0	[m]	DC	
1150.0	[m]	DC	
1180.0	[m]	DC	
1200.0	[m]	DC	
1240.0	[m]	DC	
1260.0	[m]	DC	
1280.0	[m]	DC	
1300.0	[m]	DC	
1320.0	[m]	DC	
1340.0	[m]	DC	
1360.0	[m]	DC	
1380.0	[m]	DC	

1400.0	[m]	DC	
1420.0	[m]	DC	
1440.0	[m]	DC	
1460.0	[m]	DC	
1480.0	[m]	DC	
1500.0	[m]	DC	
1520.0	[m]	DC	
1530.0	[m]	DC	
1540.0	[m]	DC	
1550.0	[m]	DC	
1560.0	[m]	DC	
1570.0	[m]	DC	
1576.0	[m]	DC	
1582.0	[m]	DC	
1600.0	[m]	DC	
1744.0	[m]	DC	
1750.0	[m]	DC	
1756.0	[m]	DC	
1762.0	[m]	DC	
1768.0	[m]	DC	
1774.0	[m]	DC	
1780.0	[m]	DC	
1792.0	[m]	DC	
1801.0	[m]	DC	
1807.0	[m]	DC	
1813.0	[m]	DC	
1819.0	[m]	DC	
1825.0	[m]	DC	
1831.0	[m]	DC	
1837.0	[m]	DC	
1843.0	[m]	DC	
1849.0	[m]	DC	
1852.0	[m]	DC	
1855.0	[m]	DC	
1858.0	[m]	DC	
1861.0	[m]	DC	
1864.0	[m]	DC	
1867.0	[m]	DC	
1870.0	[m]	DC	
1880.9	[m]	C	

1883.6	[m]	C	
1884.3	[m]	C	
1894.3	[m]	C	
1897.6	[m]	C	
1905.5	[m]	C	
1908.5	[m]	C	
1910.7	[m]	C	
1915.5	[m]	C	
1919.9	[m]	C	
1922.0	[m]	C	
1930.0	[m]	C	
1931.5	[m]	C	
1931.8	[m]	C	
1935.0	[m]	C	
1938.8	[m]	C	
1944.2	[m]	C	
1945.5	[m]	C	
1951.6	[m]	C	
1953.0	[m]	C	
1996.9	[m]	C	
2000.5	[m]	C	
2006.6	[m]	C	
2009.9	[m]	C	
2014.8	[m]	C	
2022.5	[m]	C	
2024.7	[m]	C	
2033.7	[m]	C	
2042.5	[m]	C	
2048.4	[m]	C	

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
136	NORDLAND GP
799	UTSIRA FM
1024	HORDALAND GP
1024	NO FORMAL NAME
1061	SKADE FM
1124	NO FORMAL NAME

1467	ROGALAND GP
1467	BALDER FM
1489	SELE FM
1503	LISTA FM
1572	SHETLAND GP
1572	EKOFISK FM
1576	TOR FM
1667	HOD FM
1750	BLODØKS FM
1767	SVARTE FM
1787	CROMER KNOLL GP
1787	RØDBY FM
1868	ÅSGARD FM
1877	VIKING GP
1877	INTRA DRAUPNE FM SS
1911	VESTLAND GP
1911	HUGIN FM
1945	SLEIPNER FM
1949	STATFJORD GP
1951	HEGRE GP
1951	SKAGERRAK FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
FMI HNGS HRLA	1567	2135
MDT	1575	2110
MDT	1931	1931
MDT	1945	1945
MSIP GPIT PEX CBL	1100	2140
MWD - GR RES	212	2140
PEX	1510	1950

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	209.0	36	212.7	0.00	LOT
SURF.COND.	13 3/8	937.0	17 1/2	944.0	1.45	LOT

INTERM.	9 5/8	1567.5	12 1/4	1573.2	1.92	LOT
OPEN HOLE		2140.0	8 1/2	2140.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
936	1.14	15.0		Performadril	
945	1.14	15.0		Performadril	
1306	1.24	18.0		Performadril	
1573	1.25	21.0		Performadril	
1810	1.20	22.0		Performadril Low Sulphate	
1951	1.22	28.0		Performadril Low Sulphate	
1975	1.22	29.0		Performadril Low Sulphate	
2140	1.23	30.0		Performadril Low Sulphate	

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.

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