General information

Wellbore name	16/2-19
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	16/2-19
Seismic location	3D survey : LN 0902STR11 inline 3519 & xline 3710
Production licence	265
Drilling operator	Statoil Petroleum AS
Drill permit	1504-L
Drilling facility	OCEAN VANGUARD
Drilling days	34
Entered date	01.03.2014
Completed date	03.04.2014
Release date	03.04.2016
Publication date	12.04.2016
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	JURASSIC/TRIASSIC
1st level with HC, formation	STATFJORD GP
Kelly bushing elevation [m]	22.0
Water depth [m]	116.0
Total depth (MD) [m RKB]	2023.0
Final vertical depth (TVD) [m RKB]	2023.0
Maximum inclination [°]	1.5
Bottom hole temperature [°C]	85
Oldest penetrated formation	BASEMENT
Geodetic datum	ED50
NS degrees	58° 54' 12.28'' N
EW degrees	2° 29' 37.71'' E
NS UTM [m]	6529557.51

EW UTM [m]	470835.44
UTM zone	31
NPDID wellbore	7403

Wellbore history

General

The 16/2-19 Geitungen well was drilled on the northern part of the Johan Sverdrup Field on the Utsira High in the North Sea. The primary objectives were to investigate the reservoir distribution, facies and quality in a more distal and down flank position and different seismic response than the Geitungen discovery well 16/2-12. The well was targeting possible Intra Draupne Formation sandstones to find the oil-water contact and to take water samples to aid the design of Johan Sverdrup production facilities.

Operations and results

Appraisal well 16/2-19 was spudded with the semi-submersible installation Ocean Vanguard on 1 March 2014 and drilled to TD at 2023 m in the granitic basement rock. The well was drilled and cored without any major problems. The well was drilled with spud mud down to 902 m and with XP-07 oil based mud from 902 m to TD.

Intra Draupne sandstone was not encountered in the well. Top Statfjord Group sandstone came in at 1945 m and the upper 5 m was oil filled. Shows were observed from the well site description in the Draupne Formation above the Statfjord reservoir and in the Skagerrak Formation below the OWC, but no shows are observed in the Basement. Gas readings were generally low through the entire well.

Three cores were cut with a total of 68.38 m recovery, starting from lower part of Cromer Knoll Group, through Viking Group, Statfjord Group, Hegre Group and down into the Basement. MDT samples were taken at 1945.13 m (oil with ca 4% OBM contamination), 1949.03 m (oil with ca 18% OBM contamination), and 1951.21 m (water).

Since no Intra Draupne Formation sandstone was encountered in the well, it was decided to drill a sidetrack, 16/2-19 A.

Well bore 16/2-19 was plugged back and prepared for sidetracking on 3 March 2016. It is classified as an oil appraisal well.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
913.00	2023.00

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	1926.0	1952.0	[m]
2	1952.0	1967.8	[m]
3	1967.8	1994.4	[m]

Total core sample length [m]	68.4
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1029.0	[m]	DC	ROBERTSO
1038.0	[m]	DC	ROBERT
1047.0	[m]	DC	ROBERT
1059.0	[m]	DC	ROBERT
1071.0	[m]	DC	ROBERT
1080.0	[m]	DC	ROBERT
1092.0	[m]	DC	ROBERT
1101.0	[m]	DC	ROBERT
1113.0	[m]	DC	ROBERT
1122.0	[m]	DC	ROBERT
1131.0	[m]	DC	ROBERT
1143.0	[m]	DC	ROBERT
1163.0	[m]	DC	ROBERT
1183.0	[m]	DC	ROBERT
1203.0	[m]	DC	ROBERT
1223.0	[m]	DC	ROBERT
1243.0	[m]	DC	ROBERT
1263.0	[m]	DC	ROBERT
1283.0	[m]	DC	ROBERT
1303.0	[m]	DC	ROBERT
1313.0	[m]	DC	ROBERT
1343.0	[m]	DC	ROBERT
1363.0	[m]	DC	ROBERT
1383.0	[m]	DC	ROBERT
1403.0	[m]	DC	ROBERT
1423.0	[m]	DC	ROBERT
1443.0	[m]	DC	ROBERT

1463.0	[m]	DC	ROBERT
1483.0	[m]	DC	ROBERT
1503.0	[m]	DC	ROBERT
1523.0	[m]	DC	ROBERT
1543.0	[m]	DC	ROBERT
1563.0	[m]	DC	ROBERT
1583.0	[m]	DC	ROBERT
1623.0	[m]	DC	ROBERT
1643.0	[m]	DC	ROBERT
1663.0	[m]	DC	ROBERT
1683.0	[m]	DC	ROBERT
1703.0	[m]	DC	ROBERT
1723.0	[m]	DC	ROBERT
1743.0	[m]	DC	ROBERT
1763.0	[m]	DC	ROBERT
1783.0	[m]	DC	ROBERT
1803.0	[m]	DC	ROBERT
1823.0	[m]	DC	ROBERT
1843.0	[m]	DC	ROBERT
1863.0	[m]	DC	ROBERT
1883.0	[m]	DC	ROBERT
1903.0	[m]	DC	ROBERT
1921.0	[m]	DC	ROBERT
1930.4	[m]	C	ROBERT
1933.3	[m]	C	ROBERT
1935.4	[m]	C	ROBERT
1937.5	[m]	C	ROBERT
1940.2	[m]	C	ROBERT
1941.5	[m]	C	ROBERT
1942.5	[m]	C	ROBERT
1944.2	[m]	C	ROBERT
1944.5	[m]	C	ROBERT
1948.0	[m]	C	ROBERT
1950.0	[m]	C	ROBERT
1952.2	[m]	C	ROBERT
1955.3	[m]	C	ROBERT
1957.6	[m]	C	ROBERT
1962.9	[m]	C	ROBERT
1965.7	[m]	C	ROBERT
1968.1	[m]	C	ROBERT

1990.0	[m]	DC	ROBERT

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
MDT		1949.03	0.00	OIL	16.06.2014 - 00:00	YES
MDT		1945.13	0.00	OIL	16.06.2014 - 00:00	NO

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
138	NORDLAND GP
804	UTSIRA FM
872	HORDALAND GP
959	SKADE FM
1043	NO FORMAL NAME
1562	ROGALAND GP
1562	BALDER FM
1586	SELE FM
1618	LISTA FM
1697	VÅLE FM
1703	SHETLAND GP
1703	EKOFISK FM
1726	TOR FM
1777	HOD FM
1817	BLODØKS FM
1823	SVARTE FM
1838	CROMER KNOLL GP
1838	RØDBY FM
1907	SOLA FM
1920	ÅSGARD FM
1932	VIKING GP
1932	DRAUPNE FM
1945	STATFJORD GP
1945	UNDIFFERENTIATED
1952	HEGRE GP

1952	SKAGERRAK FM
1989	BASEMENT

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AIT PEX HNGS	1864	2024
CMR LSC GR	1891	2024
DUAL OBMI PPC MSIP PPC GR	1272	2024
MDT	1934	1974
MDT MINIDST	1937	1967
MDT MINIDST	1948	1949
MWD LWD - ARCVIS	202	902
MWD LWD - ARCVRES6 ARC6 TELE675	1850	1923
MWD LWD - PD ARC TELE	880	1894
USIT CBL GR	417	816
USIT CBL GR	1340	1888
ZOVSP	185	1953

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	199.4	36	204.0	0.00	
PILOT HOLE		718.0	9 7/8	718.0	0.00	
INTERM.	13 3/8	890.5	17 1/2	902.0	1.44	FIT
LINER	9 5/8	1891.0	12 1/4	1894.0	1.74	LOT
OPEN HOLE		2023.0	8 1/2	2023.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
350	1.03	28.0		Spud Mud	
617	1.22	17.0		XP-07 - Yellow	
856	1.03	24.0		Spud Mud	
902	1.15	13.0		XP-07 - #14	
1700	1.17	18.0		XP-07 - #14	

1763	1.20	19.0		XP-07 - Yellow	
1842	1.25	20.0		XP-07 - #14	
1894	1.25	21.0		XP-07 - #14	
1923	1.20	19.0		XP-07 - #14	
2023	1.21	18.0		XP-07 - #14	