

**General information**

Wellbore name	15/9-19 SR
Type	EXPLORATION
Purpose	WILDCAT
Status	SUSPENDED
Factmaps in new window	link to map
Main area	NORTH SEA
Field	VOLVE
Discovery	15/9-19 S Volve
Well name	15/9-19
Seismic location	ST 8215 R - 571 CROSSLINE 491
Production licence	046
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	749-L2
Drilling facility	TREASURE PROSPEC
Drilling days	72
Entered date	17.02.1993
Completed date	29.04.1993
Release date	29.04.1995
Publication date	15.12.2006
Purpose - planned	WILDCAT
Reentry	YES
Reentry activity	DRILLING
Content	OIL
Discovery wellbore	YES
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	HUGIN FM
Kelly bushing elevation [m]	22.0
Water depth [m]	84.0
Total depth (MD) [m RKB]	4641.0
Final vertical depth (TVD) [m RKB]	3132.0
Maximum inclination [°]	55.9
Oldest penetrated age	TRIASSIC
Oldest penetrated formation	SKAGERRAK FM
Geodetic datum	ED50
NS degrees	58° 26' 9.25" N
EW degrees	1° 55' 47.05" E
NS UTM [m]	6477887.72
EW UTM [m]	437506.71



UTM zone	31
NPDID wellbore	2105

Wellbore history

General

The re-entry 15/9-19 SR is a continuation of wildcat well 15/9-19 S, which was temporarily suspended at 3569.0 m (2394.0 m TVD RKB), immediately above the Heimdal sands. The target of the well was the Theta Vest Structure north of the Sleipner East Field. The primary objective was to test gas from the Heimdal reservoir, and to provide geological and reservoir data enabling optimal reservoir management. The secondary target was the Hugin/Skagerrak Sands, which were to be fully evaluated if hydrocarbon bearing.

Operations and results

Well 15/9- 19 S was re-entered (15/9-19 SR) with the semi-submersible installation Treasure Prospect on 17 February 1993, from Slot 3 of the Loke Discovery template. The well was drilled to TD at 4641 m (3132.3 m TVD RKB) in the Triassic Skagerrak Formation. No significant technical problems were encountered in this well bore. The well bore was drilled with oil-based mud (Petrofree).

The Heimdal sandstone was penetrated at 3623 m (2427 m TVD RKB), 50 m low to prognosis. This Formation was the main target in the well. No hydrocarbons were encountered. The Hugin Formation was penetrated at 4317 m (2886 m TVD RKB), 2 m low to prognosis. The entire Hugin Formation was oil filled (18 m TVD). The core from this formation was filled with H₂S (650 ppm). Sandstones of the Skagerrak Formation were water wet. No shows were recorded due to invasion of petrofree mud.

One core was cut from 3643 m to 3648 m in the Heimdal Formation, and two cores were cut from 4328 m to 4383 m in the Hugin and Skagerrak Formations. No fluid samples were taken.

The well was suspended on 29 March 1993 as an oil discovery.

Testing

One Drill Stem Test from the interval 4316 to 4338 m in the Hugin Formation was performed. The test produced 680 Sm³ oil /day through a 12.7 mm choke. The GOR was 98 Sm³/Sm³, the oil density was 0.870 g/cm³, and the gas gravity was 0.740 (air =1)

Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	3643.0	3647.8	[m]
2	4328.0	4354.2	[m]
3	4355.0	4383.0	[m]



Total core sample length [m]	59.0
Cores available for sampling?	YES

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	TEST1	4338.00	4316.00		19.04.1993 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
106	NORDLAND GP
846	UTSIRA FM
1080	UNDIFFERENTIATED
1108	HORDALAND GP
1313	SKADE FM
1451	NO FORMAL NAME
3008	GRID FM
3240	NO FORMAL NAME
3302	ROGALAND GP
3302	BALDER FM
3403	SELE FM
3483	LISTA FM
3623	HEIMDAL FM
3827	SHETLAND GP
3827	EKOFISK FM
3850	TOR FM
4047	HOD FM
4110	TRYGGVASON FM
4150	BLODØKS FM
4168	SVARTE FM
4176	CROMER KNOLL GP
4176	RØDBY FM
4188	SOLA FM
4201	ÅSGARD FM



4304	VIKING GP
4304	DRAUPNE FM
4310	HEATHER FM
4317	VESTLAND GP
4317	HUGIN FM
4340	NO GROUP DEFINED
4340	SKAGERRAK FM

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

Document name	Document format	Document size [MB]
2105_15_9_19_SR_COMPLETION_LOG	pdf	0.86
2105_15_9_19_SR_COMPLETION_REPORT	pdf	18.35

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	4316	4338	12.7

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

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	680	66640	0.870	0.740	98

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
LINER	7	4640.0	8 1/2	4640.0	0.00	LOT

