

**General information**

Wellbore name	6507/11-5 S
Type	EXPLORATION
Purpose	APPRAISAL
Status	RE-CLASS TO DEV
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Field	ÅSGARD
Discovery	6507/11-1 Midgard
Well name	6507/11-5
Seismic location	SG 8758-inline 530 & crossline 434
Production licence	062
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	904-L
Drilling facility	DEEPSEA TRYM
Drilling days	54
Entered date	05.09.1997
Completed date	28.10.1997
Release date	28.10.1999
Publication date	07.11.2005
Purpose - planned	APPRAISAL
Reclassified to wellbore	6507/11-Y-3 H
Reentry	NO
Content	OIL/GAS
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	GARN FM
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	ILE FM
Kelly bushing elevation [m]	25.0
Water depth [m]	256.0
Total depth (MD) [m RKB]	2695.0
Final vertical depth (TVD) [m RKB]	2599.5
Maximum inclination [°]	21
Bottom hole temperature [°C]	93
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	ROR FM
Geodetic datum	ED50
NS degrees	65° 0' 18.57" N



EW degrees	7° 33' 25.23" E
NS UTM [m]	7209986.27
EW UTM [m]	431967.60
UTM zone	32
NPDID wellbore	3193

Wellbore history

General

The Midgard field is situated in the northeastern part of the Halten Terrace on a north south trending horst system, which is separated into 4 major segments. Four wells have been drilled on the Midgard Field, one in each of the segments Alfa, Beta, Gamma and Delta. Well 6507/11-5S was drilled as an appraisal well in the Gamma segment. The main objective of the well was to confirm the oil zone in the Ile Formation and to become a future gas producer on the Midgard field. The well should collect data on reservoir quality and fluid distribution related to both the oil and gas zones in the Midgard field.

Operations and results

Wildcat well 6507/11-5 S was spudded with the semi-submersible installation Deepsea Trym on 5 September 1997 and drilled to TD at 2695 m in the Middle Jurassic Ror Formation. Major operational problems were encountered leading to significant downtime. Firstly, one day was lost when the well drilled into shallow gas class II at 582 m. The well was killed and a cement plug was set. The 20" casing had to be set above the shallow gas zone. Second, fourteen days were lost due to heave compensator failures. Third, three days were lost when logging tools got stuck and failures on logging equipment appeared. The well was vertical down to 700 m where it built angle to 19.5 deg at 1350 m. This angle was kept down to TD. The well was drilled with seawater and hi-vis pills down to 547 m and with KCl/PAC mud from 547 m to TD.

The 6507 /11-5 S well proved 114 m TVD of gas and 11.5 m TVD of oil in the Fangst Group. This was deduced from FMT sampling and petrophysical evaluation of wire line logs. The GOC was found at 2605 m (2515 m TVD RKB) and the OWC at 2617.4 m (2526.5 m TVD RKB). Three wire line fluid samples were taken in Ile (FMT gas sample at 2592.9 m, RCI oil sample at 2608.3 m, and FMT water sample at 2622.1 m), and one in Garn (FMT gas sample at 2500 m).

The well was suspended on 28 October as an oil and gas appraisal well. It was re-entered in January 2000 and taken in use as a gas producer.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
560.00	2484.00

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	2488.0	2508.0	[m]
2	2508.0	2534.7	[m]
3	2535.0	2539.6	[m]
4	2541.0	2554.0	[m]
5	2554.0	2582.0	[m]
6	2582.0	2608.5	[m]
7	2609.0	2645.3	[m]

Total core sample length [m]	155.0
Cores available for sampling?	YES

Core photos



2488-2493m



2493-2498m



2498-2503m



2503-2508m



2508-2513m



2513-2518m



2518-2523m



2523-2528m



2528-2533m



2533-2534m



2535-2539m



2541-2546m



2546-2551m



2551-2554m



2554-2559m



2559-2564m



2564-2569m



2569-2574m



2574-2579m



2579-2582m



2582-2587m



2587-2592m



2592-2597m



2597-2602m



2602-2607m



2607-2608m



2609-2614m



2614-2619m



2619-2624m



2624-2629m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1710.0	[m]	DC	RRI
1720.0	[m]	DC	RRI
1740.0	[m]	DC	RRI
1750.0	[m]	DC	RRI
1770.0	[m]	DC	RRI
1780.0	[m]	DC	RRI
1800.0	[m]	DC	RRI
1810.0	[m]	DC	RRI
1830.0	[m]	DC	RRI
1840.0	[m]	DC	RRI
1860.0	[m]	DC	RRI
1870.0	[m]	DC	RRI
1890.0	[m]	DC	RRI
1900.0	[m]	DC	RRI
1920.0	[m]	DC	RRI
1930.0	[m]	DC	RRI



1950.0	[m]	DC	RRI
1960.0	[m]	DC	RRI
1980.0	[m]	DC	RRI
1990.0	[m]	DC	RRI
2000.0	[m]	DC	RRI
2020.0	[m]	DC	RRI
2040.0	[m]	DC	RRI
2050.0	[m]	DC	RRI
2070.0	[m]	DC	RRI
2090.0	[m]	DC	RRI
2100.0	[m]	DC	RRI
2110.0	[m]	DC	RRI
2130.0	[m]	DC	RRI
2140.0	[m]	DC	RRI
2160.0	[m]	DC	RRI
2170.0	[m]	DC	RRI
2190.0	[m]	DC	RRI
2200.0	[m]	DC	RRI
2230.0	[m]	DC	RRI
2250.0	[m]	DC	RRI
2260.0	[m]	DC	RRI
2270.0	[m]	DC	RRI
2290.0	[m]	DC	RRI
2313.0	[m]	DC	RRI
2325.0	[m]	DC	RRI
2340.0	[m]	DC	RRI
2355.0	[m]	DC	RRI
2370.0	[m]	DC	RRI
2373.0	[m]	DC	RRI
2382.0	[m]	DC	RRI
2391.0	[m]	DC	RRI
2400.0	[m]	DC	RRI
2403.0	[m]	DC	RRI
2412.0	[m]	DC	RRI
2418.0	[m]	DC	RRI
2424.0	[m]	DC	RRI
2430.0	[m]	DC	RRI
2439.0	[m]	DC	RRI
2442.0	[m]	DC	RRI
2448.0	[m]	DC	RRI



2457.0	[m]	DC	RRI
2460.0	[m]	DC	RRI
2463.0	[m]	DC	RRI
2472.0	[m]	DC	RRI
2478.0	[m]	DC	RRI
2484.0	[m]	DC	RRI
2488.1	[m]	C	RRI
2495.0	[m]	C	RRI
2499.8	[m]	C	RRI
2528.0	[m]	C	RRI
2535.4	[m]	C	RRI
2541.1	[m]	C	RRI
2546.8	[m]	C	RRI
2550.9	[m]	C	RRI
2554.5	[m]	C	RRI
2559.8	[m]	C	RRI
2572.0	[m]	C	RRI
2576.9	[m]	C	RRI
2582.1	[m]	C	RRI
2588.6	[m]	C	RRI
2594.8	[m]	C	RRI
2600.3	[m]	C	RRI
2612.5	[m]	C	RRI
2618.8	[m]	C	RRI
2623.6	[m]	C	RRI
2629.7	[m]	C	RRI
2636.7	[m]	C	RRI
2640.3	[m]	C	RRI
2644.3	[m]	C	RRI

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
281	NORDLAND GP
281	NAUST FM
1401	KAI FM
1550	HORDALAND GP
1550	BRYGGE FM
2018	ROGALAND GP



2018	TARE FM
2062	TANG FM
2151	SHETLAND GP
2151	SPRINGAR FM
2226	NISE FM
2310	KVITNOS FM
2393	CROMER KNOLL GP
2393	LANGE FM
2420	LYR FM
2434	VIKING GP
2434	SPEKK FM
2445	MELKE FM
2484	FANGST GP
2484	GARN FM
2539	NOT FM
2554	ILE FM
2624	BÅT GP
2624	ROR FM

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

Document name	Document format	Document size [MB]
3193_6507_11_5_S_COMPLETION_LOG	pdf	2.70
3193_6507_11_5_S_COMPLETION_REPORT	pdf	22.19

Logs

Log type	Log top depth [m]	Log bottom depth [m]
DLL MLL MAC DSL CHT	2478	2693
FMT QD GR CHT	2500	2500
FMT QD GR CHT	2592	2592
FMT QD GR CHT	2622	2622
MWD	281	2695
RCI GR TTRM	2485	2523
VSP GR CHT	1378	2690
ZDL CND GR CHT	2478	2692



**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	340.0	36	342.0	0.00	LOT
SURF.COND.	20	542.0	26	544.0	1.30	LOT
INTERM.	13 3/8	1533.0	17 1/2	1534.0	1.90	LOT
INTERM.	9 5/8	2479.0	12 1/4	2480.0	0.00	LOT
OPEN HOLE		2695.0	8 1/2	2695.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1536	1.18	21.0		QUADRILL	
1598	1.39			DUMMY	
2100	1.55	32.0		QUADRILL	
2484	1.20	24.0		QUADRILL	
2508	1.20	20.0		QUADRILL	
2541	1.20	24.0		QUADRILL	
2554	1.20	18.0		QUADRILL	
2696	1.20	17.0		QUADRILL	

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]
3193 Formation pressure (Formasjonstrykk)	pdf	0.27

