General information

Wellbore name	6506/12-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Field	ÅSGARD
Discovery	6506/12-1 Smørbukk
Well name	6506/12-1
Seismic location	line 911 460 & SP230
Production licence	094
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	430-L
Drilling facility	ROSS ISLE
Drilling days	175
Entered date	16.08.1984
Completed date	06.02.1985
Release date	06.02.1987
Publication date	13.12.2005
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS/CONDENSATE
Discovery wellbore	YES
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	FANGST GP
2nd level with HC, age	EARLY JURASSIC
2nd level with HC, formation	BÅT GP
Kelly bushing elevation [m]	22.0
Water depth [m]	250.0
Total depth (MD) [m RKB]	4924.0
Bottom hole temperature [°C]	168
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	ÅRE FM
Geodetic datum	ED50
NS degrees	65° 10' 7.58'' N
EW degrees	6° 43' 44.07'' E
NS UTM [m]	7229359.52
EW UTM [m]	393591.68
UTM zone	32
NPDID wellbore	1004

Wellbore history

General

Well 6506/12-1 was drilled on the Alpha structure in the northwest part of the block. The main objective was middle Jurassic sandstones in an anti form structure. The secondary and tertiary objectives were Early Jurassic and Triassic sandstones on the same structure. Late and Early Cretaceous were also considered possible zones of hydrocarbon accumulations. Further objectives, of a more general exploratory nature, included the sampling of potential source rocks. Total depth was to be in rocks of Triassic age, or 4000 m in order to satisfy the licence commitment.

The well is Type Well for the Tofte, Lange, and Lyr Formation. It is Reference Well for the Cromer Knoll Group and for the Springar, Nise, and Kvitnos Formations.

Operations and results

Wildcat well 6506/12-1 was spudded with the semi-submersible installation Ross Isle on 16 August 1985 and drilled to TD at 4924 m in the Early Jurassic sediments of the Åre Formation. Drilling down to, and cementing the 20" casing, went without problems. While testing the casing a leak was discovered. No influx or loss of fluid was observed. Setting a cement plug in the interval 540-590 m solved the problem. A leak-off test equal to 1.34 g/cm3 below the 20" casing shoe was considered to low, and a cement squeeze was performed, after which a formation integrity test gave 1.64 g/cm3 without leak off. A cement squeeze also had to be performed to obtain a satisfactory leak-off test below the 13 3/8" casing shoe. Pore pressures were considerably below prognosed down to this depth. While preparing to run the 9 5/8" casing a sealing ring was dislodged and had to be milled. Down to 4317 m maximum deviation was 3.7 ° and difference between measured and true vertical depth was not more than 1 m. The last part of the well was however more problematic in this respect. At 4925 m it was decided to stop the drilling as the angle had built up too much, and an RFT-tool was stuck in the hole. The well was then logged and plugged back for testing. The well was drilled with spud mud down to 348 m, with bentonite and seawater from 348 m to 948 m, with gypsum/CMC from 948 m to 2203 m, with gypsum/lignosulphonate from 2203 m to 3918 m, with gel/lignosulphonate from 3918 m to 4554 m, and with gel/lignosulphonate/lignite from 4554 m to TD.

A 15 m thick sandstone/siltstone unit (Lysing Formation) was encountered at 3175 m. Logs indicated presence of hydrocarbons, but well site analyses of returns recorded no shows. The well penetrated 139 m Late Jurassic shales from 3835 m to 3974 m, including 22 m Spekk Formation in the upper part. Hydrocarbon bearing Middle Jurassic sandstones were encountered at 3974 m. No hydrocarbon/water contacts were recognised, neither on logs nor on cores. Moreover, the hydrocarbons seemed to be present both in Middle and Early Jurassic sandstones including sandstones within the top of the Åre Formation. The drill stem tests produced hydrocarbons down to a depth of 4373 m.

A total of 319 m of core was recovered in 15 cores from the Middle to Early Jurassic reservoir sections.

The well was permanently abandoned on 6 February 1985 as a gas and condensate discovery.

Testing

Seven different intervals in the reservoir were tested. DST 1 (4504-4509 m), DST 3 (4291-4304), and DST 6 (4095-4110) showed tight formation with no formation fluid produced to surface. DST 2 (4351-4373 m, Lower Tilje Formation) produced 691700

Sm3 gas and 516.9 Sm3 condensate pr day on a 25.4 mm choke. DST 4 (4251-4261 m, upper Tilje Formation) produced 603100 Sm3 gas and 620.2 Sm3 condensate pr day on a 23.8 mm choke. DST 5 (4203-4218 m, Tofte Formation) produced 583900 Sm3 gas and 376.6 Sm3 condensate pr day on a 25.4 mm choke. DST 7 (3993-4011 m, Garn Formation) produced 727400 Sm3 gas and 511 Sm3 condensate pr day on a 31.8 mm choke. The gas/oil ratio for the different tests varied from 973 to 1550 Sm3/Sm3 while the CO2 was between 4.5 to 5.6 % and the H2S content was between 6.5 to 8.0 ppm.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
350.00	4922.50

Cuttings available for sampling?	YES

Cores at the Norwegian Offshore Directorate

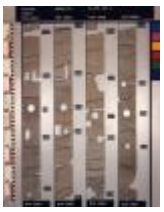
Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	3975.0	3993.0	[m]
2	3993.0	4018.4	[m]
3	4018.5	4044.0	[m]
4	4044.0	4070.8	[m]
5	4071.0	4097.4	[m]
6	4098.0	4124.8	[m]
7	4125.0	4151.7	[m]
8	4173.0	4190.9	[m]
9	4191.0	4205.4	[m]
10	4219.0	4229.5	[m]
11	4231.0	4250.0	[m]
12	4252.0	4274.5	[m]
13	4276.0	4277.5	[m]
14	4279.0	4290.4	[m]

Total core sample length [m]	272.7
Cores available for sampling?	YES

Core photos


3975-3979m


3973-3983m


3983-3987m

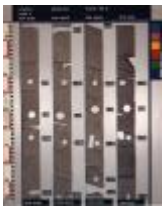

3987-3991m

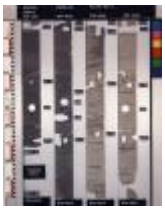

3991-3995m


3995-3999m

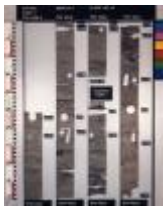

3999-4003m

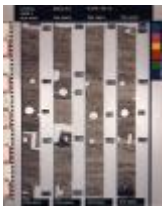

4003-4007m

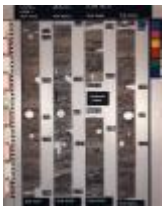

4007-4011m

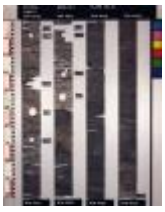

4011-4015m

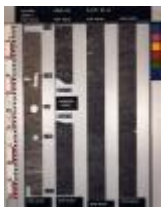

4015-4018m

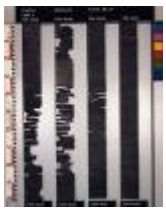

4018-4022m


4022-4026m

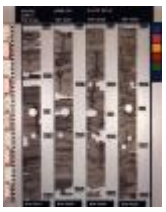

4026-4030m


4030-4034m


4034-4038m

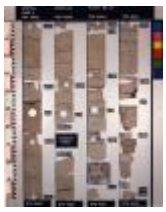

4038-4042m


4042-4046m


4046-4050m


4050-4054m

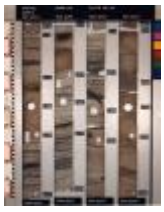

4054-4058m


4058-4062m


4062-4066m


4066-4070m


4070-4074m


4074-4078m


4078-4082m


4082-4086m

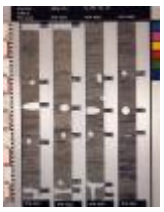

4086-4090m

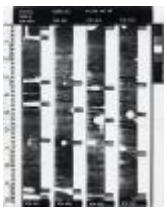

4090-4094m


4094-4097m

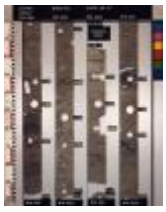

4098-4102m


4102-4106m

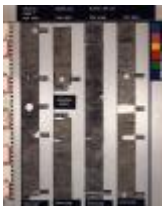

4106-4109m

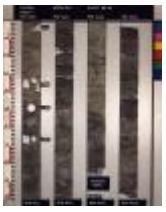

4110-4114m

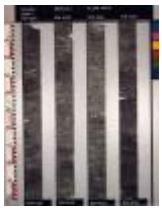

4114-4118m


4118-4122m

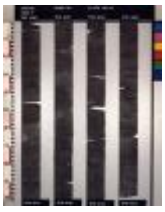

4122-4126m

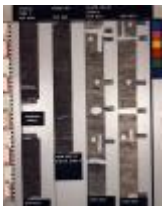

4126-4130m


4130-4134m


4134-4138m


4142-4146m

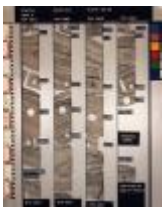

4146-4150m


4150-4175m


4175-4179m


4179-4183m


4183-4187m

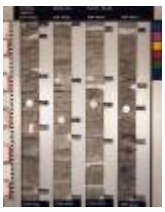

4187-4190m


4191-4195m


4195-4199m


4199-4203m


4203-4220m

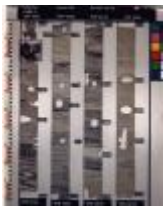

4220-4224m


4224-4226m


4228-4233m


4233-4237m


4237-4241m

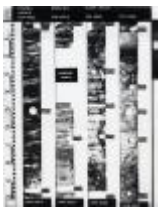

4241-4244m


4245-4249m


4249-4255m


4255-4259m


4259-4263m

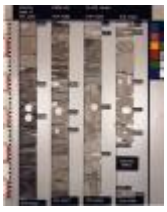

4263-4267m


4267-4271m


4271-4274m


4276-4281m


4281-4285m


4285-4289m


4289-4584m


4584-4592m


4592-4597m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1920.0	[m]	DC	STL
1950.0	[m]	DC	STL
1980.0	[m]	DC	STL
2000.0	[m]	DC	STL
2010.0	[m]	DC	STL
2030.0	[m]	DC	STL
2060.0	[m]	DC	STL
2070.0	[m]	DC	STL
2090.0	[m]	DC	STL
2100.0	[m]	DC	STL
2120.0	[m]	DC	STL
2130.0	[m]	DC	STL
2150.0	[m]	DC	STL
2160.0	[m]	DC	STL
2180.0	[m]	DC	STL
2190.0	[m]	DC	STL

2210.0	[m]	DC	STL
2220.0	[m]	DC	STL
2240.0	[m]	DC	STL
2242.0	[m]	SWC	STL
2250.0	[m]	DC	STL
2263.5	[m]	SWC	STL
2270.0	[m]	DC	STL
2270.0	[m]	DC	RRI
2280.0	[m]	DC	STL
2280.0	[m]	DC	RRI
2300.0	[m]	DC	RRI
2300.0	[m]	DC	OD
2300.0	[m]	DC	STL
2310.0	[m]	DC	STL
2320.0	[m]	DC	OD
2320.0	[m]	DC	RRI
2330.0	[m]	DC	STL
2337.0	[m]	SWC	STL
2340.0	[m]	DC	RRI
2340.0	[m]	DC	STL
2340.0	[m]	DC	OD
2360.0	[m]	DC	OD
2360.0	[m]	DC	STL
2360.0	[m]	DC	RRI
2370.0	[m]	DC	STL
2380.0	[m]	DC	OD
2380.0	[m]	DC	RRI
2390.0	[m]	DC	STL
2400.0	[m]	DC	STL
2400.0	[m]	DC	OD
2400.0	[m]	DC	RRI
2415.0	[m]	SWC	STL
2420.0	[m]	DC	STL
2420.0	[m]	DC	OD
2420.0	[m]	DC	RRI
2430.0	[m]	DC	STL
2440.0	[m]	DC	OD
2440.0	[m]	DC	STL
2440.0	[m]	DC	RRI
2450.0	[m]	DC	STL

2455.0	[m]	DC	RRI
2460.0	[m]	DC	OD
2465.0	[m]	DC	STL
2470.0	[m]	DC	RRI
2480.0	[m]	DC	OD
2480.0	[m]	DC	STL
2495.0	[m]	DC	STL
2495.0	[m]	DC	RRI
2500.0	[m]	DC	OD
2510.0	[m]	DC	STL
2510.0	[m]	DC	RRI
2520.0	[m]	DC	OD
2525.0	[m]	DC	RRI
2540.0	[m]	DC	OD
2540.0	[m]	DC	RRI
2555.0	[m]	DC	STL
2555.0	[m]	DC	RRI
2560.0	[m]	DC	OD
2570.0	[m]	DC	STL
2570.0	[m]	DC	RRI
2582.0	[m]	SWC	STL
2585.0	[m]	DC	STL
2587.5	[m]	DC	OD
2590.0	[m]	DC	RRI
2600.0	[m]	DC	STL
2600.0	[m]	DC	OD
2600.0	[m]	DC	RRI
2615.0	[m]	DC	STL
2620.0	[m]	DC	OD
2630.0	[m]	DC	STL
2630.0	[m]	DC	RRI
2640.0	[m]	DC	OD
2645.0	[m]	DC	STL
2645.0	[m]	DC	RRI
2660.0	[m]	DC	STL
2660.0	[m]	DC	OD
2675.0	[m]	DC	STL
2675.0	[m]	DC	RRI
2680.0	[m]	DC	OD
2690.0	[m]	DC	STL

2700.0	[m]	DC	OD
2705.0	[m]	DC	STL
2720.0	[m]	DC	STL
2720.0	[m]	DC	OD
2735.0	[m]	DC	STL
2740.0	[m]	DC	OD
2750.0	[m]	DC	STL
2750.0	[m]	DC	RRI
2760.0	[m]	DC	OD
2765.0	[m]	DC	STL
2765.0	[m]	DC	RRI
2767.0	[m]	SWC	STL
2780.0	[m]	DC	STL
2780.0	[m]	DC	OD
2780.0	[m]	DC	RRI
2795.0	[m]	DC	STL
2795.0	[m]	DC	RRI
2800.0	[m]	DC	OD
2805.0	[m]	DC	OD
2805.0	[m]	DC	RRI
2810.0	[m]	DC	STL
2815.0	[m]	DC	RRI
2825.0	[m]	DC	STL
2840.0	[m]	DC	STL
2840.0	[m]	DC	RRI
2855.0	[m]	DC	STL
2870.0	[m]	DC	STL
2885.0	[m]	DC	STL
2885.0	[m]	DC	RRI
2900.0	[m]	DC	STL
2915.0	[m]	DC	STL
2915.0	[m]	DC	RRI
2930.0	[m]	DC	STL
2945.0	[m]	DC	STL
2945.0	[m]	DC	RRI
2960.0	[m]	DC	STL
2960.0	[m]	DC	OD
2975.0	[m]	DC	STL
2975.0	[m]	DC	RRI
2980.0	[m]	DC	OD

2990.0	[m]	DC	STL
3000.0	[m]	DC	OD
3002.0	[m]	SWC	STL
3005.0	[m]	DC	STL
3020.0	[m]	DC	STL
3020.0	[m]	DC	OD
3035.0	[m]	DC	STL
3035.0	[m]	DC	RRI
3040.0	[m]	DC	OD
3050.0	[m]	DC	STL
3060.0	[m]	DC	OD
3065.0	[m]	DC	STL
3080.0	[m]	DC	STL
3080.0	[m]	DC	OD
3080.0	[m]	DC	RRI
3095.0	[m]	DC	STL
3095.0	[m]	DC	RRI
3100.0	[m]	DC	OD
3110.0	[m]	DC	STL
3120.0	[m]	DC	OD
3125.0	[m]	DC	STL
3125.0	[m]	DC	RRI
3140.0	[m]	DC	STL
3140.0	[m]	DC	OD
3140.0	[m]	DC	RRI
3155.0	[m]	DC	STL
3155.5	[m]	DC	RRI
3160.0	[m]	DC	OD
3170.0	[m]	DC	STL
3170.0	[m]	DC	RRI
3179.5	[m]	SWC	STL
3180.0	[m]	DC	OD
3185.0	[m]	DC	STL
3185.0	[m]	DC	RRI
3200.0	[m]	DC	OD
3200.0	[m]	DC	STL
3200.0	[m]	DC	RRI
3215.0	[m]	DC	STL
3215.0	[m]	DC	RRI
3220.0	[m]	DC	OD

3230.0	[m]	DC	STL
3230.0	[m]	DC	RRI
3240.0	[m]	DC	OD
3245.0	[m]	DC	STL
3245.0	[m]	DC	RRI
3255.5	[m]	SWC	STL
3260.0	[m]	DC	OD
3260.0	[m]	DC	STL
3260.0	[m]	DC	RRI
3275.0	[m]	DC	STL
3275.0	[m]	DC	RRI
3280.0	[m]	DC	OD
3290.0	[m]	DC	STL
3290.0	[m]	DC	RRI
3300.0	[m]	DC	OD
3305.0	[m]	DC	STL
3305.0	[m]	DC	RRI
3320.0	[m]	DC	OD
3320.0	[m]	DC	STL
3320.0	[m]	DC	RRI
3335.0	[m]	DC	STL
3335.0	[m]	DC	RRI
3340.0	[m]	DC	OD
3350.0	[m]	DC	STL
3350.0	[m]	DC	RRI
3360.0	[m]	DC	OD
3365.0	[m]	DC	RRI
3380.0	[m]	DC	OD
3380.0	[m]	DC	STL
3380.0	[m]	DC	RRI
3395.0	[m]	DC	STL
3395.0	[m]	DC	RRI
3400.0	[m]	DC	OD
3410.0	[m]	DC	STRAT
3410.0	[m]	DC	RRI
3416.8	[m]	SWC	STRAT
3420.0	[m]	DC	OD
3425.0	[m]	DC	STRAT
3425.0	[m]	DC	RRI
3440.0	[m]	DC	STRAT

3440.0	[m]	DC	OD
3440.0	[m]	DC	RRI
3455.0	[m]	DC	STRAT
3455.0	[m]	DC	RRI
3460.0	[m]	DC	OD
3470.0	[m]	DC	STRAT
3470.0	[m]	DC	RRI
3480.0	[m]	DC	OD
3485.0	[m]	DC	STRAT
3485.0	[m]	DC	RRI
3500.0	[m]	DC	STRAT
3500.0	[m]	DC	OD
3500.0	[m]	DC	RRI
3515.0	[m]	DC	STRAT
3515.0	[m]	DC	RRI
3520.0	[m]	DC	OD
3530.0	[m]	DC	STRAT
3530.0	[m]	DC	RRI
3540.0	[m]	DC	OD
3545.0	[m]	DC	STRAT
3545.0	[m]	DC	RRI
3560.0	[m]	DC	STRAT
3560.0	[m]	DC	OD
3560.0	[m]	DC	RRI
3575.0	[m]	DC	STRAT
3575.0	[m]	DC	RRI
3580.0	[m]	DC	OD
3590.0	[m]	DC	STRAT
3590.0	[m]	DC	RRI
3591.0	[m]	SWC	STRAT
3600.0	[m]	DC	OD
3605.0	[m]	DC	STRAT
3605.0	[m]	DC	RRI
3620.0	[m]	DC	STRAT
3620.0	[m]	DC	OD
3620.0	[m]	DC	RRI
3635.0	[m]	DC	STRAT
3635.0	[m]	DC	RRI
3640.0	[m]	DC	OD
3650.0	[m]	DC	STRAT

3650.0	[m]	DC	RRI
3662.5	[m]	DC	OD
3665.0	[m]	DC	STRAT
3665.0	[m]	DC	RRI
3680.0	[m]	DC	OD
3680.0	[m]	DC	RRI
3682.0	[m]	DC	STRAT
3695.0	[m]	DC	STRAT
3695.0	[m]	DC	RRI
3696.5	[m]	SWC	STRAT
3700.0	[m]	DC	OD
3710.0	[m]	DC	STRAT
3710.0	[m]	DC	RRI
3720.0	[m]	DC	OD
3724.0	[m]	SWC	STRAT
3725.0	[m]	DC	STRAT
3725.0	[m]	DC	RRI
3740.0	[m]	DC	STRAT
3740.0	[m]	DC	OD
3740.0	[m]	DC	RRI
3755.0	[m]	DC	STRAT
3755.0	[m]	DC	RRI
3760.0	[m]	DC	OD
3770.0	[m]	DC	STRAT
3770.0	[m]	DC	RRI
3780.0	[m]	DC	OD
3785.0	[m]	DC	STRAT
3785.0	[m]	DC	RRI
3795.0	[m]	DC	STRAT
3800.0	[m]	DC	OD
3800.0	[m]	DC	RRI
3804.0	[m]	SWC	STRAT
3810.0	[m]	DC	STRAT
3815.0	[m]	DC	RRI
3820.0	[m]	DC	OD
3825.0	[m]	DC	STRAT
3830.0	[m]	DC	RRI
3840.0	[m]	SWC	STRAT
3840.0	[m]	DC	STRAT
3840.0	[m]	DC	OD

3840.0	[m]	DC	RRI
3848.0	[m]	SWC	STRAT
3850.0	[m]	DC	RRI
3851.0	[m]	SWC	STRAT
3853.0	[m]	SWC	STRAT
3853.3	[m]	SWC	STRAT
3853.7	[m]	SWC	STRAT
3858.5	[m]	SWC	STRAT
3860.0	[m]	DC	OD
3862.5	[m]	DC	STRAT
3867.0	[m]	SWC	STRAT
3870.0	[m]	DC	STRAT
3871.0	[m]	SWC	STRAT
3883.0	[m]	SWC	STRAT
3885.0	[m]	DC	STRAT
3891.0	[m]	DC	STRAT
3900.0	[m]	SWC	STRAT
3915.0	[m]	DC	STRAT
3925.0	[m]	SWC	STRAT
3930.0	[m]	DC	STRAT
3945.0	[m]	DC	STRAT
3960.0	[m]	DC	STRAT
3964.0	[m]	SWC	STRAT
3975.6	[m]	C	STRAT
3978.3	[m]	C	STRAT
3984.0	[m]	C	STRAT
3990.9	[m]	C	STRAT
4002.6	[m]	C	STRAT
4011.1	[m]	C	STRAT
4013.6	[m]	C	STRAT
4017.8	[m]	C	STRAT
4019.6	[m]	C	STRAT
4023.6	[m]	C	STRAT
4026.0	[m]	C	STRAT
4028.3	[m]	C	STRAT
4032.6	[m]	C	STRAT
4038.5	[m]	C	STRAT
4042.6	[m]	C	STRAT
4044.2	[m]	C	STRAT
4050.5	[m]	C	STRAT

4052.4	[m]	C	STRAT
4058.4	[m]	C	STRAT
4060.5	[m]	C	STRAT
4063.7	[m]	C	STRAT
4070.4	[m]	C	STRAT
4074.8	[m]	C	STRAT
4075.6	[m]	C	STRAT
4080.3	[m]	C	STRAT
4084.8	[m]	C	STRAT
4090.3	[m]	C	STRAT
4095.4	[m]	C	STRAT
4096.2	[m]	C	STRAT
4101.5	[m]	C	STRAT
4109.4	[m]	C	STRAT
4113.6	[m]	C	STRAT
4118.6	[m]	C	STRAT
4128.4	[m]	C	STRAT
4134.8	[m]	C	STRAT
4140.5	[m]	C	STRAT
4147.9	[m]	C	STRAT
4151.7	[m]	C	STRAT
4155.0	[m]	SWC	STRAT
4177.5	[m]	C	STRAT
4189.8	[m]	C	STRAT
4199.8	[m]	C	STRAT
4223.7	[m]	C	STRAT
4226.9	[m]	C	STRAT
4232.3	[m]	C	STRAT
4238.5	[m]	C	STRAT
4242.9	[m]	C	STRAT
4246.8	[m]	C	STRAT
4249.8	[m]	C	STRAT
4258.7	[m]	C	STRAT
4263.0	[m]	C	STRAT
4267.9	[m]	C	STRAT
4273.4	[m]	C	STRAT
4282.0	[m]	C	STRAT
4285.7	[m]	C	STRAT
4287.3	[m]	C	STRAT
4305.0	[m]	DC	STRAT

4320.0	[m]	DC	STRAT
4335.0	[m]	DC	STRAT
4350.0	[m]	DC	STRAT
4351.0	[m]	SWC	STRAT
4367.0	[m]	SWC	STRAT
4372.5	[m]	DC	STRAT
4380.0	[m]	DC	STRAT
4392.6	[m]	SWC	STRAT
4395.0	[m]	DC	STRAT
4410.0	[m]	DC	STRAT
4420.0	[m]	SWC	STRAT
4425.0	[m]	DC	STRAT
4440.0	[m]	DC	STRAT
4455.0	[m]	DC	STRAT
4470.0	[m]	DC	STRAT
4470.0	[m]	SWC	STRAT
4482.5	[m]	SWC	STRAT
4485.0	[m]	DC	STRAT
4487.0	[m]	SWC	STRAT
4500.0	[m]	DC	STRAT
4509.0	[m]	SWC	STRAT
4515.0	[m]	DC	STRAT
4526.0	[m]	SWC	STRAT
4530.0	[m]	DC	STRAT
4545.0	[m]	DC	STRAT
4557.0	[m]	SWC	STRAT
4560.0	[m]	DC	STRAT
4575.0	[m]	DC	STRAT
4576.0	[m]	SWC	STRAT
4600.0	[m]	DC	STRAT
4602.0	[m]	SWC	STRAT
4610.9	[m]	SWC	STRAT
4611.0	[m]	SWC	STRAT
4615.0	[m]	DC	STRAT
4630.0	[m]	DC	STRAT
4641.0	[m]	SWC	STRAT
4645.0	[m]	DC	STRAT
4660.0	[m]	DC	STRAT
4675.0	[m]	DC	STRAT
4690.0	[m]	DC	STRAT

4705.0	[m]	DC	STRAT
4716.0	[m]	SWC	STRAT
4720.0	[m]	DC	STRAT
4735.0	[m]	DC	STRAT
4750.0	[m]	DC	STRAT
4765.0	[m]	DC	STRAT
4769.9	[m]	SWC	STRAT
4780.0	[m]	DC	STRAT
4795.0	[m]	DC	STRAT
4810.0	[m]	DC	STRAT
4811.4	[m]	SWC	STRAT
4811.5	[m]	SWC	STRAT
4825.0	[m]	DC	STRAT
4840.0	[m]	DC	STRAT
4855.0	[m]	DC	STRAT
4870.0	[m]	DC	STRAT
4885.0	[m]	DC	STRAT
4900.0	[m]	DC	STRAT
4915.0	[m]	DC	STRAT
4922.0	[m]	DC	STRAT

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	DST2	4351.00	4374.00		11.12.1984 - 00:00	YES
DST	DST2C	4373.00	4351.00		12.12.1984 - 00:00	YES
DST	DST3	4374.00	4351.00		22.12.1984 - 20:50	YES
DST	DST4	4251.00	4261.00		26.12.1984 - 00:00	YES
DST	DST4B	4251.00	4261.00		30.12.1984 - 10:03	YES
DST		0.00	0.00			YES
DST	DST5B	4203.00	4218.00		08.01.1985 - 03:30	YES

DST	DST5D	4203.00	4218.00		14.01.1985 - 00:00	YES
DST	DST7	3993.00	4011.00		27.01.1985 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
277	NORDLAND GP
1459	KAI FM
1931	HORDALAND GP
1931	BRYGGE FM
2132	ROGALAND GP
2132	TARE FM
2227	TANG FM
2279	SHETLAND GP
2279	SPRINGAR FM
2446	NISE FM
2658	KVITNOS FM
3175	CROMER KNOLL GP
3175	LYSING FM
3190	LANGE FM
3813	LYR FM
3836	VIKING GP
3836	SPEKK FM
3852	MELKE FM
3974	FANGST GP
3974	GARN FM
4013	NOT FM
4048	ILE FM
4107	BÅT GP
4107	ROR FM
4164	TOFTE FM
4229	TILJE FM
4437	ÅRE FM

Composite logs

Document name	Document format	Document size [MB]
1004	pdf	1.07

Geochemical information

Document name	Document format	Document size [MB]
1004_1	pdf	2.38

Documents - older Norwegian Offshore Directorate WDSS reports and other related documents

Document name	Document format	Document size [MB]
1004_01_WDSS_General_Information	pdf	0.33
1004_02_WDSS_completion_log	pdf	0.35

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

Document name	Document format	Document size [MB]
1004_01_Completionreport	pdf	21.31
1004_02_Completionlog	pdf	3.51

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	4504	4509	31.8
2.0	4351	4373	25.4
3.0	4291	4304	3.2
4.1	4251	4261	25.4
5.0	4218	4203	19.0
5.1	4218	4203	19.0
6.0	4095	4110	0.0
7.0	3993	4011	31.8

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0	67.000	44.000	71.000	
2.0	33.000	12.000	43.000	
3.0			47.000	
4.1		19.000	47.000	
5.0		104.000		
5.1		104.000		
6.0				
7.0				

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0					
2.0	517	692000	0.790	0.750	1352
3.0					
4.1	700	547000	0.805		928
5.0	350	550000	0.790		1571
5.1	273	410000	0.790		1500
6.0					
7.0	511	728000	0.790	0.750	1424

Logs

Log type	Log top depth [m]	Log bottom depth [m]
BGL DUAL CALIPER	346	765
BGL DUAL CALIPER	346	949
CBL VDL CCL	3751	4510
CBL VDL GR	790	2181
CBL VDL GR	3754	4926
CEL CLL GR	3754	4521
CST GR	2200	3911
CST GR	3929	4540
CST GR	4557	4811
DLL SP GR	3909	4549
DLL SP GR	4554	4929
ISF LSS MSFL SP GR	345	4926
LDL CNL GR	345	4926

MWD - GR RES DIR	345	945
NGT PB	3550	3910
NGT PB	3909	4510
RFT GR	3976	4098
RFT GR	3987	0
RFT GR	4077	4453
RFT GR	4573	4794
RFT GR	4867	4870
SHDT GR	3550	3921
SHDT GR	3909	4557
VBL VDL GR	2472	3906
VSP	282	4830

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	346.0	36	347.0	0.00	LOT
SURF.COND.	20	931.0	26	951.0	0.00	LOT
INTERM.	13 3/8	2184.0	17 1/2	2206.0	1.81	LOT
INTERM.	9 5/8	3907.0	12 1/4	3918.0	1.92	LOT
LINER	7	4553.0	8 1/2	4554.0	1.98	LOT
OPEN HOLE		4925.0	6	4925.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
346	1.10			WATER BASED	20.08.1984
948	1.16	10.0	20.0	WATER BASED	22.08.1984
948	1.16	10.0	20.0	WATER BASED	24.08.1984
948	1.32	11.0	21.0	WATER BASED	27.08.1984
948	1.10	7.0	31.0	WATER BASED	22.08.1984
948	1.16	10.0	20.0	WATER BASED	22.08.1984
948	1.16	10.0	20.0	WATER BASED	24.08.1984
948	1.32	11.0	21.0	WATER BASED	27.08.1984
1274	1.13	6.0	9.0	WATER BASED	03.09.1984
1700	1.17	8.0	6.8	WATER BASED	03.09.1984
2110	1.35	11.0	8.8	WATER BASED	04.09.1984

2203	1.35	14.0	7.8	WATER BASED	06.09.1984
2203	1.40	11.0	6.8	WATER BASED	06.09.1984
2203	1.55	13.0	5.9	WATER BASED	06.09.1984
2203	1.60	13.0	5.0	WATER BASED	10.09.1984
2203	1.40	11.0	6.8	WATER BASED	06.09.1984
2203	1.60	13.0	5.0	WATER BASED	10.09.1984
2203	1.55	13.0	5.9	WATER BASED	06.09.1984
2300	1.60	16.0	11.0	WATER BASED	11.09.1984
2485	1.60	20.0	8.0	WATER BASED	11.09.1984
2537	1.60	17.0	4.8	WATER BASED	11.09.1984
2718	1.65	20.0	7.8	WATER BASED	12.09.1984
2763	1.65	21.0	7.7	WATER BASED	13.09.1984
2915	1.65	18.0	9.2	WATER BASED	17.09.1984
2983	1.65	15.0	4.8	WATER BASED	17.09.1984
3238	1.65	19.0	8.3	WATER BASED	19.09.1984
3330	1.65	19.0	9.0	WATER BASED	20.09.1984
3654	1.68	16.2	5.2	WATER BASED	23.09.1984
3654	1.72	16.0	5.0	WATER BASED	27.09.1984
3654	1.72	16.0	5.0	WATER BASED	27.09.1984
3917	1.72	15.0	5.6	WATER BASED	15.10.1984
3973	1.25	12.0	4.5	WATER BASED	15.10.1984
4038	1.25	19.0	4.7	WATER BASED	15.10.1984
4125	1.25	15.0		WATER BASED	19.10.1984
4307	1.25	13.0	5.4	WATER BASED	29.10.1984
4493	1.25	12.0	5.7	WATER BASED	30.10.1984
4554	1.28	17.0	5.7	WATER BASED	30.10.1984
4682	1.36	16.0	3.9	WATER BASED	15.11.1984
4757	1.04	16.0	3.8	WATER BASED	16.11.1984
4833	1.45	20.0	6.0	WATER BASED	19.11.1984
4924	1.53	20.0	4.3	WATER BASED	19.11.1984
4924	1.58	21.0	4.0	WATER BASED	23.11.1984
4924	1.63	22.0	6.0	WATER BASED	23.11.1984
4924	1.68	23.0	6.7	WATER BASED	26.11.1984
4924	1.58	21.0	4.8	WATER BASED	20.11.1984
4924	1.58	21.0	4.8	WATER BASED	20.11.1984
4924	1.58	21.0	4.0	WATER BASED	23.11.1984
4924	1.63	22.0	6.0	WATER BASED	23.11.1984
4924	1.68	23.0	6.7	WATER BASED	26.11.1984

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]
1004_Formation_pressure_(Formasjonstrykk)	pdf	0.28