General information

Wellbore name	30/7-7
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	30/7-7
Seismic location	
Production licence	040
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	207-L
Drilling facility	TREASURE SEEKER
Drilling days	196
Entered date	18.12.1978
Completed date	01.07.1979
Release date	01.07.1981
Publication date	24.09.2004
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS SHOWS
Discovery wellbore	NO
Kelly bushing elevation [m]	25.0
Water depth [m]	110.0
Total depth (MD) [m RKB]	5127.0
Maximum inclination [°]	17.4
Bottom hole temperature [°C]	167
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	60° 16' 19.3'' N
EW degrees	2° 16' 7.3'' E
NS UTM [m]	6682087.96
EW UTM [m]	459543.34
UTM zone	31
NPDID wellbore	390

Wellbore history

General

The main objective of the well was to test the SE prospect on the 30/7 block. The objective of the well was to test possible sandstone reservoirs of Jurassic age, which were predicted to occur-in a large structure (150 km2) at the Kimmerian unconformity) located on the eastern flank of the Viking basin. The specific targets were possible turbiditic sandstone deposits within a thick Late Jurassic sequence, Middle Jurassic Brent Formation sandstones, and Early Jurassic Statfjord Formation sandstones. The well was planned to penetrate 50 m into the Statfjord Formation to approximately 5250 m.

The well is Reference Well for the Cook Formation.

Operations and results

The well 30/7-7 was drilled between December 16th 1978 and May 30th 1979 with the rig Treasure Seeker. It reached TD at 5127 m in the Early Jurassic/Late Triassic Statfjord Formation. 34.5% of the total rig time was lost time due to fishing, waiting on weather, waiting for replacement of equipment, and hole problems. The problem that had most serious consequences for the geological program occurred while reaming from 5114 m to 5125 m where the string got stuck. After 9.5 days of fishing for the drill string it was finally backed of at 4804 m. At this point it was decided to abandon the well leaving the fish in the hole. Before this happened the well had been logged down to 5122 m, but the fish made it impossible to test the Statfjord Formation sandstone. The well was drilled with Seawater/gel/hi-vis pills spotting LCM pills as needed down to 763 m and with a Spersene/XP20/Drispac mud with 0 % to 4% oil and LCM pills as needed from 763 m to TD.

Sandstone levels interbedded with shales were encountered below 2187 m in the Tertiary. They were mainly developed between 2216 and 2320 m. Some calcareous levels in the Maastrichtian limestones between 2531 and 2575 m could be considered as reservoirs. Limestone stringers in the Turonian calcareous section from 3520 m to 3720 m showed fluorescence but were water-bearing. A 636 m thick Upper Jurassic sequence was penetrated, consisting of shales and thin interbedded limestones and dolomites. No turbiditic sandstones occurred. The expected well-developed Middle Jurassic deposits were found to be completely missing. No Middle Jurassic sandstones were encountered. Two reservoir intervals were present in the Early Jurassic. The Upper Sandstone from 4735 m to 4801 m (Cook Formation) consisted of interbedded sandstones and shales. The Lower Sandstone (Statfjord Formation) was penetrated at 4884 m and extended as a homogeneous sandstone with only a single coal bed and minor argillaceous intervals down to 4975 m. Below this a sequence of interbedded sandstones, siltstones and claystones/shales occurred down to TD.

Shows were recorded as follows: Major gas shows appeared in the interval 3502 m to 3930 m (Turonian limestones) and from 4723 m to 4886 m (Lower Jurassic, calcareous sands). Oil Shows and Fluorescence were noted from 2315 m to 2320 m on sandstone (traces of light brown stain, golden fluorescence, fast streaming light yellow cut); from 2805 m to 2813 m on siltstone (dark yellowish brown stain, light yellow fluorescence, white slowly streaming cut); from 3709 m to 3730 m in limestone (traces of slow, white, streaming cut hydrocarbon fluorescence masked by mineral fluorescence); and from 3908 m to 3912 m in shale (no fluorescence, uniform, weak dull yellow crush-cut and light yellow residue).

There were no significant hydrocarbon shows observed during drilling the Jurassic sequence. However, log analyses indicated hydrocarbons in both Jurassic sandstone intervals. The Upper Sandstone (Cook Formation) was hydrocarbon bearing from 4735 m to 4776 m while the Lower Sandstone (Statfjord Formation) was hydrocarbon bearing from 4884 m to 4924 m. The lack of oil shows in the Jurassic and the DST results indicated the hydrocarbons could be gas in a tight formation. One conventional core was

cut from 4758 m to 4766.4 m (recovery 96%) in the Cook Formation. The core consisted of 7.15 m cemented fine to very fine sandstone with 1.25 m of shale at the base. No RFT fluid samples were attempted due to bad hole conditions. The planned TD was not reached because of the drill string left in the hole. The well was permanently abandoned as a well with shows on 1 July 1979.

Testing

A drill stem test (DST 1) was performed on the upper sandstone (4735 m to 4797 m). An approximate volume of 12 m3 of effluent was recovered in about 4 hours from DST 1. The effluent was not considered representative of the Formation fluid. During the reverse circulation no gas flow occurred, only gas bubbles were observed. The composition of these bubbles was 10% CO2, 77.4% C1 9.4% C2, and C3+ up to 100%. The tested level was considered tight. The lower sandstone was not tested due to the broken drill string (fish between 4807 m and 5127 m).

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
185.00	5060.00

Cuttings available for sampling?	NO

Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	4758.3	4767.0	[m]

Total core sample length [m]	8.7
Cores available for sampling?	NO

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
870.0	[m]	DC	ROBERTSO
900.0	[m]	DC	ROBERT
930.0	[m]	DC	ROBERT
960.0	[m]	DC	ROBERT
990.0	[m]	DC	ROBERT
1020.0	[m]	DC	ROBERT
1050.0	[m]	DC	ROBERT
1080.0	[m]	DC	ROBERT
1110.0	[m]	DC	ROBERT

1140.0	[m]	DC	ROBERT
1170.0	[m]	DC	ROBERT
1200.0	[m]	DC	ROBERT
1230.0	[m]	DC	ROBERT
1260.0	[m]	DC	ROBERT
1290.0	[m]	DC	ROBERT
1320.0	[m]	DC	ROBERT
1350.0	[m]	DC	ROBERT
1380.0	[m]	DC	ROBERT
1410.0	[m]	DC	ROBERT
1440.0	[m]	DC	ROBERT
1470.0	[m]	DC	ROBERT
1500.0	[m]	DC	ROBERT
1530.0	[m]	DC	ROBERT
1560.0	[m]	DC	ROBERT
1590.0	[m]	DC	ROBERT
1600.0	[m]	DC	
1620.0	[m]	DC	
1620.0	[m]	DC	ROBERT
1640.0	[m]	DC	
1650.0	[m]	DC	ROBERT
1660.0	[m]	DC	
1680.0	[m]	DC	ROBERT
1680.0	[m]	DC	
1700.0	[m]	DC	
1710.0	[m]	DC	ROBERT
1720.0	[m]	DC	
1740.0	[m]	DC	
1740.0	[m]	DC	ROBERT
1760.0	[m]	DC	
1770.0	[m]	DC	ROBERT
1780.0	[m]	DC	
1800.0	[m]	DC	
1800.0	[m]	DC	ROBERT
1820.0	[m]	DC	
1830.0	[m]	DC	ROBERT
1840.0	[m]	DC	
1860.0	[m]	DC	
1860.0	[m]	DC	ROBERT
1880.0	[m]	DC	

1890.0	[m]	DC	ROBERT
1900.0	[m]	DC	
1920.0	[m]	DC	
1920.0	[m]	DC	ROBERT
1940.0	[m]	DC	
1950.0	[m]	DC	ROBERT
1960.0	[m]	DC	
1980.0	[m]	DC	
1980.0	[m]	DC	ROBERT
2000.0	[m]	DC	
2010.0	[m]	DC	ROBERT
2020.0	[m]	DC	
2040.0	[m]	DC	
2040.0	[m]	DC	ROBERT
2060.0	[m]	DC	
2070.0	[m]	DC	ROBERT
2080.0	[m]	DC	
2100.0	[m]	DC	
2100.0	[m]	DC	ROBERT
2120.0	[m]	DC	
2130.0	[m]	DC	ROBERT
2140.0	[m]	DC	
2150.0	[m]	DC	
2160.0	[m]	DC	ROBERT
2170.0	[m]	DC	
2180.0	[m]	DC	
2190.0	[m]	DC	ROBERT
2200.0	[m]	DC	
2215.0	[m]	DC	
2220.0	[m]	DC	ROBERT
2225.0	[m]	DC	
2240.0	[m]	DC	
2250.0	[m]	DC	ROBERT
2275.0	[m]	DC	
2280.0	[m]	DC	ROBERT
2295.0	[m]	DC	
2310.0	[m]	DC	
2310.0	[m]	DC	ROBERT
2325.0	[m]	DC	
2340.0	[m]	DC	ROBERT

2350.0	[m]	DC	
2370.0	[m]	DC	
2370.0	[m]	DC	ROBERT
2390.0	[m]	DC	
2400.0	[m]	DC	
2400.0	[m]	DC	ROBERT
2415.0	[m]	DC	
2430.0	[m]	DC	
2430.0	[m]	DC	ROBERT
2440.0	[m]	DC	
2460.0	[m]	DC	
2460.0	[m]	DC	ROBERT
2480.0	[m]	DC	
2490.0	[m]	DC	ROBERT
2500.0	[m]	DC	
2510.0	[m]	DC	
2520.0	[m]	DC	ROBERT
2520.0	[m]	DC	
2520.0	[m]	DC	
2530.0	[m]	DC	
2540.0	[m]	DC	
3865.0	[m]	DC	CFP-LABO
3880.0	[m]	SWC	SNEA(P)
3883.0	[m]	SWC	SNEA(P
3884.5	[m]	SWC	SNEA(P
3890.0	[m]	DC	CFP-LABO
3900.0	[m]	DC	CFP-LA
3900.0	[m]	SWC	SNEA(P)
3915.0	[m]	SWC	SNEA(P
3916.0	[m]	DC	CFP-LABO
3924.0	[m]	DC	CFP-LA
3934.0	[m]	DC	CFP-LA
3934.0	[m]	SWC	SNEA(P)
3952.0	[m]	DC	CFP-LAB
3980.0	[m]	DC	CFP-LA
3997.0	[m]	SWC	SNEA(P)
4006.0	[m]	DC	CFP-LABO
4022.0	[m]	DC	CFP-LA
4040.0	[m]	DC	CFP-LA
4050.0	[m]	DC	CFP-LA

4060.0	[m]	DC	CFP-LA
4070.0	[m]	DC	CFP-LA
4098.0	[m]	DC	CFP-LA
4125.0	[m]	DC	IKU
4128.0	[m]	SWC	SNEA(P)
4145.0	[m]	SWC	IKU
4148.0	[m]	DC	CFP-LABO
4150.0	[m]	DC	CFP-LA
4164.0	[m]	DC	CFP-LA
4165.0	[m]	SWC	IKU
4165.0	[m]	SWC	SNEA(P)
4187.0	[m]	SWC	IKU
4190.0	[m]	DC	CFP-LABO
4205.0	[m]	SWC	IKU
4230.0	[m]	SWC	IKU
4230.0	[m]	DC	CFP-LABO
4248.0	[m]	SWC	SNEA(P)
4250.0	[m]	DC	CFP-LABO
4255.0	[m]	SWC	IKU
4264.0	[m]	DC	CFP-LABO
4275.0	[m]	SWC	IKU
4284.0	[m]	DC	CFP-LABO
4285.0	[m]	SWC	IKU
4285.0	[m]	SWC	SNEA(P)
4302.0	[m]	SWC	SNEA(P
4302.0	[m]	DC	CFP-LABO
4302.0	[m]	SWC	IKU
4305.0	[m]	SWC	IKU
4330.0	[m]	SWC	IKU
4331.0	[m]	SWC	SNEA(P)
4336.0	[m]	DC	CFP-LABO
4350.0	[m]	DC	CFP-LA
4350.0	[m]	DC	CFP-LA
4358.0	[m]	DC	CFP-LA
4370.0	[m]	DC	CFP-LA
4381.0	[m]	SWC	IKU
4398.5	[m]	SWC	IKU
4398.5	[m]	SWC	SNEA(P)
4408.0	[m]	DC	CFP-LABO
4430.0	[m]	DC	CFP-LA

4450.0	[m]	DC	CFP-LA
4450.0	[m]	SWC	IKU
4460.0	[m]	DC	CFP-LABO
4474.0	[m]	DC	CFP-LA
4478.0	[m]	SWC	SNEA(P)
4478.0	[m]	SWC	IKU
4492.0	[m]	DC	IKU
4494.0	[m]	DC	IKU
4498.0	[m]	DC	HYDRO
4500.0	[m]	SWC	IKU
4502.0	[m]	DC	IKU
4504.0	[m]	DC	HYDRO
4506.0	[m]	DC	IKU
4508.0	[m]	DC	CFP-LABO
4510.0	[m]	DC	HYDRO
4514.0	[m]	DC	HYDRO
4515.0	[m]	SWC	IKU
4516.0	[m]	DC	IKU
4520.0	[m]	DC	HYDRO
4520.0	[m]	DC	HYDRO
4520.0	[m]	SWC	SNEA(P)
4530.0	[m]	SWC	IKU
4536.0	[m]	DC	IKU
4540.0	[m]	DC	CFP-LABO
4548.0	[m]	DC	CFP-LA
4552.0	[m]	DC	IKU
4560.0	[m]	DC	CFP-LABO
4560.0	[m]	SWC	IKU
4560.0	[m]	DC	IKU
4560.0	[m]	DC	HYDRO
4570.0	[m]	DC	SNEA(P)
4570.0	[m]	DC	HYDRO
4575.0	[m]	SWC	IKU
4580.0	[m]	DC	CFP-LABO
4580.0	[m]	DC	HYDRO
4592.0	[m]	DC	IKU
4608.0	[m]	DC	CFP-LABO
4610.0	[m]	DC	IKU
4615.0	[m]	DC	SNEA(P)
4620.0	[m]	SWC	IKU

4632.0	[m]	DC	CFP-LABO
4632.0	[m]	DC	IKU
4650.0	[m]	DC	CFP-LABO
4652.0	[m]	DC	IKU
4652.0	[m]	DC	CFP-LA
4665.0	[m]	SWC	IKU
4672.0	[m]	DC	IKU
4674.0	[m]	DC	CFP-LABO
4692.0	[m]	DC	IKU
4698.0	[m]	DC	CFP-LABO
4700.0	[m]	DC	CFP-LA
4704.0	[m]	SWC	SNEA(P)
4704.0	[m]	SWC	IKU
4710.0	[m]	DC	CFP-LAB
4710.0	[m]	DC	CFP-LA
4712.0	[m]	DC	IKU
4720.0	[m]	SWC	IKU
4720.0	[m]	SWC	SNEA(P)
4726.0	[m]	DC	CFP-LAB
4732.0	[m]	DC	IKU
4740.0	[m]	DC	IKU
4744.0	[m]	SWC	IKU
4744.0	[m]	DC	CFP-LAB
4750.0	[m]	SWC	IKU
4750.0	[m]	SWC	SNEA(P)
4750.0	[m]	DC	IKU
4751.0	[m]	SWC	IKU
4752.0	[m]	DC	IKU
4758.0	[m]	DC	CFP-LAB
4758.5	[m]	C	SNEA(P)
4759.0	[m]	C	UNKNOWN
4760.7	[m]	C	SNEA(P)
4760.8	[m]	C	HYDRO
4761.0	[m]	C	UNKNOWN
4762.7	[m]	C	SNEA(P)
4764.5	[m]	C	HYDRO
4765.1	[m]	C	SNEA(P)
4765.8	[m]	C	UNKNOWN
4766.0	[m]	C	SNEA(P)
4766.2	[m]	C	HYDRO

4766.4	[m]	C	U.OF SHE
4766.5	[m]	C	UNKNOWN
4766.6	[m]	C	U.OF SHE
4766.8	[m]	C	U.OF S
4767.0	[m]	C	UNKNOWN
4772.0	[m]	DC	CFP-LAB
4772.0	[m]	DC	IKU
4775.0	[m]	SWC	SNEA(P)
4790.0	[m]	DC	CFP-LAB
4792.0	[m]	DC	IKU
4799.0	[m]	SWC	IKU
4800.0	[m]	DC	CFP-LAB
4800.0	[m]	DC	SNEA(P)
4804.0	[m]	SWC	SNEA(P
4804.0	[m]	SWC	IKU
4812.0	[m]	DC	IKU
4812.0	[m]	DC	IKU
4818.0	[m]	DC	CFP-LAB
4832.0	[m]	DC	IKU
4840.0	[m]	DC	SNEA(P)
4852.0	[m]	DC	IKU
4872.0	[m]	DC	IKU
4880.0	[m]	DC	SNEA(P)
4892.0	[m]	DC	IKU
4912.0	[m]	DC	IKU
4920.0	[m]	DC	SNEA(P)
4924.0	[m]	DC	SNEA(P
4932.0	[m]	DC	IKU
4940.0	[m]	DC	IKU
4952.0	[m]	DC	IKU
4954.0	[m]	DC	IKU
4956.0	[m]	DC	IKU
4960.0	[m]	DC	SNEA(P)
4972.0	[m]	DC	IKU
4992.0	[m]	DC	IKU
5012.0	[m]	DC	IKU
5032.0	[m]	DC	IKU
5038.0	[m]	DC	SNEA(P)
5046.0	[m]	DC	IKU
5050.0	[m]	DC	IKU

5058.0	[m]	DC	IKU
5080.0	[m]	DC	SNEA(P)
5110.0	[m]	DC	SNEA(P

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
135	NORDLAND GP
449	UTSIRA FM
801	HORDALAND GP
801	SKADE FM
1167	NO FORMAL NAME
2126	GRID FM
2130	NO FORMAL NAME
2150	ROGALAND GP
2150	BALDER FM
2209	SELE FM
2217	HERMOD FM
2291	SELE FM
2313	HERMOD FM
2320	SELE FM
2365	LISTA FM
2391	HEIMDAL FM
2404	LISTA FM
2452	VÅLE FM
2535	SHETLAND GP
2535	EKOFISK FM
2538	JORSALFARE FM
2805	KYRRE FM
3569	TRYGGVASON FM
3631	BLODØKS FM
3655	SVARTE FM
3870	CROMER KNOLL GP
3870	RØDBY FM
3878	VIKING GP
3878	DRAUPNE FM
3924	HEATHER FM
4735	DUNLIN GP
4735	COOK FM

4801	BURTON FM
4884	STATFJORD GP

Composite logs

Document name	Document format	Document size [MB]
390	pdf	0.64

Geochemical information

Document name	Document format	Document size [MB]
390_1_organic_geochemical_correlation_of_nine_oils_and_ten_source_rocks_from_the_northern_sea_area	pdf	2.64
390_2_Rock_eval_pyrolysis_of_samples_from_well_30_7_7	pdf	1.21
390_3_source_rock_evaluation_of_well_30_7_7	pdf	9.19
390_4	pdf	5.93

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

Document name	Document format	Document size [MB]
390_01_WDSS_General_Information	pdf	0.12
390_02_WDSS_completion_log	pdf	0.33

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

Document name	Document format	Document size [MB]
390_1_Completion_Report_Drilling	pdf	14.39
390_2_Completion_Report_Geological_&_Completio_log	pdf	4.35

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	4735	4762	6.4

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					

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CST	4758	4766
DLL MSFL	4700	5042
FDC CNL	769	5047
HDT	2677	4803
ISF SONIC	764	3686
ISF SONIC	3874	5046

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	184.0	36	185.0	0.00	LOT
SURF.COND.	20	764.0	26	781.0	1.14	LOT
INTERM.	13 3/8	2681.0	17 1/2	2701.0	1.85	LOT
INTERM.	9 5/8	3877.0	12 1/4	3888.0	2.17	LOT
LINER	7	4500.0	8 3/8	4509.0	2.20	LOT
LINER	4 1/2	5127.0	6	5127.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
185	1.04			spud mud	
781	1.04	45.0		seawater	
1822	1.09	52.0		seawater	
2503	1.14	46.0		seawater	
2681	1.16	45.0		seawater	
3071	1.70	46.0		seawater	
3414	1.73	43.0		seawater	
3888	1.80	70.0		seawater	
4440	2.04	48.0		seawater	
5060	2.09	61.0		seawater	