General information

Wellbore name	7/11-5
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	MIME
Discovery	7/11-5 Mime
Well name	7/11-5
Seismic location	603 221 SP 320
Production licence	070
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	316-L
Drilling facility	TREASURE SEEKER
Drilling days	122
Entered date	09.02.1982
Completed date	10.06.1982
Release date	10.06.1984
Publication date	19.10.2006
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	YES
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	ULA FM
Kelly bushing elevation [m]	25.0
Water depth [m]	80.0
Total depth (MD) [m RKB]	4478.0
Final vertical depth (TVD) [m RKB]	4478.0
Maximum inclination [°]	4.75
Bottom hole temperature [°C]	169
Oldest penetrated age	TRIASSIC
Oldest penetrated formation	SMITH BANK FM
Geodetic datum	ED50
NS degrees	57° 8' 6.39'' N
EW degrees	2° 29' 53.53'' E
NS UTM [m]	6332679.58
EW UTM [m]	469626.10

UTM zone	31
NPDID wellbore	42

Wellbore history

General

Block 7/11 was awarded in 1965 to the Phillips Group. The first commercial discovery (Cod) was found in this block in 1968. Both Norsk Hydro wells (7/11-5 and 7/11-6) were drilled in the relinquished area awarded to them in Licence 070. The main objective of well 7/11-5 was the Late Jurassic sandstones. The secondary objective was the Triassic sands.

Operations and results

Well 7/11-5 was spudded with the semi-submersible installation Treasure Seeker on 9 February 1982 and drilled to TD at 4478 m in the Triassic Smith Bank Formation. The drilling went forth without incident except for gumbo problems in the top of the 17 1/2" section and minor problems with tight hole in the 8 3/8" section. The well was drilled with sea water and hi-vis pills down to 615 m and with KCl/Drispac mud from 615 m to 2115 m. From 2115 m to TD the well was drilled with KCl/Drispac mud, converted to a fully dispersed gel-lignosulphonate mud in the limestone section.

The well encountered hydrocarbon bearing sandstones in the Late Jurassic Ula Formation with a gross sand interval of 86 m between 4155 and 4241 m. An oil water contact has been estimated to be at 4201 m (from logs). RFT pressure measurements and sampling were performed over the sandstone interval. Below 4202 m, however, no formation pressures were obtained due to seal problems caused by bad hole. Thus a contact based on formation pressure data could not be obtained. The Ula Formation rests unconformably on the Triassic at 4241 m. In the Triassic, thin stringers of sandstones were encountered with a total net sand of 2.25 m and an average porosity of 18%. These sandstones were 100% water saturated. Oil shows were recorded from 3694 m in the Late Cretaceous and down to 4217 m in the Ula Formation. Below 4217 m shows were weak and scattered, and no shows were reported from the Triassic.

Five cores were taken in the Ula Formation from 4159 m to 4231 m. Cores 1 - 4 bled hydrocarbons at the surface. Two RFT segregated samples taken at 4193 m and 4188 m recovered only mud filtrate.

The well was permanently abandoned on 10 June 1982 as an oil discovery.

Testing

Two drill stem tests were performed. DST 1 was taken over the interval 4185 - 4197 m and flowed 470 Sm3/day of 39.2 deg API gravity oil and 118080 Sm3/day of gas. The GOR was measured to 251 Sm3/Sm3 and the gas gravity was 0.876 (air = 1). The second DST over the interval 4165 - 4174 m was abandoned due to the very low permeability and no hydrocarbons were produced to surface. However, calculated flow rates from the flow/unloading of the water cushion indicated 280 STB/day (after 4 hrs 18 minutes) and the oil was found to be of the same type as for DST 1. The maximum temperature during DST 2 was 161 deg C, which was assumed too low. No temperature is available from DST 1. The choke size for both tests was 36/64".

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
190.00	4478.00

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	4159.0	4176.2	[m]
2	4177.1	4185.8	[m]
3	4185.8	4194.8	[m]
4	4195.0	4212.9	[m]
5	4213.0	4230.7	[m]

Total core sample length [m]	70.5
Cores available for sampling?	YES

Core photos


4164-4167m


4159-4162m


4168-4171m


4172-4175m


4168-4176m


4178-4181m


4182-4185m


4185-4186m


4186-4189m


4190-4193m


4194-4195m


4196-4199m


4200-4203m


4204-4207m


4208-4211m


4212-4213m


4214-4217m


4218-4221m


4222-4225m


4226-4229m


4230-4231m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
3896.0	[m]	SWC	RRI
3912.0	[m]	SWC	RRI
3924.0	[m]	SWC	RRI
3934.0	[m]	SWC	RRI
3939.0	[m]	SWC	RRI
3956.0	[m]	SWC	RRI
3959.0	[m]	SWC	RRI
4159.2	[m]	C	RRI
4159.5	[m]	C	RRI
4163.9	[m]	C	RRI
4171.4	[m]	C	RRI
4172.6	[m]	C	RRI
4173.4	[m]	C	RRI
4174.8	[m]	C	RRI
4175.5	[m]	C	RRI
4176.2	[m]	C	RRI
4178.9	[m]	C	RRI
4180.7	[m]	C	RRI
4184.5	[m]	C	RRI
4185.8	[m]	C	RRI
4188.2	[m]	C	RRI
4192.6	[m]	C	RRI

4212.4	[m]	C	RRI
4221.2	[m]	C	RRI
4223.6	[m]	C	RRI
4228.8	[m]	C	RRI
4423.0	[m]	SWC	RRI
4430.0	[m]	SWC	RRI

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
105	NORDLAND GP
1497	HORDALAND GP
3022	ROGALAND GP
3022	BALDER FM
3052	SELE FM
3078	LISTA FM
3104	MAUREEN FM
3231	SHETLAND GP
3231	EKOFISK FM
3310	TOR FM
3683	HOD FM
3860	BLODØKS FM
3865	HIDRA FM
3928	CROMER KNOLL GP
3928	RØDBY FM
4024	TYNE GP
4024	MANDAL FM
4057	FARSUND FM
4155	VESTLAND GP
4155	ULA FM
4241	NO GROUP DEFINED
4241	SMITH BANK FM

Composite logs

Document name	Document format	Document size [MB]
42	pdf	0.77

Geochemical information

Document name	Document format	Document size [MB]
42_1	pdf	1.29
42_2	pdf	2.12
42_3	pdf	1.75
42_4	pdf	2.55

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

Document name	Document format	Document size [MB]
42_01_WDSS_General_Information	pdf	0.18
42_02_WDSS_completion_log	pdf	0.30

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

Document name	Document format	Document size [MB]
42_01_7_11_5_Completion_Report	pdf	11.67
42_02_7_11_5_Completion_log	pdf	3.12

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	4185	4197	14.3
2.0	4165	4174	14.3

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0				
2.0				

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	470	118000	0.828	0.876	251
2.0	45				

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL	1980	3948
CST	1085	2090
CST	3171	3959
CST	3959	4437
CST	4154	4437
DLL MSFL GR	4120	4337
HDT	2099	3959
HDT	3948	4440
HRT	1500	2065
ISF LSS GR	178	3959
ISF LSS GR	3947	4475
ISF MSFL LSS GR	3947	4201
LDT CNL GR	2099	4437
LDT GR	603	2115
RFT	4176	4465
RFT	4193	0
RFT	4265	4300
SEISLOOK	200	4474
VSP	200	4474

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	178.0	36	179.0	0.00	LOT
SURF.COND.	20	601.0	26	615.0	1.74	LOT
INTERM.	13 3/8	2100.0	17 1/2	2115.0	1.84	LOT
INTERM.	9 5/8	3944.0	12 1/4	3955.0	2.05	LOT
LINER	7	4444.0	8 3/8	4478.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
310	1.08	3.0	11.0	WATER BASED	06.06.1982
615	1.15	6.0	20.0	WATER BASED	06.06.1982
1375	1.46	19.0	28.0	WATER BASED	06.06.1982
1766	1.57	21.0	13.0	WATER BASED	06.06.1982
1971	1.62	31.0	18.0	WATER BASED	06.06.1982
2115	1.62	26.0	15.0	WATER BASED	06.06.1982
2771	1.65	26.0	15.5	WATER BASED	06.06.1982
3228	1.54	14.0	14.0	WATER BASED	06.06.1982
3510	1.61	15.0	10.0	WATER BASED	06.06.1982
3904	1.61	18.0	12.0	WATER BASED	06.06.1982
4039	1.70	22.0	5.0	WATER BASED	06.06.1982
4334	1.80	17.0	6.0	WATER BASED	06.06.1982
4478	1.81	18.0	8.0	WATER BASED	06.06.1982

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]
42_Formation_pressure_(Formasjonstrykk)	pdf	0.22