General information

Wellbore name	2/7-22
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Discovery	2/7-22
Well name	2/7-22
Seismic location	BPN 88 208 (SP 410)
Production licence	145
Drilling operator	BP Petroleum Dev. of Norway AS
Drill permit	637-L
Drilling facility	ROSS ISLE
Drilling days	152
Entered date	17.05.1990
Completed date	15.10.1990
Release date	15.10.1992
Publication date	17.12.2003
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS/CONDENSATE
Discovery wellbore	YES
1st level with HC, age	DEVONIAN
1st level with HC, formation	NO GROUP DEFINED
Kelly bushing elevation [m]	23.5
Water depth [m]	69.5
Total depth (MD) [m RKB]	4750.0
Final vertical depth (TVD) [m RKB]	4750.0
Maximum inclination [°]	5
Bottom hole temperature [°C]	166
Oldest penetrated age	DEVONIAN
Oldest penetrated formation	NO GROUP DEFINED
Geodetic datum	ED50
NS degrees	56° 17' 46.25'' N
EW degrees	3° 9' 32.01'' E
NS UTM [m]	6239194.17
EW UTM [m]	509834.28
UTM zone	31
NPDID wellbore	1495

Wellbore history

General

Well 2/7-22 was designed to drill a Late Jurassic prospect as the first commitment well in license 145.The prospect was a structural play defined at an intra-Jurassic level, located to the south-west of the Eldfisk South oil field in the Central Graben. A number of alternative outcomes were modelled to describe the uncertainty in the geological model. The most likely outcome predicted, was for a Jurassic non-marine reservoir section. The large vertical relief of the structure (550 m) also permitted the possibility of an additional lower (Permian) reservoir section. An extensive sidewall-coring program was designed.

Operations and results

Wildcat well 2/7-22 was spudded 17 May 1990 by the semi-submersible installation Ross Isle and completed 15 October 1990 at a depth of 4750 m in interbedded sandstones and mudstones of indeterminate pre-Jurassic age. The well thus fulfilled the geological commitment. The well was drilled with seawater and hi-vis pills down to 1092 m, with ester based Petrofree mud from 1092 m to 2970 m, and with Enviromul oil based mud from 2970 m to TD. No shallow gas was encountered in the well. No conventional cores were cut. Due to hard formation sidewall core recovery was poor, and for recovered sidewall cores the depths are uncertain due to technical problems. The well was a gas discovery having encountered a 14 m pay zone in clean sands of indeterminate age with a hydrocarbon column being smaller than prognosed. A gas/water contact was encountered at 4502 m. The total reservoir thickness is 66.5 m. The Late Jurassic Mandal formation came in 218 m deeper than prognosed. One was tentatively trying to date the rocks below the Jurassic sequence, but these rocks are classified as indeterminate. The reservoir rocks are probably an analogue to the Embla alluvial fan complex. Wireline RFT samples were taken at 4494 and 4547 m. The well was permanently plugged and abandoned as a gas/condensate discovery.

Testing

One DST test was performed in the interval 4489 to 4496 m. The well flowed 207 Sm3 condensate /day and 347 Sm3 water /day through a 12.7 mm choke.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1110.00	4750.00

Cuttings available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
4323.0	[m]	DC	OD

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	DST1	4489.00	4496.00		30.09.1990 - 16:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
93	NORDLAND GP
1607	HORDALAND GP
2968	ROGALAND GP
2968	BALDER FM
2981	SELE FM
3031	LISTA FM
3076	VÅLE FM
3092	SHETLAND GP
3092	EKOFISK FM
3140	TOR FM
3597	HOD FM
3976	BLODØKS FM
3992	HIDRA FM
4086	CROMER KNOLL GP
4086	RØDBY FM
4225	SOLA FM
4327	ÅSGARD FM
4452	TYNE GP
4452	MANDAL FM
4470	UNDEFINED GP
4480	NO GROUP DEFINED

Composite logs

Document name	Document format	Document size [MB]
1495	pdf	0.59

Geochemical information

Document name	Document format	Document size [MB]
1495_1	pdf	0.33
1495_2	pdf	0.94
1495_3	pdf	0.30

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

Document name	Document format	Document size [MB]
1495_01_WDSS_General_Information	pdf	0.27
1495_02_WDSS_completion_log	pdf	0.23

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

Document name	Document format	Document size [MB]
1495_2_7_22_COMPLETION_LOG	pdf	1.67
1495_2_7_22_COMPLETION_REPORT	pdf	22.31

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	4484	4491	12.7

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0		24.000		163

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	197	232700	0.790	0.800	1181

Logs

Log type	Log top depth [m]	Log bottom depth [m]
B.PLUG	0	2710
CBL VDL GR	450	675
CBL VDL GR	2730	4185
CBL VDL GR	4035	4295
CBL VDL GR	4176	4291
CBL VDL GR	4187	4295
CBL VDL GR CCL	4212	4515
CCL	3868	3984
CHECK SHOT	750	4290
CHECK SHOT	4290	4740
CST GR	4742	4315
CST GR	4742	4315
DIL BHC GR	4192	4294
DIL BHC GR	4296	4650
DIL BHC GR	4574	4752
DIL LSS GR	95	2977
DIL LSS GR	2791	4201
G.RING JB C.RETAINER	0	4183
G.RING JB/C RETAINER	4515	4515
JB B.PLUG PUNCHER	0	3880
JB C.RETAINER	4293	4293
LDL CNL GR	2971	4203
LDL CNL GR	4192	4296
LDL CNL NGT	4296	4652
LDL CNL NGT	4590	4754
OBDT GR	4296	4755
REF.G.RING JB PRO.PACKER	4489	4496
RFT GR	0	0
RFT GR	4489	4739
RFT GR	4489	4639
RFT GR	4547	4547

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	224.0	36	227.0	0.00	LOT

INTERM.	20	1092.0	26	1100.0	1.95	LOT
INTERM.	13 3/8	2970.0	17 1/2	2978.0	2.09	LOT
INTERM.	9 5/8	4192.0	12 1/4	4200.0	2.14	LOT
LINER	7	4292.0	8 1/2	4293.0	2.15	LOT
LINER	4 1/2	4750.0	5 7/8	4750.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
116	0.00			WATER BASED	21.05.1990
419	0.00			WATER BASED	21.05.1990
812	0.00			WATER BASED	21.05.1990
968	1.06			WATER BASED	28.05.1990
1100	1.52	74.0	13.0	WATER BASED	29.05.1990
1100	1.20			WATER BASED	23.05.1990
1100	0.00			WATER BASED	21.05.1990
1100	1.40			WATER BASED	23.05.1990
1100	1.06			WATER BASED	25.05.1990
1100	1.06			WATER BASED	28.05.1990
1100	1.20	90.0	2.4	WATER BASED	28.05.1990
1286	1.50	56.0	14.4	WATER BASED	30.05.1990
1900	1.68	84.0	14.9	WATER BASED	31.05.1990
2360	1.68	89.0	17.8	WATER BASED	05.06.1990
2710	1.99	99.0	14.9	WATER BASED	10.10.1990
2750	1.98	92.0	12.0	WATER BASED	09.10.1990
2907	1.70	94.0	15.8	WATER BASED	05.06.1990
2978	1.71	81.0	16.3	WATER BASED	12.06.1990
2978	1.71	83.0	16.8	WATER BASED	06.06.1990
2978	1.71	83.0	16.8	WATER BASED	07.06.1990
2978	1.71	83.0	16.8	WATER BASED	08.06.1990
2978	1.71	83.0	16.8	WATER BASED	12.06.1990
2978	1.71	83.0	16.3	OIL BASED	12.06.1990
2978	1.70	92.0	17.3	WATER BASED	05.06.1990
2978	1.70	92.0	17.3	WATER BASED	05.06.1990
2978	1.71	83.0	16.8	WATER BASED	05.06.1990
2991	1.70	86.0	16.3	WATER BASED	13.06.1990
3036	1.70	65.0	13.4	WATER BASED	13.06.1990
3098	1.70	66.0	14.9	WATER BASED	14.06.1990

3312	1.70	58.0	13.4	WATER BASED	15.06.1990
3438	1.69	73.0	11.5	WATER BASED	18.06.1990
3603	1.68	64.0	13.0	WATER BASED	18.06.1990
3741	1.68	52.0	12.5	WATER BASED	18.06.1990
3778	1.68	54.0	13.0	WATER BASED	19.06.1990
3778	1.68	54.0	11.5	WATER BASED	20.06.1990
3809	1.68	56.0	14.4	OIL BASED	22.06.1990
3816	1.70	43.0	15.0	WATER BASED	26.06.1990
3825	1.70	51.0	12.5	WATER BASED	26.06.1990
3826	1.72		16.3	WATER BASED	26.06.1990
3832	1.70	59.0	14.4	WATER BASED	26.06.1990
3846	1.70	52.0	7.7	WATER BASED	28.06.1990
3846	1.70	84.0	11.0	WATER BASED	26.06.1990
3887	1.71			WATER BASED	04.07.1990
3891	1.97	95.0	12.0	WATER BASED	08.10.1990
3895	1.98	91.0	11.3	WATER BASED	08.10.1990
3922	1.71	70.0	10.6	WATER BASED	04.07.1990
3922	1.70	83.0	11.5	WATER BASED	04.07.1990
3981	1.98	91.0	10.6	WATER BASED	08.10.1990
4034	1.71	83.0	11.0	WATER BASED	04.07.1990
4035	1.71	88.0	10.1	WATER BASED	04.07.1990
4078	1.72	81.0	11.5	WATER BASED	04.07.1990
4136	1.72	89.0	12.0	WATER BASED	04.07.1990
4200	1.72	80.0	7.2	WATER BASED	09.07.1990
4200	1.72	80.0	9.6	WATER BASED	09.07.1990
4200	1.72	90.0	15.0	WATER BASED	09.07.1990
4200	1.75	108.0	15.4	WATER BASED	12.07.1990
4200	1.75	108.0	15.4	WATER BASED	12.07.1990
4200	1.75	108.0	15.4	WATER BASED	12.07.1990
4200	1.78	37.0	5.8	WATER BASED	16.07.1990
4200	1.72	70.0	10.0	WATER BASED	09.07.1990
4202	1.77	40.0	6.7	OIL BASED	16.07.1990
4203	1.76	43.0	6.7	WATER BASED	16.07.1990
4203	1.76	92.0	22.0	OIL BASED	16.07.1990
4203	1.77	82.0	8.6	OIL BASED	16.07.1990
4203	2.11	93.0	13.4	OIL BASED	18.07.1990
4203	2.11	65.0	7.2	OIL BASED	18.07.1990
4243	1.76	57.0	6.2	OIL BASED	20.07.1990
4272	1.85	55.0	6.7	OIL BASED	20.07.1990
4290	1.93	60.0	5.3	WATER BASED	24.07.1990

4293	1.97	58.0	6.7	WATER BASED	24.07.1990
4293	1.98	80.0	7.7	OIL BASED	24.07.1990
4293	1.98	96.0	11.5	WATER BASED	27.07.1990
4293	1.98	97.0	10.1	WATER BASED	27.07.1990
4293	1.97	85.0	8.6	OIL BASED	31.07.1990
4293	1.97	94.0	9.1	WATER BASED	31.07.1990
4293	1.98	96.0	11.5	WATER BASED	24.07.1990
4293	1.97	94.0	9.1	OIL BASED	31.07.1990
4295	1.96	83.0	9.6	WATER BASED	31.07.1990
4295	1.96	83.0	8.2	OIL BASED	03.08.1990
4296	1.95	82.0	9.6	OIL BASED	03.08.1990
4296	1.96	99.1	13.4	OIL BASED	03.08.1990
4296	1.96	78.0	10.1	WATER BASED	10.08.1990
4296	1.96	82.0	10.1	WATER BASED	10.08.1990
4296	1.95	87.0	11.0	WATER BASED	10.08.1990
4296	1.96	79.0	8.2	OIL BASED	03.08.1990
4298	1.96	80.0	10.1	WATER BASED	10.08.1990
4299	1.96	71.0	7.2	WATER BASED	10.08.1990
4299	1.97	79.0	8.6	WATER BASED	10.08.1990
4299	1.97	81.0	8.6	WATER BASED	10.08.1990
4299	1.97	83.0	9.1	WATER BASED	13.08.1990
4309	1.97	79.0	7.7	WATER BASED	13.08.1990
4321	1.97	74.0	7.2	WATER BASED	13.08.1990
4334	1.98	72.0	7.2	WATER BASED	15.08.1990
4347	1.97	69.0	6.7	WATER BASED	15.08.1990
4359	1.97	70.0	5.3	WATER BASED	17.08.1990
4381	1.98	82.0	5.8	WATER BASED	17.08.1990
4421	1.97	77.0	5.8	WATER BASED	20.08.1990
4424	1.97	7.7	5.8	WATER BASED	20.08.1990
4452	1.97	80.0	5.3	WATER BASED	20.08.1990
4461	1.98	96.0	7.7	WATER BASED	22.08.1990
4475	1.98	83.0	7.2	WATER BASED	22.08.1990
4489	1.97	84.0	7.7	WATER BASED	23.08.1990
4523	1.98	84.0	7.7	WATER BASED	27.08.1990
4545	1.98	93.0	7.2	WATER BASED	27.08.1990
4552	1.97	90.0	7.2	WATER BASED	27.08.1990
4566	1.96	90.0	7.7	WATER BASED	14.09.1990
4566	1.96	88.0	7.7	WATER BASED	20.09.1990
4566	1.97	89.0	8.2	WATER BASED	01.10.1990
4566	1.97	96.0	10.6	WATER BASED	01.10.1990

4566	1.96	89.0	8.6	WATER BASED	04.10.1990
4566	1.96	90.0	8.2	WATER BASED	05.10.1990
4566	1.96	95.0	7.7	WATER BASED	17.09.1990
4566	1.96	80.0	7.2	WATER BASED	17.09.1990
4566	1.96	80.0	7.4	WATER BASED	17.09.1990
4566	1.96	88.0	7.7	WATER BASED	18.09.1990
4566	1.96	86.0	8.2	WATER BASED	20.09.1990
4566	1.96	88.0	7.7	WATER BASED	21.09.1990
4566	1.96	86.0	7.7	WATER BASED	01.10.1990
4566	1.97	89.0	8.2	WATER BASED	01.10.1990
4566	1.97	91.0	8.2	WATER BASED	01.10.1990
4566	1.97	91.0	8.2	WATER BASED	01.10.1990
4566	1.97	89.0	7.7	WATER BASED	01.10.1990
4566	1.97	90.0	10.8	WATER BASED	01.10.1990
4566	1.97	93.0	9.1	WATER BASED	01.10.1990
4566	1.97	94.0	9.1	WATER BASED	01.10.1990
4566	1.96	93.0	8.6	WATER BASED	02.10.1990
4566	1.96	87.0	8.2	WATER BASED	03.10.1990
4578	1.97	83.0	6.7	WATER BASED	28.08.1990
4611	1.97	87.0	7.7	WATER BASED	29.08.1990
4636	1.98	90.0	7.2	WATER BASED	30.08.1990
4650	1.96	85.0	7.0	WATER BASED	31.08.1990
4650	1.96	90.0	7.2	WATER BASED	04.09.1990
4731	1.96	95.0	8.6	WATER BASED	04.09.1990
4750	1.96	91.0	8.1	WATER BASED	05.09.1990
4750	1.96	93.0	7.2	WATER BASED	10.09.1990
4750	1.96	82.0	7.2	WATER BASED	10.09.1990
4750	1.96	85.0	7.7	WATER BASED	10.09.1990
4750	1.96	85.0	8.2	WATER BASED	10.09.1990
4750	1.96	83.0	8.2	WATER BASED	10.09.1990

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]
1495_Formation_pressure_(Formasjonstrykk)	pdf	0.22