

Well no : 35/11-02

Operator : MOBIL

Coordinates : 61 10 25.42 N
03 27 31.36 EUTM coord. : 6782385 N
524675 E

Licence no : 90

Permit no : 553

Rig : TREASURE SCOUT

Rig type : SEMI-SUB.

Contractor : WILHELMSSEN OFFSHORE SERVICES

Bottom hole temperature : deg.C

Elev. KB : 23 M

Spud. date : 87.07.20

Water depth : 372 M

Compl. date : 87.12.04

Total depth : 4025 M

Spud. class : WILDCAT

Form. at TD : E.JURASSIC

Compl. class : P&A. GAS/COND. DISC.

Prod. form : M.JURASSIC

Seisloca : NM84 - 208 SP. 520

LICENSEES

10.000000 NORSK HYDRO PRODUKSJON A.S
 40.000000 MOBIL DEVELOPMENT NORWAY A.S.
 50.000000 DEN NORSKE STATS OLJESELSKAP A.S

CASING AND LEAK-OFF TESTS

Type	Casing diam.	Depth below KB	Hole diam.	Hole depth below KB	Lot mud eqv. g/cm ³
CONDUCTOR	30	546.8	36	1026.0	.
SURF.COND.	20	1004.0	26	1026.0	1.39
INTERM.	13 3/8	2184.6	17 1/2	2195.0	1.62
INTERM.	9 3/5	3348.8		3377.0	1.85
LINER	7	3850.8	8 1/2	4025.0	.

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	2937.1 - 2938.2	0.0	0.0	
2	3042.0 - 3045.2	3.2	100.0	
3	3369.0 - 3391.6	22.6	100.0	
4	3392.9 - 3416.0	23.1	97.6	
5	3416.0 - 3428.0	12.0	99.3	
6	3428.0 - 3467.0	29.0	100.0	
7	3467.0 - 3489.3	22.3	98.1	
8	3490.0 - 3516.2	26.2	97.4	

MUD PROPERTIES

Depth below KB meter	Mud weigth g/cm ³	Viscosity	Mud type
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0.500	1.03	0.0	WATER BASED
461.000	1.02	0.0	WATER BASED
550.000	1.03	0.0	WATER BASED
556.000	1.06	0.0	WATER BASED
649.000	1.00	6.0	WATER BASED
1026.000	1.06	0.0	WATER BASED
1026.000	1.30	0.0	WATER BASED
1026.000	1.32	0.0	WATER BASED
1350.000	1.26	12.0	WATER BASED
2195.000	1.30	26.0	WATER BASED
2544.000	1.20	26.0	WATER BASED
2559.000	1.22	32.0	WATER BASED
2631.000	1.24	25.0	WATER BASED
2934.000	1.20	24.0	WATER BASED
2950.000	1.22	23.0	WATER BASED
3377.000	1.43	28.0	WATER BASED
3377.000	1.51	25.0	WATER BASED
3377.000	1.54	30.0	WATER BASED
3377.000	1.57	29.0	WATER BASED
3377.000	1.62	43.0	WATER BASED
3377.000	1.58	16.0	WATER BASED
3835.000	1.62	22.0	WATER BASED
3962.000	1.58	25.0	WATER BASED
4025.000	1.62	15.0	WATER BASED
4025.000	1.62	15.4	WATER BASED
4025.000	1.58	20.0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no	interval meter	Choke size	Pressure (PSI)		
			WHP	BTHP	FFP
1.0	3551.000 - 3559.000 Test temperature:	11.1	290.0	0.0	0.0
2.0	3524.000 - 3542.000 Test temperature:	15.9	3300.0	0.0	0.0
3.0	3477.000 - 3486.500 Test temperature:	15.9	3280.0	0.0	0.0
4.0	3427.000 - 3432.000	14.3	2930.0	0.0	0.0

RECOVERY

Test no.	Oil Sm ³ /d	Gas Sm ³ /d	Oil grav. g/cm ³	Gas grav. rel. air	GOR m ³ /m ³
1.0	0	212091	0.000	0.700	0
2.0	493	552173	0.811	0.719	1122
3.0	523	523857	0.816	0.740	997
4.0	390	430412	0.822	0.074	1142

DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
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Cutting

Wet Samples

1030-4025

360

SHALLOW GAS

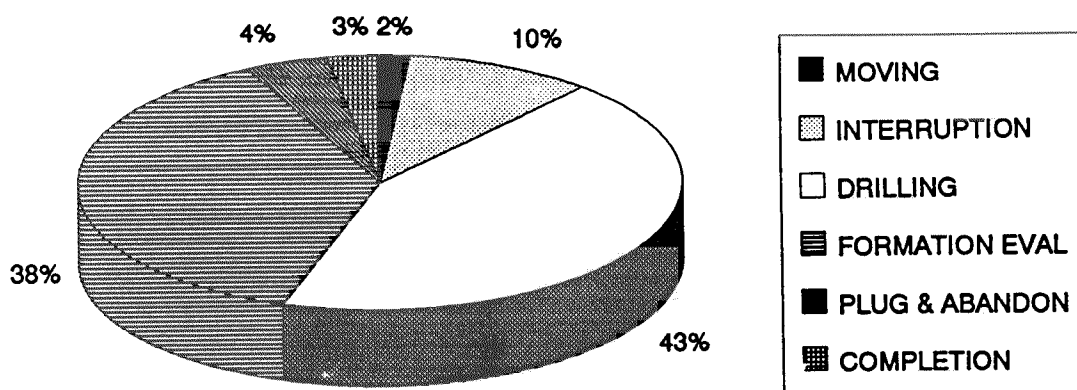
Interval REMARKS
below KB

AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500	Div.
DLWD	390.000 - 4025.000		X	
DIS SON GR	390.000 - 759.000	X	X	
DIL BHC GR	1002.000 - 2188.000	X	X	
DIL LSS GR	2185.000 - 3373.000	X	X	
DIL BHC (SDT) GR	3350.000 - 4028.000	X	X	
LDL CN GR CALIPER.	750.000 - 2189.000	X	X	
LDL CNL GR	2185.000 - 3373.000	X	X	
LDL CNL NGS	3350.000 - 4030.000	X	X	
DLL MSFL GR.	2185.000 - 3373.000	X	X	
DLL MSFL GR	3350.000 - 4030.000	X	X	
SHDT DIPMETER.	2185.000 - 3373.000	X		
SHDT	3350.000 - 4029.000	X		
CDM AP/SHDT MSD	2190.000 - 3372.000	X	X	
CDM AP/SHDT MSD	3355.000 - 4030.000	X	X	
RFT HP GAUGE	2996.000 - 3372.000	X		
RFT HP GAUGE	2946.000 - 3042.000	X		
RFT HP GAUGE	3377.000 - 3964.000	X		
RFT STRAIN GAUGE	2996.000 - 3372.000	X		
RFT STRAIN GAUGE	2946.000 - 3042.000	X		
RFT STRAIN GAUGE	3377.000 - 3964.000	X		
CBL VDL GR.	857.000 - 2184.000	X		
CBL VDL GR	2163.000 - 3348.000	X		
CBL VDL GR	3318.000 - 3596.000	X		
PRESS. EVAL. LOG	1030.000 - 4025.000			1:5000
TEMP. DATA LOG	394.000 - 4025.000			1:5000
DRILL. DATA PRESS.	394.000 - 4025.000			1:5000
MUD	394.000 - 4025.000			X
VELOCITY LOG	390.000 - 4027.000			1:1000X
(Airgun well velocity survey and calibr.data				1 stk.)
(Display of well velocity survey records				3 stk.)
(VSP,intepreters composite, 10cm/s				2 stk.)
(Synthetic seismogram , marine, 10cm/s				5 stk.)
(Two-way travel time , 10cm/s				1 stk.)

DAILY DRILLING REPORT SYSTEM

MAIN OPERATION FOR WELL: 35/11-02



Main operation	Minutes	Hrs	% of total
MOVING	3900	65,0	1,92
INTERRUPTION	19965	332,8	9,83
DRILLING	88530	1475,5	43,60
FORMATION EVAL	76155	1269,3	37,51
PLUG & ABANDON	9090	151,5	4,48
COMPLETION	5400	90,0	2,66
Total	203040	3384,0	100,00

SUB OPERATIONS FOR WELL: 35/11-02

MAIN OPERATION: MOVING

Sub operation	Minutes	Hrs	% of total
ANCHOR	2790	46,5	71,54
TRANSIT	1110	18,5	28,46
<i>Total</i>	3900	65,0	100,00

MAIN OPERATION: INTERRUPTION

Sub operation	Minutes	Hrs	% of total
WELL CONTROL	2550	42,5	12,77
MAINTAIN/REP	7020	117,0	35,16
WAIT	5595	93,3	28,02
OTHER	600	10,0	3,01
FISH	4200	70,0	21,04
<i>Total</i>	19965	332,8	100,00

MAIN OPERATION: DRILLING

Sub operation	Minutes	Hrs	% of total
CASING	19200	320,0	21,69
DRILL	36270	604,5	40,97
SURVEY	270	4,5	0,30
OTHER	3300	55,0	3,73
TRIP	15360	256,0	17,35
HOLE OPEN	4920	82,0	5,56
CIRC/COND	2880	48,0	3,25
REAM	630	10,5	0,71
PRESS DETECTION	270	4,5	0,30
BOP/WELLHEAD EQ	1770	29,5	2,00
BOP ACTIVITIES	3660	61,0	4,13
<i>Total</i>	88530	1475,5	100,00

MAIN OPERATION: FORMATION EVAL

Sub operation	Minutes	Hrs	% of total
LOG	10980	183,0	14,42
TRIP	16230	270,5	21,31
CORE	4140	69,0	5,44
CIRC SAMPLES	1080	18,0	1,42
OTHER	3510	58,5	4,61
CIRC/COND	2370	39,5	3,11
DST	36585	609,8	48,04
WAIT	540	9,0	0,71
PROD TEST	720	12,0	0,95
<i>Total</i>	76155	1269,3	100,00

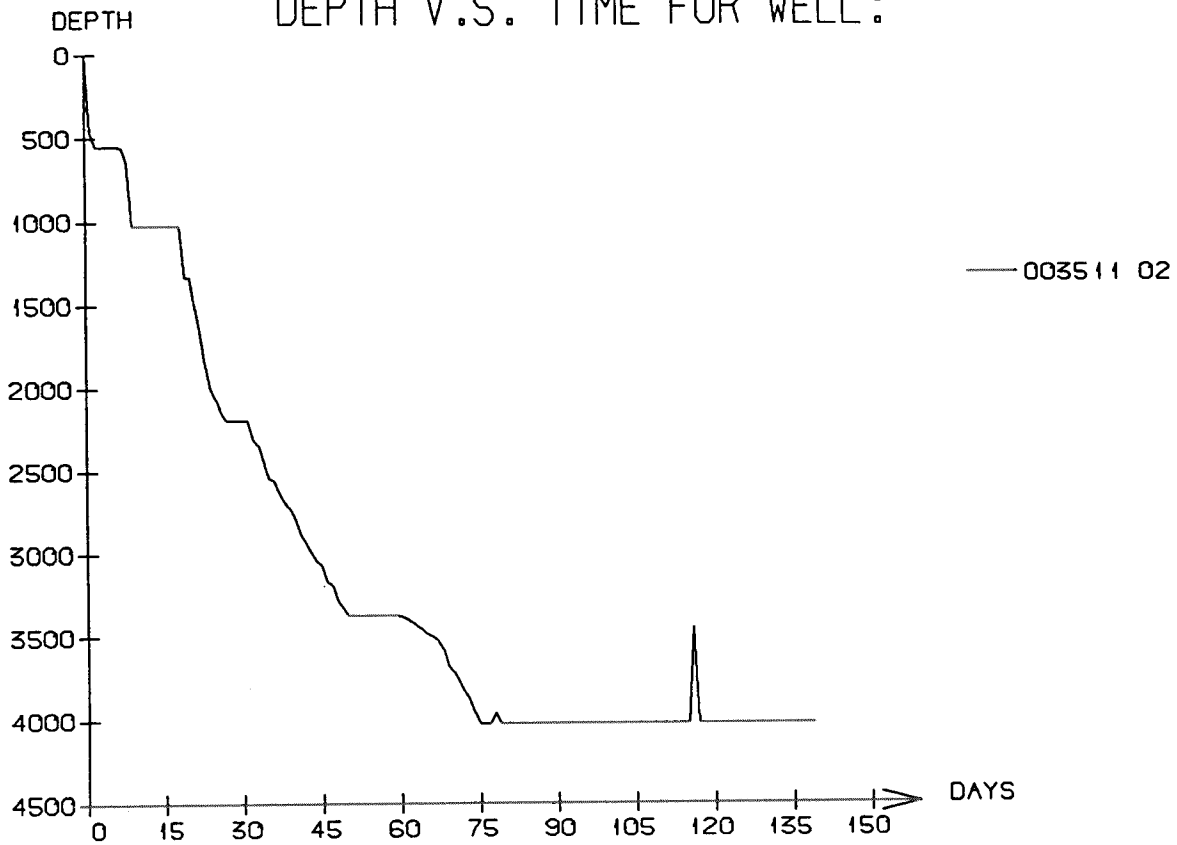
MAIN OPERATION: PLUG & ABANDON

Sub operation	Minutes	Hrs	% of total
CIRC/COND	420	7,0	4,62
OTHER	510	8,5	5,61
TRIP	2220	37,0	24,42
CEMENT PLUG	960	16,0	10,56
PERFORATE	120	2,0	1,32
MECHANICAL PLUG	150	2,5	1,65
CUT	2640	44,0	29,04
EQUIP RECOVERY	2010	33,5	22,11
WAIT	60	1,0	0,66
<i>Total</i>	9090	151,5	100,00

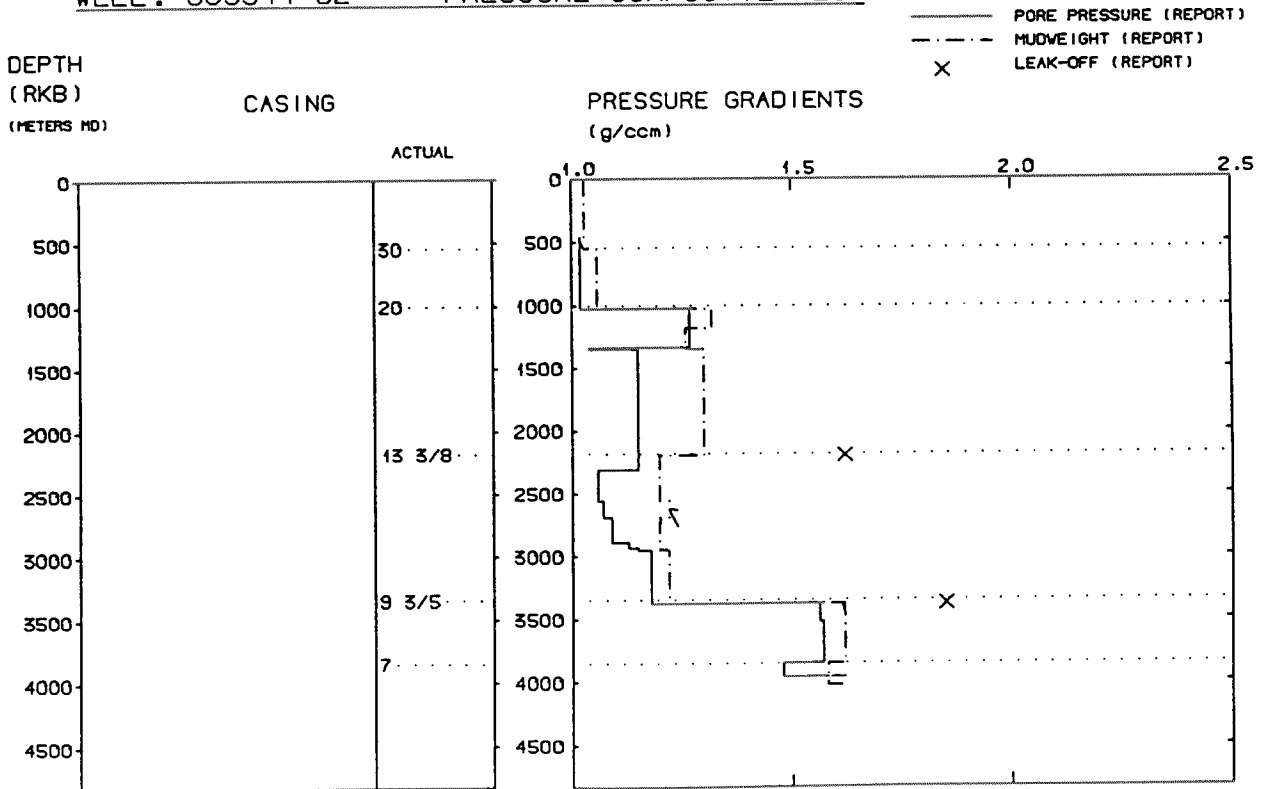
MAIN OPERATION: COMPLETION

Sub operation	Minutes	Hrs	% of total
OTHER	2100	35,0	38,89
CIRC/COND	150	2,5	2,78
WIRE LINE	1200	20,0	22,22
COMPL STRING	1350	22,5	25,00
PERFORATE	120	2,0	2,22
FLOW	480	8,0	8,89
<i>Total</i>	5400	90,0	100,00

DEPTH V.S. TIME FOR WELL:



WELL: 003511 02 PRESSURE COMPOSITE PLOT



Well History 35/11-2

GENERAL:

Well 35/11-2 was designed to test an Early Cretaceous stratigraphic play and, as a secondary objective, the "B" structure at Brent level.

The block is situated at the boundary between the Horda Platform and the Viking Graben just north of the Troll Field and south of block 35/8 where two gas/condensate discoveries have been made.

OPERATIONS:

Wildcat well 35/11-2 was spudded 20 July 1987 by Wilh. Wilhelmsen A/S semi-submersible rig Treasure Scout and completed 4 December 1987 at a depth of 4025 m in Early Jurassic rocks.

The hole was drilled to setting depth for 20" casing without a riser. MWD was used, but the resistivity unit was destroyed by blocks after few meters. Conventional logs did not get past 760 m, and while attempting this, there was an intrusion of formation fluid into the hole. There was no sign of shallow gas, and heavier mud was used. The hole was opened to 26" without logging below 760 m. The reasons for the problems around 760 m was probably due to washed-out zones. When preparing the setting of 20" casing, fluid was again flowing into the hole, and the mud weight was increased. Further drilling went without significant problems.

2 cores were cut in the interval 3042 - 3046 m. The reservoir properties seemed to be very poor and RFT-data indicate that the formation is tight. 3 cores were cut between 3393 - 3452 m, and even though there were shows, the reservoir quality was not good. 3 cores were cut in the interval 3490 - 3517 m. The reservoir properties were changing, with shows in the sandstone sequences.

The logs show a gas/water contact around 3544 m. This gives a gross hydrocarbon column of 174 m, but the net/gross ratio is low.

The well is plugged and abandoned as a gas and condensate discovery.

TESTING:

5 DST tests were performed in the intervals 3551 - 3559 m, 3524 - 3542 m, 3477 - 3486 m, 3427 - 3432 m and 3370 - 3378 m respectively. DST 5 indicate that there is a thin Tarbert Fm. on the top without connection to the rest of the reservoir because the GOR is 1/4 of the other tests.

GEOLOGICAL TOPS

WELL: 35/11-2

	Depth m (RKB)
<i>Nordland Group</i>	395.0
<i>Utsira Fm.</i>	736.0
<i>Hordaland Group</i>	1081.0
<i>Rogaland Group</i>	1662.5
<i>Balder Fm.</i>	1662.5
<i>Sele Fm.</i>	1720.5
<i>Lista Fm.</i>	1753.0
<i>Våle Fm.</i>	1926.0
<i>Shetland Group</i>	1950.0
<i>Jorsalfare Fm.</i>	1950.0
<i>Kyrre Fm.</i>	2137.0
<i>Tryggvason Fm.</i>	2676.0
<i>Cromer Knoll Group</i>	2682.0
<i>Rødby Fm.</i>	2682.0
<i>Sola Fm.</i>	2710.0
<i>Tuxen Fm.</i>	2721.0
<i>Åsgard Fm.</i>	2753.0
<i>Mime Fm.</i>	2911.0
<i>Viking Group</i>	2927.0
<i>Draupne Fm.</i>	2927.0
<i>Sognefjord Fm.</i>	3011.0
<i>Heather Fm.</i>	3042.0
<i>Brent Group</i>	3370.0
<i>Tarbert Fm.</i>	3370.0
<i>Ness Fm.</i>	3380.0
<i>Etive Fm.</i>	3475.0
<i>Rannoch Fm.</i>	3487.0
<i>Oseberg Fm.</i>	3524.0
<i>Dunlin Group</i>	3601.0
<i>Drake Fm.</i>	3601.0
<i>Cook Fm.</i>	3615.0
<i>Burton Fm.</i>	3702.0
<i>Amundsen Fm.</i>	3716.0
<i>Statfjord Fm.</i>	3798.0
<i>T.D.</i>	4025.0