

Well no : 6506/12-05

Operator : STATOIL

Coordinates : 65 02 28.60 N  
06 58 21.93 EUTM coord. : 7214766 N  
404557 E

Licence no : 94

Permit no : 485

Rig : DYVI DELTA

Rig type : SEMI-SUB.

Contractor : DYVI OFFSHORE A/S

Bottom hole temperature : deg.C

Elev. KB : 29 M

Spud. date : 85.10.17

Water depth : 301 M

Compl. date : 86.03.27

Total depth : 4588 M

Spud. class : APPRAISAL

Form. at TD : E.JURASSIC

Compl. class : P&amp;A. OIL DISCOVERY

Prod. form : CRET&amp;JURA

Seisloca : ST 8403 - 451 SP. 338

## LICENSEES

10.000000 NORSK AGIP A/S  
 10.000000 ARCO NORGE A/S  
 5.000000 NORSK HYDRO PRODUKSJON A.S  
 15.000000 MOBIL EXPLORATION NORWAY INC.  
 50.000000 DEN NORSKE STATS OLJESELSKAP A.S  
 10.000000 TENNECO OIL NORWAY A/S

## CASING AND LEAK-OFF TESTS

Type	Casing diam.	Depth below KB	Hole diam.	Hole depth below KB	Lot mud eqv. g/cm <sup>3</sup>
CONDUCTOR	30	392.0	36	400.0	.
SURF.COND.	20	1055.0	26	1080.0	1.69
INTERM.	13 3/8	2280.0	17 1/2	2296.0	1.91
INTERM.	9 5/8	3885.0	12 1/4	3901.0	1.95

## CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	3148.0 - 3175.0	27.0	100.0	
2	3175.0 - 3189.0	14.0	100.0	UPPER CRETACEOUS
3	3910.0 - 3918.0	7.7	96.3	MIDDLE JURASSIC
4	3918.0 - 3929.0	10.3	93.6	MIDDLE JURASSIC
5	3929.0 - 3944.0	14.7	98.0	MIDDLE JURASSIC
6	3944.0 - 3949.0	5.0	100.0	MIDDLE JURASSIC
7	3949.0 - 3967.5	18.5	100.0	MIDDLE JURASSIC
8	3967.5 - 3995.0	26.2	95.3	MIDDLE JURASSIC
9	3995.0 - 4004.0	00.0	00.0	MIDDLE JURASSIC
10	4004.0 - 4031.0	26.9	99.6	MIDDLE JURASSIC
11	4031.0 - 4046.5	15.2	98.1	MIDDLE JURASSIC
12	4046.5 - 4064.5	18.0	100.0	MIDDLE JURASSIC
13	4064.5 - 4067.0	2.1	84.0	MIDDLE JURASSIC
14	4067.0 - 4085.0	13.5	75.0	MIDDLE JURASSIC
15	4096.0 - 4112.0	21.6	135.0	MIDDLE JURASSIC
16	4112.0 - 4124.0	11.8	98.3	MIDDLE JURASSIC

## CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
17	4124.0 - 4136.0	11.8	98.3	MIDDLE JURASSIC
18	4136.0 - 4154.0	18.4	102.2	MIDDLE JURASSIC
19	4154.0 - 4180.0	25.9	99.6	LOWER JURASSIC
20	4180.0 - 4205.0	23.5	94.0	LOWER JURASSIC
21	4205.0 - 4216.0	11.0	100.0	LOWER JURASSIC
22	4245.0 - 4271.0	25.6	98.5	LOWER JURASSIC
23	4271.0 - 4286.0	14.6	97.3	LOWER JURASSIC
24	4286.0 - 4299.7	14.4	75.8	LOWER JURASSIC
25	4305.0 - 4324.5	19.5	100.0	LOWER JURASSIC
26	4327.0 - 4335.0	7.0	87.5	LOWER JURASSIC
27	4335.0 - 4362.0	27.0	100.0	LOWER JURASSIC

## MUD PROPERTIES

Depth below KB meter	Mud weigh g/cm3	Viscosity	Mud type
1198.000	1.12	5.0	WATER BASED
1320.000	1.20	12.0	WATER BASED
1607.000	1.30	12.0	WATER BASED
1932.000	1.35	15.0	WATER BASED
2129.000	1.45	18.0	WATER BASED
2217.000	1.50	18.0	WATER BASED
2217.000	1.57	20.0	WATER BASED
2289.000	1.60	20.0	WATER BASED
2289.000	1.64	17.0	WATER BASED
2539.000	1.65	22.0	WATER BASED
3105.000	1.72	20.0	WATER BASED
3174.000	1.61	14.0	WATER BASED
3883.000	1.21	5.8	WATER BASED
3903.000	1.22	13.0	WATER BASED
4046.000	1.17	10.0	WATER BASED
4180.000	1.12	16.0	WATER BASED

## DRILL STEM TEST

### INTERVALS AND PRESSURES

Test no	interval meter	Choke size	Pressure (PSI)		
			WHP	BTHP	FFP
1.1	4025.000 - 4040.000 Test temperature: 141 °C	19.0	23.2	5968.4	5757.8
2.0	4004.000 - 4009.500 Test temperature: 140 °C	19.1	362.6	5934.7	2338.0
3.0	3983.000 - 3996.000 Test temperature: 138 °C	1.9	21.8	5920.2	4835.4
4.0	3174.000 - 3177.500 Test temperature: 110 °C	15.9	1174.8	6828.1	3480.8

### RECOVERY

Test no.	Oil Sm3/d	Gas Sm3/d	Oil grav. g/cm3	Gas grav. rel. air	GOR m3/m3
1.1	0	0	0.000	0.000	0

2.0	200	55990	0.827	0.000	264
3.0	0	0	0.000	0.000	0
4.0	500	75000	0.800	0.000	196

### DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
Cutting	400-4587	1100
Wet Samples	400-4587	510

### SHALLOW GAS

Interval below KB	REMARKS
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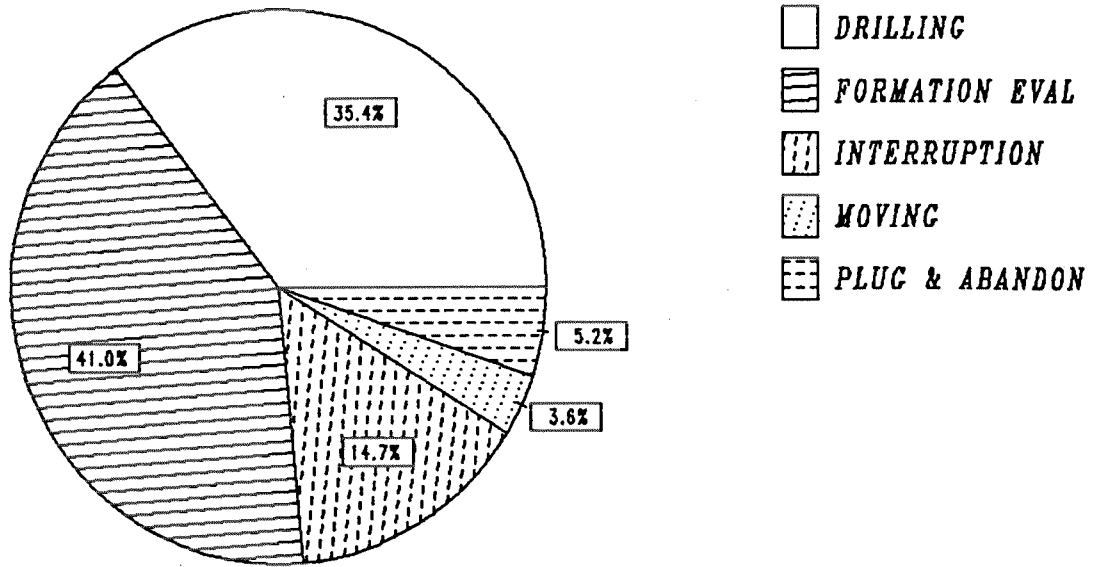
### AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500	Div.
DIL LSS SONIC GR	388.700 - 1076.200	X	X	
DIL LSS SONIC	1052.000 - 2280.000	X	X	
DIL LSS SONIC LOG	2275.000 - 3899.000	X	X	
DIL BHC	3880.200 - 4584.500	X	X	
ISF LSS MSFL	2274.000 - 3899.000	X	X	
ISF LSS MSFL GR	3880.000 - 4176.000	X	X	
LDL CNL GR	2274.000 - 3900.000	X	X	
LDL CNL GR	3880.000 - 4177.000	X	X	
LDL CNL NGS	3880.000 - 4586.000	X	X	
CDL CNL GR CA	320.000 - 1070.000	X	X	
CDL CNS GR	1052.100 - 2279.300	X	X	
CDL CNL	2275.000 - 3400.000	X	X	
CDL CNL GR	3880.200 - 4584.000	X	X	
DLL MSFL	3129.000 - 3248.000	X	X	
DLL MSFL	3880.000 - 4150.000	X	X	
DLL MSFL	3900.000 - 4584.900	X	X	
SHDT/DIPMETER SURVEY	3097.000 - 3896.000	X		
SHDT GR	3880.000 - 4586.000	X		
FMT SELECTIVE	2275.000 - 3898.000	X		
RFT	3984.000 - 4161.000		X	
RFT STRAIN GAUGE	3984.000 - 4484.000			
HP STRAIN GAUGE	3968.000 - 4484.000			
NGT PLAYBACK	3380.000 - 4586.000	X		
CET	3736.000 - 4038.000	X		
CBL GR	326.000 - 3827.000	X	X	
CBL	480.000 - 2274.000	X	X	
CBL GR	3740.000 - 4124.500	X		
CBL VDL	3736.000 - 4018.000	X		
CBL	3069.000 - 3222.000	X		

CBL GR	3066.400 - 3224.300	X	
MUD LOG	393.000 - 4587.000		X
VELOCITY LOG,	2274.000 - 4581.000		X
(Synthetic seismogram, Norm.Pol. 10cm/s			1 stk.)
(VSP Zero offset, 10cm/s			1 stk.)
(Two-way travel time 10cm/s			1 stk.)

# DAILY DRILLING REPORT SYSTEM

Main operations for well : 6506/12 -05



Total : 3984.00 hours

Main operation	Minutes	Hours	% of total
DRILLING	84720	1412.00	35.44
FORMATION EVAL	98070	1634.50	41.03
INTERRUPTION	35220	587.00	14.73
MOVING	8550	142.50	3.58
PLUG & ABANDON	12480	208.00	5.22

MAIN OPERATIONS FOR WELL : 6506 / 12 - 05

MAIN OPERATION : DRILLING

Sub operations	Minutes	Hrs	% of total
BOP ACTIVITIES	4740	79.00	5.59
BOP/WELLHEAD EQ	3330	55.50	3.93
CASING	15930	265.50	18.80
CIRC/COND	4650	77.50	5.49
DRILL	32370	539.50	38.21
HOLE OPEN	1230	20.50	1.45
OTHER	420	7.00	0.50
PRESS DETECTION	600	10.00	0.71
REAM	2160	36.00	2.55
SURVEY	570	9.50	0.67
TRIP	17160	286.00	20.25
UNDERREAM	1560	26.00	1.84
<b>Total</b>	<b>84720</b>	<b>1412.00</b>	<b>100.00</b>

MAIN OPERATION : FORMATION EVAL

Sub operations	Minutes	Hrs	% of total
CIRC/COND	3090	51.50	3.15
CORE	11700	195.00	11.93
DST	34080	568.00	34.75
LOG	17820	297.00	18.17
OTHER	720	12.00	0.73
TRIP	29700	495.00	30.28
WAIT	960	16.00	0.98
<b>Total</b>	<b>98070</b>	<b>1634.50</b>	<b>100.00</b>

MAIN OPERATION : INTERRUPTION

Sub operations	Minutes	Hrs	% of total
FISH	2100	35.00	5.96
LOST CIRC	2760	46.00	7.84
MAINTAIN/REP	14640	244.00	41.57
WAIT	15720	262.00	44.63
<b>Total</b>	<b>35220</b>	<b>587.00</b>	<b>100.00</b>

MAIN OPERATION : MOVING

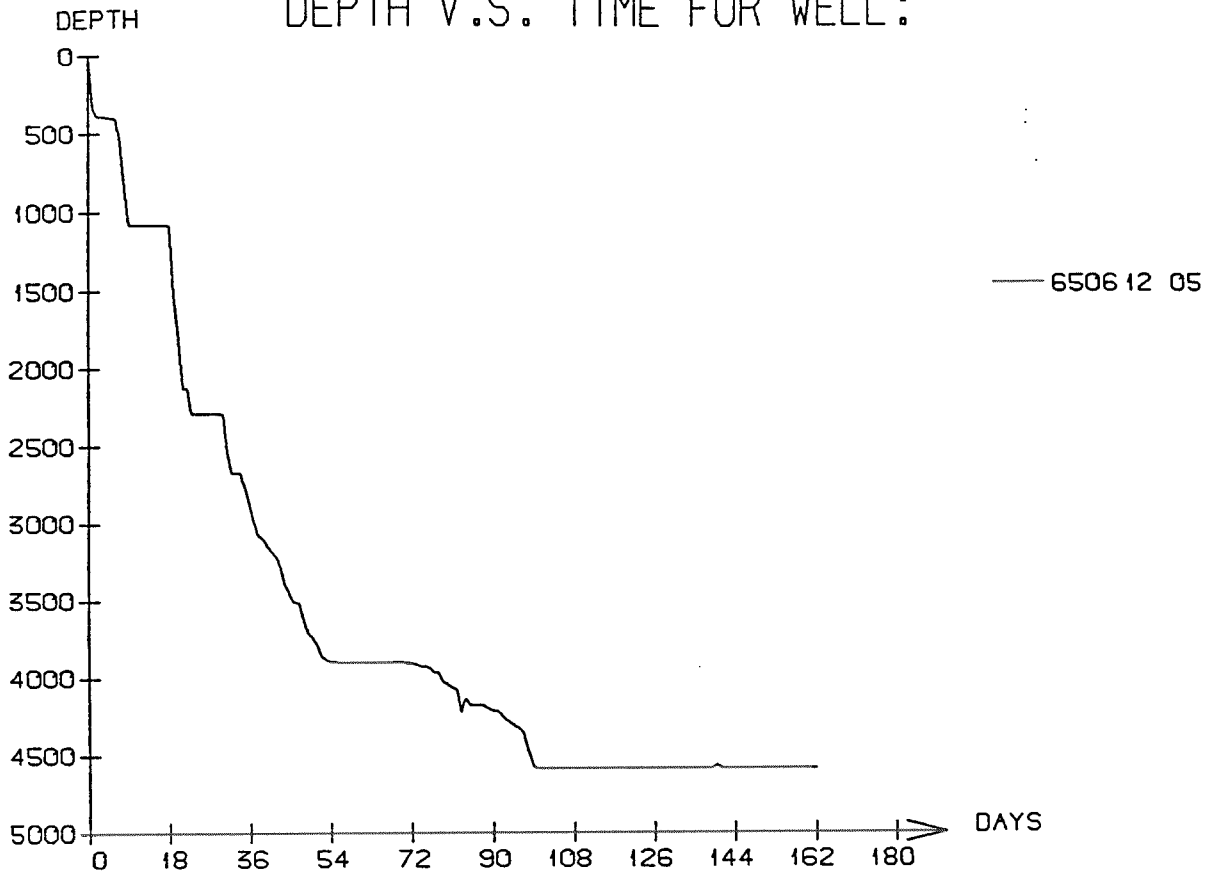
Sub operations	Minutes	Hrs	% of total
ANCHOR	4740	79.00	55.44
POSITION	390	6.50	4.56
SKID	300	5.00	3.51
TRANSIT	3120	52.00	36.49
<b>Total</b>	<b>8550</b>	<b>142.50</b>	<b>100.00</b>

MAIN OPERATION : PLUG & ABANDON

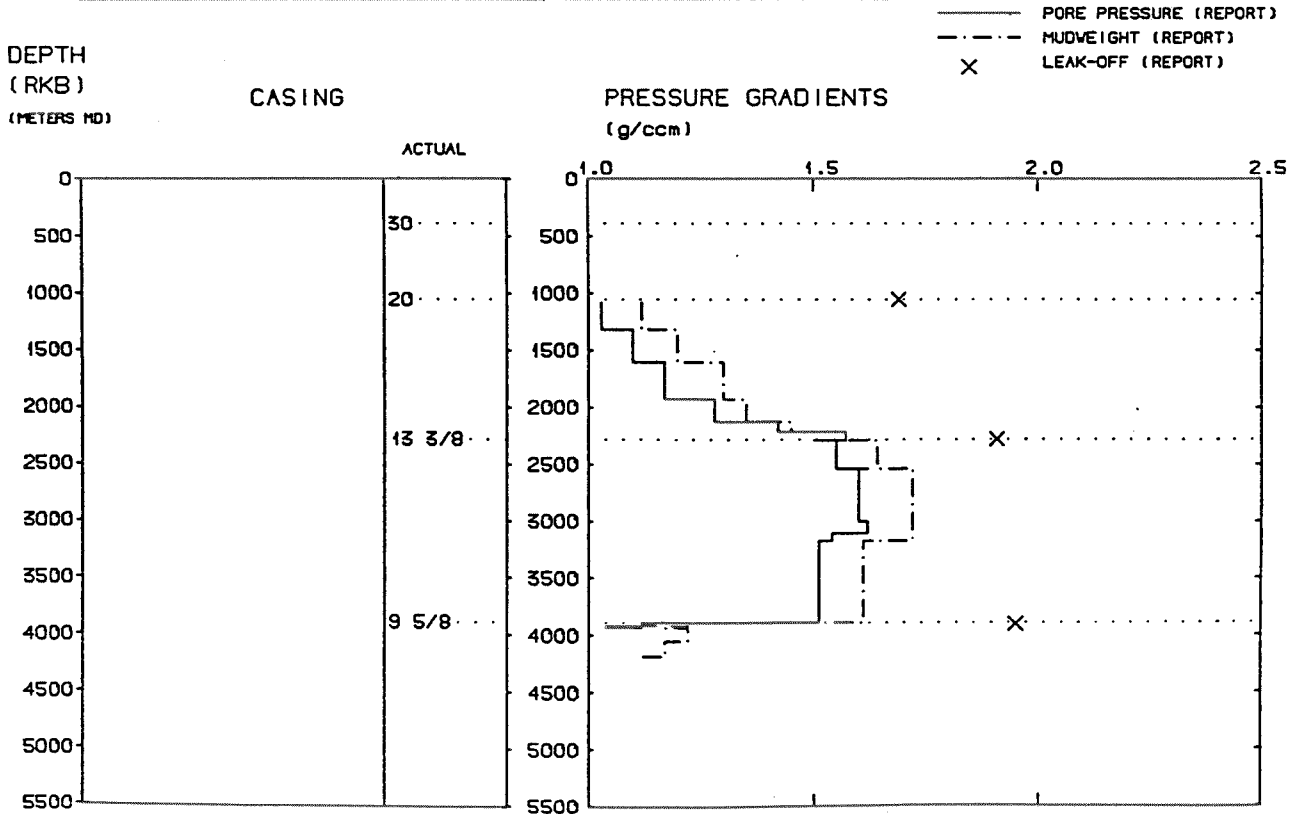
Sub operations	Minutes	Hrs	% of total
CEMENT PLUG	1560	26.00	12.50
CIRC/COND	750	12.50	6.01
CUT	720	12.00	5.77
EQUIP RECOVERY	780	13.00	6.25
OTHER	690	11.50	5.53
PERFORATE	690	11.50	5.53
SQUEEZE	240	4.00	1.92
TRIP	7050	117.50	56.49
<b>Total</b>	<b>12480</b>	<b>208.00</b>	<b>100.00</b>

Total time used 3984.00 hrs

# DEPTH V.S. TIME FOR WELL:



## WELL: 650612 05 PRESSURE COMPOSITE PLOT



## Well History 6506/12-5.

### GENERAL:

Well 6506/12-5 was the third well drilled on the Beta-structure in block 6506/12, Haltenbanken area. The well was designed to examine the hydrocarbon potential and define the water-hydrocarbon contacts. Primary objective was Middle- and Early Jurassic Sst. Secondary target was the Lysing Fm in Cromer Knoll Group of Late Cretaceous age. The Fangst Group siltstone member was expected to be sealing at this depth. Intervals within the Ror and Tilje formations might also be the sealing rocks, which were to be tested.

Prognosed TD. in Åre formation at 4559 m RKB.

### OPERATIONS:

Appraisal well 6506/12-5 was spudded 17 October 1985 by Dyvi Offshore A/S semi-submersible rig Dyvi Delta and completed 27 March 1986 at a depth of 4588 m in Early Jurassic rocks. Hydrocarbons were encountered in Garn Fm and in Lysing Fm. Shallow gas charged sands were not encountered in this well.

A total of 27 cores were cut in Middle - and Early Jurassic. An OWC was found in the Lysing Fm at 3178,2 m RKB, and another OWC in the Garn Fm at 4010,5 m RKB. A possible GWC was calculated to 4068 m RKB from RFT. Not Fm as well as top of Garn Fm was found to be sealing in this well.

The well was plugged and abandoned as an oil discovery.

### TESTING:

Four DST-tests were carried out in the Middle Jurassic Garn Fm, and in Cretaceous reservoir rocks.



# GEOLOGICAL TOPS

WELL: 6506/12-5

Depth m (RKB)

<i>Nordland Group</i>	330,0
<i>Naust Fm</i>	330,0
<i>Kai Fm</i>	1335,0
<i>Hordaland Group</i>	1964,0
<i>Brygge Fm</i>	1964,0
<i>Rogaland Group</i>	2235,0
<i>Tare Fm</i>	2235,0
<i>Tang Fm</i>	2263,0
<i>Shetland Group</i>	2346,0
<i>Cromer Knoll Group</i>	3157,0
<i>Sst Unit.</i>	3157,0
<i>Viking Group</i>	3780,0
<i>Spekk Fm</i>	3780,0
<i>Melke Fm</i>	3827,0
<i>Fangst Group</i>	3948,0
<i>Garn Fm</i>	3948,0
<i>Not Fm</i>	4040,0
<i>Ile Fm</i>	4068,0
<i>Båt Group</i>	4138,0
<i>Ror Fm</i>	4138,0
<i>Tilje Fm</i>	4274,0
<i>Åre Fm</i>	4510,0
<i>TD.</i>	4558,0