

Well no : 6506/12-07

Operator : STATOIL

Coordinates : 65 10 04.38 N
06 54 38.87 E

UTM coord. : 7228966 N
402107 E

Licence no : 94

Permit no : 544

Rig : WEST DELTA

Rig type : SEMI-SUB.

Contractor : DYVI OFFSHORE A/S

Bottom hole temperature : deg.C

Elev. KB : 29 M

Spud. date : 87.04.07

Water depth : 267 M

Compl. date : 87.08.08

Total depth : 4840 M

Spud. class : WILDCAT

Form. at TD : E.JURASSIC

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

Prod. form :

Seisloca : ST 8403 - 463 SP. 322

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/cm3
CONDUCTOR	30	406.5	36	410.0	.
SURF.COND.	20	589.0	26	596.0	1.51
INTERM.	13 3/8	2203.0	17 1/2	2221.0	1.81
INTERM.	9 5/8	4389.0	12 1/4	4427.0	1.80
LINER	7	4838.0	8 1/2	4840.0	.

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	4053.0 - 4053.5	0.5	100.0	
2	4427.5 - 4436.0	7.9	92.9	MIDDLE JURASSIC
3	4436.0 - 4439.0	3.0	100.0	MIDDLE JURASSIC
4	4467.0 - 4468.5	1.1	73.3	MIDDLE JURASSIC
5	4468.5 - 4475.8	7.3	100.0	MIDDLE JURASSIC
6	4477.5 - 4483.5	5.5	91.7	MIDDLE JURASSIC
7	4483.5 - 4502.0	19.0	100.0	MIDDLE JURASSIC
8	4672.0 - 4700.0	28.0	100.0	MIDDLE JURASSIC

MUD PROPERTIES

Depth below KB meter	Mud weight g/cm3	Viscosity	Mud type
463.000	1.45	1700.0	WATER BASED

2050.000	1.65	1500.0	WATER BASED
2221.000	1.45	1700.0	WATER BASED
4053.000	1.62	2400.0	WATER BASED
4058.000	1.67	2200.0	WATER BASED
4354.000	1.65	2500.0	WATER BASED
4368.500	1.20	1400.0	WATER BASED
4408.000	1.65	900.0	WATER BASED
4427.500	1.25	1600.0	WATER BASED
4838.000	1.26	1200.0	WATER BASED
4838.000	1.25	1000.0	WATER BASED
4838.000	1.26	1000.0	WATER BASED
4840.000	1.25	2100.0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no.	interval meter	Choke size	Pressure (PSI)		
			WHP	BTHP	FFP
1.0	4741.000 - 4748.000	12.7	2857.2	6918.1	
	Test temperature: 162 °C				
2.0	4702.000 - 4707.000	7.9	3147.2	6134.9	
	Test temperature: 164 °C				
3.0	4474.000 - 4514.000	15.9	522.1	1406.8	
	Test temperature: 136 °C				
4.0	4414.000 - 4439.000	NO FORMATION FLUID IN SAMPLES			

RECOVERY

Test no.	Oil Sm3/d	Gas Sm3/d	Oil grav. g/cm3	Gas grav. rel. air	GOR m3/m3
1.0	520	230000	0.820	0.770	493
2.0	200	145000	0.818	0.785	725
3.0	70	110000	0.790	0.745	1570
4.0	NO FORMATION FLUID IN SAMPLES				

DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
Cutting	610-4840	720
Wet Samples	610-4840	630

SHALLOW GAS

Interval below KB REMARKS

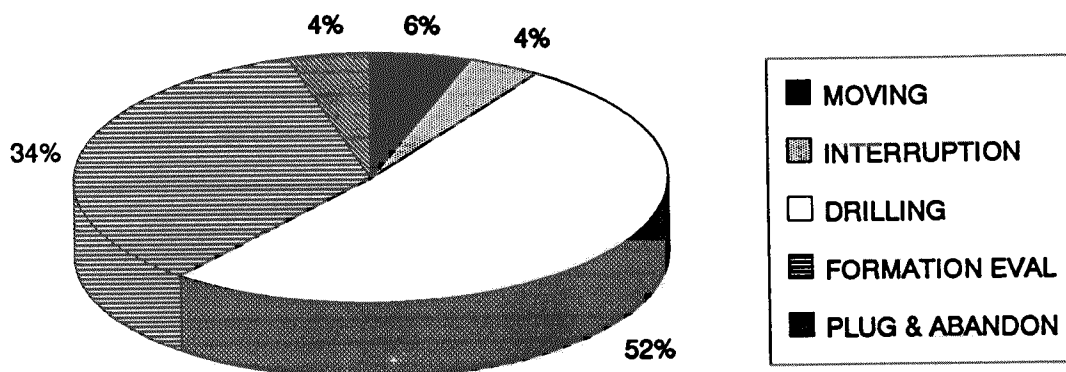
AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500	Div.
DIFL LS BHC AC GR	589.000 - 2217.000	X	X	
DIFL LS BHC AC GR	2201.000 - 4379.000	X	X	
DIFL LS BHC AC CAL	4200.000 - 4841.000	X	X	

CDL GR	589.000 - 2217.000	X	X
CDL CNL GR	4387.000 - 4840.200	X	X
DLL MLL GR	4387.000 - 4841.000	X	X
SHDT	4385.000 - 4840.000	X	
CDM AP/4-ARM DIPLOG	4385.000 - 4840.000	X	X
CDM AP/4-ARM COM.ST.	4385.000 - 4840.000	1:40	
FMT HP CRYSTAL	4420.000 - 4813.000		X
AC CBL VDL GR	2050.000 - 4701.000	X	
AC CBL VDL GR	4190.000 - 4802.000	X	
DRILL. DATA PRESS.	296.000 - 4840.000	1:5000	
MUD	296.000 - 4840.000		X
VELOCITY	595.000 - 4831.000	1:1000X	
(Velocity, airgun survey and calibrated log		1 stk.)	
(Velocity, display of survey records 1-4		4 stk.)	
(Velocity, shifts used in log calibration		1 stk.)	
(Two-way travel time, 10cm/s		1 stk.)	
(VSP, 10 cm/s		4 stk.)	
(Synthetic seismogram, marine, 10cm/s.		7 stk.)	

DAILY DRILLING REPORT SYSTEM

MAIN OPERATIONS FOR WELL: 6506/12-07



Main operation	Minutes	Hrs	% of total
MOVING	8580	143,0	5,62
INTERRUPTION	6030	100,5	3,95
DRILLING	79020	1317,0	51,77
FORMATION EVAL	52230	870,5	34,22
PLUG & ABANDON	6780	113,0	4,44
<i>Total</i>	152640	2544,0	100,00

SUB OPERATIONS FOR WELL: 6506/12-07

MAIN OPERATION: MOVING

Sub operation	Minutes	Hrs	% of total
TRANSIT	6210	103,5	72,38
ANCHOR	2370	39,5	27,62
<i>Total</i>	8580	143,0	100,00

MAIN OPERATION: INTERRUPTION

Sub operation	Minutes	Hrs	% of total
MAINTAIN/REP	3060	51,0	50,75
FISH	2970	49,5	49,25
<i>Total</i>	6030	100,5	100,00

MAIN OPERATION: DRILLING

Sub operation	Minutes	Hrs	% of total
OTHER	60	1,0	0,08
DRILL	40500	675,0	51,25
SURVEY	630	10,5	0,80
TRIP	12300	205,0	15,57
HOLE OPEN	2040	34,0	2,58
CASING	13830	230,5	17,50
CIRC/COND	3210	53,5	4,06
BOP/WELLHEAD EQ	2190	36,5	2,77
BOP ACTIVITIES	2040	34,0	2,58
REAM	1050	17,5	1,33
WAIT	1170	19,5	1,48
<i>Total</i>	79020	1317,0	100,00

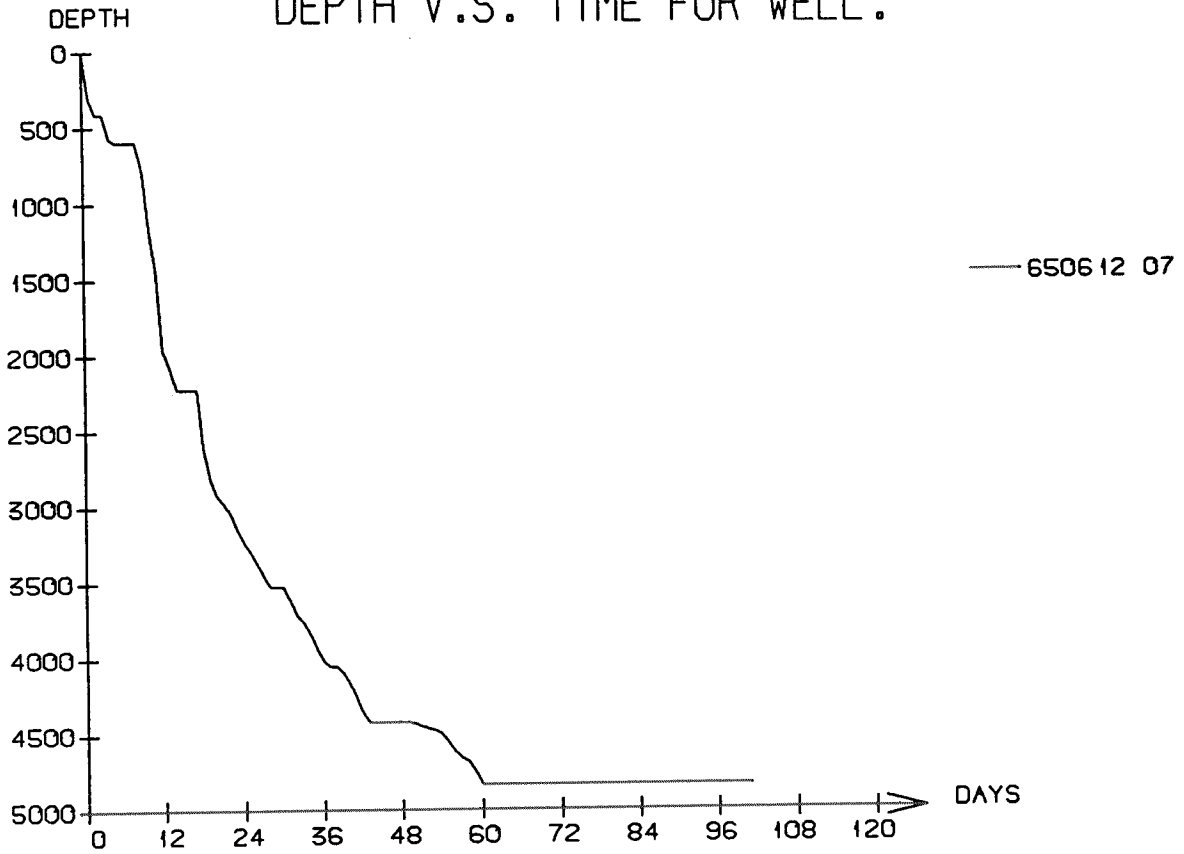
MAIN OPERATION: FORMATION EVAL

Sub operation	Minutes	Hrs	% of total
LOG	5730	95,5	10,97
TRIP	3690	61,5	7,06
CIRC/COND	1230	20,5	2,35
CORE	4260	71,0	8,16
RFT/FIT	1200	20,0	2,30
DST	36030	600,5	68,98
OTHER	90	1,5	0,17
<i>Total</i>	52230	870,5	100,00

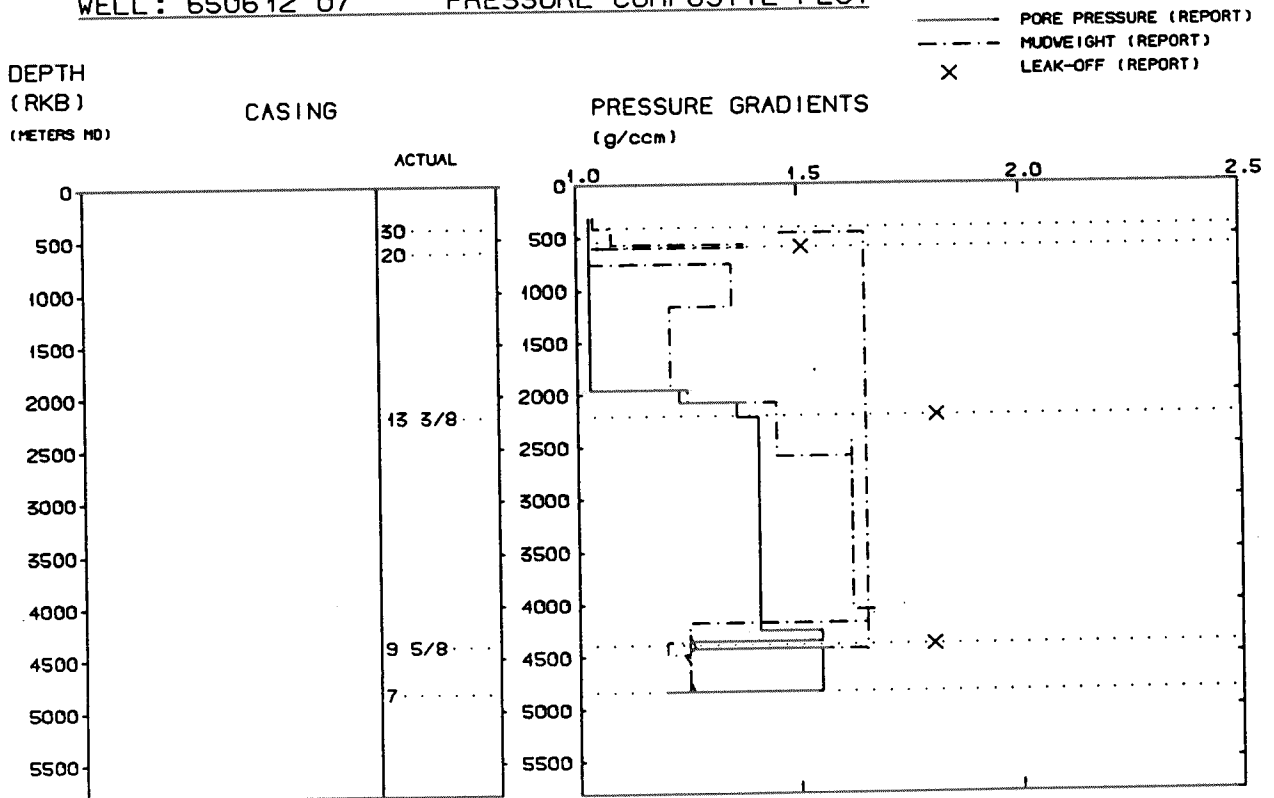
MAIN OPERATION: PLUG & ABANDON

Sub operation	Minutes	Hrs	% of total
CEMENT PLUG	780	13,0	11,50
TRIP	990	16,5	14,60
CIRC/COND	390	6,5	5,75
MECHANICAL PLUG	960	16,0	14,16
EQUIP RECOVERY	1350	22,5	19,91
PERFORATE	210	3,5	3,10
CUT	510	8,5	7,52
SQUEEZE	270	4,5	3,98
OTHER	1320	22,0	19,47
<i>Total</i>	6780	113,0	100,00

DEPTH V.S. TIME FOR WELL:



WELL: 650612 07 PRESSURE COMPOSITE PLOT



Well History 6506/12-7

GENERAL:

The well was the fourth exploration well in the block. The primary purpose of the well was to drill the last commitment well and to find hydrocarbon accumulations of significant amounts in the Middle Jurassic and Early Jurassic sandstone reservoirs on the Smørbukk North-East structure.

Secondary objectives were to check for hydrocarbon accumulations deeper than the structural closure of the main field, and to verify the geophysical and structural interpretation and improve the geological, paleontological and geochemical understanding of the area.

Total depth was to be in rocks of Triassic age or 4000 m in order to satisfy the licence commitment.

OPERATIONS:

Wildcat well 6506/12-7 was spudded 7 April 1987 by Dyvi Drilling A/S semi-submersible rig Dyvi Delta and completed 8 August 1987 at a depth of 4840 m in Early Jurassic rocks. Drilling proceeded without any significant problems, until coring was started. During coring there were experienced great problems in keeping the cored material together.

During coring there were oil shows in Garn and Ile Formations, while Tilje only contained small traces of oil. The logs also showed that Garn and Ile Fm. were hydrocarbon-bearing and that Tilje Fm. was water-bearing. The porosity is assumed to be between 8 and 12 %. Mobil wanted to test the Tilje Fm. to get a fluid sample to understand the logs better. This was a wise decision because the formation produced oil at very good rates. There is an uncertainty concerning the oil/water contact because the logs do not give clear data.

8 cores were cut in the well. 1 core was cut in the interval 4053 - 4058 m, 2 cores between 4427.5 - 4439.2 m, 4 cores in the interval 4467 - 4502 m and 1 core between 4672 - 4700 m.

The well was plugged and abandoned as an oil and gas discovery.

TESTING:

4 DST tests were performed in this well. The intervals were 4741 - 4748 m, 4702 - 4707 m, 4474 - 4514 m and 4415 - 4440 m.

GEOLOGICAL TOPS

WELL: 6506/12-7

	Depth m (RKB)
<i>Nordland Group</i>	296,0
<i>Naust Fm</i>	658,0
<i>Kai Fm</i>	1539,0
<i>Hordaland Group</i>	1855,5
<i>Brygge Fm</i>	1855,5
<i>Rogaland Group</i>	2227,0
<i>Tare Fm</i>	2227,0
<i>Tang Fm</i>	2297,0
<i>Shetland Group</i>	2396,0
<i>Springar Fm</i>	2396,0
<i>Nise Fm</i>	2627,5
<i>Kvitnos Fm</i>	2893,0
<i>Cromer Knoll Group</i>	3235,5
<i>Lysing Fm</i>	3235,5
<i>Lange Fm</i>	3306,5
<i>Lyr Fm</i>	4012,5
<i>Viking Group</i>	4041,5
<i>Spekk Fm</i>	4041,5
<i>Melke Fm</i>	4114,0
<i>Fangst Group</i>	4396,0
<i>Garn Fm</i>	4396,0
<i>Not Fm</i>	4439,0
<i>Ile Fm</i>	4473,5
<i>Båt Group</i>	4555,5
<i>Ror Fm</i>	4555,5
<i>Tofte Fm</i>	4577,0
<i>Ror Fm</i>	4607,0
<i>Tilje Fm</i>	4692,5
<i>T.D.</i>	4840,0