

Well no : 6406/03-05

Operator : STATOIL

Coordinates : 64 58 20.07 N
06 58 33.65 E

UTM coord. : 7207070 N
404464 E

Licence no : 91

Permit no : 576

Rig : WEST DELTA

Rig type : SEMI-SUB.

Contractor : A/S SMEDVIG DRILLING CO.

Bottom hole temperature : 92 deg.C

Elev. KB : 29 M

Spud. date : 88.04.03

Water depth : 302 M

Compl. date : 88.06.02

Total depth : 4283 M

Spud. class : WILDCAT

Form. at TD : E.JURASSIC

Compl. class : P&A. SHOWS

Prod. form :

Seisloca : LINE 911 - 444, SP 982

LICENSEES

 45.000000 MOBIL DEVELOPMENT NORWAY A.S.
 5.000000 SAGA PETROLEUM 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/cm3
CONDUCTOR	30	418.0	36	473.0	.
SURF.COND.	20	535.0	26	545.0	1.43
INTERM.	13 3/8	1722.0	17 1/2	1749.0	1.77
INTERM.	9 5/8	3797.0	12 1/4	3814.0	1.93
OPEN HOLE		4283.0	8 1/2	.0	.

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery M	%	Series
1	3815.0 - 3836.0	21.0	100.0	

MUD PROPERTIES

Depth below KB meter	Mud weigth g/cm3	Viscosity	Mud type
236.000	1.04	100.0	WATER BASED
236.000	1.09	0.0	WATER BASED
380.000	1.03	0.0	WATER BASED
400.000	1.04	100.0	WATER BASED
417.500	1.10	0.0	WATER BASED
473.000	1.05	0.0	WATER BASED
475.000	1.03	0.0	WATER BASED

545.000	1.20	0.0	WATER BASED
545.000	1.03	0.0	WATER BASED
545.000	1.20	45.0	WATER BASED
577.000	1.23	49.0	WATER BASED
610.000	1.20	15.0	WATER BASED
723.000	1.04	0.0	WATER BASED
723.000	1.07	48.0	WATER BASED
723.000	1.17	0.0	WATER BASED
823.000	1.20	53.0	WATER BASED
873.000	1.19	37.0	WATER BASED
1116.000	1.20	47.0	WATER BASED
1123.000	1.26	42.0	WATER BASED
1276.000	1.31	38.0	WATER BASED
1325.000	1.69	55.0	WATER BASED
1614.000	1.23	11.0	WATER BASED
1749.000	1.25	13.0	WATER BASED
1749.000	1.26	15.0	WATER BASED
2102.000	1.70	22.0	WATER BASED
2102.000	1.60	18.0	WATER BASED
2288.000	1.68	61.0	WATER BASED
2370.000	1.69	58.0	WATER BASED
2370.000	1.70	55.0	WATER BASED
3623.000	1.69	49.0	WATER BASED
4283.000	1.24	27.0	WATER BASED

DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
Cutting	550-4281	560
Wet Samples	550-4281	360

SHALLOW GAS

Interval below KB	REMARKS

AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500	Div.
DIFL BHC AC GR	537.000 - 1712.000	X	X	
DIFL BHC AC GR	1722.000 - 3796.000	X	X	
DIFL BHC AC GR	3795.000 - 4289.000	X	X	
CDL	537.000 - 1700.000	X	X	
CDL	1722.000 - 3781.000	X	X	
CDL CNL	3795.000 - 4289.000	X	X	
CDM	3795.000 - 4288.000	X		
CDM AP - STRATADIP	3795.000 - 4288.000	1:40		
CDM AP,4-ARM COMPUNED	3795.000 - 4288.000	X	X	
SPECTRALOG	3795.000 - 4282.000	X	X	
FMT HP CRYSTAL GAUGE	3795.000 - 4289.000	X	X	

DRILL. DATA PRESS.	333.000 - 4283.000	1:5000
AC CBL VDL GR	778.000 - 1722.000	X
AC CBL VDL GR	2999.000 - 3788.000	X
MUD LOG	333.000 - 4283.000	X
VELOCITY LOG	700.000 - 4280.000	1:1000 X
(Synthetic Seismogram, 10cm/s		2 stk.)
(V.S.P., Zero Offset V.S.P., 10cm/s		3 stk.)
(V.S.P., Deconvolved Upwave, 10cm/s		2 stk.)
(V.S.P., Interpreters Composite, 10cm/s		2 stk.)

BHT:92 C

TD:4283 M.

TOTALT 33 LOGGER.

MAIN OPERATIONS FOR WELL: 640603 05

Main operation: DRILLING

Sub operations	Minutes	Hrs	% of total
BOP ACTIVITIES	1800	30,0	3,06
BOP/WELLHEAD EQ	2790	46,5	4,74
CASING	8040	134,0	13,66
CIRC/COND	2880	48,0	4,89
DRILL	31920	532,0	54,23
HOLE OPEN	750	12,5	1,27
OTHER	120	2,0	0,20
REAM	480	8,0	0,82
SURVEY	90	1,5	0,15
TRIP	9990	166,5	16,97
Total	58860	981,0	100,00

Main operation: FORMATION EVAL

Sub operations	Minutes	Hrs	% of total
CIRC SAMPLES	300	5,0	5,10
CIRC/COND	570	9,5	9,69
CORE	240	4,0	4,08
LOG	3840	64,0	65,31
OTHER	90	1,5	1,53
TRIP	840	14,0	14,29
Total	5880	98,0	100,00

Main operation: INTERRUPTION

Sub operations	Minutes	Hrs	% of total
FISH	2100	35,0	17,03
LOST CIRC	6030	100,5	48,91
MAINTAIN/REP	1560	26,0	12,65
WAIT	1950	32,5	15,82
WELL CONTROL	690	11,5	5,60
Total	12330	205,5	100,00

Main operation: MOVING

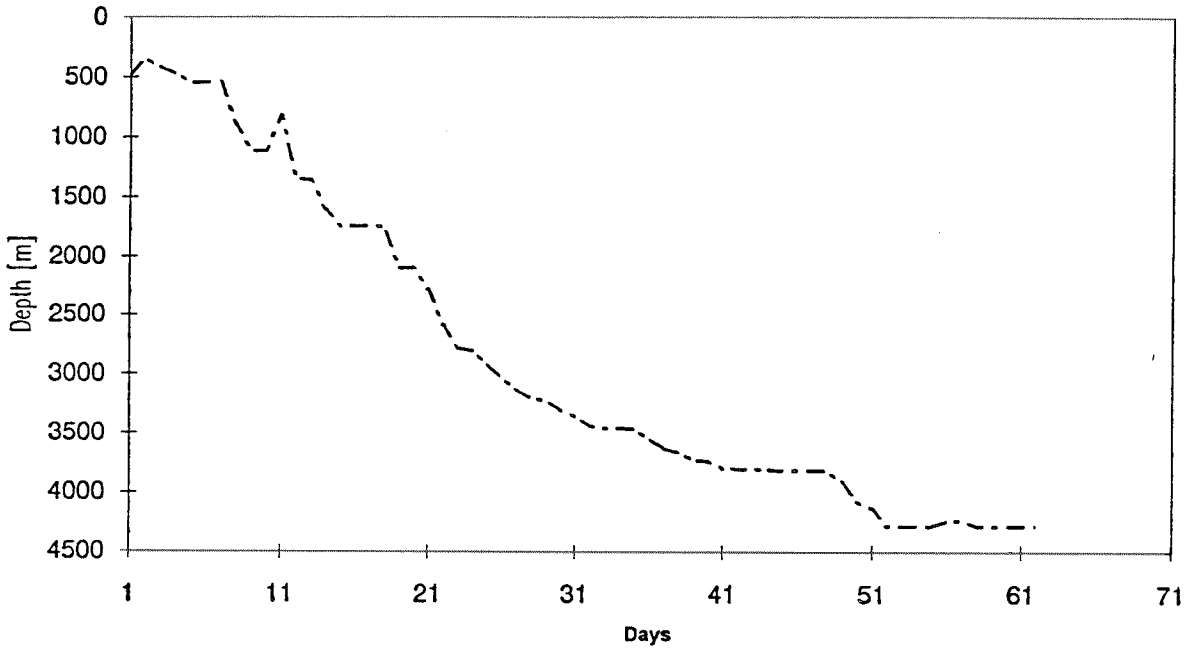
Sub operations	Minutes	Hrs	% of total
ANCHOR	3330	55,5	68,52
POSITION	60	1,0	1,23
TRANSIT	1470	24,5	30,25
Total	4860	81,0	100,00

Main operation: PLUG & ABANDON

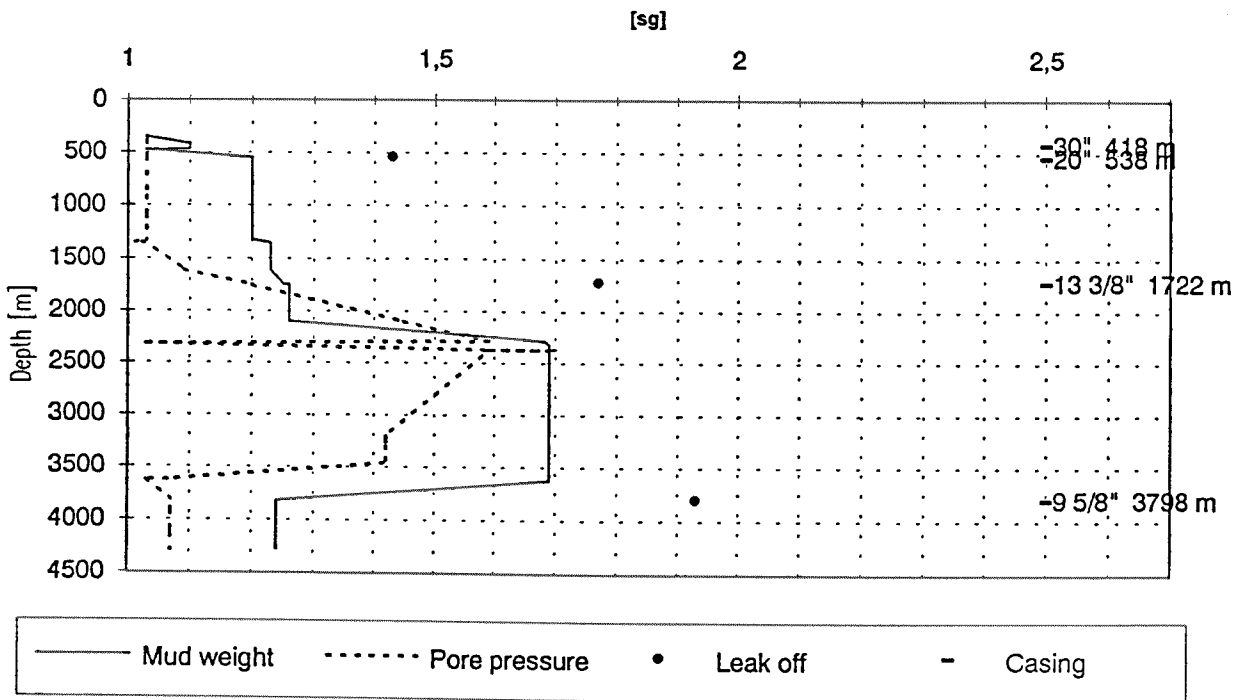
Sub operations	Minutes	Hrs	% of total
CEMENT PLUG	690	11,5	6,74
CIRC/COND	1680	28,0	16,42
CUT	1110	18,5	10,85
EQUIP RECOVERY	1320	22,0	12,90
MECHANICAL PLUG	450	7,5	4,40
OTHER	90	1,5	0,88
PERFORATE	540	9,0	5,28
TRIP	3090	51,5	30,21
WAIT	1260	21,0	12,32
Total	10230	170,5	100,00

Total time used 1536 hrs (64 days)

Depth v.s. time plot for well: 640603 05



Composite plot for well: 640603 05



Well History 6406/3-5

GENERAL:

Well 6406/3-5 was designed to explore the Lambda structure and was the first well on the structure. The Lambda structure is a flatlying horst situated in the NE corner of the block.

The primary purpose of the well was to find hydrocarbon accumulations of significant amounts in the Middle and Lower Jurassic sandstones of the Fangst Group and Tilje Formation. Secondary objectives were to verify the interpretation regarding the structural closure towards north, and to verify the geophysical and structural interpretation and improve the geological, paleontological and geochemical understanding of the area. The well was planned to be terminated in the Åre Formation.

OPERATIONS:

Wildcat well 6406/3-5 was spudded 3 April 1988 by Smedvig Drilling semi-submersible rig West Delta and completed 2 June 1988 at a depth of 4283 m in Early Jurassic rocks.

Shallow gas was registered at 570 m. After pulling out to cement this zone, it was impossible to get back into the hole again. After a new spud 3 May, the 30" was set at 418 m, and 20" at 538 m. A new shallow gas zone was registered at 813 m, and the mud was weighted to 1.35 g/cm³. The circulation was lost at 1116 m, and the section was cemented. After this drilling progressed with a mudweight of 1.25 g/cm³. This resulted in lost circulation at 1340 m. Both times it was assumed that the circulation was lost in the zone around 562 m. The hole was cemented back and drilled to 607 m where a new leak-off test up to 1.34 g/cm³ was performed.

This time there were no problems with the drilling to 1749 m (setting depth of 9 5/8" casing) with mudweight of 1.25 g/cm³. Further drilling to T.D. proceeded without any significant problems.

Top Fangst was encountered at 3813 m. There were weak shows down to 3825 m, with increased resistivity on MWD down to approx. 3828 m. RFT results and log analysis show that this was caused by residual hydrocarbons. Tilje Formation was water-bearing, with no traces of oil or gas.

One core was cut in the interval 3815 - 3837 m in the Garn Formation.

Plugged and abandoned as a well with shows.

TESTING:

No DST tests were performed in this well.

GEOLOGICAL TOPS

WELL: 6406/3-5

Depth m (RKB)

<i>Nordland Group</i>	333.0
<i>Naust Fm.</i>	333.0
<i>Kai Fm.</i>	1488.0
<i>Hordaland Group</i>	1897.0
<i>Brygge Fm.</i>	1897.0
<i>Rogaland Group</i>	2253.0
<i>Tare Fm.</i>	2253.0
<i>Tang Fm.</i>	2318.0
<i>Shetland Group</i>	2382.0
<i>Springar Fm.</i>	2382.0
<i>Nise Fm.</i>	2525.0
<i>Kvitnos Fm.</i>	2780.0
<i>Cromer Knoll Group</i>	3179.0
<i>Lysing Fm.</i>	3179.0
<i>Lange Fm.</i>	3214.0
<i>Lyr Fm.</i>	3703.0
<i>Viking Group</i>	3732.0
<i>Spekk Fm.</i>	3732.0
<i>Melke Fm.</i>	3765.0
<i>Fangst Group</i>	3817.0
<i>Garn Fm.</i>	3817.0
<i>Not Fm.</i>	3907.0
<i>Ile Fm.</i>	3948.5
<i>Båt Group</i>	4012.0
<i>Ror Fm.</i>	4012.0
<i>Tilje Fm.</i>	4139.0
<i>T.D.</i>	4283.0