

Well no :	3/7-4	Operator :	SHELL
Coordinates :	56° 24' 15.60" N 04° 14' 22.24" E	UTM coord. :	625191040 N 57649802 E
Licence no :	147	Permit no :	619
Rig :	HUNTER	Rig type :	SEMI-SUB.
Contractor :	SEATECH OFFSHORE		
Bottom hole temp:	125°C	Elev. KB :	25 M
Spud. date :	89.09.20	Water depth :	67 M
Compl. date :	90.01.23	Total depth :	3723 M
Spud. class :	WILDCAT	Form. at TD	PERMIAN
Compl. class :	P&A. OIL/GAS/COND.	Prod.form. :	
Seisloca :	EL 8201 - 219 SP 220		

LICENSEES

20,000000	ELF PETROLEUM NORGE A/S.
20,000000	SAGA PETROLEUM A.S.
50,000000	DEN NORSKE STATS OLJESELSKAP A.S
10,000000	AMERADA HESS NORGE 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	177,0	36	187,0	
INTERM.	20	611,0	26	622,0	1,86
INTERM.	13 3/8	2093,0	17 1/2	2110,0	1,88
INTERM.	9 5/8	3383,0	12 1/4	3603,0	1,95
LINER	7	3710,0	8 3/8	3723,0	

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery	
		M	%
1	3416,0 - 3436,0	20,0	100,0
2	3437,0 - 3464,5	27,7	100,0
3	3464,5 - 3488,0	23,5	100,0
4	3492,0 - 3501,0	9,0	100,0
5	3504,0 - 3514,0	10,0	100,0
6	3514,0 - 3520,0	6,0	100,0
7	3526,0 - 3553,0	27,0	100,0
8	3553,0 - 3574,5	21,5	100,0

MUD

Depth	Mud weight	Visc.	Mud type
187,000	1,07		WATER BASED
622,000	1,07	150,0	WATER BASED
622,000	1,32	50,0	WATER BASED

Depth	Mud weight	Visc.	Mud type
622,000	1,07	15,0	WATER BASED
622,000	1,26		WATER BASED
622,000	1,07	15,0	WATER BASED
622,000	1,32	49,0	WATER BASED
622,000	1,26		WATER BASED
1011,000	1,34	54,0	WATER BASED
1182,000	1,33	56,0	WATER BASED
1544,000	1,32	52,0	WATER BASED
1649,000	1,33	65,0	WATER BASED
1766,000	1,34	62,0	WATER BASED
2110,000	1,50	62,0	WATER BASED
2110,000	1,32	55,0	WATER BASED
2889,000	1,52	53,0	WATER BASED
2912,000	1,51	52,0	WATER BASED
3106,000	1,50	44,0	WATER BASED
3123,000	1,55	56,0	WATER BASED
3245,000	1,50	41,0	WATER BASED
3256,000	1,52	40,0	WATER BASED
3297,000	1,51	42,0	WATER BASED
3332,000	1,53	39,0	WATER BASED
3382,000	1,51	43,0	WATER BASED
3390,000	1,58	45,0	WATER BASED
3390,000	1,56	46,0	WATER BASED
3390,000	1,57	45,0	WATER BASED
3390,000	1,58	48,0	WATER BASED
3434,000	1,55	40,0	WATER BASED
3464,000	1,53	42,0	WATER BASED
3473,000	1,55	50,0	WATER BASED
3473,000	1,56	51,0	WATER BASED
3486,000	1,55	38,0	WATER BASED
3492,000	1,54	40,0	WATER BASED
3504,000	1,53	50,0	WATER BASED
3506,000	1,55	40,0	WATER BASED
3514,000	1,53	49,0	WATER BASED
3524,000	1,56	40,0	WATER BASED
3560,000	1,53	42,0	WATER BASED
3571,000	1,55	40,0	WATER BASED
3601,000	1,53	42,0	WATER BASED
3603,000	1,55	41,0	WATER BASED
3603,000	1,58	44,0	WATER BASED
3603,000	1,55	44,0	WATER BASED
3620,000	1,54	42,0	WATER BASED
3723,000	1,53	53,0	WATER BASED
3723,000	1,54	50,0	WATER BASED
3723,000	1,53	50,0	WATER BASED
3723,000	1,54	50,0	WATER BASED
3723,000	1,53	50,0	WATER BASED
3723,000	1,54	48,0	WATER BASED
3723,000	1,55	56,0	WATER BASED
3723,000	1,54	50,0	WATER BASED
3723,000	1,55	56,0	WATER BASED
3723,000	1,54	50,0	WATER BASED
3723,000	1,53	50,0	WATER BASED
3725,000	1,54	48,0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no.	Interval meter		Choke size	Pressure (PSI) WHP	BTHP	FFP
1,0	3473,000	-	3537,000	19,0		
2,0	3440,000	-	3473,000	19,0		

Test temperature: N/A

RECOVERY

Test no.	Oil Sm3/d	Gas Sm3/d	Oil grav. g/cm3	Gas grav. rel. air	GOR m3/m3
1,0	665	750000	,804	,720	1330
2,0	613	833000	,796	,720	1359

DRILL BIT CUTTINGS AND WET SAMPLES

Sample type	Interval below KB	Number of samples
WET SAMPLES	630 - 3721	330
CUTTINGS	630 - 3721	330

SHALLOW GAS

Interval below KB	Remarks
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AVAILABLE LOGS

Log type	Intervals		1/200	1/500	Div.
AC CBL VDL GR	90,7	-	2091,3	X	
AC CBL VDL GR	1897,0	-	3634,0	X	
CDL	609,0	-	2095,0	X	X
CDL CNL	2091,3	-	3469,0	X	X
CDL CNL	3381,8	-	3721,2	X	X
CDM	3150,0	-	3468,0	X	1:40
CDM AP	3150,0	-	3468,0	X	X *
CDM AP	3393,0	-	3722,0	X	X *
STRATDIP	3150,0	-	3722,0		1:40
DIFL BHC AC GR	85,0	-	619,8	X	X
DIFL BHC AC GR	608,5	-	2106,4	X	X
DIFL BHC AC GR	2091,6	-	3501,5	X	X
DIFL BHC AC GR	3381,8	-	3722,0	X	X
DLL MLL GR	2091,0	-	3469,8	X	X

Log type	Intervals		1/200	1/500	Div.
DLL MLL GR	3381,8	- 3720,0	X	X	
DRILL DATA PRESS.LOG	100,0	- 3723,0			1:5000
PRESSURE EVAL.LOG	100,0	- 3723,0			1:5000
WIRELINE DATA PRESS.	100,0	- 3723,0			1:5000
TEMPERATURE DATA LOG	100,0	- 3723,0			1:5000
FMT	2825,0	- 3260,1	X		
FMT	3415,0	- 3683,5	X		
MUD	100,0	- 3725,0			
SPECTRALOG	2091,3	- 3469,0	X	X	
SPECTRALOG	3381,5	- 3714,5	X	X	
VELOCITY LOG	180,0	- 3707,0		X	1:1000
V.S.P	10 cm/s				2
SYNTHETIC SEISMOGRAM	10 cm/s				2
CALIBRATED,AC,DENS,GR	10 cm/s				1
AND CAL LOGS					
TWO WAY TRAVEL TIME	10 cm/s				1

BOTH 1:200 AND 1:500 ON THE SAME LOG.

Main operations for well: 3/7-4

Main operation: DRILLING

Sub operation:	Minutes:	Hours:	% of total:
BOP ACTIVITIES	11460	191,0	11,68
BOP/WELLHEAD EQ	750	12,5	0,76
CASING	15844	264,1	16,15
CIRC/COND	4659	77,7	4,75
DRILL	37591	626,5	38,32
HOLE OPEN	1800	30,0	1,83
OTHER	1091	18,2	1,11
REAM	4215	70,3	4,30
SURVEY	1200	20,0	1,22
TRIP	19490	324,8	19,87
Total	98100	1635,0	100,00

Main operation: FORMATION EVAL

Sub operation:	Minutes:	Hours:	% of total:
CIRC SAMPLES	1245	20,8	3,02
CIRC/COND	945	15,8	2,29
CORE	2835	47,3	6,87
DST	20130	335,5	48,80
LOG	8250	137,5	20,00
OTHER	750	12,5	1,82
PROD TEST	75	1,3	0,18
TRIP	7020	117,0	17,02
Total	41250	687,5	100,00

Main operation: INTERRUPTION

Sub operation:	Minutes:	Hours:	% of total:
FISH	10380	173,0	45,05
MAINTAIN/REP	7875	131,3	34,18
SIDETRACK	4785	79,8	20,77
Total	23040	384,0	100,00

Main operation: MOVING

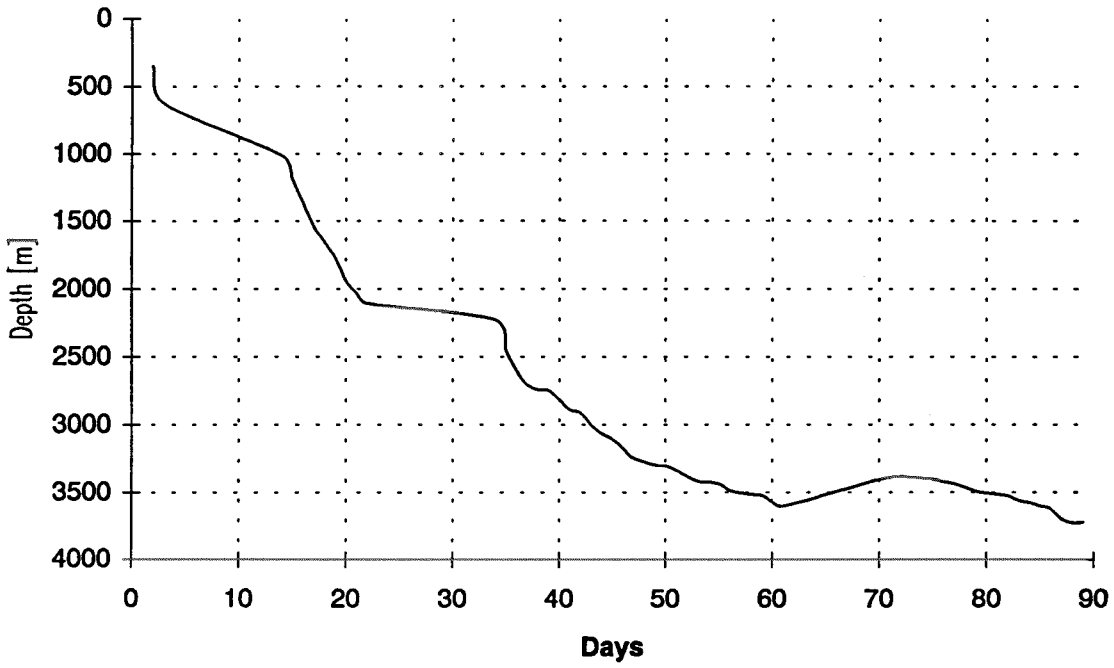
Sub operation:	Minutes:	Hours:	% of total:
TRANSIT	540	9,0	100,00
Total	540	9,0	100,00

Main operation: PLUG & ABANDON

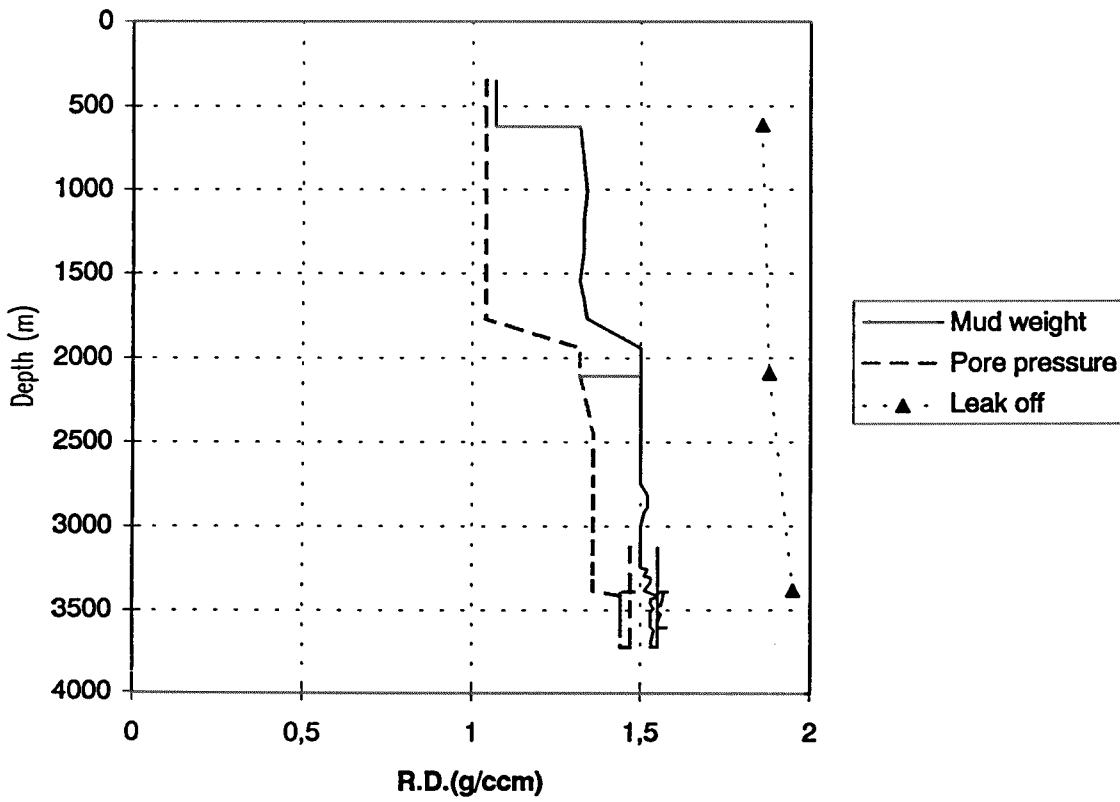
Sub operation:	Minutes:	Hours:	% of total:
CEMENT PLUG	1125	18,8	6,59
CIRC/COND	180	3,0	1,05
CUT	120	2,0	0,70
EQUIP RECOVERY	12600	210,0	73,81
OTHER	480	8,0	2,81
TRIP	2565	42,8	15,03
Total	17070	284,5	100,00

Total time used: Hours

Depth vs time for well: 3/7-4



Composite plot for well: 3/7-4



Well History 3/7-4.

General:

Well 3/7-4 is the fourth well in license 147 and was designed to drill a prospect on the Lulita culmination. The Lulita prospect extends in to Danish waters, and forms part of an elongated, N-S trending, salt-induced feature on the western margin of the Søgne Basin. The present structural features was developed during mid Cretaceous time, and closure at Late Cretaceous and Tertiary levels essentially reflects compaction and drape over the Jurassic high. The Jurassic Lulita closure is separated from the area tested by the 3/7-3 well by a faulted saddle, which also is well-expressed at Tertiary and Cretaceous levels, providing a vertical closure of some 75 metres. The objectives of the well was to:

- test the hydrocarbon potential of the Middle Jurassic sequence which is believed to be developed in a sandy facies of deltaic/ fluvial origin as encountered in several nearby wells.
- test potential sand developments in the Early Cretaceous/ Late Jurassic interval within dipclosure.
- test the Late Cretaceous Chalk which has dipclosure at the well location.
- test possible turbiditic sands of Paleocene/ Eocene age.
- test the reservoir quality of the Triassic sequence.

It was proposed to drill some 150 m into rocks of Triassic age. Shallow gas may be encountered at 317 to 388 m RKB and 485 and 515 m RKB according to seismic anomalies.

Operations:

Wildcat well 3/7-4 was spudded 20 September 1989 by the semi-submersible rig Hunter, and completed 23 January 1990 at a depth of 3723 m RKB in rocks of Permian age. A total of 8 cores were cut in the well, and a total of 100 sidewall cores were attempted, whereof 82 was recovered. No shallow gas was encountered. At 3472,9 m the string was backed off, and a cement kickoff plugg was set. The hole was sidetracked from 3405 m RKB, and after coring, the well was drilled to TD. The well was permanently plugged and abandoned as an oil, gas and condensate discovery.

Testing:

Two DST tests were performed in this well.

Test no 2 in the interval 3440 to 3537 m RKB produced 621 Sm³/d of 0.806g/cm³ liquid with a GLR of 210 Sm³/Sm³ of gas with a 19 mm choke.

Test no 1 in the interval 3473 to 3537 m RKB produced 605 Sm³/d liquid hydrocarbons of 0.707 g/cm³ with a GLR of 1360m³/m³ over a 19mm Choke.

Geological Tops.

Well:3/7-4

	Depth m (RKB).
Nordland Group	91,0
Hordaland Group	1412,0
Rogaland Group	2747,0
Balder Fm	2747,0
Sele Fm	2766,0
Lista Fm	2787,0
Maureen Fm	2819,0
Shetland Group	2848,0
Ekofisk Fm	2848,0
Tor Fm	2922,0
Hod Fm	3088,0
Hidra Fm	
Cromer Knoll Group	3247,0
Rødby Fm	3247,0
Sola Fm	3255,0
Tyne Group	3261,0
Haugesund Fm	3261,0
Vestland Group	3411,0
Lindesnes Fm	3411,0
Top Reservoir	3440,0
Bryne Fm	3474,0
HWC	3572,0
Zechstein Group	3688,0
T.D.	3723,0