

Well no :	1/6-5	Operator :	CONOCO
Coordinates :	56° 32' 21.57" N 02° 48' 04.77" E	UTM coord. :	626626475 N 48778159 E
Licence no :	144	Permit no :	645
Rig :	DYVI STENA	Rig type :	SEMI-SUB.
Contractor :	STENA DRILLING A/S		
Bottom hole temp:	89 °C	Elev. KB :	25 M
Spud. date :	90.07.20	Water depth :	70 M
Compl. date :	90.09.02	Total depth :	1855 M
Spud. class :	WILDCAT	Form. at TD	PERMIAN
Compl. class :	P&A. SHOWS	Prod.form. :	
Seisloca :	CNI/88 - 36, SP. 590		

## LICENSEES

25,000000	PHILLIPS PETROLEUM NORSK A/S
50,000000	DEN NORSKE STATS OLJESELSKAP A.S
10,000000	OMV NORGE A/S
15,000000	ENTERPRISE OIL NORWEGIAN 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	156,0	36	156,0	
INTERM.	20	588,0	26	600,0	
INTERM.	16	1126,0	22	1132,0	1,42
INTERM.	9 5/8	1521,0	12 1/4	1530,0	1,74
LINER	7	1843,0	8 1/2	1854,0	

## CONVENTIONAL CORES

Core no.	Intervals cored		Recovery	
	meters		M	%
1	1725,0	- 1728,9	3,9	100
2	1742,5	- 1751,5	9,0	100

## MUD

Depth	Mud weight	Visc.	Mud type
156,000	1,88	26,0	WATER BASED
208,000	1,44	25,0	WATER BASED
600,000	1,19	14,0	WATER BASED
667,000	1,19	11,0	WATER BASED
1036,000	1,23	19,0	WATER BASED
1132,000	1,41	24,0	WATER BASED
1132,000	1,23	33,0	WATER BASED
1132,000	1,33	26,0	WATER BASED
1132,000	1,41	22,0	WATER BASED

Depth	Mud weight	Visc.	Mud type
1275,000	1,45	30,0	WATER BASED
1387,000	1,56	32,0	WATER BASED
1533,000	1,64	33,0	WATER BASED
1650,000	1,71	36,0	WATER BASED
1725,000	1,85	42,0	WATER BASED
1725,000	1,83	36,0	WATER BASED
1854,000	1,85	33,0	WATER BASED

## DRILL STEM TEST

### INTERVALS AND PRESSURES

Test no.	Interval meter	Choke size	Pressure (PSI) WHP	BTHP	FFP
1,0	1722,000 - 1740,890	9,5			

Test temperature: N/A

### RECOVERY

Test no.	WATER Sm3/d	Gas Sm3/d	Oil grav. g/cm3	Gas grav. rel. air	GOR m3/m3
1,0	209				

## DRILL BIT CUTTINGS AND WET SAMPLES

Sample type	Interval below KB	Number of samples
WET SAMPLES	620 - 1854	150
CUTTINGS	600 - 1854	150

## SHALLOW GAS

Interval below KB	Remarks

## AVAILABLE LOGS

Log type	Intervals	1/200	1/500	Div.
CBL - VDL	375,0 - 1126,0	X		
CBL	1080,0 - 1522,0	X		
CDM AP /SHDT	1522,0 - 1848,0	X	X	
DIL SLS CAL SP AMS GR	95,0 - 599,0	X	X	
SLS GR	589,0 - 1054,0	X	X	
DIL SLS CAL SP AMS GR	1126,0 - 1508,0	X	X	

Log type	Intervals		1/200	1/500	Div.
DIL SP AMS GR	1522,0	- 1852,0	X	X	
BHC GR	1522,0	- 1850,0	X	X	
DLL MSFL CAL SP	1522,0	- 1850,0	X	X	
RWD	156,0	- 1854,0	X	X	
LDL CAL AMS	95,0	- 599,0	X	X	
LDL CAL	589,0	- 1054,0	X	X	
LDL CAL	1126,0	- 1491,0	X	X	
LDL CNL NGS CALI	1522,0	- 1852,0	X	X	
MUD	95,0	- 1854,0		X	
NGS RATIOS	1522,0	- 1852,0	X	X	
RFTB AMS	1722,0	- 1740,0			
VELOCITY	0	- 1854,0		X	
SYNTHETIC SEISMOGRAM	10 cm/s				4
V.S.P,	10 cm/s	- 100 cm/s			19

## Main operations for well: 1/6-5

### Main operation: DRILLING

Sub operation:	Minutes:	Hours:	% of total:
BOP ACTIVITIES	1710	28,5	4,35
BOP/WELLHEAD EQ	1950	32,5	4,97
CASING	10560	176,0	26,89
CIRC/COND	2730	45,5	6,95
DRILL	9270	154,5	23,61
HOLE OPEN	1020	17,0	2,60
PRESS DETECTION	30	0,5	0,08
REAM	1650	27,5	4,20
SURVEY	30	0,5	0,08
TRIP	6990	116,5	17,80
UNDERREAM	3330	55,5	8,48
Total	39270	654,5	100,00

### Main operation: FORMATION EVAL

Sub operation:	Minutes:	Hours:	% of total:
CIRC SAMPLES	420	7,0	3,34
CIRC/COND	210	3,5	1,67
CORE	750	12,5	5,97
DST	5880	98,0	46,78
LOG	4110	68,5	32,70
TRIP	1200	20,0	9,55
Total	12570	209,5	100,00

### Main operation: INTERRUPTION

Sub operation:	Minutes:	Hours:	% of total:
FISH	960	16,0	12,65
MAINTAIN/REP	1860	31,0	24,51
WELL CONTROL	4770	79,5	62,85
Total	7590	126,5	100,00

### Main operation: MOVING

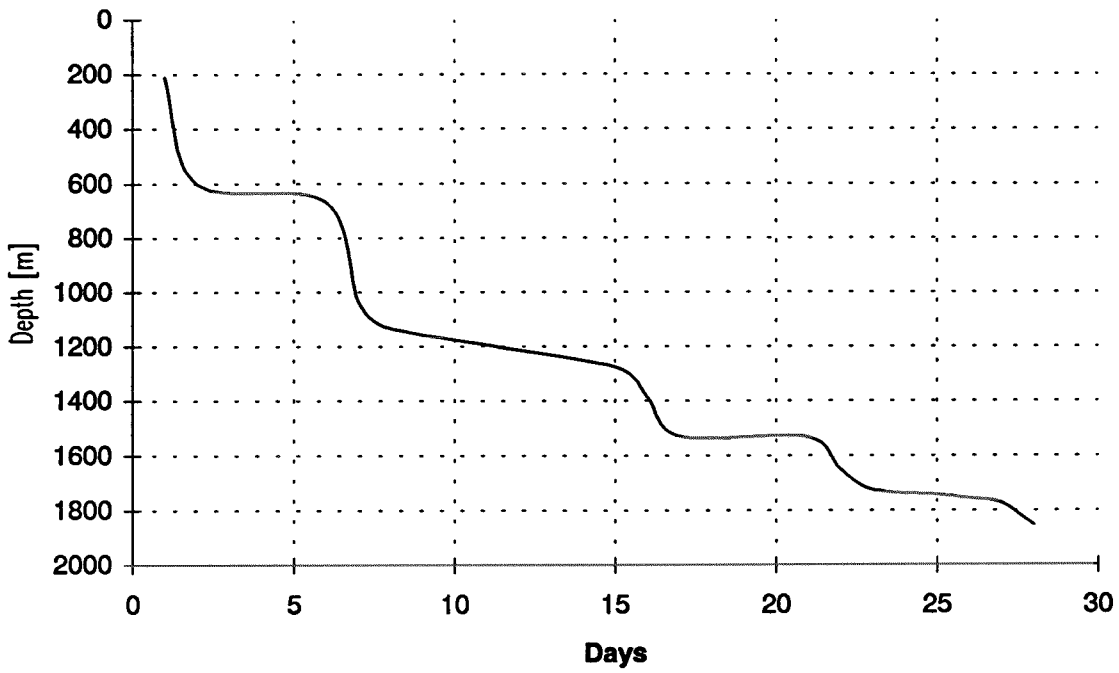
Sub operation:	Minutes:	Hours:	% of total:
ANCHOR	1100	18,3	76,39
TRANSIT	340	5,7	23,61
Total	1440	24,0	100,00

### Main operation: PLUG & ABANDON

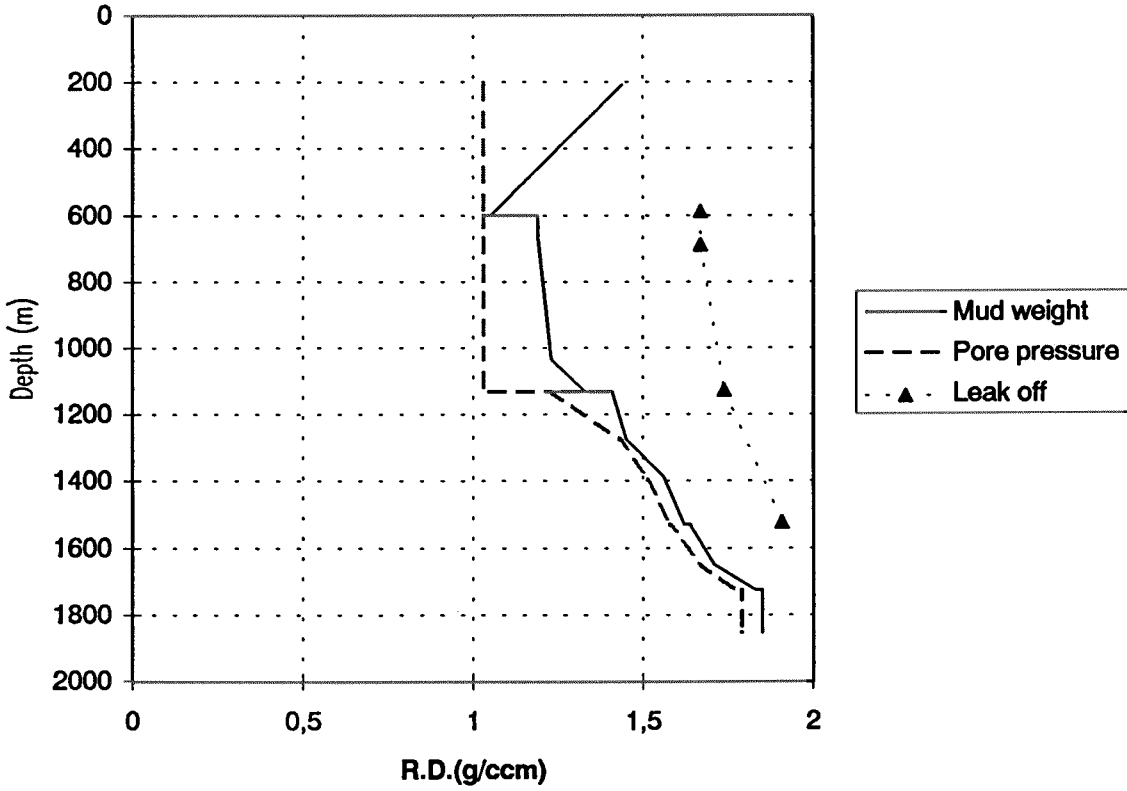
Sub operation:	Minutes:	Hours:	% of total:
CEMENT PLUG	480	8,0	12,21
CUT	690	11,5	17,56
EQUIP RECOVERY	900	15,0	22,90
MECHANICAL PLUG	300	5,0	7,63
PERFORATE	300	5,0	7,63
SQUEEZE	60	1,0	1,53
TRIP	1200	20,0	30,53
Total	3930	65,5	100,00

Total time used:  Hours

**Depth vs time for well: 1/6-5**



**Composite plot for well: 1/6-5**



# Well History 1/6-5.

## General:

Well 1/6-5 was designed to drill on the crest of a major salt diapir situated near the axis of the Central Trough at the northern extent of the Feda Graben. The PL 144 area is bound to the north east by the major north west-south east trending faults that forms the eastern margin of the graben, and to the west of a salt related structure of the Josephine Ridge. Faults of the northeast-south west trending orientation is considered being transform faults that might have undergone some degree of lateral movement. Major salt movements occurred along these faults during the late Jurassic and early Cretaceous as a response to the major rifting events. The movement of the salt led to the deposition of a condensed, late Cretaceous to early Tertiary chalk sequence over the top of the salt dome. Renewed diapirism caused the salt to break through the surrounding chalk strata, uplifting a "raft" of chalk.

The objective of the well was to test the existence of the chalk raft and the presence of reservoir hydrocarbons. Shallow gas anomalies were expected at five different levels, 176 m RKB, 277 m RKB, 313m RKB, 338 m RKB and 443 m RKB.

## Operations:

Wildcat well 1/6-5 was spudded 20 July 1990 by the semi-submersible rig Dyvi Stena, and completed 2 September 1990 at a total depth of 1855 m RKB in rocks of upper Permian age. No shallow gas was encountered at any level. Two cores were cut from 1725 to 1752 m RKB, both corebarrels jammed off and 22 % recovery was obtained on core no 1, with 96% recovery on core no 2. Drilling resumed five meters into the salt. Some problems with washouts and borehole restrictions resulted in very large cuttings being circulated out at bottoms up. Oil shows were observed at 1434 and 1585 m RKB in thin limestone beds of Oligocene age. Ekofisk formation came in at 1721 m RKB comprising limestone with oil stains and bright yellow fluorescence in highly fractured limestone. The well was permanently plugged and abandoned with oil and gas shows.

## Testing:

One DST tests were performed, and the well flowed salt water only. There was no trace of oil, and gas content was too low to be measured.

# Geological Tops.

## Well: 1/6-5.

	Depth m (RKB).
Nordland Group	95.0
Hordaland Group	1140.0
Rogaland Group	1695.0
Balder Fm	1695.0
Sele Fm	1705.0
Lista Fm	1709.5
Våle Fm	1714.5
Shetland Group	1721.0
Ekofisk Fm	1721.0
Tor Fm.	1725.0
Hod Fm	1732.0
Zechstein Group	1742.0
T.D.	1855.0