

Well no :	2/9-3	Operator :	AMOCO
Coordinates :	56° 26' 03.38" N 03° 47' 49.91" E	UTM coord. :	625483858 N 54916229 E
Licence no :	32	Permit no :	618
Rig :	DYVI STENA	Rig type :	SEMI-SUB.
Contractor :	STENA DRILLING A/S		
Bottom hole temp:	135 °C	Elev. KB :	25 M
Spud. date :	89.09.13	Water depth :	67,1 M
Compl. date :	89.12.14	Total depth :	4859 M
Spud. class :	WILDCAT	Form. at TD	PERMIAN
Compl. class :	P&A. SHOWS	Prod.form. :	
Seisloca :	8180 (VA8) - 230 SP 295		

## LICENSEES

25,000000	AMOCO NORWAY OIL COMPANY
25,000000	ENTERPRISE OIL NORWEGIAN A/S
15,000000	NORWEGIAN OIL CONSORTIUM A/S & CO
10,000000	SVENSKA PETROLEUM EXPLORATION A/S
25,000000	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	299,0	36	313,0	
INTERM.	20	840,0	26	850,0	1,74
INTERM.	13 3/8	2780,0	17 1/2	2800,0	1,87
INTERM.	9 5/8	3865,0	12 1/4	3875,0	1,99
OPEN HOLE			8 1/2	4859,0	

## CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery	
		M	%
1	4524,6 - 4536,0	10,7	93,9
2	4536,0 - 4547,0	11,0	100,0

## MUD

Depth	Mud weight	Visc.	Mud type
127,000	1,03		WATER BASED
172,000	1,20	10,0	WATER BASED
214,000	1,03	9,0	WATER BASED
850,000	1,20	40,0	WATER BASED
1373,000	1,28	13,0	WATER BASED
1560,000	1,56	27,0	WATER BASED
2800,000	1,62	25,0	WATER BASED
2800,000	1,57	30,0	WATER BASED

Depth	Mud weight	Visc.	Mud type
2800,000	1,60	24,0	WATER BASED
2800,000	1,57	26,0	WATER BASED
2800,000	1,62	21,0	WATER BASED
3843,000	1,62	20,0	WATER BASED
3843,000	1,62	22,0	WATER BASED
3859,000	1,03	1,0	WATER BASED
3867,000	1,62	25,0	WATER BASED
3875,000	1,63	21,0	WATER BASED
3875,000	1,62	23,0	WATER BASED
3875,500	1,63	20,0	WATER BASED
3877,000	1,80	19,0	WATER BASED
4682,000	1,82	20,0	WATER BASED
4859,000	1,85	19,0	WATER BASED
4859,000	1,82	17,0	WATER BASED
4859,000	1,85	19,0	WATER BASED
4859,000	1,82	19,0	WATER BASED
4862,000	1,85	20,0	WATER BASED

## DRILL BIT CUTTINGS AND WET SAMPLES

Sample type	Interval below KB	Number of samples
WET SAMPLES	850 - 4857	270
CUTTING	850 - 2800	120

## SHALLOW GAS

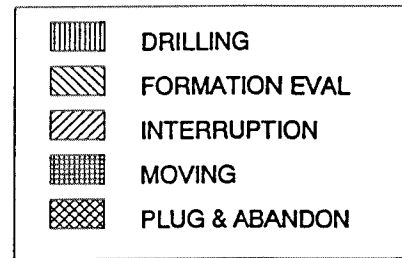
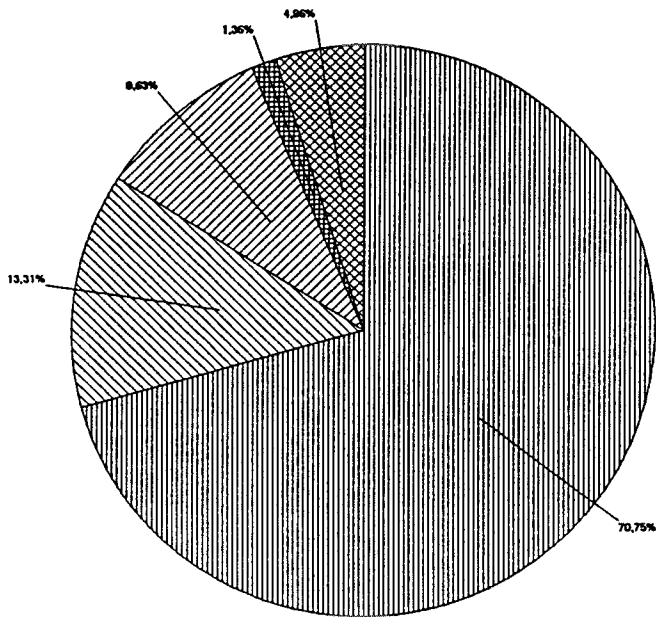
Interval below KB	Remarks
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## AVAILABLE LOGS

Log type	Intervals	1/200	1/500	Div.
CBL VDL GR (13 3/8")	500,0 - 2768,0	X		
CBL VDL GR (9 5/8")	1660,0 - 2824,0	X		
CDM AP / SHDT	2776,0 - 3868,0	X	X	
CDM AP / SHDT	3864,0 - 4848,0	X	X	
SHDT GR	2776,0 - 3875,0	X		
SHDT GR	3864,0 - 4848,0	X		
DIL BHC GR CAL	840,0 - 2758,0	X	X	
DIL BHC GR CAL SP	2776,0 - 3873,5	X	X	
DIL BHC MSFL GR CAL	3864,0 - 4847,0	X	X	
LDL CNL GR	3864,0 - 4861,0	X	X	
MWD	92,0 - 4859,0		X	
RFT GR	4525,0 - 4590,7			

Log type	Intervals		1/200	1/500	Div.
MUD LOG	850,0	- 4859,0		X	
VELOCITY	840,0	- 4847,0		X	
FREQUENCY TEST	10 cm/s				4
CHECHSHOT SURVEY	500,0	- 4843,0			1
SYNTHETIC SEISMOGRAM	10 cm/s				2

**Daily Drilling Report System (DDRS)**  
**Operations for well: 2/9-3**



Main operations	Minutes	Hours	% of total
DRILLING	96780	1613,00	70,75
FORMATION EVAL	18210	303,50	13,31
INTERRUPTION	13170	219,50	9,63
MOVING	1860	31,00	1,36
PLUG & ABANDON	6780	113,00	4,96
<b>Total</b>	<b>136800</b>	<b>2280,00</b>	<b>100,00</b>

**Operations for well: 2/9-3****Main operation: DRILLING**

Sub operations	Minutes	Hours	% of total
BOP ACTIVITIES	1650	27,50	1,70
BOP/WELLHEAD EQ	5010	83,50	5,18
CASING	9270	154,50	9,58
CIRC/COND	3120	52,00	3,22
DRILL	43710	728,50	45,16
HOLE OPEN	2970	49,50	3,07
OTHER	1110	18,50	1,15
PRESS DETECTION	930	15,50	0,96
REAM	3360	56,00	3,47
SURVEY	240	4,00	0,25
TRIP	25410	423,50	26,26
<b>Total</b>	<b>96780</b>	<b>1613,00</b>	<b>100,00</b>

**Main operation: FORMATION EVAL**

Sub operations	Minutes	Hours	% of total
CIRC/COND	2670	44,50	14,66
CORE	1260	21,00	6,92
LOG	6930	115,50	38,06
TRIP	7350	122,50	40,36
<b>Total</b>	<b>18210</b>	<b>303,50</b>	<b>100,00</b>

**Main operation: INTERRUPTION**

Sub operations	Minutes	Hours	% of total
FISH	5640	94,00	42,82
MAINTAIN/REP	7260	121,00	55,13
OTHER	120	2,00	0,91
WAIT	150	2,50	1,14
<b>Total</b>	<b>13170</b>	<b>219,50</b>	<b>100,00</b>

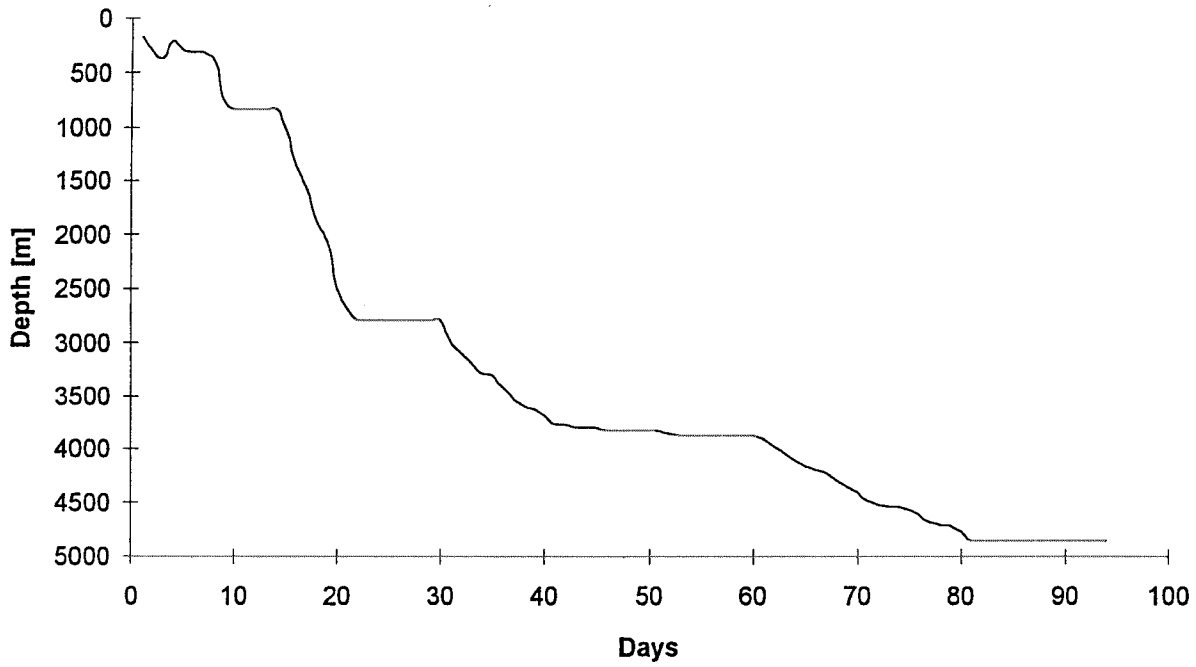
**Main operation: MOVING**

Sub operations	Minutes	Hours	% of total
ANCHOR	1650	27,50	88,71
SKID	210	3,50	11,29
<b>Total</b>	<b>1860</b>	<b>31,00</b>	<b>100,00</b>

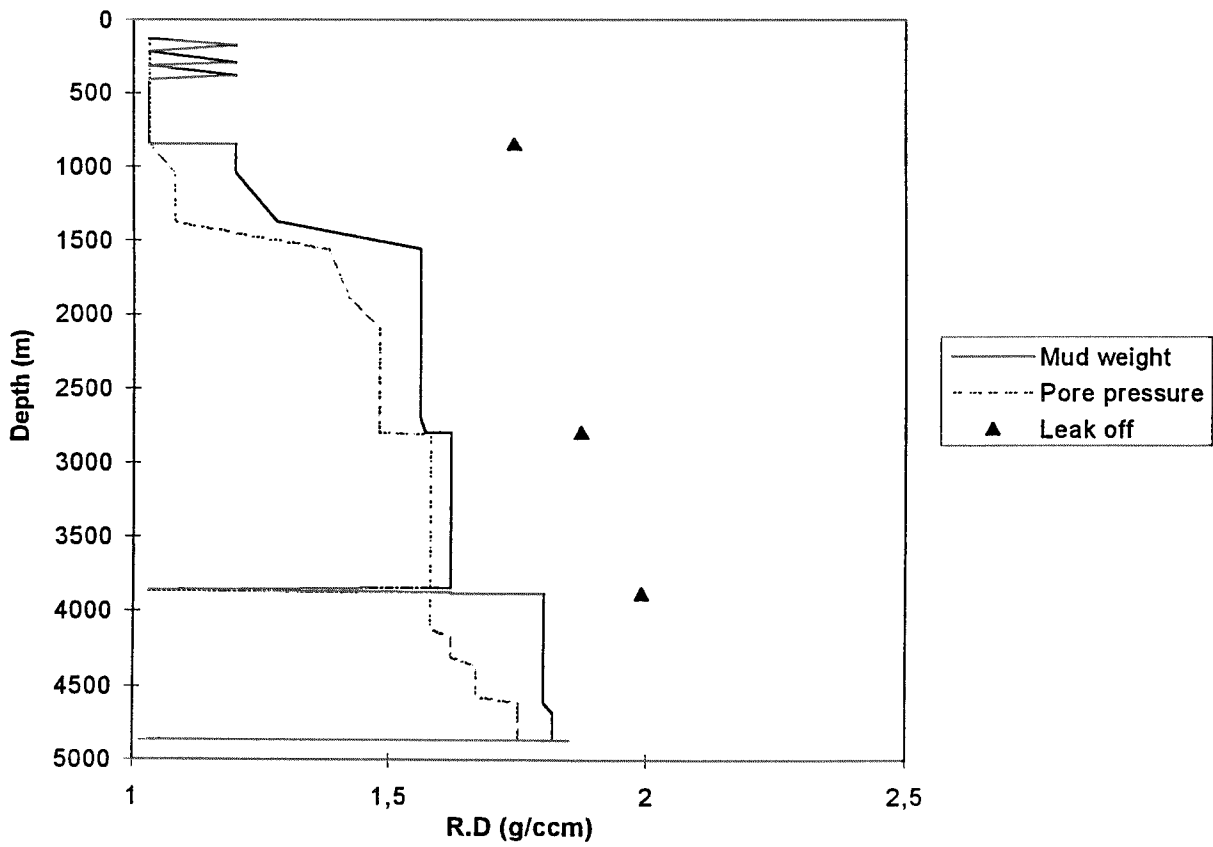
**Main operation: PLUG & ABANDON**

Sub operations	Minutes	Hours	% of total
CEMENT PLUG	750	12,50	11,06
CIRC/COND	240	4,00	3,54
CUT	330	5,50	4,87
EQUIP RECOVERY	2040	34,00	30,09
MECHANICAL PLUG	1020	17,00	15,04
PERFORATE	330	5,50	4,87
TRIP	2070	34,50	30,53
<b>Total</b>	<b>6780</b>	<b>113,00</b>	<b>100,00</b>

Depth vs time for well: 2/9-3



Composite plot for well: 2/9-3



# Well History 2/9-3.

## GENERAL:

Well 2/9-3 was designed to drill the complex faulted Piggvar Terrace, which separates the deep Fedda Graben to the west from the Mandal High and the Søgne Basin to the east. Five wells have been drilled prior to the 2/9-3 well. The primary targets were the Middle and Upper Jurassic sands, and the Permian Rotliegendes sands, which could possibly open up a new exploration trend in the area. The objectives for drilling the structure were:

- Test for possible hydrocarbon accumulation contained within the Upper and Middle Jurassic sands.

- Determine the reservoir quality, and source rock potential and maturation.

- Determine reservoir quality and possible hydrocarbon accumulation within the Rotliegendes sands.

- Determine the Permian stratigraphy in this portion of the Piggvar Terrace.

## OPERATIONS:

Wildcat well 2/9-3 was spudded 13 September 1989 by the semi-submersible rig Dyvi Stena, and respudded 15 September 1989 due to the hole packing off at 378 m RKB in the first wellbore. No shallow gas was encountered in the potential gas hazardous zones at 160-, 425 and 535 m RKB. The well was completed 2 December 1989 at a depth of 4859 m RKB in rocks of Permian age. Two cores were cut in Upper Jurassic rocks. No evidence of the prognosed Middle Jurassic rocks were found. Triassic rocks came in 175 m deeper than prognosed. The reservoir sands were mainly well cemented. The well was plugged and abandoned as a dry hole with minor oil shows.

## TESTING:

No DST tests were performed in the well.

# Geological Tops.

## Well: 2/9-3.

	Depth m (RKB).
Nordland Group	91,6
Hordaland Group	1623,0
Rogaland Group	3023,0
Balder Fm	3023,0
Sele Fm	3053,0
Lista Fm	3100,0
Våle Fm	3155,0
Shetland Group	3168,0
Ekofisk Fm	3168,0
Tor Fm.	3253,0
Hod Fm	3660,0
Cromer Knoll Group	3834,0
Åsgard Fm	3834,0
Tyne Group	3846,0
Farsund Fm	3846,0
Haugesund Fm	4125,0
Ula Eq. Fm	4524,6
Basal Sst. Fm	4584,0
Triassic Group	4600,0
Skagerak.	4600,0
Permian Group	4670,0
Rotliegendes Fm	4670,0
Volc. Basement	4850,0
T.D.	4859,0