

Well no : 30/06-21

Operator : HYDRO

Coordinates : 60 38 34.88 N
02 43 47.60 EUTM coord. : 6723215 N
485226 E

Licence no : 53

Permit no : 537

Rig : VILDKAT EXPLORER

Rig type : SEMI-SUB.

Contractor : DITLEV-SIMONSEN (SDS DRILLING)

Bottom hole temperature : deg.C

Elev. KB : 25 M

Spud. date : 87.02.20

Water depth : 112 M

Compl. date : 87.04.09

Total depth : 3100 M

Spud. class : APPRAISAL

Form. at TD : E.JURASSIC

Compl. class : SUSPENDED. OIL/GAS

Prod. form : M.JURASSIC

Seisloca : NH82 - 321 KOLUMN 379

LICENSEES

10.667000	ELF AQUITAINE NORGE A/S
12.250000	NORSK HYDRO PRODUKSJON A.S
8.000000	MOBIL EXPLORATION NORWAY INC.
7.350000	SAGA PETROLEUM A.S.
56.400000	DEN NORSKE STATS OLJESELSKAP A.S
5.333000	TOTAL NORGE A.S

CASING AND LEAK-OFF TESTS

Type	Casing diam.	Depth below KB	Hole diam.	Hole depth below KB	Lot mud eqv. g/cm ³
CONDUCTOR	30	221.0	36	225.0	.
SURF.COND.	20	650.0	26	665.0	.
INTERM.	13 3/8	1704.0	17 1/2	1720.0	1.59
INTERM.	9 5/8	2543.0	12 1/4	2560.0	1.60
LINER	7	2856.0	8 1/2	3100.0	.

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	2563.0 - 2580.3	17.3	100.0	
2	2581.0 - 2596.7	15.7	100.0	
3	2597.0 - 2651.9	54.9	100.0	
4	2652.0 - 2668.7	16.8	100.0	

MUD PROPERTIES

Depth below KB meter	Mud weighth g/cm ³	Viscosity	Mud type
130.000	1.50	35.0	OIL BASED
225.000	1.05	0.0	WATER
300.000	1.00	0.0	OIL BASED
453.000	1.06	0.0	WATER
615.000	1.17	0.0	WATER

727.000	1.35	34.0	OIL
1288.000	1.36	37.0	OIL
1351.000	1.35	34.0	OIL
1720.000	1.36	32.0	OIL
1723.000	1.50	34.0	OIL
2347.000	1.49	34.0	OIL
2560.000	1.50	35.0	OIL BASED
2560.000	1.35	23.0	OIL BASED
2652.000	1.36	20.0	OIL BASED
2669.000	1.37	21.0	OIL BASED
2734.000	1.36	20.0	OIL BASED
2799.000	1.25	21.0	OIL BASED
2799.000	1.26	22.0	OIL BASED
2799.000	1.25	23.0	OIL BASED
2856.000	1.37	21.0	OIL BASED
5810.000	1.35	23.0	OIL BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no.	interval meter	Choke size	Pressure (PSI)		
			WHP	BTHP	FFP
1.0	2645.500 - 2657.500	9.5	1812.0	4232.0	4077.0
	Test temperature: 106.1 °C				

RECOVERY

Test no.	Oil Sm ³ /d	Gas Sm ³ /d	Oil grav. g/cm ³	Gas grav. rel. air	GOR m ³ /m ³
1.0	342	50885	0.847	0.724	149

DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
Cutting	670-3100	270
Wet Samples		

SHALLOW GAS

Interval below KB	REMARKS

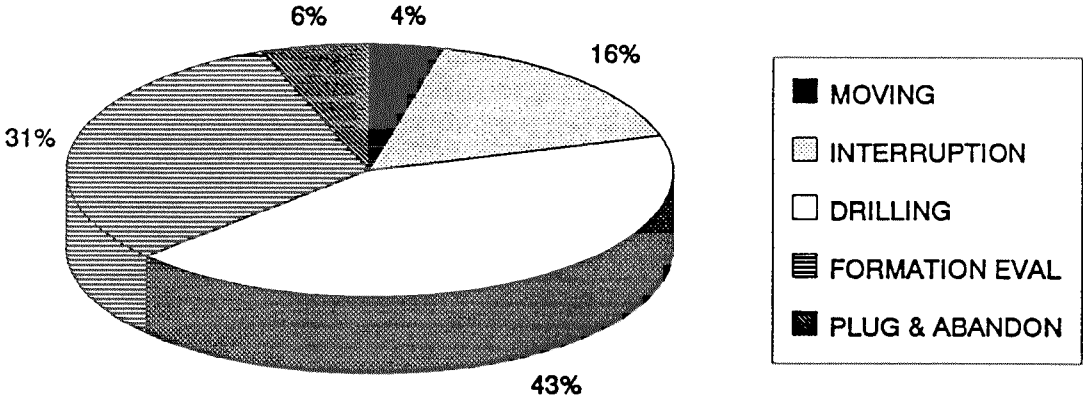
AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500	Div.
DIL LSS DITE SDT GR	137.000 - 3105.000	X	X	
LDL CNL NGS	2543.000 - 2673.000	X	X	
DITE SDT GR	2543.000 - 2671.000	X	X	

RFT GR	2578.000 - 2660.000		
RFT GR	2590.000 - 3093.000		
HP	2578.000 - 2660.000		
HP	2590.000 - 3093.000		
NGS PLAYBACK	2543.000 - 2664.000	X	X
NGS PLAYBACK	2543.000 - 3106.000	X	X
CBL VDL GR	1275.000 - 1698.000	X	
CBL VDL GR	2135.000 - 2540.000	X	
CBL VDL GR	2385.000 - 2765.000	X	
MUD	137.000 - 3100.000		1:5000
VELOCITY	665.000 - 3100.000		1:1000X
(VSP stack, run 5a			1 stk.)
(VSP, plot 1-8			8 stk.)
(WSP, walkway seismic profile, plot 1-12			12 stk.)
(Geogram, synthetic seism, Frequency test			14 stk.)

DAILY DRILLING REPORT SYSTEM

MAIN OPERATION: 30/06-21



Main operation	Minutes	Hrs	% of total
MOVING	2790	46,5	4,04
INTERRUPTION	11250	187,5	16,28
DRILLING	29730	495,5	43,01
FORMATION EVAL	21450	357,5	31,03
PLUG & ABANDON	3900	65,0	5,64
<i>Total</i>	69120	1152,0	100,00

SUB OPERATIONS FOR WELL: 30/06-21

MAIN OPERATION: MOVING

Sub operation	Minutes	Hrs	% of total
TRANSIT	870	14,5	31,18
ANCHOR	1920	32,0	68,82
<i>Total</i>	2790	46,5	100,00

MAIN OPERATION: INTERRUPTION

Sub operation	Minutes	Hrs	% of total
MAINTAIN/REP	4620	77,0	41,07
OTHER	1050	17,5	9,33
WAIT	4560	76,0	40,53
FISH	1020	17,0	9,07
<i>Total</i>	11250	187,5	100,00

MAIN OPERATION: DRILLING

Sub operation	Minutes	Hrs	% of total
BOP/WELLHEAD EQ	720	12,0	2,42
TRIP	4740	79,0	15,94
DRILL	10080	168,0	33,91
CIRC/COND	870	14,5	2,93
SURVEY	90	1,5	0,30
CASING	9540	159,0	32,09
HOLE OPEN	960	16,0	3,23
BOP ACTIVITIES	2250	37,5	7,57
OTHER	60	1,0	0,20
WAIT	330	5,5	1,11
REAM	90	1,5	0,30
<i>Total</i>	29730	495,5	100,00

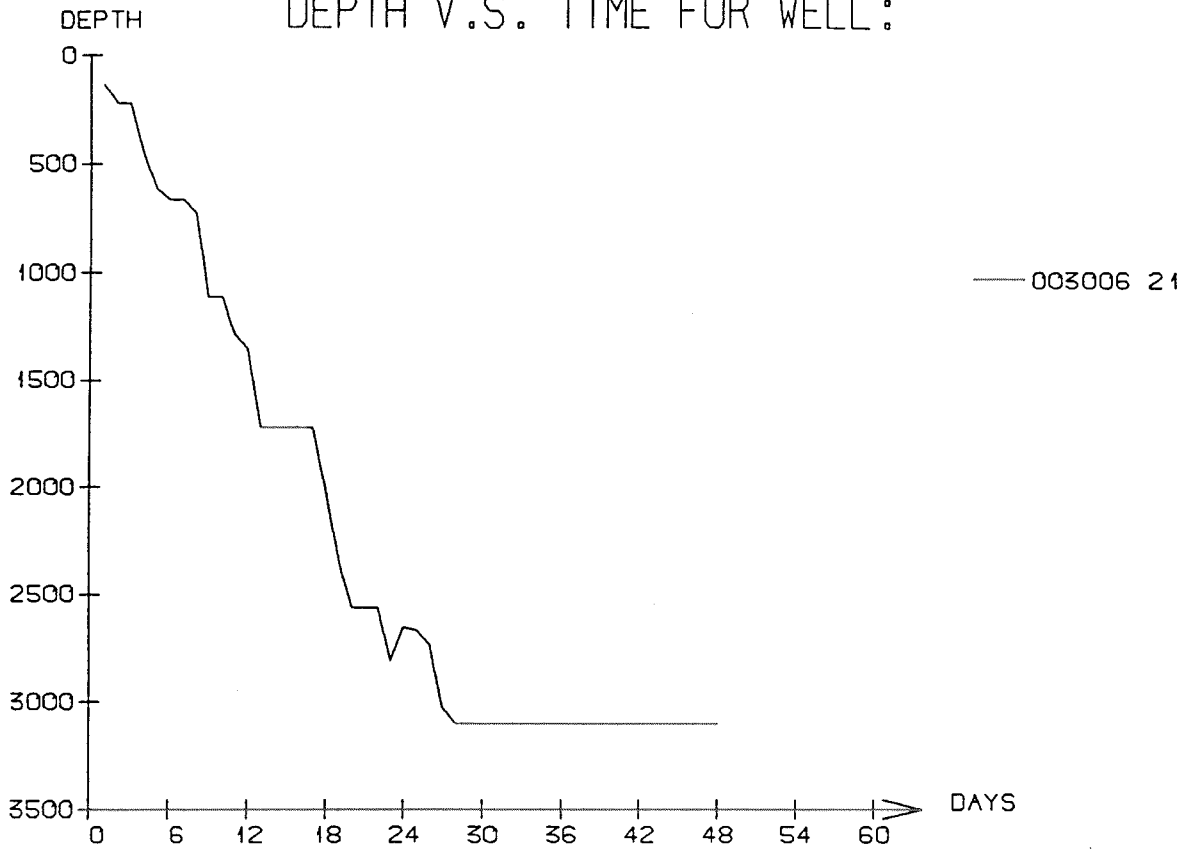
MAIN OPERATION: FORMATION EVAL

Sub operation	Minutes	Hrs	% of total
LOG	4350	72,5	20,28
TRIP	1410	23,5	6,57
CORE	1290	21,5	6,01
CIRC/COND	330	5,5	1,54
RFT/FIT	2580	43,0	12,03
CIRC SAMPLES	180	3,0	0,84
DST	11310	188,5	52,73
<i>Total</i>	21450	357,5	100,00

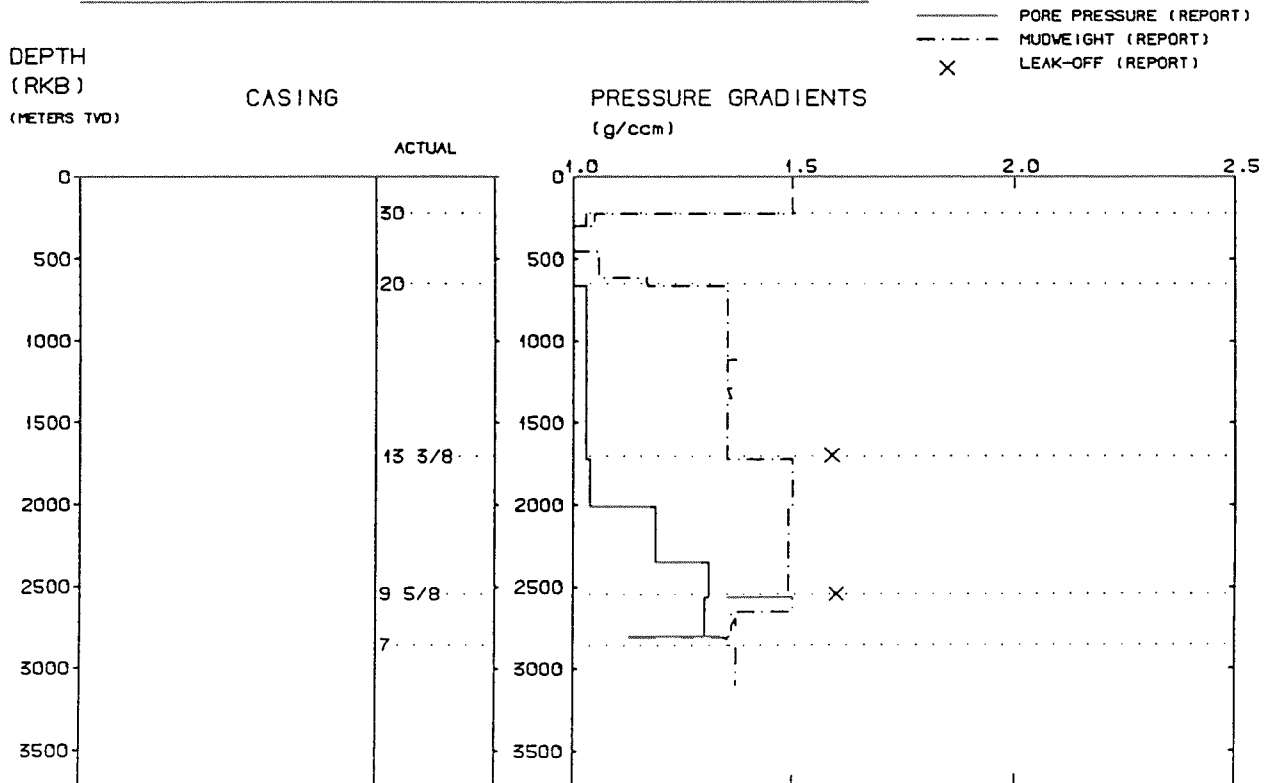
MAIN OPERATION: PLUG & ABANDON

Sub operation	Minutes	Hrs	% of total
TRIP	1650	27,5	42,31
CIRC/COND	480	8,0	12,31
CEMENT PLUG	180	3,0	4,62
MECHANICAL PLUG	210	3,5	5,38
OTHER	120	2,0	3,08
EQUIP RECOVERY	1260	21,0	32,31
<i>Total</i>	3900	65,0	100,00

DEPTH V.S. TIME FOR WELL :



WELL: 003006 21 PRESSURE COMPOSITE PLOT



Well History 30/6-21.

GENERAL:

Appraisal well 30/6-21 was designed to drill the Alpha Nord structure where well 30/6-7 had proven hydrocarbons in the Ness Formation. The main purpose of well 30/6-21 was to test the hydrocarbon content in the Etive- and Oseberg Formations. Secondary purposes are to define the water/oil contact, reduce the uncertainties in volume estimates, and locate the well in a position where it later can be utilized as a subsea oil producer/PTS well.

OPERATIONS:

Appraisal well 30/6-21 was spudded by Ross Offshore semi-submersible rig Vildkat Explorer 20 February 1987, and completed 9 April 1987 at a depth of 3100 m RKB in Early Jurassic rocks. Drilling proceeded without significant problems except for some tight hole problems in the Etive Formation.

Top Etive came in as prognosed at 2615 m RKB and was oil-bearing, and Oil/Water Contact at approximately 2720 m RKB. The Ness Formation proved not to be a reservoir rock due to lack of sand. Coring was commenced from 2563 to 2669 m RKB. Cook- and Statfjord Formations were water-bearing. The well was suspended as an oil and gas discovery.

TESTING:

One DST-test was performed in the Etive Formation.

GEOLOGICAL TOPS

WELL: 30/6-21

	Depth m (RKB)
<i>Nordland Group</i>	137,0
<i>Utsira Fm</i>	706,0
<i>Hordaland Group</i>	895,5
<i>Skade Fm</i>	1292,0
<i>Undefined.</i>	1455,0
<i>Grid Fm</i>	1611,0
<i>Undefined.</i>	1621,0
<i>Rogaland Group</i>	1993,0
<i>Balder Fm</i>	1993,0
<i>Sele Fm</i>	2075,0
<i>Lista Fm</i>	2154,0
<i>Våle Fm</i>	2265,0
<i>Shetland Group</i>	2279,0
<i>Hardråde Fm</i>	2279,0
<i>Kyrre Fm</i>	2470,0
<i>Brent Group</i>	2575,0
<i>Ness Fm</i>	2575,0
<i>Etive Fm</i>	2615,0
<i>Rannoch Fm</i>	2622,0
<i>Oseberg Fm</i>	2626,0
<i>Dunlin Group</i>	2670,5
<i>Drake Fm</i>	2670,5
<i>Cook Fm</i>	2854,0
<i>Amundsen Fm</i>	2922,0
<i>Statfjord Fm</i>	3052,5
<i>TD.</i>	3107,0