

Well no : 31/ 2-11 Operator : SHELL

Coordinates : 60 49 27.76 N UTM coord. : 6743459 N
 03 25 30.16 E 523116 E

Licence no : 054 Permit no : 365

Rig : BORGNY DOLPHIN Rig type : SEMI-SUB.

Contractor : DOLPHIN SERVICES A/S

Bottom hole temperature : 47 deg.C Elev. KB : 25 M

Spud.-date : 83.03.17 Water depth : 336 M

Compl. date : 83.05.25 Total depth : 1744 M

Spud. class : APPRAISAL Form. at TD : M. JURASSIC

Compl. class : P&A. OIL DISCOVERY Prod. form :

Seisloca : 79 - 406 SP 778

LICENSEES

5,000 CONOCO NORWAY INC.
 5,000 NORSK HYDRO PRODUKSJON A.S
 5,000 SUPERIOR OIL (NORGE) A/S
 35,000 A/S NORSKE SHELL LETE-OG UTVINNINGSAVDELINGEN
 50,000 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/cm ³
CONDUCTOR	30	460,0	36	470,0	
SURF.COND.	20	799,0	26	810,0	1,49
INTERM.	13 3/8	1525,0	17 1/2	1535,0	1,50
INTERM.	9 5/8	1720,0	12 1/4	1744,0	

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	380.0 - 389.5	3.8	40.0	UPPER TERTIARY
2	389.5 - 399.0	1.0	10.5	UPPER TERTIARY
3	475.0 - 476.0	0.0	0.0	UPPER TERTIARY
4	1555.0 - 1564.0	7.4	82.2	UPPER JURASSIC
5	1564.0 - 1578.0	4.9	35.0	UPPER JURASSIC
6	1578.0 - 1592.0	9.5	67.9	UPPER JURASSIC
7	1592.0 - 1610.5	18.5	100.0	UPPER JURASSIC
8	1610.5 - 1629.0	18.5	100.0	UPPER JURASSIC

DRILL STEM TEST									
TEST NO	DEPTH BELOW KB	CHOKE SIZE mm	RECOVERY					PRESS. (psi)	
			OIL Sm ³ /d	GAS M Sm ³ /d	OIL GRAV. g/cm ³	GAS GRAV. rel. air	GOR m ³ /m ³	FSIP	WHP
1	1681 - 1685	50.80	WATER						
2	1576 - 1582	2 X 50.80	1240	69.4	0.883	0.667	56		

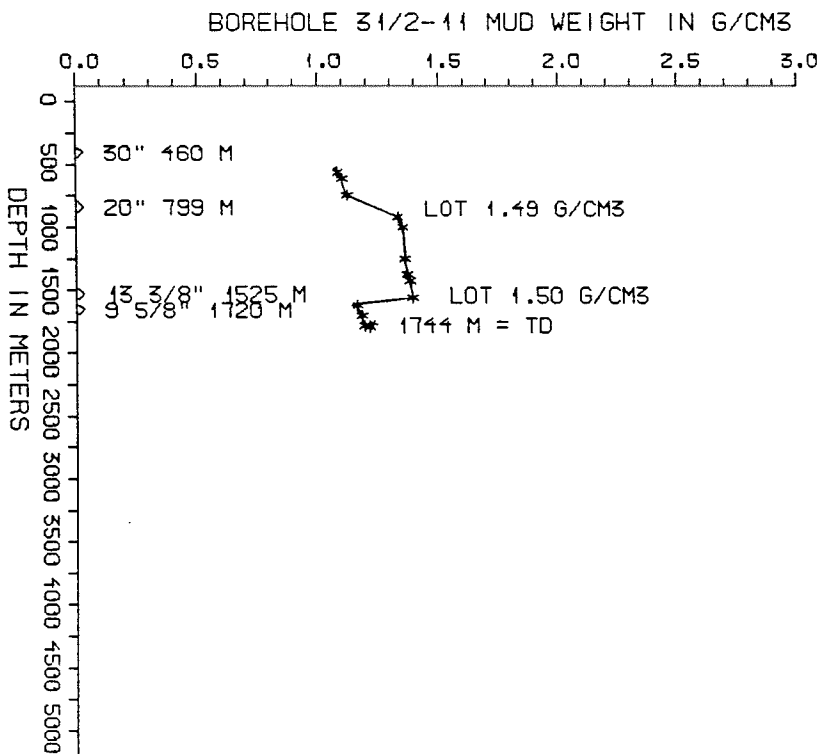
AVAILABLE LOGS			
LOG TYPE	INTERVALS	1/200	1/500
ISF BHC GR (GR:355-460)	460 - 814	X	X
ISF BHC	799 - 1535	X	X
ISF BHC	1524 - 1732	X	X
LDL CNL	460 - 810	X	X
LDL CNL	799 - 1536	X	X
LDL CNL NGS	1524 - 1733	X	X
DLL MSFL	1524 - 1728	X	X
CDM	1524 - 1730	X	
CDM AP	1525 - 1730	X	X
NGS	1524 - 1733	X	
RFT HP		X	
CBL VDL	500 - 1523	X	
CBL VDL	1150 - 1686	X	
MUD	476 - 1735		X
VELOCITY (S.C.L.)	467 - 1731		X

(Geogram Synthetic Seismogram, normal/reverse polarity, zero phase, 10-20 cm/s, 2 stk)
 (Velocity Survey, 1110-1725m, 1 stk)

MUD PROPERTIES			
DEPTH BELOW KB m	WEIGHT g/cm ³	FUNNEL VISC. sec	FILTRATE LOSS cm ³
500	1.05	120	
550	1.07	120	
650	1.09	120	
820	1.30	53	
950	1.32	53	
1200	1.33	53	
1300	1.34	53	
1350	1.35	53	
1500	1.36	52	
1550	1.13	68	
1600	1.15	77	
1700	1.16	70	
1744	1.18	60	

DRILL BIT CUTTINGS AND WET SAMPLES		
SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
CUTTINGS		
WET SAMPLES	480 - 1734	192

SHALLOW GAS	
DEPTH INTERVAL m KB	REMARKS
	NONE



WELL HISTORY - 31/2-11

GENERAL:

The main objectives of the appraisal well 31/2-11 were to establish the reservoir quality in the southern extension of the 31/2-7 accumulation (see WDSS vol.13) in the Humber Group reservoir sequence, to assist in the mapping of the permeability distribution in the oil province, to provide an additional data point for the correlation and mapping of the depositional units, to obtain additional oil production test data for input to the development studies. The Upper Jurassic reservoir sands were found to be hydrocarbon bearing.

OPERATIONS:

The well was spudded 17.03.83 by the semi-submersible rig Borgny Dolphin. A total of eight cores were cut. Three in the Lower Tertiary sediments, and five in the Lower Jurassic reservoir sands. All five cores in the Lower Jurassic were taken using fibre glass sleeve techniques to achieve better recovery in the poorly consolidated sands.

No major problems occurred during drilling.
The well was drilled with waterbased mud.

TESTING:

Two DST's were performed, one in the reservoir zone and one below this. The test in the reservoir zone produced oil and gas.

GEOLOGICAL TOPS
WELL 31/2-11

	Depth m (RKB)
Nordland Group	361,0
Hordaland Group	788,0
Rogaland Group	1341,0
Balder Fm	1341,0
Sele Fm	1408,0
Lista Fm	1448,0
Shetland Group	1537,5
Viking Group	1558,0
Sognefjord Fm	1558,0
Fensfjord Fm	1678,0
TD =	1744,0