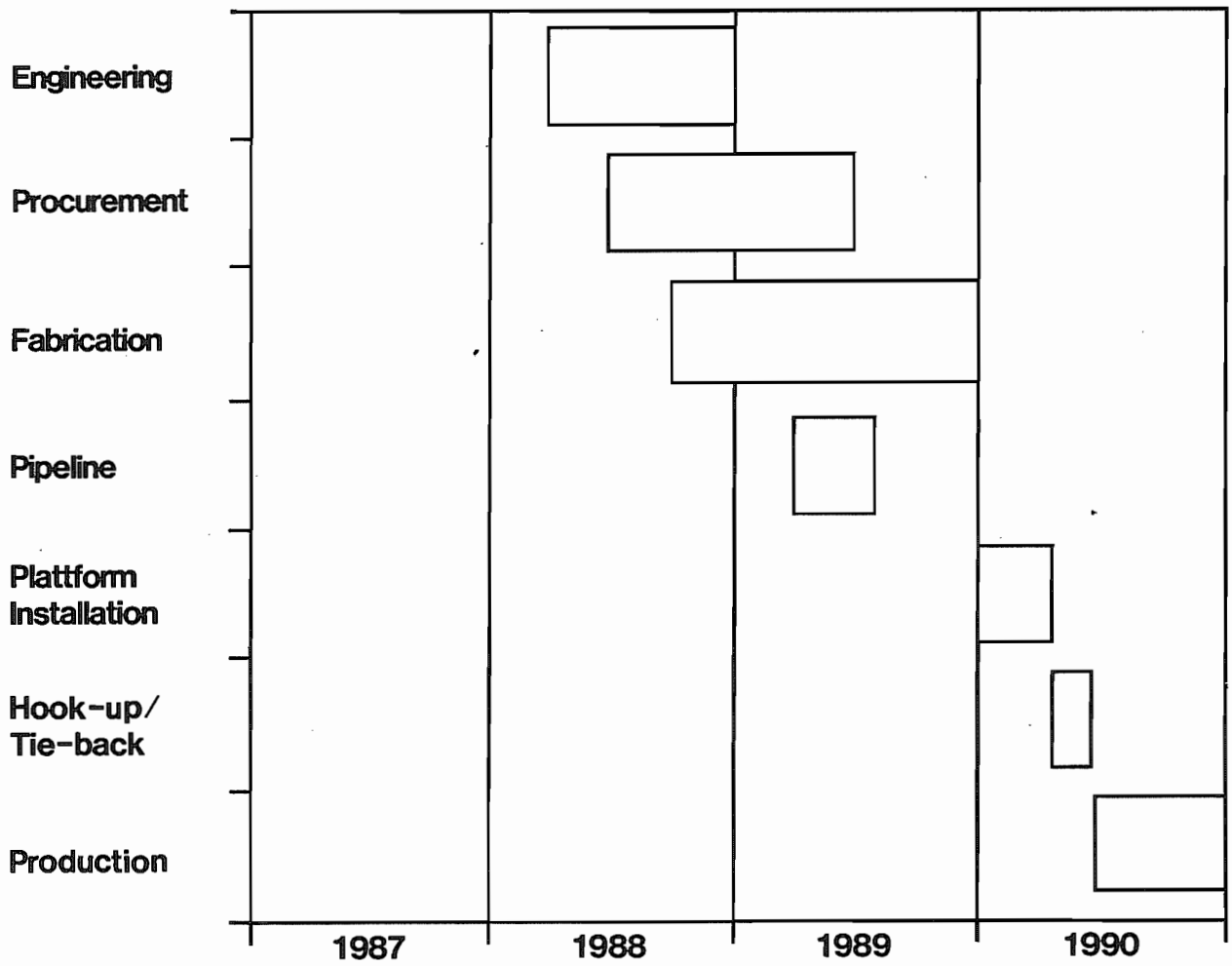
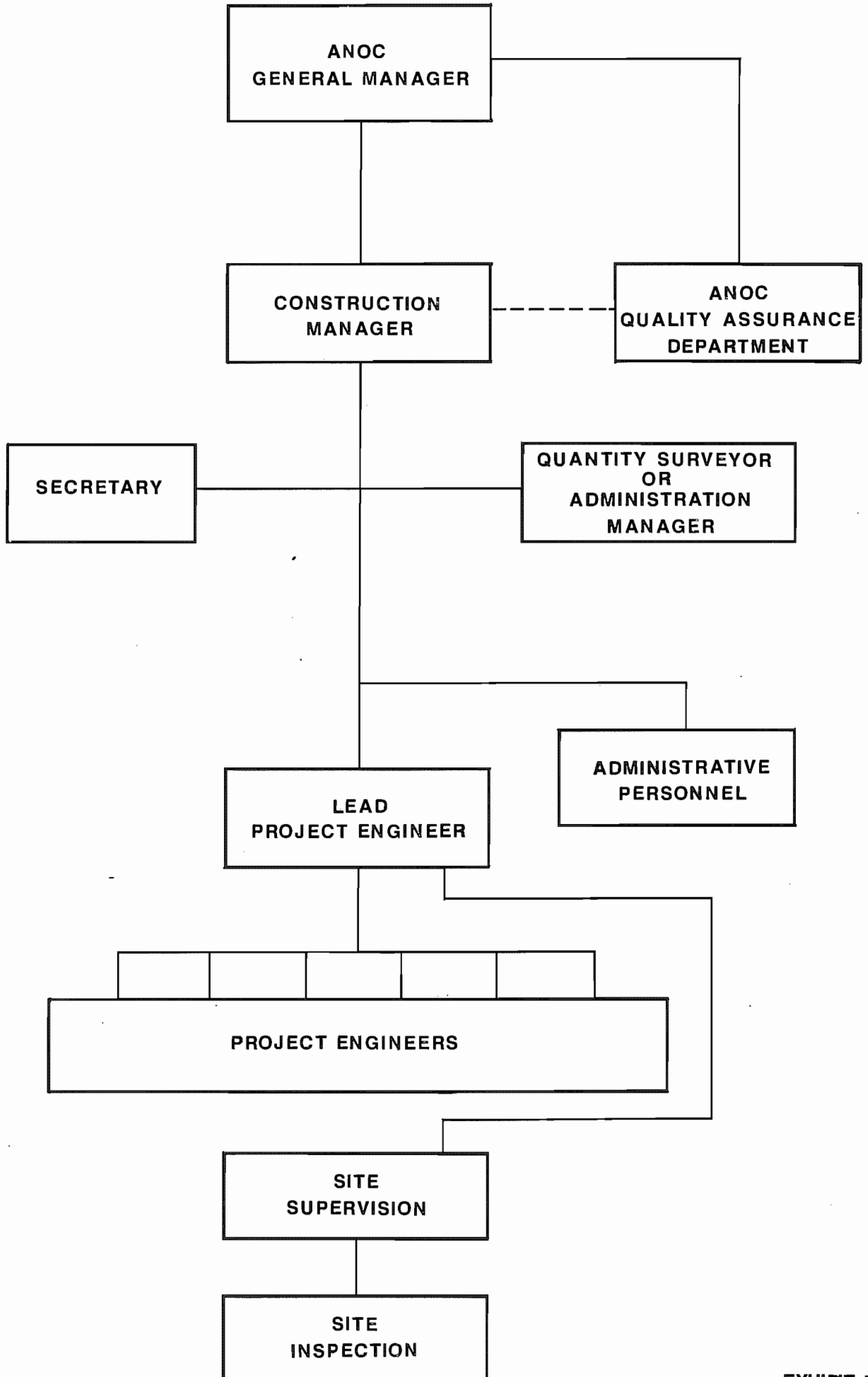


# HOD FIELD DEVELOPMENT PROJECT SCHEDULE

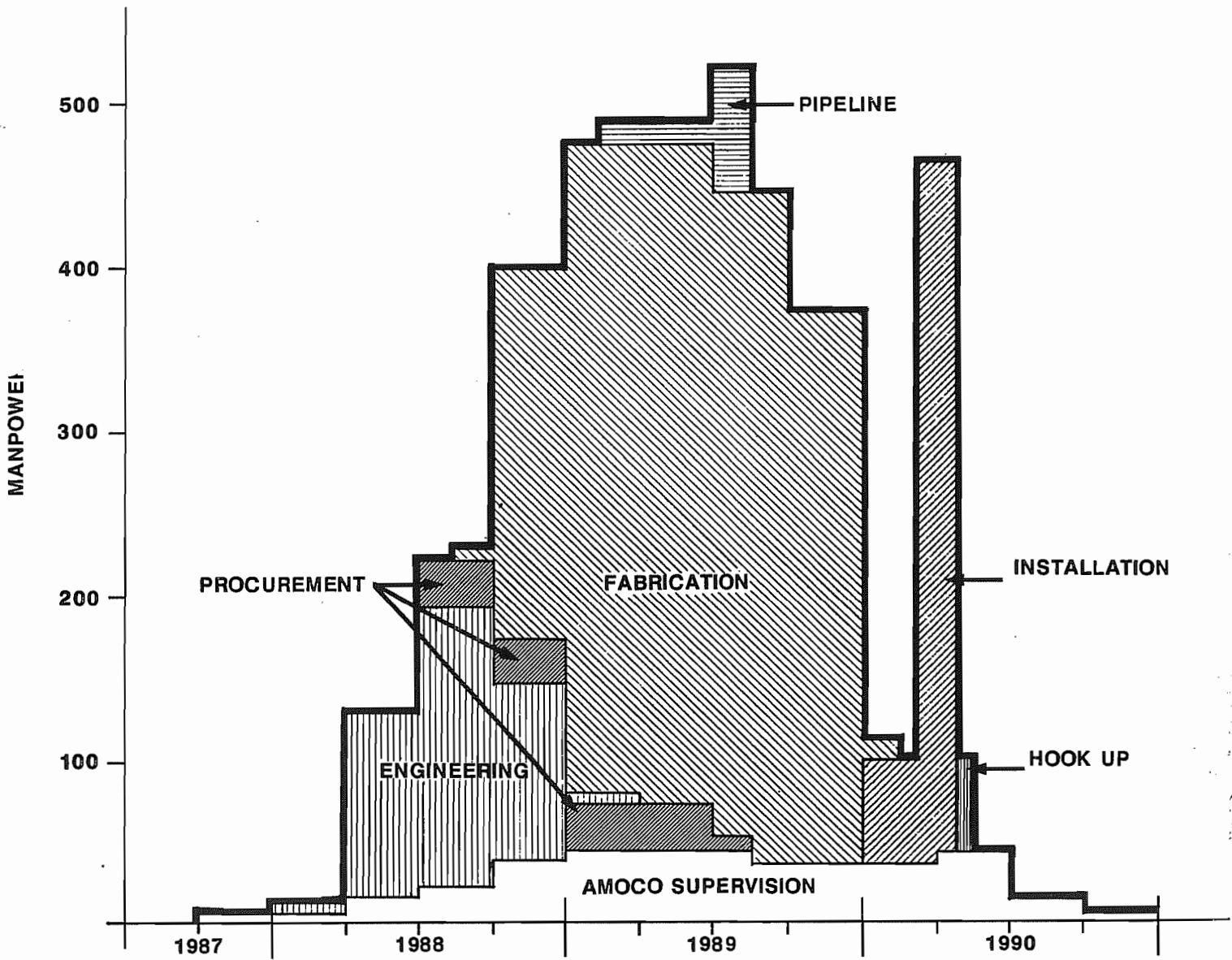


AMOCO NORWAY OIL COMPANY (ANOC)

CONSTRUCTION DEPARTMENT  
ORGANIZATION CHART



# PERSONNEL REQUIREMENTS FOR DEVELOPMENT PHASE



HOD FIELD

WELL DEPTHS AND DRILLING TIMES

BASE CASE : POST - DRILLING

WATER DEPTH : 72 meters

CASING POINTS :

<u>Size (in.)</u>	<u>Type</u>	<u>Depth (m TVD SS)</u>
26	Conductor	120
20	Surface Casing	324
13 3/8	Intermediate Casing	1340
9 5/8	Production Casing	2540 +/- 50
7	Production Liner	Total Depth

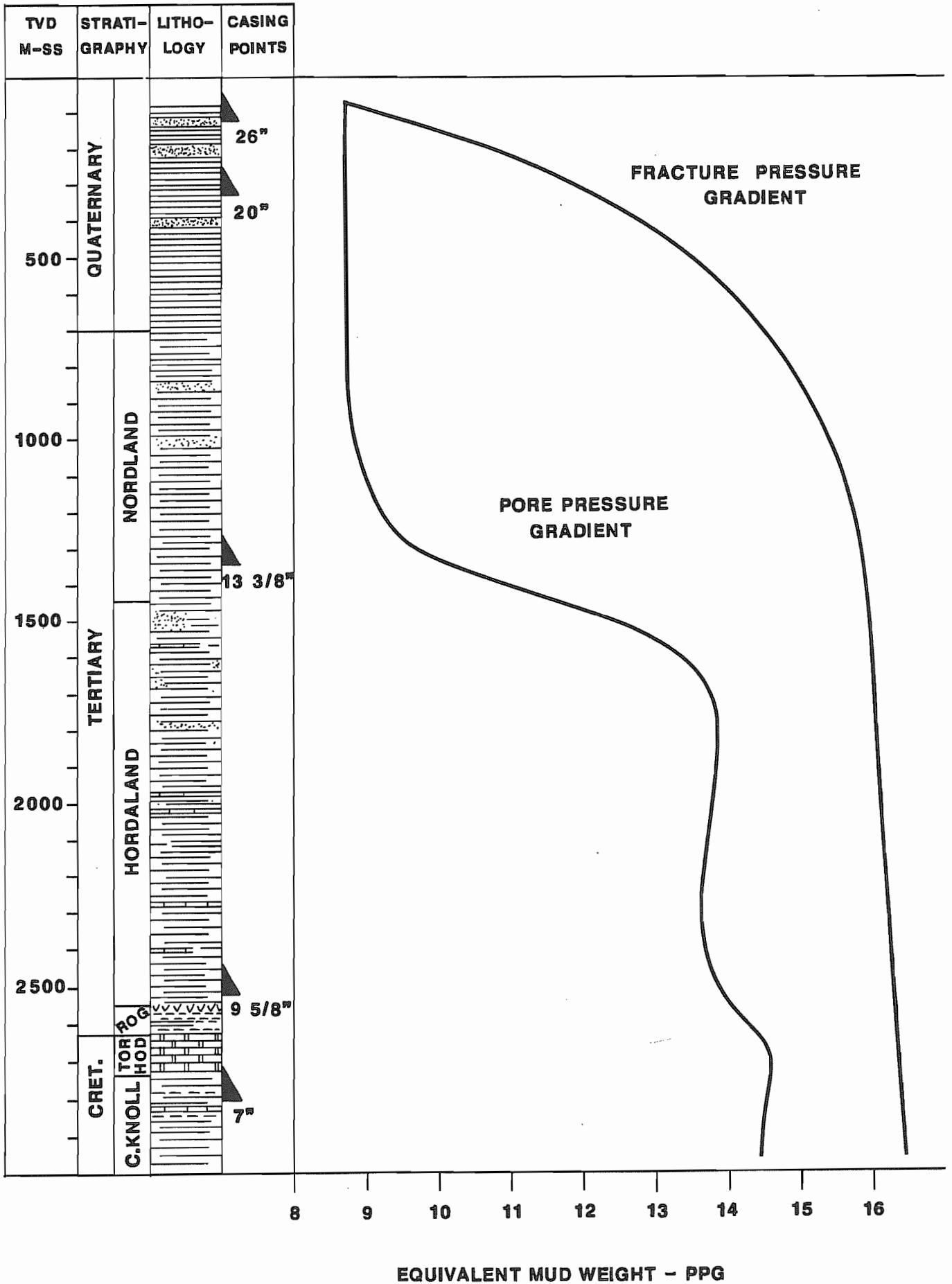
DEPTHS :

	WELL	W1	W2	E2	E3
Top Chalk Target - m TVD SS		2635	2610	2665	2715
Total Depth - m TVD SS		2771	2746	2801	2851
Total Depth - m MD		3674	4118	3278	3135

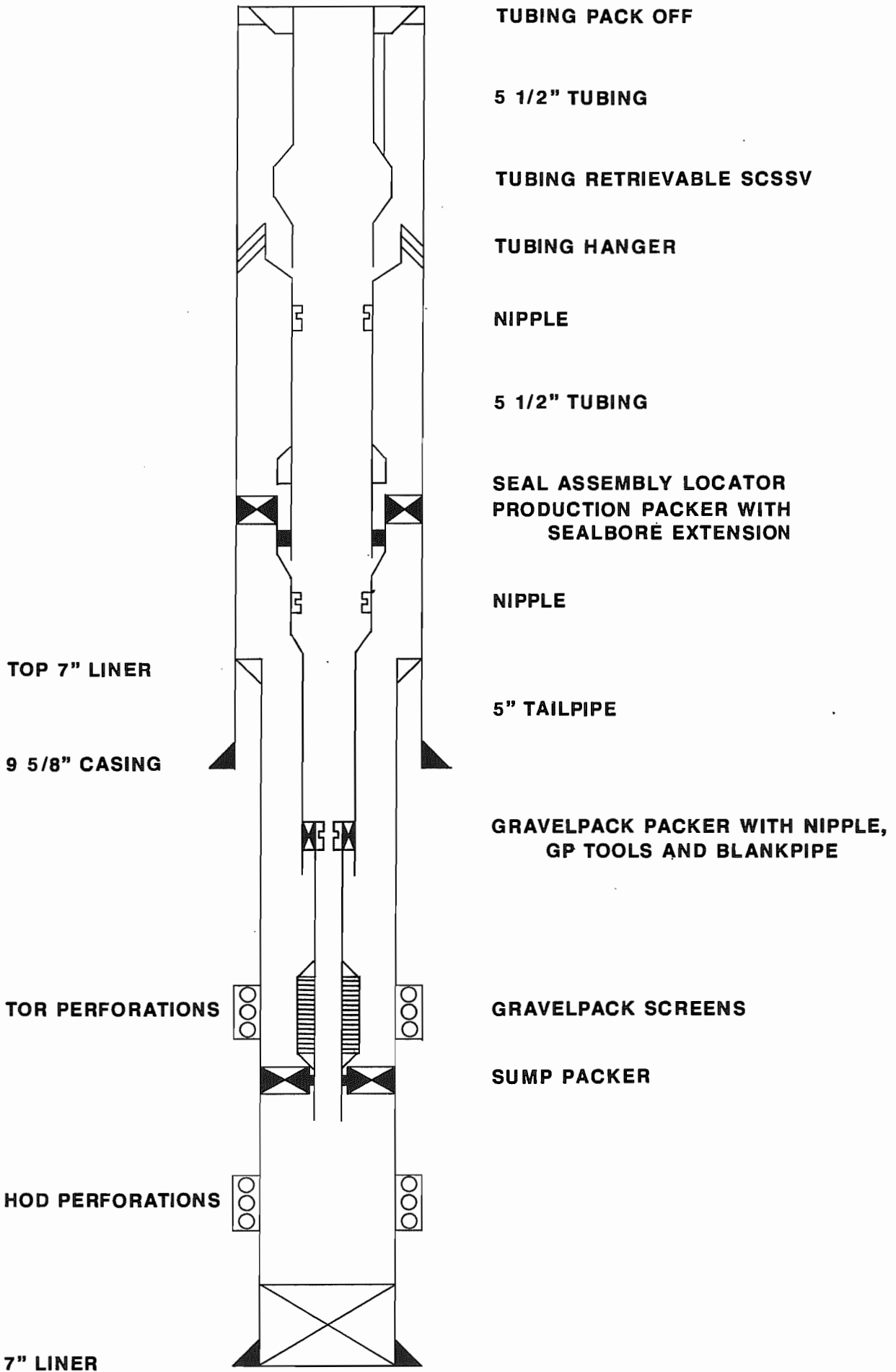
TIME ESTIMATE : DAYS (in 1990)

Rig Mobilization						2
Tie-back Well 2/11-6(ST-1) as Well E1						2
<u>Well</u>	W1	W2	E1	E2	E3	Total
Drilling	39	45	-	33	31	148
Basic Completion	11	11	11	11	11	55
Gravel Packing	-	-	10	10	10	30
Rig Demobilization						2
TOTAL RIG DAYS						<u>239</u>

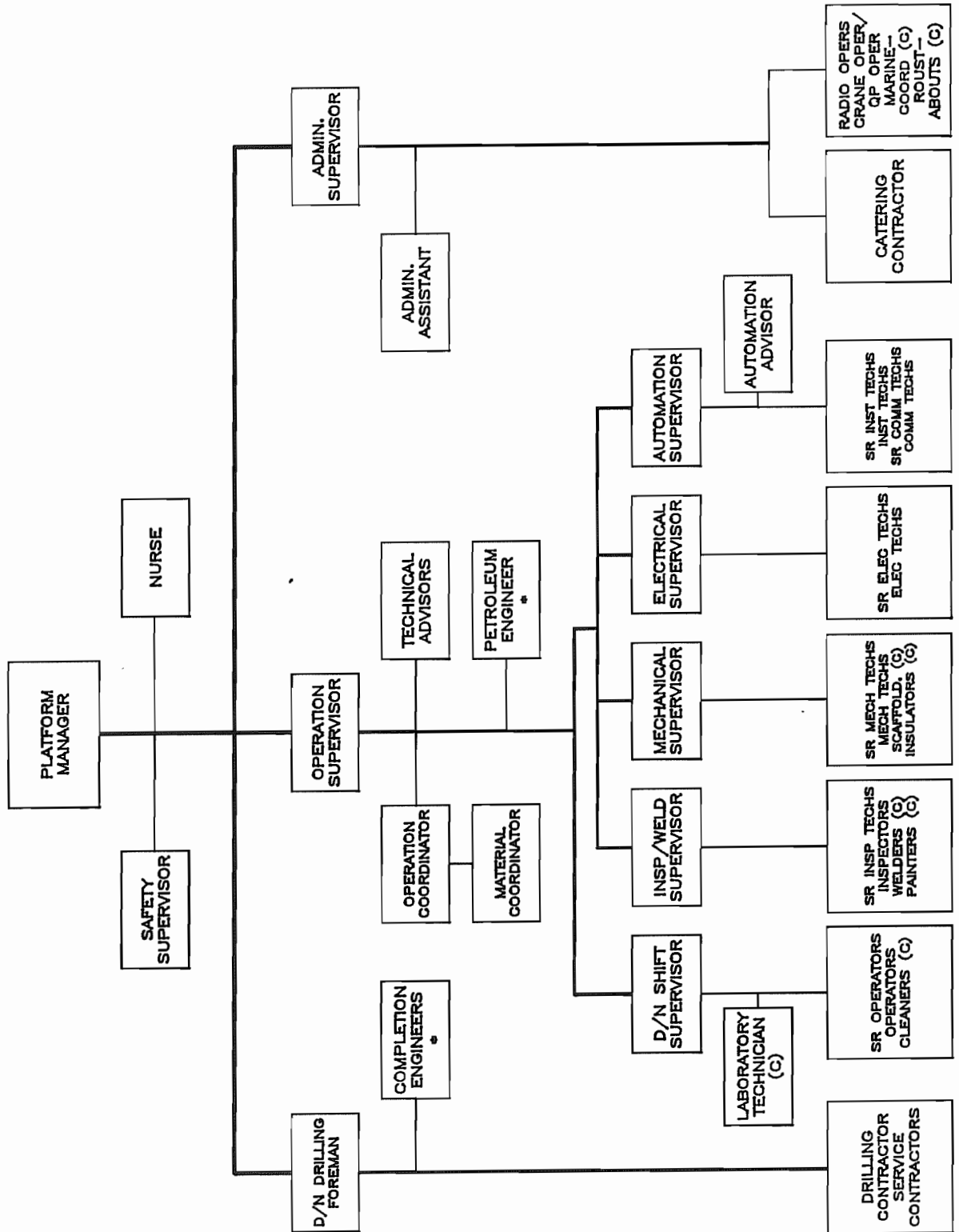
# GENERALIZED PRESSURE PROFILE - HOD AREA



# COMPLETION DIAGRAM - HOD DEVELOPMENT



# OFFSHORE ORGANIZATION VALHALL/HOD



\* - ONSHORE BASED PERSONNEL ON ROTATION, (C) - CONTRACTORS.

**NO EXHIBITS FOR THIS CHAPTER**



## HOD FIELD ECONOMIC RESULTS

### BASE CASE

Total Oil Production, MMSTBO	25.4
Total Oil Production, million Sm <sup>3</sup>	4.04
Total Gas Production, BCF	31.2
Total Gas Production, million Sm <sup>3</sup>	883.5
Total NGL Production, MMBBL	3.30
Total NGL Production, million Sm <sup>3</sup>	0.52
Total Revenue from Sales, US\$ million	769.8
Total Capital Expenditure, US\$ million	94.3
Total Operating Expense, US\$ million	537.0*
Total Corporation Tax, US\$ million	54.7
Total Special Tax, US\$ million	9.8
Total Dividend Withholding Tax, US\$ million	11.1
Total Taxes, US\$ million	75.7
Total Net Profit Share, US\$ million	16.8
Total Net Equity Cash Flow, US\$ million	62.9

\* Excluding Depreciation

### RESULTS :

Internal Rate of Return, percent	20
Net Present Value, 15% discount rate, US\$ MM	8.7
Net Present Value, 10% discount rate, US\$ MM	21.4
Net Present Value, 7% discount rate, US\$ MM	31.3

**HOD FIELD DEVELOPMENT AND OPERATING PLAN**

Base Case Annual Data Sheet

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005 TOTAL	
<b>FINANCIAL STATEMENT &amp; CASH FLOW</b>																			
Oil, Net MB/D	0.0	0.0	5.6	14.5	8.5	6.8	5.5	4.6	4.0	3.5	3.1	2.8	2.6	2.4	2.2	1.9	1.7	0.0	25.4
Gas, Net MMCF/D	0.0	0.0	4.6	18.7	9.9	7.5	6.3	5.6	5.0	4.5	4.1	3.8	3.6	3.4	3.2	2.8	2.4	0.0	31.2
NGL, Net MB/D	0.0	0.0	0.5	2.0	1.0	0.8	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.0	3.3
Crude Oil Price, \$/Bbl	17.50	18.38	19.29	20.26	21.27	22.33	23.45	24.62	25.86	27.15	28.51	29.93	31.43	33.00	34.65	36.38	38.20	40.11	
Gas Price, \$/MCF	2.07	2.41	2.53	2.66	2.79	3.03	3.08	3.23	3.40	3.57	3.74	3.93	4.13	4.33	4.55	4.78	5.02	5.27	
NGL Price, \$/Bbl	7.50	8.35	9.19	9.65	10.13	10.64	11.17	11.73	12.31	12.93	13.57	14.25	14.97	15.71	16.50	17.32	18.19	19.10	
Revenue, \$MM																			\$MM
Oil	0.0	0.0	39.4	107.2	66.0	55.4	47.1	41.3	37.7	34.7	32.3	30.6	29.8	28.9	27.8	25.2	23.7	0.0	627.3
Gas	0.0	0.0	4.3	18.2	10.1	8.0	7.1	6.6	6.2	5.9	5.6	5.5	5.4	5.4	5.3	4.9	4.4	0.0	102.8
NGL	0.0	0.0	1.7	7.0	3.7	3.1	2.9	2.6	2.2	2.4	2.0	2.1	2.2	2.3	1.8	1.9	2.0	0.0	39.8
Total Revenue, \$MM	0.0	0.0	45.4	132.4	79.8	66.6	57.0	50.5	46.2	42.9	39.8	38.1	37.4	36.6	34.9	32.0	30.1	0.0	769.8
Expenses, \$MM																			
Tariffs	0.0	0.0	10.0	32.2	19.3	16.7	15.3	14.7	14.7	15.7	16.1	17.4	17.3	17.2	16.4	15.4	14.8	0.0	253.2
Operating Costs	2.9	3.9	7.5	14.4	14.6	15.0	15.7	16.4	17.2	18.1	19.0	19.9	20.9	21.9	23.4	12.8	13.7	0.0	257.3
Net Profit Share	0.0	0.0	0.0	1.3	4.6	3.5	2.6	1.9	1.4	0.9	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	16.8
Financial Book DD&A	0.0	0.0	5.5	20.1	11.8	9.4	7.6	6.4	5.5	4.8	4.3	3.9	3.6	3.3	3.0	2.6	2.4	0.0	94.3
Abandonment (After Tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7
Total Expense, \$MM	2.9	3.9	23.0	68.0	50.2	44.6	41.2	39.5	38.9	39.5	39.8	41.3	41.8	42.4	42.8	30.8	30.9	0.0	631.3
Income Before Tax, \$MM	-2.9	-3.9	22.3	64.5	29.5	22.0	15.8	11.1	7.3	3.4	0.0	-3.2	-4.4	-5.9	-7.9	1.2	-0.8	-9.7	138.5
Norway Taxes																			
- Corporate Tax	-2.1	-4.7	4.5	27.6	9.7	5.7	3.2	2.9	4.8	2.8	1.2	-0.4	-1.0	-1.7	-1.5	2.3	1.4	0.0	54.7
- Special Tax	-1.4	-3.2	1.6	14.7	4.1	1.7	0.3	0.3	1.8	0.5	-0.5	-1.5	-1.9	-2.4	-3.0	-0.3	-0.9	0.0	9.8
- Dividend WH Tax	-0.2	-0.4	0.9	4.0	1.8	1.2	0.9	0.8	0.9	0.7	0.5	0.4	0.3	0.2	-0.5	-0.2	-0.3	0.0	11.1
- Deferred Tax	1.5	5.6	8.2	-3.5	3.2	5.1	5.1	2.0	-4.5	-3.9	-3.5	-3.1	-2.9	-2.7	-2.5	-2.1	-1.9	0.0	-0.0
Total Taxes, \$MM	-2.2	-2.8	15.2	42.7	18.8	13.7	9.5	6.0	3.0	0.2	-2.2	-4.6	-5.5	-6.6	-7.5	-0.3	-1.7	0.0	75.7
Profit Contribution, \$MM	-0.7	-1.1	7.1	21.7	10.8	8.3	6.4	5.1	4.3	3.2	2.3	1.4	1.1	0.7	-0.4	1.5	0.9	-9.7	62.9
Non-Cash Charges, \$MM	1.5	5.6	13.8	16.6	15.0	14.5	12.7	8.4	1.1	0.9	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.0	94.3
Cash From Operations, \$MM	0.8	4.5	20.9	38.3	25.7	22.8	19.1	13.5	5.3	4.1	3.1	2.2	1.8	1.4	0.2	2.0	1.4	-9.7	157.2
Less: Capital Expenditures, \$MM	11.0	30.4	53.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	94.3
Net Equity Cash Flow, \$MM	-10.2	-25.9	-32.1	38.3	25.7	22.8	19.1	13.5	5.3	4.1	3.1	2.2	1.8	1.4	0.2	2.0	1.4	-9.7	62.9
Cumulative Equity Cash Flow, \$MM	-10.2	-36.1	-68.2	-29.9	-4.2	18.6	37.7	51.1	56.5	60.6	63.7	65.9	67.7	69.0	69.2	71.2	72.6	72.6	62.9

HOD FIELD

PRODUCTION PROFILES

BASE CASE

YEAR	SALES OIL (STBOPD)	SALES GAS (MSCFD)	SALES NGL (BLPD)
1987	0	0	0
1988	0	0	0
1989	0	0	0
1990	5,600	4,600	500
1991	14,500	18,700	2,000
1992	8,500	9,900	1,000
1993	6,800	7,500	800
1994	5,500	6,300	700
1995	4,600	5,600	600
1996	4,000	5,000	500
1997	3,500	4,500	500
1998	3,100	4,100	500
1999	2,800	3,800	400
2000	2,600	3,600	400
2001	2,400	3,400	400
2002	2,200	3,200	300
2003	1,900	2,800	300
2004	1,700	2,400	300
CUMULATIVE PRODUCTION	25,400 MSTBO	31,200 MMSCF	3,300 MBBL

HOD FIELD

PRODUCTION PROFILES

BASE CASE

YEAR	SALES OIL (Sm <sup>3</sup> /D)	SALES GAS (10 <sup>3</sup> Sm <sup>3</sup> /D)	SALES NGL (TONNES/D)
1987	0	0	0
1988	0	0	0
1989	0	0	0
1990	890	130	40
1991	2,305	530	159
1992	1,351	280	79
1993	1,081	212	63
1994	874	178	56
1995	731	159	48
1996	636	142	40
1997	556	127	40
1998	493	116	32
1999	445	108	32
2000	413	102	32
2001	382	96	32
2002	350	91	24
2003	302	79	24
2004	270	68	24
CUMULATIVE PRODUCTION	4,044 10 <sup>3</sup> Sm <sup>3</sup>	883 10 <sup>6</sup> Sm <sup>3</sup>	264 10 <sup>3</sup> Tonnes

CONVERSION FACTORS USED

OIL 1 STB = 0.15897 Cubic meters  
GAS 1 SCF = 0.02832 Cubic meters  
NGL 1 bbl = 0.07937 Tonnes

HOD FIELD INVESTMENT SCHEDULE

BASE CASE

All figures are in unescalated 1987 U.S. dollars (millions).

	1988	1989	1990	Total
Development Wells	-	-	33.4	33.4
Platform	5.6	15.4	1.4	22.4
Installation	-	-	10.2	10.2
Pipelines	1.8	8.0	1.4	11.2
Facilities	3.1	4.0	-	7.1
Valhall Modifications	0.2	0.8	0.5	1.5
TOTAL	10.7	28.2	46.9	85.8

Total Capital Expenditure (escalated) = US\$ 94.3 million.

HOD FIELD DEVELOPMENT AND OPERATING PLAN

OPERATING EXPENSE PROFILE

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	TOTAL
All figures are escalated U.S.\$MM (Gross)																			
<u>CATEGORY</u>																			
Workover and Well Repair	-	-	-	6.5	6.9	7.2	7.6	7.9	8.3	8.8	9.2	9.6	10.1	10.6	11.2	-	-	-	103.9
Direct Production Expense	-	-	2.6	3.3	3.2	3.1	3.3	3.5	3.6	3.8	4.0	4.2	4.4	4.6	5.3	5.8	6.3	-	61.0
Indirect Operating and Administrative	2.9	3.5	4.0	4.0	3.9	4.0	4.1	4.3	4.5	4.7	5.0	5.2	5.5	5.7	5.9	5.9	6.3	-	79.4
Insurances	-	0.4	0.9	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	-	13.0
Abandonment (net after tax)																		9.7	9.7
Unit Tariffs (Third Party)																			
- Oil (\$/bbl)	-	-	1.30	1.22	1.38	1.56	1.69	1.93	2.12	2.56	2.94	3.29	3.57	3.83	4.46	4.86	5.42	-	-
- Gas (\$/MCF)	-	-	0.41	0.42	0.44	0.45	0.44	0.51	0.60	0.68	0.75	0.83	0.83	0.91	0.98	1.06	1.11	-	-
- NGL (\$/bbl)	-	-	8.31	8.00	7.79	8.33	9.04	9.92	11.36	12.67	14.28	15.99	16.91	18.90	21.09	22.79	25.51	-	-
Unit Tariffs (Valhall)																			
- Oil + NGL (\$/bbl)	-	-	1.17	1.18	1.38	1.57	1.81	2.12	2.51	2.90	3.48	4.17	4.50	4.62	4.76	4.92	5.10	-	-
- Gas (\$/MCF)	-	-	1.50	1.46	1.61	1.76	1.95	2.18	2.48	2.96	3.47	4.17	4.14	4.19	4.28	4.38	4.50	-	-
Total Tariffs (\$ MM)																			
- Oil	-	-	5.1	12.7	8.6	7.7	7.0	6.8	6.7	7.0	7.2	7.6	7.7	7.4	7.4	6.8	6.5	-	112.2
- Gas	-	-	3.2	12.8	7.4	6.1	5.5	5.3	5.5	5.8	6.2	6.8	6.5	6.3	6.1	5.5	4.9	-	93.9
- NGL	-	-	1.7	6.7	3.3	2.9	2.8	2.6	2.5	2.9	3.2	2.9	3.1	3.4	2.8	3.0	3.3	-	47.1
Net Profit Share	-	-	-	1.3	4.6	3.5	2.6	1.9	1.4	0.9	0.5	0.1	-	-	-	-	-	-	16.8
TOTAL OPERATING EXPENSE (excl. depreciation)	2.9	3.9	17.5	47.9	38.5	35.2	33.6	33.0	33.3	34.7	36.1	37.3	38.2	39.0	39.7	28.1	28.4	9.7	537.0

## HOD FIELD ECONOMIC RESULTS

### SENSITIVITIES TO BASE CASE

	<u>IRR(%)</u>	<u>Net Present Value, \$ MM</u>		
		<u>15 %</u>	<u>10 %</u>	<u>7 %</u>
Base Case	20	8.7	21.4	31.3
High Oil Price (7% esc.)	23	16.1	32.8	46.2
Low Oil Price (\$14/Bo)	11	(5.7)	1.9	7.4
No Price or Cost Escalation	15	0.6	8.8	14.9
High Gas Price (+25%)	21	11.0	24.5	35.2
High Rates/Reserves(+25%)	26	22.4	39.8	53.5
Low Rates/Reserves(-25%)	12	(5.1)	2.9	8.9
High Investment Costs(+15%)	17	4.0	17.0	27.2
Low Investment Costs(-15%)	23	13.3	25.8	35.4
High Operating Costs(+25%)	16	0.9	10.1	16.9
Low Operating Costs(-25%)	23	16.3	32.4	45.2
Unconsolidated (Standalone) Tax Basis	18	4.7	16.3	24.9
No Taxes	35	47.3	70.1	87.2
Note: Present Value of Taxes (No Taxes Case - Base Case)		38.6	48.7	55.9

HOD FIELD ECONOMIC RESULTS

WELL SENSITIVITIES

A description of each of the cases studied below is found in Reservoir Engineering Section 4.5.5.8. The cases designated 'A' are sensitivities to the Base Case with no Tor Formation Present in West Hod. The cases designated 'B' address the possible developments if Tor Formation were present in West Hod as currently mapped.

Base - 2 wells in W.Hod, 3 wells in E.Hod

A1 - 1 well in W.Hod, 3 wells in E.Hod

A2 - 2 wells in W.Hod, 2 wells in E.Hod

A3 - 3 wells in W.Hod, 3 wells in E.Hod

A4 - 1 well in W.Hod, 3 wells in E.Hod

(no reserves west of major fault on West Hod)

B1 - 3 wells in W.Hod, 3 wells in E.Hod

B2 - 2 wells in W.Hod, 3 wells in E.Hod

B3 - 4 wells in W.Hod, 3 wells in E.Hod

B4 - 3 wells in W.Hod, 4 wells in E.Hod

<u>Case</u>	<u>Well Cost \$MM</u>	<u>W/O Cost \$MM/yr</u>	<u>Reserves MMSTBO</u>	<u>10<sup>6</sup>Sm<sup>3</sup></u>	<u>IRR (%)</u>	<u>PV15 \$ MM</u>	<u>PV10 \$ MM</u>	<u>PV7 \$ MM</u>
Base	33.4	5.5	25.4	4.04	20	8.7	21.4	31.3
A1	26.4	4.4	24.1	3.83	19	7.7	20.2	30.0
A2	30.4	4.4	24.3	3.86	19	6.8	19.6	29.7
A3	40.2	6.6	25.7	4.09	19	7.8	20.1	29.4
A4	32.0	4.4	21.6	3.43	16	1.9	12.4	20.5
B1	42.6	6.6	37.1	5.90	31	33.5	54.0	69.9
B2	34.6	5.5	36.2	5.76	29	30.6	51.3	67.8
B3	50.6	7.7	38.0	6.04	31	34.8	55.1	70.6
B4	50.6	7.7	40.3	6.41	31	36.6	58.9	76.4