COSTS TO
DRILL & COMPLETE
CASEY STRAWN FIELD
LEA COUNTY, NEW MEXICO

Surface Assembly	25,000
350' 13 3/8" O.D. Casing	10,000
4800' 8 5/8" O.D. Casing	80,300
11500' 5 1/2" O.D. Casing	145,800
Production Packer	8,000
11500' 2 3/8" Tubing	55,400
13,900' 2 7/8" Linepipe	13,900
Linepipe Installation	9,000
Miscellaneous Trucking	15,000
Roads, Dirt Work, Pits	15,000
Contract Drilling 11500' @16.5 $/Ft.	189,750
Contract Drilling 3 Days @ 5000 $/Day	15,000
Completion Unit 10 Days @ $1,500	15,000
Bits	50,000
Salaries & Wages	5,000
Mud & Additives	75,000
Cementing & Services	65,000
Water	30,000
Perforating	10,000
Acidizing	20,000
Electric Logging & Surveys	30,000
Miscellaneous Other Drilling Costs	90,000
Tubing Inspection	10,000
Casing Crews	15,000
Total	$997,150

ECONOMICS
DRILL AND COMPLETE
CASEY STRAWN FIELD
LEA COUNTY, NEW MEXICO

Drilling Costs - Tangible	$453,700
Drilling Costs - Intangible	$543,450
Reserves - Oil (BBLS)	214,000
Reserves - Gas (MCF)	214,000
Project Life (yrs)	24
Payout (yrs)	2.11
Present Worth Net Profit	$2,101,087
Present Worth Index	3.11
Discounted Cash Flow Rate of Return (%)	46.33

Case 7730
C+K
Ex 16

CASEY (STRAWN) FIELD
CALCULATIONS

MINIMUM DRAINAGE AREA

The volumetric equation for ultimate recovery is:

$$\text{ULTIMATE RECOVERY} = \frac{7758 \times A \times H \times \emptyset \times (1-S_W) \times \text{R.F.}}{B_O}$$

Solved for drainage area:

$$\text{ACRES (drainage)} = \frac{\text{Ultimate Recovery} \times B_O}{7758 \times H \times \emptyset \times (1-S_W) \times \text{R.F.}}$$

From log calculations, literature and fluid properties:

	$\emptyset$ (%) min-max	H (ft.) min-max	S_W (%) min-max	R.F. (%) min-max	Ult. Rec. (MBO) min - max	B_O (bbl/bbl) min - max
West Knowles No. 4	6 - 13	21 - 59	12 - 30	12 - 25	665 - 865	1.4 - 1.6
Shipp '27' No. 1	6 - 8	12 - 55	7 - 22	12 - 25	400 - 470	1.4 - 1.6
Shipp '34' A No. 1	10 - 14	22 - 24	35 - 70	12 - 25	262 - 380	1.4 - 1.6
Shipp '34' A No. 2	6 - 10	16 - 28	6 - 32	12 - 25	262 - 380	1.4 - 1.6

For minimum acreage drained: $\text{ACRES} = \frac{\text{Ultimate recovery} \times B_O}{7758 \times H \times \emptyset \times (1-S_W) \times \text{R.F.}}$ use min # in numerator, use max # in denominator

West Knowles No. 4 minimum drainage area $= \frac{665{,}000 \times 1.4}{7758 \times 59 \times .13 \times (1-.12) \times .25} =$ 71 ACRES

Shipp '27' No. 1 minimum drainage area $= \frac{400{,}000 \times 1.4}{7758 \times 55 \times .08 \times (1-.07) \times .25} =$ 70 ACRES

Shipp '34' A No. 1 minimum drainage area $= \frac{262{,}000 \times 1.4}{7758 \times 24 \times .14 \times (1-.35) \times .25} =$ 86 ACRES

Shipp '34' A No. 2 minimum drainage area $= \frac{262{,}000 \times 1.4}{7758 \times 28 \times .10 \times (1-.06) \times .25} =$ 72 ACRES

11-17-82