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IMPACTS OF THE ALTERNATIVE MINIMUM TAX ON CRUDE OIL PRODUCTION ECONOMICS

by

W. Matthew Henderson

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 – 1346

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Signed: W. Matthew Henderson

W. Matthew Henderson

Approved: Franklin J. Stermole

Dr. Franklin J. Stermole
Thesis Advisor

Golden, Colorado

Date November 3, 1992

Roderick G. Eggert

Dr. Roderick G. Eggert
Associate Professor
and Acting Head,
Mineral Economics Department

ABSTRACT

The current alternative minimum tax (AMT) system was established by the Tax Reform Act of 1986 to prevent corporations and individuals from using deductions, exemptions, and credits to completely avoid federal income tax liability. AMT is computed using a unique schedule of deductions that are less favorable than those employed under regular federal tax. As a result, many corporate and individual taxpayers must pay AMT in addition to their regular tax liability.

Oil and gas companies, both integrated and independent, are facing potentially large AMT bills because of costs normally incurred in their U.S. operations. Many complain that AMT has a deleterious impact on the economic health of the industry and on their financial position. This study quantifies the economic impact of AMT on domestic crude oil projects and explores alternative tax strategies for the firm.

TABLE OF CONTENTS

LIST OF TABLES

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Chapter 1

INTRODUCTION

The current alternative minimum tax (AMT) system is an important body of legislation that emerged through the Tax Reform Act of 1986. Most corporations and other taxpayers who receive investment revenue must now compute AMT in addition to their regular federal income tax. Often, the additional tax is substantial. Even in years that a company does not owe AMT, it still extracts large costs of compliance by forcing firms to maintain separate records that account for the complex rules and intricate variations comprising the AMT system.

The oil and gas industry is especially concerned about AMT. An increasing number of large integrated firms, small independent operators, and companies in between are subject to the tax, and some expect to pay it every year through the end of the century. AMT alters the traditional deductions on capital costs that companies rely on to ease their tax burden. Since AMT deductions are less favorable than those allowed under regular federal income tax, firms now complain that AMT is an "onerous" cost of doing business (Tanner 1992).

AMT also severely limits the application of tax credits that normally provide significant incentive for oil and gas firms to invest in more risky ventures. The companies subject

to AMT may not use the Devonian shale or the tight gas sands credits that were once available under Section 29 of the Internal Revenue Code, nor may they use the enhanced oil recovery credit. Recent articles in respected literature decry this ruinous effect of AMT on domestic production and warn of the impending danger to the health of the industry (Tanner 1992, Gill 1992).

This study quantifies the effect of AMT on domestic crude oil production economics using a discounted cash flow framework to evaluate a hypothetical U.S. drilling project for an integrated and a small independent company. The model first calculates a firm's AMT based on the specific provisions of the Internal Revenue Code. The resulting tax is then incorporated into cash flow, upon which internal rate of return (ROR) and net present value (NPV) are calculated.

Several options available to the firm may reduce or eliminate the alternative minimum tax liability. By deducting capital costs more slowly than for regular federal tax, a company can avoid adjustments to taxable income that trigger AMT. The alternate strategies are examined to test whether reductions in AMT will improve the economics of crude oil production.

The analysis also considers the effect of AMT when the drilling project is not the only source of corporate income. In

this case, it is assumed that other operations trigger AMT for all of the company's projects. The evaluation method for this scenario is different from the one employed when the drilling project represents total corporate income.

The AMT may have a substantial impact on projects that are marginally economic. That is, when NPV is relatively low, and ROR is only slightly above the firm's minimum rate of return, the additional tax may be more damaging. The hypothesis is tested by reducing crude oil prices and raising operating costs on the drilling projects. This scenario more closely approximates the current U.S. crude oil production climate.

Finally, the analysis explores the effect on project economics of losing the coveted enhanced oil recovery (EOR) credit. It is equal to 15% of all intangible drilling and tangible completion costs, and the cost of certain injectant materials incurred on qualified tertiary recovery projects. A company may reduce its regular federal income tax by the amount of the credit; however, the firm may not use it in years when AMT is paid.

Chapter 2

THE NATURE OF ALTERNATIVE MINIMUM TAX

Intent and History of AMT

In the Tax Reform Act of 1986, Congress substantially altered the alternative minimum tax (AMT) in response to public perception that many companies paid little federal income tax despite reporting healthy earnings to their shareholders. A study by Citizens for Tax Justice reported that 130 of the 250 largest American corporations did not pay any federal tax in at least one year between 1981 and 1985 (Rook 1991, 7:4). In light of the concern surrounding loopholes in the tax system, Congress acted to insure that "no taxpayer with substantial economic income avoid significant tax liability by using exclusions, deductions, and credits" (Rook 1991, 1:3).

The concept of a minimum tax is not new. In 1969 a 10% "add-on" levy was created to prevent individuals and corporations with high income from avoiding federal tax. The rules governing the calculation of the minimum tax tightened in 1976 and the rate was increased to 15% (Abbin et al. 1990, 102). The Tax Reform Act of 1986, however, created a more complex system of rules and specifications so that AMT became virtually a separate tax system (Rook 1991, 1:4).

The alternative minimum tax rules have undergone continual change since 1986. They were formally amended again by the Revenue Reconciliation Act of 1989. The components of AMT discussed in this chapter are based on the most current tax legislation after the 1989 act. Although the alternative minimum tax applies to individual and corporate taxpayers, this study deals strictly with the tax rules applicable to corporations.

Structure of AMT

The base for a firm's alternative minimum tax is its regular federal taxable income in any given year. A number of "preferences" and "adjustments" are then added to arrive at alternative minimum taxable income (AMTI). AMTI is taxed at 20% for corporations, which gives the company's tentative minimum tax (IRC 1992, 55[b][1][A]). The difference between tentative minimum tax and regular federal income tax is the firm's alternative minimum tax, which is paid in addition to regular tax.

Preferences and adjustments are created when tax deductions are treated differently for regular tax than under AMT rules. They arise from deductions such as depreciation of equipment, amortization of certain facilities, depletion of mineral reserves, and losses on bad debts (Rook 1991, 1:24-25).

The most complicated of the modifications to taxable income is adjusted current earnings, which reconciles a firm's financial statement income and its reported tax income. Other features of AMT include the net operating loss deduction, the standard AMT exemption, the special energy preference deduction, and the minimum tax credit.

The calculation of a firm's AMT liability in any given year is characterized by "complexities and endless variations." (Abbin et al. 1990, 103). It is a difficult process, even by the standards of tax practitioners. IRS regulations are often poorly worded and contradictory, the computations can be strenuous, and new legislation is created frequently that changes the tax code. A comprehensive treatment of all AMT rules is beyond the scope of this study.[1] Therefore, the discussion of AMT is limited to the items directly affecting the economics of domestic projects for U.S. oil and gas producers.

AMT Preferences and Adjustments

Companies are allowed "preferential" treatment of certain tax deductions under regular tax rules. The items often give firms generous tax benefits because they deduct costs quickly. The percentage depletion allowance, for instance, allows

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[1]For readers wishing to pursue the subject, Rook 1991, and Abbin et al. 1990 give a thorough treatment of the alternative minimum tax system for individuals and corporations.

independent oil and gas companies large yearly deductions on mineral rights acquisition costs. Under AMT rules, however, the preference items are "added back" to a firm's regular federal taxable income.

AMT preferences are calculated by taking the difference between regular tax treatment of a cost and its treatment under AMT rules. The yearly difference is added to taxable income to arrive at AMT income. As specified by the tax code, preferences can only increase a company's AMT income. Thus they contribute to the alternative minimum tax liability.

AMT adjustments, on the other hand, may increase or decrease AMT income. Adjustments are calculated as the difference between a yearly deduction under regular tax rules and AMT rules. Sometimes an adjustment is positive and it increases AMT income, other times it is negative, decreasing AMT income and eventually the AMT liability.

The AMT depreciation adjustment, for example, is the difference between the yearly depreciation deduction allowed for regular tax and the deduction calculated according to AMT rules. The dollar difference is added back to AMT income. In early years of an asset life, the adjustment will be positive because the regular tax deduction is larger. In later years of the asset's life, however, the adjustment will be negative because the AMT deduction will be larger. Thus the adjustment reduces

the AMT burden in the later years.

Adjusted Current Earnings

The adjusted current earnings (ACE) adjustment was created by the Tax Reform Act of 1986 as a way to align a firm's financial statement income more closely with the income reported for federal tax. Several laborious calculations are required to arrive at the ACE adjustment, in addition to the already difficult maneuvers AMT demands. One U.S. official calls the adjustment "obscenely complex," and another tax practitioner says "it's horrific" (Saunders 1989). Nonetheless, the adjusted current earnings adjustment is a cornerstone of the AMT system.

ACE relies on its own set of preferences and adjustments and on the tax concept of earnings and profits, so that a firm's financial earnings approximate its economic income from business operations. The depreciation adjustment, for example, uses as its base the straight-line depreciation method that most firms use for financial reporting. The difference between the straight line method and the AMT accelerated depreciation is added to alternative minimum taxable income.

Other AMT Items

Companies subject to the alternative minimum tax are entitled to a standard exemption that reduces their tax

liability. The maximum exemption is $40,000, but the amount decreases as taxable income exceeds $150,000. The exemption does not apply when taxable income exceeds $310,000 (IRC Sec. 55[d]).

A firm's regular net operating loss, deductible for federal income tax, is not allowed under AMT. However, the firm may recapture part of the amount lost through the AMT net operating loss. The deduction is calculated according to AMT preference and adjustment items and is similar to the regular tax net operating loss deduction. Although the AMT deduction is normally not large as the regular tax deduction, it may offset up to 90% of AMT income (IRC Sec. 56[d]).

The Senate Finance Committee determined in 1990 that "a large segment of oil and gas independent producers have significant amounts of tax preference items and accordingly are subject to the alternative minimum tax" (Rook, 1991). Their response was to create the special energy preference deduction available only to independent oil and gas companies. The deduction modifies the independent's depletion and intangible drilling cost preferences to reduce the AMT liability.

One redeeming feature of the AMT system is the minimum tax credit available to all companies. The credit allows corporate taxpayers to recover AMT paid out in previous years in the subsequent years that AMT is not due. A firm may reduce its

regular tax liability in years AMT is not due by the cumulative amount of AMT paid in earlier years. The amount of credit that exceeds a firm's regular tax bill in a given year may be carried forward (but not backward) to years where only regular tax is due (IRC Sec. 53[a]-[c]).

The company that expects to be under AMT for a short time, perhaps one or two years, may find some relief in the credit. However, if AMT is due for a number of years, the firm loses the use of the funds used to pay AMT. The loss can be significant, considering the time value of money to a firm, which reflects the rate of return on investment opportunities. Moreover, some companies project they will owe AMT for many years, in which case the benefit of the credit is effectively lost. AMT then becomes a substantial burden.

Significance of AMT

AMT will undoubtedly affect many oil and gas producers by forcing them to pay additional tax. By nature, exploration and production require large capital investment. Tax deductions on capital costs are precisely the target of many preferences and adjustments that increase the AMT liability. The AMT depreciation adjustment, for instance, adds a significant amount to AMT from the costs spent on tangible producing equipment such as well piping and pumps. The intangible drilling cost

preference, too, may trigger AMT because of the large amount of money typically spent on well site development. The depletion preference for independents is especially harsh because it eliminates the generous percentage depletion deduction after the cost basis for a property is recovered.

A very potent threat is the loss of tax credits on energy production available to them under Sections 29 and 43 of the Internal Revenue Code. The tight gas sands, Devonian shale, and the enhanced oil recovery credits may not be used to reduce AMT. Instead, they must be carried forward to use against regular tax in the years AMT is not due. One independent producer estimates it loses $125,000 per year in Devonian shale credit by paying AMT (Walker 1991). Another major U.S. oil company expects to lose enhanced oil recovery credits on hundreds of millions of dollars invested in tertiary recovery projects.

Recent articles in industry journals decry the deleterious consequences of AMT for oil and gas producers (Gill 1992, Tanner 1992, Walker 1991). However, the quantitative effects on the companies are not well documented.

Chapter 3

METHOD OF ANALYSIS

Introduction

This study uses a discounted cash flow (DCF) analysis model to assess the impact of the alternative minimum tax on crude oil production economics for integrated and independent oil and gas producers. DCF methods evaluate the economic viability of the stream of costs and benefits flowing from an investment project over time. The yearly costs or benefits are known as cash flows, which are discounted at a rate that reflects forgone earnings from alternative investment opportunities. Components of yearly cash flow include product price, production, capital costs, operating costs, and taxes (including AMT).

Because the corporate AMT is complex, and subject to cumbersome rules governing its calculation, this study employs a separate analytic framework to assess AMT liability. AMT is then added to the other tax costs in the discounted cash flow model. Thus the analysis demonstrates the impact of AMT on the economics of a firm's drilling projects.

Discounted Cash Flow Analysis Techniques

Discounted cash flow (DCF) techniques evaluate the economic validity of a stream of monetary benefits or costs flowing from an investment over time. Each of the costs or benefits is "discounted" or "compounded" to a common point in time and aggregated in some fashion. The rate of discounting (or compounding) is the rate that could have been earned on the best alternative use of investment dollars. This is commonly known as the opportunity cost of capital, the minimum discount rate, or the minimum rate of return.[2]

Two prevalent discounted cash flow analysis techniques for income-producing investments are net present value (NPV) and internal rate of return (ROR). NPV sums discounted revenues and costs at a specified minimum rate of return to arrive at a single dollar amount. ROR figures the percentage rate at which an initial investment cost, or a series of discounted investment costs, is amortized (or paid back) by the discounted revenues received in later years.

Cash flow in any given period (commonly a year) is the sum of revenues generated by an investment and the costs associated with that investment. These include capital costs and operating

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[2]The appropriate rate of discounting is a point of contention among many in the fields of finance and economics. See Stermole and Stermole 1990, and Brealey and Meyers 1988, for a thorough treatment of the issue.

costs. Each is treated differently in the cash flow model, especially for income tax calculation, another critical component of discounted cash flow analysis.

An accurate analysis must consider the effects of taxes. Federal and state income taxes, the alternative minimum tax, and a whole family of excise and ad valorem taxes are of paramount concern in any economic decision. Income taxes, for example, may amount to as much as 40% of corporate taxable income, which is a substantial cost of business.

A simplified cash flow calculation accounting for revenues and costs follows this method (Stermole and Stermole 1990, 7):

Gross Revenues
- Operating expenses
- Tax costs
- Capital costs
= Cash Flow

Once the analyst determines cash flow, net present value and internal rate of return can be used as decision-making tools. If a project returns a positive NPV at a particular minimum discount rate, the economics of that project are favorable. Similarly, if ROR is greater than the minimum rate, the project is acceptable.

Discounted cash flow analysis is a sound economic and financial evaluation technique. The results, however, are only as good as the input data. The adage "garbage in, garbage out"

fairly describes an analysis performed without careful estimation of the economic variables such as price, production, operating, and capital costs. The quality of these estimates will ultimately determine the success of the analysis.

Economic measures like NPV and ROR must also be considered in light of qualitative and intangible factors that accompany investment opportunities. Oil and gas producers, in particular, must consider legal and regulatory constraints, ecological impacts, and political risks of operating in a foreign country. Though the analyst may not explicitly include these factors in discounted cash flow evaluation, they must be considered in the decision-making process.

Discounted cash flow analysis is widely accepted and much-used in the oil and gas industry. It provides a consistent and easily accessible method for evaluating a project or a group of projects undertaken by firm, and is well-suited for the analysis presented in this study.

Components of the DCF Model

The alternative minimum tax is assessed on a firm's total income in any given year. Oil and gas companies may have yearly costs and revenue from many sources including exploration, production, refining, and marketing. This study, with one exception, considers only the firm's drilling and production

activities. Five projects, each with one well, representing typical domestic oil and gas drilling ventures will be constructed. The projects will begin annually, the first in 1992, and will last five years. At the end of each project, production will cease and write-offs taken on remaining capital cost tax deductions.

Capital Costs

Capital costs are incurred for assets that provide benefit to a project over many years. For oil and gas projects, the costs are mineral rights, intangible drilling charges, and tangible drilling or completion costs. U.S. tax law stipulates that these costs must be deducted over the several years in which the benefit is enjoyed. Table 3.1 gives the capital costs used in this model.

Before drilling, a producer must purchase the rights to extract the oil underneath a surface property. These mineral rights acquisition costs are "capitalized" (according to the current tax law) and recovered through depletion deductions the producer takes on declining oil reserves. Integrated producers are only allowed cost depletion, which is calculated as a fraction of the declining reserves each year (FR Sec. 1.611-2[a][1]). The cumulative cost depletion deductions can never exceed the original cost of the mineral rights.

TABLE 3.1
Capital Costs for Five Drilling Projects

	1992	1993	1994	1995	1996
Project 1:					
M.R. Acq.	$200,000				
IDCs	750,000				
Tangible	400,000				
Project 2:					
M.R. Acq.		$200,000			
IDCs		850,000			
Tangible		450,000			
Project 3:					
M.R. Acq.			$200,000		
IDCs			900,000		
Tangible			500,000		
Project 4:					
M.R. Acq.				$ 250,000	
IDCs				1,000,000	
Tangible				600,000	
Project 5:					
M.R. Acq.					$ 250,000
IDCs					1,100,000
Tangible					650,000

Note: M.R. Acq. = mineral rights acquisition cost
IDCs = intangible drilling costs

Independent companies with less than 1,000 barrels of production per day are allowed either cost or percentage depletion, depending on a specified comparison between the two. The percentage depletion deduction for oil and gas is 15% of gross revenue after royalties (IRC Sec. 613A[c]).

Intangible drilling costs (IDCs) are incurred on well site and pumping preparations and include such things as surveying, seismic testing, construction of access roads, and drilling fluid and materials (FR Sec. 1.612-4[a]). Independent companies are allowed to fully deduct IDCs in the year incurred. Integrated producers, however, may deduct only 70% of IDCs. The remaining 30% must be amortized over 60 months beginning in the month incurred (IRC Sec. 291[b]). This is a significant disadvantage to integrated companies since amortization yields tax deductions more slowly than does the full deduction of the expense in the year it is incurred.

The final capital costs included in the model are the tangible drilling or completion costs. These are incurred for assets such drilling rigs, well casing materials, pipeline, and pumping units. For regular federal income tax, firms use one of five methods to depreciate tangible oil and gas-producing equipment (Freeze 1989, 102). However, a company may not switch between methods once it begins to depreciate a particular asset. Tangible costs in this model are depreciated using the modified

accelerated cost recovery system (MACRS) over a seven-year life. Both independent and the integrated firms may depreciate assets in this manner (IRC Sec. 168[b]-[c]).

Production, Operating Costs, and Prices

Crude oil production for the drilling projects is based on declining rates each year, which is representative of most domestic wells today. Each project is comprised of one well and carries a different yearly production scenario. Operating costs include expenditures for power, maintenance labor and materials, and fluid removal. Unlike capital costs, they are fully deductible. Each well or project in this analysis has different operating costs (Table 3.2).

The crude oil selling prices used in this analysis are simple projections based on an economic scenario in which prices slowly increase over the next decade. Oil price forecasts are suspect by nature, owing to a number of complicating factors, such as the influence of the OPEC cartel, that have plagued oil markets over the last 20 years. The 1992 price in this study is based on the published price of West Texas Intermediate, a benchmark crude, early in 1992.

TABLE 3.2
Yearly Values for Five Drilling Projects

Item	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price ($/barrel)	20	22	22	23	23	24	24	25	25
Production (barrels):									
Project 1	62,000	53,000	35,000	34,000	17,000				
Project 2		65,000	55,000	43,000	29,000	18,000			
Project 3			72,000	58,000	40,000	30,000	20,000		
Project 4				70,000	63,000	50,000	39,000	21,000	
Project 5					68,000	55,000	43,000	31,000	19,000
Operating Costs ($):									
Project 1	50,000	53,000	56,000	59,000	62,000				
Project 2		55,000	58,000	61,000	64,000	67,000			
Project 3			60,000	63,000	66,000	70,000	72,000		
Project 4				62,000	65,000	68,000	71,000	75,000	
Project 5					65,000	68,000	71,000	75,000	79,000

Calculation of After-Tax Cash Flow

To approximate a company's total yearly income, production, revenues, operating and capital costs, and tax deductions for each project are aggregated to form one drilling program beginning in 1992 and ending in 2001. The consolidated drilling program is the basis for the discounted cash flow analysis and alternative minimum tax calculations throughout this study. The project is analyzed from the perspective of both integrated and small independent producers.

After-tax cash flow is the revenue generated by the project, less all costs incurred for drilling (Table 3.3).

Selling price per barrel of crude oil is multiplied by barrels produced in a year to arrive at gross revenue. Royalties to land owners and other investors (14% of gross revenue in this evaluation) are subtracted from gross revenue to arrive at net revenue.

The full amount of operating costs are subtracted from net revenue each year. Capital costs such as IDCs, depreciation, and depletion are also deducted according to the allowable tax treatment discussed above. These costs are typically large in the early years of a project. Revenues are normally realized after these expenditures occur, and thus a company may post losses early in the project. The projects constitute total corporate income, therefore losses incurred must be carried forward to use against positive taxable income in later years.

State and federal income taxes are assessed on the net income after allowable costs have been deducted. For simplicity, a 34% federal tax rate is used to approximate the rate that actually varies with the level of a company's taxable income. The model assumes a state income tax rate of 6% on all projects. Because state tax is deductible for federal income tax, an effective income tax rate of 38% is used to account for both. The 38% rate approximates the 37.96% actual rate, which is calculated as follows (Stermole and Stermole 1990, 311):

TABLE 3.3
1993-94 Sample Cash Flow Calculation:
Consolidated Drilling Program
for the Integrated Producer

Item	1993	1994
Price ($)	20	22
Production (barrel)	62,000	118,000
Gross Revenue	1,240,000	2,596,000
- Royalties (14%)	-173,600	-363,400
Net Revenue	1,066,400	2,232,560
- Operating Costs	-50,000	-108,000
- IDC expense	-595,000	-630,000
- Amortization (IDC)	-70,500	-123,000
- Depreciation	-57,143	-162,245
- Depletion (Cost)	-64,921	-117,402
- Loss Forward	-547,500	-318,664
= Taxable Income	-318,664	773,249
- Tax Due @ 38%	0	-293,835
- Alt. Minimum Tax	-110,125	0
+ Minimum Tax Credit		110,125
= Net Income	-428,789	589,540
+ Amortization (IDC)	70,500	123,000
+ Depreciation	57,143	162,245
+ Depletion (Cost)	64,921	117,402
+ Loss Forward	547,500	318,664
- Capital Costs	-905,000	-970,000
Cash Flow	-593,725	340,850

effective income tax rate = s + f(1-s)
= 0.06 + 0.34(1-0.06)
= 0.3796

where s = state income tax rate
f = federal income tax rate

The effective tax is subtracted from net revenue to arrive at net income.

Depreciation, depletion, and amortization are commonly known as "non-cash" deductions, and are used strictly to calculate income tax. They are not costs for which physical payment must be made, as is the case for such operating costs as equipment maintenance.[3] Therefore, these deductions are added back to net income to derive after-tax cash flow.

Finally, the portion of capital costs deducted through depreciation, depletion, and amortization reduce net income. Since non-cash deductions are subtracted and then added back, the capital cost entry properly accounts for physical payment for the asset in the year purchased. This evaluation assumes the assets are acquired fully with cash.

The AMT payment illustrated in Table 3.3 is calculated using a different set of tax rules from those discussed above. Based on the firm's regular federal taxable income, AMT is

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[3]Accountants and financial analysts often do treat depreciation and depletion as regular business costs. However, in this case, the goals of discounted cash flow analysis differ from accounting and financial reporting.

computed using a different framework and then inserted back into the cash flow model.

The Corporate AMT Model

The corporate alternative minimum tax is calculated according to complex rules. For this study, only those guidelines that apply to oil and gas production income will be used. AMT will be calculated using a computer spreadsheet template and then inserted into the discounted cash flow model described above. Table 3.4 illustrates the general form of the AMT calculation.

State tax is subtracted from "earnings before tax" to arrive at regular federal taxable income, the starting point for the AMT calculation. "Earnings before tax" is "taxable income" in the cash flow model described in Table 3.3. Because effective rates that combine federal and state tax are used in that model, "taxable income" must be adjusted to arrive at regular federal taxable income. Subtracting state income tax makes this compensation. Net operating losses from previous years' business are not allowed for AMT and must be added back to regular federal taxable income (IRC Sec. 56[a][4]).

AMT Adjustments and Preferences

Depreciation, depletion, and intangible drilling costs are treated differently under AMT rules than under regular tax. These differences give rise to adjustments and preferences that are added or subtracted to regular taxable income to ultimately arrive at the AMT liability.

The AMT depreciation adjustment is the yearly difference between the depreciation deduction on drilling equipment (tangible completion costs) under regular tax rules and the deduction allowed under AMT rules (IRC Sec. 56[a][1]). Rules for regular tax specify that assets are depreciated by "double declining balance" switching to "straight-line" in the year straight-line yields a bigger deduction. This is known as the modified accelerated cost recovery system (MACRS). In this analysis, tangible drilling equipment is depreciated over seven years, with the half-year convention in the first year.

Double declining balance (or 200% declining balance) is calculated by multiplying the ratio 2/7 to the adjusted cost basis of the equipment. The adjusted cost basis is the original cost of the equipment reduced by each year's depreciation. Straight-line depreciation is a uniform deduction calculated by applying the reciprocal of the remaining equipment life to the remaining cost basis of the equipment.

The depreciation rules for AMT specify that equipment is

TABLE 3.4
Corporate Alternative Minimum Tax
Calculation Model

```
Earnings Before Taxes
- State Tax (6% in this analysis)
= Regular Federal Taxable Income
+ Regular Tax Net Operating Loss Deduction
+/- AMT Depreciation Adjustment
+ AMT Depletion Preference
+ AMT IDC Preference
= Pre ACE AMT Income (Pre ACE AMTI)

   Adjusted Current Earnings (ACE):
      Pre ACE AMT Income
      +/- ACE Depreciation Adjustment
      +/- ACE IDC Adjustment
      +/- ACE Depletion Adjustment
      = Adjusted Current Earnings (ACE)

      75% of (ACE - Pre ACE AMTI)
      = ACE Adjustment

Pre ACE AMTI
+/- ACE Adjustment
= Pre NOL AMT Income
- AMT Net Operating Loss
- Energy Preference Deduction
- AMT Exemption
= AMT Income

      20% of AMT Income (corporate rate)
      = Tentative Minimum Tax (TMT)

      34% of Regular Federal Taxable Income
      = Regular Federal Tax

Tentative Minimum Tax
- Regular Federal Tax
= Alternative Minimum Tax (AMT) if positive
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to be depreciated using 150% declining balance switching to straight-line over the "asset depreciation range," or 14 years for drilling equipment. The half-year convention in the first year applies (IRC Sec. 56[a][1][A]). The difference between the yearly MACRS deduction and the AMT deduction is the adjustment:

MACRS depreciation (200% declining balance, 7 years)
- AMT depreciation (150% declining balance, 14 years)
= Adjustment

The MACRS depreciation deduction will be larger than the AMT deduction in earlier years of equipment life because of the larger ratio applied. Thus, the adjustment will be positive and will increase AMT income. In later years, AMT depreciation will be larger and the adjustment will be negative, reducing AMT income.

The next item to be added to AMT income is the depletion preference. The original cost of mineral rights is reduced by each year's depletion to arrive at the adjusted cost basis for the property. If the cumulative depletion deductions exceed the adjusted basis in any year, the amount of the excess is the AMT depletion preference (IRC Sec. 57[a][1]):

Regular tax depletion (cost or percentage)
- Adjusted cost basis of property
= Preference

If a firm uses the cost depletion method (as is required

for integrated oil and gas producers), then cumulative depletion will never exceed the adjusted basis and no preference is created. However, if the percentage depletion method is employed (as it is for independent companies), it is probable that cumulative depletion deductions will exceed the cost basis and thus give rise to a preference. According to AMT rules, preferences can only be positive and increase AMT income. If the difference between the regular tax depletion deduction and the adjusted property basis in any year is negative, there is no preference.

The subsequent addition to AMT income is the intangible drilling cost (IDC) preference, defined as the amount of "excess IDCs" over 65% of oil and gas net income. Excess IDCs are the difference between the yearly IDC deduction under regular tax rules and the deduction computed by amortizing the total amount of IDCs over 120 months.

Net income from oil and gas properties is defined as the gross income from those properties less any allowable regular tax deductions, such as operating costs, depreciation, and depletion. The resulting figure is essentially regular taxable income, with the exception that excess IDCs are not deductible. In this model, net oil and gas income is calculated by adding excess IDCs to regular taxable income (IRC Sec. 57[a][2]).

The IDC preference is computed by subtracting 65% of oil and gas net income from excess IDCs:

Regular tax IDC deduction (expensed plus amortized)
- IDCs amortized over 120 months
= Excess IDCs

Excess IDCs
- 65% of Oil and Gas Net Income
= Preference

By definition, a preference only can increase AMT income, and therefore if the difference between excess IDCs and 65% of net income is negative, the preference equals zero.

Adjusted Current Earnings

There often exists a wide disparity between the amount of income a firm reports in shareholder financial statements and the income reported for tax assessment. It is advantageous to report large net income figures to investors; it is a distinct disadvantage to report the same large numbers to the IRS. For this reason, lawmakers introduced the adjusted current earnings adjustment (ACE) as part of the Tax Reform Act of 1986 (Klein and Deaver 1990, 27). It replaces the old book income adjustment for tax years beginning after December 31, 1989. Although it is a somewhat simpler calculation than the book income adjustment, it is still "breathtakingly complex" (Rook 1991, 7A:4). Some of the difficulty of the ACE adjustment is

avoided in this analysis because only depreciation, depletion, and IDCs are considered.

The ACE adjustment relies on a separate set of preferences and adjustment for IDCs, depreciation, and depletion. The ACE depreciation adjustment is the yearly difference between the AMT and the ACE depreciation deductions. AMT depreciation is 150% declining balance over 14 years. ACE depreciation is calculated straight-line over the asset depreciation range class life, which is 14 years for oil and gas drilling equipment (IRC Sec. 56[g][4][A]):

AMT depreciation (150% declining balance, 14 years)
- ACE depreciation (straight-line, 14 years)
= Adjustment

If the taxpayer realizes a positive AMT depreciation adjustment, there is some question as to the appropriate treatment of the ACE adjustment. The Internal Revenue Code after 1989 is not clear. It may be possible to deduct the AMT adjustment from the ACE adjustment, thereby "netting" it out. Klein and Deaver (1991) and Rook (1991) cite recent IRS rulings indicating that possibility.

The ACE-IDC adjustment is far simpler than the AMT preference. Unlike the preference, however, the ACE-IDC adjustment can be negative, decreasing adjusted current earnings and ultimately AMT income. The adjustment is the yearly

difference between project IDCs amortized over 120 months and the same IDCs amortized over 60 months (IRC Sec. 56[g][4][D]):

All Project IDCs Amortized over 120 months
- All Project IDCs Amortized over 60 months
= Adjustment

The taxpayer may also subtract a positive adjustment from the AMT-IDC preference, netting it out.

The ACE depletion adjustment is defined as the difference between as the deduction taken for regular taxes and the cost depletion deduction (IRC Sec. 56[g][4][F]):

Regular tax depletion deduction (cost or percentage)
- Cost depletion deduction
= Adjustment

If cost depletion applies for regular tax (as with the integrated producer), there is no adjustment. If the firm takes percentage depletion as its regular tax deduction, the adjustment can be large, especially after the cost basis has been recovered. However, this adjustment can be netted against the AMT depletion preference, thereby reducing its impact.

The sum of AMT income and the depreciation, depletion, and IDC adjustments equals adjusted current earnings (ACE). Exactly 75% of the difference between ACE and AMT income is the ACE adjustment, which is added to AMT income. The ACE adjustment may be positive, increasing AMT income, or negative, decreasing

it. A negative adjustment, however, may not exceed the cumulative positive ACE adjustments from previous years (IRC Sec. 56[g][2]).

Other AMT Items

The AMT net operating loss deduction allows the taxpayer to recapture some of the benefit lost by the exclusion of the regular tax deduction for calculating alternative minimum tax. The AMT depreciation adjustment, depletion, and intangible drilling cost preferences are subtracted from the regular tax net operating loss to arrive at the AMT deduction:

Regular Tax net operating loss
- AMT depreciation adjustment
- AMT-IDC preference
- AMT depletion preference
= Deduction

The AMT net operating loss will typically be smaller than the regular tax deduction. However, it could be larger if the depreciation adjustment is sufficiently negative to offset the IDC and depletion preferences. The AMT net operating loss cannot exceed 90% of AMT income (IRC Sec. 56[d]).

The special energy preference deduction was created by the Revenue Reconciliation Act of 1990 to relieve independent oil and gas producers from some of the AMT burden (Rook 1991,

8:14).[4] It is not available to integrated producers. Calculation of the preference is laborious, and the language describing it cumbersome:

> Specifically, the special energy deduction is initially determined by determining the taxpayer's (1) intangible drilling costs preference and (2) marginal production depletion preference . . . . The intangible drilling cost preference is then apportioned between (1) the portion of the preference related to qualified exploratory costs and (2) the remaining portion of the preference. The portion of the preference related to qualified exploratory costs is multiplied by 75 percent and the remaining portion is multiplied by 15 percent. The marginal production depletion preference is multiplied by 50 percent. The three products described above are added together to arrive at the taxpayer's special energy deduction. . . . The special energy deduction is not allowed to the extent that it exceeds 40 percent of alternative minimum taxable income. (IPAA 1990, 2)

The definition above is better expressed by the following equation (Rook 1991, 8:15):

$$D = 0.75(QECP) + 0.15(IDCP - QECP) + 0.5(MPDP)$$

such that $D <= 0.40(AMTI)$

where: D = special energy preference deduction
QECP = IDC preference on qualified exploratory costs
IDCP = total IDC preference
MPDP = marginal production depletion preference
AMTI = AMT income before energy preference deduction

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[4]Many articles in recent petroleum literature decry the harsh burden of AMT on independents. See especially Tanner 1992, Gill 1992, and Johnson and Tanner 1992. The Senate Finance Committee also expressed concern over this issue, which probably resulted in the passage of the special energy preference deduction.

For this study, all IDCs are qualified exploratory costs. The marginal production depletion preference is the sum of the AMT and ACE depletion preferences. Although the special energy preference deduction will always be positive, it is subtracted from AMT income, which reduces the independent producer's AMT burden.

A final adjustment to AMT income is the AMT exemption. The maximum amount of the exemption is $40,000 for a corporation, but that amount decreases as the firm's AMT income exceeds $150,000. For every $4 that AMT income exceeds $150,000, the exemption is reduced $1. Therefore the corporation receives an exemption only if its AMT income is less than $310,000.

Tentative Minimum Tax and AMT

The company's final alternative minimum taxable income results when all of the AMT preferences and adjustments, ACE adjustments, and other deductions and exemptions are applied to its regular federal taxable income (Table 3.4). Tentative minimum tax is then calculated at 20% of AMT income. The alternative minimum tax is the difference between regular federal tax at 34% and tentative minimum tax. It is paid in addition to the firm's regular federal tax in any given year. If a firm's regular federal taxable income is negative, no

regular federal tax is paid. Note, however, that it may owe AMT if preferences and adjustments are large enough to make AMT income positive.

Chapter 4

DISCOUNTED CASH FLOW ANALYSIS AND RESULTS

Analysis for the Integrated Producer

The base case for the integrated producer is the discounted cash flow analysis under the assumption that AMT does not apply. ROR in this scenario is 36.2%, which is far higher than the firm's minimum rate of return of 15%. NPV (at 15%) is $2,328,801, which is significantly greater than zero and therefore the project is economically acceptable. Case 1 in Appendix A contains the cash flow data.

When the alternative minimum tax is applied to the base case, the company must pay AMT of $110,125 in 1993. ROR is 35.9%, a percentage decrease of only 0.89%. NPV is $2,316,310, only decreasing 0.54%.[5] The AMT does not significantly affect project economics in this case because the firm can recapture its full AMT payment through the minimum tax credit immediately in 1994. The only economic penalty to the firm is the loss, for one year, of the funds used to pay AMT. Case 2 in Appendix A contains the cash flows and complete AMT calculations.

In the cases above, AMT does not significantly affect drilling project economics for the integrated producer.

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[5]The percentage changes "from x to y" of all results are calculated by subtracting the second result "y" from the reference result "x," and then dividing that quantity by "x."

Nonetheless, a firm may wish to avoid the tax for other reasons. The additional AMT liability is a concrete financial reality in the year it is due and few firms have unlimited access to funds.

Optional Deductions

A number of strategies are available to the integrated firm to avoid preferences and adjustments that create the AMT liability. This study considers optional deductions for tangible (depreciable) drilling equipment and for IDCs. Appendix A contains the cash flow and AMT calculations for all the cases that follow.

For regular federal tax, the firm may elect to depreciate an asset in several different ways (Freeze 1992, 102). For oil and gas producing equipment, one option is to depreciate using the 150% declining balance method over 14 years (with the half-year convention in the first year), instead of using the MACRS convention. The 150% declining balance convention is referred to as the "slow" deduction because the capital cost is recovered over a longer period than for MACRS. Since this is the method used for AMT, it avoids the depreciation adjustment, thereby lowering the tax payment.

There is also an alternate deduction option for intangible drilling costs (IRC Sec. 59[e]). If the firm elects to amortize all IDCs over a 60-month period, it completely avoids the AMT

preference. This election is referred to as the "slow" approach because the IDCs are recovered over a longer period than for regular tax. It may be advantageous for the company to avoid the IDC preference if the AMT bill is reduced by using the 60-month amortization election.

The following cases explore the alternate deductions for depreciation and IDCs to test whether project economics are improved by reducing AMT. The first scenario (case 3 in Table 4.1) takes 150% declining balance depreciation over 14 years on tangible drilling equipment and 60-month amortization on IDCs, which are both "slow" deduction options. This completely eliminates the AMT burden, but also reduces ROR to 31.1% and NPV to $2,011,580. Compared to case 2 (Table 4.1) where the full AMT burden is paid, ROR shows a percentage decrease of 13.37%. NPV decreases 13.16%.

In another scenario, MACRS depreciation is used and IDCs are amortized over 60 months (case 4, Table 4.1) This strategy completely avoids the AMT-IDC preference and the AMT liability. Project economics improve over the previous case, but the ROR of 32.2% and NPV of $2,109,200 are substantially lower than in case 2, in which accelerated deductions are taken on depreciation and IDCs.

Case 5 reverses the deductions on depreciation and IDCs. Declining balance depreciation of 150% over 14 years is used,

TABLE 4.1
Analysis Results for the Integrated Producer

CASE	AMT Due($)	ROR (%)	NPV ($) @15%
1) Regular Tax DCF Analysis	N/A	36.2	2,328,801
2) Depreciation, MACRS IDC, expensed	110,125	35.9	2,316,310
3) Depreciation, 150% DB, 14 yr. IDC, amortized 60 months	no AMT	31.1	2,011,580
4) Depreciation, MACRS IDC, amortized 60 months.	no AMT	32.2	2,109,200
5) Depreciation, 150% DB, 14 yr. IDC, expensed	94,768	34.6	2,221,972
6) Depreciation, MACRS IDC, 50% amortized 60 months	489	34.3	2,225,812
7) Depreciation, MACRS IDC, 30% amortized 60 months	70,855	34.9	2,262,439
8) Depreciation, MACRS IDC, 20% amortized 60 months	84,455	34.4	2,226,302

Note: AMT is the difference between tentative minimum tax and regular federal income tax. It is paid in addition to the regular tax.

avoiding the adjustment. IDCs are expensed fully in the years they are incurred, which is the accelerated method for regular tax. This triggers the IDC preference and causes a substantial AMT bill of $94,768 in 1993. However, project economics are improved over case 4: ROR is 34.6% and NPV is $2,221,972.

The AMT-IDC preference is the major factor in determining the AMT liability, illustrated by the previous two cases. When IDCs are amortized over 60 months and the IDC preference is eliminated, no AMT bill is due, as is shown in case 4. The depreciation adjustment is not enough to trigger AMT. However, when IDCs are deducted fully each year the IDC preference causes a large AMT bill.

Given that the IDC preference is the major factor in triggering AMT, the analysis also tests alternative deduction strategies for IDCs that maximize ROR and NPV and minimize the AMT bill. To do this, portions of the firm's IDCs are deducted in different ways. Unlike the previous cases, the assumption must be made here that yearly project income is received from several different wells. This allows IDCs to be allocated among different tax deduction methods in the same analysis.

In Table 4.1 case 6, 50% of yearly IDCs are deducted "slowly" over 60 months to avoid part of the preference. The other 50% are expensed fully according to the regular federal

tax convention. This method reduces the AMT bill to $489. ROR is 34.3%, and NPV (at 15%) is $2,225,812.

In the next scenario (case 7), only 30% of IDCs are deducted slowly. This strategy increases the IDC preference as well as the AMT liability which is now $70,855. However, ROR increases (from case 6) to 34.9% and NPV to $2,262,439. The increase in AMT is not enough to offset the economic benefit of fully expensing a greater portion of IDCs, as is allowed for regular tax.

When 20% of IDCs are amortized over 60 months in case 8, the AMT bill of $84,455 is caused by the increased IDC preference. ROR decreases to 34.4% and NPV to $2,226,302. The increase in AMT reduces the economics of this scenario.

Reducing the percentage of IDCs deducted slowly increases the amount of AMT paid in the three scenarios above. Sometimes project economics are improved. However, this strategy does not increase ROR or NPV more than in case 2, where all IDCs are expensed and the maximum AMT bill is paid.

Furthermore, if the drilling project represents the only source of income to the firm, AMT does not pose an enormous threat to the company in terms of its project economics. ROR shows a percentage decrease of only 0.83% between the case where AMT is not applicable (case 1) and when the maximum AMT bill is paid (case 2); NPV decreases only 0.54%. Even if NPV is

calculated using a range of discount rates, it is never greater than in case 1 (Table 4.2).

The minimum tax credit allows the firm to fully recapture its AMT liability in the closest subsequent year that AMT is not paid. In the cases tested above, AMT is due in only one year very early in the project. The credit is applied against regular tax in the year immediately following. Thus in these scenarios, the disadvantage to the firm is the temporary loss of funds needed to pay AMT.

Marginally Economic Projects

AMT does not significantly affect the economics of the drilling program when ROR and NPV are originally high. However, some projects may not carry such attractive economics to begin with. To assess the affects of AMT when project economics are initially less favorable, the crude oil selling price is lowered and project operating costs are increased to force ROR and NPV down.

The lower price schedule and increased costs are given in Table 4.3. This new price forecast is constructed by establishing a lower 1993 price and projecting a steady increase to 1998, where price then levels through the end of the project in 2001. Operating cost on the drilling project are assumed to

TABLE 4.2
Net Present Value at Different Discount Rates
for the Integrated Producer

CASE	NPV($) @10%	NPV($) @12%	NPV($) @15%	NPV($) @20%
1) Regular Tax DCF Analysis	3,429,045	2,947,763	2,328,801	1,514,357
2) Depreciation, MACRS IDC, expensed	3,419,944	2,937,228	2,316,310	1,499,062
3) Depreciation, 150% DB IDC, amortized 60 mos.	3,163,646	2,657,553	2,011,580	1,171,712
4) Depreciation, MACRS IDC, amortized 60 mos.	3,250,911	2,750,458	2,109,200	1,270,616
5) Depreciation, 150% DB IDC, expensed	3,335,069	2,847,090	2,221,972	1,404,176
6) Depreciation, MACRS IDC, 50% amortized.	3,344,942	2,854,856	2,225,812	1,400,828
7) Depreciation, MACRS IDC, 30% amortized.	3,375,254	2,888,166	2,262,439	1,440,646
8) Depreciation, MACRS IDC, 20% amortized.	3,335,944	2,850,309	2,226,302	1,406,474

increase due to escalating costs of drilling materials, well fluid removal, labor, and power.

TABLE 4.3
New Parameters for Marginally Economic Projects

Year	Crude Oil Selling Price ($)	Project Operating Costs ($)
1993	15.00	200,000
1994	16.00	300,000
1995	17.00	600,000
1996	18.00	750,000
1997	19.00	800,000
1998	20.00	675,000
1999	20.00	600,000
2000	20.00	500,000
2001	20.00	450,000

When AMT is not applicable to this drilling program (by assumption), ROR is 12.8% (case 9 in Table 4.4), which is slightly higher than the firm's minimum rate of return of 12%, and NPV (at 12%) is $93,081. The economics worsen when AMT is levied against the firm (case 10, Table 4.4). ROR is 12.3%, which shows a percentage decrease of 3.91%. NPV (at 12%) decreases to $30,807, a percentage change of 66.90%.

The actual AMT bill paid in this scenario is greatly increased over the same case when economics are more favorable. In case 2 (Table 4.1), total AMT of $110,125 is paid. When

TABLE 4.4
Analysis Results of Marginally Economic Projects
for the Integrated Producer

CASE	Year	AMT Due($)	ROR (%)	NPV@12% ($)
9) Regular Tax DCF Analysis. Marginally economic project.	N/A	N/A	12.8	93,081
10) Depreciation, MACRS IDC, expensed. Marginally economic project.	1993	79,190	12.3	30,807
	1994	142,405		
	1995	124,055		
	2000	9,851		

economics are initially less attractive (case 10), AMT of $355,501 is paid over four years. Not only is more AMT paid, but the minimum tax credit is not applied until the fifth year of the project. Thus, ROR and NPV show a greater percentage decrease in this situation than in cases 1 and 2 when the project is highly economic.

Other Corporate Income

Cases 1 through 10 for the integrated producer assume that the drilling project is the sole source of corporate income. This assumption, however, will not hold for some firms: other investment income may cause the AMT liability.[6] This is the case for at least one major U.S. oil company today.

[6]The income itself does not trigger AMT. The tax treatment of investment costs may, however, create preferences and adjustments that create AMT.

In order to calculate the exact AMT liability for a firm, total corporate income must be considered. In this study, however, only the income from the drilling project is known. To properly evaluate the project when there is other income, a different method of analysis is used.

Here, AMT is not explicitly calculated using the spreadsheet model developed earlier in the study. Instead, income from the drilling project is taxed at the corporate AMT rate of 20%, and no adjustments or preferences are included in taxable income.[7] In this project, if no preferences or adjustments are added, AMT income equals regular federal taxable income. Therefore regular federal taxable income from the project may be taxed at the AMT rate.

To avoid preferences and adjustments, alternate deductions are taken on depreciation, depletion ,and IDCs. If equipment is depreciated for regular tax using the AMT method, no adjustment is created. Therefore, in this analysis, depreciation is calculated using the 150% declining balance method over 14 years. Similarly, the cost depletion method is used to avoid the depletion preference. IDCs are amortized over 60 months so that there is no IDC preference, and the ACE adjustment is not included. Table 4.5 illustrates the method.

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[7]The actual rate used in the cash flow calculations shown in Appendix C is 24.8%. This is an effective rate that combines the state income tax of 6% used in this study.

In this scenario, project economics are better than in a base case where no AMT applies. Between cases 11 and 12 in Table 4.6, ROR increases from 37.6% to 38.5%, which is a percentage change of 2.39%. NPV increases from $2,369,672 to $2,904,320, a percent change of 22.56%. The AMT tax rate (which is lower than the regular federal tax rate) on this project offsets the usually adverse effect of taking slower deductions on depreciation, depletion, and IDCs.

When a firm generates other income and assumes it will pay AMT every year, the economics of the drilling project may look better. However, the projects or operations that trigger AMT will be economically less attractive. Thus, these results must not mislead the reader to think that AMT helps a company overall.

Tax Credits

Of great concern to many integrated oil and gas companies today is the issue of tax credits available to them under Sections 29 and 43 of the Internal Revenue Code. In particular, the enhanced oil recovery (EOR) credit allows firms to reduce their tax bill by 15% of intangible and tangible drilling costs, and costs of certain injectant materials (IRC Sec. 43[a]-[e]).

TABLE 4.5

1993-94 Sample Cash Flow Calculation
for the Integrated Producer:
Other Income Triggers AMT

Item	1993	1994
Price ($)	20	22
Production (barrel)	62,000	118,000
Gross Revenue	1,240,000	2,596,000
- Royalties (14%)	-173,600	-363,400
Net Revenue	1,066,400	2,232,560
- Operating Costs	-50,000	-108,000
- Amortization (IDC)	-235,000	-410,000
- Depreciation(150%)	-21,429	-64,668
- Depletion (Cost)	-64,921	-117,402
= Taxable Income	695,050	1,532,490
- AMT Due at 24.8%	-172,373	-380,057
= Net Income	522,678	1,152,373
+ Amortization (IDC)	235,000	410,000
+ Depreciation(150%)	21,429	64,668
+ Depletion (Cost)	64,921	117,402
- Capital Costs	-1,500,000	-1,600,000
Cash Flow	-655,973	144,503

TABLE 4.6
Analysis Results for the Integrated Producer:
Other Corporate Income Exists

CASE	ROR (%)	NPV @15% ($)
11) Regular Tax DCF Analysis[8] with other project income	37.6	2,369,672
12) DCF Analysis when other income triggers AMT every year	38.5	2,904,320

The EOR credit may offset $25,000 of regular tax and up to 75% of every dollar of tax over $25,000. Though the credit can be an enormous boost to project economics, it is not allowed in the years AMT is paid. Instead, the credit must be carried forward to years in which AMT is not paid, when it can be used against regular tax. Therefore, if the firm has income from other projects that triggers AMT over many years, the economic benefit of the credit is effectively lost.[9]

This situation is illustrated by the final analysis. The base case (Table 4.7, case 13) assumes the group of projects has

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[8]Case 11 is nearly identical to case 1 presented in previous analyses. However, when other corporate income exists, project losses are not carried forward. They instead shelter other income from tax. The project, then, is credited with a reduction in taxable income equal to the tax saved.

[9]Eventually, a firm will be out from under AMT. However, tax credits become much less valuable in the future because of discounting.

TABLE 4.7
Analysis Results for the Integrated Producer
With EOR Tax Credits

CASE	ROR (%)	NPV ($)
13) Regular Tax DCF Analysis with other project income and 15% EOR tax credit.	47.4	2,953,895 (@ 15%)
14) DCF Analysis when other income triggers AMT every year. EOR credit cannot be used.	38.5	2,904,320 (@ 15%)
15) Marginally economic project DCF analysis, with other corporate income and 15% EOR tax credit.	19.6	738,963 (@ 12%)
16) Marginally economic project DCF analysis, with other corporate income and AMT is triggered every year. EOR credit is not allowed.	13.6	213,941 (@ 12%)

EOR tax credits available on 15% of all tangible and intangible drilling costs. No AMT is paid in this case, by assumption. ROR on this drilling program is 47.4% and NPV (at 15%) is $2,953,895.

When the company is under AMT every year of the project, the EOR credit cannot be used at all. In this case (Table 4.7, case 14) ROR drops to 38.5% and NPV to $2,904,320. This shows a significant deterioration in project economics. The percentage change in ROR from case 13 in which credits are allowed is 18.78%. For NPV, the percentage change is 1.68%.[10]

When the economics of a project eligible for the EOR credit are only marginally attractive to begin with, they become significantly worse when the credit is taken away. The credit is applied fully in case 15 (Table 4.7). ROR is 19.6% and NPV (at 12%) is $213,941. When AMT is paid every year of the project (case 16), ROR drops to 13.6%, a percentage decrease of 30.61%. NPV falls to $213,941, a decline of 71.05%.

The above result should prove troubling to many integrated oil and gas firms currently operating in the United States. The domestic exploration and production climate is often adverse

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[10]NPV shows a much smaller percent change between cases 13 and 14, than does ROR. The NPV calculation is made at a low discount rate (15%) relative to the higher ROR of 47.7% and 38.5%. Thus, NPV is less sensitive to increases in negative cash flows in early project years because the positive cash flows in later years are not discounted at as high a rate.

today, and companies face a dwindling supply of high quality projects. In many instances, the EOR and other energy credits are the primary factors that make these projects economically worthwhile.[11] If those credits are unavailable because of the AMT liability, project economics deteriorate, and some investments may even become uneconomic. This is particularly alarming if the company is substantially invested in a project that promises a high return because of tax credits. If the firm comes under the AMT after significant cash outlay or commitment to a financing arrangement, losing the credits could mean economic hardship.

Analysis for the Independent Producer

The base case for the independent producer is the analysis of the consolidated drilling project with the assumption that AMT does not apply. The economics of this project are very attractive. ROR is 41.5%, considerably higher than the minimum rate of return of 15%. NPV (at 15%) is a significantly positive $2,844,806. Case 1a in Appendix B gives the cash flow data.

Because of tax advantages, base case results for the independent producer are significantly better than for the integrated company. An independent can deduct the full IDC cost

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[11]See Walker 1991, and Haines 1992, for the current issues surrounding the loss of Section 29 credits under AMT.

in the year incurred, providing a higher tax deduction. Thus, the cash flow to the independent is increased in the early years.

When AMT applies to the firm's income, the economics of the project are only slightly affected. The assumption in this case is that the drilling program represents total corporate income so that the AMT can be calculated directly from the cash flow data. Though the firm must pay AMT of $84,080 in 1993 and $77,220 in 1994, ROR only decreases to 40.7%. NPV (at 15%) is $2,819,361. The AMT bill is recaptured in full by the minimum tax credit (MTC) in 1995. See case 2a in Appendix B for the AMT and cash flow calculations.

When MTC is applied early in a project, AMT does not substantially affect project economics of the independent producer. Still, the company may want to avoid the paying AMT. The additional tax can be a financial burden in the year it is due, since it is a cash expenditure.

Optional Deductions

The independent company may use optional tax deductions to avoid preferences and adjustments that give rise to AMT. This analysis considers strategies for tangible (depreciable) equipment and IDCs. Appendix B contains the cash flow and AMT calculations for all the cases that follow.

For regular federal tax, the firm may depreciate an asset in several ways (Freeze 1989, 102). The modified accelerated cost recovery system (MACRS) convention allows the firm to depreciate the cost of producing equipment using the 200% declining balance method over 7 years. This is probably the most common method among companies since it yields the fastest tax deductions of all the available methods. However, it also triggers a depreciation adjustment and might give rise to an AMT liability. The firm may elect to depreciate for regular tax using the AMT method, the 150% declining balance system over the ADR class life of 14 years. Although this method gives slower tax deductions, it avoids the AMT depreciation adjustment, possibly decreasing the AMT bill.

The independent oil and gas producer may expense 100% of IDCs in the year it incurs the costs. However, this treatment will trigger a preference. The firm instead can elect to amortize all IDCs over 60 months and avoid the preference. The option may be more advantageous to the firm because it reduces AMT, even though it yields regular tax deductions more slowly.

Based on the options available to the firm, this study explores the alternative deductions for depreciation and IDCs to test whether project economics are improved by reducing AMT. The first scenario (case 3a in Table 4.8) takes 150% declining balance over 14 years on depreciation and amortizes IDCs over 60

months. Although these methods completely avoid any AMT liability, project economics are less attractive. ROR is 34.5% and NPV (at 15%) is $2,451,107. In comparison with case 2a in Table 4.7, ROR shows a percentage decrease of 15.23%, and NPV decreases 13.06%.

In another scenario, MACRS depreciation is used and IDCs are amortized over 60 months (case 4a in Table 4.8). This treatment of IDCs completely avoids the AMT IDC preference. In this case, too, there is no AMT bill. Project economics are improved over the previous case where "slow" deductions are taken on depreciation and IDCs. However, the ROR of 35.7% and NPV (at 15%) of $2,548,726 are significantly lower than when the maximum AMT liability is paid (case 2a).

The next scenario tested reverses the deductions on depreciation and IDCs (case 5a in Table 4.8). The 150% declining balance depreciation over 14 years is used ("slow" deductions), avoiding an AMT adjustment. IDCs are expensed fully in the years they are incurred, which is the accelerated method allowed for regular tax. Here, the AMT IDC preference is triggered and so is a substantial AMT bill of $81,223 in 1993 and $26,874 in 1994. However, project economics improve over the previous case tested, as ROR increases to 39.6% and NPV (at 15%) to $2,731,598.

TABLE 4.8
Analysis Results for the Independent Producer

CASE	Year	AMT Due ($)	ROR (%)	NPV @15% ($)
1a) Regular Tax DCF Analysis	N/A	N/A	41.5	2,844,806
2a) Depreciation, MACRS IDC, expensed	1993 1994	84,080 77,220	40.7	2,819,361
3a) Depreciation, 150% DB IDC, amortized	no AMT	no AMT	34.5	2,451,107
4a) Depreciation, MACRS IDC, amortized	no AMT	no AMT	35.7	2,548,726
5a) Depreciation, 150% DB IDC, expensed	1993 1994	81,223 26,874	39.6	2,731,598
6a) Depreciation, MACRS IDC, 50% amortized	1993	36,433	38.7	2,704,551
7a) Depreciation, MACRS IDC, 25% amortized	1993	69,163	39.9	2,770,273
8a) Depreciation, MACRS IDC, 20% amortized	1993	75,712	40.1	2,783,417

Note: AMT is the difference between tentative minimum tax and regular federal income tax. It is paid in addition to the regular tax.

The AMT-IDC preference is the major cause of the AMT liability, as is shown in the previous two cases. When IDCs are amortized over 60 months and the IDC preference is eliminated, no AMT bill is due (Table 4.8, case 4a). The AMT depreciation adjustment alone does not trigger AMT. However, when IDCs are deducted fully each year, as in case 5a, the IDC preference causes a large AMT bill.

Because the IDC preference is the major factor in triggering AMT, the analysis also tests whether alternative deduction strategies can maximize ROR and NPV and minimize the AMT bill. Portions of the firm's IDCs are deducted in different ways. The assumption here is that yearly project income is received from several different wells. Therefore IDCs can be allocated among different tax deduction methods in the same analysis.

In case 6a (Table 4.8), 50% of yearly IDCs are deducted "slowly" over 60 months to avoid part of the preference. The other 50% are expensed fully according to the regular federal tax convention. This method reduces the AMT bill to $36,433. ROR is 38.7%, and NPV (at 15%) is $2,704,551.

In the next scenario, only 25% of IDCs are deducted slowly (case 7a). This option increases the IDC preference and the AMT liability which is now $69,163. However, ROR increases (from case 6a) to 39.9% and NPV to $2,770,273. The increase in AMT is

not enough to offset the economic benefit of fully expensing a greater portion of IDCs, as is allowed for regular tax.

When 20% of IDCs are amortized over 60 months in case 8a, the AMT bill of $75,712 is caused by the increased IDC preference. However, as is seen in case 7a, this increase is not enough to offset the positive effect on ROR and NPV of allowing a greater portion of IDCs to be expensed fully. ROR is 40.1% and NPV is $2,783,417.

Reducing the portion of IDCs that are deducted slowly increases the amount of AMT paid in the three scenarios above. The alternative deduction strategies sometimes improve project economics. However, these strategies cannot increase ROR or NPV more than in case 2a where all IDCs are expensed and the maximum AMT bill is paid.

Moreover, if the drilling project represents the only source of income to the firm, AMT does not pose an enormous problem. ROR shows a percentage decrease of only 1.97% between the case where AMT is not applicable (case 1a) and when the maximum AMT bill is paid (case 2a). NPV decreases only 0.89%. Even if NPV is calculated using a range of different discount rates, it never greater than in case 1a (Table 4.9).

The minimum tax credit allows the firm to fully recapture its AMT liability in the closest subsequent year that AMT is not paid. In the cases tested above, AMT is due in one or two years

TABLE 4.9
Net Present Value at Different Discount Rates
for the Independent Producer

CASE	NPV($) @10%	NPV($) @12%	NPV($) @15%	NPV($) @20%
1a) Regular Tax DCF Analysis	4,022,864	3,508,482	2,844,806	1,966,857
2a) Depreciation, MACRS IDC, expensed	4,003,797	3,486,662	2,819,361	1,936,511
3a) Depreciation, 150% DB IDC, amortized	3,694,063	3,148,649	2,451,107	1,541,207
4a) Depreciation, MACRS IDC, amortized	3,781,329	3,241,555	2,548,726	1,640,111
5a) Depreciation, 150% DB IDC, expensed	3,923,978	3,402,250	2,731,598	1,849,269
6a) Depreciation, MACRS IDC, 50% amortized	3,907,815	3,381,616	2,704,551	1,812,947
7a) Depreciation, MACRS IDC, 25% amortized	3,962,175	3,441,364	2,770,273	1,884,438
8a) Depreciation, MACRS IDC, 20% amortized	3,973,047	3,453,314	2,783,417	1,898,735

very early in the project. The credit is applied against regular tax in the year immediately following. Thus in these scenarios, the disadvantage to the firm is the temporary loss of funds needed to pay AMT.

Marginally Economic Projects

AMT does not significantly affect the economics for the independent producer's drilling program when ROR and NPV are originally high. However, some firms may not enjoy such attractive economics at the outset. To assess the affects of AMT when project economics are initially less favorable, the crude oil selling price is lowered and project operating costs are increased to force ROR and NPV down. The lower price schedule and increased costs for the independent are the same as those given in Table 4.3.

When AMT is not applicable to this drilling program, ROR is 16.7% (case 9a, Table 4.10), which is slightly higher than the firm's minimum rate of return of 15%, and NPV is $184,777. The economics deteriorate when AMT is levied against the firm (case 10a). ROR is 16.1%, which shows a percentage decrease of 3.59%. NPV decreases to $128,730, a percentage change of 30.33%.

The actual AMT bill paid in this scenario is greatly increased over the same case where economics are more favorable.

In case 2a (Table 4.8), total AMT of $161,300 is paid over two years. When economics are initially less attractive (case 10a), AMT of $348,688 is paid over five years. Not only is more AMT paid, but the minimum tax credit is not applied until the sixth year of the project. Thus, ROR and NPV show a greater percentage decrease in this situation than when the project is highly economic (cases 1a and 2a).

AMT can be a greater burden in a lean economic environment. Even though lower prices and higher costs in the above case result in a lower regular tax, the AMT bill to the firm is greater. Unfortunately, these results are supported by the experience of many independent producers drilling domestically today (Tanner 1992).

TABLE 4.10
Analysis Results for Marginally Economic Projects for the Independent Producer

CASE	Year	AMT Due($)	ROR (%)	NPV@15% ($)
9a) Regular Tax DCF Analysis Marginally Economic Project	N/A	N/A	16.7	184,777
10a) Depreciation, MACRS IDC, accelerated Marginally Economic Project	1993	34,088	16.1	128,730
	1994	2,474		
	1995	42,982		
	1996	151,023		
	1997	118,121		

Other Corporate Income

Cases 1a through 10a for the independent producer assume that the drilling project is the sole source of corporate income. This assumption, however, will not hold for some firms. An independent company may have other investment income that causes the AMT liability, every year for many years.[12] In this case, the AMT appears to improve the economics of the drilling project.

To calculate the exact AMT liability for a firm, total corporate income must be considered. In this study, however, only the income from the drilling project is known. To properly evaluate the project when there is other income, a different method of analysis is used.

Here, AMT is not explicitly calculated using the spreadsheet model developed earlier in the study. Instead, income from the drilling project is taxed in the discounted cash flow model at the corporate AMT rate of 20%.[13] However, taxable income may not contain preferences or adjustments. Regular federal taxable income equals AMT income if no preferences or adjustments are added. Then regular federal taxable income

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[12]The income itself does not trigger AMT. The tax treatment of investment costs may, however, create preferences and adjustments that lead to AMT.

[13]The actual rate used in the cash flow calculations shown in Appendix C is 24.8%, an effective rate that combines the state income tax of 6% used in this study.

from the project may be taxed at the AMT rate.

To avoid preferences and adjustments, alternate deductions are taken on depreciation, depletion, and IDCs. If equipment is depreciated for regular tax using the AMT method, no adjustment is created. Therefore, in this analysis, depreciation is calculated using the 150% declining balance over 14 years. Similarly, the cost depletion method is used to avoid the depletion preference. IDCs are amortized over 60 months so that there is no preference. Table 4.5 illustrates this method.

In this scenario, project economics are better than in a base case where no AMT applies. Between cases 11a and 12a in Table 4.11, NPV increases from $2,919,236 to $3,191,169, a percentage change of 8.52%.[14] The AMT tax rate (which is lower than the regular federal tax rate) on this project offsets the usually adverse effect of taking slower deductions on depreciation, depletion, and IDCs.

When a firm generates other income and assumes it will pay AMT every year, the economics of this incremental project may

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[14]ROR actually decreases between these two scenarios. This anomaly occurs when ROR is substantially greater than the minimum discount rate used to calculate NPV. A high ROR discounts the large positive cash flow in later years of the project more than does the lower minimum discount rate. In the above case, the increase in downstream positive cash flows does not offset the increase in negative cash flows early in the project. NPV, however, is the reliable economic criterion in this case. See Stermole and Stermole (1990) for a discussion on proper treatment of mutually exclusive projects.

look better under AMT. However, the projects or operations that trigger AMT will be economically less attractive. Thus, these results must not mislead the reader to think that AMT helps a company overall.

TABLE 4.11
Analysis Results for the Independent Producer:
Other Corporate Income Exists

CASE	ROR (%)	NPV @15% ($)
11a) Regular Tax DCF Analysis[15] with other project income	44.7	2,919,236
12a) DCF Analysis when other income triggers AMT every year	40.8	3,191,169

Tax Credits

Of great concern to many independent oil and gas companies today is the issue of tax credits available to them under Sections 29 and 43 of the Internal Revenue Code. The enhanced oil recovery (EOR) credit in particular, allows firms to reduce

[15]Case 11a is nearly identical to case 1a presented in previous analyses. However, when other corporate income exists, project losses are not carried forward. They instead shelter part of that other income from tax. The project, then, is credited with a reduction in taxable income equal to the tax saved.

their tax bill by 15% of intangible and tangible drilling costs, and certain injectant materials (IRC Sec. 43[a][d]). The EOR credit may offset $25,000 in regular tax and up to 75% of every dollar of tax over $25,000. Though the credit can be an enormous boost to project economics, it is not allowed in the years AMT is paid. Instead, the credit must be carried forward to years in which AMT is not paid, when it can be used against regular tax. Therefore, if the firm has income from other projects that triggers AMT for several years into the future, the economic benefit of the EOR credit is effectively lost.

This situation is illustrated by the final analysis. In the base case (13a, Table 4.12), a 15% EOR credit is available on all tangible and intangible drilling costs. No AMT is applicable in this case, by assumption. ROR is 59.0% and NPV (at 15%) is $3,658,033.

When the company is under AMT every year of the project, the EOR credit cannot be used at all. In this case (Table 4.12, case 14a), ROR drops significantly to 40.8%, which is a percent decrease of 30.85%. NPV shows a decrease of 12.76%.

When the economics of a project eligible for the EOR credit are only marginally attractive to begin with, they become significantly worse when the credit is taken away. The base case (15a) applies the EOR credit fully. ROR is 28.2% and NPV is $1,084,017 at a minimum discount rate of 15%. When AMT is

paid every year and the credit cannot be used (case 16a), ROR is reduced to 16.0%, a percent decrease of 43.26%. NPV declines to $124,921, suffering a decrease of 88.48%.

The above result should prove troubling to many independent oil and gas firms currently operating in the United States. The domestic exploration and production climate is

TABLE 4.12
Analysis Results for the Independent Producer
With EOR Tax Credits

CASE	ROR (%)	NPV @15% ($)
13a) Regular Tax DCF Analysis with other project income and 15% EOR tax credit.	59.0	3,658,033
14a) DCF Analysis when other income triggers AMT every year. EOR credit cannot be used.	40.8	3,191,169
15a) Marginally economic project DCF analysis, with other corporate income and 15% EOR tax credit.	28.2	1,084,017
16a) Marginally economic project DCF analysis, with other corporate income and AMT is triggered every year. EOR credit is not allowed.	16.0	124,921

typically adverse today. Often, the EOR and other energy credits are the primary factors that make these projects economically worthwhile.[16] If those credits are unavailable because of the AMT liability, project economics deteriorate and some investments may even becomes uneconomic. This is particularly alarming if the firm is substantially invested in a project. If the firm comes under the AMT after significant cash outlay or commitment to a financing arrangement, the effect of losing the credits could be devastating.

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[16]See Walker 1991, and Haines 1992, for the current issues surrounding the loss of Section 29 credits under AMT.

Chapter 5

CONCLUSIONS

Impacts of the Alternative Minimum Tax

AMT has a substantial effect on project economics in most, but not all, cases evaluated in this study. When the consolidated drilling program is the only source of corporate income, AMT does not significantly affect project economics. For the integrated producer, ROR shows a percentage decrease of only 0.89%, and NPV is reduced a mere 0.54%. The effects on the independent company are only slightly greater. The minimum tax credit allows both firms to recapture the AMT bill almost immediately. Thus, the only real penalty to the producers in this model is the temporary loss of the funds used to pay AMT.

Alternate capital cost deduction strategies available to the firm can reduce AMT. The 60-month amortization option for IDCs is especially effective for both the integrated and independent firms. However, none of the optional deductions on depreciation or IDCs improve project economics, even when the AMT liability is eliminated altogether. In this case, the slower optional deductions reduce ROR and NPV more than does the actual AMT bill.

When the selling price of crude oil is reduced and operating costs are increased, project economics are more

sensitive to AMT. ROR for the integrated producer shows a percentage decrease of 3.91%, and NPV is reduced 66.9%. ROR for the independent producer decreases 3.59%, and NPV declines 30.33%.

The above results shows the potential AMT threat to project economics. The analysis is also valuable because it demonstrates the specific steps required to calculate AMT. And, it explicitly illustrates the role of adjustments and preferences in creating the AMT liability. However, the assumption that the project is the only source of income will not hold for most oil and gas producers.

A more realistic premise is that companies have income from other sources that trigger AMT. The refining, transportation, and marketing operations of the integrated producer, for instance, may create preferences and adjustments that give rise to AMT. The independent producer could also have several other production projects in which capital cost deductions generate an AMT liability.

When other income triggers AMT every year of the project, the economics actually improve. The AMT tax rate of 24.8% used in this particular analysis increases ROR and NPV, compared to the case in which a 38% regular tax rate is applied, a result due entirely to the method of analysis. And, it should be used only to show that when AMT is considered for all corporate

income, some projects will appear more attractive. The projects or operations that trigger AMT for the whole firm will probably look worse. This result should not mislead the reader to think that AMT is beneficial to the firm. In fact, it is categorically true that the AMT liability is a real financial concern to any company forced to pay it.

The final analysis demonstrates that AMT can have a serious impact on crude oil production economics. When the firm must pay AMT every year of the project and is therefore ineligible for the EOR credit, the economics deteriorate. ROR for the integrated producer shows a percentage decrease of almost 19%. For the independent, ROR drops over 30%. This decline is only aggravated when the project is of marginal economic quality. Here, ROR is reduced 30% for the integrated producer and a full 43% for the independent.

Prospects for Oil and Gas Producers

The severity with which AMT can degrade project economics warrants serious attention by integrated and independent firms. Indeed, many companies have already felt the sting of this "most dreaded tax." (Yang 1987, 23) The importance of planning for AMT, should not be underestimated. A number of tools are available to the firm, such as various "breakeven" analyses that compute the level of preferences and adjustments that can be

sustained without triggering AMT. However, the utility of such systems depends on accurate forecasts of the company's financial position at least five to ten years into the future (Abbin 1990, 855). This is a very difficult task given the complex nature of AMT rules. It can also be an expensive proposition for the smaller independent firms, who may not command teams of financial analysts and sophisticated computer models.

Partial relief from the burden of AMT may be close, however. Congress is currently debating legislation (House Resolution 766) that would eliminate the IDC and percentage depletion preferences for independent producers only. This may significantly reduce their AMT bill. Nonetheless, other important AMT components remain intact. And, so long as tax credits are unavailable in years AMT is paid, crude oil production economics for independents and integrated producers will suffer.

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APPENDIX A

Discounted Cash Flow Analysis
and
Alternative Minimum Tax Calculations
for the Integrated Oil and Gas Producer

Cases 1 through 16

Consolidated Projects (1-5) File: WTC-R.SEE
Integrated-Regular Tax
Date: 10/08/92 Time: 09:28:51

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-525,000	-595,000	-630,000	-700,000	-770,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Amortization	-22,500	-70,500	-123,000	-180,000	-243,000	-253,500	-205,500	-153,000	-96,000	-33,000
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
-Loss Forward		-547,500	-318,664							
Taxable Income	-547,500	-318,664	773,249	1,604,952	2,071,414	3,072,272	2,117,432	1,321,049	577,114	-149,422
-Tax Due @ 38%			-293,835	-609,882	-787,137	-1,167,463	-804,624	-501,999	-219,303	56,780
Net Income	-547,500	-318,664	479,415	995,070	1,284,277	1,904,808	1,312,808	819,050	357,811	-92,641
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization	22,500	70,500	123,000	180,000	243,000	253,500	205,500	153,000	96,000	33,000
+Loss Forward		547,500	318,664							
-Capital Costs	-825,000	-905,000	-970,000	-1,150,000	-1,230,000					
Cash Flow	-1,350,000	-483,600	230,725	431,158	824,963	2,802,797	2,080,296	1,389,281	748,697	386,280

MROR = 15.0% NPV =$2,328,801 DCFROR= 36.2%

CASE 1

Consolidated Projects (1-5) File: WTC-M.SEE
Integrated-Regular Tax
Date: 10/07/92 Time: 13:43:35

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-525,000	-595,000	-630,000	-700,000	-770,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Amortization	-22,500	-70,500	-123,000	-180,000	-243,000	-253,500	-205,500	-153,000	-96,000	-33,000
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
-Loss Forward		-547,500	-318,664							
Taxable Income	-547,500	-318,664	773,249	1,604,952	2,071,414	3,072,272	2,117,432	1,321,049	577,114	-149,422
-Tax Due @ 38%			-293,835	-609,882	-787,137	-1,167,463	-804,624	-501,999	-219,303	56,780
-AMT		-110,125								
+MTC			110,125							
Net Income	-547,500	-428,789	589,540	995,070	1,284,277	1,904,808	1,312,808	819,050	357,811	-92,641
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization	22,500	70,500	123,000	180,000	243,000	253,500	205,500	153,000	96,000	33,000
+Loss Forward		547,500	318,664							
-Capital Costs	-825,000	-905,000	-970,000	-1,150,000	-1,230,000					
Cash Flow	-1,350,000	-593,725	340,850	431,158	824,963	2,802,797	2,080,296	1,389,281	748,697	386,280

MROR = 15.0% NPV =$2,316,310 DCFROR= 35.9%

CASE 2

CASE 2

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-547,500	-318,664	773,249	1,604,952	2,071,414	3,072,272
- State Tax (6%)	0	0	-46,395	-96,297	-124,285	-184,336
= Regular Federal Taxable Income	-547,500	-318,664	726,854	1,508,655	1,947,129	2,887,936
+ Regular Tax NOL Deduction	0	547,500	318,664	0	0	0
+/- AMT Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
+ AMT Depletion Preference	0	0	0	0	0	0
+ AMT IDC Preference	510,000	398,932	0	0	0	0
= Pre ACE AMT Income	-37,500	663,482	1,143,095	1,651,626	2,128,067	3,100,941
+/- ACE Depreciation Adjustment	0	0	0	0	0	0
+/- ACE IDC Adjustment	0	0	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0	0	0
= ACE	-37,500	663,482	1,143,095	1,651,626	2,128,067	3,100,941
- Pre ACE AMTI	-37,500	663,482	1,143,095	1,651,626	2,128,067	3,100,941
= Difference	0	0	0	0	0	0
x 0.75 = ACE Adjustment	0	0	0	0	0	0
Preliminary AMT Income	-37,500	663,482	1,143,095	1,651,626	2,128,067	3,100,941
- AMT NOL	0	112,854	221,087	0	0	0
- Energy Preference Deduction**	0	0	0	0	0	0
= AMT Income Before Exemption	-37,500	550,627	922,008	1,651,626	2,128,067	3,100,941
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	550,627	922,008	1,651,626	2,128,067	3,100,941
x 0.20 = Tentative Min.Tax (TMT)	0	110,125	184,402	330,325	425,613	620,188
- Regular Federal Tax (34%)	0	0	247,130	512,943	662,024	981,898
= AMT	0	110,125	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 2

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer

Item	1998	1999	2000	2001
Earnings Before Taxes	2,117,432	1,321,049	577,114	-149,422
- State Tax (6%)	-127,046	-79,263	-34,627	0
= Regular Federal Taxable Income	1,990,386	1,241,786	542,487	-149,422
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	182,609	108,910	51,329	-1,013,056
+ AMT Depletion Preference	0	0	0	0
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	2,172,995	1,350,696	593,816	-1,162,478
+/- ACE Depreciation Adjustment	0	0	0	-188,012
+/- ACE IDC Adjustment	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	2,172,995	1,350,696	593,816	-1,350,490
- Pre ACE AMTI	2,172,995	1,350,696	593,816	-1,162,478
= Difference	0	0	0	-188,012
x 0.75 = ACE Adjustment	0	0	0	-141,009
Preliminary AMT Income	2,172,995	1,350,696	593,816	-1,303,487
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	0	0	0	0
= AMT Income Before Exemption	2,172,995	1,350,696	593,816	-1,303,487
- AMT Exemption	0	0	0	0
= AMT Income	2,172,995	1,350,696	593,816	0
x 0.20 = Tentative Min.Tax (TMT)	434,599	270,139	118,763	0
- Regular Federal Tax (34%)	676,731	422,207	184,446	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 2

ALTERNATIVE MINIMUM TAX WORKSHEET-- SUPPLEMENTAL CALCULATIONS
CASE: Integrated Producer

Item	1992	1993	1994	1995	1996	1997
AMT Depreciation Adjusment:						
MACRS @ 200% DB	0	57,143	162,245	251,603	336,860	419,185
- AMT @ 150% DB-SL, ADR	0	21,429	64,668	108,632	155,922	206,180
= Adjustment	0	35,714	97,577	142,971	180,938	213,005
AMT Depletion Preference:						
Aquisition Cost Basis	200,000	200,000	200,000	250,000	250,000	0
Regular tax depletion (Cost)	0	64,921	117,402	154,485	190,826	225,303
- Adjusted Basis (beginning of yr)	200,000	400,000	535,079	667,677	763,192	572,366
= Preference	0	0	0	0	0	0
AMT IDC Preference:						
Project IDC s	750,000	850,000	900,000	1,000,000	1,100,000	0
Regular Tax IDC s	547,500	665,500	753,000	880,000	1,013,000	253,500
- Amortized IDC (120 mos.)	37,500	117,500	205,000	300,000	405,000	460,000
= Excess IDC	510,000	548,000	548,000	580,000	608,000	0
Regular Taxable Income	-547,500	-318,664	726,854	1,508,655	1,947,129	2,887,936
+ Excess IDC	510,000	548,000	548,000	580,000	608,000	0
= O&G Net Income	0	229,336	1,274,854	2,088,655	2,555,129	2,887,936
Excess IDC	510,000	548,000	548,000	580,000	608,000	0
- 0.65(Net Income)	0	149,068	828,655	1,357,626	1,660,834	1,877,158
= Preference	510,000	398,932	0	0	0	0
ACE Depreciation Adjustment:						
AMT Depreciation	0	21,429	64,668	108,632	155,922	206,180
- ACE Depr. (SL over ADR)	0	14,286	44,643	78,571	117,857	162,500
= Gross Adjustment	0	7,143	20,025	30,061	38,065	43,680
Net Adjustment	0	0	0	0	0	0
ACE IDC Adjustment:						
AMT IDC (Amort. 120 mos.)	37,500	117,500	205,000	300,000	405,000	460,000
- ACE IDC (amort. 60 mos.)	18,750	58,750	102,500	150,000	202,500	230,000
= Gross Adjustment	18,750	58,750	0	0	0	0
Net Adjustment	0	0	0	0	0	0
ACE Depletion Adjustment:						
Regular Tax Depletion	0	64,921	117,402	154,485	190,826	225,303
- Cost Depletion	0	64,921	117,402	154,485	190,826	225,303
= Gross Adjustment	0	0	0	0	0	0
Net Adjustment	0	0	0	0	0	0
AMT NOL Deduction:						
Prelim. AMT Income	-37,500	663,482	1,143,095	1,651,626	2,128,067	3,100,941
Reg. Tax NOL	0	547,500	318,664	0	0	0
- AMT Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
- AMT Depletion Preference	0	0	0	0	0	0
- AMT IDC Preference	510,000	398,932	0	0	0	0
= Deduction	0	112,854	221,087	0	0	0

CASE 2

ALTERNATIVE MINIMUM TAX WORKSHEET-- SUPPLEMENTAL CALCULATIONS
CASE: Integrated Producer

Item	1998	1999	2000	2001
AMT Depreciation Adjusment:				
MACRS @ 200% DB	402,475	309,157	237,401	423,931
- AMT @ 150% DB-SL, ADR	219,866	200,247	186,072	1,436,987
= Adjustment	182,609	108,910	51,329	-1,013,056
AMT Depletion Preference:				
Aquisition Cost Basis	0	0	0	0
Regular tax depletion	159,513	108,074	57,485	21,991
- Adjusted Basis (beginning of yr)	347,063	187,550	79,476	21,991
= Preference	0	0	0	0
AMT IDC Preference:				
Project IDC s	0	0	0	0
Regular Tax IDC s	205,500	153,000	96,000	33,000
- Amortized IDC (120 mos.)	460,000	460,000	460,000	460,000
= Excess IDC	0	0	0	0
Regular Taxable Income	1,990,386	1,241,786	542,487	-149,422
+ Excess IDC	0	0	0	0
= O&G Net Income	1,990,386	1,241,786	542,487	0
Excess IDC	0	0	0	0
- 0.65(Net Income)	1,293,751	807,161	352,617	0
= Preference	0	0	0	0
ACE Depreciation Adjustment:				
AMT Depreciation	219,866	200,247	186,072	1,436,987
- ACE Depr. (SL over ADR)	185,714	185,714	185,714	1,624,999
= Gross Adjustment	34,152	14,533	358	-188,012
Net Adjustment	0	0	0	-188,012
ACE IDC Adjustment:				
AMT IDC (Amort. 120 mos.)	460,000	460,000	460,000	460,000
- ACE IDC (amort. 60 mos.)	230,000	230,000	230,000	230,000
= Gross Adjustment	0	0	0	0
Net Adjustment	0	0	0	0
ACE Depletion Adjustment:				
Regular Tax Depletion	159,513	108,074	57,485	21,991
- Cost Depletion	159,513	108,074	57,485	21,991
= Gross Adjustment	0	0	0	0
Net Adjustment	0	0	0	0
AMT NOL Deduction:				
Prelim. AMT Income	2,172,995	1,350,696	593,816	-1,303,487
Reg. Tax NOL	0	0	0	0
- AMT Depreciation Adjustment	182,609	108,910	51,329	0
- AMT Depletion Preference	0	0	0	0
- AMT IDC Preference	0	0	0	0
= Deduction	0	0	0	0

CASE 2

ALTERNATIVE MINIMUM TAX WORKSHEET-- SUPPLEMENTAL CALCULATIONS
CASE: Integrated Producer

Item	1992	1993	1994	1995	1996	1997
Energy Preference Deduction:						
Prelim. AMT Income	-37,500	663,482	1,143,095	1,651,626	2,128,067	3,100,941
0.75 x (AMT IDC Preference)	382,500	299,199	0	0	0	0
0.50x(AMT+ACE Depl'n Pref'nce)	0	0	0	0	0	0
Deduction **	0	265,393	0	0	0	0
** Available to Independents only.						
AMT Exemption Deduction:						
Total allowable exemption	40,000	40,000	40,000	40,000	40,000	40,000
AMT Income b/f exemp.	-37,500	550,627	922,008	1,651,626	2,128,067	3,100,941
actual allowable exemp.	0	0	0	0	0	0

CASE 2

ALTERNATIVE MINIMUM TAX WORKSHEET-- SUPPLEMENTAL CALCULATIONS
CASE: Integrated Producer

Item	1998	1999	2000	2001
Energy Preference Deduction:				
Prelim. AMT Income	2,172,995	1,350,696	593,816	-1,303,487
0.75 x (AMT IDC Preference)	0	0	0	0
0.50x(AMT+ACE Depl'n Pref'nce)	0	0	0	0
Deduction **	0	0	0	0
** Available to Independents only.				
AMT Exemption Deduction:				
Total allowable exemption	40,000	40,000	40,000	40,000
AMT Income b/f exemp.	2,172,995	1,350,696	593,816	-1,303,487
actual allowable exemp.	0	0	0	0

Consolidated Projects (1-5) File: TC-M-S1.SEE
Integrated - no AMT
Slow IDC (amort 60mos) & Depr. (150-SL, 14yr)
Date: 10/08/92 Time: 09:32:33

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-Depreciation(AMT)		-21,429	-64,668	-108,632	-155,922	-206,180	-219,866	-200,247	-186,072	-1,436,985
-Amortization(60mos)	-75,000	-235,000	-410,000	-600,000	-810,000	-845,000	-685,000	-510,000	-320,000	-110,000
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
-Loss Forward		-75,000								
Taxable Income	-75,000	620,050	1,532,490	2,027,923	2,455,352	2,693,777	1,820,541	1,072,959	404,443	-1,239,476
-Tax Due @ 38%		-235,619	-582,346	-770,611	-933,034	-1,023,635	-691,806	-407,724	-153,689	471,001
Net Income	-75,000	384,431	950,144	1,257,312	1,522,318	1,670,142	1,128,736	665,235	250,755	-768,475
+Depreciation(AMT)		21,429	64,668	108,632	155,922	206,180	219,866	200,247	186,072	1,436,985
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization(60mos)	75,000	235,000	410,000	600,000	810,000	845,000	685,000	510,000	320,000	110,000
+Loss Forward		75,000								
-Capital Costs	-1,350,000	-1,500,000	-1,600,000	-1,850,000	-2,000,000					
Cash Flow	-1,350,000	-719,219	-57,786	270,429	679,066	2,946,625	2,193,114	1,483,556	814,311	800,501

MROR = 15.0% NPV =$2,011,580 DCFROR= 31.1%

CASE 3

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer
No IDC preference - Slow deductions on IDC
No Depreciation Adjustment - Slow deductions on Depreciation

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-75,000	620,050	1,532,490	2,027,923	2,455,352	2,693,777
- State Tax (6%)	0	-37,203	-91,949	-121,675	-147,321	-161,627
= Regular Federal Taxable Income	-75,000	582,847	1,440,541	1,906,248	2,308,031	2,532,150
+ Regular Tax NOL Deduction	0	75,000	0	0	0	0
+/- AMT Depreciation Adjustment	0	0	0	0	0	0
+ AMT Depletion Preference	0	0	0	0	0	0
+ AMT IDC Preference	0	0	0	0	0	0
= Pre ACE AMT Income	-75,000	657,847	1,440,541	1,906,248	2,308,031	2,532,150
+/- ACE Depreciation Adjustment	0	7,143	20,025	30,061	38,065	43,680
+/- ACE IDC Adjustment	0	0	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0	0	0
= ACE	-75,000	664,990	1,460,566	1,936,309	2,346,096	2,575,830
- Pre ACE AMTI	-75,000	657,847	1,440,541	1,906,248	2,308,031	2,532,150
= Difference	0	7,143	20,025	30,061	38,065	43,680
x 0.75 = ACE Adjustment	0	5,357	15,019	22,546	28,549	32,760
Preliminary AMT Income	-75,000	663,204	1,455,559	1,928,793	2,336,580	2,564,910
- AMT NOL	0	75,000	0	0	0	0
- Energy Preference Deduction**	0	0	0	0	0	0
= AMT Income Before Exemption	-75,000	588,204	1,455,559	1,928,793	2,336,580	2,564,910
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	588,204	1,455,559	1,928,793	2,336,580	2,564,910
x 0.20 = Tentative Min.Tax (TMT)	0	117,641	291,112	385,759	467,316	512,982
- Regular Federal Tax (34%)	0	198,168	489,784	648,124	784,730	860,931
= AMT	0	0	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 3

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer
No IDC preference - Slow deductions on IDC
No Depreciation Adjustment - Slow deductions on Depreciation

Item	1998	1999	2000	2001
Earnings Before Taxes	1,820,541	1,072,959	404,443	-1,239,476
- State Tax (6%)	-109,232	-64,378	-24,267	0
= Regular Federal Taxable Income	1,711,309	1,008,581	380,176	-1,239,476
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	0	0	0	0
+ AMT Depletion Preference	0	0	0	0
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	1,711,309	1,008,581	380,176	-1,239,476
+/- ACE Depreciation Adjustment	34,152	14,533	358	-188,012
+/- ACE IDC Adjustment	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	1,745,461	1,023,114	380,534	-1,427,488
- Pre ACE AMTI	1,711,309	1,008,581	380,176	-1,239,476
= Difference	34,152	14,533	358	-188,012
x 0.75 = ACE Adjustment	25,614	10,900	269	-141,009
Preliminary AMT Income	1,736,923	1,019,481	380,445	-1,380,485
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	0	0	0	0
= AMT Income Before Exemption	1,736,923	1,019,481	380,445	-1,380,485
- AMT Exemption	0	0	0	0
= AMT Income	1,736,923	1,019,481	380,445	0
x 0.20 = Tentative Min.Tax (TMT)	347,385	203,896	76,089	0
- Regular Federal Tax (34%)	581,845	342,918	129,260	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Projects (1-5) File: TC-M-S2.SEE
Integrated - no AMT
IDC Amort 60 mos. MACRS Depr.
Date: 10/08/92 Time: 09:41:26

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Amortization (60mos)	-75,000	-235,000	-410,000	-600,000	-810,000	-845,000	-685,000	-510,000	-320,000	-110,000
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
-Loss Forward		-75,000								
Taxable Income	-75,000	584,336	1,434,913	1,884,952	2,274,414	2,480,772	1,637,932	964,049	353,114	-226,422
-Tax Due @ 38%		-222,048	-545,267	-716,282	-864,277	-942,693	-622,414	-366,339	-134,183	86,040
Net Income	-75,000	362,288	889,646	1,168,670	1,410,137	1,538,078	1,015,518	597,710	218,931	-140,381
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization (60mos)	75,000	235,000	410,000	600,000	810,000	845,000	685,000	510,000	320,000	110,000
+Loss Forward		75,000								
-Capital Costs	-1,350,000	-1,500,000	-1,600,000	-1,850,000	-2,000,000					
Cash Flow	-1,350,000	-705,648	-20,707	324,758	747,823	3,027,567	2,262,506	1,524,941	833,817	415,540

MROR = 15.0% NPV =$2,109,200 DCFROR= 32.2%

CASE 4

CASE 4

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer
No IDC Preference - Slow deductions on IDC

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-75,000	584,336	1,434,913	1,884,952	2,274,414	2,480,772
- State Tax (6%)	0	-35,060	-86,095	-113,097	-136,465	-148,846
= Regular Federal Taxable Income	-75,000	549,276	1,348,818	1,771,855	2,137,949	2,331,926
+ Regular Tax NOL Deduction	0	75,000	0	0	0	0
+/- AMT Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
+ AMT Depletion Preference	0	0	0	0	0	0
+ AMT IDC Preference	0	0	0	0	0	0
= Pre ACE AMT Income	-75,000	659,990	1,446,395	1,914,826	2,318,887	2,544,931
+/- ACE Depreciation Adjustment	0	0	0	0	0	0
+/- ACE IDC Adjustment	0	0	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0	0	0
= ACE	-75,000	659,990	1,446,395	1,914,826	2,318,887	2,544,931
- Pre ACE AMTI	-75,000	659,990	1,446,395	1,914,826	2,318,887	2,544,931
= Difference	0	0	0	0	0	0
x 0.75 = ACE Adjustment	0	0	0	0	0	0
Preliminary AMT Income	-75,000	659,990	1,446,395	1,914,826	2,318,887	2,544,931
- AMT NOL	0	39,286	0	0	0	0
- Energy Preference Deduction**	0	0	0	0	0	0
= AMT Income Before Exemption	-75,000	620,704	1,446,395	1,914,826	2,318,887	2,544,931
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	620,704	1,446,395	1,914,826	2,318,887	2,544,931
x 0.20 = Tentative Min.Tax (TMT)	0	124,141	289,279	382,965	463,777	508,986
- Regular Federal Tax (34%)	0	186,754	458,598	602,431	726,903	792,855
= AMT	0	0	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 4

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer
No IDC Preference - Slow deductions on IDC

Item	1998	1999	2000	2001
Earnings Before Taxes	1,637,932	964,049	353,114	-226,422
- State Tax (6%)	-98,276	-57,843	-21,187	0
= Regular Federal Taxable Income	1,539,656	906,206	331,927	-226,422
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	182,609	108,910	51,329	-1,013,056
+ AMT Depletion Preference	0	0	0	0
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	1,722,265	1,015,116	383,256	-1,239,478
+/- ACE Depreciation Adjustment	0	0	0	-188,012
+/- ACE IDC Adjustment	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	1,722,265	1,015,116	383,256	-1,427,490
- Pre ACE AMTI	1,722,265	1,015,116	383,256	-1,239,478
= Difference	0	0	0	-188,012
x 0.75 = ACE Adjustment	0	0	0	-141,009
Preliminary AMT Income	1,722,265	1,015,116	383,256	-1,380,487
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	0	0	0	0
= AMT Income Before Exemption	1,722,265	1,015,116	383,256	-1,380,487
- AMT Exemption	0	0	0	0
= AMT Income	1,722,265	1,015,116	383,256	0
x 0.20 = Tentative Min.Tax (TMT)	344,453	203,023	76,651	0
- Regular Federal Tax (34%)	523,483	308,110	112,855	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs." Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Projects (1-5) File: TC-M-S3.SEE
Integrated - AMT
Reg. IDC, Slow Depr.
Date: 10/08/92 Time: 09:44:18

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-525,000	-595,000	-630,000	-700,000	-770,000					
-Depreciation (AMT)		-21,429	-64,668	-108,632	-155,922	-206,180	-219,866	-200,247	-186,072	-1,436,985
-Amortization	-22,500	-70,500	-123,000	-180,000	-243,000	-253,500	-205,500	-153,000	-96,000	-33,000
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
-Loss Forward		-547,500	-282,950							
Taxable Income	-547,500	-282,950	906,540	1,747,923	2,252,352	3,285,277	2,300,041	1,429,959	628,443	-1,162,476
-Tax Due @ 38%			-344,485	-664,211	-855,894	-1,248,405	-874,016	-543,384	-238,809	441,741
-AMT		-94,768								
+MTC			94,768							
Net Income	-547,500	-377,718	656,823	1,083,712	1,396,458	2,036,872	1,426,026	886,575	389,635	-720,735
+Depreciation (AMT)		21,429	64,668	108,632	155,922	206,180	219,866	200,247	186,072	1,436,985
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization	22,500	70,500	123,000	180,000	243,000	253,500	205,500	153,000	96,000	33,000
+Loss Forward		547,500	282,950							
-Capital Costs	-825,000	-905,000	-970,000	-1,150,000	-1,230,000					
Cash Flow	-1,350,000	-578,368	274,843	376,829	756,206	2,721,855	2,010,904	1,347,896	729,191	771,241

MROR = 15.0% NPV =$2,221,972 DCFROR= 34.6%

CASE 5

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer
No Depreciation adjustment - Slow deductions on Depreciation

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-547,500	-282,950	906,540	1,747,923	2,252,352	3,285,277
- State Tax (6%)	0	0	-54,392	-104,875	-135,141	-197,117
= Regular Federal Taxable Income	-547,500	-282,950	852,148	1,643,048	2,117,211	3,088,160
+ Regular Tax NOL Deduction	0	547,500	282,950	0	0	0
+/- AMT Depreciation Adjustment	0	0	0	0	0	0
+ AMT Depletion Preference	0	0	0	0	0	0
+ AMT IDC Preference	510,000	375,718	0	0	0	0
= Pre ACE AMT Income	-37,500	640,268	1,135,098	1,643,048	2,117,211	3,088,160
+/- ACE Depreciation Adjustment	0	7,143	20,025	30,061	38,065	43,680
+/- ACE IDC Adjustment	-7,500	0	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0	0	0
= ACE	-45,000	647,411	1,155,123	1,673,109	2,155,276	3,131,840
- Pre ACE AMTI	-37,500	640,268	1,135,098	1,643,048	2,117,211	3,088,160
= Difference	-7,500	7,143	20,025	30,061	38,065	43,680
x 0.75 = ACE Adjustment	-5,625	5,357	15,019	22,546	28,549	32,760
Preliminary AMT Income	-43,125	645,625	1,150,116	1,665,593	2,145,760	3,120,920
- AMT NOL	0	171,783	282,950	0	0	0
- Energy Preference Deduction**	0	0	0	0	0	0
= AMT Income Before Exemption	-43,125	473,842	867,166	1,665,593	2,145,760	3,120,920
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	473,842	867,166	1,665,593	2,145,760	3,120,920
x 0.20 = Tentative Min.Tax (TMT)	0	94,768	173,433	333,119	429,152	624,184
- Regular Federal Tax (34%)	0	0	289,730	558,636	719,852	1,049,975
= AMT	0	94,768	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 5

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer
No Depreciation adjustment - Slow deductions on Depreciation

Item	1998	1999	2000	2001
Earnings Before Taxes	2,300,041	1,429,959	628,443	-1,162,476
- State Tax (6%)	-138,002	-85,798	-37,707	0
= Regular Federal Taxable Income	2,162,039	1,344,161	590,736	-1,162,476
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	0	0	0	0
+ AMT Depletion Preference	0	0	0	0
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	2,162,039	1,344,161	590,736	-1,162,476
+/- ACE Depreciation Adjustment	34,152	14,533	358	-188,012
+/- ACE IDC Adjustment	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	2,196,191	1,358,694	591,094	-1,350,488
- Pre ACE AMTI	2,162,039	1,344,161	590,736	-1,162,476
= Difference	34,152	14,533	358	-188,012
x 0.75 = ACE Adjustment	25,614	10,900	269	-141,009
Preliminary AMT Income	2,187,653	1,355,061	591,005	-1,303,485
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	0	0	0	0
= AMT Income Before Exemption	2,187,653	1,355,061	591,005	-1,303,485
- AMT Exemption	0	0	0	0
= AMT Income	2,187,653	1,355,061	591,005	0
x 0.20 = Tentative Min.Tax (TMT)	437,531	271,012	118,201	0
- Regular Federal Tax (34%)	735,093	457,015	200,850	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Projects (1-5) File: TC-M-S4.SEE
Integrated
Slow on 50% IDC, Reg Depr.
Date: 10/08/92 Time: 13:05:33

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-262,500	-297,500	-315,000	-350,000	-385,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Amortization	-48,750	-152,750	-266,500	-390,000	-526,500	-549,250	-445,250	-331,500	-208,000	-71,500
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
-Loss Forward		-311,250								
Taxable Income	-311,250	132,836	1,263,413	1,744,952	2,172,914	2,776,522	1,877,682	1,142,549	465,114	-187,922
-Tax Due @ 38%		-50,478	-480,097	-663,082	-825,707	-1,055,078	-713,519	-434,169	-176,743	71,410
-AMT		-489								
+MTC			489							
Net Income	-311,250	81,869	783,805	1,081,870	1,347,207	1,721,443	1,164,163	708,380	288,371	-116,511
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization	48,750	152,750	266,500	390,000	526,500	549,250	445,250	331,500	208,000	71,500
+Loss Forward		311,250								
-Capital Costs	-1,087,500	-1,202,500	-1,285,000	-1,500,000	-1,615,000					
Cash Flow	-1,350,000	-534,567	44,952	377,958	786,393	2,915,182	2,171,401	1,457,111	791,257	400,910

MROR = 15.0% NPV =$2,225,812 DCFROR= 34.3%

CASE 6

CASE 6

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer
Slow deductions on 50% of IDC

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-311,250	132,836	1,263,413	1,744,952	2,172,914	2,776,522
- State Tax (6%)	0	-7,970	-75,805	-104,697	-130,375	-166,591
= Regular Federal Taxable Income	-311,250	124,866	1,187,608	1,640,255	2,042,539	2,609,931
+ Regular Tax NOL Deduction	0	311,250	0	0	0	0
+/- AMT Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
+ AMT Depletion Preference	0	0	0	0	0	0
+ AMT IDC Preference	255,000	14,737	0	0	0	0
= Pre ACE AMT Income	-56,250	486,567	1,285,185	1,783,226	2,223,477	2,822,936
+/- ACE Depreciation Adjustment	0	0	0	0	0	0
+/- ACE IDC Adjustment	-3,750	-14,737	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0	0	0
= ACE	-60,000	471,830	1,285,185	1,783,226	2,223,477	2,822,936
- Pre ACE AMTI	-56,250	486,567	1,285,185	1,783,226	2,223,477	2,822,936
= Difference	-3,750	-14,737	0	0	0	0
x 0.75 = ACE Adjustment	-2,813	-11,053	0	0	0	0
Preliminary AMT Income	-59,063	475,514	1,285,185	1,783,226	2,223,477	2,822,936
- AMT NOL	0	260,799	0	0	0	0
- Energy Preference Deduction**	0	0	0	0	0	0
= AMT Income Before Exemption	-59,063	214,715	1,285,185	1,783,226	2,223,477	2,822,936
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	214,715	1,285,185	1,783,226	2,223,477	2,822,936
x 0.20 = Tentative Min.Tax (TMT)	0	42,943	257,037	356,645	444,695	564,587
- Regular Federal Tax (34%)	0	42,454	403,787	557,687	694,463	887,376
= AMT	0	489	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 6

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer
Slow deductions on 50% of IDC

Item	1998	1999	2000	2001
Earnings Before Taxes	1,877,682	1,142,549	465,114	-187,922
- State Tax (6%)	-112,661	-68,553	-27,907	0
= Regular Federal Taxable Income	1,765,021	1,073,996	437,207	-187,922
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	182,609	108,910	51,329	-1,013,056
+ AMT Depletion Preference	0	0	0	0
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	1,947,630	1,182,906	488,536	-1,200,978
+/- ACE Depreciation Adjustment	0	0	0	-188,012
+/- ACE IDC Adjustment	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	1,947,630	1,182,906	488,536	-1,388,990
- Pre ACE AMTI	1,947,630	1,182,906	488,536	-1,200,978
= Difference	0	0	0	-188,012
x 0.75 = ACE Adjustment	0	0	0	-141,009
Preliminary AMT Income	1,947,630	1,182,906	488,536	-1,341,987
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	0	0	0	0
= AMT Income Before Exemption	1,947,630	1,182,906	488,536	-1,341,987
- AMT Exemption	0	0	0	0
= AMT Income	1,947,630	1,182,906	488,536	0
x 0.20 = Tentative Min.Tax (TMT)	389,526	236,581	97,707	0
- Regular Federal Tax (34%)	600,107	365,159	148,650	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Projects (1-5) File: TC-M-S10.SEE
Integrated
Slow on 30% IDC, Reg Depr.
Date: 10/08/92 Time: 13:07:16

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-367,500	-416,500	-441,000	-490,000	-539,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Amortization	-38,250	-119,850	-209,100	-306,000	-413,100	-430,950	-349,350	-260,100	-163,200	-56,100
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
-Loss Forward		-405,750	-47,764							
Taxable Income	-405,750	-47,764	1,147,049	1,688,952	2,132,314	2,894,822	1,973,582	1,213,949	509,914	-172,522
-Tax Due @ 38%			-435,879	-641,802	-810,279	-1,100,032	-749,961	-461,301	-193,767	65,558
-AMT		-70,855								
+MTC			70,855							
Net Income	-405,750	-118,619	782,026	1,047,150	1,322,035	1,794,789	1,223,621	752,648	316,147	-106,963
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization	38,250	119,850	209,100	306,000	413,100	430,950	349,350	260,100	163,200	56,100
+Loss Forward		405,750	47,764							
-Capital Costs	-982,500	-1,083,500	-1,159,000	-1,360,000	-1,461,000					
Cash Flow	-1,350,000	-554,455	159,536	399,238	801,821	2,870,228	2,134,959	1,429,979	774,233	395,058

MROR = 15.0% NPV =$2,262,439 DCFROR= 34.9%

CASE 7

CASE 7

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer
Slow deductions on 30% of IDC

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-405,750	-47,764	1,147,049	1,688,952	2,132,314	2,894,822
- State Tax (6%)	0	0	-68,823	-101,337	-127,939	-173,689
= Regular Federal Taxable Income	-405,750	-47,764	1,078,226	1,587,615	2,004,375	2,721,133
+ Regular Tax NOL Deduction	0	405,750	47,764	0	0	0
+/- AMT Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
+ AMT Depletion Preference	0	0	0	0	0	0
+ AMT IDC Preference	357,000	165,307	0	0	0	0
= Pre ACE AMT Income	-48,750	559,007	1,223,567	1,730,586	2,185,313	2,934,138
+/- ACE Depreciation Adjustment	0	0	0	0	0	0
+/- ACE IDC Adjustment	-5,250	0	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0	0	0
= ACE	-54,000	559,007	1,223,567	1,730,586	2,185,313	2,934,138
- Pre ACE AMTI	-48,750	559,007	1,223,567	1,730,586	2,185,313	2,934,138
= Difference	-5,250	0	0	0	0	0
x 0.75 = ACE Adjustment	-3,938	0	0	0	0	0
Preliminary AMT Income	-52,688	559,007	1,223,567	1,730,586	2,185,313	2,934,138
- AMT NOL	0	204,729	0	0	0	0
- Energy Preference Deduction**	0	0	0	0	0	0
= AMT Income Before Exemption	-52,688	354,277	1,223,567	1,730,586	2,185,313	2,934,138
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	354,277	1,223,567	1,730,586	2,185,313	2,934,138
x 0.20 = Tentative Min.Tax (TMT)	0	70,855	244,713	346,117	437,063	586,828
- Regular Federal Tax (34%)	0	0	366,597	539,789	681,488	925,185
= AMT	0	70,855	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 7

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer
Slow deductions on 30% of IDC

Item	1998	1999	2000	2001
Earnings Before Taxes	1,973,582	1,213,949	509,914	-172,522
- State Tax (6%)	-118,415	-72,837	-30,595	0
= Regular Federal Taxable Income	1,855,167	1,141,112	479,319	-172,522
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	182,609	108,910	51,329	-1,013,056
+ AMT Depletion Preference	0	0	0	0
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	2,037,776	1,250,022	530,648	-1,185,578
+/- ACE Depreciation Adjustment	0	0	0	-188,012
+/- ACE IDC Adjustment	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	2,037,776	1,250,022	530,648	-1,373,590
- Pre ACE AMTI	2,037,776	1,250,022	530,648	-1,185,578
= Difference	0	0	0	-188,012
x 0.75 = ACE Adjustment	0	0	0	-141,009
Preliminary AMT Income	2,037,776	1,250,022	530,648	-1,326,587
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	0	0	0	0
= AMT Income Before Exemption	2,037,776	1,250,022	530,648	-1,326,587
- AMT Exemption	0	0	0	0
= AMT Income	2,037,776	1,250,022	530,648	0
x 0.20 = Tentative Min.Tax (TMT)	407,555	250,004	106,130	0
- Regular Federal Tax (34%)	630,757	387,978	162,969	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Projects (1-5) File: TC-M-S11.SEE
Integrated
Slow on 20% IDC, Reg Depr.
Date: 10/08/92 Time: 13:09:06

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-420,000	-476,000	-504,000	-560,000	-616,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Amortization	-33,000	-111,900	-197,400	-281,000	-373,400	-388,800	-309,900	-224,400	-140,800	-48,400
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
-Loss Forward		-453,000	-146,564							
Taxable Income	-453,000	-146,564	996,949	1,643,952	2,095,014	2,936,972	2,013,032	1,249,649	532,314	-164,822
-Tax Due @ 38%			-378,841	-624,702	-796,105	-1,116,049	-764,952	-474,867	-202,279	62,632
-AMT		-84,455								
+MTC			84,455							
Net Income	-453,000	-231,019	702,564	1,019,250	1,298,909	1,820,922	1,248,080	774,782	330,035	-102,189
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization	33,000	111,900	197,400	281,000	373,400	388,800	309,900	224,400	140,800	48,400
+Loss Forward		453,000	146,564							
-Capital Costs	-930,000	-1,109,000	-1,096,000	-1,290,000	-1,384,000					
Cash Flow	-1,350,000	-653,055	230,174	416,338	815,995	2,854,211	2,119,968	1,416,413	765,721	392,132

MROR = 15.0% NPV =$2,226,302 DCFROR= 34.4%

CASE 8

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer
Slow deductions on 20% of IDC

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-453,000	-146,564	996,949	1,643,952	2,095,014	2,963,972
- State Tax (6%)	0	0	-59,817	-98,637	-125,701	-177,838
= Regular Federal Taxable Income	-453,000	-146,564	937,132	1,545,315	1,969,313	2,786,134
+ Regular Tax NOL Deduction	0	453,000	146,564	0	0	0
+/- AMT Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
+ AMT Depletion Preference	0	0	0	0	0	0
+ AMT IDC Preference	408,000	248,707	0	0	0	0
= Pre ACE AMT Income	-45,000	590,857	1,181,273	1,688,286	2,150,251	2,999,139
+/- ACE Depreciation Adjustment	0	0	0	0	0	0
+/- ACE IDC Adjustment	-6,000	0	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0	0	0
= ACE	-51,000	590,857	1,181,273	1,688,286	2,150,251	2,999,139
- Pre ACE AMTI	-45,000	590,857	1,181,273	1,688,286	2,150,251	2,999,139
= Difference	-6,000	0	0	0	0	0
x 0.75 = ACE Adjustment	-4,500	0	0	0	0	0
Preliminary AMT Income	-49,500	590,857	1,181,273	1,688,286	2,150,251	2,999,139
- AMT NOL	0	168,579	48,987	0	0	0
- Energy Preference Deduction**	0	0	0	0	0	0
= AMT Income Before Exemption	-49,500	422,277	1,132,286	1,688,286	2,150,251	2,999,139
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	422,277	1,132,286	1,688,286	2,150,251	2,999,139
x 0.20 = Tentative Min.Tax (TMT)	0	84,455	226,457	337,657	430,050	599,828
- Regular Federal Tax (34%)	0	0	318,625	525,407	669,566	947,285
= AMT	0	84,455	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 8

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer
Slow deductions on 20% of IDC

Item	1998	1999	2000	2001
Earnings Before Taxes	2,013,032	1,249,649	532,314	-164,822
- State Tax (6%)	-120,782	-74,979	-31,939	0
= Regular Federal Taxable Income	1,892,250	1,174,670	500,375	-164,822
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	182,609	108,910	51,329	-1,013,056
+ AMT Depletion Preference	0	0	0	0
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	2,074,859	1,283,580	551,704	-1,177,878
+/- ACE Depreciation Adjustment	0	0	0	-188,012
+/- ACE IDC Adjustment	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	2,074,859	1,283,580	551,704	-1,365,890
- Pre ACE AMTI	2,074,859	1,283,580	551,704	-1,177,878
= Difference	0	0	0	-188,012
x 0.75 = ACE Adjustment	0	0	0	-141,009
Preliminary AMT Income	2,074,859	1,283,580	551,704	-1,318,887
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	0	0	0	0
= AMT Income Before Exemption	2,074,859	1,283,580	551,704	-1,318,887
- AMT Exemption	0	0	0	0
= AMT Income	2,074,859	1,283,580	551,704	0
x 0.20 = Tentative Min.Tax (TMT)	414,972	256,716	110,341	0
- Regular Federal Tax (34%)	643,365	399,388	170,128	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Projects (1-5) File: WTC-R-P.SEE
Integrated-Regular Tax
Lower Prices, Higher Operating Costs
Date: 10/08/92 Time: 13:12:36

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		15.00	16.00	17.00	18.00	19.00	20.00	20.00	20.00	20.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		930,000	1,888,000	2,754,000	3,510,000	4,123,000	3,060,000	2,040,000	1,040,000	380,000
-Royalties @ 14%		-130,200	-264,320	-385,560	-491,400	-577,220	-428,400	-285,600	-145,600	-53,200
Net Revenue		799,800	1,623,680	2,368,440	3,018,600	3,545,780	2,631,600	1,754,400	894,400	326,800
-Operating Costs		-200,000	-300,000	-600,000	-750,000	-800,000	-675,000	-600,000	-500,000	-450,000
-IDC	-525,000	-595,000	-630,000	-700,000	-770,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Amortization	-22,500	-70,500	-123,000	-180,000	-243,000	-253,500	-205,500	-153,000	-96,000	-33,000
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
-Loss Forward		-547,500	-735,264	-444,231						
Taxable Income	-547,500	-735,264	-444,231	38,121	727,914	1,847,792	1,189,112	584,169	3,514	-602,122
-Tax Due @ 38%				-14,486	-276,607	-702,161	-451,862	-221,984	-1,335	228,806
Net Income	-547,500	-735,264	-444,231	23,635	451,307	1,145,631	737,249	362,185	2,179	-373,315
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization	22,500	70,500	123,000	180,000	243,000	253,500	205,500	153,000	96,000	33,000
+Loss Forward		547,500	735,264	444,231						
-Capital Costs	-825,000	-905,000	-970,000	-1,150,000	-1,230,000					
Cash Flow	-1,350,000	-900,200	-276,320	-96,046	-8,007	2,043,619	1,504,738	932,416	393,065	105,606

MROR = 12.0% NPV =$93,081 DCFROR= 12.8%

CASE 9

Consolidated Projects (1-5) File: WTC-M-P.SEE
Integrated-Regular Tax
Lower Prices, Higher Operating Costs
Date: 10/08/92 Time: 13:14:44

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		15.00	16.00	17.00	18.00	19.00	20.00	20.00	20.00	20.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		930,000	1,888,000	2,754,000	3,510,000	4,123,000	3,060,000	2,040,000	1,040,000	380,000
-Royalties @ 14%		-130,200	-264,320	-385,560	-491,400	-577,220	-428,400	-285,600	-145,600	-53,200
Net Revenue		799,800	1,623,680	2,368,440	3,018,600	3,545,780	2,631,600	1,754,400	894,400	326,800
-Operating Costs		-200,000	-300,000	-600,000	-750,000	-800,000	-675,000	-600,000	-500,000	-450,000
-IDC	-525,000	-595,000	-630,000	-700,000	-770,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Amortization	-22,500	-70,500	-123,000	-180,000	-243,000	-253,500	-205,500	-153,000	-96,000	-33,000
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
-Loss Forward		-547,500	-735,264	-444,231						
Taxable Income	-547,500	-735,264	-444,231	38,121	727,914	1,847,792	1,189,112	584,169	3,514	-602,122
-Tax Due @ 38%				-14,486	-276,607	-702,161	-451,862	-221,984	-1,335	228,806
-AMT		-79,190	-142,405	-124,055					-9,851	
+MTC					213,705	131,945				9,851
Net Income	-547,500	-814,454	-586,636	-100,420	665,012	1,277,576	737,249	362,185	-7,672	-363,464
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization	22,500	70,500	123,000	180,000	243,000	253,500	205,500	153,000	96,000	33,000
+Loss Forward		547,500	735,264	444,231						
-Capital Costs	-825,000	-905,000	-970,000	-1,150,000	-1,230,000					
Cash Flow	-1,350,000	-979,390	-418,725	-220,101	205,698	2,175,564	1,504,738	932,416	383,214	115,457

MROR = 12.0% NPV =$30,807 DCFROR= 12.3%

CASE 10

CASE 10

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer - Lower Price Scenario

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-547,500	-735,264	-444,231	38,121	727,914	1,847,792
- State Tax (6%)	0	0	0	-2,287	-43,675	-110,868
= Regular Federal Taxable Income	-547,500	-735,264	-444,231	35,834	684,239	1,736,924
+ Regular Tax NOL Deduction	0	547,500	735,264	444,231	0	0
+/- AMT Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
+ AMT Depletion Preference	0	0	0	0	0	0
+ AMT IDC Preference	510,000	548,000	480,550	179,708	0	0
= Pre ACE AMT Income	-37,500	395,950	869,160	802,744	865,177	1,949,929
+/- ACE Depreciation Adjustment	0	0	0	0	0	0
+/- ACE IDC Adjustment	0	0	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0	0	0
= ACE	-37,500	395,950	869,160	802,744	865,177	1,949,929
- Pre ACE AMTI	-37,500	395,950	869,160	802,744	865,177	1,949,929
= Difference	0	0	0	0	0	0
x 0.75 = ACE Adjustment	0	0	0	0	0	0
Preliminary AMT Income	-37,500	395,950	869,160	802,744	865,177	1,949,929
- AMT NOL	0	0	157,137	121,552	0	0
- Energy Preference Deduction**	0	0	0	0	0	0
= AMT Income Before Exemption	-37,500	395,950	712,023	681,192	865,177	1,949,929
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	395,950	712,023	681,192	865,177	1,949,929
x 0.20 = Tentative Min.Tax (TMT)	0	79,190	142,405	136,238	173,035	389,986
- Regular Federal Tax (34%)	0	0	0	12,183	232,641	590,554
= AMT	0	79,190	142,405	124,055	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 10

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Integrated Producer - Lower Price Scenario

Item	1998	1999	2000	2001
Earnings Before Taxes	1,189,112	584,169	3,154	-602,122
- State Tax (6%)	-71,347	-35,050	-189	0
= Regular Federal Taxable Income	1,117,765	549,119	2,965	-602,122
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	182,609	108,910	51,329	-1,013,056
+ AMT Depletion Preference	0	0	0	0
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	1,300,374	658,029	54,294	-1,615,178
+/- ACE Depreciation Adjustment	0	0	0	-188,012
+/- ACE IDC Adjustment	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	1,300,374	658,029	54,294	-1,803,190
- Pre ACE AMTI	1,300,374	658,029	54,294	-1,615,178
= Difference	0	0	0	-188,012
x 0.75 = ACE Adjustment	0	0	0	-141,009
Preliminary AMT Income	1,300,374	658,029	54,294	-1,756,187
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	0	0	0	0
= AMT Income Before Exemption	1,300,374	658,029	54,294	-1,756,187
- AMT Exemption	0	0	0	0
= AMT Income	1,300,374	658,029	54,294	0
x 0.20 = Tentative Min.Tax (TMT)	260,075	131,606	10,859	0
- Regular Federal Tax (34%)	380,040	186,700	1,008	0
= AMT	0	0	9,851	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Projects (1-5) File: WTC-RO.SEE
Integrated - Regular Tax
Other Project Income
Date: 10/08/92 Time: 13:16:51

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-525,000	-595,000	-630,000	-700,000	-770,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Amortization	-22,500	-70,500	-123,000	-180,000	-243,000	-253,500	-205,500	-153,000	-96,000	-33,000
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
Taxable Income	-547,500	228,836	1,091,913	1,604,952	2,071,414	3,072,272	2,117,432	1,321,049	577,114	-149,422
-Tax Due @ 38%	208,050	-86,958	-414,927	-609,882	-787,137	-1,167,463	-804,624	-501,999	-219,303	56,780
Net Income	-339,450	141,878	676,986	995,070	1,284,277	1,904,808	1,312,808	819,050	357,811	-92,641
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization	22,500	70,500	123,000	180,000	243,000	253,500	205,500	153,000	96,000	33,000
-Capital Costs	-825,000	-905,000	-970,000	-1,150,000	-1,230,000					
Cash Flow	-1,141,950	-570,558	109,633	431,158	824,963	2,802,797	2,080,296	1,389,281	748,697	386,280

MROR = 15.0% NPV =$2,369,672 DCFROR= 37.6%

Consolidated Projects (1-5) File: AMT-MAJ.SEE
Integrated - AMT due every year thru 2001
Other Project Income
Date: 10/08/92 Time: 13:18:53

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-Depreciation (150%)		-21,429	-64,668	-108,632	-155,922	-206,180	-219,866	-200,247	-186,072	-1,436,985
-Amortization (IDC)	-75,000	-235,000	-410,000	-600,000	-810,000	-845,000	-685,000	-510,000	-320,000	-110,000
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
AMT Income	-75,000	695,050	1,532,490	2,027,923	2,455,352	2,693,777	1,820,541	1,072,959	404,443	-1,239,476
-AMT Due @ 24.8%	18,600	-172,373	-380,057	-502,925	-608,927	-668,057	-451,494	-266,094	-100,302	307,390
Net Income	-56,400	522,678	1,152,432	1,524,998	1,846,425	2,025,720	1,369,047	806,865	304,141	-932,086
+Depreciation (150%)		21,429	64,668	108,632	155,922	206,180	219,866	200,247	186,072	1,436,985
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization (IDC)	75,000	235,000	410,000	600,000	810,000	845,000	685,000	510,000	320,000	110,000
-Capital Costs	-1,350,000	-1,500,000	-1,600,000	-1,850,000	-2,000,000					
Cash Flow	-1,331,400	-655,973	144,503	538,115	1,003,173	3,302,203	2,433,426	1,625,186	867,698	636,890

MROR = 15.0% NPV =$2,904,320 DCFROR= 38.5%

Consolidated Projects (1-5) File: WTC-E.SEE
Integrated - Regular Tax
Other Project Income, EOR Credits Apply
Date: 10/08/92 Time: 13:20:48

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-525,000	-595,000	-630,000	-700,000	-770,000					
-Depreciation		-48,571	-137,908	-213,863	-286,331	-356,308	-342,104	-262,783	-201,791	-360,341
-Amortization	-11,250	-35,250	-61,500	-90,000	-121,500	-126,750	-102,750	-76,500	-48,000	-16,500
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
Taxable Income	-536,250	272,658	1,177,750	1,732,692	2,243,443	3,261,899	2,280,553	1,443,923	660,724	-69,332
-Tax Due @ 38%	203,775	-103,610	-447,545	-658,423	-852,508	-1,239,522	-866,610	-548,691	-251,075	26,346
+EOR Tax Credit	172,500	83,957	321,043	240,000	262,500					
Net Income	-159,975	253,005	1,051,247	1,314,269	1,653,435	2,022,378	1,413,943	895,232	409,649	-42,986
+Depreciation		48,571	137,908	213,863	286,331	356,308	342,104	262,783	201,791	360,341
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization	11,250	35,250	61,500	90,000	121,500	126,750	102,750	76,500	48,000	16,500
-Capital Costs	-825,000	-905,000	-970,000	-1,150,000	-1,230,000					
Cash Flow	-973,725	-503,252	398,058	622,617	1,022,092	2,730,738	2,018,310	1,342,589	716,925	355,846

MROR = 15.0% NPV =$2,953,895 DCFROR= 47.4%

Consolidated Projects (1-5) File: AMT-MAJ.SEE
Integrated - AMT due every year thru 2001
Other Project Income
Date: 10/08/92 Time: 13:18:53

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-Depreciation (150%)		-21,429	-64,668	-108,632	-155,922	-206,180	-219,866	-200,247	-186,072	-1,436,985
-Amortization (IDC)	-75,000	-235,000	-410,000	-600,000	-810,000	-845,000	-685,000	-510,000	-320,000	-110,000
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
AMT Income	-75,000	695,050	1,532,490	2,027,923	2,455,352	2,693,777	1,820,541	1,072,959	404,443	-1,239,476
-AMT Due @ 24.8%	18,600	-172,373	-380,057	-502,925	-608,927	-668,057	-451,494	-266,094	-100,302	307,390
Net Income	-56,400	522,678	1,152,432	1,524,998	1,846,425	2,025,720	1,369,047	806,865	304,141	-932,086
+Depreciation (150%)		21,429	64,668	108,632	155,922	206,180	219,866	200,247	186,072	1,436,985
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization (IDC)	75,000	235,000	410,000	600,000	810,000	845,000	685,000	510,000	320,000	110,000
-Capital Costs	-1,350,000	-1,500,000	-1,600,000	-1,850,000	-2,000,000					
Cash Flow	-1,331,400	-655,973	144,503	538,115	1,003,173	3,302,203	2,433,426	1,625,186	867,698	636,890

MROR = 15.0% NPV =$2,904,320 DCFROR= 38.5%

Consolidated Projects (1-5) File: WTC-E-P.SEE
Integrated-Regular Tax
Lower Prices, Higher Operating Costs
EOR Credits Apply
Date: 10/08/92 Time: 13:34:56

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		15.00	16.00	17.00	18.00	19.00	20.00	20.00	20.00	20.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		930,000	1,888,000	2,754,000	3,510,000	4,123,000	3,060,000	2,040,000	1,040,000	380,000
-Royalties @ 14%		-130,200	-264,320	-385,560	-491,400	-577,220	-428,400	-285,600	-145,600	-53,200
Net Revenue		799,800	1,623,680	2,368,440	3,018,600	3,545,780	2,631,600	1,754,400	894,400	326,800
-Operating Costs		-200,000	-300,000	-600,000	-750,000	-800,000	-675,000	-600,000	-500,000	-450,000
-IDC	-525,000	-595,000	-630,000	-700,000	-770,000					
-Depreciation		-48,571	-137,908	-213,863	-286,331	-356,308	-342,104	-262,783	-201,791	-360,341
-Amortization	-11,250	-35,250	-61,500	-90,000	-121,500	-126,750	-102,750	-76,500	-48,000	-16,500
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
Taxable Income	-536,250	-143,942	376,870	610,092	899,943	2,037,419	1,352,233	707,043	87,124	-522,032
-Tax Due @ 38%	203,775	54,698	-143,211	-231,835	-341,978	-774,219	-513,849	-268,676	-33,107	198,372
+EOR Tax Credit	172,500	195,000	113,658	180,126	262,734	155,982				
Net Income	-159,975	105,756	347,317	558,383	820,699	1,419,182	838,385	438,366	54,017	-323,660
+Depreciation		48,571	137,908	213,863	286,331	356,308	342,104	262,783	201,791	360,341
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization	11,250	35,250	61,500	90,000	121,500	126,750	102,750	76,500	48,000	16,500
-Capital Costs	-825,000	-905,000	-970,000	-1,150,000	-1,230,000					
Cash Flow	-973,725	-650,502	-305,873	-133,269	189,355	2,127,543	1,442,751	885,724	361,293	75,172

MROR = 12.0% NPV =$738,963 DCFROR= 19.6%

Consolidated Projects (1-5) File: AMT-MAJP.SEE
Integrated - AMT due every year thru 2001
Other Project Income, Low Price Scenario
Date: 10/08/92 Time: 13:36:10

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		15.00	16.00	17.00	18.00	19.00	20.00	20.00	20.00	20.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		930,000	1,888,000	2,754,000	3,510,000	4,123,000	3,060,000	2,040,000	1,040,000	380,000
-Royalties @ 14%		-130,200	-264,320	-385,560	-491,400	-577,220	-428,400	-285,600	-145,600	-53,200
Net Revenue		799,800	1,623,680	2,368,440	3,018,600	3,545,780	2,631,600	1,754,400	894,400	326,800
-Operating Costs		-200,000	-300,000	-600,000	-750,000	-800,000	-675,000	-600,000	-500,000	-450,000
-Depreciation(150%)		-21,429	-64,668	-108,632	-155,922	-206,180	-219,866	-200,247	-186,072	-1,436,985
-Amortization(IDC)	-75,000	-235,000	-410,000	-600,000	-810,000	-845,000	-685,000	-510,000	-320,000	-110,000
-Cost Depletion		-64,921	-117,402	-154,485	-190,826	-225,303	-159,513	-108,074	-57,485	-21,991
AMT Income	-75,000	278,450	731,610	905,323	1,111,852	1,469,297	892,221	336,079	-169,157	-1,692,176
-AMT Due @ 24.8%	18,600	-69,056	-181,439	-224,520	-275,739	-364,386	-221,271	-83,348	41,951	419,660
Net Income	-56,400	209,395	550,170	680,803	836,113	1,104,911	670,950	252,732	-127,206	-1,272,516
+Depreciation(150%)		21,429	64,668	108,632	155,922	206,180	219,866	200,247	186,072	1,436,985
+Cost Depletion		64,921	117,402	154,485	190,826	225,303	159,513	108,074	57,485	21,991
+Amortization(IDC)	75,000	235,000	410,000	600,000	810,000	845,000	685,000	510,000	320,000	110,000
-Capital Costs	-1,350,000	-1,500,000	-1,600,000	-1,850,000	-2,000,000					
Cash Flow	-1,331,400	-969,256	-457,759	-306,080	-7,139	2,381,394	1,735,329	1,071,052	436,351	296,460

MROR = 12.0% NPV =$213,941 DCFROR= 13.6%

APPENDIX B

Discounted Cash Flow Analysis
and
Alternative Minimum Tax Calculations
for the Independent Oil and Gas Producer

Cases 1a through 16a

Consolidated Projects (1-5) File: WTA-R.SEE
Small Independent-Regular Tax
Date: 10/08/92 Time: 14:26:40

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-750,000	-850,000	-900,000	-1,000,000	-1,100,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
-Loss Forward		-750,000	-800,703	-73,272						
Taxable Income	-750,000	-800,703	-73,272	1,106,409	1,587,675	2,907,236	2,008,757	1,232,275	562,899	-155,706
-Tax Due @ 38%				-420,435	-603,317	-1,104,750	-763,328	-468,265	-213,902	59,168
Net Income	-750,000	-800,703	-73,272	685,973	984,359	1,802,486	1,245,429	764,011	348,997	-96,537
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
+Loss Forward		750,000	800,703	73,272						
-Capital Costs	-600,000	-650,000	-700,000	-850,000	-900,000					
Cash Flow	-1,350,000	-483,600	524,560	620,605	1,008,783	2,865,510	2,121,592	1,423,015	754,098	388,668

MROR = 15.0% NPV =$2,844,806 DCFROR= 41.5%

CASE 1a

Consolidated Projects (1-5) File: WTA-M.SEE
Small Independent- AMT
Date: 10/08/92 Time: 14:29:10

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-750,000	-850,000	-900,000	-1,000,000	-1,100,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
-Loss Forward		-750,000	-800,703	-73,272						
Taxable Income	-750,000	-800,703	-73,272	1,106,409	1,587,675	2,907,236	2,008,757	1,232,275	562,899	-155,706
-Tax Due @ 38%				-420,435	-603,317	-1,104,750	-763,328	-468,265	-213,902	59,168
-AMT		-84,080	-77,220							
+MTC				161,300						
Net Income	-750,000	-884,783	-150,492	847,273	984,359	1,802,486	1,245,429	764,011	348,997	-96,537
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
+Loss Forward		750,000	800,703	73,272						
-Capital Costs	-600,000	-650,000	-700,000	-850,000	-900,000					
Cash Flow	-1,350,000	-567,680	447,340	781,905	1,008,783	2,865,510	2,121,592	1,423,015	754,098	388,668

MROR = 15.0% NPV =$2,819,361 DCFROR= 40.7%

CASE 2a

CASE 2a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-750,000	-800,703	-73,272	1,106,409	1,587,675	2,907,236
- State Tax (6%)	0	0	0	-66,385	-95,261	-174,434
= Regular Federal Taxable Income	-750,000	-800,703	-73,272	1,040,024	1,492,415	2,732,802
+ Regular Tax NOL Deduction	0	750,000	800,703	73,272	0	0
+/- AMT Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
+ AMT Depletion Preference	0	0	0	104,600	442,165	643,839
+ AMT IDC Preference	712,500	732,500	290,877	0	0	0
= Pre ACE AMT Income	-37,500	717,511	1,115,885	1,360,867	2,115,518	3,589,646
+/- ACE Depreciation Adjustment	0	0	0	0	0	0
+/- ACE IDC Adjustment	-37,500	-117,500	-205,000	-300,000	-405,000	-460,000
+/- ACE Depletion Adjustment	0	95,039	217,482	200,671	0	0
= ACE	-75,000	695,050	1,128,367	1,261,538	1,710,518	3,129,646
- Pre ACE AMTI	-37,500	717,511	1,115,885	1,360,867	2,115,518	3,589,646
= Difference	-37,500	-22,461	12,482	-99,329	-405,000	-460,000
x 0.75 = ACE Adjustment	-28,125	-16,846	9,362	-74,497	-303,750	-345,000
Preliminary AMT Income	-65,625	700,665	1,125,246	1,286,371	1,811,768	3,244,646
- AMT NOL	0	0	412,249	0	0	0
- Energy Preference Deduction**	0	280,266	326,899	152,636	221,083	321,920
= AMT Income Before Exemption	-65,625	420,399	386,099	1,133,735	1,590,685	2,922,726
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	420,399	386,099	1,133,735	1,590,685	2,922,726
x 0.20 = Tentative Min.Tax (TMT)	0	84,080	77,220	226,747	318,137	584,545
- Regular Federal Tax (34%)	0	0	0	353,608	507,421	929,153
= AMT	0	84,080	77,220	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 2a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer

Item	1998	1999	2000	2001
Earnings Before Taxes	2,008,757	1,232,275	562,899	-155,706
- State Tax (6%)	-120,525	-73,937	-33,774	0
= Regular Federal Taxable Income	1,888,232	1,158,339	529,125	-155,706
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	182,609	108,910	51,329	-1,013,056
+ AMT Depletion Preference	473,688	349,848	167,700	61,275
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	2,544,529	1,617,097	748,154	-1,107,487
+/- ACE Depreciation Adjustment	0	0	0	-188,012
+/- ACE IDC Adjustment	-460,000	-460,000	-460,000	-460,000
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	2,084,529	1,157,097	288,154	-1,755,499
- Pre ACE AMTI	2,544,529	1,617,097	748,154	-1,107,487
= Difference	-460,000	-460,000	-460,000	-648,012
x 0.75 = ACE Adjustment	-345,000	-345,000	-345,000	-486,009
Preliminary AMT Income	2,199,529	1,272,097	403,154	-1,593,496
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	236,844	174,924	83,850	0
= AMT Income Before Exemption	1,962,685	1,097,173	319,304	-1,593,496
- AMT Exemption	0	0	0	0
= AMT Income	1,962,685	1,097,173	319,304	0
x 0.20 = Tentative Min.Tax (TMT)	392,537	219,435	63,861	0
- Regular Federal Tax (34%)	641,999	393,835	179,903	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 2a

ALTERNATIVE MINIMUM TAX WORKSHEET - SUPPLEMENTARY CALCULATIONS
CASE: Small Independent Producer

Item	1992	1993	1994	1995	1996	1997
AMT Depreciation Adjusment:						
MACRS @ 200% DB	0	57,143	162,245	251,603	336,860	419,185
- AMT @ 150% DB-SL, ADR	0	21,429	64,668	108,632	155,922	206,180
= Adjustment	0	35,714	97,577	142,971	180,938	213,005
AMT Depletion Preference:						
Aquisition Cost Basis	200,000	200,000	200,000	250,000	250,000	0
Regular tax depletion (Percent)	0	159,960	334,884	459,756	587,565	643,839
- Adjusted Basis (beginning of yr)	200,000	400,000	440,040	355,156	145,400	0
= Preference	0	0	0	104,600	442,165	643,839
AMT IDC Preference:						
Project IDC s	750,000	850,000	900,000	1,000,000	1,100,000	0
Regular Tax IDC s	750,000	850,000	900,000	1,000,000	1,100,000	0
- Amortized IDC (120 mos.)	37,500	117,500	205,000	300,000	405,000	460,000
= Excess IDC	712,500	732,500	695,000	700,000	695,000	0
Regular Taxable Income	-750,000	-800,703	-73,272	1,040,024	1,492,415	2,732,802
+ Excess IDC	712,500	732,500	695,000	700,000	695,000	0
= O&G Net Income	0	0	621,728	1,740,024	2,187,415	2,732,802
Excess IDC	712,500	732,500	695,000	700,000	695,000	0
- 0.65(Net Income)	0	0	404,123	1,131,016	1,421,819	1,776,321
= Preference	712,500	732,500	290,877	0	0	0
ACE Depreciation Adjustment:						
AMT Depreciation	0	21,429	64,668	108,632	155,922	206,180
- ACE Depr. (SL over ADR)	0	14,286	44,643	78,571	117,857	162,500
= Gross Adjustment	0	7,143	20,025	30,061	38,065	43,680
Net Adjustment	0	0	0	0	0	0
ACE IDC Adjustment:						
AMT IDC (Amort. 120 mos.)	37,500	117,500	205,000	300,000	405,000	460,000
- ACE IDC (amort. 60 mos.)	75,000	235,000	410,000	600,000	810,000	920,000
= Gross Adjustment	-37,500	-117,500	-205,000	-300,000	-405,000	-460,000
Net Adjustment	-37,500	-117,500	-205,000	-300,000	-405,000	-460,000
ACE Depletion Adjustment:						
Regular Tax Depletion	0	159,960	334,884	459,756	587,565	643,839
- Cost Depletion	0	64,921	117,402	154,485	190,826	225,303
= Gross Adjustment	0	95,039	217,482	305,271	396,739	418,536
Net Adjustment	0	95,039	217,482	200,671	0	0
AMT NOL Deduction:						
Prelim. AMT Income	-65,625	700,665	1,125,246	1,286,371	1,811,768	3,244,646
Reg. Tax NOL	0	750,000	800,703	73,272	0	0
- AMT Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
- AMT Depletion Preference	0	0	0	104,600	442,165	643,839
- AMT IDC Preference	712,500	732,500	290,877	0	0	0
= Deduction	0	0	412,249	0	0	0

CASE 2a

ALTERNATIVE MINIMUM TAX WORKSHEET - SUPPLEMENTARY CALCULATIONS
CASE: Small Independent Producer

Item	1998	1999	2000	2001
AMT Depreciation Adjusment:				
MACRS @ 200% DB	402,475	309,157	237,401	423,931
- AMT @ 150% DB-SL, ADR	219,866	200,247	186,072	1,436,987
= Adjustment	182,609	108,910	51,329	-1,013,056
AMT Depletion Preference:				
Aquisition Cost Basis	0	0	0	0
Regular tax depletion	473,688	349,848	167,700	61,275
- Adjusted Basis (beginning of yr)	0	0	0	0
= Preference	473,688	349,848	167,700	61,275
AMT IDC Preference:				
Project IDC s	0	0	0	0
Regular Tax IDC s	0	0	0	0
- Amortized IDCs (120 mos.)	460,000	460,000	460,000	460,000
= Excess IDC	0	0	0	0
Regular Taxable Income	1,888,232	1,158,339	529,125	-155,706
+ Excess IDC	0	0	0	0
= O&G Net Income	1,888,232	1,158,339	529,125	0
Excess IDC	0	0	0	0
- 0.65(Net Income)	1,227,351	752,920	343,931	0
= Preference	0	0	0	0
ACE Depreciation Adjustment:				
AMT Depreciation	219,866	200,247	186,072	1,436,987
- ACE Depr. (SL over ADR)	185,714	185,714	185,714	1,624,999
= Gross Adjustment	34,152	14,533	358	-188,012
Net Adjustment	0	0	0	-188,012
ACE IDC Adjustment:				
AMT IDC (Amort. 120 mos.)	460,000	460,000	460,000	460,000
- ACE IDC (amort. 60 mos.)	920,000	920,000	920,000	920,000
= Gross Adjustment	-460,000	-460,000	-460,000	-460,000
Net Adjustment	-460,000	-460,000	-460,000	-460,000
ACE Depletion Adjustment:				
Regular Tax Depletion	473,688	349,848	167,700	61,275
- Cost Depletion	159,513	108,074	57,485	21,991
= Gross Adjustment	314,175	241,774	110,215	39,284
Net Adjustment	0	0	0	0
AMT NOL Deduction:				
Prelim. AMT Income	2,199,529	1,272,097	403,154	-1,593,496
Reg. Tax NOL	0	0	0	0
- AMT Depreciation Adjustment	182,609	108,910	51,329	0
- AMT Depletion Preference	473,688	349,848	167,700	61,275
- AMT IDC Preference	0	0	0	0
= Deduction	0	0	0	0

CASE 2a

ALTERNATIVE MINIMUM TAX WORKSHEET
CASE: Small Independent Producer

Item	1992	1993	1994	1995	1996	1997
Energy Preference Deduction:						
Prelim. AMT Income	-65,625	700,665	1,125,246	1,286,371	1,811,768	3,244,646
0.75 x (AMT IDC Preference)	534,375	549,375	218,158	0	0	0
0.50x(AMT+ACE Depl'n Pref'nce)	0	47,520	108,741	152,636	221,083	321,920
Deduction **	0	280,266	326,899	152,636	221,083	321,920
** Available to Independents only.						
AMT Exemption Deduction:						
Total allowable exemption	40,000	40,000	40,000	40,000	40,000	40,000
AMT Income b/f exemp.	-65,625	420,399	386,099	1,133,735	1,590,685	2,922,726
actual allowable exemp.	0	0	0	0	0	0

CASE 2a

ALTERNATIVE MINIMUM TAX WORKSHEET
CASE: Small Independent Producer

Item	1998	1999	2000	2001
Energy Preference Deduction:				
Prelim. AMT Income	2,199,529	1,272,097	403,154	-1,593,496
0.75 x (AMT IDC Preference)	0	0	0	0
0.50x(AMT+ACE Depl'n Pref'nce)	236,844	174,924	83,850	30,638
Deduction **	236,844	174,924	83,850	0
** Available to Independents only.				
AMT Exemption Deduction:				
Total allowable exemption	40,000	40,000	40,000	40,000
AMT Income b/f exemp.	1,962,685	1,097,173	319,304	-1,593,496
actual allowable exemp.	0	0	0	0

Consolidated Projects (1-5) File: A-M-S1.SEE
Small Independent - No AMT
Slow on IDC, Depr.
Date: 10/08/92 Time: 14:31:07

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-Depreciation		-21,429	-64,668	-108,632	-155,922	-206,180	-219,866	-200,247	-186,072	-1,436,985
-Amortization	-75,000	-235,000	-410,000	-600,000	-810,000	-845,000	-685,000	-510,000	-320,000	-110,000
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
-Loss Forward		-75,000								
Taxable Income	-75,000	525,011	1,315,008	1,722,652	2,058,613	2,275,241	1,506,366	831,185	294,228	-1,278,760
-Tax Due @ 38%		-199,504	-499,703	-654,608	-782,273	-864,591	-572,419	-315,850	-111,807	485,929
Net Income	-75,000	325,507	815,305	1,068,044	1,276,340	1,410,649	933,947	515,335	182,422	-792,831
+Depreciation		21,429	64,668	108,632	155,922	206,180	219,866	200,247	186,072	1,436,985
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
+Amortization	75,000	235,000	410,000	600,000	810,000	845,000	685,000	510,000	320,000	110,000
+Loss Forward		75,000								
-Capital Costs	-1,350,000	-1,500,000	-1,600,000	-1,850,000	-2,000,000					
Cash Flow	-1,350,000	-683,104	24,857	386,432	829,827	3,105,669	2,312,501	1,575,430	856,193	815,429

MROR = 15.0% NPV =$2,451,107 DCFROR= 34.5%

CASE 3a

CASE 3a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer
No IDC preference - Slow Deductions on IDC
No Depreciation adjustment - Slow deductions on depreciation

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-75,000	525,011	1,315,008	1,722,652	2,058,613	2,275,241
- State Tax (6%)	0	-31,501	-78,900	-103,359	-123,517	-136,514
= Regular Federal Taxable Income	-75,000	493,510	1,236,108	1,619,293	1,935,096	2,138,727
+ Regular Tax NOL Deduction	0	75,000	0	0	0	0
+/- AMT Depreciation Adjustment	0	0	0	0	0	0
+ AMT Depletion Preference	0	0	0	104,600	442,165	643,839
+ AMT IDC Preference	0	0	0	0	0	0
= Pre ACE AMT Income	-75,000	568,510	1,236,108	1,723,893	2,377,261	2,782,566
+/- ACE Depreciation Adjustment	0	7,143	20,025	30,061	38,065	43,680
+/- ACE IDC Adjustment	0	0	0	0	0	0
+/- ACE Depletion Adjustment	0	95,039	217,482	200,671	0	0
= ACE	-75,000	670,692	1,473,615	1,954,625	2,415,326	2,826,246
- Pre ACE AMTI	-75,000	568,510	1,236,108	1,723,893	2,377,261	2,782,566
= Difference	0	102,182	237,507	230,732	38,065	43,680
x 0.75 = ACE Adjustment	0	76,637	178,130	173,049	28,549	32,760
Preliminary AMT Income	-75,000	645,147	1,414,238	1,896,942	2,405,810	2,815,326
- AMT NOL	0	75,000	0	0	0	0
- Energy Preference Deduction**	0	47,520	108,741	152,636	221,083	321,920
= AMT Income Before Exemption	-75,000	522,627	1,305,497	1,744,306	2,184,727	2,493,406
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	522,627	1,305,497	1,744,306	2,184,727	2,493,406
x 0.20 = Tentative Min.Tax (TMT)	0	104,525	261,099	348,861	436,945	498,681
- Regular Federal Tax (34%)	0	167,794	420,277	550,560	657,933	727,167
= AMT	0	0	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 3a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer
No IDC preference - Slow Deductions on IDC
No Depreciation adjustment - Slow deductions on depreciation

Item	1998	1999	2000	2001
Earnings Before Taxes	1,506,366	831,185	294,228	-1,278,760
- State Tax (6%)	-90,382	-49,871	-17,654	0
= Regular Federal Taxable Income	1,415,984	781,314	276,574	-1,278,760
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	0	0	0	0
+ AMT Depletion Preference	473,688	349,848	167,700	61,275
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	1,889,672	1,131,162	444,274	-1,217,485
+/- ACE Depreciation Adjustment	34,152	14,533	358	-188,012
+/- ACE IDC Adjustment	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	1,923,824	1,145,695	444,632	-1,405,497
- Pre ACE AMTI	1,889,672	1,131,162	444,274	-1,217,485
= Difference	34,152	14,533	358	-188,012
x 0.75 = ACE Adjustment	25,614	10,900	269	-141,009
Preliminary AMT Income	1,915,286	1,142,062	444,543	-1,358,494
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	236,844	174,924	83,850	0
= AMT Income Before Exemption	1,678,442	967,138	360,693	-1,358,494
- AMT Exemption	0	0	0	0
= AMT Income	1,678,442	967,138	360,693	0
x 0.20 = Tentative Min.Tax (TMT)	335,688	193,428	72,139	0
- Regular Federal Tax (34%)	481,435	265,647	94,035	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Projects (1-5) File: A-M-S2.SEE
Small Independent - No AMT
Slow on IDC, Reg Depr
Date: 10/08/92 Time: 14:32:46

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Amortization	-75,000	-235,000	-410,000	-600,000	-810,000	-845,000	-685,000	-510,000	-320,000	-110,000
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
-Loss Forward		-75,000								
Taxable Income	-75,000	489,297	1,217,431	1,579,681	1,877,675	2,062,236	1,323,757	722,275	242,899	-265,706
-Tax Due @ 38%		-185,933	-462,624	-600,279	-713,517	-783,650	-503,028	-274,465	-92,302	100,968
Net Income	-75,000	303,364	754,807	979,402	1,164,159	1,278,586	820,729	447,811	150,597	-164,737
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
+Amortization	75,000	235,000	410,000	600,000	810,000	845,000	685,000	510,000	320,000	110,000
+Loss Forward		75,000								
-Capital Costs	-1,350,000	-1,500,000	-1,600,000	-1,850,000	-2,000,000					
Cash Flow	-1,350,000	-669,533	61,936	440,761	898,583	3,186,610	2,381,892	1,616,815	875,698	430,468

MROR = 15.0% NPV =$2,548,726 DCFROR= 35.7%

CASE 4a

CASE 4a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer
No IDC preference - Slow deductions on IDC

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-75,000	489,297	1,217,431	1,579,681	1,877,675	2,062,236
- State Tax (6%)	0	-29,358	-73,046	-94,781	-112,661	-123,734
= Regular Federal Taxable Income	-75,000	459,939	1,144,385	1,484,900	1,765,015	1,938,502
+ Regular Tax NOL Deduction	0	75,000	0	0	0	0
+/- AMT Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
+ AMT Depletion Preference	0	0	0	104,600	442,165	643,839
+ AMT IDC Preference	0	0	0	0	0	0
= Pre ACE AMT Income	-75,000	570,653	1,241,962	1,732,471	2,388,118	2,795,346
+/- ACE Depreciation Adjustment	0	0	0	0	0	0
+/- ACE IDC Adjustment	0	0	0	0	0	0
+/- ACE Depletion Adjustment	0	95,039	217,482	200,671	0	0
= ACE	-75,000	665,692	1,459,444	1,933,142	2,388,118	2,795,346
- Pre ACE AMTI	-75,000	570,653	1,241,962	1,732,471	2,388,118	2,795,346
= Difference	0	95,039	217,482	200,671	0	0
x 0.75 = ACE Adjustment	0	71,279	163,112	150,503	0	0
Preliminary AMT Income	-75,000	641,932	1,405,074	1,882,974	2,388,118	2,795,346
- AMT NOL	0	39,286	0	0	0	0
- Energy Preference Deduction**	0	47,520	108,741	152,636	221,083	321,920
= AMT Income Before Exemption	-75,000	555,127	1,296,333	1,730,339	2,167,035	2,473,426
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	555,127	1,296,333	1,730,339	2,167,035	2,473,426
x 0.20 = Tentative Min.Tax (TMT)	0	111,025	259,267	346,068	433,407	494,685
- Regular Federal Tax (34%)	0	156,379	389,091	504,866	600,105	659,091
= AMT	0	0	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 4a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer
No IDC preference - Slow deductions on IDC

Item	1998	1999	2000	2001
Earnings Before Taxes	1,323,757	722,275	242,899	-265,706
- State Tax (6%)	-79,425	-43,337	-14,574	0
= Regular Federal Taxable Income	1,244,332	678,939	228,325	-265,706
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	182,609	108,910	51,329	-1,013,056
+ AMT Depletion Preference	473,688	349,848	167,700	61,275
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	1,900,629	1,137,697	447,354	-1,217,487
+/- ACE Depreciation Adjustment	0	0	0	-188,012
+/- ACE IDC Adjustment	0	0	0	0
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	1,900,629	1,137,697	447,354	-1,405,499
- Pre ACE AMTI	1,900,629	1,137,697	447,354	-1,217,487
= Difference	0	0	0	-188,012
x 0.75 = ACE Adjustment	0	0	0	-141,009
Preliminary AMT Income	1,900,629	1,137,697	447,354	-1,358,496
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	236,844	174,924	83,850	0
= AMT Income Before Exemption	1,663,785	962,773	363,504	-1,358,496
- AMT Exemption	0	0	0	0
= AMT Income	1,663,785	962,773	363,504	0
x 0.20 = Tentative Min.Tax (TMT)	332,757	192,555	72,701	0
- Regular Federal Tax (34%)	423,073	230,839	77,631	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Projects (1-5) File: A-M-S3.SEE
Small Independent - No AMT
Reg IDC, Slow Depr
Date: 10/08/92 Time: 14:34:26

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-750,000	-850,000	-900,000	-1,000,000	-1,100,000					
-Depreciation		-21,429	-64,668	-108,632	-155,922	-206,180	-219,866	-200,247	-186,072	-1,436,985
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
-Loss Forward		-750,000	-764,989							
Taxable Income	-750,000	-764,989	60,019	1,322,652	1,768,613	3,120,241	2,191,366	1,341,185	614,228	-1,168,760
-Tax Due @ 38%			-22,807	-502,608	-672,073	-1,185,691	-832,719	-509,650	-233,407	444,129
-AMT		-81,223	-26,874							
+MTC				108,097						
Net Income	-750,000	-846,212	10,338	928,141	1,096,540	1,934,549	1,358,647	831,535	380,822	-724,631
+Depreciation		21,429	64,668	108,632	155,922	206,180	219,866	200,247	186,072	1,436,985
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
+Loss Forward		750,000	764,989							
-Capital Costs	-600,000	-650,000	-700,000	-850,000	-900,000					
Cash Flow	-1,350,000	-564,823	474,879	646,529	940,027	2,784,569	2,052,201	1,381,630	734,593	773,629

MROR = 15.0% NPV =$2,731,598 DCFROR= 39.6%

CASE 5a

CASE 5a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer
No Depreciation Adjustment - Slow deductions on depreciation

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-750,000	-764,989	60,019	1,322,652	1,768,613	3,120,241
- State Tax (6%)	0	0	-3,601	-79,359	-106,117	-187,214
= Regular Federal Taxable Income	-750,000	-764,989	56,418	1,243,293	1,662,496	2,933,027
+ Regular Tax NOL Deduction	0	750,000	764,989	0	0	0
+/- AMT Depreciation Adjustment	0	0	0	0	0	0
+ AMT Depletion Preference	0	0	0	104,600	442,165	643,839
+ AMT IDC Preference	712,500	732,500	206,578	0	0	0
= Pre ACE AMT Income	-37,500	717,511	1,027,985	1,347,893	2,104,661	3,576,866
+/- ACE Depreciation Adjustment	0	7,143	20,025	30,061	38,065	43,680
+/- ACE IDC Adjustment	-37,500	-117,500	-205,000	-300,000	-405,000	-460,000
+/- ACE Depletion Adjustment	0	95,039	217,482	200,671	0	0
= ACE	-75,000	702,193	1,060,492	1,278,625	1,737,726	3,160,546
- Pre ACE AMTI	-37,500	717,511	1,027,985	1,347,893	2,104,661	3,576,866
= Difference	-37,500	-15,318	32,507	-69,268	-366,935	-416,320
x 0.75 = ACE Adjustment	-28,125	-11,489	24,380	-51,951	-275,201	-312,240
Preliminary AMT Income	-65,625	706,023	1,052,366	1,295,942	1,829,460	3,264,626
- AMT NOL	0	17,500	558,411	0	0	0
- Energy Preference Deduction**	0	282,409	263,675	152,636	221,083	321,920
= AMT Income Before Exemption	-65,625	406,114	230,280	1,143,306	1,608,377	2,942,706
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	406,114	230,280	1,143,306	1,608,377	2,942,706
x 0.20 = Tentative Min.Tax (TMT)	0	81,223	46,056	228,661	321,675	588,541
- Regular Federal Tax (34%)	0	0	19,182	422,720	565,249	997,229
= AMT	0	81,223	26,874	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 5a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer
No Depreciation Adjustment - Slow deductions on depreciation

Item	1998	1999	2000	2001
Earnings Before Taxes	2,191,366	1,341,185	614,228	-1,168,760
- State Tax (6%)	-131,482	-80,471	-36,854	0
= Regular Federal Taxable Income	2,059,884	1,260,714	577,374	-1,168,760
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	0	0	0	0
+ AMT Depletion Preference	473,688	349,848	167,700	61,275
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	2,533,572	1,610,562	745,074	-1,107,485
+/- ACE Depreciation Adjustment	34,152	14,533	358	-188,012
+/- ACE IDC Adjustment	-460,000	-460,000	-460,000	-460,000
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	2,107,724	1,165,095	285,432	-1,755,497
- Pre ACE AMTI	2,533,572	1,610,562	745,074	-1,107,485
= Difference	-425,848	-445,467	-459,642	-648,012
x 0.75 = ACE Adjustment	-319,386	-334,100	-344,732	-486,009
Preliminary AMT Income	2,214,186	1,276,462	400,343	-1,593,494
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	236,844	174,924	83,850	0
= AMT Income Before Exemption	1,977,342	1,101,538	316,493	-1,593,494
- AMT Exemption	0	0	0	0
= AMT Income	1,977,342	1,101,538	316,493	0
x 0.20 = Tentative Min.Tax (TMT)	395,468	220,308	63,299	0
- Regular Federal Tax (34%)	700,361	428,643	196,307	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Projects (1-5) File: A-M-S4.SEE
Small Independent
Slow on 50% IDC, Reg Depr
Date: 10/08/92 Time: 14:36:12

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-375,000	-425,000	-450,000	-500,000	-550,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Amortization	-37,500	-117,500	-205,000	-300,000	-405,000	-422,500	-342,500	-255,000	-160,000	-55,000
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
-Loss Forward		-412,500	-155,703							
Taxable Income	-412,500	-155,703	816,728	1,379,681	1,732,675	2,484,736	1,666,257	977,275	402,899	-210,706
-Tax Due @ 38%			-310,357	-524,279	-658,417	-944,200	-633,178	-371,365	-153,102	80,068
-AMT		-36,433								
+MTC			36,433							
Net Income	-412,500	-192,136	542,805	855,402	1,074,259	1,540,536	1,033,079	605,911	249,797	-130,637
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
+Amortization	37,500	117,500	205,000	300,000	405,000	422,500	342,500	255,000	160,000	55,000
+Loss Forward		412,500	155,703							
-Capital Costs	-975,000	-1,075,000	-1,150,000	-1,350,000	-1,450,000					
Cash Flow	-1,350,000	-520,033	250,636	516,761	953,683	3,026,060	2,251,742	1,519,915	814,898	409,568

MROR = 15.0% NPV =$2,704,551 DCFROR= 38.7%

CASE 6a

CASE 6a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer
Slow deductions on 50% IDC

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-412,500	-155,703	816,728	1,379,681	1,732,675	2,484,736
- State Tax (6%)	0	0	-49,004	-82,781	-103,961	-149,084
= Regular Federal Taxable Income	-412,500	-155,703	767,724	1,296,900	1,628,715	2,335,652
+ Regular Tax NOL Deduction	0	412,500	155,703	0	0	0
+/- AMT Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
+ AMT Depletion Preference	0	0	0	104,600	442,165	643,839
+ AMT IDC Preference	356,250	229,394	0	0	0	0
= Pre ACE AMT Income	-56,250	521,905	1,021,004	1,544,471	2,251,818	3,192,496
+/- ACE Depreciation Adjustment	0	0	0	0	0	0
+/- ACE IDC Adjustment	-18,750	-58,750	-102,500	-150,000	-202,500	-230,000
+/- ACE Depletion Adjustment	0	95,039	217,482	200,671	0	0
= ACE	-75,000	558,194	1,135,986	1,595,142	2,049,318	2,962,496
- Pre ACE AMTI	-56,250	521,905	1,021,004	1,544,471	2,251,818	3,192,496
= Difference	-18,750	36,289	114,982	50,671	-202,500	-230,000
x 0.75 = ACE Adjustment	-14,063	27,217	86,236	38,003	-151,875	-172,500
Preliminary AMT Income	-70,313	549,122	1,107,241	1,582,474	2,099,943	3,019,996
- AMT NOL	0	147,392	58,126	0	0	0
- Energy Preference Deduction**	0	219,565	108,741	152,636	221,083	321,920
= AMT Income Before Exemption	-70,313	182,165	940,374	1,429,839	1,878,860	2,698,076
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	182,165	940,374	1,429,839	1,878,860	2,698,076
x 0.20 = Tentative Min.Tax (TMT)	0	36,433	188,075	285,968	375,772	539,615
- Regular Federal Tax (34%)	0	0	261,026	440,946	553,763	794,122
= AMT	0	36,433	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 6a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer
Slow deductions on 50% IDC

Item	1998	1999	2000	2001
Earnings Before Taxes	1,666,257	977,275	402,899	-210,706
- State Tax (6%)	-99,975	-58,637	-24,174	0
= Regular Federal Taxable Income	1,566,282	918,639	378,725	-210,706
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	182,609	108,910	51,329	-1,013,056
+ AMT Depletion Preference	473,688	349,848	167,700	61,275
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	2,222,579	1,377,397	597,754	-1,162,487
+/- ACE Depreciation Adjustment	0	0	0	-188,012
+/- ACE IDC Adjustment	-230,000	-230,000	-230,000	-230,000
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	1,992,579	1,147,397	367,754	-1,580,499
- Pre ACE AMTI	2,222,579	1,377,397	597,754	-1,162,487
= Difference	-230,000	-230,000	-230,000	-418,012
x 0.75 = ACE Adjustment	-172,500	-172,500	-172,500	-313,509
Preliminary AMT Income	2,050,079	1,204,897	425,254	-1,475,996
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	236,844	174,924	83,850	0
= AMT Income Before Exemption	1,813,235	1,029,973	341,404	-1,475,996
- AMT Exemption	0	0	0	0
= AMT Income	1,813,235	1,029,973	341,404	0
x 0.20 = Tentative Min.Tax (TMT)	362,647	205,995	68,281	0
- Regular Federal Tax (34%)	532,536	312,337	128,767	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Crude Oil Drilling Projects File: A-M-S7.SEE
Small Independent
Slow deductions on 25% of IDCs, Regular depreciation.
Date: 10/08/92 Time: 14:42:06

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-562,500	-637,500	-675,000	-750,000	-825,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Amortization	-18,750	-58,750	-102,500	-150,000	-202,500	-211,250	-171,250	-127,500	-80,000	-27,500
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
-Loss Forward		-581,250	-478,203							
Taxable Income	-581,250	-478,203	371,728	1,279,681	1,660,175	2,695,986	1,837,507	1,104,775	482,899	-183,206
-Tax Due @ 38%			-141,257	-486,279	-630,867	-1,024,475	-698,253	-419,815	-183,502	69,618
-AMT		-69,163								
+MTC			69,163							
Net Income	-581,250	-547,366	299,635	793,402	1,029,309	1,671,511	1,139,254	684,961	299,397	-113,587
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
+Amortization	18,750	58,750	102,500	150,000	202,500	211,250	171,250	127,500	80,000	27,500
+Loss Forward		581,250	478,203							
-Capital Costs	-787,500	-862,500	-925,000	-1,100,000	-1,175,000					
Cash Flow	-1,350,000	-552,763	452,466	554,761	981,233	2,945,785	2,186,667	1,471,465	784,498	399,118

MROR = 15.0% NPV =$2,770,273 DCFROR= 39.9%

CASE 7a

CASE 7a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer
Slow on 25% IDC

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-581,250	-478,203	371,728	1,279,681	1,660,175	2,695,986
- State Tax (6%)	0	0	-22,304	-76,781	-99,611	-161,759
= Regular Federal Taxable Income	-581,250	-478,203	349,424	1,202,900	1,560,565	2,534,227
+ Regular Tax NOL Deduction	0	581,250	478,203	0	0	0
+/- AMT Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
+ AMT Depletion Preference	0	0	0	104,600	442,165	643,839
+ AMT IDC Preference	534,375	503,113	0	0	0	0
= Pre ACE AMT Income	-46,875	641,874	925,204	1,450,471	2,183,668	3,391,071
+/- ACE Depreciation Adjustment	0	0	0	0	0	0
+/- ACE IDC Adjustment	-28,125	-88,125	-153,750	-225,000	-303,750	-345,000
+/- ACE Depletion Adjustment	0	95,039	217,482	200,671	0	0
= ACE	-75,000	648,788	988,936	1,426,142	1,879,918	3,046,071
- Pre ACE AMTI	-46,875	641,874	925,204	1,450,471	2,183,668	3,391,071
= Difference	-28,125	6,914	63,732	-24,329	-303,750	-345,000
x 0.75 = ACE Adjustment	-21,094	5,186	47,799	-18,247	-227,813	-258,750
Preliminary AMT Income	-67,969	647,060	973,003	1,432,224	1,955,855	3,132,321
- AMT NOL	0	42,423	380,626	0	0	0
- Energy Preference Deduction**	0	258,824	108,741	152,636	221,083	321,920
= AMT Income Before Exemption	-67,969	345,813	483,636	1,279,589	1,734,773	2,810,401
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	345,813	483,636	1,279,589	1,734,773	2,810,401
x 0.20 = Tentative Min.Tax (TMT)	0	69,163	96,727	255,918	346,955	562,080
- Regular Federal Tax (34%)	0	0	118,804	408,986	530,592	861,637
= AMT	0	69,163	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 7a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer
Slow on 25% IDC

Item	1998	1999	2000	2001
Earnings Before Taxes	1,837,507	1,104,775	482,899	-183,206
- State Tax (6%)	-110,250	-66,287	-28,974	0
= Regular Federal Taxable Income	1,727,257	1,038,489	453,925	-183,206
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	182,609	108,910	51,329	-1,013,056
+ AMT Depletion Preference	473,688	349,848	167,700	61,275
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	2,383,554	1,497,247	672,954	-1,134,987
+/- ACE Depreciation Adjustment	0	0	0	-188,012
+/- ACE IDC Adjustment	-345,000	-345,000	-345,000	-345,000
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	2,038,554	1,152,247	327,954	-1,667,999
- Pre ACE AMTI	2,383,554	1,497,247	672,954	-1,134,987
= Difference	-345,000	-345,000	-345,000	-533,012
x 0.75 = ACE Adjustment	-258,750	-258,750	-258,750	-399,759
Preliminary AMT Income	2,124,804	1,238,497	414,204	-1,534,746
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	236,844	174,924	83,850	0
= AMT Income Before Exemption	1,887,960	1,063,573	330,354	-1,534,746
- AMT Exemption	0	0	0	0
= AMT Income	1,887,960	1,063,573	330,354	0
x 0.20 = Tentative Min.Tax (TMT)	377,592	212,715	66,071	0
- Regular Federal Tax (34%)	587,267	353,086	154,335	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Projects (1-5) File: A-M-S11.SEE
Small Independent
Slow on 20% IDC, Reg Depr
Date: 10/08/92 Time: 14:44:15

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-600,000	-680,000	-720,000	-800,000	-880,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Amortization	-15,000	-47,000	-82,000	-120,000	-162,000	-169,000	-137,000	-102,000	-64,000	-22,000
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
-Loss Forward		-615,000	-542,703							
Taxable Income	-615,000	-542,703	282,728	1,259,681	1,645,675	2,738,236	1,871,757	1,130,275	498,899	-177,706
-Tax Due @ 38%			-107,437	-478,679	-625,357	-1,040,530	-711,268	-429,505	-189,582	67,528
-AMT		-75,712								
+MTC			75,712							
Net Income	-615,000	-618,415	251,004	781,002	1,020,319	1,697,706	1,160,489	700,771	309,317	-110,177
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
+Amortization	15,000	47,000	82,000	120,000	162,000	169,000	137,000	102,000	64,000	22,000
+Loss Forward		615,000	542,703							
-Capital Costs	-750,000	-820,000	-880,000	-1,050,000	-1,120,000					
Cash Flow	-1,350,000	-559,312	492,835	562,361	986,743	2,929,730	2,173,652	1,461,775	778,418	397,028

MROR = 15.0% NPV =$2,783,417 DCFROR= 40.1%

CASE 8a

CASE 8a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer
Slow on 20% IDC

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-615,000	-542,703	282,728	1,259,681	1,645,675	2,738,236
- State Tax (6%)	0	0	-16,964	-75,581	-98,741	-164,294
= Regular Federal Taxable Income	-615,000	-542,703	265,764	1,184,100	1,546,935	2,573,942
+ Regular Tax NOL Deduction	0	615,000	542,703	0	0	0
+/- AMT Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
+ AMT Depletion Preference	0	0	0	104,600	442,165	643,839
+ AMT IDC Preference	570,000	557,857	21,853	0	0	0
= Pre ACE AMT Income	-45,000	665,868	927,898	1,431,671	2,170,038	3,430,786
+/- ACE Depreciation Adjustment	0	0	0	0	0	0
+/- ACE IDC Adjustment	-30,000	-94,000	-164,000	-240,000	-324,000	-368,000
+/- ACE Depletion Adjustment	0	95,039	217,482	200,671	0	0
= ACE	-75,000	666,907	981,380	1,392,342	1,846,038	3,062,786
- Pre ACE AMTI	-45,000	665,868	927,898	1,431,671	2,170,038	3,430,786
= Difference	-30,000	1,039	53,482	-39,329	-324,000	-368,000
x 0.75 = ACE Adjustment	-22,500	779	40,112	-29,497	-243,000	-276,000
Preliminary AMT Income	-67,500	666,647	968,009	1,402,174	1,927,038	3,154,786
- AMT NOL	0	21,429	423,273	0	0	0
- Energy Preference Deduction**	0	266,659	125,131	152,636	221,083	321,920
= AMT Income Before Exemption	-67,500	378,559	419,605	1,249,539	1,705,955	2,832,866
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	378,559	419,605	1,249,539	1,705,955	2,832,866
x 0.20 = Tentative Min.Tax (TMT)	0	75,712	83,921	249,908	341,191	566,573
- Regular Federal Tax (34%)	0	0	90,360	402,594	525,958	875,140
= AMT	0	75,712	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 8a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer
Slow on 20% IDC

Item	1998	1999	2000	2001
Earnings Before Taxes	1,871,757	1,130,275	498,899	-177,706
- State Tax (6%)	-112,305	-67,817	-29,934	0
= Regular Federal Taxable Income	1,759,452	1,062,459	468,965	-177,706
+ Regular Tax NOL Deduction	0	0	0	0
+/- AMT Depreciation Adjustment	182,609	108,910	51,329	-1,013,056
+ AMT Depletion Preference	473,688	349,848	167,700	61,275
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	2,415,749	1,521,217	687,994	-1,129,487
+/- ACE Depreciation Adjustment	0	0	0	-188,012
+/- ACE IDC Adjustment	-368,000	-368,000	-368,000	-368,000
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	2,047,749	1,153,217	319,994	-1,685,499
- Pre ACE AMTI	2,415,749	1,521,217	687,994	-1,129,487
= Difference	-368,000	-368,000	-368,000	-556,012
x 0.75 = ACE Adjustment	-276,000	-276,000	-276,000	-417,009
Preliminary AMT Income	2,139,749	1,245,217	411,994	-1,546,496
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	236,844	174,924	83,850	0
= AMT Income Before Exemption	1,902,905	1,070,293	328,144	-1,546,496
- AMT Exemption	0	0	0	0
= AMT Income	1,902,905	1,070,293	328,144	0
x 0.20 = Tentative Min.Tax (TMT)	380,581	214,059	65,629	0
- Regular Federal Tax (34%)	598,214	361,236	159,448	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Projects (1-5) File: WTA-R-P.SEE
Small Independent-Regular Tax
Lower Price, Higher Operating Costs
Date: 10/08/92 Time: 14:46:21

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		15.00	16.00	17.00	18.00	19.00	20.00	20.00	20.00	20.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		930,000	1,888,000	2,754,000	3,510,000	4,123,000	3,060,000	2,040,000	1,040,000	380,000
-Royalties @ 14%		-130,200	-264,320	-385,560	-491,400	-577,220	-428,400	-285,600	-145,600	-53,200
Net Revenue		799,800	1,623,680	2,368,440	3,018,600	3,545,780	2,631,600	1,754,400	894,400	326,800
-Operating Costs		-200,000	-300,000	-600,000	-750,000	-800,000	-675,000	-600,000	-500,000	-450,000
-IDC	-750,000	-850,000	-900,000	-1,000,000	-1,100,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
-Loss Forward		-750,000	-1,217,303	-1,290,752	-1,233,671	-989,496				-10,701
Taxable Income	-750,000	-1,217,303	-1,290,752	-1,233,671	-989,496	693,260	1,080,437	495,395	-10,701	-619,107
-Tax Due @ 38%						-263,439	-410,566	-188,250		235,261
Net Income	-750,000	-1,217,303	-1,290,752	-1,233,671	-989,496	429,821	669,871	307,145	-10,701	-383,846
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
+Loss Forward		750,000	1,217,303	1,290,752	1,233,671	989,496				10,701
-Capital Costs	-600,000	-650,000	-700,000	-850,000	-900,000					
Cash Flow	-1,350,000	-900,200	-276,320	-81,560	268,600	2,482,341	1,546,034	966,150	394,400	112,061

MROR = 15.0% NPV =$184,777 DCFROR= 16.7%

CASE 9a

Consolidated Projects (1-5) File: WTA-M-P.SEE
Small Independent- AMT
Lower Price, Higher Operating Costs
Date: 10/08/92 Time: 14:47:45

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		15.00	16.00	17.00	18.00	19.00	20.00	20.00	20.00	20.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		930,000	1,888,000	2,754,000	3,510,000	4,123,000	3,060,000	2,040,000	1,040,000	380,000
-Royalties @ 14%		-130,200	-264,320	-385,560	-491,400	-577,220	-428,400	-285,600	-145,600	-53,200
Net Revenue		799,800	1,623,680	2,368,440	3,018,600	3,545,780	2,631,600	1,754,400	894,400	326,800
-Operating Costs		-200,000	-300,000	-600,000	-750,000	-800,000	-675,000	-600,000	-500,000	-450,000
-IDC	-750,000	-850,000	-900,000	-1,000,000	-1,100,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
-Loss Forward		-750,000	-1,217,303	-1,290,752	-1,233,671	-989,496				-10,701
Taxable Income	-750,000	-1,217,303	-1,290,752	-1,233,671	-989,496	693,260	1,080,437	495,395	-10,701	-619,107
-Tax Due @ 38%						-263,439	-410,566	-188,250		235,261
-AMT		-34,088	-2,474	-42,982	-151,023	-118,121				
+MTC							314,174	34,514		
Net Income	-750,000	-1,251,391	-1,293,226	-1,276,653	-1,140,519	311,700	984,045	341,659	-10,701	-383,846
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
+Loss Forward		750,000	1,217,303	1,290,752	1,233,671	989,496				10,701
-Capital Costs	-600,000	-650,000	-700,000	-850,000	-900,000					
Cash Flow	-1,350,000	-934,288	-278,794	-124,542	117,577	2,364,220	1,860,208	1,000,664	394,400	112,061

MROR = 15.0% NPV =$128,730 DCFROR= 16.1%

CASE 10a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer - Lower Price Scenario

Item	1992	1993	1994	1995	1996	1997
Earnings Before Taxes	-750,000	-1,217,303	-1,290,752	-1,233,671	-989,496	693,260
- State Tax (6%)	0	0	0	0	0	-41,596
= Regular Federal Taxable Income	-750,000	-1,217,303	-1,290,752	-1,233,671	-989,496	651,664
+ Regular Tax NOL Deduction	0	750,000	1,217,303	1,290,752	1,233,671	989,496
+/- Depreciation Adjustment	0	35,714	97,577	142,971	180,938	213,005
+ Depletion Preference	0	0	0	104,600	442,165	643,839
+ IDC Preference	712,500	732,500	695,000	700,000	695,000	0
= Pre ACE AMT Income	-37,500	300,911	719,128	1,004,652	1,562,278	2,498,004
+/- ACE Depreciation Adjustment	0	0	0	0	0	0
+/- ACE IDC Adjustment	-37,500	-117,500	-205,000	-300,000	-405,000	-460,000
+/- ACE Depletion Adjustment	0	95,039	217,482	200,671	0	0
= ACE	-75,000	278,450	731,610	905,323	1,157,278	2,038,004
- Pre ACE AMTI	-37,500	300,911	719,128	1,004,652	1,562,278	2,498,004
= Difference	-37,500	-22,461	12,482	-99,329	-405,000	-460,000
x 0.75 = ACE Adjustment	-28,125	-16,846	9,362	-74,497	-303,750	-345,000
Preliminary AMT Income	-65,625	284,065	728,490	930,155	1,258,528	2,153,004
- AMT NOL	0	0	424,726	343,181	0	132,652
- Energy Preference Deduction**	0	113,626	291,396	372,062	503,411	321,920
= AMT Income Before Exemption	-65,625	170,439	12,368	214,912	755,117	1,698,433
- AMT Exemption	0	0	0	0	0	0
= AMT Income	0	170,439	12,368	214,912	755,117	1,698,433
x 0.20 = Tentative Min.Tax (TMT)	0	34,088	2,474	42,982	151,023	339,687
- Regular Federal Tax (34%)	0	0	0	0	0	221,566
= AMT	0	34,088	2,474	42,982	151,023	118,121

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

CASE 10a

ALTERNATIVE MINIMUM TAX WORKSHEET

CASE: Small Independent Producer - Lower Price Scenario

Item	1998	1999	2000	2001
Earnings Before Taxes	1,080,437	495,395	-10,701	-619,107
- State Tax (6%)	-64,826	-29,724	0	0
= Regular Federal Taxable Income	1,015,611	465,671	-10,701	-619,107
+ Regular Tax NOL Deduction	0	0	0	10,701
+/- AMT Depreciation Adjustment	182,609	108,910	51,329	-1,013,056
+ AMT Depletion Preference	473,688	349,848	167,700	61,275
+ AMT IDC Preference	0	0	0	0
= Pre ACE AMT Income	1,671,908	924,429	208,328	-1,560,187
+/- ACE Depreciation Adjustment	0	0	0	-188,012
+/- ACE IDC Adjustment	-460,000	-460,000	-460,000	-460,000
+/- ACE Depletion Adjustment	0	0	0	0
= ACE	1,211,908	464,429	-251,672	-2,208,199
- Pre ACE AMTI	1,671,908	924,429	208,328	-1,560,187
= Difference	-460,000	-460,000	-460,000	-648,012
x 0.75 = ACE Adjustment	-345,000	-345,000	-345,000	-486,009
Preliminary AMT Income	1,326,908	579,429	-136,672	-2,046,196
- AMT NOL	0	0	0	0
- Energy Preference Deduction**	236,844	174,924	0	0
= AMT Income Before Exemption	1,090,064	404,505	-136,672	-2,046,196
- AMT Exemption	0	0	0	0
= AMT Income	1,090,064	404,505	0	0
x 0.20 = Tentative Min.Tax (TMT)	218,013	80,901	0	0
- Regular Federal Tax (34%)	345,308	158,328	0	0
= AMT	0	0	0	0

** Only available to Independents. Assumes all IDCs are "qualified exploratory costs."
Deduction "phased out" as average crude price exceeds $28/bbl.

Consolidated Projects (1-5) File: WTA-RO.SEE
Small Independent - Regular Tax
Other Project Income
Date: 10/08/92 Time: 14:50:13

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-750,000	-850,000	-900,000	-1,000,000	-1,100,000					
-Depreciation		-57,143	-162,245	-251,603	-336,860	-419,185	-402,475	-309,157	-237,401	-423,931
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
Taxable Income	-750,000	-50,703	727,431	1,179,681	1,587,675	2,907,236	2,008,757	1,232,275	562,899	-155,706
-Tax Due @ 38%	285,000	19,267	-276,424	-448,279	-603,317	-1,104,750	-763,328	-468,265	-213,902	59,168
Net Income	-465,000	-31,436	451,007	731,402	984,359	1,802,486	1,245,429	764,011	348,997	-96,537
+Depreciation		57,143	162,245	251,603	336,860	419,185	402,475	309,157	237,401	423,931
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
-Capital Costs	-600,000	-650,000	-700,000	-850,000	-900,000					
Cash Flow	-1,065,000	-464,333	248,136	592,761	1,008,783	2,865,510	2,121,592	1,423,015	754,098	388,668

MROR = 15.0% NPV =$2,919,236 DCFROR= 44.7%

CASE 11a

Consolidated Projects (1-5) File: AMT-IND.SEE
Small Independent
AMT Due every year thru 2001
Other Project Income
Date: 10/08/92 Time: 14:52:23

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-Depreciation(150%)		-21,429	-64,668	-108,632	-155,922	-206,180	-219,866	-200,247	-186,072	-1,436,985
-Amortization(IDC)	-75,000	-235,000	-410,000	-600,000	-810,000	-845,000	-685,000	-510,000	-320,000	-110,000
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
AMT Income	-75,000	600,011	1,315,008	1,722,652	2,058,613	2,275,241	1,506,366	831,185	294,228	-1,278,760
-AMT Due @ 24.8%	18,600	-148,803	-326,122	-427,218	-510,536	-564,260	-373,579	-206,134	-72,969	317,132
Net Income	-56,400	451,209	988,886	1,295,434	1,548,077	1,710,981	1,132,788	625,051	221,260	-961,627
+Depreciation(150%)		21,429	64,668	108,632	155,922	206,180	219,866	200,247	186,072	1,436,985
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
+Amortization(IDC)	75,000	235,000	410,000	600,000	810,000	845,000	685,000	510,000	320,000	110,000
-Capital Costs	-1,350,000	-1,500,000	-1,600,000	-1,850,000	-2,000,000					
Cash Flow	-1,331,400	-632,403	198,438	613,822	1,101,564	3,406,000	2,511,341	1,685,146	895,031	646,632

MROR = 15.0% NPV =$3,191,169 DCFROR= 40.8%

Consolidated Projects (1-5) File: WTA-E.SEE
Small Independent - Regular Tax
Other Project Income
Date: 10/08/92 Time: 14:53:48

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-IDC	-750,000	-850,000	-900,000	-1,000,000	-1,100,000					
-Depreciation		-48,571	-137,908	-213,863	-286,331	-356,308	-342,104	-262,783	-201,791	-360,341
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
Taxable Income	-750,000	-42,131	751,768	1,217,421	1,638,204	2,970,113	2,069,128	1,278,649	598,509	-92,116
-Tax Due @ 38%	285,000	16,010	-285,672	-462,620	-622,518	-1,128,643	-786,269	-485,886	-227,433	35,004
+EOR Tax Credit	172,500	195,000	210,000	240,000	262,500					
Net Income	-292,500	168,879	676,096	994,801	1,278,187	1,841,470	1,282,859	792,762	371,076	-57,112
+Depreciation		48,571	137,908	213,863	286,331	356,308	342,104	262,783	201,791	360,341
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
-Capital Costs	-600,000	-650,000	-700,000	-850,000	-900,000					
Cash Flow	-892,500	-272,590	448,888	818,420	1,252,082	2,841,617	2,098,651	1,405,394	740,567	364,504

MROR = 15.0% NPV =$3,658,033 DCFROR= 59.0%

Consolidated Projects (1-5) File: AMT-IND.SEE
Small Independent
AMT Due every year thru 2001
Other Project Income
Date: 10/08/92 Time: 14:52:23

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		20.00	22.00	22.00	23.00	23.00	24.00	24.00	25.00	25.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		1,240,000	2,596,000	3,564,000	4,485,000	4,991,000	3,672,000	2,448,000	1,300,000	475,000
-Royalties @ 14%		-173,600	-363,440	-498,960	-627,900	-698,740	-514,080	-342,720	-182,000	-66,500
Net Revenue		1,066,400	2,232,560	3,065,040	3,857,100	4,292,260	3,157,920	2,105,280	1,118,000	408,500
-Operating Costs		-50,000	-108,000	-174,000	-245,000	-322,000	-273,000	-214,000	-150,000	-79,000
-Depreciation(150%)		-21,429	-64,668	-108,632	-155,922	-206,180	-219,866	-200,247	-186,072	-1,436,985
-Amortization(IDC)	-75,000	-235,000	-410,000	-600,000	-810,000	-845,000	-685,000	-510,000	-320,000	-110,000
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
AMT Income	-75,000	600,011	1,315,008	1,722,652	2,058,613	2,275,241	1,506,366	831,185	294,228	-1,278,760
-AMT Due @ 24.8%	18,600	-148,803	-326,122	-427,218	-510,536	-564,260	-373,579	-206,134	-72,969	317,132
Net Income	-56,400	451,209	988,886	1,295,434	1,548,077	1,710,981	1,132,788	625,051	221,260	-961,627
+Depreciation(150%)		21,429	64,668	108,632	155,922	206,180	219,866	200,247	186,072	1,436,985
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
+Amortization(IDC)	75,000	235,000	410,000	600,000	810,000	845,000	685,000	510,000	320,000	110,000
-Capital Costs	-1,350,000	-1,500,000	-1,600,000	-1,850,000	-2,000,000					
Cash Flow	-1,331,400	-632,403	198,438	613,822	1,101,564	3,406,000	2,511,341	1,685,146	895,031	646,632

MROR = 15.0% NPV =$3,191,169 DCFROR= 40.8%

Consolidated Projects (1-5) File: WTA-E-P.SEE
Small Independent - Regular Tax
Other Project Income, Low Price Scenario
Date: 10/08/92 Time: 14:56:55

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		15.00	16.00	17.00	18.00	19.00	20.00	20.00	20.00	20.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		930,000	1,888,000	2,754,000	3,510,000	4,123,000	3,060,000	2,040,000	1,040,000	380,000
-Royalties @ 14%		-130,200	-264,320	-385,560	-491,400	-577,220	-428,400	-285,600	-145,600	-53,200
Net Revenue		799,800	1,623,680	2,368,440	3,018,600	3,545,780	2,631,600	1,754,400	894,400	326,800
-Operating Costs		-200,000	-300,000	-600,000	-750,000	-800,000	-675,000	-600,000	-500,000	-450,000
-IDC	-750,000	-850,000	-900,000	-1,000,000	-1,100,000					
-Depreciation		-48,571	-137,908	-213,863	-286,331	-356,308	-342,104	-262,783	-201,791	-360,341
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
Taxable Income	-750,000	-458,731	-49,112	94,821	294,704	1,745,633	1,140,808	541,769	24,909	-544,816
-Tax Due @ 38%	285,000	174,318	18,663	-36,032	-111,988	-663,341	-433,507	-205,872	-9,465	207,030
+EOR Tax Credit	172,500	195,000	210,000	33,274	90,241	378,985				
Net Income	-292,500	-89,413	179,550	92,063	272,957	1,461,278	707,301	335,897	15,444	-337,786
+Depreciation		48,571	137,908	213,863	286,331	356,308	342,104	262,783	201,791	360,341
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
-Capital Costs	-600,000	-650,000	-700,000	-850,000	-900,000					
Cash Flow	-892,500	-530,882	-47,657	-84,318	246,853	2,461,425	1,523,093	948,528	384,935	83,830

MROR = 15.0% NPV =$1,084,017 DCFROR= 28.2%

CASE 15a

Consolidated Projects (1-5) File: AMT-INDP.SEE
Small Independent
AMT Due every year thru 2001
Other Project Income, Low Price Scenario
Date: 10/08/92 Time: 14:58:30

Cash Flows

Year	Time 0	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price		15.00	16.00	17.00	18.00	19.00	20.00	20.00	20.00	20.00
Production		62,000	118,000	162,000	195,000	217,000	153,000	102,000	52,000	19,000
Gross Revenue		930,000	1,888,000	2,754,000	3,510,000	4,123,000	3,060,000	2,040,000	1,040,000	380,000
-Royalties @ 14%		-130,200	-264,320	-385,560	-491,400	-577,220	-428,400	-285,600	-145,600	-53,200
Net Revenue		799,800	1,623,680	2,368,440	3,018,600	3,545,780	2,631,600	1,754,400	894,400	326,800
-Operating Costs		-200,000	-300,000	-600,000	-750,000	-800,000	-675,000	-600,000	-500,000	-450,000
-Depreciation(150%)		-21,429	-64,668	-108,632	-155,922	-206,180	-219,866	-200,247	-186,072	-1,436,985
-Amortization(IDC)	-75,000	-235,000	-410,000	-600,000	-810,000	-845,000	-685,000	-510,000	-320,000	-110,000
-Depletion		-159,960	-334,884	-459,756	-587,565	-643,839	-473,688	-349,848	-167,700	-61,275
AMT Income	-75,000	183,411	514,128	600,052	715,113	1,050,761	578,046	94,305	-279,372	-1,731,460
-AMT Due @ 24.8%	18,600	-45,486	-127,504	-148,813	-177,348	-260,589	-143,355	-23,388	69,284	429,402
Net Income	-56,400	137,925	386,624	451,239	537,765	790,172	434,691	70,918	-210,087	-1,302,058
+Depreciation(150%)		21,429	64,668	108,632	155,922	206,180	219,866	200,247	186,072	1,436,985
+Depletion		159,960	334,884	459,756	587,565	643,839	473,688	349,848	167,700	61,275
+Amortization(IDC)	75,000	235,000	410,000	600,000	810,000	845,000	685,000	510,000	320,000	110,000
-Capital Costs	-1,350,000	-1,500,000	-1,600,000	-1,850,000	-2,000,000					
Cash Flow	-1,331,400	-945,686	-403,824	-230,373	91,252	2,485,191	1,813,245	1,131,012	463,684	306,202

MROR = 15.0% NPV =$124,921 DCFROR= 16.0%