FINAL REPORT

DOE/FE/64202--T1

STUDY OF ALTERNATIVES FOR FUTURE OPERATIONS OF THE NAVAL PETROLEUM AND OIL SHALE RESERVES

NPR-3

Natrona County, Wyoming
as of October 1, 1996

for

U.S. DEPARTMENT OF ENERGY

December 1996

MASTER

GUSTAVSON ASSOCIATES
GEOLOGISTS • ENGINEERS

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PHASE II - FINAL REPORT

STUDY OF ALTERNATIVES

FOR

FUTURE OPERATIONS OF

THE NAVAL PETROLEUM

AND OIL SHALE RESERVES

NPR-3, WYOMING

for the

U.S. DEPARTMENT OF ENERGY

Contract No. DE-AC01-96FE64202

December, 1996

GUSTAVSON ASSOCIATES, INC.
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Respectfully submitted by:

AMERICAN INSTITUTE OF MINERALS APPRAISERS
FOUNDED IN 1991
AIMA
1992 MEMBER SINCE
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CERTIFIED MINERALS APPRAISER

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DISCLAIMER

EXECUTIVE SUMMARY

The U.S. Department of Energy (DOE) has asked Gustavson Associates, Inc. to serve as an Independent Petroleum Consultant under contract DE-AC01-96FE64202. This authorizes a study and recommendations regarding future development of Naval Petroleum Reserve No. 3 (NPR-3) in Natrona County, Wyoming (Figure 0.1). The report that follows is the Phase II Final Report for that study. Additional details are provided in the Addendum (the Phase I Property Description and Fact Finding Report).

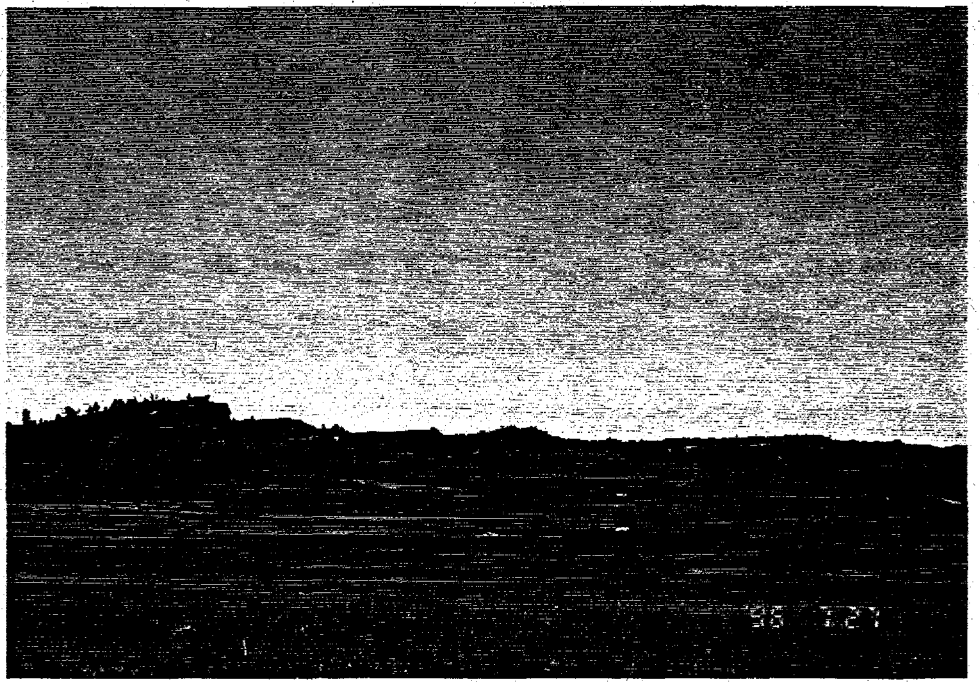
The key property elements that positively affect the estimated value of NPR-3 include the following: income from production of oil, gas and natural gas liquids; income from grazing or leasing of grazing rights; potential income from oil and gas leasing on exploratory (or nonprospective) acreage; and potential value of trading surface real estate as ranch land for sheep grazing. Key elements that negatively impact the estimated value include plugging and abandonment and environmental liabilities, environmental assessment costs, operating budgets, and lease sale expenses.

The United States of America owns 100 percent of the mineral rights and surface rights in 9,321 acres of NPR-3. This tract was set aside as an oil reserve for the U.S. Navy by an Executive Order of President Wilson in 1916. Management of NPR-3 is the responsibility of DOE.

Gustavson Associates has conducted a study and made recommendations regarding which of the following options, or combination of options, would maximize the value of NPR-3 to the United States:

Option 1: Retention and operation of all or part of NPR-3 by the Secretary of Energy under Chapter 641 of Title 10, United States Code.

FIGURE 0.1
NPR-3 PHOTOGRAPHS



–Topography and vegetation, south boundary of section 2

–View from east boundary adjacent to GLX Energy Shop

Option 2: Transfer of all or a part of NPR-3 to the Department of the Interior for leasing in accordance with the Mineral Leasing Act (30 U.S.C. 181 et seq.) and surface management in accordance with the Federal Land Policy and Management Act (43 U.S.C. 1701 et seq.).

Option 3: Transfer of all or part of NPR-3 to the jurisdiction of another federal agency for administration under Chapter 641 of Title 10, United States Code.

Option 4: Sale of the interest of the United States of all or a part of NPR-3.

About 632 wells in the field are producing 1800 barrels of oil per day. Revenues are about $9.5 million per year. Estimated net reserves to the government's interest include 1.13 million barrels of oil, 900 million cubic feet of gas, and 11.4 million gallons of natural gas liquids. Within NPR-3 but outside the productive area, 2,360 nonprospective acres of DOE property has no identified potential for oil and gas production. Significant environmental and plugging abandonment (P&A) liabilities impact the estimated value of NPR-3 under any scenario. Responsibility for these costs are expected to either rest with the Government, or to be considered as a direct negative impact on the purchase price offered. These costs are estimated at $7.4 million under DOE operation, or $6.5 million under a private operator.

The *highest and best use* of the mineral estate at this time is for continued generation of income from oil and gas production from currently producing wells and from generation of income on the balance of the nonprospective acreage by leasing (bonus and rentals.) There is a reasonably active market of recent producing property transactions, and recent leasing of nearby federal, state and private mineral rights. These data have been utilized, with production and economic forecasts for the producing leases, in estimating the Fair Market Value of the mineral rights at NPR-3.

Continued oil and gas production is currently the most economically important use of NPR-3. This is managed by the DOE and provides a revenue stream to the United States.

The *highest and best use* of the surface and water rights is generation of income from grazing sheep. Comparable sales of similar types of lands have been utilized to estimate the Fair Market Value of the surface and water rights at NPR-3. This use is considered to be compatible with, though somewhat diminished by, ongoing oil and gas production operations.

The *highest and best use* of NPR-3 is for a combination of activities related principally to generation of income from production of oil and gas, livestock grazing, and leasing of oil and gas rights. These uses are compatible with each other, provide minimal interference and tend to be additive in value.

The option recommended to maximize value to the United States is Option 1, retention and continued operation of NPR-3 by DOE, without a management and operations contractor. Evaluation of this option results in an estimated value of $5.25 million, which is 69 percent or $2.13 million higher than the option with the next highest estimated value, for Option 4 sale of all or part of the interest of the United States.

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1. INTRODUCTION

1.1 AUTHORIZATION

The U.S. Department of Energy (DOE) has asked Gustavson Associates, Inc. to serve as an Independent Petroleum Appraiser under contract DE-AC01-96FE64202. This authorizes a study and recommendations regarding future development of Naval Petroleum Reserve No. 3 (NPR-3) in Natrona County, Wyoming. The report that follows is the Phase II Final Report for that study.

1.2 TYPE OF APPRAISAL

The scope of this appraisal engagement or study refers to the extent of the process of collecting, verifying, analyzing, and reconciling relevant data. The U.S. Department of Energy could engage an appraiser to perform either a Complete or Limited Appraisal. In this particular case, it is considered that the requested appraisal or study falls under the designation Complete Appraisal. A Complete Appraisal is the act or process of estimating value without invoking any departure provisions.

This Appraiser has utilized all applicable approaches to value. Our value conclusion reflects all known information about the subject property, market conditions and available data.

The other type of appraisal, namely a Limited Appraisal, is the act or process of estimating value performed under and resulting from invoking substantial departure provisions. In that hypothetical case, both the appraiser and the client would have agreed prior to the engagement that the appraiser will not use all applicable approaches to value or that the value conclusion will not reflect all known information. That has not been the case here. Consequently, this appraisal is considered a Complete Appraisal under the *Uniform Standards of Professional Appraisal Practice* (USPAP).

This self-contained report is prepared under USPAP Standard 2-2(A) to document this Appraiser's Complete Appraisal and consulting service. This self-contained report contains to the fullest extent possible and practicable, full and complete explanations of the data, reasoning and analyses that were used to develop the opinion of value and the results of our consulting service. It also includes thorough descriptions of the subject property, the property's locale, the market for the property type and this Appraiser's opinion of the *highest and best use*.

This appraisal report provides enough information on each topic so that the reader of the report can follow the reasoning without having to make leaps of faith. In cases where additional details may be necessary the reader will, at each occasion, be referred to the Property Description and Fact Finding Report for each of the NPR and NOSR properties dated 30 June 1996 and submitted on 18 July 1996, for further substantiation. The intention has therefore been that the reader should understand solely on the basis of what is herein written how this Appraiser has arrived at the conclusions and recommendations.

1.3 PROPERTY SUMMARY

The United States of America owns 100 percent of the mineral rights and surface rights in 9,321-acre NPR-3 (Figure 1.1). This property comprises the Teapot Dome oil field and related production, processing, and other facilities. Discovered in 1914, this field has 632 wells producing about 1,800 barrels of oil per day.

Included within the boundaries of NPR-3 are approximately 2,360 acres of land which do not contain any oil and gas wells, being outside the perimeter of the known productive reservoirs.

1.4 DESCRIPTION OF SCENARIOS

As authorized in contract DE-AC01-96FE64202, Gustavson Associates was retained by DOE to serve as an Independent Petroleum Appraiser as specified in Section 3416 of the National Defense Authorization Act for Fiscal Year 1996, P.L. 104-106 (110 Stat. 186). As stated in the Act, we

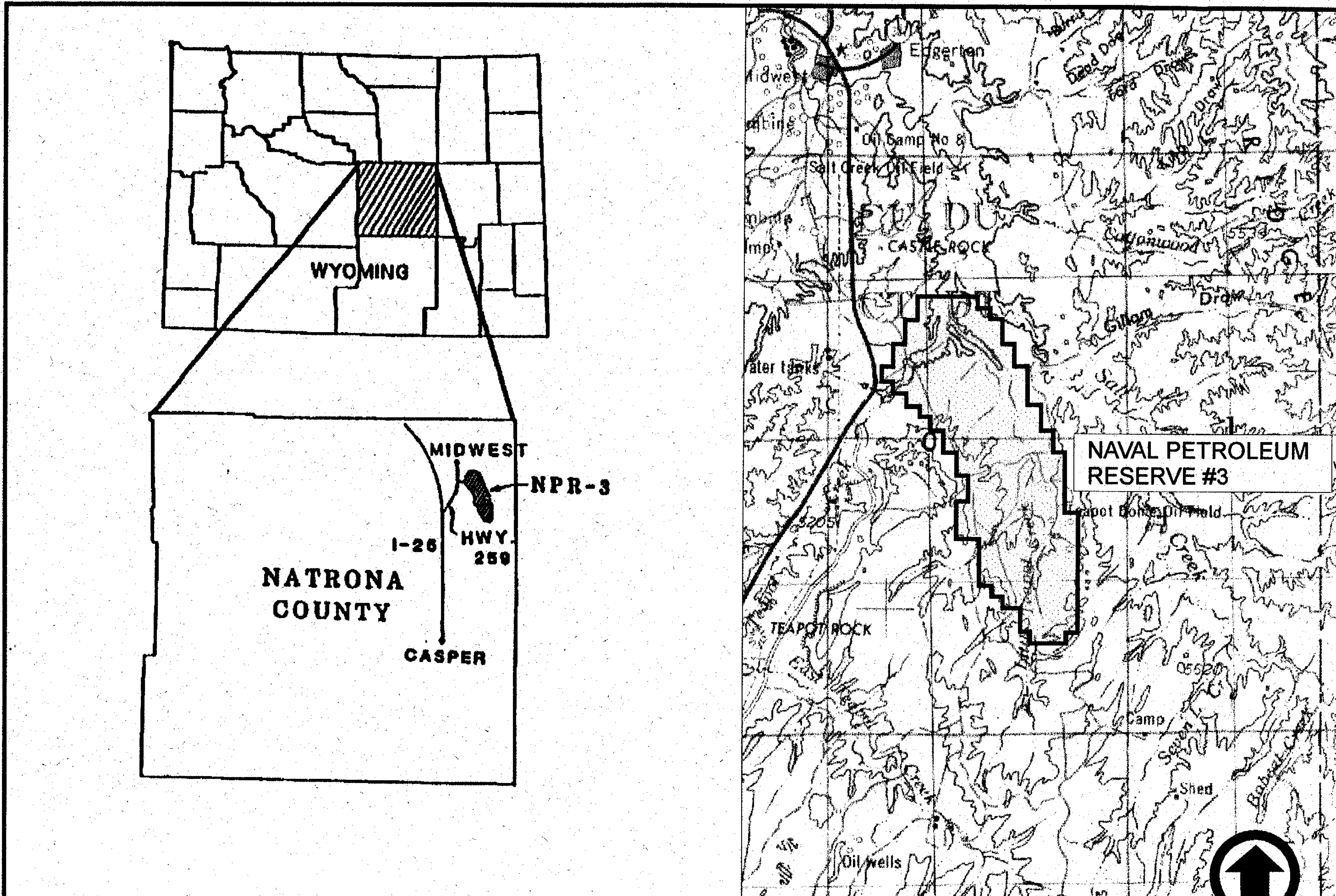


FIGURE 1.1 - Location map.

have conducted a study and made recommendations regarding which of the following options, or combination of options, would maximize the value of NPR-3 to the United States:

- Retention and operation of all or part of NPR-3 by the Secretary of Energy under Chapter 641 of Title 10, United States Code.

- Transfer of all or part of NPR-3 to the jurisdiction of another federal agency for administration under Chapter 641 of Title 10, United States Code.

- Transfer of all or a part of NPR-3 to the Department of the Interior for leasing in accordance with the Mineral Leasing Act (30 U.S.C. 181 et seq.) and surface management in accordance with the Federal Land Policy and Management Act (43 U.S.C. 1701 et seq.).

- Sale of the interest of the United States of all or a part of NPR-3.

Our study includes an examination of the value to be derived by the United States from the retention, transfer or sale of NPR-3. The study includes an assessment and estimate of the fair market value of the interest of the United States in this property. The assessment and estimate were made in a manner consistent with customary property valuation practices in the oil and gas industry.

1.5 GENERAL SCOPE OF REPORT

This Report reflects the following general scope of work performed by this Appraiser from April to August, 1996:

1. Delivery of an *Implementation Plan* in May, 1996, containing an initial review of documents, a time frame and schedule for project completion, and identification of additional work and studies required.

2. Meetings with DOE personnel in Washington, D.C. and Casper, Wyoming; with Fluor Daniel (NPOSR) Inc. personnel in Casper; and a personal inspection of the property.

3. Research for, and preparation of, a Phase I report, titled *Property Description and Fact-Finding Report* for NPR-3, which was previously submitted to DOE in draft format, dated June 30, 1996. It is included with this Phase II Final Report as an Addendum. The research was described in detail in the Phase I Report. Corrections to the draft, based on information provided by DOE (and subsequent research), have been made and incorporated in the Addendum.

4. Upon completion of Phase I, research for, and preparation of, this Phase II Final Report. which is consistent with the *Implementation Plan* and contains the relevant findings, supporting data, underlying assumptions and recommendations. The research is described in detail later in this Report.

1.6 ORGANIZATION OF REPORT

This Report is organized in seven major sections. Preceding this Introduction (Section 1) is an Executive Summary which highlights the methodologies utilized and the recommendations provided. Following the Introduction is a Section on each of the alternatives for future operations at NPR-3 that DOE authorized us to consider. These are as follows:

Section 2: Retention and Continued Operation by DOE
Section 3: Transfer to the Department of the Interior
Section 4: Transfer to Another Federal Agency
Section 5: Sale of the Property.

Section 6 provides a Comparative Analysis of the four alternatives listed above. Section 7 includes our Recommendations for future operations of NPR-3.

A number of Appendices follow Section 7, so that the body of the Report can be kept relatively brief. The original Phase I *Property Description and Fact-Finding Report* is included as an Addendum to this Final Report.

1.7 ACKNOWLEDGEMENTS

Gustavson Associates gratefully acknowledges the gracious cooperation of DOE personnel in Washington, D.C. and in Casper, Wyoming and Fluor-Daniel (NPOSR), Inc. personnel in Casper.

1.8 CONFIDENTIALITY

The findings of this Report are considered confidential to our Client, the U.S. Department of Energy. We have not released these findings to any other party.

2. RETENTION AND CONTINUED OPERATION BY DEPARTMENT OF ENERGY

2.1 RETENTION OVERVIEW

2.1.1 Introduction

As authorized in contract DE-AC01-96FE64202, Gustavson Associates was retained by DOE to serve as an Independent Petroleum Appraiser as specified in Section 3416 of the National Defense Authorization Act for Fiscal Year 1996, P.L. 104-106 (110 Stat. 186). As stated in the Act, we have conducted a study and made recommendations regarding which option or combination of options, would maximize the value of NPR-3 to the United States, including the following:

- Retention and operation of all or part of NPR-3 by the Secretary of Energy under Chapter 641 of Title 10, United States Code.

Our study includes an examination of the value to be derived by the United States from the retention of NPR-3 and includes an assessment of the interest of the United States in this property. The assessment was made in a manner consistent with the customary property valuation practices in the oil and gas industry.

2.1.2 Summary of Current Operations

NPR-3 is approached from Casper, Wyoming by I-25 and State Route 259. Standard gravel and dirt oilfield roads service the oilfield and numerous buildings, processing facilities, etc.

The U.S. Government owns 100 percent of the surface and mineral rights. The field produces sweet and sour crude oil, natural gas (which is reinjected) and natural gas liquids (propane and butane).

The mission of NPOSR-CUW is to "manage, develop, operate and maintain the resources of Naval Petroleum Reserve No. 3". The 9,321-acre NPR-3 comprises the Teapot Dome oil field and related production, processing and other facilities. This field has approximately 632 wells producing 1,807 barrels of oil per day. Production revenues are about $9.5 million per year. Approximately 2360 acres in the property are non-productive, generally structurally low and non-prospective. DOE has managed NPR-3 at its maximum efficient rate since 1976. The NPR-3 business unit is managed and operated by Fluor Daniel (NPOSR), Inc., under a Management and Operation (M&O) Contract. Leasehold equipment, surface facilities, etc. have been reviewed in detail in Section 1 of the Addendum.

Use of the surface in the surrounding area is for sheep and cattle ranching. The DOE currently leases grazing rights for about 2000 sheep for one month per year at $1.50 per sheep. Surface and ground water is currently used in steamflood operations. Current operations do not involve the withdrawal of any surface water from the ephemeral streams or small ponds on the property. Although wildlife (including deer and pronghorn) are common, hunting is prohibited at NPR-3.

2.1.3 Specific Scope of Review

To evaluate this option, a review has been conducted of all activities generating income or expense currently carried out by DOE at NPR-3 for the mineral and surface estates. These include operating and producing oil and gas wells, and receiving income from a grazing lease.

Forecast of future income of oil and gas production was based on production forecasts made previously on a reservoir-by-reservoir basis, as described in detail in Section 7 of the Addendum to this Report. Some of these forecasts have been revised based on more recent data.

Current income from surface activities at NPR-3 was estimated based on information provided by personnel with the DOE in Casper. Assumptions are discussed in the following section.

2.1.4 Assumptions and Limiting Conditions

DOE receives two different prices for oil produced from NPR-3, based on whether the oil is sour (from the Tensleep Formation) or sweet (from any other formation). Based upon information supplied by DOE, DOE received $16.18/bbl for sour crude, $19.72/bbl for sweet crude, and $0.35 per gal for liquids from the gas plant. Oil and liquids prices are increased using an annual escalation factor of 2.27 percent. The escalation factor is obtained from the Society of Petroleum Evaluation Engineer (SPEE) "Fifteenth Annual Survey of Economic Parameters Used in Property Evaluations".

This Appraiser has reviewed several documents provided by the DOE relating to actual and projected costs of operations at NPR-3. The detailed breakdown of projected costs from the Fiscal Year (FY) 1996 Annual Operating Plan, February 1996, has been utilized, with adjustments based on actual year-to-date cost information through May, 1996. Actual costs for FY96 are estimated to total $6.7 million. This includes $5.15 million in direct operating costs, or $8.60 per projected barrel of oil, and $1.55 million in overhead and contractor fees. This level of expenditure, based on past trends, is expected to be some what lower in FY97. The overhead costs are allocated by adding 15 percent to operating expenses, 25 percent to capital expenses, and an additional 15 percent of that overhead for General and Administrative (G&A) costs. These percentages were adjusted to obtain a reasonable FY97 overhead cost as compared to the expected FY96 costs.

In late FY97, the DOE plans to halt the Shannon steamflood project. Also at that time, the infill drilling in the Tensleep formation is expected to be completed. Accordingly, costs have been considered to estimate cost reductions associated with elimination of the steamflood and divestiture of drilling and workover equipment. Based on this Appraiser's experience, and input from DOE engineers, costs have been evaluated and projected on a $/well/month bases. Based upon the recent success from the Tensleep reservoir (see Addendum Section 1.7), its production is evaluated separately from the other reservoirs. Tensleep wells have a much higher expense per well due to high water production and related electricity costs for operation of the electrical submersible pumps. Details of these cost projections are shown in Tables 2.1, 2.1A, and 2.1B. The monthly well costs used based on this analysis are $5000/well for Tensleep wells, about $1600/well for steamflood wells and about $400/well for all others. After FY97, steamflood wells are treated as other wells. The number of wells is assumed to decline by 15 percent per year for non-Tensleep wells, and as shown on Table 2.1B for Tensleep wells. All operating costs and overhead are escalated by 3.04 percent annually based upon the SPEE survey.

Additionally, this Appraiser has been requested by the DOE to consider future operations at NPR-3 without the use of an Management and Operations (M&O) contractor such as Fluor Daniel. Fluor Daniel's existing contract expires in 1997. In this scenario, the DOE would have to hire experienced oil field personnel as DOE employees, (ideally, many of the current Fluor Daniel employees) to do the work currently performed by the contractor. Expected costs associated with these employees and the continued field operations would not be expected to change significantly.

The DOE would no longer have to pay the contractor fees, estimated as 7.89 percent of the total operating costs and other overhead, per the FY96 Annual Operating Report. This is accounted for in the economic spreadsheets by reducing the overhead percentages by 8 percent. The DOE would also take on any risk associated with termination of employees involved in any future down-sizing.

Drilling costs are estimated based upon actual cost data provided by the DOE for similar wells. Drilling and completion costs are escalated by 3.07 percent annually based upon the SPEE survey.

The discount rate is a key variable in the income method that is used in determining the net present value (NPV). In the income approach to valuation, a discount rate is applied to future net income to determine the present value of the cash stream. The discount rate is a function of the recipient's cost of capital and its perception of risk associated with realizing the predicted cash flow.

TABLE 2.1

NPR-3 Operating Cost Analysis, FY 1996

(in thousands of dollars per year)

	Expected DOE Costs			Expected Private Operator Costs	
	As Is	Without Steamflood & Drilling Programs			
Item	**With M&O Contractor**	**With M&O Contractor**	**Without Contractor**	**As Is**	**Without Steamflood**
Facilities	667	600	600	667	600
Gas System	240	216	216	240	216
WO Rig	33	0	0	33	0
Water Sys	7	0	0	7	0
Water Disp	52	52	52	52	52
Cathod. Prot.	26	26	26	26	26
Pits	44	44	44	44	44
Envir Prot	129	129	129	102	102
Safety	167	167	167	100	100
Elect Main	211	211	211	211	211
Power	900	900	900	900	900
Field Main	368	368	368	368	368
Hvy Equip Mnt	227	227	227	227	0
Well Svc	390	390	390	390	390
Chemical, non-EOR	118	118	118	118	118
Chemical, EOR	79	0	0	79	0
EOR	385	0	0	385	0
Fuel Gas	1,112	0	0	1,112	0
Total Direct	**5,153**	**3,447**	**3,447**	**5,059**	**3,127**
$/Bbl	**$ 8.60**	**$ 6.09**	**$ 6.09**	**$ 8.45**	**$ 5.52**
Op OH	1,057	1,057	1,057	793	793
Cont Fee	490	355	0	0	0
Total Overhead	**1,547**	**1,412**	**1,057**	**793**	**793**
Grand Totals	**6,700**	**4,859**	**4,504**	**5,852**	**3,919**

1996 Direct Cost - Estimated Breakdown

		Total	Operating Expense		
	# wells	**Production**	**$/well/mo**	**$/bbl**	**Total $/yr**
Tensleep	9	237,250	$ 5,000	$ 2.28	$ 540,000
steamflood	68	164,615	$ 2,362	$ 11.71	$ 2,249,238
other	500	197,100	$ 394	$ 11.99	$ 2,363,927
Total/Average	**577**	**598,965**	**$ 744**	**$ 8.60**	**$ 5,153,165**

Notes:
1) Expected P & A costs are handled elsewhere.
2) Detailed costs from FY96 Annual Operating Plan adjusted to match projections based on YTD costs
3) $/Bbl based on projected FY '96 production
4) Contractor fee asumed to be 7.89 % of operating costs plus other overhead, per FY96 Annual Operating Plan

TABLE 2.1A

NPR-3 Sweet Production Operating Expenses

	# wells	$/well/mo	prod	$/bbl	BOPD/Well	Direct Operating Cost Retention	Direct Operating Cost Transfer or Sale
FY97, mo	500	557	24,372	$ 11.42	1.6	$ 278,397	$ 272,829
FY97, yr	500	557	292,464	$ 11.42	1.6	$ 3,340,768	$ 3,273,953
FY98, mo	425	394	15,987	$ 10.47	1.2	$ 167,445	$ 150,700
FY98, yr	361	394	191,842	$ 8.90	1.5	$ 1,707,937	$ 1,537,144
FY99	307	394	131,692	$ 11.02	1.2	$ 1,451,747	$ 1,306,572
FY2000	261	394	101,552	$ 12.15	1.1	$ 1,233,985	$ 1,110,586
FY2001	222	394	80,892	$ 12.97	1.0	$ 1,048,887	$ 943,998
FY2002	189	394	65,877	$ 13.53	1.0	$ 891,554	$ 802,399
FY2003	160	394	54,304	$ 13.96	0.9	$ 757,821	$ 682,039
FY2004	136	394	45,279	$ 14.23	0.9	$ 644,148	$ 579,733

Well count reduction per year - 15%

TABLE 2.1B

NPR-3 Tensleep Operating Expenses

	PDP		PDNP		PUD		Probable	
	Well Count	Operating Cost	Well Count	Operating Cost	Well Count	Operating Cost	Well Count	Operating Cost
10/96	8	$ 40,000	0	$ -	0	$ -	0	$ -
11/96	8	$ 40,000	1	$ 5,000	0	$ -	0	$ -
12/96	8	$ 40,000	1	$ 5,000	0	$ -	0	$ -
01/97	8	$ 40,000	1	$ 5,000	0	$ -	0	$ -
02/97	8	$ 40,000	1	$ 5,000	1	$ 5,000	0	$ -
03/97	8	$ 40,000	1	$ 5,000	1	$ 5,000	0	$ -
04/97	8	$ 40,000	1	$ 5,000	1	$ 5,000	0	$ -
05/97	8	$ 40,000	1	$ 5,000	2	$ 10,000	0	$ -
06/97	8	$ 40,000	1	$ 5,000	2	$ 10,000	0	$ -
07/97	8	$ 40,000	1	$ 5,000	2	$ 10,000	0	$ -
08/97	8	$ 40,000	1	$ 5,000	2	$ 10,000	1	$ 5,000
09/97	8	$ 40,000	1	$ 5,000	2	$ 10,000	1	$ 5,000
10/97	7	$ 35,000	1	$ 5,000	2	$ 10,000	1	$ 5,000
11/97	7	$ 35,000	1	$ 5,000	2	$ 10,000	2	$ 10,000
12/97	7	$ 35,000	1	$ 5,000	2	$ 10,000	2	$ 10,000
01/98	7	$ 35,000	1	$ 5,000	2	$ 10,000	2	$ 10,000
02/98	7	$ 35,000	1	$ 5,000	2	$ 10,000	2	$ 10,000
03/98	7	$ 35,000	1	$ 5,000	2	$ 10,000	2	$ 10,000
04/98	7	$ 35,000	1	$ 5,000	2	$ 10,000	2	$ 10,000
05/98	7	$ 35,000	1	$ 5,000	2	$ 10,000	2	$ 10,000
06/98	7	$ 35,000	1	$ 5,000	2	$ 10,000	2	$ 10,000
07/98	7	$ 35,000	1	$ 5,000	2	$ 10,000	2	$ 10,000
08/98	7	$ 35,000	1	$ 5,000	2	$ 10,000	2	$ 10,000
09/98	7	$ 35,000	1	$ 5,000	2	$ 10,000	2	$ 10,000
FY99	6	$360,000	1	$ 60,000	2	$120,000	2	$120,000
FY00	5	$300,000	1	$ 60,000	2	$120,000	2	$120,000
FY01	5	$300,000	1	$ 60,000	2	$120,000	2	$120,000
FY02	4	$240,000	1	$ 60,000	2	$120,000	2	$120,000
FY03	4	$240,000	1	$ 60,000	2	$120,000	2	$120,000

Notes: PUD and Probable wells drilled only under retention scenario.
All costs shown here unescalated.
FY03 well counts apply until abandonment.

Cost of Capital - The office of NPOSR, as a part of the Federal Government, has the same cost of capital as the U.S. Government. The Federal Government raises capital through the sale of Treasury bonds and bills (T-bonds and T-bills). The weighted average of the portion of debt in each of the various denominations determines the government's cost of capital. As shown in the attached Figure 2.1, the resulting value ranges between five and seven percent. In addition, Treasury rates are shown to vary over time. An estimated cost of capital is based upon the mean average for all government interest rates, that is, the five year T-bond. The rate for the five year T-bond has risen from a low of 5.25 percent to rate over 6.5 percent between mid-February and the first of August, 1996. This analysis assumes the Federal Government's cost of capital to be 6.5 percent.

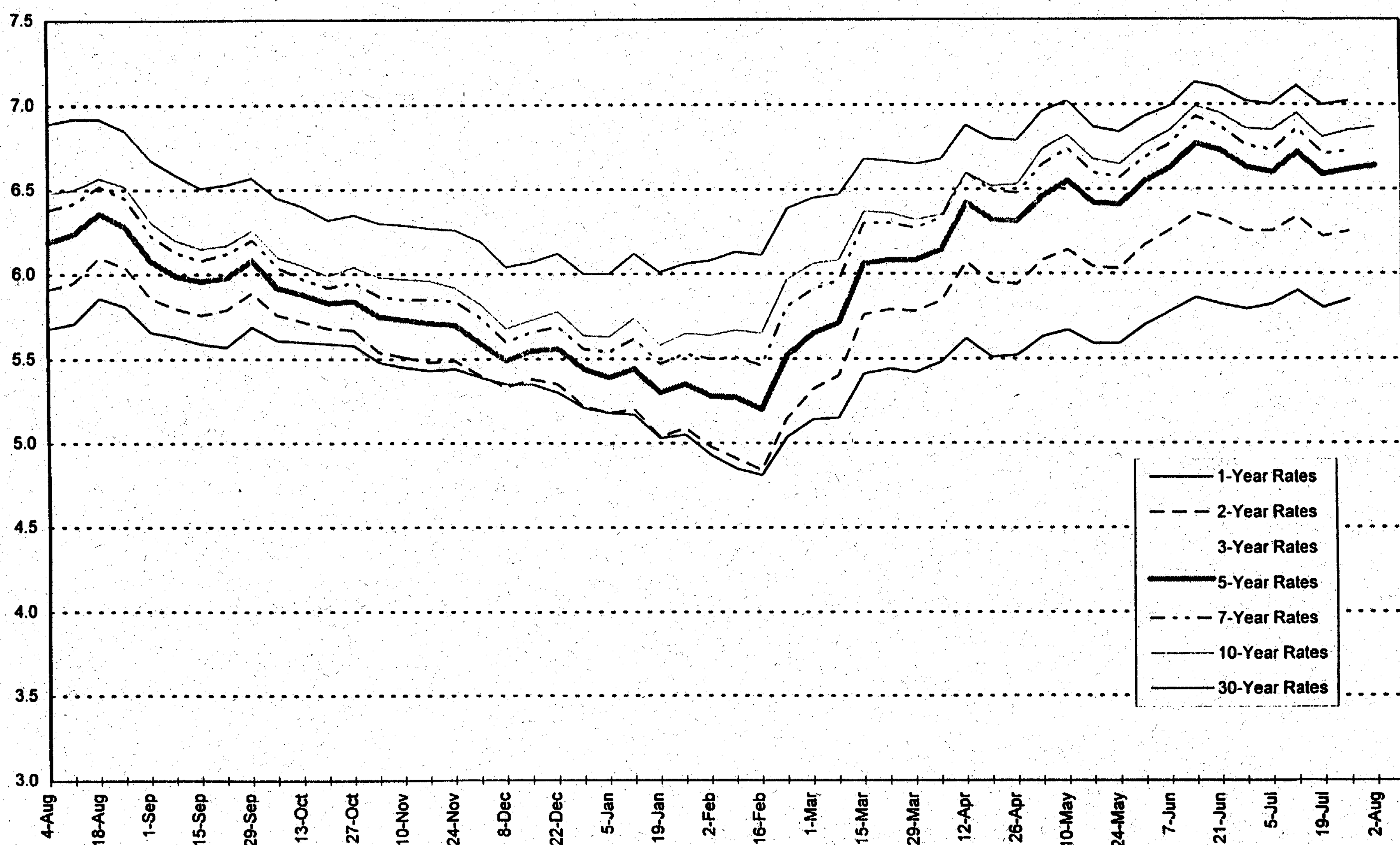
Perception of Risk - To determine the applicable discount rate, the various components of the perception of risk are added to the cost of capital. The risk of achieving the predicted cash flow from producing oil and gas operations can be divided into three major components, the combination of which yield the cash flow risk. These three components are the price, production and operating cost risks.

Price risk is estimated to equal three percent. The efforts by industry members to protect themselves from oil and gas price fluctuations -- through the use of hedging, future selling and other activities -- has historically resulted in adding three percent to cost of capital. In other words, those who use these risk-reducing instruments are able to lower their cost of capital approximately three percent.

There is production risk in obtaining oil and gas that is unique to the petroleum industry. As opposed to other sectors of the mineral extraction industry, oil and gas production declines significantly over time. Historically, the sale of mineral extraction operations for other types of minerals, such as aggregate stone, marble quarries, etc., are purchased based upon a lower discount rate than petroleum production operations. For comparable examples, the difference -- approximately two percent -- is assumed to be attributable to the uncertainty in forecasting oil and gas production.

FIGURE 2.1

Interest Rates for Government Securities



Increases in operating cost result in lowering the NPV. The risk of higher-than-forecast operating cost results increasing the discount rate by two percent. This difference is apparent when two similar property sales are compared and the only difference between the two sales is the type of interest being purchased. Historically, a working interest purchase is based upon a discount rate that is approximately two percent higher than a similar purchase of only the royalty interest.

Since DOE operates these properties, its revenue is subject to operating risk. As a result, the total perception of risk cost is 7 percent. The result of combining the government's cost of capital (6.5 percent) with the seven percent for the perception of risk provides NPR-3 with a nominal discount rate of 13.5 percent. This is in line with OMB guidelines which allow the government's cost of capital to be increased by the industry risk to determine the proper discount rate (OMB Circular A-94).

OMB recommends using a nominal seven percent discount rate to evaluate the NPV of government programs. Rental income from federal leasing programs is an example of such a government program. However, land leasing activities (for example, as recommended by OMB for grazing rights) include price risk. As such, three percent for perception of risk is added to the nominal seven percent government program discount rate discussed above. The resulting ten percent nominal discount rate is then used to estimate NPV of the land leasing activities.

Future oil and gas production have been forecast for NPR-3 based on decline curve analysis of past production on a reservoir by reservoir basis, as described in detail in Section 7 of the Addendum. Slight revisions have been made to the forecasts included in the draft Addendum, based on subsequently available production data. The Shannon forecast has been subdivided into production attributed to the steamflood and primary production. The steamflood production is forecast to begin a severe decline at the end of FY97, when the steamflood project is expected to end. Revised production forecasts are shown in Table 2.2.

TABLE 2.2

Annual Forecast NPR-3

	Shannon				2nd Wall	3rd Wall				TOTAL	Tensleep					TOTAL	
												New					
	Steamflood	Primary	Steele	Niobrara	Creek	Creek	Muddy	Dakota	Lakota	*SWEET*	Old	76-TPX-10	73-TPX-10	63-TPX-10	75-X-10	*SOUR*	**TOTALS**
D Factor	*various*	*18.1%*	*100.0%*	*120.0%*	*34.9%*	*12.0%*	*15.0%*	*19.0%*	-		*16.3%*	*380.0%*	*380.0%*	*380.0%*	*380.0%*		
n Factor	*various*	*0.00*	*0.80*	*0.70*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*		*0.00*	*0.70*	*0.70*	*0.70*	*0.70*		
10/96 Rate	*10,977*	*8,933*	*2,690*	*2,146*	*2,973*	*374*	*179*	*48*	*0*	*28,319*	*1,634*	*529*	*2,558*	*3,430*	*2,292*	*10,443*	
FY97	109,928	98,974	26,636	20,075	30,108	4,223	1,998	522	0	292,464	18,096	4,574	19,508	22,496	11,500	76,174	**368,638**
FY98	49,903	82,572	19,114	13,123	21,233	3,744	1,720	432	0	191,842	15,379	2,669	9,661	9,310	3,590	40,609	**232,451**
FY99	18,483	68,889	14,718	9,471	14,974	3,320	1,480	357	0	131,692	13,069	1,811	6,076	5,473	1,947	28,377	**160,069**
FY00	9,652	57,617	11,890	7,284	10,584	2,951	1,277	296	0	101,552	11,135	1,339	4,300	3,736	1,278	21,788	**123,339**
FY01	5,903	47,925	9,864	5,810	7,440	2,609	1,096	244	0	80,892	9,435	1,040	3,243	2,754	920	17,392	**98,284**
FY02	3,993	39,983	8,405	4,791	5,247	2,313	943	202	0	65,877	8,018	841	2,569	2,148	707	14,282	**80,159**
FY03	2,880	33,357	7,293	4,043	3,700	2,051	812	167	0	54,304	6,814	699	2,103	1,739	566	11,919	**66,224**
FY04	2,181	27,899	6,438	3,483	2,616	1,823	701	138	0	45,279	5,805	595	1,769	1,450	468	10,086	**55,365**
FY05	1,701	23,206	5,719	3,028	1,839	1,612	601	114	0	37,819	4,919	512	1,508	1,228	394	8,561	**46,381**
FY06	1,367	19,361	5,145	2,672	1,297	1,429	517	94	0	31,882	4,180	448	1,310	1,061	338	7,339	**39,220**
FY07	1,122	16,152	4,667	2,382	914	1,267	445	78	0	27,028	3,553	397	1,153	930	295	6,327	**33,355**
FY08	940	13,509	4,275	2,147	646	1,126	384	65	0	23,093	3,027	356	1,028	825	261	5,497	**28,590**
FY09	795	11,237	3,918	1,939	454	996	330	53	0	19,723	2,565	320	919	736	232	4,772	**24,494**
FY10	683	9,375	3,620	1,768	320	883	284	44	0	16,977	2,179	290	831	664	209	4,173	**21,150**
FY11	593	7,821	3,361	1,620	226	783	244	36	0	14,686	1,852	265	756	602	189	3,665	**18,351**
FY12	521	6,542	3,142	1,497	160	696	211	30	0	12,798	1,578	244	694	552	173	3,241	**16,039**
FY13	459	5,441	2,932	1,381	112	615	181	25	0	11,147	1,337	224	637	505	158	2,862	**14,009**
FY14	409	4,540	2,753	1,284	79	545	156	21	0	9,786	1,136	208	589	466	146	2,545	**12,331**
FY15	366	3,787	2,593	1,197	56	483	134	17	0	8,633	966	193	546	432	135	2,273	**10,906**
FY16	331	3,168	2,455	1,123	39	430	116	14	0	7,675	823	181	510	403	126	2,043	**9,718**
20 YR TOTALS	**212,212**	**581,355**	**148,938**	**90,116**	**102,047**	**33,899**	**13,630**	**2,951**	**0**	**1,185,148**	**115,864**	**17,205**	**59,711**	**57,512**	**23,631**	**273,923**	**1,459,071**
10 YR TOTALS	**205,991**	**499,783**	**115,222**	**73,779**	**99,039**	**26,076**	**11,145**	**2,567**	**0**	**1,033,602**	**96,849**	**14,527**	**52,047**	**51,396**	**21,708**	**236,527**	**1,270,129**
Predicted Cum. Prod. - 10/1/96	10,282,275		2,402,343	1,315,555	10,033,762	343,954	745,187	73,603	22,562		1,421,004	27,975	63,350	48,826	5,128		**26,780,398**
Estimated Ultimate Recovery (20 yrs)	11,075,842	581,355	2,551,282	1,405,671	10,135,809	377,854	758,817	76,554	22,562		1,536,868	45,180	123,061	106,338	28,759		**28,215,839**
Estimated Ultimate Recovery (10 yrs)	10,988,049	499,783	2,517,566	1,389,334	10,132,801	370,030	756,332	76,170	22,562		1,517,853	42,502	115,397	100,223	26,836		**28,028,819**

NOTE: Economic limit not considered.

Production was also forecast for five new and planned Tensleep wells falling into the categories of Proved Non-Producing, Proved Undeveloped, and Probable. These forecasts are shown on Table 2.3. These reserves are considered less certain than Proved Developed Producing reserves and as such a chance factor representing the geological chance of success has been applied to these wells as follows: Proved Non-Producing, 80 percent; Proved Undeveloped, 80 percent; and Probable, 60 percent. Well 75-X-10 was considered as Proved Non-Producing in previous reports; however, as of 10/1/96, it was producing. Well 72-x-10 was not yet producing as of 10/1/96, but had been drilled. Thus, it is classified as Proved Developed Non-Producing and given a chance of success of 80 percent.

Production of natural gas liquids has been forecast assuming that gas plant throughput will remain constant at its current level of 5 million cubic feet of gas per day. If additional projects are realized, such as the Veterans Administration gas storage project discussed in Section 1.9.3 of the Addendum, natural gas liquids production would be expected to increase. Any such increase is considered purely speculative at this time.

Production and sales of previously-injected gas from the Second Wall Creek and the Muddy reservoirs (blow-down) are considered reasonably likely to occur in the future at NPR-3. Approximately 1.5 billion cubic feet of gas reserves are expected to be recoverable during blow down. This Appraiser has assumed that blow down of these reservoirs will begin in FY2000 at the current cycling rate of 5 million cubic feet per day. At this high rate, even with a very high decline factor most of the expected reserves are produced in the first year. A 90 percent per year exponential decline was assumed, considering the withdrawal of pressure support when gas injection is ceased. This results in production of 1.2 billion cubic feet of gas produced in FY2002, with 0.3 billion cubic feet remaining to be produced in FY2003.

The production of the two natural gas liquids (NGL), propane and butane, is a function of natural gas production as shown in the Addendum (Figure 1.8). The forecast is shortened due to the anticipated economic need to blow-down the reservoir beginning in 2002. The NGL forecast is altered to reflect the volume of gas anticipated during the blow-down period, that is, 1.00 gal/mcf

TABLE 2.3

Undeveloped Tensleep Production Forecasts

	Proved Non-Producing		Proved Undeveloped				Probable					
	72-TPX-10		PUD 1	PUD 2	TOTAL PUD		Prob - 1	Prob - 2	TOTAL PROBABLE		TOTALS	
	Unrisked	Risked @ 80%			Unrisked	Risked @ 80%			Unrisked	Risked @ 60%	**Unrisked**	**Risked**
Mo. of 1st Prod.	*Nov-96*		*Feb-97*	*May-97*			*Aug-97*	*Nov-97*				
FY97	37,327	29,861	32,101	24,959	57,060	45,648	13,255	0	13,255	7,953	**107,642**	**83,463**
FY98	11,674	9,339	14,755	19,425	34,180	27,344	28,013	37,327	65,340	39,204	**111,194**	**75,887**
FY99	6,024	4,819	6,923	8,039	14,963	11,970	9,565	11,674	21,239	12,744	**42,226**	**29,533**
FY00	3,864	3,091	4,270	4,737	9,006	7,205	5,319	6,036	11,355	6,813	**24,226**	**17,110**
FY01	2,747	2,197	2,969	3,215	6,185	4,948	3,509	3,851	7,360	4,416	**16,292**	**11,561**
FY02	2,091	1,673	2,229	2,378	4,608	3,686	2,551	2,747	5,298	3,179	**11,997**	**8,538**
FY03	1,664	1,331	1,757	1,855	3,612	2,889	1,967	2,091	4,058	2,435	**9,334**	**6,655**
FY04	1,370	1,096	1,436	1,505	2,941	2,353	1,583	1,668	3,251	1,951	**7,562**	**5,399**
FY05	1,149	919	1,198	1,248	2,446	1,957	1,305	1,366	2,671	1,602	**6,266**	**4,478**
FY06	985	788	1,022	1,061	2,083	1,666	1,103	1,149	2,252	1,351	**5,320**	**3,805**
FY07	857	685	886	916	1,803	1,442	950	985	1,934	1,161	**4,594**	**3,288**
FY08	757	605	781	805	1,585	1,268	831	859	1,690	1,014	**4,032**	**2,888**
FY09	672	537	691	711	1,402	1,121	732	755	1,487	892	**3,560**	**2,551**
FY10	603	483	619	636	1,255	1,004	653	672	1,325	795	**3,183**	**2,281**
FY11	546	437	559	573	1,132	906	588	603	1,191	715	**2,869**	**2,057**
FY12	498	399	510	522	1,032	825	534	547	1,081	649	**2,611**	**1,873**
FY13	455	364	465	475	940	752	486	497	983	590	**2,378**	**1,706**
FY14	419	335	428	436	864	691	446	455	901	540	**2,184**	**1,567**
FY15	388	310	395	403	798	638	411	419	830	498	**2,015**	**1,446**
FY16	361	289	368	374	742	593	381	389	770	462	**1,872**	**1,344**
20 YR TOTALS	**74,449**	**59,559**	**74,361**	**74,274**	**148,635**	**118,908**	**74,183**	**74,089**	**222,546**	**88,963**	**371,356**	**267,430**

NOTE: Economic limit not considered. Performance based on recent Tensleep wells - hyperbolic decline, initial rate=8635 BOPM, Di=380%, n=0.7

in 2002 and 0.98 gal/mcf in 2003. Because of the large uncertainty associated with timing, rates, and volumes of this gas blow-down, a 60 percent risk factor was applied.

It was assumed that a Midwest market can be established for this gas by this time via the Colorado Interstate Gas (CIG) line, with anticipated pricing of $2.25 per MCF (in 1996 $) and a transportation cost of $0.50 per MCF (in 1996 $) for a net back wellhead price of $1.75. These prices are escalated at 2.57 percent per year based on the SPEE survey.

There is surface equipment on the NPR-3 property used for oil and gas production. This Appraiser assumes that in 1997 certain equipment, for example, steam generators, water treatment equipment, rigs and heavy equipment, will be sold for an estimated value of $428,000. At field abandonment, additional income to DOE is expected from selling electrical equipment and a warehouse. This equipment and warehouse are given a current value of $1,011,290. The value is escalated to date of sale using the general rate of inflation -- 2.86 percent annually -- as provided by the SPEE survey. In addition, 1,170 wells are scheduled to be abandoned over the remaining life of the field as described in the Addendum to this Report. The cost included in the evaluation for abandoning these wells is approximately $4.186 million in constant dollars, escalated at 3.07 percent per year based on the SPEE survey.

A summary of environmental expenses are provided in the Addendum to this Report. Expected environmental expenses included in the evaluation are $3.154 million in life-of-field capital costs, including field abandonment. Annual compliance costs and labor costs are included in operating expenses.

The NPOSR, as a part of the Federal Government is not responsible for federal, state, or local taxes. Under continued operation, no taxes or payments in lieu of taxes are anticipated.

We have relied on the information provided by the BLM on surface uses, for example, the number of animal unit months (AUMs) on the subject properties.

The water rights were not valued separately from the value of the land because they are considered to be part of the inherent value of the land which supports the user for the designated use at the time of the water appropriation. Water can be severed from property and sold in most states; however, reappropriating an existing water right for an alternative use is difficult and expensive to accomplish. Therefore, this Appraiser assumes that the water rights will remain with the subject properties in the case of retention, transfer or sale of the properties. The value of the water rights is reflected in the land value as part of its overall utility.

2.2 VALUATION METHODOLOGY

2.2.1 Standards

2.2.1.1 Unit Rule

The standards for using the unit rule are described in detail in Section 5 of this Report. The unit rule is considered when combining the various components of the fee simple estate.

2.2.1.2 Reserve Reporting

Reserves are estimated volumes of hydrocarbons anticipated to be recoverable from known accumulations from a given date forward. The estimation of reserves is predicated upon certain historically-developed principles of petroleum engineering. The application of such principles involves extensive judgments and is subject to change based on existing knowledge data and technology, economic conditions, statutory and regulatory provisions, and the purposes for which the reserve estimate is to be used. The Society of Petroleum Engineers (SPE) has adopted standards pertaining the estimation of oil and gas reserves. The SPE standards include reserve definitions by which all oil and gas reserves should be categorized. All of the reserve estimates included as part of the valuation of the subject property conform to the SPE standards and definitions pertaining to oil and gas reserves.

2.2.2 Income Approach

The income approach bases the value of an asset upon the present worth of the asset's future net income. This approach is common to industry and recommended by the Office of Management and Budget (Circular No. A-94 Section 8.b.1). The present worth is obtained by discounting the asset's future net income to the current year. The discount rates used are described in Section 2.1.4. The midyear discounting method is used to reflect income and/or expenditures occurring over the course of the year. In the case of retention of NPR-3 by the DOE, the income approach is applied to the expected expenditures. Using the income approach to the cashflow results in a positive net present value (NPV) as described in Section 2.3.

2.3 EXAMINATION AND DISCUSSION OF VALUE

2.3.1 Minerals

The future production of oil, gas, and natural gas liquids has been projected as described above. The annual forecast is shown in Table 2.1. This includes net reserves of 1.13 million barrels of oil, 900 million cubic feet of gas, and 11.4 million gallons of natural gas liquids. This production stream with pricing assumptions, operating and overhead costs as described above has been evaluated using the economic model described in detail in the Addendum to this Report. The resulting estimated value is $3.85 million, based on a NPV at 13.5 percent. The detailed output of this evaluation are included as Appendix A to this Report.

Under the scenario of continued operation by the DOE with elimination of the Management and Operations contractor, the estimated value is $5.2 million.

2.3.2 Surface Rights

The DOE currently allows the grazing of 2,000 sheep one month each year on NPR-3 property. The DOE charges a fee of $1.50 per head of sheep, realizing an annual income of $3,000 from grazing fees. Retention of this property by the DOE would allow them to continue grazing as a surface activity. The value of this was calculated using the economic model described in the Addendum to this Report. The resulting net present value discounted at ten percent is $30,000.

2.3.3 Water Rights

The total DOE-appropriated surface water for NPR-3 is 203.48 acre-feet (af) per year. This water is diverted from Teapot Creek and stored in on-site reservoirs. NPR-3 water is drawn on an acre-foot quantity specified by the water rights permits held by the DOE. The primary use for this water is steam injection at well sites.

The total permitted ground water use for the DOE on NPR-3 is 5,049.5 Gallons Per Minute (GPM). This quantity is pumped from 33 wells and is an "instantaneous" water right, which means DOE is entitled to this water every minute of every day of the year. Steam injection is the primary use of this water. In the case of retention and continued operation by the DOE, these water rights will continue as is, as long as they are used beneficially for the designated use.

Wyoming water law is structured so that regardless of applicant and water user, if the point of diversion is on NPR-3 property, the water right ultimately is controlled by the DOE. Under normal circumstances, Wyoming water is not purchased and sold as a commodity separately from the surface value of the property to which it is attached. When a separation does occur, it is generally to sell the water to a municipality for publicly held water. Such water sales are not ongoing nor considered likely in the future.

Thus, existing water rights at NPR-3 enable the current uses of oilfield operations and sheep grazing. They add no independent value.

2.3.4 Opinion of Value

The mineral and surface activities described in the preceding sections are not expected to interfere with each other and are expected to continue concurrently. Therefore the values determined separately for mineral and surface rights are additive. The expected value to the U.S. Government under the scenario of retention and continued operation of NPR-3 by the DOE is estimated as follows:

WITH M&O CONTRACTOR

Mineral Rights -	$3,850,200
Surface Rights -	$ 30,000
TOTAL VALUE	**$3,880,200**

WITHOUT M&O CONTRACTOR

Mineral Rights -	$5,219,200
Surface Rights -	$ 30,000
TOTAL VALUE	**$5,249,200**

2.4 VALUATION OF RMOTC

2.4.1 Purpose of RMOTC

The Rocky Mountain Oil Test Center (RMOTC) was created as an oilfield test center to provide research and development testing of products and services which might improve and/or extend production with emphasis on old, declining fields operated by small, independent companies. This purpose has subsequently been broadened by RMOTC to also include demonstration of already commercialized devices, to serve as assistance in sales efforts as well as applied testing of already existing technology in specific geologic formations found locally. This latter testing has been aimed both at improvement of oil production at NPR-3 as well as application testing for major oil companies with similar geologic formations in the local area.

A second purpose of RMOTC is the provision of training through field visits, seminars and internships aimed at trainees from Indian tribal councils and from historically black colleges.

2.4.2 Legal/Regulatory Nature of RMOTC

While NPR-3 was created by an Act of Congress the RMOTC, in contrast, was created under an Internal Initiative by the DOE. Consequently, all work performed by RMOTC takes second place to the operation of NPR-3. In cases of potential conflicts of interest, RMOTC must choose facilities and test wells giving first priority to the prudent operation of NPR-3 under the Act. This generally appears to have been the case since the creation of RMOTC. This duality of the role of RMOTC personnel is expected to continue under Scenario One of retention of management of NPR-3 by the DOE. In other words, RMOTC is a guest on the NPR-3 property. The feasibility of continuing this relationship between NPR-3 and RMOTC under DOE management will be discussed in this chapter. Alternative scenarios will be discussed separately in other chapters of this Report.

2.4.3 Historic Performance

RMOTC has been functioning since 1994 which was a partial year. The RMOTC business unit as a part of NPR-3 worked under the budget shown in Table 2.4 with projections for future years. During that year a total of four test projects were executed of which three were demonstrations of already commercialized products and only one could be classified as R&D testing. However, from a cost standpoint 48 percent of the grant funds can be attributed to the latter R&D test in 1994 (see Table 2.5). No accurate figures are available with regard to the portion of operating overhead funds which were directed to R&D testing versus demonstrations. Estimates have been shown in Table 2.6.

As can be expected in start-up cases, RMOTC experienced high overhead costs (both operating overhead and G&A) as will be discussed further below. The benefits accruing from the results of the testing will be quantified in a subsequent section.

TABLE 2.4
RMOTC BUDGET

	FUNDING SOURCE			
YEAR	**DOE-FE**	**OTHER DOE**	**STATE OF WY**	**TOTALS**
1994	$240,000	$50,000		$290,000
1995	$1,430,000	$20,000	$100,000	$1,550,000
1996	$2,500,000	$100,000	$100,000	$2,700,000
1997*	$2,500,000	$100,000	$100,000	$2,700,000
1998*	$2,000,000	$100,000	$100,000	$2,200,000
1999*	$1,500,000	$100,000	$100,000	$1,700,000
2000*	$1,000,000	$100,000	$100,000	$1,200,000
2001*	$500,000	$100,000		$600,000
2002*	$500,000	$100,000		$600,000
2003*	$500,000	$100,000		$600,000
2004*	$500,000	$100,000		$600,000
2005*	$500,000	$100,000		$600,000
2006*	$500,000	$100,000		$600,000
2007*	$500,000	$100,000		$600,000
2008*	$500,000	$100,000		$600,000
2009*	$500,000	$100,000		$600,000
2010*	$500,000	$100,000		$600,000
2011*	$500,000	$100,000		$600,000
TOTALS	**$16,670,000**	**$1,670,000**	**$600,000**	**$18,940,000**

Source: "RMOTC Business Plan FY 1996-2005", June 10, 1996

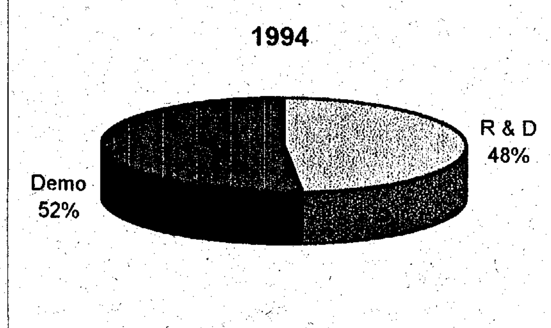
*** Estimated**

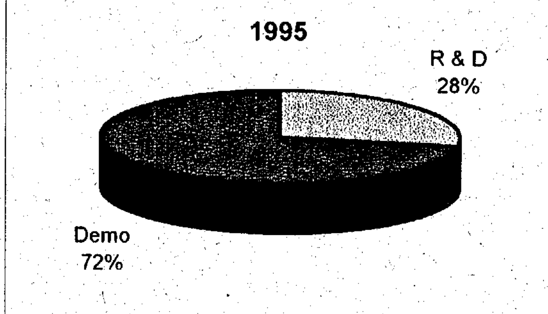
TABLE 2.5
PROJECT CLASSIFICATION BREAKDOWN BASED ON FEDERAL EXPENDITURES

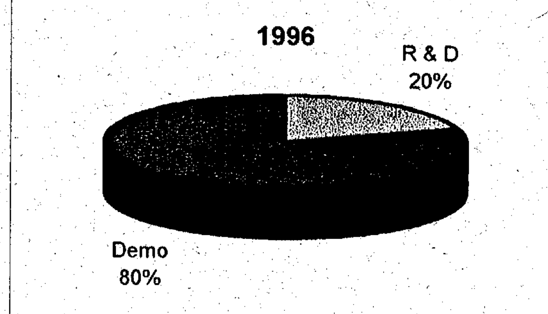
1994	FEDERAL BREAKDOWN	
	Testing Costs	% of Total
R&D	$18,807	48%
Demonstration	$20,158	52%
Total	$38,965	100%

1995	FEDERAL BREAKDOWN	
	Testing Costs	% of Total
R&D	$78,532	28%
Demonstration	$204,317	72%
Total	$282,849	100%

1996	FEDERAL BREAKDOWN	
	Testing Costs	% of Total
R&D	$30,820	20%
Demonstration	$123,237	80%
Total	$154,057	100%







Note: Costs include ERIP expenditures; amounts before operating overhead allocations.

TABLE 2.6
OVERHEAD ALLOCATION

	1994	1995	1996
Appropriation	$290,000	$1,550,000	$2,700,000
Total Direct Costs	$38,207	$386,598	$320,049
Operating Overhead*	$58,011	$586,990	$345,122
G & A Overhead*	$193,782	$576,412	$2,034,829

*** Estimated**

A detailed discussion of the results of each test can be found in the separate Addendum "Property Description and Fact-Finding Report for NPR-3". Each of the tests is described on basis of interviews with the inventors or manufacturers and after several meetings with RMOTC personnel. As can be expected in the testing of oilfield equipment and services, there are varying opinions about the success of the tests or lack thereof; however, after several iterations of discussions with the sponsors (inventors, service companies and manufacturers) and RMOTC personnel, reasonable agreement was reached thereby allowing this Appraiser to form an opinion with regard to the nature and potential benefit of a particular test.

In 1995 a full year was available for the continuation of RMOTC efforts. A total of 13 tests were performed. Of these tests 8 projects were demonstration of existing devices for purposes of promotional assistance while 5 projects were R&D of products or services at the pre-commercialization stage. This ratio is slightly modified when reviewing Federal costs on a before-overhead basis to 72 percent demonstration and 28 percent R&D testing (Table 2.5).

The results of the 1995 testing are detailed in the Addendum "Property Description and Fact-Finding Report for NPR-3" but can be summarized as 63 percent successful demonstrations and 20 percent successful R&D tests. The former percentage is low, possibly because of testing difficulties; the latter percentage is reasonable for R&D testing.

Results for 1996 have been obtained through the month of May and projections have been made for the balance of the fiscal year on basis of on-going efforts and reasonably planned costs. A total of 22 projects are budgeted for 1996. Seven have been completed, five are on-going and as of the end of May, ten additional tests were planned. Of the 12 actual projects, the demonstrations of commercially available products and services amount to 80 percent of federal costs of $154,000 with the balance being R&D testing.

During the two and one-half years of RMOTC operation, only one demonstration project was found to been have primarily targeted to NPR-3 production enhancement, namely the testing of a lateral drilling service with potential for improvement of oil production rates from the Shannon

Formation. It is obvious that the availability of RMOTC allowed NPR-3 management to utilize the Test Center for the test which otherwise might not have been conducted. Industry assisted in the funding and the test took place without any influence, negative or positive, on existing NPR-3 production. In the opinion of this Appraiser, this type of test was justified at NPR-3; however, we forward no opinion with regard to showing this as a RMOTC cost instead of an NPR-3 field operation cost item. The fact that this test could be performed by RMOTC with industry partners is important in the discussion of alternative scenarios in subsequent chapters of this Report.

The training purpose at RMOTC has been fulfilled only to a limited extent. In 1994 there was no training. In 1995 eleven Native Americans from three tribes attended one-week introductory courses in oilfield operation. There were also 12 students (interns) who attended 10-week hands-on sessions. These were both Native American as well as students from Historically Black Colleges.

A large group of the persons who attended the various training functions was interviewed by phone in order to identify any tangible results from the training. These interviews and the summary observations therefrom are included in the Addendum "Property Description and Fact-Finding Report for NPR-3". Most interviews revealed a very positive reaction to the training experience; however, apart from the broader understanding of the nature and work performed in an oilfield, none of the parties indicated a change to a career in the oil sector and none could point to improved job opportunities.

From additional research of the job market in the oil industry, it was found that most candidates for employment generally acquire familiarity with oilfield activities and technology through their first employment in the private industry sector. The RMOTC training component is therefore not unique. Further discussion of this relatively minor cost element is found in a later section of this Report (Section 2.4.5.4).

The training component at RMOTC saw a substantial setback in 1996 as compared to 1995. Therefore, it difficult to project the future performance by RMOTC in the training sector. Still, this Appraiser given the benefit of the doubt to RMOTC and made projections for resumption of activities nearly up to the earlier levels of persons trained. These forecasts will be used in subsequent sections of this Report.

In summary, the historic performance of RMOTC has been typical of a start-up venture with substantial overhead costs in the beginning and with wide variations from the original purpose. The percentage of successful testing can be expected to continue with a high ratio of shelf products and commercialized services to R&D projects. No deleterious effects have been found on the operation of NPR-3 which continues to operate as of this date under the management of DOE.

2.4.4 Costs to U.S. Government

2.4.4.1 Cost Overview

The costs to the U.S. Government of providing the services described in Section 2.4.1 of this Report have been partially covered in the section on Historic Performance, Section 2.4.3. To summarize, the total appropriations to RMOTC over the 1994-96 three-year period is $4.34 million. The annual costs over these three years are $290,000, $1.45 million and $2.6 million, respectively.

The costs are broadly comprised of the actual grant sector, namely funds which are contributed by RMOTC, those which are considered operating overhead costs and General Administrative Overhead. The overhead components include costs of overhead nature such as RMOTC activities indirectly applied to the testing activities. Another major portion of the total cost, namely General and Administrative (G&A) overhead, is more conventional, and consists of costs of administration, marketing, travel, and intangible costs related to the promotion and conduct of the testing, training, and unspecified RMOTC activities. The support contractor's costs are included and can be prorated in a similar fashion.

Table 2.6 summarizes the above costs and provides a reasonable allocation of the operating overhead to each of the direct costs. Tables D-1 through D-3 in Appendix D provide the cost details for each of the projects from 1994 through estimated costs of 1996 as well as additional text.

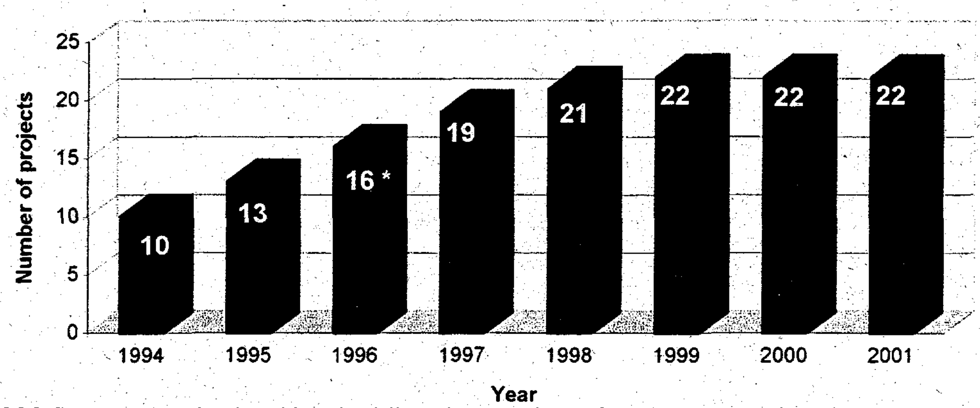
2.4.4.2 Projections

On basis of the past performance and market research derived through data reviews, interviews and costs realized (as detailed in Appendix D), this Appraiser has forecast future activities for RMOTC as a DOE-managed facility over the next 15 years. Detailed forecasts have been provided for the first five years and a flat rate has been projected thereafter, commensurate with the expectation of continued availability and need for oilfield production enhancement and marketing assistance in the foreseeable time period. Figure 2.2 shows the number of projected testing prospects, the testing expenditures and the operating overhead costs.

On basis of the activity forecasts, a corresponding cost forecast has been developed in Appendix D and is shown in summary in Table 2.7.

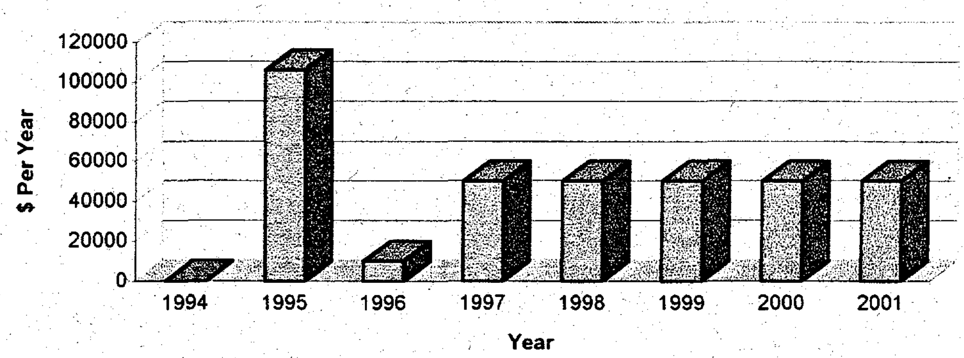
These numbers will be used in a subsequent section on the evaluation of the benefits to the U.S. Government as compared to the costs in accordance with the guidelines provided by the Office of Management and Budget, Circular No. A-94, (1992).

Historical, Current and Projected Demand for Testing Projects at RMOTC



* The 1996 figure was obtained by doubling the number of projects completed to date

Historical, Current and Projected Expenditures for Training Programs at RMOTC



Operating Overhead Cost Projections for RMOTC

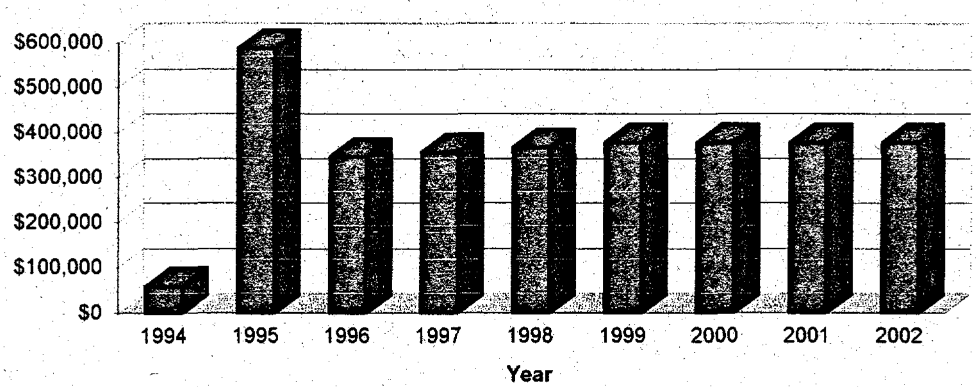


FIGURE 2.2
PROJECTIONS

TABLE 2.7
TOTAL HISTORICAL AND PROJECTED COST SUMMARY FOR RMOTC

	1994	1995	1996	1997	1998	1999	2000	2001	2002
TOTAL TESTING	$84,609	$527,234	$938,323	$794,523	$878,157	$919,974	$919,974	$919,974	$919,974
PARTNER SHARE	$42,735	$210,514	$604,673	$556,166	$658,618	$735,979	$735,979	$735,979	$735,979
In-Kind	$42,735	$204,245	$558,173	$528,358	$625,687	$699,180	$699,180	$699,180	$699,180
Cash	$0	$6,269	$46,500	$27,808	$32,931	$36,799	$36,799	$36,799	$36,799
STATE SHARE	$0	$33,870	$22,661	$23,836	$26,345	$27,599	$27,599	$27,599	$27,599
GOVERNMENT TOTAL	$41,874	$276,581	$264,489	$186,713	$160,263	$119,597	$119,597	$119,597	$119,597
TRAINING	$0	$106,007	$9,952	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
OPERATING O/H	$58,011	$586,990	$345,122	$355,476	$366,140	$377,124	$377,124	$377,124	$377,124
TOTAL	$142,620	$1,220,231	$1,293,397	$1,199,999	$1,294,297	$1,347,098	$1,347,098	$1,347,098	$1,347,098
FEDERAL TOTAL	$99,885	$969,578	$619,563	$592,189	$576,403	$546,721	$546,721	$546,721	$546,721

2.4.5 Benefit Descriptions

2.4.5.1 R&D Testing

R&D testing was the original purpose of RMOTC. Consequently, this Appraiser has classified each testing activity at RMOTC into one group, the projects within which meet the primary criteria for R&D testing, namely testing of products or services, which have not yet reached the point of commercialization. This criterion generally corresponds to products and services which are not already being sold to various sectors of the oil industry. A second group contains the demonstration projects (see Sections 2.4.5.2 and 2.4.5.3 below).

The benefits to be derived for the U.S. Government, for the oil sector and for the general society range from tangible in form of income taxes to be paid by workers involved in future services and sales of products undergoing R&D testing at RMOTC, to intangible benefits such as in form of extension of the economic life of stripper fields.

This Appraiser has carefully examined prior studies made by DOE with regard to the tangible benefits from R&D work. One such study is "The Economic, Energy, and Environmental Impacts of Energy-Related Inventions Program" DOE Oak Ridge National Laboratory (1994). This study (the ERIP Study) examined 557 R&D projects which had been funded under the Energy-Related Inventions Program (ERIP).

Briefly, a detailed review of 253 projects, about half of those funded, led to the conclusion that a total of $763 million sales had been generated after the funding of $41 million ERIP support grants. A multiplier of 19 to one was found to represent the sales value-to-grant ratio. In short, one grant dollar has led to $19 in cumulative sales.

Further, the study confirmed and more accurately calculated the average sales volume per employee in the service or product sector at $82,000 and $165,000 per employee for direct and indirect sales, respectively. This number is reasonable in the opinion of this Appraiser who has had experience with derivation of similar numbers from other studies. For the purpose of this Study, this Appraiser accepts the determination of the multiplier without verification.

Once the number of employees is known, then the Federal income tax contribution can be calculated based on the ERIP Study. The number in that study of $4104 for 1990 was adjusted to 1996, arriving at a $4,900 income tax contribution per employee. Also, this ERIP Study number is accepted without verification; it appears reasonable, if not slightly low in view of the higher income tax rate experienced at the time of the writing of this Report as compared to the ERIP Study date of 1992.

The above methodology provided credible results in the ERIP Study by including all historic R&D projects under ERIP and comparing the cost of these with the results in form of income taxes on a <u>cumulative</u> basis through 1992. The same multiplier cannot be used without further adjustment for <u>annual</u> R&D testing costs at RMOTC. In other words, the time-value-of-money related to the delay between R&D and future sales must be taken into consideration. This is done by distributing the future sales over multiple years after a reasonable delay for perfecting, manufacturing and marketing the product or service.

In order to include time-value-of money to perform a proper benefit/cost analysis, the following simplistic assumption was made. It was assumed that an invention of a new oilfield service or product would have been two to five years in the making under private sponsorship. Therefore, the product or service would be ready for field testing. It is assumed that it qualified for testing at RMOTC and that the necessary funding was provided or shared. It is further assumed that one year went by for the planning and execution of the test as well as reduction of the test data to improve the product or service for commercialization.

Two additional years are assumed for a combination of manufacturing and marketing of the product or service with sales starting early in the third year after field test execution. As is experienced in the oil industry, the life cycle of the first generation of such commercialized services or products averages about seven years. The sales will correspond thereto with a buildup in sales over the first couple of years and a gradual decline until second generation products or services start entering the market. This is shown schematically in Figure 2.3. The corresponding sales can be compiled on an annual basis as a percentage of the total sales as being 10, 25, 22, 17, 13, 8, 5 percent over these seven years.

On basis of this future sales assumption the NPV at 12 percent (see below) related to sales can be calculated together with the employment associated with those sales. Finally, the future income tax can be derived.

Table 2.8 extends the costs of R&D testing at RMOTC through such future spread-out sales volumes, number of employees associated therewith, to the income taxes paid as the primary, tangible result to the U.S. Government. These amounts are further discounted back to a net present value in 1996 utilizing a discount rate of 12 percent as being representative of the cost of capital to the Government (six and one-half percent) plus an adjustment related to the risk of deriving income from the oil supply and service sector of five and one-half percent.

The latter number is chosen after due consideration to the pure oil industry risk adjustment of seven percent and the broad industrial service sector risk adjustment of four percent above capital cost, as historically experienced in the United States. The risk is substantially lower in this latter industrial service sector; but it is still influenced by the viability and economics of the pure oil sector which it serves. Therefore, the five and one-half percent above cost of capital has been chosen as a compromise. For further discussion of discount factors, please see Section 2.1.4.

When applied to the specific case of the R&D testing at RMOTC the following results are obtained (see Table 2.8) yielding the total future income in form of taxes. This future income has a net present value of $1,066,669. For a more detailed discussion as well as tables of interim calculations, the reader is referred to Appendix D.

FIGURE 2.3
SALES BUILD-UP FORECAST

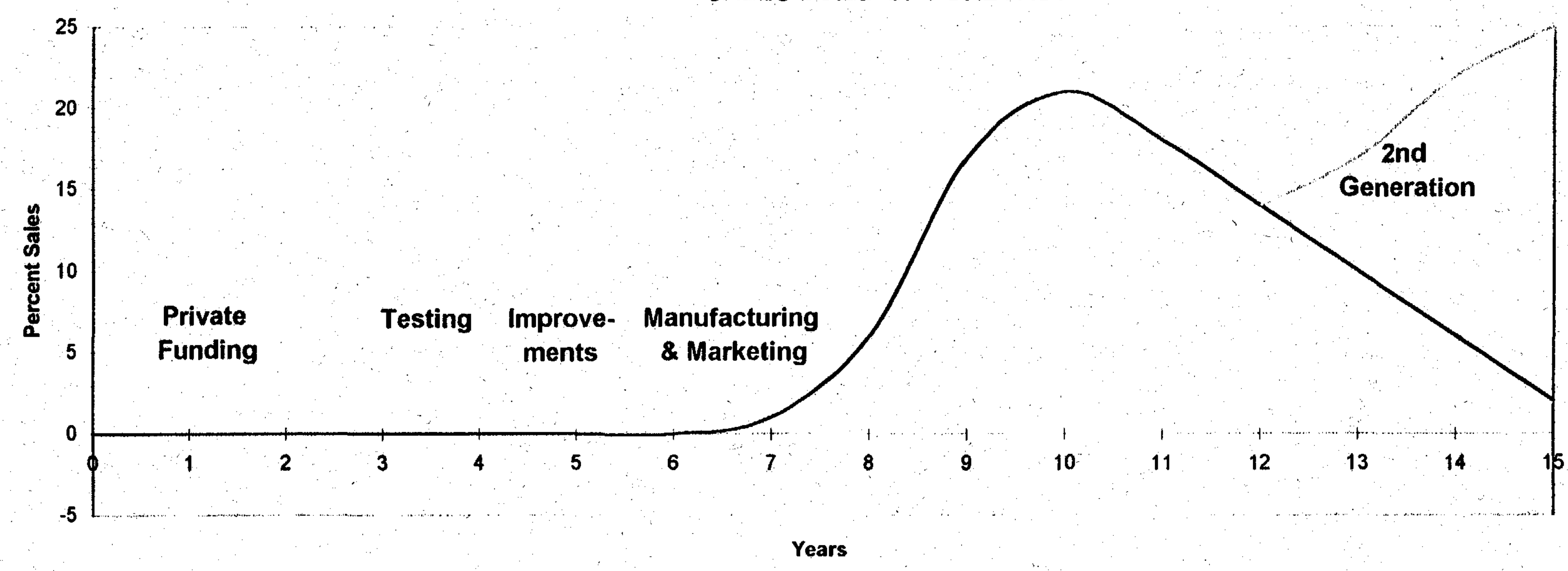


TABLE 2.8
1997-2011 TAX REVENUE DETERMINATION

YEAR	DIRECT AMOUNT	OPERATING OVERHEAD	PARTNER AMOUNT	ADJUSTED GRANT	INFLATION	CUMULATIVE SALES	NPV*	TOTAL JOBS	TAX REVENUE
1997	$71,507	$42,924	$166,850	$281,281	$289,719	$5,504,666	$2,555,046	22	$108,902
1998	$65,862	$41,837	$197,585	$305,284	$323,875	$6,153,631	$2,550,249	22	$108,698
1999	$55,199	$38,076	$220,794	$314,069	$343,192	$6,520,639	$2,412,767	21	$102,838
2000	$55,199	$38,076	$220,794	$314,069	$353,487	$6,716,258	$2,218,917	19	$94,576
2001	$55,199	$38,076	$220,794	$314,069	$364,092	$6,917,746	$2,040,597	18	$86,975
2002	$55,199	$38,076	$220,794	$314,069	$375,015	$7,125,278	$1,876,656	16	$79,988
2003	$55,199	$38,076	$220,794	$314,069	$386,265	$7,339,036	$1,725,848	15	$73,560
2004	$55,199	$38,076	$220,794	$314,069	$397,853	$7,559,207	$1,587,131	14	$67,647
2005	$55,199	$38,076	$220,794	$314,069	$409,789	$7,785,984	$1,459,638	13	$62,213
2006	$55,199	$38,076	$220,794	$314,069	$422,082	$8,019,563	$1,342,314	12	$57,213
2007	$55,199	$38,076	$220,794	$314,069	$434,745	$8,260,150	$1,234,479	11	$52,616
2008	$55,199	$38,076	$220,794	$314,069	$447,787	$8,507,955	$1,135,216	10	$48,386
2009	$55,199	$38,076	$220,794	$314,069	$461,221	$8,763,193	$1,044,047	9	$44,500
2010	$55,199	$38,076	$220,794	$314,069	$475,057	$9,026,089	$960,105	8	$40,922
2011	$55,199	$38,076	$220,794	$314,069	$489,309	$9,296,872	$883,017	8	$37,636
TOTALS	$854,956	$579,746	$3,234,757	$4,669,459	$5,973,488	$113,496,267	$25,026,028	218	$1,066,669

2.4.5.2 Demonstrations to Assist Sales

As described above in this chapter the product and service demonstrations at RMOTC included marketing demonstrations, so labeled because they primarily were aimed by the product manufacturers at securing sales for already commercialized products either to NPR-3 itself or increase in sales through the advertising medium and endorsement of RMOTC. The benefits from the former of these, namely sales to NPR, is readily quantified. It is nil because none of the demonstration projects have led to NPR-3 purchase of the demonstrated hardware or service as of this date. Consequently, it would be unrealistic to predict any value to the Government at NPR-3 from this particular type of demonstration.

The second type of demonstrations for projects at RMOTC, namely marketing demonstrations in support of increase in sales to industry, is more difficult to quantify and is, almost intangible. The reason for this is in that practically all interviews with manufacturers having already commercialized products tested at RMOTC for endorsement or advertising they stated that so far no increases in sales have been noticed. This may be either because existing sales efforts already adequately tap the available market, or, that the products or services are meeting resistance which demonstration at RMOTC has not been able to overcome. One exception is noted where recently a manufacturer sold two devices in Canada and two to Belgium after exposure in a U.S. trade magazine.

Therefore, any possible increase in sales level or acceptance by industry may be long-term or, at best, intangible. Lacking any multipliers as in case of R&D testing or any other support, this Appraiser is of the opinion that marketing demonstrations at RMOTC at best result in a negligible and non-quantifiable benefit.

2.4.5.3 Trial Testing for NPR-3

As indicated above, there has been one actual instance of testing of lateral drilling with a primary objective of testing reservoir drainage by this technology in the Shannon Formation. The

Shannon Formation has been one of the major oil producers at NPR-3 and still contains oil in-place. However, the low reservoir pressure after many years of production associated with the high cost of drilling wells has made it uneconomic so far to drain additional quantities of oil. New technology of so-called lateral drilling promises to increase the production rates by not only drilling vertically down through the pancake layers of the Shannon Formation, but also by lateral offshoots to the main drill bore to drain oil at greater production rates. If this were to be shown feasible then additional oil production might be achieved at NPR-3.

Therefore, the trial testing at NPR-3 was justified, particularly in view of the fact that the technology was well-developed and had been found to be successful in other reservoirs. Unfortunately, the results of the trial testing was negative inasmuch as the production rate did not increase. Consequently, this technology has not been introduced as a development method at NPR-3. At the present time, there are no plans for other RMOTC trial testing toward enhancement of NPR-3 production. Consequently, this Appraiser assigns no financial benefit to the credit of RMOTC or the Government in this regard.

2.4.5.4 Training

The training at RMOTC has been successful from a student viewpoint. The training has been enjoyed and led to a better understanding of oilfield principles and techniques. As mentioned before, this has not led to increased employment opportunities or career decisions. Also, the oil industry sector itself is directly competing with this aspect of RMOTC's activities inasmuch as early field assignments are regularly provided by oil companies to their new personnel.

From an economic standpoint, this Appraiser also makes note that the oil industry sector is employing educators and instructors specifically for purposes of training. The effect to the U.S. Government of also offering such services at RMOTC only serve to provide a substitute at practically the same intangible benefit level albeit at a higher cost. Consequently, no quantified financial benefit is assigned to training at RMOTC.

3. TRANSFER TO THE DEPARTMENT OF INTERIOR

3.1 TRANSFER OVERVIEW

3.1.1 Introduction

As authorized in contract DE-AC01-96FE64202, Gustavson Associates was retained by DOE to serve as an Independent Petroleum Appraiser as specified in Section 3416 of the National Defense Authorization Act for Fiscal Year 1996, P.L. 104-106 (110 Stat. 186). As stated in the Act, we have conducted a study and made recommendations regarding which options or combination of options, would maximize the value of NPR-3 to the United States, including the following:

- Transfer of all or a part of NPR-3 to the Department of the Interior for leasing in accordance with the Mineral Leasing Act (30 U.S.C. 181 et seq.) and surface management in accordance with the Federal Land Policy and Management Act (43 U.S.C. 1701 et seq.).

Through the Bureau of Land Management (BLM), the Department of the Interior has the responsibility for leasing and administering federal mineral rights. There is no current minerals leasing activity at NPR-3 and such activity would typically fall under the jurisdiction of BLM.

3.1.2 Scope of Review

This Appraiser researched and identified standard terms for oil and gas leasing on federal lands. In addition, data were obtained on market bonuses and rentals in order to estimate the future income from oil and gas leasing.

Research was also conducted for surface uses of public lands as it pertains to Federal Land Policy Act. Certain officials at the Colorado State office of the BLM were interviewed regarding DOI rules and regulations for oil and gas leasing and surface uses under FLPMA (The Federal Land Policy and Management Act of 1976).

To evaluate this option, a review has been conducted of all activities expected to generate income or expense if management of the mineral and surface estates of NPR-3 were carried out by the Bureau of Land Management. These include issuing oil and gas leases and receiving royalties from oil and gas production, overseeing and auditing the payment of these royalties, receiving bonuses and rental from leasing out non-productive acreage and receiving income from surface leases for grazing sheep.

The projection of future oil and gas production was the same for this scenario as for that of DOE retention. A review of federal leasing activity in the area was carried out and described in the Addendum to this Report. Data obtained from this review were analyzed in this phase of the study in order to estimate expected lease bonuses and frequency of leasing for the currently unleased acreage.

An evaluation was made of the expected income from issuing grazing leases for sheep on government-owned surface within NPR-3, based on information provided by the DOE on current leasing practices, and the BLM office in Casper.

3.1.3 Assumptions and Limiting Conditions

Based on discussions with Robert Lopes in BLM's Salt Lake City, Utah office, leasing costs BLM approximately \$0.82 per acre for the 250,000 to 300,000 acres this office currently leases annually. We assume that the 2360 undeveloped acres at NPR-3 would increase the cost to BLM by \$0.75/acre. Furthermore, Mr. Lopes stated that costs to maintain their lease records were minimal. We assumed no additional cost for these 2360 acres for record keeping. Expected costs are thus calculated as follows: Acres leased (2360) times \$0.75/acre = \$1770. The BLM cost per acre is an agency-wide policy and would apply to all their leasing costs.

Assumptions described in Section 2.1.4 regarding surface uses for grazing and water rights pertain to this option, as well.

Administration by the BLM of the receipt of royalties from the existing producing property is assumed to add no significant costs to the handling of the other royalties BLM administers.

Operating costs considered in this scenario represent those costs expected to be expended by a private oil company which would lease and then take over operatorship of Teapot Dome. These costs were estimated based on costs reported and projected by the DOE as discussed in Section 2.1.4, modified by this Appraiser as considered appropriate to reflect industry practice. Details of these modifications are shown in Table 2.1, and result in expected costs of $8.45 per barrel of oil produced in FY97, and $5.52 thereafter, assuming the discontinuation of steamflooding the Shannon and any further drilling, or about 90 percent of government costs. Overhead is estimated using the same percentages of operating and capital costs as used for the DOE without a M&O contractor.

Many of the economic assumptions and limiting conditions described in Section 2.1.4 remain applicable if the properties are transferred to DOI with a few exceptions. As discussed in that previous section, a cash flow stream is discounted differently due to the perception of risk associated with realizing the revenue.

Based upon a negative NPV at 17.2 percent from the PUD's and Probable reserves, this Appraiser expects no incremental value to the government from these properties to come from lease bonus bids. It is assumed that a private oil and gas company would not give incremental bonus value to these undeveloped reserves, and would likely not drill the wells at all.

A lease transfers the perception of risk concerning operating costs to the lessee. Thus, the appropriate discount rate for the revenue to the government from royalties would be their cost of money, 6.5 percent, and five percent for price and production risk for a total of 11.5 percent. The Federal Government would receive additional income from income taxes paid by the lessee.

These taxes carry the full weight of price, production and operating cost risk and are discounted using 13.5 percent. Furthermore, the ten percent nominal rate for land leasing is applicable to bonus and rentals income from mineral leasing.

Operating and capital costs are expected to be reduced by approximately 10 percent by transferring the property to the private sector as discussed above. We assumed a similar division of operating costs after the first year as described in Section 1.2.4 with the new estimated rates. Consistent with the DOE retention scenario, the overhead costs are split using the same percentage changes against the lower operating and capital costs. These costs are escalated by 3.04 percent as in the previous scenario.

This Appraiser assumes that DOI will offer all unleased properties in a single sale within the first year of management. NEPA compliance and re-writing plans are expected to cost $30,000 prior to the first lease sale. The lease sale is expected to cost an additional $0.75 per acre or $1770 for the 2360 undeveloped acres, as discussed previously. An average bonus of $4.00 per acre is expected based upon extensive review of recent leasing activity in the area on comparable properties. Only income from rentals and bonuses are considered in the NPV analysis. Royalty income from these 2360 acres is considered speculative and suffers from an extremely low realization risk. The analysis is based upon three rental cycles occurring with one year hiatus between cycles. that is, thirty two years. Rentals beyond three cycles are tentative and their NPV would add little value.

As in the first scenario, surface income of $3000 per year from sheep grazing is assumed to continue for the next thirty two years.

The acreage with existing production is expected to command a lease bonus that is estimated to be the NPV of the future cash flow as expected by an existing oil and gas producer. For this acreage, a royalty rate of 12.5 percent is assumed. Operating costs are adjusted as discussed above. The applicable discount rate (17.2 percent before tax) is one that incorporates the industry cost of money; based upon the SPEE survey, the average cost of money to industry is 10.2 percent.

Although the Federal Government is not subject to taxes, the new owner is. And as such, the tax situation is anticipated when determining the NPV. All appropriate federal, state, and local taxes, as discussed in Section 1.14 of the Addendum, are included to determine the expected future net income. The purchaser is expected to take maximum legal advantage of all applicable depreciation and depletion allowances in reducing taxable income.

The value to the government includes 50 percent of the lease bonus and 50 percent of the NPV of royalties from producing properties, 50 percent of bonus and rentals from nonproducing properties (exclusive of maintenance and leasing costs), and future federal income taxes expected to be paid by the purchaser.

The possibility was investigated that a small independent producer which might lease the existing production at NPR-3 and take over operatorship would attempt to defer all plugging and abandonment (P&A) costs as long as possible. The Wyoming Oil and Gas Conservation Commission was contacted to discuss the details of delaying the plugging of idle wells in Wyoming. Basically it is the responsibility of the operator to submit a plan for each idle well. If there is sufficient reason not to plug a well, then the State of Wyoming will grant an extension on a case-by-case basis. Otherwise, the operator has two years to plug an idle well that has no plan for future use.

In the case of a field that is approaching its economic limit, the commission wants to see a plan form the operator that has all the wells being plugged in conjunction with the filed reaching its economic limit.

Given these comments from the Wyoming Oil & Gas Conservation Commission, it is the opinion of this Appraiser that there will be no differences in the P&A schedule between the retention case and the transfer or sales case. Because NPR-3 is near its economic limit, the P&A schedule will have to exhibit a plan that ensures that all wells are plugged when the economic limit is reached, regardless of who is the operator.

3.2 VALUATION METHODOLOGY

3.2.1 Income Approached Applied to Potential Mineral Uses under the Mineral Lands Leasing Act

As discussed in detail in the Addendum, the Mineral Leasing Act of 1920, as amended, 30 U.S.C. §§ 181 *et seq.*, and the Mineral Leasing Act for Acquired Lands of 1947, as amended, 30 U.S.C. §§ 351 *et seq.*, give the BLM responsibility for oil and gas leasing on BLM, national forest and other federal lands where mineral rights have been retained by the Federal Government. Regulations that govern the BLM's oil and gas leasing program are found in 43 C.F.R. §§ 3100.0 *et seq.*

According to the director of the Real Estate and Appraisal Section of the Colorado State Office of the BLM, since Congress enacted legislation in 1977 creating DOE and transferred to it jurisdiction over the Naval Petroleum and Oil Shale Reserves, Congressional approval will be required for the transfer of full jurisdiction over the reserves from DOE to DOI. Future leases issued by the BLM on any portion of the NPOSRs would, however, be subject to the applicable Mineral Leasing Act and would be subject to the provisions of the act requiring payment of the 50 percent state impact fee (50 percent of bonuses, rentals, and royalties payable under any oil and gas lease) and would be subject to all other BLM rules and regulations currently applicable to leasing activity, both surface and mineral, conducted by BLM. Although it would theoretically be possible for Congress to incorporate a change in this provision for sharing revenues with the states, we have assumed that no change is made.

No comparative lease bonus data exist for the leasing out of a producing oil field such as Teapot Dome. Therefore the lease bonus in this case was assumed to approximate the purchase of a working interest in a producing property. An expected cash flow to the lessee discounted at 17.2 percent was assumed to approximate the lease bonus expected for the producing property at Teapot Dome. A value of $2.57 million was thus selected by this Appraiser as the most likely value to be paid as an up-front bonus for the producing area of Teapot Dome, or $1.28 million for the Federal Government's share. This equates to a bonus per BOE of net remaining reserves of $2.60. This value is somewhat lower than typical producing property transactions (Table 5.1), due to the high plugging and abandonment and environmental liabilities associated with this field.

The 2360 acres of non-prospective land within NPR-3 but outside the productive area were assumed to be issued for leasing separately from the producing acreage. Although this acreage is near productive acreage, a criteria which frequently results in high lease bonuses, in this case the structural position is known to be poor in currently producing reservoirs and there is no known potential for production from other reservoirs. Thus the lease bonuses for this acreage are expected to be little better than for rank wildcat acreage. The minimum bid required for bonuses on federal leases is $2.00 per acre. The mean, median, and mode of federal leases issued in the area of NPR-3 for the last three years are $7.26, $2.00, and $2.00, respectively. This Appraiser estimates a lease bonus of $4.00 per acre for the 2360 acres of non-prospective land surrounding the producing area of NPR-3. Lease rental payments are assumed to be $1.50 per acre per year for the first five years, and $2.00 per acre per year for the next five years, based on the standard federal lease terms. Fifty percent of the acreage is assumed to be leased.

3.2.2 Income Approach Applied to Potential Surface Uses under the Federal Land Policy and Management Act

The Federal Land Policy and Management Act of 1976 (FLPMA), 43 U.S.C. §§ 1701 *et seq.* directs the Secretary of the Interior to develop and maintain "land use plans which provide by tracts or areas for the use of the public lands." FLPMA declares a general policy that the United States should "receive fair market value of the use of the public lands and their resources." Id. §§ 1716(a). FLPMA further impacts BLM land management by reaffirming the management principle of "multiple use" by imposing the substantive duty" to manage the public lands under principles of multiple use and sustained yield." The BLM implements these FLPMA directives through various statutes, including, among numerous other acts, the Mineral Leasing Acts discussed in the following section of this Report, and the Taylor Grazing Act, 43 U.S.C. §§ 315 *et seq.*, which authorized the Secretary of the Interior to establish "grazing districts ... from any part of the public domain ... which in his opinion are chiefly valuable for grazing and raising forage crops." In these grazing districts, the privilege of grazing livestock is regulated through a system of allocating grazing permits.

NPR-3 land consists of 9,321 acres of land. The land surface is characterized by prairie with occasional sagebrush, several cut ravines, and sandstone bluffs. In the case of a transfer to the Department of the Interior, surface use potential for NPR-3 consists of agriculture and grazing domestic livestock. Income from agricultural leases is subject to quantity of acreage, water availability and irrigability of land.

3.3 EXAMINATION AND DISCUSSION OF VALUE

3.3.1 Income from Mineral Leasing and Production

The projected income from receiving bonuses, royalty payments and income taxes from the productive acreage at NPR-3, less the expected costs of administering the royalties, as described above, has been evaluated using the economic model described in the Addendum to this Report.

(See Appendix A for detailed output from the economic model for this scenario.) Resulting NPV to the government as follows:

Bonus	$1,283,500
Royalties	$1,312,000
Taxes	($208,750)
TOTAL	$2,386,750

The projected income from receiving 50 percent of the bonuses and rental payments for the non-productive acreage at NPR-3, less the expected costs of issuing the leases, as described above, has been evaluated using the economic model. (See Appendix A for detailed output from the economic model for this scenario.) Resulting NPV to the government discounted at 10 percent is \$10,300. The transfer to DOI is also expected to require an Environmental Assessment at a cost of \$30,000 (\$28,604 discounted). This cost reduces the net value of leasing to a negative \$18,300.

Thus the total estimated value of the mineral rights under this scenario is \$2.4 million.

3.3.2 Income from Surface Leases

Grazing permits administered by the Bureau of Land Management cost \$1.35 per animal unit month (AUM) in 1996. An AUM is defined as the amount of forage required to maintain one animal unit for one month. The ratio of AUM to acres for this region averages 9 acres per AUM. Assuming grazing permits issued for 12 months per year, an AUM per 9 acres on the approximate 9,321 surface acres on NPR-3 with income of \$1.35 per AUM, the BLM has a potential annual grazing income of \$16,800 (rounded). Evaluation of the NPV of this projected cash flow stream yields \$167,900 discounted at ten percent.

Hunting permits issued for big game hunting on NPR-3 acreage could be an additional revenue source from surface activities; however, this speculative income was not valued.

No additional income is expected from water rights at NPR-3.

3.3.3 Opinion of Value

In this case, none of the anticipated surface uses of the property interfere with the anticipated mineral uses and vice-versa. Therefore, the values described in the two preceding sections are additive. This yields a total expected value to the government for transfer of NPR-3 to the Department of Interior for leasing as follows.

Minerals	\$2,368,450
Surface	\$167,900
TOTAL	\$2,536,350

3.4 RMOTC UNDER DEPARTMENT OF INTERIOR

Under the scenario of transferring NPR-3 to the Department of the Interior for leasing out the oil development and production to private industry, RMOTC can readily continue its present function, even under DOE. In short, there is no need to transfer RMOTC to agencies like the BLM or U.S. Geological Survey under the Department of the Interior.

The main reason is that RMOTC only requires occasional access to the field and then only to a very small number of either abandoned wells or stripper wells. This has been the experience over the last three years as shown in Table 3.1. It is seen that out of a total of 1,200 locations with active (650 wells) or inactive wells, only about 22 were used for the testing done by RMOTC. Of these, four were abandoned wells, 16 were low-productivity strippers (less than 10 barrels of oil per day) and two were producing more than 10 BOPD.

This level could be expected to continue whether NPR-3 is managed by DOE or by DOI.

The reason this is entirely feasible is the fact that private operators who may be expected to lease NPR-3 will find no effect, at least nothing negative, by having hardware tested on abandoned or low-production wells. It is standard oilfield practice to conduct various tests on old wells in order to attempt to improve production. In most such cases the tests are being conducted under contract between the operator and the service contractor. Under this study such testing can continue with only minor modifications to the contract.

The contractual terms may include, but not be limited to:

1. Clarification that the contractor works on the site and utilizes the well or location at his own risk, and that he will hold the Government <u>and the oil company operator</u> harmless.

TABLE 3.1

RMOTC WELL INVENTORY

Project Title	Wells	Dormant or Temporarily Abandoned	Stripper	More Than 10 BOPD
UW Motor Efficiency Study	18 Surface Installations used			
Oil Well Power Controller	38-AX-10		X	
V-GER Lubricator	64-25-SX-10		X	
	52-45-SX-10		X	
	82-AX-20	X		
Downhole Steam Generator Phase I	65-12-SX-3-FI	X		
Mud Devil-Deaeroator/Mixer	1-M-18			
	1-M-18 ST			
In-Situ H2S Remediation	66-46-SX-3		X	
	67-13-SX-3		X	
	76-14-SX-3		X	
	77-32-SX-3		X	
D-Jax Pump-Off Controller	64-65-SX-10		X	
	73-31-SX-10		X	
Paraffin & Scale Control	72-2-SX-3		X	
	62-1-SX-3		X	
	55-STX-23			X
	48-2-SHX-34		X	
Downhole Dynamometer	13-AX-21		X	
Short-Radius Lateral Drilling	73-SX-10-H			
	57-SHX-14-H			
Electronic Tank Gauging	63-STX-29			X
Paraffin and Scale Control	72-2-SX-3		X	
	62-1-SX-3		X	
	55-STX-23			X
	48-2-SHX-34		X	
PowerJet Slotting Tool	23-1-SX-2	X		
Slimhole Drill Stem Tester	1 well (site unknown)			
Percussion Drilling				
Automatic Shutdown Valve	Truck-mounted hydraulic test bed			
Short Radius Lateral Drilling Tool A350XF	56-LX-10	X		
Microbial EOR/ H2S Remediation	77-S-3		X	
	72-S-10		X	
	68-1-SX-3		X	
AJUSTA- Pump	85-S-10		X	
Smart Cable	Not conducted in wells (oil field testing center)			

2. Stipulations with regard to liquidated damages such as assumption of plugging and abandonment (P&A) liabilities for stripper wells which may be rendered nonproductive after testing (thereby relieving the oil company operator of the P&A expense).

3. Provisions that any increase in production and/or reduction of operating cost of a test well may either accrue totally to the oil company operator or possibly be shared by the operator and the Government.

It is important to recognize that the oil industry has for decades worked under similar arrangements where a new technology may improve production from old or neglected fields and share in the increase with the original owner. Primary examples are readily found from the many private ventures undertaken in the Former Soviet Union.

Consequently, the leasing out of NPR-3 to private industry by the BLM, even when subject to occasional testing of a few locations under RMOTC management, can be accomplished in such a manner as to provide a totally neutral effect on NPR-3 with its lease bonus and royalty income potential.

RMOTC can in this scenario be expected to continue as it presently is under DOE funding or under DOI funding and under the economic conditions described in Section 2.4 of this Report.

4. TRANSFER TO ANOTHER FEDERAL AGENCY

4.1 INTRODUCTION

As authorized in contract DE-AC01-96FE64202, Gustavson Associates was retained by DOE to serve as an Independent Petroleum Appraiser as specified in Section 3416 of the National Defense Authorization Act for Fiscal Year 1996, P.L. 104-106 (110 Stat. 186). As stated in the Act, we have conducted a study and made recommendations regarding which option or combination of options would maximize the value of NPR-3 to the United States, including the following:

- Transfer of all or part of NPR-3 to the jurisdiction of another federal agency for administration under Chapter 641 of Title 10, United States Code.

In this regard several other federal agencies were considered for transfer, but none were found to be suitable for this purpose. This alternative for the future operations of NPR-3 was considered inappropriate. No assessment of the value to be derived by the United States from the transfer to another federal agency was made. The other federal agencies considered are briefly discussed below.

4.2 NATIONAL PARK SERVICE

This Appraiser contacted officials at the National Park Service (NPS) in Denver regarding interest in acquiring the subject properties as part of any potential acquisition or expansion of lands within the park system. They reported that NPS is restricted by law to only acquiring lands that are either within or contiguous to existing Park boundaries. NPR-3 would not fit this criteria; therefore, it would not be suitable for transfer to the National Park Service.

4.3 NATIONAL FOREST SERVICE

Another federal agency considered for transfer is the Department of Agriculture's National Forest Service (NFS). Mineral rights under NFS surface are administered by the Bureau of Land Management. Therefore, Option 2, transfer to the Department of the Interior, applies directly to this option, as well.

4.4 OTHER U.S. AGENCIES HOSTING RMOTC

4.4.1 General

In the preceding section of this chapter the transfer of NPR-3, itself to DOI has been discussed. In Chapter 2 of this Report this Appraiser discussed the fact that RMOTC could be considered independent of DOE at NPR-3 and in actuality has worked that way in the past. Consequently, in this chapter, a brief discussion will be provided of the feasibility of transferring RMOTC *independently* of NPR-3 to another agency of the Government.

The greatest use of RMOTC has historically been for the testing of already commercialized products and services with the intent of disseminating information about the tests. Such information, when discussing in particular any successful demonstrations, may assist the inventor, the small company or even large manufacturers and service companies in their marketing of the product or service.

4.4.2 Department of Commerce

Because the function to be performed is one of business development including advertising and promotion, these functions are independent of any particular industry sector, the most reasonable change of agency for RMOTC is the Department of Commerce. This Department has the ability to focus on the support of trade and has experience with numerous incentive and promotional programs for small industries. Likewise, the fact that the demonstration tests at RMOTC involve some degree of technology would not be foreign for the Department of Commerce, which is the host agency for technical departments such as the National Oceanographic and Atmospheric Administration including the National Laboratories (formerly National Bureau of Standards).

From a logistics standpoint the transfer of RMOTC management to existing Department of Commerce facilities in Denver, Colorado can be easy. Other Department of Commerce facilities may be farther removed from the Wyoming location of RMOTC but may prove better suited to take over the marketing assistance task.

As was noted in Section 2.4.5 of this Report, there is no tangible benefit detected from the demonstration tests as of this date; therefore, only the intangible benefits, if any, of marketing assistance from the Government sector as compared to industry-funded marketing efforts can be considered. Such a benefit/cost study (if RMOTC is transferred into the U.S. Department of Commerce), goes beyond of the scope of this present Study.

4.4.3 Transfer to Bartlesville Laboratories

Such a transfer could take place at little or no expense since the demonstration projects would be reviewed, selected and managed by DOE personnel who already had participated in exactly these types of activities, or at least would be knowledgeable thereof. Again, the benefit/cost ratio of the demonstration tests even under DOE Bartlesville management is indeterminable as discussed above; however, the R&D test projects would show less of a negative effect because of an assumed lower G&A overhead at Bartlesville.

5. SALE OF THE PROPERTY

5.1 INTRODUCTION

As authorized in contract DE-AC01-96FE64202, Gustavson Associates was retained by DOE to serve as an Independent Petroleum Appraiser as specified in Section 3416 of the National Defense Authorization Act for Fiscal Year 1996, P.L. 104-106 (110 Stat. 186). As stated in the Act, we have conducted a study and made recommendations regarding which option or combination of options would maximize the value of NPR-3 to the United States, including the following:

- Sale of the interest of the United States of all or a part of NPR-3.

Our study includes an examination of the value to be derived by the United States from the sale of NPR-3. The study includes an assessment and estimate of the fair market value of the interest of the United States in this property. The assessment and estimate were made in a manner consistent with customary property valuation practices in the oil and gas industry.

5.2 APPRAISAL OVERVIEW

5.2.1 Assumptions and Limiting Conditions

Assumptions described in Section 2.1.4 regarding surface uses for grazing and water rights pertain to this option, as well.

The assumptions discussed in Section 2.1.4 regarding product pricing, inflation, and production forecasts are consistent through this scenario as well. The operating cost discussion in Section 3.1.3 relating to operation by a private oil company applies here.

The ability to lease the minerals would transfer to the purchaser. The present value of the net income from leasing is determined using an industry nominal interest rate of 13.2 percent. This rate is calculated by adding the cost of capital (10.2 percent as previously discussed) to the price risk of 3 percent.

This Report is based on information obtained from the Department of Energy, Fluor Daniel, the Department of the Interior's Bureau of Land Management, various parties involved in market transactions, and other sources available in our firm's library. We have relied on data supplied by these sources and have not verified all information obtained in this manner.

Acreage totals and land descriptions for the appraisal tract were obtained from the Department of Energy, and we have relied on this information as presented to us.

5.2.2 Scope of Appraisal

The purpose of the appraisal is to provide the DOE with an estimate of the Fair Market Value for both the mineral and surface components of the NPR-3 should the property be considered for sale. This value, will then be compared to the other options analyzed in this Report to make recommendations for which option maximizes the value to the USA.

This Appraiser met with DOE officials in Casper, Wyoming and Washington D.C. and with personnel from Fluor Daniels (Contractor to the DOE) over the course of the project. The property was also visited in April and May for the purposes of inspecting production operations and valuing surface facilities.

This Appraiser has analyzed the *highest and best use* of both the surface and mineral components of the property. All relevant reports provided by the DOE were reviewed and considered as part of this appraisal.

Copies of records were obtained from the county courthouse of Natrona County in order to review transactions involving the purchase and sale of mineral properties. This Appraiser made a diligent effort to contact affected parties involved in the relevant transactions in order to establish the terms of each sale.

Oil and gas production data were obtained from the DOE files. These data were used as a basis for making projections of future production from NPR-3.

Market data used in the surface appraisal were obtained from research within the county and surrounding area, contact with other appraisers and others familiar with the market.

5.2.3 Summary of Appraisal Problems

Problems were encountered in obtaining information regarding terms of sale and reserves involved in the producing property transactions identified in this area of Wyoming over the past three years. Personnel contact either could or would not share the relevant information necessary to evaluate comparability of the sales and estimate $/BOE paid. Therefore, we expanded our search for comparable sales to published information on transactions throughout the Rocky Mountain area. Sufficient information was obtained in this manner.

5.3 APPRAISAL PROPERTY PROFILE

5.3.1 Description of the Property being Appraised

5.3.1.1 Surface Description

NPR-3 is approached from Casper, Wyoming by Interstate Highway 25 and State Route 259, both paved. It is about 35 miles north of Casper. The nearest towns are Midwest and Edgerton, which serve the giant Salt Creek Field, operated by Amoco. The entrance to NPR-3 is posted but not locked. Standard gravel and dirt oilfield roads service the entire field and numerous buildings, processing facilities, etc.

The surface is rolling-to-flat in the heart of the field. Teapot Creek flows through the property. Spectacular outcrops surrounding the east, west, and south flanks of the field are characterized by steep bluffs. Surface use includes grazing which does not appear to interfere with oil and gas operations. Vegetation is typical of an arid, high plains environment. Hunting is prohibited, and wildlife, including deer and pronghorn antelope, are common.

Teapot Dome Field is about 7 x 2 miles in area and includes almost 15 square miles in Townships 38 and 39 North, Range 79 West, Natrona County, Wyoming (Addendum, Figure 1.1). The U.S. Government owns 100 percent of the surface and mineral rights. The field produces sweet and sour crude oil, natural gas (which is reinjected) and natural gas liquids (propane and butane).

The mission of NPOSR-CUW is to "manage, develop, operate and maintain the resources of Naval Petroleum Reserve No. 3." As part of the effort to achieve this, 1,312 wells have been drilled, of which 675 (51 percent) are still active as producers, injectors or disposal wells. Six hundred thirty seven wells are plugged and abandoned, shut-in or are otherwise not used. The NPR-3 business unit is managed and operated by Fluor Daniel (NPOSR), Inc., under a Management and Operations (M&O) Contract. Leasehold equipment, surface facilities, etc. are reviewed in detail in Section 1 of the Addendum.

Located in the southwestern part of the Powder River Basin, NPR-3 is situated on Teapot Dome, an asymmetric, doubly-plunging anticline (Addendum, Figure 1.2). The field occupies a crestal position on the axis of the south plunge of the larger Salt Creek anticline, on which the giant Salt Creek Field is also located (to the north).

5.3.1.2 Mineral Rights Developments

Producing Acreage

The 9,321-acre NPR-3 comprises the Teapot Dome oil field and related production, processing and other facilities. This field has approximately 632 wells producing 1,807 barrels of oil per day. Production revenues are about $9.5 million per year. Remaining recoverable reserves are approximately 1.1 million barrels of oil. Approximately 2360 acres in the property are nonproductive, generally structurally low and non-prospective.

Production began in 1922, was discontinued after 1927, and renewed in 1959. Prior to 1976 the field yielded about 7.7 MMBO. At that time the Naval Petroleum Reserves Production Act of 1976 was passed, requiring that the NPRs be produced at their maximum efficient rate (MER). DOE has managed NPR-3 at its MER since then, and production after 1976 is about 18.8 MMBO. Additional details are provided in Section 1 of the Addendum.

The Shannon is the most important producing reservoir at Teapot Dome, with the most oil originally in-place (OOIP) at 144 MMBO, the most cumulative production at 10.15 MMBO, and the most remaining reserves. The Shannon is very shallow, at an average depth across the field of 350 feet. Low initial reservoir energy and its highly-fractured, heterogeneous character have combined to yield relatively low recovery, currently at about seven percent of OOIP. Several enhanced recovery techniques have been attempted in the Shannon, with varying degrees of success. Although steam injection is ongoing, economics of continuing or expanding the project are marginal. The project is expected to be discontinued in 1997, per DOE plans.

Current production from the Shannon is 792 BOPD from 430 producing wells, for an average rate per well of only 1.8 BOPD. This includes 68 producing wells in an active steamflood pattern, which reportedly contribute 451 BOPD of incremental oil. This represents 6.6 BOPD per well for these 68 wells. The current primary production is thus about 340 BOPD, or less than a barrel of oil a day per well.

The other major producing reservoir at Teapot Dome is the Second Wall Creek, which consists of two accumulations separated by faulting: the Northern Second Wall Creek containing 39 MMBO of OOIP, and South Second Wall Creek containing 18 MMBO. Cumulative production has been 6.2 MMBO and 3.8 MMBO, for 16 and 21 percent recovery, respectively, from these two areas. Both waterflooding and gas injection projects have been performed in the Second Wall Creek. Gas injection is ongoing. The current production rate is 120 BOPD from 77 wells, for an average rate per well of 1.6 BOPD.

The vast majority of the gas currently processed by the NPR-3 gas plant is produced from the Second Wall Creek. This gas yields propane and butane when processed. Almost all the gas is reinjected into the Second Wall Creek.

The next most important reservoirs at Teapot Dome are the Steele Shale and Niobrara Shale, with OOIP of 16 and 9 MMBO, respectively. Cumulative production has been 2.4 MMBO from the Steele, and 1.3 MMBO from the Niobrara, for percentage recoveries of about 15 percent from each. All production is primary. The 102 producing shale wells yield 219 BOPD, for an average of 2.1 BOPD per well.

The Tensleep is another important reservoir at Teapot Dome, with almost 4 MMBO estimated OOIP. This reservoir is currently contributing 36 percent of the production from the field, with 650 BOPD. This production is from only ten wells, for the highest production rate per well from Teapot Dome of 65 BOPD per well. A recent successful drilling program has contributed to this rate, with 589 BOPD (as of March 1996) coming from three new wells drilled within the last year-and-a-half at NPR-3. Although the areal extent of the productive Tensleep reservoir is somewhat limited, several additional Tensleep locations are available for drilling. The Tensleep produces under natural water drive at a high water cut with high initial oil rates and a steep decline.

Many different enhanced oil recovery pilot projects (Addendum, Section 1.6.6) have been attempted at NPR-3. Notable projects with short project lives include the Shannon polymer flood and the Shannon fireflood. The waterflood in the Second Wall Creek was operated for some period as was the Shannon huff and puff, but those projects have been discontinued. Today only gas reinjection into the Second Wall Creek and the Shannon steamflood are ongoing enhanced oil recovery projects.

Estimated oil production from NPR-3 over the next 20 years is expected to be 1.55 million barrels for all reservoirs. This represents our estimate of Proved Developed Producing reserves.

No natural gas is currently sold from Teapot Dome. Gas injection was initiated into the Second Wall Creek as part of a pressure maintenance program. Although this program was abandoned in 1994; periodic gas injection continues for the purpose of storing gas for later use as fuel for the Shannon steamflood project. Production rates, recoverable volumes, gas market, and timing of a blow down of this gas are all uncertain. Thus, no gas reserves can be assigned in the Proved Developed Producing category.

Remaining gas reserves at NPR-3 are considered to be in the Possible classification. The DOE estimate of 1.5 billion cubic feet (BCF) is judged to be reasonable and suitable for our evaluation of this property. These reserves have been risked at 60 percent.

The gas produced from the Second Wall Creek reservoir is processed at the NPR-3 gas plant prior to reinjection or use in the steamflood. Natural gas liquids production is currently at about 1,200 gallons per day of propane and 4,000 gallons per day of butane. Recent recovery per thousand cubic feet (MCF) has been 0.27 gallons/MCF of propane, and 0.86 gallons/MCF of butane. A slowly declining trend is projected.

Based on the current gas throughput of the gas plant, natural gas liquids reserves are estimated at 11.4 million gallons. This assumes no additional gas throughput from the Veterans Administration (VA) gas storage program nor any other source.

Undeveloped Locations

The recent drilling program in the Tensleep at Teapot Dome has proved to be successful, although not without risk. Of the five Tensleep wells drilled since early 1995, three have come in at high initial rates ranging from 160 to 789 BOPD and quickly paid out their drilling costs. The other two have been noncommercial, with only a show of oil from the 52-1-TPX-10 and 12 BOPD from the 46-X-10. Addendum Figure 1.6 is a map showing Tensleep structure, productive area, and well locations.

The DOE has recently drilled two additional locations in the Tensleep: the 75-X-10, classified by this Appraiser as having Proved Developed Producing reserves; and 72-X-10, which was drilled, but not yet producing as of 10/1/96. Therefore, 72-X-10 reserves are classified as Proved Developed Nonproducing. The relatively poor early production rates from the 75-x-10 resulted in lower average initial rates predicted for other new wells than had previously been considered.

Additional infill locations have been identified. These include two classified as Proved Undeveloped, two more classified as Probable, and three classified as Possible, for a total of seven additional infill locations. Reserves for these locations are expected to be variable; however, an average of the expected ultimate recoveries for the four most recent commercial wells, or about 74 thousand barrels of oil (MBO), is a reasonable estimate of reserves for the additional locations. Risk factors vary with the category of reserves. We estimate a chance of success of 80 percent for the Proved Undeveloped, and Proved Developed Nonproducing reserves, and 60 percent for the Probable. The possible locations are considered to be too speculative to value using the Income Method. Risked economic evaluation of the undeveloped Tensleep reserves, assuming $450,000 drilling cost per well, has led to the conclusion that the Proved Undeveloped reserves yield a rate of return slightly more than 13.5 percent before consideration of overhead costs, and do not contribute to our estimate of Fair Market Value of NPR-3. The Probable locations, risked at 60 percent, yield a negative expected cash flow. Although we expect the DOE to complete the Tensleep drilling program under the scenario of continued DOE operations, this drilling is not included in our valuation for sale.

Nonprospective Acreage

NPR-3 also includes acreage which would fall into the nonprospective acreage designation. This is acreage that is structurally low on the producing anticline. Generally, this may also include acreage over which seismic data may or may not have been acquired, but where the interpretation has shown no specific promise of any prospects. It can also be acreage where no data are available or which is so far removed from any type of data that it must be considered rank exploratory acreage. Still, oil companies may be willing to lease such acreage from time to time to conduct exploration.

This Appraiser reviewed maps of NPR-3 to determine the approximate acreage that has never been productive. The principal source of information was a computer-generated base map labeled "All Wells Blank" that was provided by DOE in May, 1996, as the most up-to-date illustration of all drilling at Teapot Dome. Based upon this map, approximately 2,360 acres within the boundary of NPR-3 would be considered nonproductive. Undrilled areas smaller than about 40 acres were not included. If additional producing wells have been drilled (beyond those shown on the map), this acreage number would decrease.

5.3.2 Owner Contact and Property Inspection

The surface and minerals on the subject property are owned by the United States of America. This Appraiser met with the U.S. Department of Energy and its contractor, Fluor Daniel, in Casper, Wyoming, to discuss detailed aspects of the property. In addition, this Appraiser made several visits to the site in April and May, 1995, for the purposes of general review of field conditions, and specific inspection of surface equipment. A physical inspection of the mineral estate was not possible since it lies many thousands of feet in the subsurface. However, the surface part of the leasehold estate was briefly viewed and found to be standard for the oil industry in this area.

5.3.3 Division of Ownership

NPR-3 includes 9,321 acres, all of which is fully owned by the U.S. Government. The Department of Energy currently operates this field through the services of a contract operator, Fluor Daniel (NPOSR), Inc. Appendix B of the Addendum includes a complete real property description.

NPR-3 was created by President Wilson in 1915 from lands already in the public domain. Originally it consisted of 9,481 acres, but 160 acres were in a school section ceded to the State of Wyoming and were withdrawn.

There is no leasehold interest (no lessees) at NPR-3. The U.S. Government holds a full interest in the surface and mineral rights in the property.

5.4 HIGHEST AND BEST USE

5.4.1 Tests

The Appraisal Institute (1992) defines *highest and best use* as: "The reasonable probable and legal use of vacant land or improved property, which is physically possible, appropriately supported, financially feasible, and that results in the highest value." Each of these criteria must be met sequentially.

For oil, gas and mineral properties the comparable definition can be applied by testing the candidate uses sequentially against each of five criteria:

1. Physically possible. The property must possess adequate size, dimension, shape, quality of reservoir and resource, and geotechnical quality to support the proposed use. As an example, an oil reservoir consisting of many, very thin interfingering sands and shales may not be physically possible to produce. (a) *Continued production from NPR-3 is physically possible*; (b) *Drilling undeveloped Tensleep locations at NPR-3 is physically possible*; and (c) *Leasing of nonprospective acreage at NPR-3 is physically possible.*

2. Legally permissible. The proposed use of the property must conform to all local, state and federal zoning and use restrictions for the property. A negative example is an otherwise well-tested stone quarry, ready to develop except for the lack of a mining permit. (a) *Continued production from NPR-3 is legally permissible*; (b) *Drilling undeveloped locations at NPR-3 is legally permissible*; and (c) *Additional legislation may be required to enable leasing at NPR-3, but passage would be considered likely.*

3. Financially feasible. The proposed use must be capable of providing a net return to the property owner or leaseholder. Here, the uncertainty of, for example, the amount and category of gas reserves could reduce an undeveloped location to an exploratory drilling prospect. (a) *Income from continued production at NPR-3 is financially feasible*; (b) *Expected income from drilling and producing undeveloped locations at NPR-3 is not financially feasible*; and (c) *Income from leasing nonprospective acreage at NPR-3 is financially feasible.*

4. Maximally productive. Of those physically possible, legally permissible, and financially feasible uses, the *highest and best use* for a property is that use which results in the highest value; that is, the use that provides the greatest net return to the property owner and leaseholder in combination, and as of the date of the evaluation or firmly planned for the immediate future. (a) *Continued generation of income from production will provide the highest value to the owner of NPR-3*; (b) *Drilling and producing undeveloped locations at NPR-3 will not provide the highest values to the owner*; and (c) *Leasing of oil and gas rights in non-prospective acreage will provide the highest value to the owner.*

5. Economically fitting. This fifth criterion adds: the proposed use must fit with the constraints with regard to oil and mineral development of relevant firms, institutions, governments, and markets. For example, impending environmental or surface access regulations on the area as a whole may make the proposed use of a mineral property problematic. (a) *Continued production satisfies this criterion*; (b) *Drilling and producing undeveloped locations does not satisfy this criterion*; and (c) *Leasing of non-prospective acreage satisfies this criterion.*

5.4.2 Highest and Best Use

5.4.2.1 Surface Rights

The subject property consists of 9,321 acres of land that is presently improved with an existing oil field. Use of the surface of the surrounding area is for sheep and cattle ranching; however, considering the location and livestock production capability of the land, it is too small to be an economic agricultural unit but would be desirable plottage to adjacent ranches.

Considering the surface rights only, the fact that the land is extensively encumbered with oil wells and other production and exploration equipment, the *highest and best use* for the surface without oil production activities would be for grazing livestock.

5.4.2.2 Mineral Rights

The *highest and best use* of the mineral rights at NPR-3 is to continue to generate income from continued production of oil, and to generate income from lease bonuses and rentals for the non-productive acreage.

5.4.2.3 Water Rights

If a buyer continues to use the 203.48 acre feet (af) of surface water and the 5,049.5 gallons per minute (GPM) with diligence, the water right would remain intact. A change of use and ownership would be required by the State Engineer's office if it is used for an activity outside of its originally designated use. Such a change is not expected to be difficult. The current primary use for this water is steam injection at well sites.

5.4.3 Highest and Best Use of Property

In conformance with standard appraisal techniques the property to be appraised must first be examined for its *highest and best use*. This Appraiser is using the following definition for *highest and best use*.

> "Either some existing use on the date of the transaction, or one of which the evidence shows was so reasonably likely in the near future that the use would have affected its market price on the date of the transaction and would have been taken into account by a purchaser under Fair Market conditions" (emphasis added).

This definition has been adopted from the *Uniform Appraisal Standards for Federal Land Acquisitions, 1992*.

As indicated above the *highest and best use* of NPR-3 is to generate income from production of oil, gas and natural gas liquids, and to generate income from lease bonuses and rentals for the non-productive acreage. Surface uses such as livestock grazing are often compatible with this use.

5.5 FAIR MARKET VALUE DEFINITION

In the guidelines set out in the *Uniform Appraisal Standards for Federal Land Acquisition*, Interagency Land Acquisition Conference, Washington, D.C., 1992, the definition of "Fair Market Value" is set forth as "...the amount in cash, or in terms reasonably equivalent to cash, for which in all probability the property would be sold by a knowledgeable owner willing but not obligated to sell to a knowledgeable purchaser who desires but is not obligated to buy. In ascertaining that figure, consideration should be given to all matters that might be brought forward and reasonably given substantial weight in bargaining by persons of ordinary prudence, but no consideration whatever should be given to matters not affecting market value" (pp. 3-4).

5.6 APPRAISAL METHODS

5.6.1 General

Analysis of geologic, engineering and economic factors were necessary for this Appraiser's choice of which appraisal method(s) to use in appraising the subject acreage. Research of the courthouse records in Natrona, Johnson, Campbell, and Converse Counties, Wyoming was also conducted in order to check for data on recent leasing activity that might be used to establish market bonuses. Because of the nature of the appraisal tract, the Income Approach and the Lease Bonus methods were both chosen to estimate the Fair Market Value of the mineral estate. The Market Data Approach was chosen to estimate Fair Market Value of the surface.

A minerals appraiser must estimate the Fair Market Value as of a specific date using information available as of that date. The minerals appraiser must use research data to create an accurate market model. This model is then used to estimate the Fair Market Value of the subject property.

5.6.2 Standards

This appraisal has been conducted according to the guidelines set out in the *Uniform Standards of Professional Appraisal Practice,* The Appraisal Institute, 1992, and the *Uniform Standards for Federal Land Acquisition*, Interagency Land Acquisition Conference, 1992.

5.6.3 Obeyance of the Unit Rule

All appraisal standards require adherence to the Unit Rule. It is a principle designed to reflect the true situation in the market for Fair Market estimation. The rule has two main aspects.

First, the Rule requires the property to be valued as a whole (as a "bundle" of "sticks") rather than summing the value of the various portions of ownership (the individual "sticks"). Value of the constituent parts (the "sticks") are to be considered to the extent of their contribution to the value of the whole. The essence of this principle is that it is the property and not the various titles which is being considered for Fair Market appraisal.

Second, the Rule requires that "different elements of a tract of land are not to be separately valued and added together. The property is to be valued as a whole and its constituent parts considered only in light of how they enhance or diminish to value of the whole, with care being exercised to avoid so-called "cumulative appraisals". (Uniform Appraisal Standards for Federal Land Acquisition A-12, pp. 25-28.)

The values of buildings and improvements, timber, crops, mineral rights, oil and gas production, and other rights are considered to the extent that Fair Market Value of the property as a whole is enhanced. It is stated in the Standards that the mere possibility of the existence of minerals, oil, or gas is not sufficient to affect market value. It is further stated that such a possibility can be given consideration only when there is sufficient likelihood of the presence of minerals, such as oil or gas, as to affect market value and when that likelihood would be given weight by a prudent person in bargaining.

These guidelines should be followed when valuing the mineral and surface components of a given property. The quantity of minerals must be estimated by a qualified expert along with a determination of the market for the mineral commodity in question.

It must be understood that under the Unit Rule, technically there can be only <u>one</u> appraiser. Appraisers are often employed by this overall appraiser to estimate Fair Market Value of producing and nonproducing mineral rights, equipment, timber rights, and other rights. Results of secondary valuation reports prepared by them cannot be added to the value of the land in order to arrive at a value of the property as a whole without proper analysis by the overall appraiser.

The appraiser must consider the value of the components of the property only in light of how the components contribute to the value of the property as a whole. Thus, it is improper to simply multiply the mineral quantity by a unit value or gross multiplier and then add it to the value of the land. This results in a summation or cumulative appraisal which is not reflective of market. The various components (surface, mineral and otherwise) of the fee simple property must be considered by the appraiser as factors in arriving at the market value of the property as a whole (Eaton, 1989).

In this particular case it will be shown that the value of the mineral component is the greatest, it is classified as the "dominant estate". Yet, this Appraiser has followed the Unit Rule. From a skill and expertise standpoint it is important to make full disclosure and state (a) that Gustavson Associates is primarily a mineral appraisal firm, (b) that surface and water appraisals are less frequently performed wherefore we have utilized qualified appraisal consultants for those components, as needed, and (c) that the overall appraisal under the Unit Rule and for the purpose of this Study has been performed by Gustavson Associates in accordance with the standards of the appraisal profession.

Thus, inaccuracies, even if inadvertently introduced, are not likely to occur in the major and most valuable component of the property, namely the mineral component due to the expertise of this Appraiser. Likewise, we have taken utmost care in evaluating the effects of the surface and water components in the overall appraisal and recommendation.

5.6.4 Approach to Value

5.6.4.1 Mineral Rights

Market Data/Sales Comparison Approach

Prior Sales of Identical Property

There were no direct sales of the identical property appraised herein which could be used to estimate Fair Market Value of the subject property.

Prior Sales of Comparable Property

There are no prior sales of reasonably comparable property that could be used directly for appraising the subject property. However, several sales of reasonably comparable property have been identified from which purchase price in dollars per barrel of oil equivalent reserves ($/BOE) has been derived. These sales are listed on Table 5.1.

This approach to appraisal of oil and gas properties is referred to as the "Dollars per BOE-in-the-ground" method, and is generally based on determining a national or regional average value per barrel of oil equivalent reserves from similar property transactions. The advantages of this method are that it is very simple to apply and understand, and that it provides for convenient comparison among property transactions. The major disadvantage is that it has no sensitivity to cash flow timing. The factor derived from the market data for the producing acreage at Teapot Dome is $5.00 per BOE.

Cost Approach

The cost approach bases the Fair Market Value of an asset on either the costs invested in it or its replacement cost. This approach is sometimes useful for facilities and equipment. Also, in some cases, the Fair Market Value of a drilling prospect can be estimated based on the various costs which have been spent in developing it: the costs of obtaining seismic data, conducting geological and geophysical analysis, and the cost of obtaining a land position. This method is not considered applicable to any portion of the mineral estate at NPR-3.

Engineering (Income) Approach

This approach makes use of an estimate of oil and gas reserves of the appraised tracts, and of an analysis of production therefrom and from surrounding tracts, if appropriate. This estimate is sometimes determined by volumetric computations involving thickness of producing formations,

TABLE 5.1

NPR-3 AREA PRODUCING PROPERTY TRANSACTIONS

Purchaser	Seller	Description of Property Sold	Type of Interest	Date of Transaction	Reserves	Sales Price	$/BOE	Comments/ Other Information
Universal Resources	Union Pacific Resources Company	Rocky Mountains, Texas & Oklahoma	Working Interest	1st 1/4 1994	11.9 MMBOE	$80 MM	$ 6.70	An additional $14.5 MM for a gas gathering system, interest in gas processing plants and undeveloped acreage.
Cabot Oil & Gas	Washington Energy Resources	Wyoming and Texas	Working Interest	1st 1/4 1994	30.5 MMBOE	$180 MM	$ 5.90	Tax-free exchange
Bridge Oil	Santa Fe Energy	Assets in Anadarko Basin & Rocky Mountain Region	Working Interest and mineral rights	1st 1/4 1994	6 MMBOE	$51 MM	$ 8.50	Includes 1.7 MM acres of minerals and leasehold plus options on 7.5 MM acres/
Parker and Parsley	Prudential Bache	Texas, Louisiana, and Rocky Mountain Region.	Limited Partnership Interests	Jul-93	100 MMBOE	$348 MM	$ 3.48	Tender Offer
Hunt Oil	Pacific Enterprises	Oil & Gas assets in Rockies, Oklahoma, and Gulf Coast	Working Interest	1992	63 MMBO	$371 MM	$ 5.89	Includes 1 MM leasehold acres (gross)
Median Value		Rocky Mountain Reserves	Oil and Gas reserves	1992			$ 5.66	Assume 8:1 conversion.
Carol-Holly Oil Corp., et al	Timberline Production Co.	Soda Lake Field, 1 well on 80 acres 18 mi. S. of NPR-3	Working Interest	Jan-96	Depleted sold for salvage	$5,000	N/A	Timberline recently purchased interest at auction using NPV 10
Wellstar Corp., et al.	Mustang Oil & Gas Corp.	320 producing acres, Powder River Basin Wyoming	Working Interest	Mar-96	unknown	Under $10,000	N/A	properties acquired via a merger
Vessels Oil & Gas Company	Snyder Oil Corp.	Large producing and developmental property in the Browning field, Wyoming	Working Interest	Jun-95	100 MBO 1 BCF @ 8 MCF/BOE, 225 MBOE	$1 MM	$ 4.44	
EOG (New Mexico) Inc.	DCD, Inc.	Holler Draw field, 36 mi N. of NPR-3 31.2525% of one well	W.I.	Apr-96	N/A	$39 M	N/A	Secondary unit Participation would have cost $120 M so purchaser expects to spend $159 M within a year. Received 3 year payout.

TABLE 5.1

NPR-3 AREA PRODUCING PROPERTY TRANSACTIONS

Purchaser	Seller	Description of Property Sold	Type of Interest	Date of Transaction	Reserves	Sales Price	$/BOE	Comments/ Other Information
Philip Gates	McMurry Oil Co.	Salt Creek unit, 10 mi N. of NPR-3, 14,800 acres	.085% W.I. .082% NRI	Oct-94	N/A	$15,000	N/A	Roughly 2000 wells on property. 750 are active.
Estate of Emanuel M. Josephson	George G. Vaught Jr. et al.	Salt Creek, 8 mi N. of NPR-3, 16,500 acres		Apr-95	N/A	$20,000	N/A	Roughly 2000 wells on property. 750 are active.
Stan A. Cadwell & Melody R. Holm	Elaine Allred	Twenty mile hill, 10 mi from NPR-3, Roughly 1500 acres, 10 wells		Jan-95	N/A	$10,000	N/A	Slow Production, barely economic.

porosity of source rocks, water saturation levels, drainage areas, etc. In some cases the reserves are estimated by analogy or the average of oil and gas reserves for other wells in the area. Probabilities of success are sometimes introduced wherefore the confidence level in the estimate reduces with the distance away from actual production.

Oil and gas production exists in the appraisal tract, as well as several undeveloped locations with reasonable certainty that production can be established therefrom and can be estimated. Therefore, the Engineering (Income) Approach is considered applicable for appraising those portions of the mineral estate. Projected future production and income and costs associated with that production have been estimated as described in previous sections of this Report. These projections have been evaluated using the economic model described in the Addendum. (See Appendix A for detailed output from the economic model for this scenario.)

This Appraiser utilized three methods for the Engineering Income Approach. The first of these methods is the "Cumulative Cash Flow" method, which is used in individual transactions among operators in various oil 'patches'. This method represents a Fair Market Value that results in the return of the purchaser's investment within a certain amount of time. While this is a classic income approach, it does not consider the time value of money. To attempt to compensate for this, a longer recovery period can be used for long-lived properties, or a shorter period for short-lived properties. In this case, this Appraiser considered a three-year cash flow.

The second method is the "Risked Present Worth" method. This approach begins with a present worth representing the effects of the time value of money on the expected cash flow stream, and further adjusts the value by a factor representing risk/desire for profit. In general, it is expected that the higher the risk associated with an oil or gas property, the higher the profit desired by the investor, and so the lower the Fair Market Value. To use this method, the Appraiser must assess the mechanical/operator risks associated with operating and producing the property. Adjustments are made to a base risk/profit factor determined by general market analysis, accounting for the relative risk/lack of risk for a specific property. This Appraiser currently uses a base factor of

71 percent, applied to the present worth of a property discounted at 10 percent. After review of the type of operations at NPR-3, this Appraiser adjusted the mechanical/operator risk factor upward to 75 percent.

The third and final appraisal method is the "Rate-of-Return-Targeted Present Worth" method. This method is frequently used by financial institutions or large institutional investors. It is based on targeting an internal rate of return typical for the oil industry, and approximating that by discounting the cash flow expected from a property at that discount rate. The rate used by this Appraiser for this method is 17.2 percent.

Each method used in this appraisal allows for the consideration of a geologic/development risk factor. The risk to capital in this analysis was applied to the cash flow before making the Fair Market Value analysis.

Lease Bonus Method

This method is a derivative of the Income Approach, being based on the income from a different *highest and best use* of the property than that represented by oil or gas production. The value of interests to be appraised under this method derive from the actual or potential future income stream from the receipt of bonus and rentals through leasing, which represents the *highest and best use* of the exploratory oil and gas rights. This method is based on a present value analysis of that future income stream. The Lease Bonus method will be applied to the 2360 acres containing non-prospective mineral rights within NPR-3, since there is no production and only speculative potential therefore. In contrast, leases are executed, sold and bargained in the market, providing actual market data.

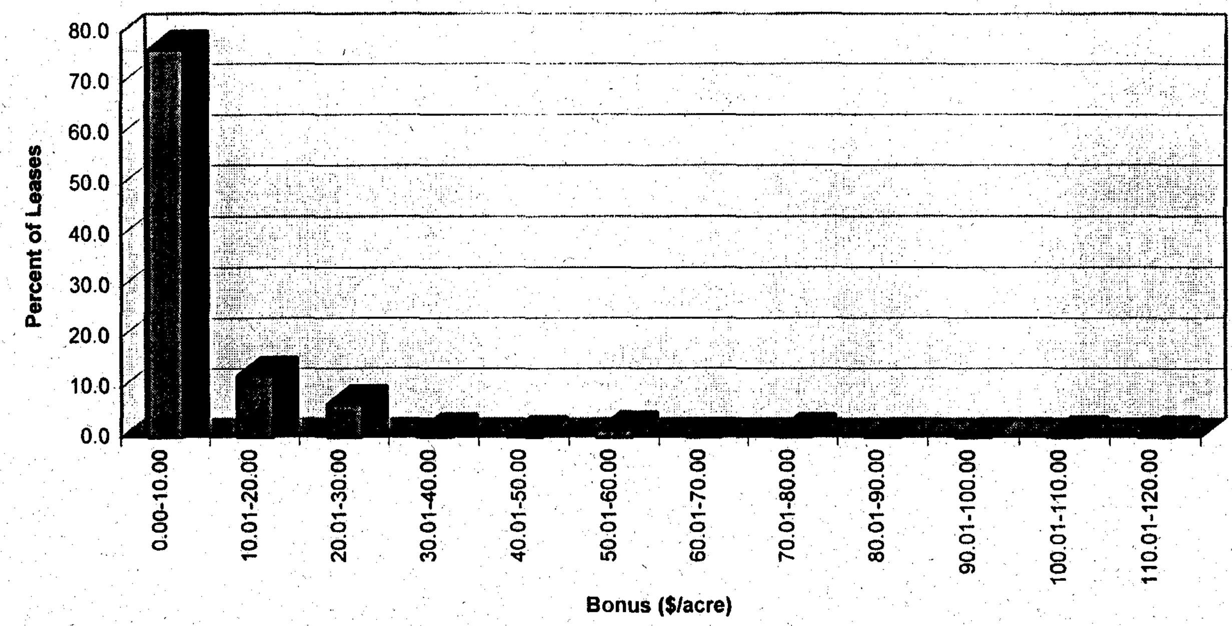
Large amounts of acreage in the vicinity of the subject property are federal and state owned and as a result provide accessible data on bonuses, rentals and lease terms. Additionally, several fee mineral leases in the area were identified through courthouse research. A summary of the leasing activity for the area is provided in the Addendum. Figure 5.1 illustrates the distribution of the bonus amounts that were paid in the area of study. These data establish market trends and value patterns which can be used for appraising that portion of the mineral estate involving oil and gas exploratory potential. The value of this potential is additive to the value estimated for the remainder of the mineral estate.

Figure 5.1 is a histogram showing a high concentration of leases in a) the \$1 to \$2 per-acre range; a few leases in b) the \$10 to \$30 per-acre range; and c) one lease at \$110 to \$120 per acre. Examination of the specific conditions involved in these transactions reveals that a) the low range represents the value paid for rank exploratory acreage. The higher bonus amounts b) are typically paid for fairly good prospective leases; and the highest bonus at c) is paid for acreage closer to production. In short, the bonuses represent a tri-modal distribution.

These data can now be used to appraise the subject property. The nature of this property is such that, although it is close to existing production, the likelihood of extending that production to the subject property is quite small, based on engineering and geologic assessments of available data. Therefore, bonus values paid for the subject property would be somewhat higher than rank exploratory acreage, but still in the low range of comparable bonuses. Therefore, the market lease terms would be as follows:

Bonus. The bonus is the consideration initially paid in exchange for an oil and gas lease. Usually the Lease Bonus is a one-time payment made to an owner of the mineral estate upon the owner's execution of a lease. Although bonuses are occasionally paid in installments, and sometimes paid in forms other that U.S. dollars, we have determined from market data for this appraisal that a leasehold bonus is a one-time payment made in its entirety to the mineral owner upon the owner's execution of an oil and gas lease. The current market leasehold bonus for the oil and gas leasehold estate (commonly referred to within an oil and gas lease as "oil, gas, and related hydrocarbons") on the subject property is in the range of \$4 per mineral acre.

A



B

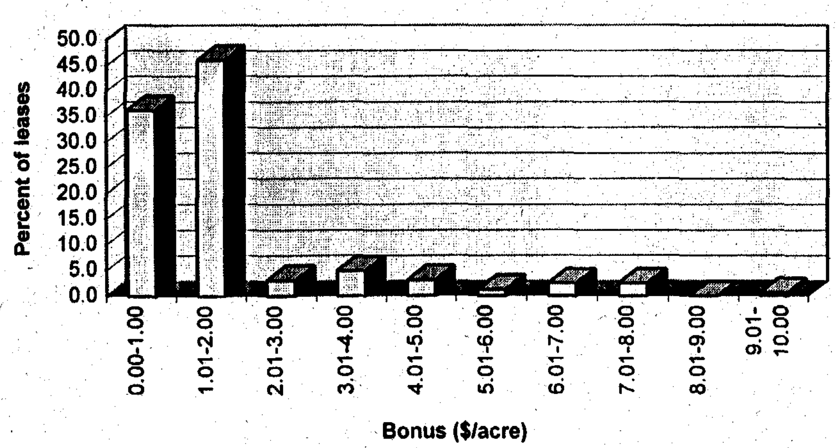


Figure 5.1: Bonus data from 102 Federal, 108 State, and 3 Fee Leases is graphed in these two figures. "A" represents the breakdown of all the data; "B" represents the breakdown of the $0.00 to $ 10.00.

Statistical Data			
	Mean	**Median**	**Mode**
Federal	$7.26	$2.00	$2.00
State	$8.79	$1.00	$1.00
Fee	$25.00	$25.00	$25.00
Combined	**$8.29**	**$2.00**	**$2.00**

Figure 5.1

Royalty. Landowner's royalty is a percentage of the value of production made payable to a landowner through contractual provisions within an oil and gas lease. Landowner's royalty is usually expressed as a fraction of total production removed from the leasehold premises that will be stored for the lessor's account, or paid in dollar equivalents to the lessor. The landowner's royalty share is paid "off the top," or without being subject to drilling or lifting costs. The market landowner's royalty is one-eighth, or 12.5 percent, for leases similar to these tracts.

Annual (or Delay) Rentals. Oil and gas leases for more than one year's duration usually contain provisions for an annual rental amount to be paid to the lessor's credit at a specified bank or address in order to compensate for delay of drilling. Annual rentals may sometimes be consolidated into an addition to the initial leasehold bonus (and thereby comprising total payment obligations under a "paid-up" oil and gas lease).

If delay rentals are not paid on time, and pursuant to the general instructions given in a lease, the lease will often expire under its own terms. We have assumed that leases on the present tract will be for the market term of years shown below and that all rentals will be paid. The market annual (delay) rental for oil and gas leases similar to this tract is $1.50 per mineral acre for the first five years, and $2.00 per acre for an additional five-year period. We have also assumed that the first delay rental payment will be paid on the first anniversary of lease execution.

Term of Years. This is the length of time that a typical oil and gas lease will be in effect. Usually the term of years specified in an oil and gas lease will be automatically extended for so long as oil or gas are produced from the lands under lease, or for so long as drilling and development operations are conducted on the leasehold property.

The term of years for which this acreage could be expected to be leased is five to ten years (state and federal leases, respectively). We have assumed that such a lease would expire at the end of ten years and a new lease would be granted within one year.

Percentage of the Acreage Expected to be Leased

Based on a review of recent lease sales in the area, this Appraiser has estimated that 50 percent of available land is leased each year. This same percentage is assumed to occur for the non-prospective acreage at NPR-3.

The estimated future income from hypothetical leasing of the subject acreage is shown in Appendix C. This income would approximate the value of the cash flow from the exploratory acreage as a prospect that the landowners would receive from oil companies interested in exploring and possibly developing the acreage.

In short, the cash flow in Appendix C reflects the market. The future income is based on market bonuses of $4 per acre and rentals as described above. The net present value at 13.2 percent discount rate of this future income stream is $18,600 (rounded). This amount represents the Fair Market Value for the mineral ownership in the non-prospective acreage at NPR-3.

Reconciliation

Four different methods were used to value the mineral interest in the producing portion of the subject property. The Comparable Sales Approach and three different methods of applying the Income Approach were used to value the reserves and future income therefrom. Table 5.2 is a Fair Market Value worksheet summarizing these value estimates. The three income-based methods are considered to be more reliable. Reconciliation of the four estimates provided an estimated Fair Market Value of $4,100,000 as of October 1, 1996.

The Lease Bonus method was used to value the speculative oil and gas potential from exploration of the non-productive acreage, and provided a value of $18,600 (rounded) as of the date of this appraisal. The two portions of the mineral estate are physically separate, and therefore are additive. This Appraiser's Fair Market estimate of the total mineral estate is therefore $4,118,600 as of October 1, 1996.

TABLE 5.2

FAIR MARKET VALUE WORKSHEET

NPR-3

Category: Proved Developed, Producing and Non-producing

1) METHOD ONE ($ per BOE-in-the-ground):

Total Net Oil and NGLs				1,332,767	BOE	
Total Net Gas			900,000 MCF			
1 Years, @ 1/	10.9	BOE/MCF x	450,000 MCF	41,319	BOE	
1 Years, @ 1/	6.0	BOE/MCF x	450,000 MCF	75,000	BOE	
Total Gas				116,319	BOE	
Total Oil and Gas				1,449,086	BOE	
Value @	5 $/BOE			$7,245,431		
Value Risked at	100%	(for geol./devt.)*		$7,245,431		
Capital Costs**				$6,024,759		
Method One Value of Property						**$1,220,672**

2) METHOD TWO (Return of Purchase Price):

First Year Net Cash	(12	months)	$3,298,901	
Second Year Net Cash	(12	months)	$2,426,599	
Third Year Net Cash	(12	months)	$1,443,814	
Fourth Year Net Cash	(0	months)	$0	
Fifth Year Net Cash	(0	months)	$0	
Total Net Cash			$7,169,314	
Value Risked at	100%	(for geol./devt.)	$7,169,314	
Capital Costs			$1,278,376	
Method Two Value of Property				**$5,890,938**

3) METHOD THREE (Risk-Discounted Present Worth):

Present Worth			$4,736,000	
at a discount rate of			10%	
Mechanical/Operator Risk Factor			75%	
Value of Property (at production stage)			$3,552,000	
Plus Capital Costs			$6,024,759	
Value (before Capital Load)			$9,576,759	
Value Risked at	100%	(for geol./devt.)	$9,576,759	
Less Capital Costs (at 100%)			$6,024,759	
Method Three Value of Property				**$3,552,000**

4) METHOD FOUR (17% Present Worth):

Future Net Cash Flow Discounted @		17.2%	$4,661,000	
Plus Capital Costs			$6,024,759	
Value (before Capital Load)			$10,685,759	
Value Risked at	100%	(for geol./devt.)	$10,685,759	
Less Capital Costs (at 100%)			$6,024,759	
Method Four Value of Property				**$4,661,000**

5) FAIR MARKET VALUE

After reconciliation of above methods: **$4,100,000**

* Cash flow and reserves for Proved Non-producing reserves risked separately.

** Capital costs include P&A and environmental remediation costs.

5.6.4.2 Surface and Water Rights

This Appraiser has prepared a summary appraisal of the surface and water rights which is intended to comply with the reporting requirements set forth under Standards Rule 2-2(b) of the Uniform Standards of Professional Appraisal Practice for a Summary Appraisal Report. As such, we have presented below summary discussions of the data, reasoning, and analyses that were used in the appraisal process to develop the opinion of value. Supporting documentation concerning the data, reasoning, and analyses is provided in Section 4 of the Addendum or retained in the Appraiser's file.

This summary is the result of a limited appraisal process in that certain allowable departures from specific guidelines of the Uniform Standards of Professional Appraisal Practice were invoked.

The Market Data or Comparable Sales Approach involves using data from comparable properties which have sold or are listed for which are similar to the subject property to estimate its value. A major premise of this approach is that the market value of the property is directly related to the prices of competitive comparable properties. This method works best when adequate market data is available of similar properties.

Whenever possible, all appraisal estimation procedures are used, but in some instances, some of the approaches are not applicable. In this analysis, as a limited appraisal of the surface rights, the Income Approach and the Cost Approach Methods are considered but not included in this Report.

This Appraiser searched the central and northeastern Wyoming real estate market for sales of properties comparable to the subject. Twenty sales of ranch properties located in northeastern Wyoming that sold between 1994 and the present were analyzed and the six sales most like NPR-3 are included in this analysis. These properties, though dissimilar in some respects, are considered to provide reliable indications of the various components of the subject property.

A summary of the pertinent data on comparable sales (see Section 4 of the Addendum for full details) is as follows:

The six sales listed sold in a price range of $250,075 to $1,960,000 with a per-acre range of $50.10/acre to $88.56/acre. Fully adjusted, the sales indicate a per-acre value range for the subject of $70.05/acre to $79.50/acre with a mean of $74.55/acre. Sales No. 1, No. 2, and No. 3 are located in the immediate area of NPR-3 and are encumbered with oil wells similar to the subject. These three sales are considered to be the best indicators of the subject's market value and indicate a price per-acre range of $72.92/acre to $79.50/acre for NPR-3. This Appraiser has selected $75.00/acre as the price per-acre for NPR-3.

Based on the foregoing data, analysis, and conclusions, the "as is" market value for the subject land, excluding any value for the oil reserves, mineral rights, and surface structural improvements and equipment is estimated to be:

$75.00/acre x 9,321 acres = $ 699,075

This has been rounded to: **$ 699,000**

The water rights were not valued separately from the value of the surface rights because they are considered to be part of the inherent value of the land which supports the user for the designated use at the time of the water appropriation. Water can be severed from property and sold in most states; however, reappropriating an existing water right for an alternative use is difficult and expensive to accomplish. Therefore, this Appraiser assumes that the water rights will remain with NPR-3 in the case of retention, transfer or sale of the properties. The value of the water rights is reflected in the land value as part of its overall utility.

5.7 ANALYSIS OF WHOLE PROPERTY

The surface value of the property is calculated as follows:

$75 per acre x 9321 acres - $699,000

The mineral value of this property is estimated as follows:

Producing acreage -	$4,100,000
Non-producing acreage -	$ 18,600
TOTAL	$4,118,600

Because the surface value estimate was based on comparable sales of properties with active oilfield operations similar to those on the subject property, these values are considered additive under the unit rule. Although the value of the surface is considered to be impacted by the intensive oil production operations, that impact is included in the estimated value which contributes to the value of the whole estate at 100 percent. The mineral rights represent the dominant estate, and contribute at 100 percent. The total value is thus estimated as follows:

Surface value	$699,000
Mineral value	$4,118,600
GRAND TOTAL	$4,817,600

5.8 FAIR MARKET VALUE

Based on the analysis described above, the Fair Market Value of the mineral, surface, and water rights of NPR-3 is estimated at $4.82 million as of October 1, 1996. This is the amount that could be expected to be realized if the option of sale of NPR-3 is carried out.

The value to the government would also include revenue from federal income taxes paid by the purchaser on subsequent income from NPR-3 operations. This projected tax stream has an estimated NPV discounted at 13.5 percent of $324,900. Additionally, an update to the recent Environmental Assessment would be expected under this scenario at an estimated cost of $30,000 (a negative $28,197 discounted). Finally, cost of handling the sale of NPR-3 and termination of existing staff was estimated by DOE personnel at $2 million. Therefore the net total value to the government under the sale option is $3,114,300.

5.9 SALE OF RMOTC

Outright sale of the Rocky Mountain Test Center is an impossibility because of the highly negative cashflow presently experienced and forecast for the future. Only a positive financial which income statement could motivate a private test laboratory to purchase RMOTC, either as part of NPR-3 or on a stand-alone basis. Chapter 2.4 of this Report has provided the benefits and the costs to the U.S. Government if continued under RMOTC economic conditions. Under that retention scenario, the tangible benefit to the U.S. Government was in form of income taxes from employees engaged in manufacturing and providing services in connection with the results of R&D testing at RMOTC.

Totally different sources of income would have to induce a private sector company to invest in the continuation of RMOTC. Such laboratories would, by necessity, include a substantial charge for private test center services and/or a participation in the sales income from subsequent development and marketing of successful products or services. The specific economic results presented in Chapter 2.4 hereof preclude a privatized RMOTC from being competitive with any existing private test laboratory, research establishment within major oil companies, or with laboratories being part of major service companies or manufacturers of oilfield equipment. Consequently, the option of "packaging" RMOTC for an outright sale either as a stand-alone entity or as an integral part of NPR-3 is assumed to be nonviable.

A further study of a <u>totally reorganized</u> test center with occasional access to NPR-3 (Government <u>or</u> privately owned) is beyond the scope of this Study.

6. COMPARATIVE ANALYSIS

The value of NPR-3 to the United States under each of the specified options is as follows:

Option 1: Retention and operation of all or part of NPR-3 by the Secretary of Energy under Chapter 641 of Title 10, United States Code. With Management and Operations Contractor: **Value = $3,880,200.** Without Management and Operations Contractor: **Value = $5,249,200.**

Option 2: Transfer of all or a part of NPR-3 to the Department of the Interior for leasing in accordance with the Mineral leasing Act (30 U.S.C. 181 et seq.) and surface management in accordance with the Federal Land Policy and Management Act (43 U.S.C. 1701 et seq.). **Value = $2,536,000.**

Option 3: Transfer of all or part of NPR-3 to the jurisdiction of another federal agency for administration under Chapter 641 of Title 10, United States Code. **No value derived, this option is considered nonviable.**

Option 4: Sale of the interest of the United States of all or a part of NPR-3. **Value = $3,114,300.**

7. RECOMMENDATIONS

This option recommended to maximize value to the United States is Option 1, retention by DOE of the interest of the United States of all or part of NPR-3, with elimination of the contract operator under a Management and Operations (M&O) contract. Evaluation of this option results in a value of $5.25 million which is 69 percent higher than the next highest value of 3.11 million for Option 4, sale of the interest of the United States of NPR-3. Note that even without elimination of the M&O contractor, Option 1 still yields a higher value than the other options, at $3.88 million, or 25 percent higher than Option 4.

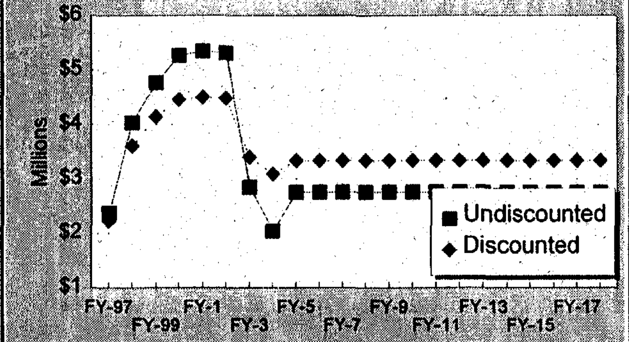
APPENDIX A

DETAILED OUTPUT OF ECONOMIC MODEL FOR RETENTION BY DOE

Current Parameters

Price=INFL
Case=1
Royalty=not used
Bonus=$0
Severance=none
Ad Valorem =none
St. Tax Rate=none
Fed Tax Rate= 35%
Mcf/bbl=6
Industry Rate=17.20%

Cumulative Federal Income



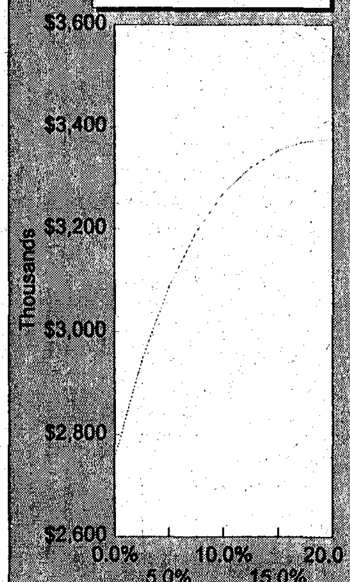
Operator Concerns

	RISK	
	Production	Expenses
PDP	100.0%	100.0%
PD-NP	80.0%	100.0%
PUD	60.0%	100.0%
Unproven	60.0%	100.0%

Federal Benefits Model

NPR-3

Federal NPV



	Initial Income $	Royalties $	Federal Income Taxes $	Total Federal Income $	Cumulative $000	Discounted	Cumulative Discounted $000
FY-97	0	0	0	2,375,234	2,375	2,229,505	2,230
FY-98		0	0	1,659,031	4,034	1,372,021	3,602
FY-99		0	0	739,352	4,774	538,718	4,140
FY-00		0	0	500,804	5,274	321,501	4,462
FY-1		0	0	74,623	5,349	42,208	4,504
FY-2		0	0	(32,247)	5,317	(16,070)	4,488
FY-3		0	0	(2,473,542)	2,843	(1,086,041)	3,402
FY-4		0	0	(799,500)	2,044	(309,278)	3,093
FY-5		0	0	715,249	2,759	243,777	3,336
FY-6		0	0	0	2,759	0	3,336
FY-7		0	0	0	2,759	0	3,336
FY-8		0	0	0	2,759	0	3,336
FY-9		0	0	0	2,759	0	3,336
FY-10		0	0	0	2,759	0	3,336
FY-11		0	0	0	2,759	0	3,336
FY-12		0	0	0	2,759	0	3,336
FY-13		0	0	0	2,759	0	3,336
FY-14		0	0	0	2,759	0	3,336
FY-15		0	0	0	2,759	0	3,336
FY-16		0	0	0	2,759	0	3,336
FY-17		0	0	0	2,759	0	3,336
FY-18		0	0	0	2,759	0	3,336
Thereafter		0	0	0	2,759	0	3,336
TOTAL	0	0	0	2,759,005		3,336,341	
NPV=	0	0	0				

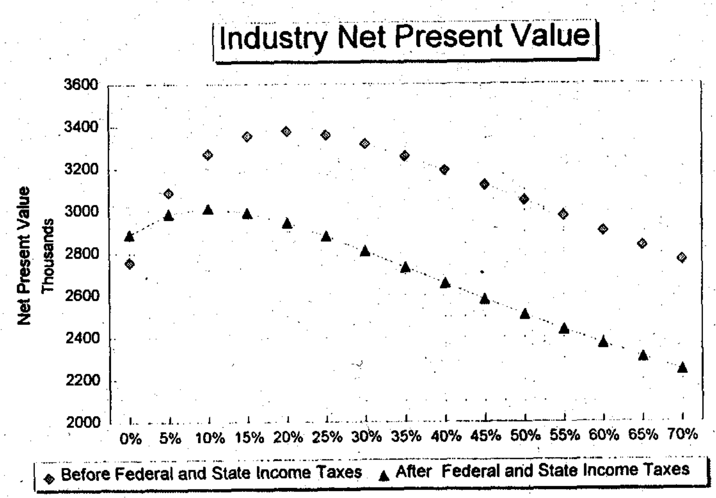
(WITH FD)

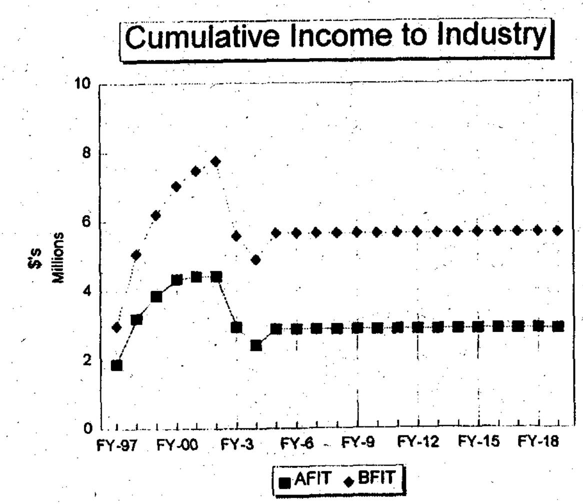
NPR-3

Federal Income Tax Calculations

	Revenue $	Royalty, 80% Cap. OpEx, and Prod. Tax $	Allocated Overhead $	Depreciation $	Depletion $	Total Deductions $	Taxable Income $	State Income Taxes $	Federal Income Taxes $	After Tax Cash Flow $	Cumulative $000	Discounted @ 14.2%	Cumulative Discounted $000
FY-97	6,477,498	3,498,736	603,532	0	971,625	5,073,893	1,403,605	0	491,262	1,883,972	1,884	1,762,956	1,763
FY-98	4,572,872	2,485,151	428,689	0	685,931	3,599,771	973,101	0	340,585	1,318,446	3,202	1,080,347	2,843
FY-99	3,413,156	2,280,430	393,374	0	511,973	3,185,777	227,379	0	79,582	659,769	3,862	473,399	3,317
FY-00	2,835,903	1,991,556	343,543	0	425,385	2,760,484	75,419	0	26,397	474,407	4,337	298,071	3,615
FY-1	2,438,179	2,015,826	347,730	0	74,623	2,438,179	0	0	0	74,623	4,411	41,056	3,656
FY-2	2,021,557	1,858,884	320,658	0	0	2,179,542	(157,985)	0	(55,295)	23,048	4,434	11,104	3,667
FY-3	1,583,810	4,098,592	295,693	0	0	4,394,285	(2,810,475)	0	(983,666)	(1,489,876)	2,944	(628,522)	3,038
FY-4	0	681,876	117,624	0	0	799,500	(799,500)	0	(279,825)	(519,675)	2,425	(191,971)	2,846
FY-5	0	(762,039)	46,790	0	0	(715,249)	715,249	0	250,337	464,912	2,890	150,387	2,997
FY-6	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
FY-7	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
FY-8	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
FY-9	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
FY-10	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
FY-11	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
FY-12	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
FY-13	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
FY-14	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
FY-15	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
FY-16	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
FY-17	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
FY-18	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
Thereafter	0	0	0	0	0	0	0	0	0	0	2,890	0	2,997
TOTAL	23,342,975	18,149,013	2,897,632	0	2,669,537	23,716,182	(373,207)	0	(130,622)	2,889,628		2,996,826	

Discount Factor	Before Federal and State Income Taxes	After Federal and State Income Taxes
17.20%	3,370,000	
14.20%		2,997,000
0%	2,759,000	2,890,000
5%	3,088,000	2,987,000
10%	3,269,000	3,012,000
15%	3,354,000	2,991,000
20%	3,377,000	2,944,000
25%	3,359,000	2,880,000
30%	3,317,000	2,809,000
35%	3,259,000	2,733,000
40%	3,193,000	2,657,000
45%	3,121,000	2,581,000
50%	3,048,000	2,508,000
55%	2,974,000	2,437,000
60%	2,902,000	2,370,000
65%	2,832,000	2,306,000
70%	2,764,000	2,245,000





(WITH FD)

NPR-3

PD, PD-NP, PUD plus Unproven Before Federal Income Tax

	PRODUCTION			REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue before bonus/price	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	none	$	$	exempt	$	$	$000	13.50%	$000
Oct-96	24,372	0	156,188	480,616	0	53,104	533,720	0	0	291,561	0	291,561	242,159	242	242,159	242
Nov-96	24,372	0	156,188	481,603	0	53,213	534,816	0	0	291,561	0	291,561	243,255	485	240,549	483
Dec-96	24,372	0	156,188	482,593	0	53,322	535,915	0	0	291,561	0	291,561	244,354	730	238,947	722
Jan-97	24,372	0	156,188	483,584	0	53,432	537,016	0	0	291,561	0	291,561	245,455	975	237,354	959
Feb-97	24,372	0	156,188	484,577	0	53,541	538,118	0	0	291,561	0	291,561	246,557	1,222	235,767	1,195
Mar-97	24,372	0	156,188	485,573	0	53,651	539,224	0	0	291,561	0	291,561	247,663	1,469	234,190	1,429
Apr-97	24,372	0	156,188	486,570	0	53,762	540,332	0	0	291,561	0	291,561	248,771	1,718	232,621	1,662
May-97	24,372	0	156,188	487,570	0	53,872	541,442	0	0	291,561	0	291,561	249,881	1,968	231,059	1,893
Jun-97	24,372	0	156,188	488,572	0	53,983	542,555	0	0	291,561	0	291,561	250,994	2,219	229,507	2,122
Jul-97	24,372	0	156,188	489,575	0	54,094	543,669	0	0	291,561	0	291,561	252,108	2,471	227,961	2,350
Aug-97	24,372	0	156,188	490,581	0	54,205	544,786	0	0	291,561	0	291,561	253,225	2,724	226,423	2,577
Sep-97	24,372	0	156,188	491,589	0	54,316	545,905	0	0	291,561	0	291,561	254,344	2,979	224,894	2,801
FY-97	292,464	0	1,874,250	5,833,003	0	644,495	6,477,498	0	0	3,498,736	0	3,498,736	2,978,766	[redacted]	2,801,431	[redacted]
Oct-97	15,987	0	154,000	323,124	0	53,665	376,789	0	0	207,096	0	207,096	169,693	3,148	148,375	2,950
Nov-97	15,987	0	154,000	323,788	0	53,776	377,564	0	0	207,096	0	207,096	170,468	3,319	147,395	3,097
Dec-97	15,987	0	154,000	324,453	0	53,886	378,339	0	0	207,096	0	207,096	171,243	3,490	146,418	3,244
Jan-98	15,987	0	154,000	325,120	0	53,997	379,117	0	0	207,096	0	207,096	172,021	3,662	145,447	3,389
Feb-98	15,987	0	154,000	325,787	0	54,108	379,895	0	0	207,096	0	207,096	172,799	3,835	144,479	3,534
Mar-98	15,987	0	154,000	326,457	0	54,219	380,676	0	0	207,096	0	207,096	173,580	4,009	143,517	3,677
Apr-98	15,987	0	154,000	327,127	0	54,330	381,457	0	0	207,096	0	207,096	174,361	4,183	142,559	3,820
May-98	15,987	0	154,000	327,799	0	54,442	382,241	0	0	207,096	0	207,096	175,145	4,358	141,607	3,961
Jun-98	15,987	0	154,000	328,473	0	54,554	383,027	0	0	207,096	0	207,096	175,931	4,534	140,660	4,102
Jul-98	15,987	0	154,000	329,148	0	54,666	383,814	0	0	207,096	0	207,096	176,718	4,711	139,718	4,242
Aug-98	15,986	0	154,000	329,803	0	54,778	384,581	0	0	207,096	0	207,096	177,485	4,888	138,763	4,380
Sep-98	15,986	0	154,000	330,481	0	54,891	385,372	0	0	207,096	0	207,096	178,276	5,066	137,831	4,518
FY-98	191,842	0	1,848,000	3,921,560	0	651,312	4,572,872	0	0	2,485,151	0	2,485,151	2,087,720	[redacted]	1,716,769	[redacted]
FY-99	131,692	0	1,821,750	2,755,863	0	657,293	3,413,156	0	0	2,280,430	0	2,280,430	1,132,726	6,199	825,344	5,344
FY-00	101,552	0	1,795,500	2,173,376	0	662,527	2,835,903	0	0	1,991,556	0	1,991,556	844,347	7,044	542,045	5,886
FY-1	80,892	0	1,769,250	1,770,518	0	667,661	2,438,179	0	0	2,015,826	0	2,015,826	422,353	7,466	238,888	6,124
FY-2	65,877	0	1,743,000	1,474,609	0	672,686	2,021,557	0	0	1,858,884	0	1,858,884	288,411	7,754	143,726	6,268
FY-3	54,304	0	1,716,750	1,243,148	0	677,595	1,583,810	0	0	4,098,592	0	4,098,592	(2,177,849)	5,576	(956,213)	5,312
FY-4	0	0	0	0	0	0	0	0	0	681,876	0	681,876	(681,876)	4,895	(263,777)	5,048
FY-5	0	0	0	0	0	0	0	0	0	(762,039)	0	(762,039)	762,039	5,657	259,724	5,308
FY-6	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-7	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-8	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-9	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-10	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-11	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-12	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-13	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-14	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-15	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-16	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-17	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-18	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
Thereafter	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
TOTAL	918,623	900,000	11,389,050	19,172,077	0	4,170,898	23,342,975	0	0	21,343,904	0	21,343,904	5,656,637		5,307,937	

Cash Flows

(WITH FD)

PDP

NPR-3

Proved Developed Producing

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil bbls	Gas mcf	NGLS gals	Oil $	Gas $	NGLS $	Oil $	Gas $	NGLS $	Total $	Royalty @ not used	CapEx $	OpEx $	Prod. Taxes exempt	Total $	Net Revenue $	Cumulative $000	Discounted @ 13.50%	Cumulative Discounted $000
Oct-96	24,372	0	156,188	$19.72	NA	$0.34	480,616	0	53,104	533,720	0	0	286,861	0	$286,861	$246,859	$247	$246,859	$247
Nov-96	24,372	0	156,188	$19.76	NA	$0.34	481,603	0	53,213	534,816	0	0	286,861	0	$286,861	$247,955	$495	$245,197	$492
Dec-96	24,372	0	156,188	$19.80	NA	$0.34	482,593	0	53,322	535,915	0	0	286,861	0	$286,861	$249,054	$744	$243,543	$736
Jan-97	24,372	0	156,188	$19.84	NA	$0.34	483,584	0	53,432	537,016	0	0	286,861	0	$286,861	$250,155	$994	$241,899	$977
Feb-97	24,372	0	156,188	$19.88	NA	$0.34	484,577	0	53,541	538,118	0	0	286,861	0	$286,861	$251,257	$1,245	$240,261	$1,218
Mar-97	24,372	0	156,188	$19.92	NA	$0.34	485,573	0	53,651	539,224	0	0	286,861	0	$286,861	$252,363	$1,498	$238,634	$1,456
Apr-97	24,372	0	156,188	$19.96	NA	$0.34	486,570	0	53,762	540,332	0	0	286,861	0	$286,861	$253,471	$1,751	$237,016	$1,693
May-97	24,372	0	156,188	$20.01	NA	$0.34	487,570	0	53,872	541,442	0	0	286,861	0	$286,861	$254,581	$2,006	$235,405	$1,929
Jun-97	24,372	0	156,188	$20.05	NA	$0.35	488,572	0	53,983	542,555	0	0	286,861	0	$286,861	$255,694	$2,261	$233,804	$2,163
Jul-97	24,372	0	156,188	$20.09	NA	$0.35	489,575	0	54,094	543,669	0	0	286,861	0	$286,861	$256,808	$2,518	$232,210	$2,395
Aug-97	24,372	0	156,188	$20.13	NA	$0.35	490,581	0	54,205	544,786	0	0	286,861	0	$286,861	$257,925	$2,776	$230,626	$2,625
Sep-97	24,372	0	156,188	$20.17	NA	$0.35	491,589	0	54,316	545,905	0	0	286,861	0	$286,861	$259,044	$3,035	$229,050	$2,855
FY-97	292,464	0	1,874,250				5,833,003	0	644,495	6,477,498	0	0	3,442,332	0	$3,442,332	$3,035,166		$2,854,504	
Oct-97	15,987	0	154,000	$20.21	NA	$0.35	323,124	0	53,665	376,789	0	0	151,113	0	$151,113	$225,676	$3,261	$197,325	$3,052
Nov-97	15,987	0	154,000	$20.25	NA	$0.35	323,788	0	53,776	377,564	0	0	151,113	0	$151,113	$226,451	$3,487	$195,800	$3,248
Dec-97	15,987	0	154,000	$20.29	NA	$0.35	324,453	0	53,886	378,339	0	0	151,113	0	$151,113	$227,226	$3,715	$194,285	$3,442
Jan-98	15,987	0	154,000	$20.34	NA	$0.35	325,120	0	53,997	379,117	0	0	151,113	0	$151,113	$228,004	$3,943	$192,781	$3,635
Feb-98	15,987	0	154,000	$20.38	NA	$0.35	325,787	0	54,108	379,895	0	0	151,113	0	$151,113	$228,782	$4,171	$191,287	$3,826
Mar-98	15,987	0	154,000	$20.42	NA	$0.35	326,457	0	54,219	380,676	0	0	151,113	0	$151,113	$229,563	$4,401	$189,805	$4,016
Apr-98	15,987	0	154,000	$20.46	NA	$0.35	327,127	0	54,330	381,457	0	0	151,113	0	$151,113	$230,344	$4,631	$188,332	$4,204
May-98	15,987	0	154,000	$20.50	NA	$0.35	327,799	0	54,442	382,241	0	0	151,113	0	$151,113	$231,128	$4,862	$186,870	$4,391
Jun-98	15,987	0	154,000	$20.55	NA	$0.35	328,473	0	54,554	383,027	0	0	151,113	0	$151,113	$231,914	$5,094	$185,420	$4,576
Jul-98	15,987	0	154,000	$20.59	NA	$0.35	329,148	0	54,666	383,814	0	0	151,113	0	$151,113	$232,701	$5,327	$183,979	$4,760
Aug-98	15,986	0	154,000	$20.63	NA	$0.36	329,803	0	54,778	384,581	0	0	151,113	0	$151,113	$233,468	$5,560	$182,532	$4,943
Sep-98	15,986	0	154,000	$20.67	NA	$0.36	330,481	0	54,891	385,372	0	0	151,113	0	$151,113	$234,259	$5,795	$181,113	$5,124
FY-98	191,842	0	1,848,000				3,921,560	0	651,312	4,572,872	0	0	1,813,356	0	$1,813,356	$2,759,516		$2,269,529	
FY-99	131,692	0	1,821,750	$20.93	NA	$0.36	2,755,863	0	657,293	3,413,156	0	0	1,588,212	0	$1,588,212	$1,824,944	$7,620	$1,329,719	$6,454
FY-00	101,552	0	1,795,500	$21.40	NA	$0.37	2,173,376	0	662,527	2,835,903	0	0	1,391,020	0	$1,391,020	$1,444,883	$9,065	$927,571	$7,381
FY-1	80,892	0	1,769,250	$21.89	NA	$0.38	1,770,518	0	667,661	2,438,179	0	0	1,218,310	0	$1,218,310	$1,219,869	$10,284	$689,973	$8,071
FY-2	65,877	0	1,743,000	$22.38	NA	$0.39	1,474,609	0	672,686	2,147,295	0	0	1,067,045	0	$1,067,045	$1,080,250	$11,365	$538,328	$8,610
FY-3	54,304	0	1,716,750	$22.89	NA	$0.39	1,243,148	0	677,595	1,920,743	0	0	934,561	0	$934,561	$986,182	$12,351	$432,996	$9,043
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	818,526	0	$818,526	$0	$12,351	$0	$9,043
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	716,898	0	$716,898	$0	$12,351	$0	$9,043
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	627,888	0	$627,888	$0	$12,351	$0	$9,043
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	549,929	0	$549,929	$0	$12,351	$0	$9,043
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	481,650	0	$481,650	$0	$12,351	$0	$9,043
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-17	0	0	0	$31.34	NA	NA	$0.00	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
Total	918,623	0	12,568,500				19,172,077	0	4,633,569	23,805,646	0	0	14,649,727	0	$14,649,727	$12,350,810		$9,042,620	

(WITH FD)

PD-NP

Proved Developed Non-Producing

NPR-3

NPR-3	PRODUCTION Oil bbls	PRODUCTION Gas mcf	PRODUCTION NGLS gals	PRICES Oil $	PRICES Gas $	PRICES NGLS $	GROSS REVENUE Oil $	GROSS REVENUE Gas $	GROSS REVENUE NGLS $	GROSS REVENUE Total $	COSTS Royalty @ not used	COSTS CapEx $	COSTS OpEx $	COSTS Prod. Taxes exempt	COSTS Total $	Future Net Income Net Revenue $	Future Net Income Cumulative $000	Future Net Income Discounted @ 13.50%	Future Net Income Cumulative Discounted $000
Oct-96	0	0	0	$19.72	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($5)	($4,700)	($5)
Nov-96	0	0	0	$19.76	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($9)	($4,648)	($9)
Dec-96	0	0	0	$19.80	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($14)	($4,596)	($14)
Jan-97	0	0	0	$19.84	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($19)	($4,545)	($18)
Feb-97	0	0	0	$19.88	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($24)	($4,495)	($23)
Mar-97	0	0	0	$19.92	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($28)	($4,445)	($27)
Apr-97	0	0	0	$19.96	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($33)	($4,395)	($32)
May-97	0	0	0	$20.01	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($38)	($4,346)	($36)
Jun-97	0	0	0	$20.05	NA	$0.35	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($42)	($4,298)	($40)
Jul-97	0	0	0	$20.09	NA	$0.35	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($47)	($4,250)	($45)
Aug-97	0	0	0	$20.13	NA	$0.35	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($52)	($4,203)	($49)
Sep-97	0	0	0	$20.17	NA	$0.35	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($56)	($4,156)	($53)
FY-97	0	0	0				0	0	0	0	0	0	56,404	0	$56,404	($56,404)		($53,077)	
Oct-97	0	0	0	$20.21	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($112)	($48,950)	($102)
Nov-97	0	0	0	$20.25	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($168)	($48,406)	($150)
Dec-97	0	0	0	$20.29	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($224)	($47,867)	($198)
Jan-98	0	0	0	$20.34	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($280)	($47,334)	($246)
Feb-98	0	0	0	$20.38	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($336)	($46,808)	($292)
Mar-98	0	0	0	$20.42	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($392)	($46,287)	($339)
Apr-98	0	0	0	$20.46	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($448)	($45,772)	($385)
May-98	0	0	0	$20.50	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($504)	($45,263)	($430)
Jun-98	0	0	0	$20.55	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($560)	($44,759)	($475)
Jul-98	0	0	0	$20.59	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($616)	($44,262)	($519)
Aug-98	0	0	0	$20.63	NA	$0.36	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($672)	($43,769)	($563)
Sep-98	0	0	0	$20.67	NA	$0.36	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($728)	($43,282)	($606)
FY-98	0	0	0				0	0	0	0	0	0	671,795	0	$671,795	($671,795)		($552,759)	
FY-99	0	0	0	$20.93	NA	$0.36	0	0	0	0	0	0	692,218	0	$692,218	($692,218)	($1,420)	($504,375)	($1,110)
FY-00	0	0	0	$21.40	NA	$0.37	0	0	0	0	0	0	600,536	0	$600,536	($600,536)	($2,021)	($385,526)	($1,496)
FY-1	0	0	0	$21.89	NA	$0.38	0	0	0	0	0	0	797,516	0	$797,516	($797,516)	($2,818)	($451,085)	($1,947)
FY-2	0	0	0	$22.38	NA	$0.39	0	0	0	0	0	0	791,839	0	$791,839	($791,839)	($3,610)	($394,603)	($2,341)
FY-3	0	0	0	$22.89	NA	$0.39	0	0	0	0	0	0	3,164,031	0	$3,164,031	($3,164,031)	($6,774)	($1,389,209)	($3,731)
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	681,876	0	$681,876	($681,876)	($7,456)	($263,777)	($3,994)
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	(762,039)	0	($762,039)	$762,039	($6,694)	$259,724	($3,735)
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-17	0	0	0	$31.34	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
Total	0	0	0				0	0	0	0	0	0	6,694,177	0	$6,694,177	($6,694,177)		($3,734,687)	

(WITH FD)

PUD

NPR-3

Proved Undeveloped

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	exempt	$	$	$000	13.50%	$000
Oct-96	0	0	0	$19.72	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$19.76	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$19.80	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$19.84	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$19.88	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$19.92	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$19.96	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$20.01	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$20.05	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-97	0	0	0	$20.09	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-97	0	0	0	$20.13	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-97	0	0	0	$20.17	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-97	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
Oct-97	0	0	0	$20.21	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-97	0	0	0	$20.25	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-97	0	0	0	$20.29	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-98	0	0	0	$20.34	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-98	0	0	0	$20.38	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-98	0	0	0	$20.42	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-98	0	0	0	$20.46	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-98	0	0	0	$20.50	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-98	0	0	0	$20.55	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-98	0	0	0	$20.59	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-98	0	0	0	$20.63	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-98	0	0	0	$20.67	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-98	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
FY-99	0	0	0	$20.93	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-00	0	0	0	$21.40	NA	$0.37	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-1	0	0	0	$21.89	NA	$0.38	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-2	0	720,000	(325,800)	$22.38	NA	$0.39	0	0	(125,738)	(125,738)	0	0	0	0	$0	$0	$0	$0	$0
FY-3	0	180,000	(853,650)	$22.89	NA	$0.39	0	0	(336,933)	(336,933)	0	0	0	0	$0	$0	$0	$0	$0
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-17	0	0	0	$31.34	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Total	0	900,000	(1,179,450)				0	0	(462,671)	(462,671)	0	0	0	0	$0	$0		$0	

(WITH FD)

Unproven

Unproven

NPR-3

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil bbls	Gas mcf	NGLS gals	Oil $	Gas $	NGLS $	Oil $	Gas $	NGLS $	Total $	Royalty @ not used	CapEx $	OpEx $	Prod. Taxes exempt	Total $	Net Revenue $	Cumulative $000	Discounted @ 13.50%	Cumulative Discounted $000
Oct-96	0	0	0	$19.72	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$19.76	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$19.80	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$19.84	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$19.88	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$19.92	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$19.96	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$20.01	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$20.05	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-97	0	0	0	$20.09	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-97	0	0	0	$20.13	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-97	0	0	0	$20.17	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-97	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
Oct-97	0	0	0	$20.21	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-97	0	0	0	$20.25	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-97	0	0	0	$20.29	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-98	0	0	0	$20.34	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-98	0	0	0	$20.38	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-98	0	0	0	$20.42	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-98	0	0	0	$20.46	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-98	0	0	0	$20.50	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-98	0	0	0	$20.55	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-98	0	0	0	$20.59	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-98	0	0	0	$20.63	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-98	0	0	0	$20.67	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-98	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
FY-99	0	0	0	$20.93	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-00	0	0	0	$21.40	NA	$0.37	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-1	0	0	0	$21.89	NA	$0.38	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-2	0	0	0	$22.38	NA	$0.39	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-3	0	0	0	$22.89	NA	$0.39	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-17	0	0	0	$31.34	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Total	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	

(WITH FD)

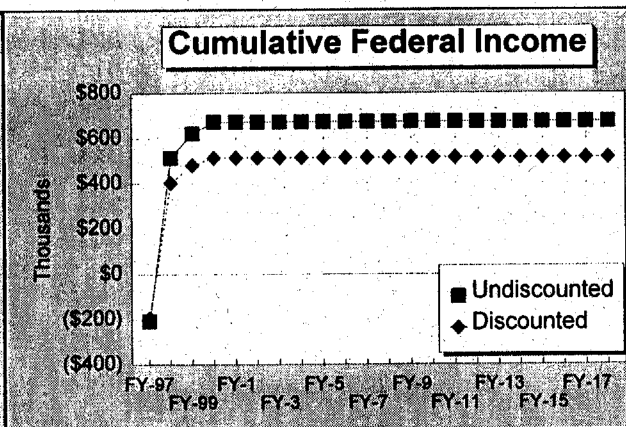
NPR-3 Retention Case

DOE Summarized Output

	Production			Prices			DOE Net Income Calculations				
	OIL (MBO)	GAS (MMCF)	NGLs (GPD)	OIL ($/BO)	GAS ($/MMBTU)	NGLs ($/Gal)	Oil & Gas Revenue ($ 000)	Oil & Gas Costs ($ 000)	Overhead Costs ($ 000)	Cash Flow ($ 000)	Discounted Cash Flow ($ 000)
1997	292.464	0.000	1874	$19.94	NA	$0.34	$6,477.498	$3,498.736	$603.532	$2,375	$2,230
1998	191.842	0.000	1848	$20.44	NA	$0.35	$4,572.872	$2,485.151	$428.689	$1,659	$1,372
1999	131.692	0.000	1822	$20.93	NA	$0.36	$3,413.156	$2,280.430	$393.374	$739	$539
2000	101.552	0.000	1796	$21.40	NA	$0.37	$2,835.903	$1,991.556	$343.543	$501	$322
2001	80.892	0.000	1769	$21.89	NA	$0.38	$2,438.179	$2,015.826	$347.730	$75	$42
2002	65.877	0.000	1743	$22.38	NA	$0.39	$2,021.557	$1,858.884	$320.658	($32)	($16)
2003	54.304	0.000	1717	$22.89	NA	$0.39	$1,583.810	$4,098.592	$295.693	($2,474)	($1,086)
2004	0.000	0.000	0	$23.41	NA	NA	$0.000	$681.876	$117.624	($799)	($309)
2005	0.000	0.000	0	$23.94	NA	NA	$0.000	($762.039)	$46.790	$715	$244
2006	0.000	0.000	0	$24.49	NA	NA	$0.000	$0.000	$0.000	$0	$0
2007	0.000	0.000	0	$25.04	NA	NA	$0.000	$0.000	$0.000	$0	$0
2008	0.000	0.000	0	$25.61	NA	NA	$0.000	$0.000	$0.000	$0	$0
2009	0.000	0.000	0	$26.19	NA	NA	$0.000	$0.000	$0.000	$0	$0
2010	0.000	0.000	0	$26.79	NA	NA	$0.000	$0.000	$0.000	$0	$0
2011	0.000	0.000	0	$27.40	NA	NA	$0.000	$0.000	$0.000	$0	$0
2012	0.000	0.000	0	$28.02	NA	NA	$0.000	$0.000	$0.000	$0	$0
2013	0.000	0.000	0	$28.65	NA	NA	$0.000	$0.000	$0.000	$0	$0
2014	0.000	0.000	0	$29.30	NA	NA	$0.000	$0.000	$0.000	$0	$0
2015	0.000	0.000	0	$29.97	NA	NA	$0.000	$0.000	$0.000	$0	$0
2016	0.000	0.000	0	$30.65	NA	NA	$0.000	$0.000	$0.000	$0	$0
2017	0.000	0.000	0	$31.34	NA	NA	$0.000	$0.000	$0.000	$0	$0
2018	0.000	0.000	0	$32.06	NA	NA	$0.000	$0.000	$0.000	$0	$0
TOTALS	918.623	0.000	12569				$23,342.975	$18,149.013	$2,897.632	$2,759	**$3,336**

Current Parameters

Price=INFL
Case=1
Royalty=not used
Bonus=$0
Severance=none
Ad Valorem =none
St. Tax Rate=none
Fed Tax Rate= 35%
Mcf/bbl=6
Industry Rate=17.20%

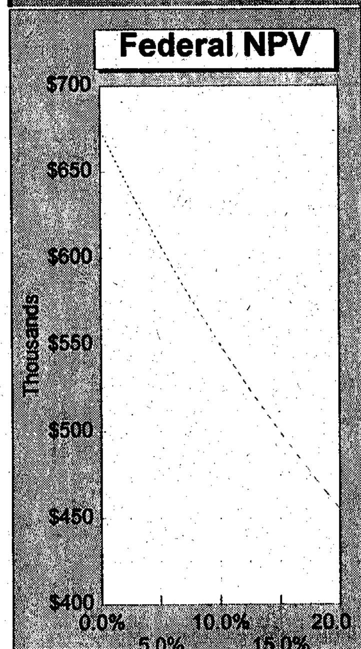


Operator Concerns

	RISK	
	Production	Expenses
PDP	100.0%	100.0%
PD-NP	80.0%	100.0%
PUD	80.0%	100.0%
Unproven	60.0%	100.0%

Federal Benefits Model

NPR-3+



	Initial Income	Royalties	Federal Income Taxes	Total Federal Income	Cumulative	Discounted	Cumulative Discounted
	$	$	$	$	$000		$000
FY-97	0	0	0	(208,179)	(208)	(195,406)	(195)
FY-98		0	0	723,498	515	598,334	403
FY-99		0	0	106,611	622	77,681	481
FY-00		0	0	51,863	674	33,294	514
FY-1		0	0	0	674	0	514
FY-2		0	0	0	674	0	514
FY-3		0	0	0	674	0	514
FY-4		0	0	0	674	0	514
FY-5		0	0	0	674	0	514
FY-6		0	0	0	674	0	514
FY-7		0	0	0	674	0	514
FY-8		0	0	0	674	0	514
FY-9		0	0	0	674	0	514
FY-10		0	0	0	674	0	514
FY-11		0	0	0	674	0	514
FY-12		0	0	0	674	0	514
FY-13		0	0	0	674	0	514
FY-14		0	0	0	674	0	514
FY-15		0	0	0	674	0	514
FY-16		0	0	0	674	0	514
FY-17		0	0	0	674	0	514
FY-18		0	0	0	674	0	514
Thereafter		0	0	0	674	0	514
TOTAL	0	0	0	673,793		513,903	
NPV=	0	0	0				

(WITH FD)

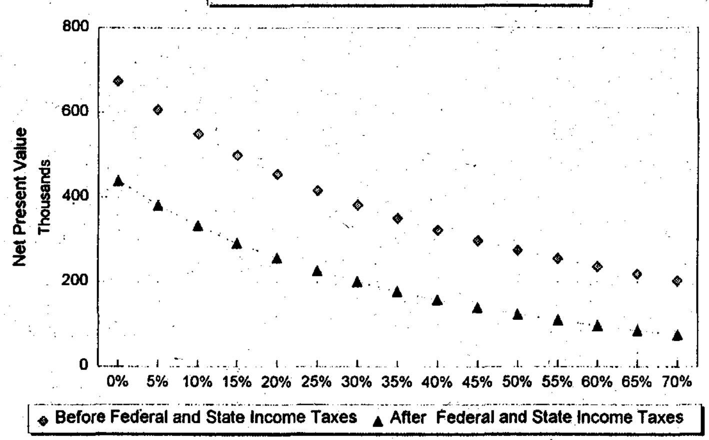
NPR-3+

Federal Income Tax Calculations

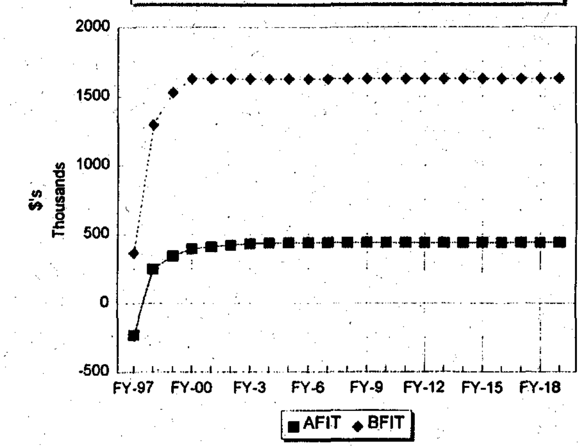
	Revenue $	Royalty, 80% Cap. OpEx, and Prod. Tax $	Allocated Overhead $	Depreciation $	Depletion $	Total Deductions $	Taxable Income $	State Income Taxes $	Federal Income Taxes $	After Tax Cash Flow $	Cumulative $000	Discounted @ 14.2%	Cumulative Discounted $000
FY-97	2,618,247	1,926,848	575,002	46,368	0	2,548,218	70,029	0	24,510	(232,689)	(233)	(217,742)	(218)
FY-98	1,954,249	978,469	204,500	86,313	0	1,269,282	684,967	0	239,739	483,760	251	396,397	179
FY-99	953,203	722,040	124,552	68,478	0	915,070	38,133	0	13,347	93,264	344	66,919	246
FY-00	382,592	282,072	48,657	48,913	2,950	382,592	0	0	0	51,863	396	32,585	278
FY-1	0	0	0	34,938	0	34,938	(34,938)	0	(12,228)	12,228	408	6,728	285
FY-2	0	0	0	33,232	0	33,232	(33,232)	0	(11,631)	11,631	420	5,604	290
FY-3	0	0	0	33,232	0	33,232	(33,232)	0	(11,631)	11,631	432	4,907	295
FY-4	0	0	0	18,748	0	18,748	(18,748)	0	(6,562)	6,562	438	2,424	298
FY-5	0	0	0	2,132	0	2,132	(2,132)	0	(746)	746	439	241	298
FY-6	0	0	0	0	0	0	0	0	0	0	439	0	298
FY-7	0	0	0	0	0	0	0	0	0	0	439	0	298
FY-8	0	0	0	0	0	0	0	0	0	0	439	0	298
FY-9	0	0	0	0	0	0	0	0	0	0	439	0	298
FY-10	0	0	0	0	0	0	0	0	0	0	439	0	298
FY-11	0	0	0	0	0	0	0	0	0	0	439	0	298
FY-12	0	0	0	0	0	0	0	0	0	0	439	0	298
FY-13	0	0	0	0	0	0	0	0	0	0	439	0	298
FY-14	0	0	0	0	0	0	0	0	0	0	439	0	298
FY-15	0	0	0	0	0	0	0	0	0	0	439	0	298
FY-16	0	0	0	0	0	0	0	0	0	0	439	0	298
FY-17	0	0	0	0	0	0	0	0	0	0	439	0	298
FY-18	0	0	0	0	0	0	0	0	0	0	439	0	298
Thereafter	0	0	0	0	0	0	0	0	0	0	439	0	298
TOTAL	5,908,291	3,909,429	952,711	372,354	2,950	5,237,443	670,848	0	234,797	438,996		298,063	

Discount Factor	Before Federal and State Income Taxes	After Federal and State Income Taxes
17.20%	479,000	
14.20%		298,000
0%	674,000	439,000
5%	607,000	381,000
10%	550,000	333,000
15%	500,000	292,000
20%	455,000	257,000
25%	416,000	227,000
30%	382,000	201,000
35%	351,000	178,000
40%	323,000	158,000
45%	298,000	140,000
50%	275,000	124,000
55%	255,000	110,000
60%	236,000	97,000
65%	219,000	85,000
70%	203,000	75,000

Industry Net Present Value



Cumulative Income to Industry



(WITH FD)

NPR-3+

PD, PD-NP, PUD plus Unproven Before Federal Income Tax

	PRODUCTION			REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue before bonus/price	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	none	$	$	exempt	$	$	$000	13.50%	$000
Oct-96	6,348	0	0	102,711	0	0	102,711	0	0	41,216	0	41,216	61,495	61	61,495	61
Nov-96	9,062	0	0	146,931	0	0	146,931	0	0	46,368	0	46,368	100,563	162	99,444	161
Dec-96	9,062	0	0	147,233	0	0	147,233	0	231,840	46,368	0	278,208	(130,975)	31	(128,077)	33
Jan-97	9,062	0	0	147,535	0	0	147,535	0	231,840	46,368	0	278,208	(130,673)	(100)	(126,360)	(93)
Feb-97	12,274	0	0	200,223	0	0	200,223	0	0	51,520	0	51,520	148,703	49	142,195	49
Mar-97	12,273	0	0	200,622	0	0	200,622	0	231,840	51,520	0	283,360	(82,738)	(34)	(78,237)	(30)
Apr-97	12,273	0	0	201,034	0	0	201,034	0	231,840	51,520	0	283,360	(82,326)	(116)	(76,981)	(107)
May-97	16,266	0	0	266,985	0	0	266,985	0	0	56,672	0	56,672	210,313	94	194,472	88
Jun-97	16,266	0	0	267,547	0	0	267,547	0	231,840	56,672	0	288,512	(20,965)	73	(19,170)	69
Jul-97	16,266	0	0	268,096	0	0	268,096	0	231,840	56,672	0	288,512	(20,416)	53	(18,461)	50
Aug-97	20,243	0	0	334,326	0	0	334,326	0	0	61,824	0	61,824	272,502	325	243,660	294
Sep-97	20,243	0	0	335,004	0	0	335,004	0	231,840	61,824	0	293,664	41,340	367	36,553	331
FY-97	159,639	0	0	2,618,247	0	0	2,618,247	0	1,622,880	628,544	0	2,251,424	366,823		330,533	
Oct-97	7,843	0	0	130,057	0	0	130,057	0	238,888	60,197	0	299,085	(169,028)	198	(147,794)	183
Nov-97	9,878	0	0	164,155	0	0	164,155	0	0	66,106	0	66,106	98,049	296	84,778	268
Dec-97	9,878	0	0	164,491	0	0	164,491	0	0	66,106	0	66,106	98,385	394	84,122	352
Jan-98	9,878	0	0	164,829	0	0	164,829	0	0	66,106	0	66,106	98,723	493	83,472	435
Feb-98	9,878	0	0	165,155	0	0	165,155	0	0	66,106	0	66,106	99,049	592	82,816	518
Mar-98	9,878	0	0	165,494	0	0	165,494	0	0	66,106	0	66,106	99,388	691	82,175	600
Apr-98	9,878	0	0	165,834	0	0	165,834	0	0	66,106	0	66,106	99,728	791	81,539	682
May-98	9,878	0	0	166,174	0	0	166,174	0	0	66,106	0	66,106	100,068	891	80,906	763
Jun-98	9,878	0	0	166,515	0	0	166,515	0	0	66,106	0	66,106	100,409	992	80,279	843
Jul-98	9,878	0	0	166,857	0	0	166,857	0	0	66,106	0	66,106	100,751	1,092	79,656	922
Aug-98	9,876	0	0	167,177	0	0	167,177	0	0	66,106	0	66,106	101,071	1,193	79,020	1,002
Sep-98	9,876	0	0	167,511	0	0	167,511	0	0	66,106	0	66,106	101,405	1,295	78,399	1,080
FY-98	116,495	0	0	1,954,249	0	0	1,954,249	0	238,888	787,358	0	1,026,246	927,998		749,368	
FY-99	55,516	0	0	953,203	0	0	953,203	0	0	722,040	0	722,040	231,163	1,526	168,434	1,248
FY-00	21,788	0	0	382,592	0	0	382,592	0	0	282,072	0	282,072	100,520	1,627	64,531	1,313
FY-1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-2	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-3	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-4	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-5	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-6	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-7	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-8	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-9	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-10	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-11	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-12	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-13	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-14	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-15	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-16	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-17	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-18	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
Thereafter	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
TOTAL	353,437	0	0	5,908,291	0	0	5,908,291	0	1,861,768	2,420,015	0	4,281,783	1,626,504		1,312,866	

(WITH FD)

PDP

NPR-3+

Proved Developed Producing

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	exempt	$	$	$000	13.50%	$000
Oct-96	6,348	0	0	$16.18	NA	NA	102,711	0	0	102,711	0	0	41,216	0	$41,216	$61,495	$61	$61,495	$61
Nov-96	6,348	0	0	$16.21	NA	NA	102,922	0	0	102,922	0	0	41,216	0	$41,216	$61,706	$123	$61,020	$123
Dec-96	6,348	0	0	$16.25	NA	NA	103,133	0	0	103,133	0	0	41,216	0	$41,216	$61,917	$185	$60,547	$183
Jan-97	6,348	0	0	$16.28	NA	NA	103,345	0	0	103,345	0	0	41,216	0	$41,216	$62,129	$247	$60,078	$243
Feb-97	6,348	0	0	$16.31	NA	NA	103,557	0	0	103,557	0	0	41,216	0	$41,216	$62,341	$310	$59,613	$303
Mar-97	6,348	0	0	$16.35	NA	NA	103,770	0	0	103,770	0	0	41,216	0	$41,216	$62,554	$372	$59,151	$362
Apr-97	6,348	0	0	$16.38	NA	NA	103,983	0	0	103,983	0	0	41,216	0	$41,216	$62,767	$435	$58,692	$421
May-97	6,348	0	0	$16.41	NA	NA	104,197	0	0	104,197	0	0	41,216	0	$41,216	$62,981	$498	$58,237	$479
Jun-97	6,348	0	0	$16.45	NA	NA	104,411	0	0	104,411	0	0	41,216	0	$41,216	$63,195	$561	$57,785	$537
Jul-97	6,348	0	0	$16.48	NA	NA	104,625	0	0	104,625	0	0	41,216	0	$41,216	$63,409	$624	$57,336	$594
Aug-97	6,348	0	0	$16.52	NA	NA	104,840	0	0	104,840	0	0	41,216	0	$41,216	$63,624	$688	$56,890	$651
Sep-97	6,348	0	0	$16.55	NA	NA	105,056	0	0	105,056	0	0	41,216	0	$41,216	$63,840	$752	$56,448	$707
FY-97	76,176	0	0				1,246,550	0	0	1,246,550	0	0	494,592	0	$494,592	$751,958		$707,292	
Oct-97	3,384	0	0	$16.58	NA	NA	56,118	0	0	56,118	0	0	37,161	0	$37,161	$18,957	$771	$16,576	$724
Nov-97	3,384	0	0	$16.62	NA	NA	56,234	0	0	56,234	0	0	37,161	0	$37,161	$19,073	$790	$16,491	$740
Dec-97	3,384	0	0	$16.65	NA	NA	56,349	0	0	56,349	0	0	37,161	0	$37,161	$19,188	$809	$16,406	$757
Jan-98	3,384	0	0	$16.69	NA	NA	56,465	0	0	56,465	0	0	37,161	0	$37,161	$19,304	$828	$16,322	$773
Feb-98	3,384	0	0	$16.72	NA	NA	56,581	0	0	56,581	0	0	37,161	0	$37,161	$19,420	$848	$16,237	$789
Mar-98	3,384	0	0	$16.75	NA	NA	56,697	0	0	56,697	0	0	37,161	0	$37,161	$19,536	$867	$16,153	$805
Apr-98	3,384	0	0	$16.79	NA	NA	56,814	0	0	56,814	0	0	37,161	0	$37,161	$19,653	$887	$16,068	$822
May-98	3,384	0	0	$16.82	NA	NA	56,930	0	0	56,930	0	0	37,161	0	$37,161	$19,769	$907	$15,984	$838
Jun-98	3,384	0	0	$16.86	NA	NA	57,047	0	0	57,047	0	0	37,161	0	$37,161	$19,886	$927	$15,899	$853
Jul-98	3,384	0	0	$16.89	NA	NA	57,164	0	0	57,164	0	0	37,161	0	$37,161	$20,003	$947	$15,815	$869
Aug-98	3,384	0	0	$16.93	NA	NA	57,282	0	0	57,282	0	0	37,161	0	$37,161	$20,121	$967	$15,731	$885
Sep-98	3,384	0	0	$16.96	NA	NA	57,400	0	0	57,400	0	0	37,161	0	$37,161	$20,239	$987	$15,647	$901
FY-98	40,608	0	0				681,081	0	0	681,081	0	0	445,932	0	$445,932	$235,149		$193,329	
FY-99	28,377	0	0	$17.17	NA	NA	487,233	0	0	487,233	0	0	393,840	0	$393,840	$93,393	$1,081	$88,049	$969
FY-00	21,788	0	0	$17.56	NA	NA	382,592	0	0	382,592	0	0	282,072	0	$282,072	$100,520	$1,181	$64,531	$1,033
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-17	0	0	0	$25.72	NA	NA	$0.00	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
Thereafter	0	0	0	$28.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
Total	166,949	0	0				2,797,456	0	0	2,797,456	0	0	1,616,436	0	$1,616,436	$1,181,020		$1,033,201	

(WITH FD)

PD-NP

NPR-3+

Proved Developed Non-Producing

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil bbls	Gas mcf	NGLS gals	Oil $	Gas $	NGLS $	Oil $	Gas $	NGLS $	Total $	Royalty @ not used	CapEx $	OpEx $	Prod Taxes exempt	Total $	Net Revenue $	Cumulative $000	Discounted @ 13.50%	Cumulative Discounted $000
Oct-96	0	0	0	$16.18	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	2,714	0	0	$16.21	NA	NA	44,009	0	0	44,009	0	0	5,152	0	$5,152	$38,857	$39	$38,425	$38
Dec-96	2,714	0	0	$16.25	NA	NA	44,100	0	0	44,100	0	0	5,152	0	$5,152	$38,948	$78	$38,086	$77
Jan-97	2,714	0	0	$16.28	NA	NA	44,190	0	0	44,190	0	0	5,152	0	$5,152	$39,038	$117	$37,750	$114
Feb-97	2,714	0	0	$16.31	NA	NA	44,281	0	0	44,281	0	0	5,152	0	$5,152	$39,129	$156	$37,417	$152
Mar-97	2,714	0	0	$16.35	NA	NA	44,372	0	0	44,372	0	0	5,152	0	$5,152	$39,220	$195	$37,086	$189
Apr-97	2,714	0	0	$16.38	NA	NA	44,463	0	0	44,463	0	0	5,152	0	$5,152	$39,311	$235	$36,759	$226
May-97	2,714	0	0	$16.41	NA	NA	44,554	0	0	44,554	0	0	5,152	0	$5,152	$39,402	$274	$36,434	$262
Jun-97	2,715	0	0	$16.45	NA	NA	44,659	0	0	44,659	0	0	5,152	0	$5,152	$39,507	$313	$36,125	$298
Jul-97	2,715	0	0	$16.48	NA	NA	44,751	0	0	44,751	0	0	5,152	0	$5,152	$39,599	$353	$35,806	$334
Aug-97	2,715	0	0	$16.52	NA	NA	44,843	0	0	44,843	0	0	5,152	0	$5,152	$39,691	$393	$35,490	$369
Sep-97	2,715	0	0	$16.55	NA	NA	44,935	0	0	44,935	0	0	5,152	0	$5,152	$39,783	$432	$35,177	$405
FY-97	29,862	0	0				489,157	0	0	489,157	0	0	56,672	0	$56,672	$432,485		$404,555	
Oct-97	778	0	0	$16.58	NA	NA	12,909	0	0	12,909	0	0	5,309	0	$5,309	$7,600	$440	$6,646	$411
Nov-97	778	0	0	$16.62	NA	NA	12,935	0	0	12,935	0	0	5,309	0	$5,309	$7,626	$448	$6,594	$418
Dec-97	778	0	0	$16.65	NA	NA	12,962	0	0	12,962	0	0	5,309	0	$5,309	$7,653	$455	$6,544	$424
Jan-98	778	0	0	$16.69	NA	NA	12,988	0	0	12,988	0	0	5,309	0	$5,309	$7,679	$463	$6,493	$431
Feb-98	778	0	0	$16.72	NA	NA	13,015	0	0	13,015	0	0	5,309	0	$5,309	$7,706	$471	$6,443	$437
Mar-98	778	0	0	$16.75	NA	NA	13,042	0	0	13,042	0	0	5,309	0	$5,309	$7,733	$478	$6,394	$444
Apr-98	778	0	0	$16.79	NA	NA	13,068	0	0	13,068	0	0	5,309	0	$5,309	$7,759	$486	$6,344	$450
May-98	778	0	0	$16.82	NA	NA	13,095	0	0	13,095	0	0	5,309	0	$5,309	$7,786	$494	$6,295	$456
Jun-98	778	0	0	$16.86	NA	NA	13,122	0	0	13,122	0	0	5,309	0	$5,309	$7,813	$502	$6,247	$463
Jul-98	778	0	0	$16.89	NA	NA	13,149	0	0	13,149	0	0	5,309	0	$5,309	$7,840	$510	$6,199	$469
Aug-98	778	0	0	$16.93	NA	NA	13,163	0	0	13,163	0	0	5,309	0	$5,309	$7,854	$518	$6,141	$475
Sep-98	778	0	0	$16.96	NA	NA	13,190	0	0	13,190	0	0	5,309	0	$5,309	$7,881	$525	$6,093	$481
FY-98	9,339	0	0				156,638	0	0	156,638	0	0	63,703	0	$63,703	$92,935		$76,433	
FY-99	4,819	0	0	$17.17	NA	NA	82,746	0	0	82,746	0	0	65,640	0	$65,640	$17,106	$543	$12,464	$493
FY-00	0	0	0	$17.56	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-17	0	0	0	$25.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
Total	44,020	0	0				728,541	0	0	728,541	0	0	186,015	0	$186,015	$542,526		$493,452	

(WITH FD)

PUD

NPR-3*

Proved Undeveloped

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil bbls	Gas mcf	NGLS gals	Oil $	Gas $	NGLS $	Oil $	Gas $	NGLS $	Total $	Royalty @ not used	CapEx $	OpEx $	Prod. Taxes exempt	Total $	Net Revenue $	Cumulative $000	Discounted @ 13.50%	Cumulative Discounted $000
Oct-96	0	0	0	$16.18	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$16.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$16.25	NA	NA	0	0	0	0	0	231,840	0	0	$231,840	($231,840)	($232)	($226,710)	($227)
Jan-97	0	0	0	$16.28	NA	NA	0	0	0	0	0	231,840	0	0	$231,840	($231,840)	($464)	($224,188)	($451)
Feb-97	3,211	0	0	$16.31	NA	NA	52,385	0	0	52,385	0	0	5,152	0	$5,152	$47,233	($416)	$45,166	($406)
Mar-97	3,210	0	0	$16.35	NA	NA	52,480	0	0	52,480	0	231,840	5,152	0	$236,992	($184,512)	($601)	($174,474)	($580)
Apr-97	3,210	0	0	$16.38	NA	NA	52,588	0	0	52,588	0	231,840	5,152	0	$236,992	($184,404)	($785)	($172,433)	($753)
May-97	7,203	0	0	$16.41	NA	NA	118,234	0	0	118,234	0	0	10,304	0	$10,304	$107,930	($677)	$99,800	($653)
Jun-97	7,203	0	0	$16.45	NA	NA	118,477	0	0	118,477	0	0	10,304	0	$10,304	$108,173	($569)	$98,912	($554)
Jul-97	7,203	0	0	$16.48	NA	NA	118,720	0	0	118,720	0	0	10,304	0	$10,304	$108,416	($461)	$98,032	($456)
Aug-97	7,203	0	0	$16.52	NA	NA	118,964	0	0	118,964	0	0	10,304	0	$10,304	$108,660	($352)	$97,159	($359)
Sep-97	7,203	0	0	$16.55	NA	NA	119,209	0	0	119,209	0	0	10,304	0	$10,304	$108,905	($243)	$96,295	($262)
FY-97	45,648	0	0				751,057	0	0	751,057	0	927,360	66,976	0	$994,336	($243,279)		($262,441)	
Oct-97	2,279	0	0	$16.58	NA	NA	37,797	0	0	37,797	0	0	11,818	0	$11,818	$25,979	($217)	$22,715	($240)
Nov-97	2,279	0	0	$16.62	NA	NA	37,875	0	0	37,875	0	0	11,818	0	$11,818	$26,057	($191)	$22,530	($217)
Dec-97	2,279	0	0	$16.65	NA	NA	37,952	0	0	37,952	0	0	11,818	0	$11,818	$26,134	($165)	$22,345	($195)
Jan-98	2,279	0	0	$16.69	NA	NA	38,030	0	0	38,030	0	0	11,818	0	$11,818	$26,212	($139)	$22,163	($173)
Feb-98	2,278	0	0	$16.72	NA	NA	38,095	0	0	38,095	0	0	11,818	0	$11,818	$26,277	($113)	$21,970	($151)
Mar-98	2,278	0	0	$16.75	NA	NA	38,173	0	0	38,173	0	0	11,818	0	$11,818	$26,355	($86)	$21,791	($129)
Apr-98	2,278	0	0	$16.79	NA	NA	38,252	0	0	38,252	0	0	11,818	0	$11,818	$26,434	($60)	$21,613	($107)
May-98	2,278	0	0	$16.82	NA	NA	38,330	0	0	38,330	0	0	11,818	0	$11,818	$26,512	($33)	$21,435	($86)
Jun-98	2,278	0	0	$16.86	NA	NA	38,409	0	0	38,409	0	0	11,818	0	$11,818	$26,591	($7)	$21,260	($65)
Jul-98	2,278	0	0	$16.89	NA	NA	38,488	0	0	38,488	0	0	11,818	0	$11,818	$26,670	$20	$21,086	($44)
Aug-98	2,278	0	0	$16.93	NA	NA	38,567	0	0	38,567	0	0	11,818	0	$11,818	$26,749	$47	$20,913	($23)
Sep-98	2,278	0	0	$16.96	NA	NA	38,646	0	0	38,646	0	0	11,818	0	$11,818	$26,828	$74	$20,742	($2)
FY-98	27,344	0	0				458,614	0	0	458,614	0	0	141,816	0	$141,816	$316,798		$260,563	
FY-99	9,576	0	0	$17.17	NA	NA	164,420	0	0	164,420	0	0	131,280	0	$131,280	$33,140	$107	$24,147	$22
FY-00	0	0	0	$17.56	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-17	0	0	0	$25.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
Total	82,568	0	0				1,374,091	0	0	1,374,091	0	927,360	340,072	0	$1,267,432	$106,659		$22,269	

(WITH FD)

Unproven

Unproven

NPR-3*

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil bbls	Gas mcf	NGLS gals	Oil $	Gas $	NGLS $	Oil $	Gas $	NGLS $	Total $	Royalty @ not used	CapEx $	OpEx $	Prod. Taxes exempt	Total $	Net Revenue $	Cumulative $000	Discounted @ 13.50%	Cumulative Discounted $000
Oct-96	0	0	0	$16.18	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$16.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$16.25	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$16.28	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$16.31	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$16.35	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$16.38	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$16.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$16.45	NA	NA	0	0	0	0	0	231,840	0	0	$231,840	($231,840)	($232)	($211,992)	($212)
Jul-97	0	0	0	$16.48	NA	NA	0	0	0	0	0	231,840	0	0	$231,840	($231,840)	($464)	($209,834)	($422)
Aug-97	3,977	0	0	$16.52	NA	NA	65,679	0	0	65,679	0	0	5,152	0	$5,152	$60,527	($403)	$54,121	($368)
Sep-97	3,976	0	0	$16.55	NA	NA	65,804	0	0	65,804	0	231,840	5,152	0	$236,992	($171,188)	($574)	($151,366)	($519)
FY-97	7,953	0	0				131,483	0	0	131,483	0	695,520	10,304	0	$705,824	($574,341)		($518,871)	
Oct-97	1,401	0	0	$16.58	NA	NA	23,233	0	0	23,233	0	238,888	5,909	0	$244,797	($221,564)	($796)	($193,730)	($713)
Nov-97	3,437	0	0	$16.62	NA	NA	57,111	0	0	57,111	0	0	11,818	0	$11,818	$45,293	($751)	$39,162	($673)
Dec-97	3,437	0	0	$16.65	NA	NA	57,228	0	0	57,228	0	0	11,818	0	$11,818	$45,410	($705)	$38,827	($635)
Jan-98	3,437	0	0	$16.69	NA	NA	57,346	0	0	57,346	0	0	11,818	0	$11,818	$45,528	($660)	$38,495	($596)
Feb-98	3,437	0	0	$16.72	NA	NA	57,464	0	0	57,464	0	0	11,818	0	$11,818	$45,646	($614)	$38,165	($558)
Mar-98	3,437	0	0	$16.75	NA	NA	57,582	0	0	57,582	0	0	11,818	0	$11,818	$45,764	($568)	$37,838	($520)
Apr-98	3,437	0	0	$16.79	NA	NA	57,700	0	0	57,700	0	0	11,818	0	$11,818	$45,882	($522)	$37,514	($483)
May-98	3,437	0	0	$16.82	NA	NA	57,819	0	0	57,819	0	0	11,818	0	$11,818	$46,001	($476)	$37,192	($445)
Jun-98	3,437	0	0	$16.86	NA	NA	57,937	0	0	57,937	0	0	11,818	0	$11,818	$46,119	($430)	$36,873	($409)
Jul-98	3,437	0	0	$16.89	NA	NA	58,056	0	0	58,056	0	0	11,818	0	$11,818	$46,238	($384)	$36,557	($372)
Aug-98	3,436	0	0	$16.93	NA	NA	58,165	0	0	58,165	0	0	11,818	0	$11,818	$46,347	($338)	$36,235	($336)
Sep-98	3,436	0	0	$16.96	NA	NA	58,275	0	0	58,275	0	0	11,818	0	$11,818	$46,457	($291)	$35,917	($300)
FY-98	39,204	0	0				657,916	0	0	657,916	0	238,888	135,907	0	$374,795	$283,121		$219,045	
FY-99	12,743	0	0	$17.17	NA	NA	218,804	0	0	218,804	0	0	131,280	0	$131,280	$87,524	($204)	$63,773	($236)
FY-00	0	0	0	$17.56	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-17	0	0	0	$25.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
Total	59,900	0	0				1,008,203	0	0	1,008,203	0	934,408	277,491	0	$1,211,899	($203,696)		($236,053)	

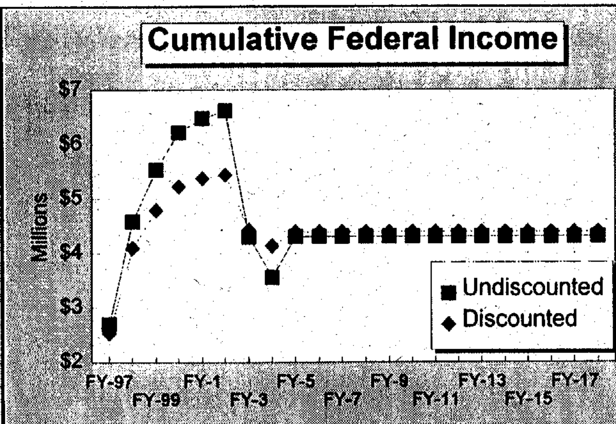
(WITH FD)

NPR-3+ Retention Case

DOE Summarized Output

	Production			Prices			DOE Net Income Calculations				
	OIL (MBO)	GAS (MMCF)	NGLs (GPD)	OIL ($/BO)	GAS ($/MMBTU)	NGLs ($/Gal)	Oil & Gas Revenue ($ 000)	Oil & Gas Costs ($ 000)	Overhead Costs ($ 000)	Cash Flow ($ 000)	Discounted Cash Flow ($ 000)
1997	159.639	0.000	0	$16.36	NA	NA	$2,618.247	$2,251.424	$575.002	($208)	($195)
1998	116.495	0.000	0	$16.77	NA	NA	$1,954.249	$1,026.246	$204.500	$723	$598
1999	55.516	0.000	0	$17.17	NA	NA	$953.203	$722.040	$124.552	$107	$78
2000	21.788	0.000	0	$17.56	NA	NA	$382.592	$282.072	$48.657	$52	$33
2001	0.000	0.000	0	$17.96	NA	NA	$0.000	$0.000	$0.000	$0	$0
2002	0.000	0.000	0	$18.37	NA	NA	$0.000	$0.000	$0.000	$0	$0
2003	0.000	0.000	0	$18.78	NA	NA	$0.000	$0.000	$0.000	$0	$0
2004	0.000	0.000	0	$19.21	NA	NA	$0.000	$0.000	$0.000	$0	$0
2005	0.000	0.000	0	$19.65	NA	NA	$0.000	$0.000	$0.000	$0	$0
2006	0.000	0.000	0	$20.09	NA	NA	$0.000	$0.000	$0.000	$0	$0
2007	0.000	0.000	0	$20.55	NA	NA	$0.000	$0.000	$0.000	$0	$0
2008	0.000	0.000	0	$21.01	NA	NA	$0.000	$0.000	$0.000	$0	$0
2009	0.000	0.000	0	$21.49	NA	NA	$0.000	$0.000	$0.000	$0	$0
2010	0.000	0.000	0	$21.98	NA	NA	$0.000	$0.000	$0.000	$0	$0
2011	0.000	0.000	0	$22.48	NA	NA	$0.000	$0.000	$0.000	$0	$0
2012	0.000	0.000	0	$22.99	NA	NA	$0.000	$0.000	$0.000	$0	$0
2013	0.000	0.000	0	$23.51	NA	NA	$0.000	$0.000	$0.000	$0	$0
2014	0.000	0.000	0	$24.04	NA	NA	$0.000	$0.000	$0.000	$0	$0
2015	0.000	0.000	0	$24.59	NA	NA	$0.000	$0.000	$0.000	$0	$0
2016	0.000	0.000	0	$25.15	NA	NA	$0.000	$0.000	$0.000	$0	$0
2017	0.000	0.000	0	$25.72	NA	NA	$0.000	$0.000	$0.000	$0	$0
2018	0.000	0.000	0	$26.30	NA	NA	$0.000	$0.000	$0.000	$0	$0
TOTALS	353.437	0.000	0				$5,908.291	$4,281.783	$952.711	$674	**$514**

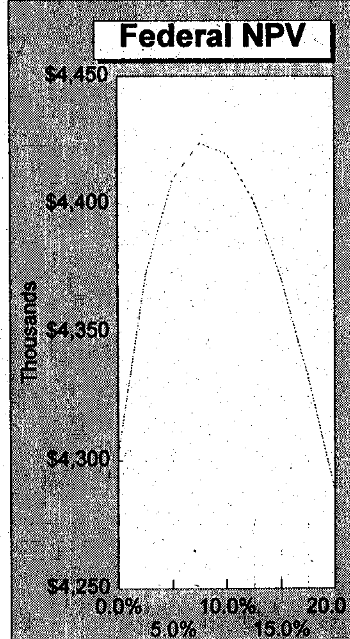
Current Parameters
Price=INFL
Case=1
Royalty=not used
Bonus=$0
Severance=none
Ad Valorem =none
St. Tax Rate=none
Fed Tax Rate= 35%
Mcf/bbl=6
Industry Rate=17.20%



Operator Concerns

	RISK	
	Production	Expenses
PDP	100.0%	100.0%
PD-NP	80.0%	100.0%
PUD	60.0%	100.0%
Unproven	60.0%	100.0%

Federal Benefits Model
NPR-3



	Initial Income	Royalties	Federal Income Taxes	Total Federal Income	Cumulative	Discounted	Cumulative Discounted
	$	$	$	$	$000		$000
FY-97	0	0	0	2,697,118	2,697	2,531,640	2,532
FY-98		0	0	1,887,665	4,585	1,561,102	4,093
FY-99		0	0	949,151	5,534	691,585	4,784
FY-00		0	0	684,027	6,218	439,124	5,223
FY-1		0	0	260,079	6,478	147,104	5,371
FY-2		0	0	138,771	6,617	69,155	5,440
FY-3		0	0	(2,315,839)	4,301	(1,016,799)	4,423
FY-4		0	0	(736,767)	3,564	(285,011)	4,138
FY-5		0	0	740,204	4,304	252,282	4,390
FY-6		0	0	0	4,304	0	4,390
FY-7		0	0	0	4,304	0	4,390
FY-8		0	0	0	4,304	0	4,390
FY-9		0	0	0	4,304	0	4,390
FY-10		0	0	0	4,304	0	4,390
FY-11		0	0	0	4,304	0	4,390
FY-12		0	0	0	4,304	0	4,390
FY-13		0	0	0	4,304	0	4,390
FY-14		0	0	0	4,304	0	4,390
FY-15		0	0	0	4,304	0	4,390
FY-16		0	0	0	4,304	0	4,390
FY-17		0	0	0	4,304	0	4,390
FY-18		0	0	0	4,304	0	4,390
Thereafter		0	0	0	4,304	0	4,390
TOTAL	0	0	0	4,304,409		4,390,182	
NPV=	0	0	0				

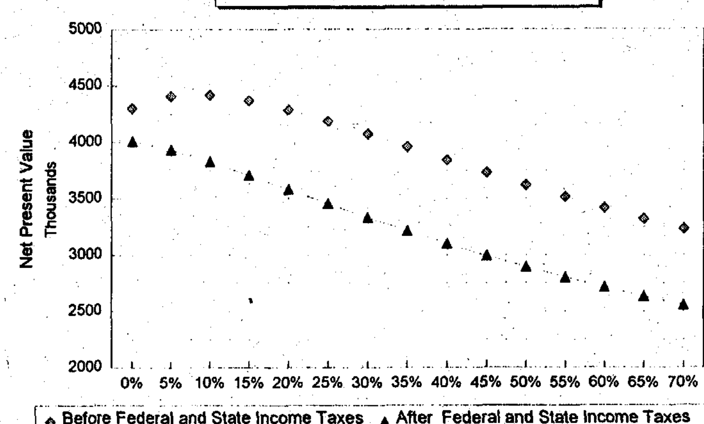
Federal Income Tax Calculations

NPR-3

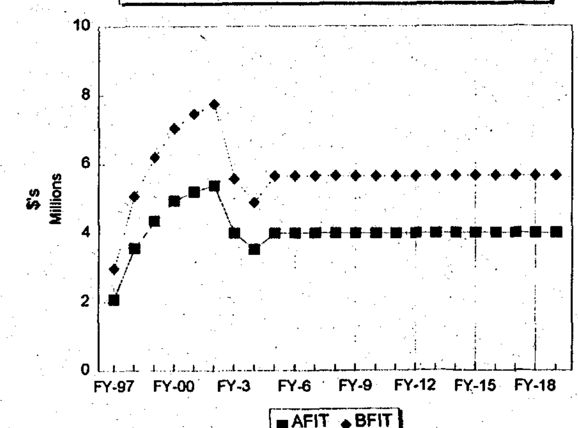
	Revenue $	Royalty, 80% Cap. OpEx, and Prod. Tax $	Allocated Overhead $	Depreciation $	Depletion $	Total Deductions $	Taxable Income $	State Income Taxes $	Federal Income Taxes $	After Tax Cash Flow $	Cumulative $000	Discounted @ 14.2%	Cumulative Discounted $000
FY-97	6,477,498	3,498,736	281,648	0	971,625	4,752,009	1,725,489	0	603,921	2,093,197	2,093	1,958,741	1,959
FY-98	4,572,872	2,485,151	200,055	0	685,931	3,371,137	1,201,735	0	420,607	1,467,058	3,560	1,202,121	3,161
FY-99	3,413,156	2,280,430	183,575	0	511,973	2,975,978	437,178	0	153,012	796,139	4,356	571,247	3,732
FY-00	2,835,903	1,991,556	160,320	0	425,385	2,577,261	258,642	0	90,525	593,502	4,950	372,899	4,105
FY-1	2,438,179	2,015,826	162,274	0	260,079	2,438,179	0	0	0	260,079	5,210	143,090	4,248
FY-2	2,021,557	1,858,884	149,640	0	138,770	2,147,295	(125,738)	0	(44,008)	182,779	5,393	88,057	4,336
FY-3	1,583,810	4,098,592	137,990	0	0	4,236,582	(2,652,772)	0	(928,470)	(1,387,369)	4,005	(585,278)	3,751
FY-4	0	681,876	54,891	0	0	736,767	(736,767)	0	(257,869)	(478,898)	3,526	(176,908)	3,574
FY-5	0	(762,039)	21,835	0	0	(740,204)	740,204	0	259,071	481,133	4,008	155,633	3,730
FY-6	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
FY-7	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
FY-8	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
FY-9	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
FY-10	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
FY-11	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
FY-12	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
FY-13	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
FY-14	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
FY-15	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
FY-16	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
FY-17	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
FY-18	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
Thereafter	0	0	0	0	0	0	0	0	0	0	4,008	0	3,730
TOTAL	23,342,975	18,149,013	1,352,228	0	2,993,764	22,495,005	847,970	0	296,790	4,007,619		3,729,601	

Discount Factor	Before Federal and State Income Taxes	After Federal and State Income Taxes
17.20%	4,338,000	
14.20%		3,730,000
0%	4,304,000	4,008,000
5%	4,410,000	3,935,000
10%	4,420,000	3,830,000
15%	4,371,000	3,710,000
20%	4,288,000	3,583,000
25%	4,185,000	3,455,000
30%	4,073,000	3,331,000
35%	3,957,000	3,213,000
40%	3,841,000	3,100,000
45%	3,728,000	2,994,000
50%	3,619,000	2,895,000
55%	3,514,000	2,802,000
60%	3,415,000	2,715,000
65%	3,320,000	2,633,000
70%	3,231,000	2,557,000

Industry Net Present Value



Cumulative Income to Industry



PD, PD-NP, PUD plus Unproven Before Federal Income Tax

NPR-3

	PRODUCTION			REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue before bonus/price	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	none	$	$	exempt	$	$	$000	13.50%	$000
Oct-96	24,372	0	156,188	480,616	0	53,104	533,720	0	0	291,561	0	291,561	242,159	242	242,159	242
Nov-96	24,372	0	156,188	481,603	0	53,213	534,816	0	0	291,561	0	291,561	243,255	485	240,549	483
Dec-96	24,372	0	156,188	482,593	0	53,322	535,915	0	0	291,561	0	291,561	244,354	730	238,947	722
Jan-97	24,372	0	156,188	483,584	0	53,432	537,016	0	0	291,561	0	291,561	245,455	975	237,354	959
Feb-97	24,372	0	156,188	484,577	0	53,541	538,118	0	0	291,561	0	291,561	246,557	1,222	235,767	1,195
Mar-97	24,372	0	156,188	485,573	0	53,651	539,224	0	0	291,561	0	291,561	247,663	1,469	234,190	1,429
Apr-97	24,372	0	156,188	486,570	0	53,762	540,332	0	0	291,561	0	291,561	248,771	1,718	232,621	1,662
May-97	24,372	0	156,188	487,570	0	53,872	541,442	0	0	291,561	0	291,561	249,881	1,968	231,059	1,893
Jun-97	24,372	0	156,188	488,572	0	53,983	542,555	0	0	291,561	0	291,561	250,994	2,219	229,507	2,122
Jul-97	24,372	0	156,188	489,575	0	54,094	543,669	0	0	291,561	0	291,561	252,108	2,471	227,961	2,350
Aug-97	24,372	0	156,188	490,581	0	54,205	544,786	0	0	291,561	0	291,561	253,225	2,724	226,423	2,577
Sep-97	24,372	0	156,188	491,589	0	54,316	545,905	0	0	291,561	0	291,561	254,344	2,979	224,894	2,801
FY-97	292,464	0	1,874,250	5,833,003	0	644,495	6,477,498	0	0	3,498,736	0	3,498,736	2,978,766	[redacted]	2,801,431	[redacted]
Oct-97	15,987	0	154,000	323,124	0	53,665	376,789	0	0	207,096	0	207,096	169,693	3,148	148,375	2,950
Nov-97	15,987	0	154,000	323,788	0	53,776	377,564	0	0	207,096	0	207,096	170,468	3,319	147,395	3,097
Dec-97	15,987	0	154,000	324,453	0	53,886	378,339	0	0	207,096	0	207,096	171,243	3,490	146,418	3,244
Jan-98	15,987	0	154,000	325,120	0	53,997	379,117	0	0	207,096	0	207,096	172,021	3,662	145,447	3,389
Feb-98	15,987	0	154,000	325,787	0	54,108	379,895	0	0	207,096	0	207,096	172,799	3,835	144,479	3,534
Mar-98	15,987	0	154,000	326,457	0	54,219	380,676	0	0	207,096	0	207,096	173,580	4,009	143,517	3,677
Apr-98	15,987	0	154,000	327,127	0	54,330	381,457	0	0	207,096	0	207,096	174,361	4,183	142,559	3,820
May-98	15,987	0	154,000	327,799	0	54,442	382,241	0	0	207,096	0	207,096	175,145	4,358	141,607	3,961
Jun-98	15,987	0	154,000	328,473	0	54,554	383,027	0	0	207,096	0	207,096	175,931	4,534	140,660	4,102
Jul-98	15,987	0	154,000	329,148	0	54,666	383,814	0	0	207,096	0	207,096	176,718	4,711	139,718	4,242
Aug-98	15,986	0	154,000	329,803	0	54,778	384,581	0	0	207,096	0	207,096	177,485	4,888	138,763	4,380
Sep-98	15,986	0	154,000	330,481	0	54,891	385,372	0	0	207,096	0	207,096	178,276	5,066	137,831	4,518
FY-98	191,842	0	1,848,000	3,921,560	0	651,312	4,572,872	0	0	2,485,151	0	2,485,151	2,087,720	[redacted]	1,716,769	[redacted]
FY-99	131,692	0	1,821,750	2,755,863	0	657,293	3,413,156	0	0	2,280,430	0	2,280,430	1,132,726	6,199	825,344	5,344
FY-00	101,552	0	1,795,500	2,173,376	0	662,527	2,835,903	0	0	1,991,556	0	1,991,556	844,347	7,044	542,045	5,886
FY-1	80,892	0	1,769,250	1,770,518	0	667,661	2,438,179	0	0	2,015,826	0	2,015,826	422,353	7,466	238,888	6,124
FY-2	65,877	0	1,743,000	1,474,609	0	672,686	2,021,557	0	0	1,858,884	0	1,858,884	288,411	7,754	143,726	6,268
FY-3	54,304	0	1,716,750	1,243,148	0	677,595	1,583,810	0	0	4,098,592	0	4,098,592	(2,177,849)	5,576	(956,213)	5,312
FY-4	0	0	0	0	0	0	0	0	0	681,876	0	681,876	(681,876)	4,895	(263,777)	5,048
FY-5	0	0	0	0	0	0	0	0	0	(762,039)	0	(762,039)	762,039	5,657	259,724	5,308
FY-6	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-7	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-8	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-9	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-10	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-11	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-12	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-13	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-14	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-15	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-16	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-17	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
FY-18	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
Thereafter	0	0	0	0	0	0	0	0	0	0	0	0	0	5,657	0	5,308
TOTAL	918,623	900,000	11,389,050	19,172,077	0	4,170,898	23,342,975	0	0	18,149,013	0	18,149,013	5,656,637		5,307,937	

PDP

NPR-3

Proved Developed Producing

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	exempt	$	$	$000	13.50%	$000
Oct-96	24,372	0	156,188	$19.72	NA	$0.34	480,616	0	53,104	533,720	0	0	286,861	0	$286,861	$246,859	$247	$246,859	$247
Nov-96	24,372	0	156,188	$19.76	NA	$0.34	481,603	0	53,213	534,816	0	0	286,861	0	$286,861	$247,955	$495	$245,197	$492
Dec-96	24,372	0	156,188	$19.80	NA	$0.34	482,593	0	53,322	535,915	0	0	286,861	0	$286,861	$249,054	$744	$243,543	$736
Jan-97	24,372	0	156,188	$19.84	NA	$0.34	483,584	0	53,432	537,016	0	0	286,861	0	$286,861	$250,155	$994	$241,899	$977
Feb-97	24,372	0	156,188	$19.88	NA	$0.34	484,577	0	53,541	538,118	0	0	286,861	0	$286,861	$251,257	$1,245	$240,261	$1,218
Mar-97	24,372	0	156,188	$19.92	NA	$0.34	485,573	0	53,651	539,224	0	0	286,861	0	$286,861	$252,363	$1,498	$238,634	$1,456
Apr-97	24,372	0	156,188	$19.96	NA	$0.34	486,570	0	53,762	540,332	0	0	286,861	0	$286,861	$253,471	$1,751	$237,016	$1,693
May-97	24,372	0	156,188	$20.01	NA	$0.34	487,570	0	53,872	541,442	0	0	286,861	0	$286,861	$254,581	$2,006	$235,405	$1,929
Jun-97	24,372	0	156,188	$20.05	NA	$0.35	488,572	0	53,983	542,555	0	0	286,861	0	$286,861	$255,694	$2,261	$233,804	$2,163
Jul-97	24,372	0	156,188	$20.09	NA	$0.35	489,575	0	54,094	543,669	0	0	286,861	0	$286,861	$256,808	$2,518	$232,210	$2,395
Aug-97	24,372	0	156,188	$20.13	NA	$0.35	490,581	0	54,205	544,786	0	0	286,861	0	$286,861	$257,925	$2,776	$230,628	$2,625
Sep-97	24,372	0	156,188	$20.17	NA	$0.35	491,589	0	54,316	545,905	0	0	286,861	0	$286,861	$259,044	$3,035	$229,050	$2,855
FY-97	292,464	0	1,874,250	[redacted]	[redacted]	[redacted]	5,833,003	0	644,495	6,477,498	0	0	3,442,332	0	$3,442,332	$3,035,166	[redacted]	$2,854,504	[redacted]
Oct-97	15,987	0	154,000	$20.21	NA	$0.35	323,124	0	53,665	376,789	0	0	151,113	0	$151,113	$225,676	$3,261	$197,325	$3,052
Nov-97	15,987	0	154,000	$20.25	NA	$0.35	323,788	0	53,776	377,564	0	0	151,113	0	$151,113	$226,451	$3,487	$195,800	$3,248
Dec-97	15,987	0	154,000	$20.29	NA	$0.35	324,453	0	53,886	378,339	0	0	151,113	0	$151,113	$227,226	$3,715	$194,285	$3,442
Jan-98	15,987	0	154,000	$20.34	NA	$0.35	325,120	0	53,997	379,117	0	0	151,113	0	$151,113	$228,004	$3,943	$192,781	$3,635
Feb-98	15,987	0	154,000	$20.38	NA	$0.35	325,787	0	54,108	379,895	0	0	151,113	0	$151,113	$228,782	$4,171	$191,287	$3,826
Mar-98	15,987	0	154,000	$20.42	NA	$0.35	326,457	0	54,219	380,676	0	0	151,113	0	$151,113	$229,563	$4,401	$189,805	$4,016
Apr-98	15,987	0	154,000	$20.46	NA	$0.35	327,127	0	54,330	381,457	0	0	151,113	0	$151,113	$230,344	$4,631	$188,332	$4,204
May-98	15,987	0	154,000	$20.50	NA	$0.35	327,799	0	54,442	382,241	0	0	151,113	0	$151,113	$231,128	$4,862	$186,870	$4,391
Jun-98	15,987	0	154,000	$20.55	NA	$0.35	328,473	0	54,554	383,027	0	0	151,113	0	$151,113	$231,914	$5,094	$185,420	$4,576
Jul-98	15,987	0	154,000	$20.59	NA	$0.35	329,148	0	54,666	383,814	0	0	151,113	0	$151,113	$232,701	$5,327	$183,979	$4,760
Aug-98	15,986	0	154,000	$20.63	NA	$0.36	329,803	0	54,778	384,581	0	0	151,113	0	$151,113	$233,468	$5,560	$182,532	$4,943
Sep-98	15,986	0	154,000	$20.67	NA	$0.36	330,481	0	54,891	385,372	0	0	151,113	0	$151,113	$234,259	$5,795	$181,113	$5,124
FY-98	191,842	0	1,848,000	[redacted]	[redacted]	[redacted]	3,921,560	0	651,312	4,572,872	0	0	1,813,356	0	$1,813,356	$2,759,516	[redacted]	$2,269,529	[redacted]
FY-99	131,692	0	1,821,750	$20.93	NA	$0.36	2,755,863	0	657,293	3,413,156	0	0	1,588,212	0	$1,588,212	$1,824,944	$7,620	$1,329,719	$6,454
FY-00	101,552	0	1,795,500	$21.40	NA	$0.37	2,173,376	0	662,527	2,835,903	0	0	1,391,020	0	$1,391,020	$1,444,883	$9,065	$927,571	$7,381
FY-1	80,892	0	1,769,250	$21.89	NA	$0.38	1,770,518	0	667,661	2,438,179	0	0	1,218,310	0	$1,218,310	$1,219,869	$10,284	$689,973	$8,071
FY-2	65,877	0	1,743,000	$22.38	NA	$0.39	1,474,609	0	672,686	2,147,295	0	0	1,067,045	0	$1,067,045	$1,080,250	$11,365	$538,328	$8,610
FY-3	54,304	0	1,716,750	$22.89	NA	$0.39	1,243,148	0	677,595	1,920,743	0	0	934,561	0	$934,561	$986,182	$12,351	$432,996	$9,043
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-17	0	0	0	$31.34	NA	NA	$0.00	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$12,351	$0	$9,043
Total	918,623	0	12,568,500				19,172,077	0	4,633,569	23,805,646	0	0	11,454,836	0	$11,454,836	$12,350,810		$9,042,620	

PD-NP

Proved Developed Non-Producing

NPR-3

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	exempt	$	$	$000	13.50%	$000
Oct-96	0	0	0	$19.72	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($5)	($4,700)	($5)
Nov-96	0	0	0	$19.76	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($9)	($4,648)	($9)
Dec-96	0	0	0	$19.80	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($14)	($4,596)	($14)
Jan-97	0	0	0	$19.84	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($19)	($4,545)	($18)
Feb-97	0	0	0	$19.88	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($24)	($4,495)	($23)
Mar-97	0	0	0	$19.92	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($28)	($4,445)	($27)
Apr-97	0	0	0	$19.96	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($33)	($4,395)	($32)
May-97	0	0	0	$20.01	NA	$0.34	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($38)	($4,346)	($36)
Jun-97	0	0	0	$20.05	NA	$0.35	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($42)	($4,298)	($40)
Jul-97	0	0	0	$20.09	NA	$0.35	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($47)	($4,250)	($45)
Aug-97	0	0	0	$20.13	NA	$0.35	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($52)	($4,203)	($49)
Sep-97	0	0	0	$20.17	NA	$0.35	0	0	0	0	0	0	4,700	0	$4,700	($4,700)	($56)	($4,156)	($53)
FY-97	0	0	0				0	0	0	0	0	0	56,404	0	$56,404	($56,404)		($53,077)	
Oct-97	0	0	0	$20.21	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($112)	($48,950)	($102)
Nov-97	0	0	0	$20.25	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($168)	($48,406)	($150)
Dec-97	0	0	0	$20.29	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($224)	($47,867)	($198)
Jan-98	0	0	0	$20.34	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($280)	($47,334)	($246)
Feb-98	0	0	0	$20.38	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($336)	($46,808)	($292)
Mar-98	0	0	0	$20.42	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($392)	($46,287)	($339)
Apr-98	0	0	0	$20.46	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($448)	($45,772)	($385)
May-98	0	0	0	$20.50	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($504)	($45,263)	($430)
Jun-98	0	0	0	$20.55	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($560)	($44,759)	($475)
Jul-98	0	0	0	$20.59	NA	$0.35	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($616)	($44,262)	($519)
Aug-98	0	0	0	$20.63	NA	$0.36	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($672)	($43,769)	($563)
Sep-98	0	0	0	$20.67	NA	$0.36	0	0	0	0	0	0	55,983	0	$55,983	($55,983)	($728)	($43,282)	($606)
FY-98	0	0	0				0	0	0	0	0	0	671,795	0	$671,795	($671,795)		($552,759)	
FY-99	0	0	0	$20.93	NA	$0.36	0	0	0	0	0	0	692,218	0	$692,218	($692,218)	($1,420)	($504,375)	($1,110)
FY-00	0	0	0	$21.40	NA	$0.37	0	0	0	0	0	0	600,536	0	$600,536	($600,536)	($2,021)	($385,526)	($1,496)
FY-1	0	0	0	$21.89	NA	$0.38	0	0	0	0	0	0	797,516	0	$797,516	($797,516)	($2,818)	($451,085)	($1,947)
FY-2	0	0	0	$22.38	NA	$0.39	0	0	0	0	0	0	791,839	0	$791,839	($791,839)	($3,610)	($394,603)	($2,341)
FY-3	0	0	0	$22.89	NA	$0.39	0	0	0	0	0	0	3,164,031	0	$3,164,031	($3,164,031)	($6,774)	($1,389,209)	($3,731)
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	681,876	0	$681,876	($681,876)	($7,456)	($263,777)	($3,994)
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	(762,039)	0	($762,039)	$762,039	($6,694)	$259,724	($3,735)
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-17	0	0	0	$31.34	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,694)	$0	($3,735)
Total	0	0	0				0	0	0	0	0	0	6,694,177	0	$6,694,177	($6,694,177)		($3,734,687)	

PUD

Proved Undeveloped

NPR-3

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEX	OpEX	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	exempt	$	$	$000	13.50%	$000
Oct-96	0	0	0	$19.72	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$19.76	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$19.80	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$19.84	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$19.88	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$19.92	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$19.96	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$20.01	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$20.05	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-97	0	0	0	$20.09	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-97	0	0	0	$20.13	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-97	0	0	0	$20.17	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-97	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
Oct-97	0	0	0	$20.21	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-97	0	0	0	$20.25	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-97	0	0	0	$20.29	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-98	0	0	0	$20.34	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-98	0	0	0	$20.38	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-98	0	0	0	$20.42	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-98	0	0	0	$20.46	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-98	0	0	0	$20.50	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-98	0	0	0	$20.55	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-98	0	0	0	$20.59	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-98	0	0	0	$20.63	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-98	0	0	0	$20.67	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-98	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
FY-99	0	0	0	$20.93	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-00	0	0	0	$21.40	NA	$0.37	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-1	0	0	0	$21.89	NA	$0.38	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-2	0	720,000	(325,800)	$22.38	NA	$0.39	0	0	(125,738)	(125,738)	0	0	0	0	$0	$0	$0	$0	$0
FY-3	0	180,000	(853,650)	$22.89	NA	$0.39	0	0	(336,933)	(336,933)	0	0	0	0	$0	$0	$0	$0	$0
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-17	0	0	0	$31.34	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Total	0	900,000	(1,179,450)				0	0	(462,671)	(462,671)	0	0	0	0	$0	$0		$0	

Unproven

Unproven

NPR-3

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	exempt	$	$	$000	13.50%	$000
Oct-96	0	0	0	$19.72	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$19.76	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$19.80	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$19.84	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$19.88	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$19.92	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$19.96	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$20.01	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$20.05	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-97	0	0	0	$20.09	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-97	0	0	0	$20.13	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-97	0	0	0	$20.17	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-97	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
Oct-97	0	0	0	$20.21	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-97	0	0	0	$20.25	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-97	0	0	0	$20.29	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-98	0	0	0	$20.34	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-98	0	0	0	$20.38	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-98	0	0	0	$20.42	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-98	0	0	0	$20.46	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-98	0	0	0	$20.50	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-98	0	0	0	$20.55	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-98	0	0	0	$20.59	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-98	0	0	0	$20.63	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-98	0	0	0	$20.67	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-98	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
FY-99	0	0	0	$20.93	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-00	0	0	0	$21.40	NA	$0.37	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-1	0	0	0	$21.89	NA	$0.38	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-2	0	0	0	$22.38	NA	$0.39	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-3	0	0	0	$22.89	NA	$0.39	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-17	0	0	0	$31.34	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Total	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	

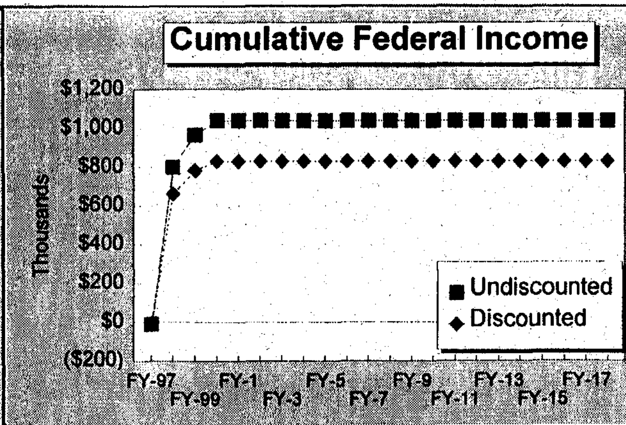
NPR-3 Retention Case

DOE Summarized Output

	Production			Prices			DOE Net Income Calculations				
	OIL (MBO)	GAS (MMCF)	NGLs (GPD)	OIL ($/BO)	GAS ($/MMBTU)	NGLs ($/Gal)	Oil & Gas Revenue ($ 000)	Oil & Gas Costs ($ 000)	Overhead Costs ($ 000)	Cash Flow ($ 000)	Discounted Cash Flow ($ 000)
1997	292.464	0.000	1874	$19.94	NA	$0.34	$6,477.498	$3,498.736	$281.648	$2,697	$2,532
1998	191.842	0.000	1848	$20.44	NA	$0.35	$4,572.872	$2,485.151	$200.055	$1,888	$1,561
1999	131.692	0.000	1822	$20.93	NA	$0.36	$3,413.156	$2,280.430	$183.575	$949	$692
2000	101.552	0.000	1796	$21.40	NA	$0.37	$2,835.903	$1,991.556	$160.320	$684	$439
2001	80.892	0.000	1769	$21.89	NA	$0.38	$2,438.179	$2,015.826	$162.274	$260	$147
2002	65.877	0.000	1743	$22.38	NA	$0.39	$2,021.557	$1,858.884	$149.640	$139	$69
2003	54.304	0.000	1717	$22.89	NA	$0.39	$1,583.810	$4,098.592	$137.990	($2,316)	($1,017)
2004	0.000	0.000	0	$23.41	NA	NA	$0.000	$681.876	$54.891	($737)	($285)
2005	0.000	0.000	0	$23.94	NA	NA	$0.000	($762.039)	$21.835	$740	$252
2006	0.000	0.000	0	$24.49	NA	NA	$0.000	$0.000	$0.000	$0	$0
2007	0.000	0.000	0	$25.04	NA	NA	$0.000	$0.000	$0.000	$0	$0
2008	0.000	0.000	0	$25.61	NA	NA	$0.000	$0.000	$0.000	$0	$0
2009	0.000	0.000	0	$26.19	NA	NA	$0.000	$0.000	$0.000	$0	$0
2010	0.000	0.000	0	$26.79	NA	NA	$0.000	$0.000	$0.000	$0	$0
2011	0.000	0.000	0	$27.40	NA	NA	$0.000	$0.000	$0.000	$0	$0
2012	0.000	0.000	0	$28.02	NA	NA	$0.000	$0.000	$0.000	$0	$0
2013	0.000	0.000	0	$28.65	NA	NA	$0.000	$0.000	$0.000	$0	$0
2014	0.000	0.000	0	$29.30	NA	NA	$0.000	$0.000	$0.000	$0	$0
2015	0.000	0.000	0	$29.97	NA	NA	$0.000	$0.000	$0.000	$0	$0
2016	0.000	0.000	0	$30.65	NA	NA	$0.000	$0.000	$0.000	$0	$0
2017	0.000	0.000	0	$31.34	NA	NA	$0.000	$0.000	$0.000	$0	$0
2018	0.000	0.000	0	$32.06	NA	NA	$0.000	$0.000	$0.000	$0	$0
TOTALS	918.623	0.000	12569				$23,342.975	$18,149.013	$1,352.228	$4,304	**$4,390**

Current Parameters

Price=INFL
Case=1
Royalty=not used
Bonus=$0
Severance=none
Ad Valorem =none
St. Tax Rate=none
Fed Tax Rate= 35%
Mcf/bbl=6
Industry Rate=17.20%

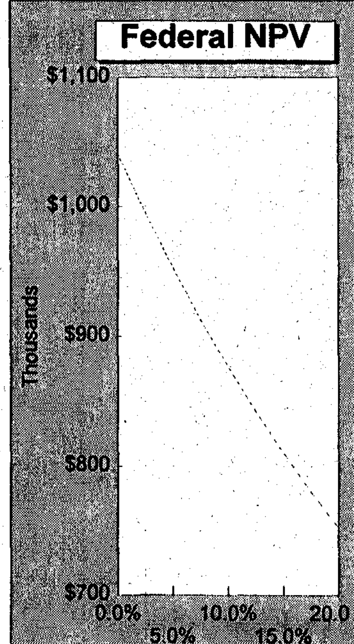


Operator Concerns

	RISK	
	Production	Expenses
PDP	100.0%	100.0%
PD-NP	80.0%	100.0%
PUD	80.0%	100.0%
Unproven	60.0%	100.0%

Federal Benefits Model

NPR-3+



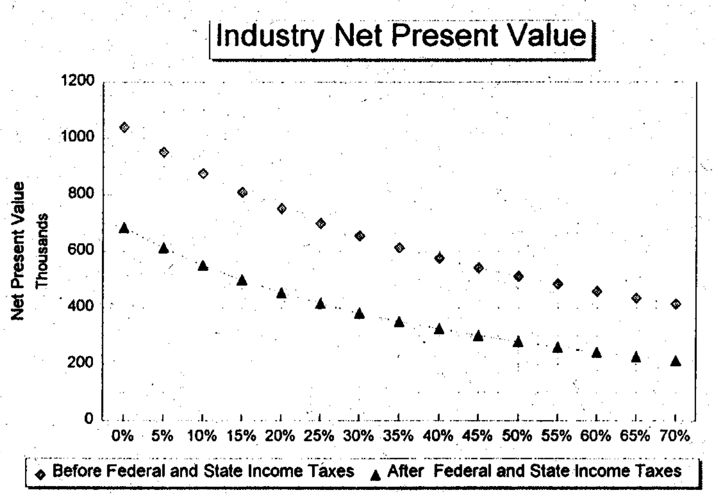
	Initial Income	Royalties	Federal Income Taxes	Total Federal Income	Cumulative	Discounted	Cumulative Discounted
	$	$	$	$	$000		$000
FY-97	0	0	0	(8,276)	(8)	(7,768)	(8)
FY-98		0	0	808,858	801	668,927	661
FY-99		0	0	164,735	965	120,032	781
FY-00		0	0	74,569	1,040	47,871	829
FY-1		0	0	0	1,040	0	829
FY-2		0	0	0	1,040	0	829
FY-3		0	0	0	1,040	0	829
FY-4		0	0	0	1,040	0	829
FY-5		0	0	0	1,040	0	829
FY-6		0	0	0	1,040	0	829
FY-7		0	0	0	1,040	0	829
FY-8		0	0	0	1,040	0	829
FY-9		0	0	0	1,040	0	829
FY-10		0	0	0	1,040	0	829
FY-11		0	0	0	1,040	0	829
FY-12		0	0	0	1,040	0	829
FY-13		0	0	0	1,040	0	829
FY-14		0	0	0	1,040	0	829
FY-15		0	0	0	1,040	0	829
FY-16		0	0	0	1,040	0	829
FY-17		0	0	0	1,040	0	829
FY-18		0	0	0	1,040	0	829
Thereafter		0	0	0	1,040	0	829
TOTAL	0	0	0	1,039,887		829,062	
NPV=	0	0	0				

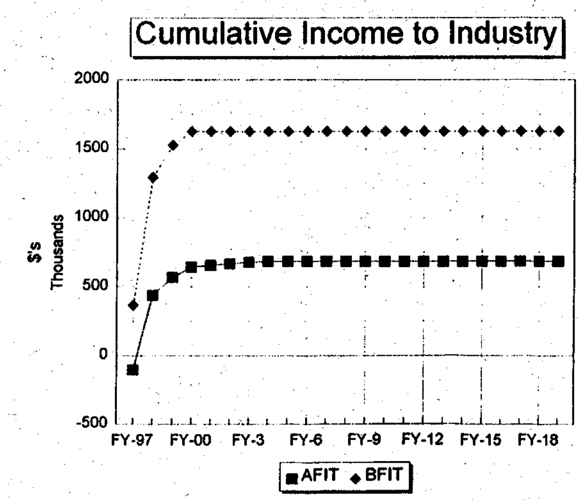
NPR-3*

Federal Income Tax Calculations

	Revenue $	Royalty, 80% Cap, OpEx, and Prod. Tax $	Allocated Overhead $	Depreciation $	Depletion $	Total Deductions $	Taxable Income $	State Income Taxes $	Federal Income Taxes $	After Tax Cash Flow $	Cumulative $000	Discounted @ 14.2%	Cumulative Discounted $000
FY-97	2,618,247	1,926,848	375,099	46,368	0	2,348,315	269,932	0	94,476	(102,752)	(103)	(96,152)	(96)
FY-98	1,954,249	978,469	119,140	86,313	0	1,183,922	770,327	0	269,615	539,244	436	441,861	346
FY-99	953,203	722,040	66,428	68,478	0	856,946	96,257	0	33,690	131,045	568	94,028	440
FY-00	382,592	282,072	25,951	48,913	25,656	382,592	0	0	0	74,569	642	46,852	487
FY-1	0	0	0	34,938	0	34,938	(34,938)	0	(12,228)	12,228	654	6,728	493
FY-2	0	0	0	33,232	0	33,232	(33,232)	0	(11,631)	11,631	666	5,604	499
FY-3	0	0	0	33,232	0	33,232	(33,232)	0	(11,631)	11,631	678	4,907	504
FY-4	0	0	0	18,748	0	18,748	(18,748)	0	(6,562)	6,562	684	2,424	506
FY-5	0	0	0	2,132	0	2,132	(2,132)	0	(746)	746	685	241	506
FY-6	0	0	0	0	0	0	0	0	0	0	685	0	506
FY-7	0	0	0	0	0	0	0	0	0	0	685	0	506
FY-8	0	0	0	0	0	0	0	0	0	0	685	0	506
FY-9	0	0	0	0	0	0	0	0	0	0	685	0	506
FY-10	0	0	0	0	0	0	0	0	0	0	685	0	506
FY-11	0	0	0	0	0	0	0	0	0	0	685	0	506
FY-12	0	0	0	0	0	0	0	0	0	0	685	0	506
FY-13	0	0	0	0	0	0	0	0	0	0	685	0	506
FY-14	0	0	0	0	0	0	0	0	0	0	685	0	506
FY-15	0	0	0	0	0	0	0	0	0	0	685	0	506
FY-16	0	0	0	0	0	0	0	0	0	0	685	0	506
FY-17	0	0	0	0	0	0	0	0	0	0	685	0	506
FY-18	0	0	0	0	0	0	0	0	0	0	685	0	506
Thereafter	0	0	0	0	0	0	0	0	0	0	685	0	506
TOTAL	5,908,291	3,909,429	586,617	372,354	25,656	4,894,056	1,014,235	0	354,982	684,905		506,493	

Discount Factor	Before Federal and State Income Taxes	After Federal and State Income Taxes
17.20%	783,000	
14.20%		506,000
0%	1,040,000	685,000
5%	952,000	612,000
10%	876,000	551,000
15%	810,000	499,000
20%	752,000	454,000
25%	700,000	415,000
30%	654,000	381,000
35%	612,000	351,000
40%	575,000	325,000
45%	542,000	301,000
50%	511,000	280,000
55%	484,000	260,000
60%	458,000	243,000
65%	435,000	227,000
70%	414,000	213,000





PD, PD-NP, PUD plus Unproven Before Federal Income Tax

NPR-3+

	PRODUCTION			REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue before bonus/price	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	none	$	$	exempt	$	$	$000	13.50%	$000
Oct-96	6,348	0	0	102,711	0	0	102,711	0	0	41,216	0	41,216	61,495	61	61,495	61
Nov-96	9,062	0	0	146,931	0	0	146,931	0	0	46,368	0	46,368	100,563	162	99,444	161
Dec-96	9,062	0	0	147,233	0	0	147,233	0	231,840	46,368	0	278,208	(130,975)	31	(128,077)	33
Jan-97	9,062	0	0	147,535	0	0	147,535	0	231,840	46,368	0	278,208	(130,673)	(100)	(126,360)	(93)
Feb-97	12,274	0	0	200,223	0	0	200,223	0	0	51,520	0	51,520	148,703	49	142,195	49
Mar-97	12,273	0	0	200,622	0	0	200,622	0	231,840	51,520	0	283,360	(82,738)	(34)	(78,237)	(30)
Apr-97	12,273	0	0	201,034	0	0	201,034	0	231,840	51,520	0	283,360	(82,326)	(116)	(76,981)	(107)
May-97	16,266	0	0	266,985	0	0	266,985	0	0	56,672	0	56,672	210,313	94	194,472	88
Jun-97	16,266	0	0	267,547	0	0	267,547	0	231,840	56,672	0	288,512	(20,965)	73	(19,170)	69
Jul-97	16,266	0	0	268,096	0	0	268,096	0	231,840	56,672	0	288,512	(20,416)	53	(18,461)	50
Aug-97	20,243	0	0	334,326	0	0	334,326	0	0	61,824	0	61,824	272,502	325	243,660	294
Sep-97	20,243	0	0	335,004	0	0	335,004	0	231,840	61,824	0	293,664	41,340	367	36,553	331
FY-97	159,639	0	0	2,618,247	0	0	2,618,247	0	1,622,880	628,544	0	2,251,424	366,823		330,533	
Oct-97	7,843	0	0	130,057	0	0	130,057	0	238,888	60,197	0	299,085	(169,028)	198	(147,794)	183
Nov-97	9,878	0	0	164,155	0	0	164,155	0	0	66,106	0	66,106	98,049	296	84,778	268
Dec-97	9,878	0	0	164,491	0	0	164,491	0	0	66,106	0	66,106	98,385	394	84,122	352
Jan-98	9,878	0	0	164,829	0	0	164,829	0	0	66,106	0	66,106	98,723	493	83,472	435
Feb-98	9,878	0	0	165,155	0	0	165,155	0	0	66,106	0	66,106	99,049	592	82,816	518
Mar-98	9,878	0	0	165,494	0	0	165,494	0	0	66,106	0	66,106	99,388	691	82,175	600
Apr-98	9,878	0	0	165,834	0	0	165,834	0	0	66,106	0	66,106	99,728	791	81,539	682
May-98	9,878	0	0	166,174	0	0	166,174	0	0	66,106	0	66,106	100,068	891	80,906	763
Jun-98	9,878	0	0	166,515	0	0	166,515	0	0	66,106	0	66,106	100,409	992	80,279	843
Jul-98	9,878	0	0	166,857	0	0	166,857	0	0	66,106	0	66,106	100,751	1,092	79,656	922
Aug-98	9,876	0	0	167,177	0	0	167,177	0	0	66,106	0	66,106	101,071	1,193	79,020	1,002
Sep-98	9,876	0	0	167,511	0	0	167,511	0	0	66,106	0	66,106	101,405	1,295	78,399	1,080
FY-98	116,495	0	0	1,954,249	0	0	1,954,249	0	238,888	787,358	0	1,026,246	927,998		749,368	
FY-99	55,516	0	0	953,203	0	0	953,203	0	0	722,040	0	722,040	231,163	1,526	168,434	1,248
FY-00	21,788	0	0	382,592	0	0	382,592	0	0	282,072	0	282,072	100,520	1,627	64,531	1,313
FY-1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-2	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-3	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-4	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-5	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-6	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-7	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-8	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-9	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-10	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-11	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-12	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-13	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-14	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-15	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-16	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-17	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
FY-18	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
Thereafter	0	0	0	0	0	0	0	0	0	0	0	0	0	1,627	0	1,313
TOTAL	353,437	0	0	5,908,291	0	0	5,908,291	0	1,861,768	2,420,015	0	4,281,783	1,626,504		1,312,866	

PDP

Proved Developed Producing

NPR-3+

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	exempt	$	$	$000	13.50%	$000
Oct-96	6,348	0	0	$16.18	NA	NA	102,711	0	0	102,711	0	0	41,216	0	$41,216	$61,495	$61	$61,495	$61
Nov-96	6,348	0	0	$16.21	NA	NA	102,922	0	0	102,922	0	0	41,216	0	$41,216	$61,706	$123	$61,020	$123
Dec-96	6,348	0	0	$16.25	NA	NA	103,133	0	0	103,133	0	0	41,216	0	$41,216	$61,917	$185	$60,547	$183
Jan-97	6,348	0	0	$16.28	NA	NA	103,345	0	0	103,345	0	0	41,216	0	$41,216	$62,129	$247	$60,078	$243
Feb-97	6,348	0	0	$16.31	NA	NA	103,557	0	0	103,557	0	0	41,216	0	$41,216	$62,341	$310	$59,613	$303
Mar-97	6,348	0	0	$16.35	NA	NA	103,770	0	0	103,770	0	0	41,216	0	$41,216	$62,554	$372	$59,151	$362
Apr-97	6,348	0	0	$16.38	NA	NA	103,983	0	0	103,983	0	0	41,216	0	$41,216	$62,767	$435	$58,692	$421
May-97	6,348	0	0	$16.41	NA	NA	104,197	0	0	104,197	0	0	41,216	0	$41,216	$62,981	$498	$58,237	$479
Jun-97	6,348	0	0	$16.45	NA	NA	104,411	0	0	104,411	0	0	41,216	0	$41,216	$63,195	$561	$57,785	$537
Jul-97	6,348	0	0	$16.48	NA	NA	104,625	0	0	104,625	0	0	41,216	0	$41,216	$63,409	$624	$57,336	$594
Aug-97	6,348	0	0	$16.52	NA	NA	104,840	0	0	104,840	0	0	41,216	0	$41,216	$63,624	$688	$56,890	$651
Sep-97	6,348	0	0	$16.55	NA	NA	105,056	0	0	105,056	0	0	41,216	0	$41,216	$63,840	$752	$56,448	$707
FY-97	76,176	0	0				1,246,550	0	0	1,246,550	0	0	494,592	0	$494,592	$751,958		$707,292	
Oct-97	3,384	0	0	$16.58	NA	NA	56,118	0	0	56,118	0	0	37,161	0	$37,161	$18,957	$771	$16,576	$724
Nov-97	3,384	0	0	$16.62	NA	NA	56,234	0	0	56,234	0	0	37,161	0	$37,161	$19,073	$790	$16,491	$740
Dec-97	3,384	0	0	$16.65	NA	NA	56,349	0	0	56,349	0	0	37,161	0	$37,161	$19,188	$809	$16,406	$757
Jan-98	3,384	0	0	$16.69	NA	NA	56,465	0	0	56,465	0	0	37,161	0	$37,161	$19,304	$828	$16,322	$773
Feb-98	3,384	0	0	$16.72	NA	NA	56,581	0	0	56,581	0	0	37,161	0	$37,161	$19,420	$848	$16,237	$789
Mar-98	3,384	0	0	$16.75	NA	NA	56,697	0	0	56,697	0	0	37,161	0	$37,161	$19,536	$867	$16,153	$805
Apr-98	3,384	0	0	$16.79	NA	NA	56,814	0	0	56,814	0	0	37,161	0	$37,161	$19,653	$887	$16,068	$822
May-98	3,384	0	0	$16.82	NA	NA	56,930	0	0	56,930	0	0	37,161	0	$37,161	$19,769	$907	$15,984	$838
Jun-98	3,384	0	0	$16.86	NA	NA	57,047	0	0	57,047	0	0	37,161	0	$37,161	$19,886	$927	$15,899	$853
Jul-98	3,384	0	0	$16.89	NA	NA	57,164	0	0	57,164	0	0	37,161	0	$37,161	$20,003	$947	$15,815	$869
Aug-98	3,384	0	0	$16.93	NA	NA	57,282	0	0	57,282	0	0	37,161	0	$37,161	$20,121	$967	$15,731	$885
Sep-98	3,384	0	0	$16.96	NA	NA	57,400	0	0	57,400	0	0	37,161	0	$37,161	$20,239	$987	$15,647	$901
FY-98	40,608	0	0				681,081	0	0	681,081	0	0	445,932	0	$445,932	$235,149		$193,329	
FY-99	28,377	0	0	$17.17	NA	NA	487,233	0	0	487,233	0	0	393,840	0	$393,840	$93,393	$1,081	$68,049	$969
FY-00	21,768	0	0	$17.56	NA	NA	382,592	0	0	382,592	0	0	282,072	0	$282,072	$100,520	$1,181	$64,531	$1,033
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-17	0	0	0	$25.72	NA	NA	$0.00	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$1,181	$0	$1,033
Thereafter	0	0	0	$26.90	NA	NA	0	0	0		0	0	0	0	$0	$0	$1,181	$0	$1,033
Total	166,949	0	0				2,797,456	0	0	2,797,456	0	0	1,616,436	0	$1,616,436	$1,181,020		$1,033,201	

PD-NP

NPR-3*

Proved Developed Non-Producing

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	exempt	$	$	$000	13.50%	$000
Oct-96	0	0	0	$16.18	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	2,714	0	0	$16.21	NA	NA	44,009	0	0	44,009	0	0	5,152	0	$5,152	$38,857	$39	$38,425	$38
Dec-96	2,714	0	0	$16.25	NA	NA	44,100	0	0	44,100	0	0	5,152	0	$5,152	$38,948	$78	$38,086	$77
Jan-97	2,714	0	0	$16.28	NA	NA	44,190	0	0	44,190	0	0	5,152	0	$5,152	$39,038	$117	$37,750	$114
Feb-97	2,714	0	0	$16.31	NA	NA	44,281	0	0	44,281	0	0	5,152	0	$5,152	$39,129	$156	$37,417	$152
Mar-97	2,714	0	0	$16.35	NA	NA	44,372	0	0	44,372	0	0	5,152	0	$5,152	$39,220	$195	$37,086	$189
Apr-97	2,714	0	0	$16.38	NA	NA	44,463	0	0	44,463	0	0	5,152	0	$5,152	$39,311	$235	$36,759	$226
May-97	2,714	0	0	$16.41	NA	NA	44,554	0	0	44,554	0	0	5,152	0	$5,152	$39,402	$274	$36,434	$262
Jun-97	2,715	0	0	$16.45	NA	NA	44,659	0	0	44,659	0	0	5,152	0	$5,152	$39,507	$313	$36,125	$298
Jul-97	2,715	0	0	$16.48	NA	NA	44,751	0	0	44,751	0	0	5,152	0	$5,152	$39,599	$353	$35,806	$334
Aug-97	2,715	0	0	$16.52	NA	NA	44,843	0	0	44,843	0	0	5,152	0	$5,152	$39,691	$393	$35,490	$369
Sep-97	2,715	0	0	$16.55	NA	NA	44,935	0	0	44,935	0	0	5,152	0	$5,152	$39,783	$432	$35,177	$405
FY-97	29,862	0	0				489,157	0	0	489,157	0	0	56,672	0	$56,672	$432,485		$404,555	
Oct-97	778	0	0	$16.58	NA	NA	12,909	0	0	12,909	0	0	5,309	0	$5,309	$7,600	$440	$6,646	$411
Nov-97	778	0	0	$16.62	NA	NA	12,935	0	0	12,935	0	0	5,309	0	$5,309	$7,626	$448	$6,594	$418
Dec-97	778	0	0	$16.65	NA	NA	12,962	0	0	12,962	0	0	5,309	0	$5,309	$7,653	$455	$6,544	$424
Jan-98	778	0	0	$16.69	NA	NA	12,988	0	0	12,988	0	0	5,309	0	$5,309	$7,679	$463	$6,493	$431
Feb-98	778	0	0	$16.72	NA	NA	13,015	0	0	13,015	0	0	5,309	0	$5,309	$7,706	$471	$6,443	$437
Mar-98	778	0	0	$16.75	NA	NA	13,042	0	0	13,042	0	0	5,309	0	$5,309	$7,733	$478	$6,394	$444
Apr-98	778	0	0	$16.79	NA	NA	13,068	0	0	13,068	0	0	5,309	0	$5,309	$7,759	$486	$6,344	$450
May-98	778	0	0	$16.82	NA	NA	13,095	0	0	13,095	0	0	5,309	0	$5,309	$7,786	$494	$6,295	$456
Jun-98	778	0	0	$16.86	NA	NA	13,122	0	0	13,122	0	0	5,309	0	$5,309	$7,813	$502	$6,247	$463
Jul-98	778	0	0	$16.89	NA	NA	13,149	0	0	13,149	0	0	5,309	0	$5,309	$7,840	$510	$6,199	$469
Aug-98	778	0	0	$16.93	NA	NA	13,163	0	0	13,163	0	0	5,309	0	$5,309	$7,854	$518	$6,141	$475
Sep-98	778	0	0	$16.96	NA	NA	13,190	0	0	13,190	0	0	5,309	0	$5,309	$7,881	$525	$6,093	$481
FY-98	9,339	0	0				156,638	0	0	156,638	0	0	63,703	0	$63,703	$92,935		$76,433	
FY-99	4,819	0	0	$17.17	NA	NA	82,746	0	0	82,746	0	0	65,640	0	$65,640	$17,106	$543	$12,464	$493
FY-00	0	0	0	$17.56	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-17	0	0	0	$25.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$543	$0	$493
Total	44,020	0	0				728,541	0	0	728,541	0	0	186,015	0	$186,015	$542,526		$493,452	

PUD

NPR-3+

Proved Undeveloped

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil bbls	Gas mcf	NGLS gals	Oil $	Gas $	NGLS $	Oil $	Gas $	NGLS $	Total $	Royalty @ not used	CapEx $	OpEx $	Prod. Taxes exempt	Total $	Net Revenue $	Cumulative $000	Discounted @ 13.50%	Cumulative Discounted $000
Oct-96	0	0	0	$16.18	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$16.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$16.25	NA	NA	0	0	0	0	0	231,840	0	0	$231,840	($231,840)	($232)	($226,710)	($227)
Jan-97	0	0	0	$16.28	NA	NA	0	0	0	0	0	231,840	0	0	$231,840	($231,840)	($464)	($224,188)	($451)
Feb-97	3,211	0	0	$16.31	NA	NA	52,385	0	0	52,385	0	0	5,152	0	$5,152	$47,233	($416)	$45,166	($406)
Mar-97	3,210	0	0	$16.35	NA	NA	52,480	0	0	52,480	0	231,840	5,152	0	$236,992	($184,512)	($601)	($174,474)	($580)
Apr-97	3,210	0	0	$16.38	NA	NA	52,588	0	0	52,588	0	231,840	5,152	0	$236,992	($184,404)	($785)	($172,433)	($753)
May-97	7,203	0	0	$16.41	NA	NA	118,234	0	0	118,234	0	0	10,304	0	$10,304	$107,930	($677)	$99,800	($653)
Jun-97	7,203	0	0	$16.45	NA	NA	118,477	0	0	118,477	0	0	10,304	0	$10,304	$108,173	($569)	$98,912	($554)
Jul-97	7,203	0	0	$16.48	NA	NA	118,720	0	0	118,720	0	0	10,304	0	$10,304	$108,416	($461)	$98,032	($456)
Aug-97	7,203	0	0	$16.52	NA	NA	118,964	0	0	118,964	0	0	10,304	0	$10,304	$108,660	($352)	$97,159	($359)
Sep-97	7,203	0	0	$16.55	NA	NA	119,209	0	0	119,209	0	0	10,304	0	$10,304	$108,905	($243)	$96,295	($262)
FY-97	45,648	0	0	[redacted]			751,057	0	0	751,057	0	927,360	66,976	0	$994,336	($243,279)	[redacted]	($262,441)	[redacted]
Oct-97	2,279	0	0	$16.58	NA	NA	37,797	0	0	37,797	0	0	11,818	0	$11,818	$25,979	($217)	$22,715	($240)
Nov-97	2,279	0	0	$16.62	NA	NA	37,875	0	0	37,875	0	0	11,818	0	$11,818	$26,057	($191)	$22,530	($217)
Dec-97	2,279	0	0	$16.65	NA	NA	37,952	0	0	37,952	0	0	11,818	0	$11,818	$26,134	($165)	$22,345	($195)
Jan-98	2,279	0	0	$16.69	NA	NA	38,030	0	0	38,030	0	0	11,818	0	$11,818	$26,212	($139)	$22,163	($173)
Feb-98	2,278	0	0	$16.72	NA	NA	38,095	0	0	38,095	0	0	11,818	0	$11,818	$26,277	($113)	$21,970	($151)
Mar-98	2,278	0	0	$16.75	NA	NA	38,173	0	0	38,173	0	0	11,818	0	$11,818	$26,355	($86)	$21,791	($129)
Apr-98	2,278	0	0	$16.79	NA	NA	38,252	0	0	38,252	0	0	11,818	0	$11,818	$26,434	($60)	$21,613	($107)
May-98	2,278	0	0	$16.82	NA	NA	38,330	0	0	38,330	0	0	11,818	0	$11,818	$26,512	($33)	$21,435	($86)
Jun-98	2,278	0	0	$16.86	NA	NA	38,409	0	0	38,409	0	0	11,818	0	$11,818	$26,591	($7)	$21,260	($65)
Jul-98	2,278	0	0	$16.89	NA	NA	38,488	0	0	38,488	0	0	11,818	0	$11,818	$26,670	$20	$21,086	($44)
Aug-98	2,278	0	0	$16.93	NA	NA	38,567	0	0	38,567	0	0	11,818	0	$11,818	$26,749	$47	$20,913	($23)
Sep-98	2,278	0	0	$16.96	NA	NA	38,646	0	0	38,646	0	0	11,818	0	$11,818	$26,828	$74	$20,742	($2)
FY-98	27,344	0	0	[redacted]			458,614	0	0	458,614	0	0	141,816	0	$141,816	$316,798	[redacted]	$260,563	[redacted]
FY-99	9,576	0	0	$17.17	NA	NA	164,420	0	0	164,420	0	0	131,280	0	$131,280	$33,140	$107	$24,147	$22
FY-00	0	0	0	$17.56	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-17	0	0	0	$25.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$107	$0	$22
Total	82,568	0	0				1,374,091	0	0	1,374,091	0	927,360	340,072	0	$1,267,432	$106,659		$22,269	

Unproven

Unproven

NPR-3*

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil bbls	Gas mcf	NGLS gals	Oil $	Gas $	NGLS $	Oil $	Gas $	NGLS $	Total $	Royalty @ not used	CapEx $	OpEx $	Prod. Taxes exempt	Total $	Net Revenue $	Cumulative $000	Discounted @ 13.50%	Cumulative Discounted $000
Oct-96	0	0	0	$16.18	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$16.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$16.25	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$16.28	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$16.31	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$16.35	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$16.38	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$16.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$16.45	NA	NA	0	0	0	0	0	231,840	0	0	$231,840	($231,840)	($232)	($211,992)	($212)
Jul-97	0	0	0	$16.48	NA	NA	0	0	0	0	0	231,840	0	0	$231,840	($231,840)	($464)	($209,634)	($422)
Aug-97	3,977	0	0	$16.52	NA	NA	65,679	0	0	65,679	0	0	5,152	0	$5,152	$60,527	($403)	$54,121	($368)
Sep-97	3,976	0	0	$16.55	NA	NA	65,804	0	0	65,804	0	231,840	5,152	0	$236,992	($171,188)	($574)	($151,366)	($519)
FY-97	7,953	0	0				131,483	0	0	131,483	0	695,520	10,304	0	$705,824	($574,341)		($518,871)	
Oct-97	1,401	0	0	$16.58	NA	NA	23,233	0	0	23,233	0	238,888	5,909	0	$244,797	($221,564)	($796)	($193,730)	($713)
Nov-97	3,437	0	0	$16.62	NA	NA	57,111	0	0	57,111	0	0	11,818	0	$11,818	$45,293	($751)	$39,162	($673)
Dec-97	3,437	0	0	$16.65	NA	NA	57,228	0	0	57,228	0	0	11,818	0	$11,818	$45,410	($705)	$38,827	($635)
Jan-98	3,437	0	0	$16.69	NA	NA	57,346	0	0	57,346	0	0	11,818	0	$11,818	$45,528	($660)	$38,495	($596)
Feb-98	3,437	0	0	$16.72	NA	NA	57,464	0	0	57,464	0	0	11,818	0	$11,818	$45,646	($614)	$38,165	($558)
Mar-98	3,437	0	0	$16.75	NA	NA	57,582	0	0	57,582	0	0	11,818	0	$11,818	$45,764	($568)	$37,838	($520)
Apr-98	3,437	0	0	$16.79	NA	NA	57,700	0	0	57,700	0	0	11,818	0	$11,818	$45,882	($522)	$37,514	($483)
May-98	3,437	0	0	$16.82	NA	NA	57,819	0	0	57,819	0	0	11,818	0	$11,818	$46,001	($476)	$37,192	($445)
Jun-98	3,437	0	0	$16.86	NA	NA	57,937	0	0	57,937	0	0	11,818	0	$11,818	$46,119	($430)	$36,873	($409)
Jul-98	3,437	0	0	$16.89	NA	NA	58,056	0	0	58,056	0	0	11,818	0	$11,818	$46,238	($384)	$36,557	($372)
Aug-98	3,436	0	0	$16.93	NA	NA	58,165	0	0	58,165	0	0	11,818	0	$11,818	$46,347	($338)	$36,235	($336)
Sep-98	3,436	0	0	$16.96	NA	NA	58,275	0	0	58,275	0	0	11,818	0	$11,818	$46,457	($291)	$35,917	($300)
FY-98	39,204	0	0				657,916	0	0	657,916	0	238,888	135,907	0	$374,795	$283,121		$219,045	
FY-99	12,743	0	0	$17.17	NA	NA	218,804	0	0	218,804	0	0	131,280	0	$131,280	$87,524	($204)	$63,773	($236)
FY-00	0	0	0	$17.56	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-17	0	0	0	$25.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($236)
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($204)	$0	($235)
Total	59,900	0	0				1,008,203	0	0	1,008,203	0	934,408	277,491	0	$1,211,899	($203,696)		($236,053)	

NPR-3+ Retention Case

DOE Summarized Output

	Production			Prices			DOE Net Income Calculations				
	OIL (MBO)	GAS (MMCF)	NGLs (GPD)	OIL ($/BO)	GAS ($/MMBTU)	NGLs ($/Gal)	Oil & Gas Revenue ($ 000)	Oil & Gas Costs ($ 000)	Overhead Costs ($ 000)	Cash Flow ($ 000)	Discounted Cash Flow ($ 000)
1997	159.639	0.000	0	$16.36	NA	NA	$2,618.247	$2,251.424	$375.099	($8)	($8)
1998	116.495	0.000	0	$16.77	NA	NA	$1,954.249	$1,026.246	$119.140	$809	$669
1999	55.516	0.000	0	$17.17	NA	NA	$953.203	$722.040	$66.428	$165	$120
2000	21.788	0.000	0	$17.56	NA	NA	$382.592	$282.072	$25.951	$75	$48
2001	0.000	0.000	0	$17.96	NA	NA	$0.000	$0.000	$0.000	$0	$0
2002	0.000	0.000	0	$18.37	NA	NA	$0.000	$0.000	$0.000	$0	$0
2003	0.000	0.000	0	$18.78	NA	NA	$0.000	$0.000	$0.000	$0	$0
2004	0.000	0.000	0	$19.21	NA	NA	$0.000	$0.000	$0.000	$0	$0
2005	0.000	0.000	0	$19.65	NA	NA	$0.000	$0.000	$0.000	$0	$0
2006	0.000	0.000	0	$20.09	NA	NA	$0.000	$0.000	$0.000	$0	$0
2007	0.000	0.000	0	$20.55	NA	NA	$0.000	$0.000	$0.000	$0	$0
2008	0.000	0.000	0	$21.01	NA	NA	$0.000	$0.000	$0.000	$0	$0
2009	0.000	0.000	0	$21.49	NA	NA	$0.000	$0.000	$0.000	$0	$0
2010	0.000	0.000	0	$21.98	NA	NA	$0.000	$0.000	$0.000	$0	$0
2011	0.000	0.000	0	$22.48	NA	NA	$0.000	$0.000	$0.000	$0	$0
2012	0.000	0.000	0	$22.99	NA	NA	$0.000	$0.000	$0.000	$0	$0
2013	0.000	0.000	0	$23.51	NA	NA	$0.000	$0.000	$0.000	$0	$0
2014	0.000	0.000	0	$24.04	NA	NA	$0.000	$0.000	$0.000	$0	$0
2015	0.000	0.000	0	$24.59	NA	NA	$0.000	$0.000	$0.000	$0	$0
2016	0.000	0.000	0	$25.15	NA	NA	$0.000	$0.000	$0.000	$0	$0
2017	0.000	0.000	0	$25.72	NA	NA	$0.000	$0.000	$0.000	$0	$0
2018	0.000	0.000	0	$26.30	NA	NA	$0.000	$0.000	$0.000	$0	$0
TOTALS	353.437	0.000	0				$5,908.291	$4,281.783	$586.618	$1,040	**$829**

NPR-3	Maintenance Costs				Leasing Program				
DOE Case		NPV @	Surface	NPV @	First Sale			Total	NPV @
	Annual	7.00%	Income	10.00%	Bonus	Rentals	Costs	Revenue	10.00%
FY97	0	0	3,000	2,860	0	0	0	0	0
FY98	0	0	3,000	2,600		0	0	0	0
FY99	0	0	3,000	2,364		0	0	0	0
FY00	0	0	3,000	2,149		0	0	0	0
FY1	0	0	3,000	1,954		0	0	0	0
FY2	0	0	3,000	1,776		0	0	0	0
FY3	0	0	3,000	1,615		0	0	0	0
FY4	0	0	3,000	1,468		0	0	0	0
FY5	0	0	3,000	1,334		0	0	0	0
FY6	0	0	3,000	1,213		0	0	0	0
FY7	0	0	3,000	1,103			0	0	0
FY8	0	0	3,000	1,003	0	0	0	0	0
FY9	0	0	3,000	911		0	0	0	0
FY10	0	0	3,000	829		0	0	0	0
FY11	0	0	3,000	753		0	0	0	0
FY12	0	0	3,000	685		0	0	0	0
FY13	0	0	3,000	623		0	0	0	0
FY14	0	0	3,000	566		0	0	0	0
FY15	0	0	3,000	514		0	0	0	0
FY16	0	0	3,000	468		0	0	0	0
FY17	0	0	3,000	425		0	0	0	0
FY18	0	0	3,000	387			0	0	0
FY19	0	0	3,000	351	0	0	0	0	0
FY20	0	0	3,000	319		0	0	0	0
FY21	0	0	3,000	290		0	0	0	0
FY22	0	0	3,000	264		0	0	0	0
FY23	0	0	3,000	240		0	0	0	0
FY24	0	0	3,000	218		0	0	0	0
FY25	0	0	3,000	198		0	0	0	0
FY26	0	0	3,000	180		0	0	0	0
FY27	0	0	3,000	164		0	0	0	0
FY28	0	0	3,000	149		0	0	0	0
TOTAL	$0	$0	$96,000	$29,974	$0	$0	$0	$0	$0

Known

2,360	acres in NPR-3 w/o mineral leases
50%	of acres offered for leased were actually taken.
50%	of bonus and rentals go to the state.

Assumed

Mineral leasing begins in FY97.

$0	Environmental costs required to begin leasing.
$0.00	initial bonus per acre
$0.00	rental per bonus first 5 yrs
$0.00	rental per bonus second 5 yrs
$3,000	per year in surface leases
$0	annual costs to maintain fee property
$0	Lease sale expenses @ $0.75/acre.

Value	($)	($/acre)
Maintenance	0	0
Surface Inc.	29,974	12.70
Mineral Inc.	0	0.00
NEPA cost	0	0.00
Total	$29,974	$12.70

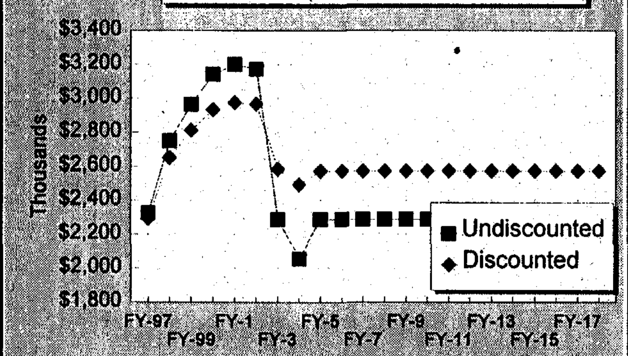
APPENDIX B

DETAILED OUTPUT OF ECONOMIC MODEL FOR TRANSFER TO DOI

Current Parameters

Price=INFL
Case=3
Royalty=12.50%
Bonus=$1,716,000
Severance=5.00%
Ad Valorem =7.50%
St. Tax Rate=0.00%
Fed Tax Rate= 35%
Mcf/bbl=6
Industry Rate=17.20%

Cumulative Federal Income



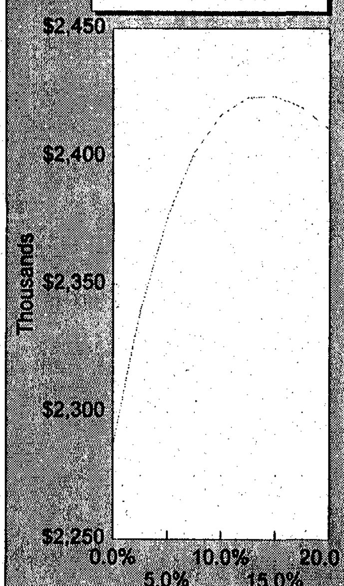
Operator Concerns

	RISK	
	Production	Expenses
PDP	100.0%	90.0%
PD-NP	80.0%	90.0%
PUD	60.0%	90.0%
Unproven	60.0%	90.0%

Federal Benefits Model

NPR-3

Federal NPV



	Initial Income	Royalties	Federal Income Taxes	Total Federal Income	Cumulative	Discounted	Cumulative Discounted
	$	$	$	$	$000		$000
FY-97	1,716,000	404,844	205,000	2,325,844	2,326	2,291,821	2,292
FY-98		285,805	139,000	424,805	2,751	357,702	2,650
FY-99		213,322	0	213,322	2,964	162,498	2,812
FY-00		177,244	0	177,244	3,141	121,090	2,933
FY-1		152,386	(93,000)	59,386	3,201	40,768	2,974
FY-2		126,347	(154,000)	(27,653)	3,173	(7,313)	2,967
FY-3		98,988	(985,000)	(886,012)	2,287	(383,691)	2,583
FY-4		0	(232,000)	(232,000)	2,055	(89,747)	2,493
FY-5		0	233,000	233,000	2,288	79,413	2,573
FY-6		0	0	0	2,288	0	2,573
FY-7		0	0	0	2,288	0	2,573
FY-8		0	0	0	2,288	0	2,573
FY-9		0	0	0	2,288	0	2,573
FY-10		0	0	0	2,288	0	2,573
FY-11		0	0	0	2,288	0	2,573
FY-12		0	0	0	2,288	0	2,573
FY-13		0	0	0	2,288	0	2,573
FY-14		0	0	0	2,288	0	2,573
FY-15		0	0	0	2,288	0	2,573
FY-16		0	0	0	2,288	0	2,573
FY-17		0	0	0	2,288	0	2,573
FY-18		0	0	0	2,288	0	2,573
Thereafter		0	0	0	2,288	0	2,573
TOTAL	1,716,000	1,458,936	(887,000)	2,287,936		2,572,541	
NPV=	1,716,000	1,121,323	(264,781)				

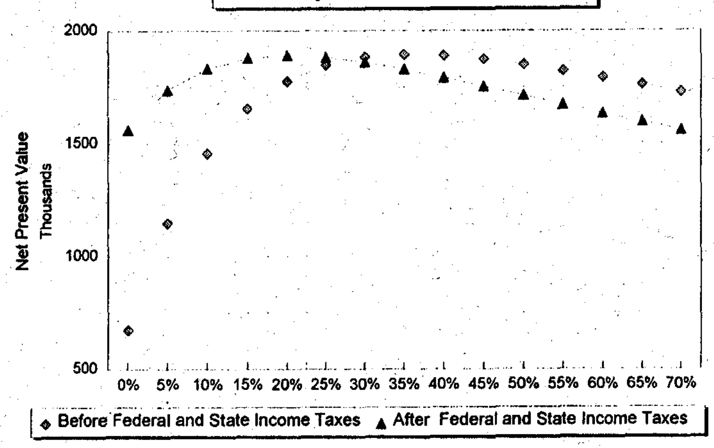
NPR-3

Federal Income Tax Calculations

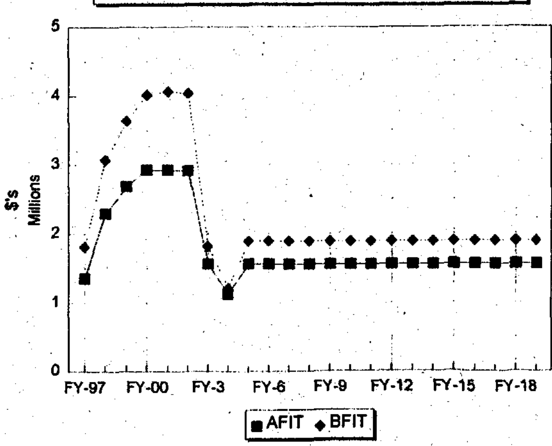
	Revenue $	Royalty, 80% Cap. OpEx, and Prod. Tax $	Allocated Overhead $	Depreciation $	Depletion $	Total Deductions $	Taxable Income $	State Income Taxes $	Federal Income Taxes $	After Tax Cash Flow $	Cumulative $000	Discounted @ 14.2%	Cumulative Discounted $000
FY-97	6,477,498	4,667,027	253,483	0	971,625	5,892,136	585,362	0	204,877	1,352,113	1,352	1,265,260	1,265
FY-98	4,572,872	3,308,406	180,049	0	685,931	4,174,386	398,486	0	139,470	944,951	2,297	774,301	2,040
FY-99	3,413,156	2,852,346	165,217	0	395,593	3,413,156	0	0	0	395,593	2,693	283,846	2,323
FY-00	2,835,903	2,457,065	144,288	0	234,550	2,835,903	0	0	0	234,550	2,927	147,368	2,471
FY-1	2,438,179	2,385,691	146,047	0	173,333	2,705,071	(266,892)	0	(93,412)	(147)	2,927	(81)	2,471
FY-2	2,021,557	2,176,268	134,676	0	151,296	2,462,240	(440,683)	0	(154,239)	(9,410)	2,918	(4,533)	2,466
FY-3	1,583,810	4,138,907	124,191	0	134,109	4,397,206	(2,813,396)	0	(984,689)	(1,357,666)	1,560	(572,748)	1,893
FY-4	0	613,689	49,402	0	0	663,091	(663,091)	0	(232,082)	(431,009)	1,129	(159,218)	1,734
FY-5	0	(685,835)	19,652	0	0	(666,183)	666,183	0	233,164	433,019	1,562	140,070	1,874
FY-6	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
FY-7	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
FY-8	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
FY-9	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
FY-10	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
FY-11	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
FY-12	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
FY-13	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
FY-14	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
FY-15	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
FY-16	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
FY-17	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
FY-18	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
Thereafter	0	0	0	0	0	0	0	0	0	0	1,562	0	1,874
TOTAL	23,342,975	21,913,564	1,217,005	0	2,746,435	25,877,005	(2,534,030)	0	(886,910)	1,561,993		1,874,267	

Discount Factor	Before Federal and State Income Taxes	After Federal and State Income Taxes
17.20%	1,716,000	
14.20%		1,874,000
0%	675,000	1,562,000
5%	1,149,000	1,737,000
10%	1,458,000	1,833,000
15%	1,655,000	1,879,000
20%	1,776,000	1,891,000
25%	1,847,000	1,882,000
30%	1,882,000	1,860,000
35%	1,894,000	1,829,000
40%	1,889,000	1,792,000
45%	1,874,000	1,753,000
50%	1,851,000	1,714,000
55%	1,823,000	1,673,000
60%	1,793,000	1,634,000
65%	1,761,000	1,595,000
70%	1,728,000	1,558,000

Industry Net Present Value



Cumulative Income to Industry



NPR-3

PD, PD-NP, PUD plus Unproven Before Federal Income Tax

	PRODUCTION			REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue before bonus/price	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	12.50%	$	$	12.50%	$	$	$000	17.20%	$000
Oct-96	24,372	0	156,188	480,616	0	53,104	533,720	66,715	0	262,405	58,376	387,496	146,224	146	146,224	146
Nov-96	24,372	0	156,188	481,603	0	53,213	534,816	66,852	0	262,405	58,496	387,753	147,063	293	144,985	291
Dec-96	24,372	0	156,188	482,593	0	53,322	535,915	66,989	0	262,405	58,616	388,010	147,905	441	143,755	435
Jan-97	24,372	0	156,188	483,584	0	53,432	537,016	67,127	0	262,405	58,736	388,268	148,748	590	142,531	577
Feb-97	24,372	0	156,188	484,577	0	53,541	538,118	67,265	0	262,405	58,857	388,527	149,591	740	141,313	719
Mar-97	24,372	0	156,188	485,573	0	53,651	539,224	67,403	0	262,405	58,978	388,786	150,438	890	140,105	859
Apr-97	24,372	0	156,188	486,570	0	53,762	540,332	67,542	0	262,405	59,099	389,046	151,286	1,041	138,904	998
May-97	24,372	0	156,188	487,570	0	53,872	541,442	67,680	0	262,405	59,220	389,305	152,137	1,193	137,711	1,136
Jun-97	24,372	0	156,188	488,572	0	53,983	542,555	67,819	0	262,405	59,342	389,566	152,989	1,346	136,526	1,272
Jul-97	24,372	0	156,188	489,575	0	54,094	543,669	67,959	0	262,405	59,464	389,828	153,841	1,500	135,346	1,407
Aug-97	24,372	0	156,188	490,581	0	54,205	544,786	68,098	0	262,405	59,586	390,089	154,697	1,655	134,176	1,542
Sep-97	24,372	0	156,188	491,589	0	54,316	545,905	68,238	0	262,405	59,708	390,351	155,554	1,810	133,013	1,675
FY-97	292,464	0	1,874,250	5,833,003	0	644,495	6,477,498	809,687	0	3,148,862	708,478	4,667,027	1,810,473	[redacted]	1,674,589	[redacted]
Oct-97	15,987	0	154,000	323,124	0	53,665	376,789	47,099	0	186,386	41,211	274,696	102,093	1,913	86,065	1,761
Nov-97	15,987	0	154,000	323,788	0	53,776	377,564	47,196	0	186,386	41,296	274,878	102,686	2,015	85,342	1,846
Dec-97	15,987	0	154,000	324,453	0	53,886	378,339	47,292	0	186,386	41,381	275,059	103,280	2,119	84,623	1,931
Jan-98	15,987	0	154,000	325,120	0	53,997	379,117	47,390	0	186,386	41,466	275,242	103,875	2,222	83,907	2,015
Feb-98	15,987	0	154,000	325,787	0	54,108	379,895	47,487	0	186,386	41,551	275,424	104,471	2,327	83,196	2,098
Mar-98	15,987	0	154,000	326,457	0	54,219	380,676	47,585	0	186,386	41,636	275,607	105,069	2,432	82,490	2,180
Apr-98	15,987	0	154,000	327,127	0	54,330	381,457	47,682	0	186,386	41,722	275,790	105,667	2,538	81,787	2,262
May-98	15,987	0	154,000	327,799	0	54,442	382,241	47,780	0	186,386	41,808	275,974	106,267	2,644	81,090	2,343
Jun-98	15,987	0	154,000	328,473	0	54,554	383,027	47,878	0	186,386	41,894	276,158	106,869	2,751	80,397	2,423
Jul-98	15,987	0	154,000	329,148	0	54,666	383,814	47,977	0	186,386	41,980	276,343	107,471	2,858	79,707	2,503
Aug-98	15,986	0	154,000	329,803	0	54,778	384,581	48,073	0	186,386	42,064	276,523	108,058	2,966	79,010	2,582
Sep-98	15,986	0	154,000	330,481	0	54,891	385,372	48,172	0	186,386	42,150	276,708	108,664	3,075	78,330	2,661
FY-98	191,842	0	1,848,000	3,921,560	0	651,312	4,572,872	571,611	0	2,236,636	500,159	3,308,406	1,264,470	[redacted]	985,944	[redacted]
FY-99	131,692	0	1,821,750	2,755,863	0	657,293	3,413,156	426,645	0	2,052,387	373,314	2,852,346	560,810	3,636	377,135	3,038
FY-00	101,552	0	1,795,500	2,173,376	0	662,527	2,835,903	354,488	0	1,792,400	310,177	2,457,065	378,838	4,015	217,374	3,255
FY-1	80,892	0	1,769,250	1,770,518	0	667,661	2,438,179	304,772	0	1,814,243	266,676	2,385,691	52,488	4,067	25,697	3,281
FY-2	65,877	0	1,743,000	1,474,609	0	672,686	2,021,557	268,412	0	1,672,996	234,860	2,176,268	(28,973)	4,038	(12,103)	3,269
FY-3	54,304	0	1,716,750	1,243,148	0	677,595	1,583,810	240,093	0	3,688,733	210,081	4,138,907	(2,218,164)	1,820	(790,613)	2,478
FY-4	0	0	0	0	0	0	0	0	0	613,689	0	613,689	(613,689)	1,206	(186,634)	2,291
FY-5	0	0	0	0	0	0	0	0	0	(685,835)	0	(685,835)	685,835	1,892	177,965	2,469
FY-6	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
FY-7	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
FY-8	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
FY-9	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
FY-10	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
FY-11	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
FY-12	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
FY-13	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
FY-14	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
FY-15	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
FY-16	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
FY-17	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
FY-18	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
Thereafter	0	0	0	0	0	0	0	0	0	0	0	0	0	1,892	0	2,469
TOTAL	918,623	900,000	11,389,050	19,172,077	0	4,170,898	23,342,975	2,917,874	0	16,334,111	2,553,140	21,805,125	1,892,088		2,469,354	

PDP

Proved Developed Producing

NPR-3

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil bbls	Gas mcf	NGLS gals	Oil $	Gas $	NGLS $	Oil $	Gas $	NGLS $	Total $	Royalty @ 12.50%	CapEx $	OpEx $	Prod. Taxes 12.50%	Total $	Net Revenue $	Cumulative $000	Discounted @ 17.20%	Cumulative Discounted $000
Oct-96	24,372	0	156,188	$19.72	NA	$0.34	480,616	0	53,104	533,720	66,715	0	258,175	58,376	$383,266	$150,454	$150	$150,454	$150
Nov-96	24,372	0	156,188	$19.76	NA	$0.34	481,603	0	53,213	534,816	66,852	0	258,175	58,496	$383,523	$151,293	$302	$149,155	$300
Dec-96	24,372	0	156,188	$19.80	NA	$0.34	482,593	0	53,322	535,915	66,989	0	258,175	58,616	$383,780	$152,135	$454	$147,866	$447
Jan-97	24,372	0	156,188	$19.84	NA	$0.34	483,584	0	53,432	537,016	67,127	0	258,175	58,736	$384,038	$152,978	$607	$146,584	$594
Feb-97	24,372	0	156,188	$19.88	NA	$0.34	484,577	0	53,541	538,118	67,265	0	258,175	58,857	$384,297	$153,821	$761	$145,309	$739
Mar-97	24,372	0	156,188	$19.92	NA	$0.34	485,573	0	53,651	539,224	67,403	0	258,175	58,978	$384,556	$154,668	$915	$144,045	$883
Apr-97	24,372	0	156,188	$19.96	NA	$0.34	486,570	0	53,762	540,332	67,542	0	258,175	59,099	$384,816	$155,516	$1,071	$142,788	$1,026
May-97	24,372	0	156,188	$20.01	NA	$0.34	487,570	0	53,872	541,442	67,680	0	258,175	59,220	$385,075	$156,367	$1,227	$141,540	$1,168
Jun-97	24,372	0	156,188	$20.05	NA	$0.35	488,572	0	53,983	542,555	67,819	0	258,175	59,342	$385,336	$157,219	$1,384	$140,301	$1,308
Jul-97	24,372	0	156,188	$20.09	NA	$0.35	489,575	0	54,094	543,669	67,959	0	258,175	59,464	$385,598	$158,071	$1,543	$139,068	$1,447
Aug-97	24,372	0	156,188	$20.13	NA	$0.35	490,581	0	54,205	544,786	68,098	0	258,175	59,586	$385,859	$158,927	$1,701	$137,845	$1,585
Sep-97	24,372	0	156,188	$20.17	NA	$0.35	491,589	0	54,316	545,905	68,238	0	258,175	59,708	$386,121	$159,784	$1,861	$136,630	$1,722
FY-97	292,464	0	1,874,250	[redacted]	[redacted]	[redacted]	5,833,003	0	644,495	6,477,498	809,687	0	3,098,099	708,478	$4,616,264	$1,861,234	[redacted]	$1,721,585	[redacted]
Oct-97	15,987	0	154,000	$20.21	NA	$0.35	323,124	0	53,665	376,789	47,099	0	136,002	41,211	$224,312	$152,477	$2,014	$128,540	$1,850
Nov-97	15,987	0	154,000	$20.25	NA	$0.35	323,788	0	53,776	377,564	47,196	0	136,002	41,296	$224,494	$153,070	$2,167	$127,216	$1,977
Dec-97	15,987	0	154,000	$20.29	NA	$0.35	324,453	0	53,886	378,339	47,292	0	136,002	41,381	$224,675	$153,664	$2,320	$125,905	$2,103
Jan-98	15,987	0	154,000	$20.34	NA	$0.35	325,120	0	53,997	379,117	47,390	0	136,002	41,466	$224,858	$154,259	$2,475	$124,607	$2,228
Feb-98	15,987	0	154,000	$20.38	NA	$0.35	325,787	0	54,108	379,895	47,487	0	136,002	41,551	$225,040	$154,855	$2,630	$123,320	$2,351
Mar-98	15,987	0	154,000	$20.42	NA	$0.35	326,457	0	54,219	380,676	47,585	0	136,002	41,636	$225,223	$155,453	$2,785	$122,047	$2,473
Apr-98	15,987	0	154,000	$20.46	NA	$0.35	327,127	0	54,330	381,457	47,682	0	136,002	41,722	$225,406	$156,051	$2,941	$120,786	$2,594
May-98	15,987	0	154,000	$20.50	NA	$0.35	327,799	0	54,442	382,241	47,780	0	136,002	41,808	$225,590	$156,651	$3,098	$119,537	$2,714
Jun-98	15,987	0	154,000	$20.55	NA	$0.35	328,473	0	54,554	383,027	47,878	0	136,002	41,894	$225,774	$157,253	$3,255	$118,300	$2,832
Jul-98	15,987	0	154,000	$20.59	NA	$0.35	329,148	0	54,666	383,814	47,977	0	136,002	41,980	$225,959	$157,855	$3,413	$117,075	$2,949
Aug-98	15,986	0	154,000	$20.63	NA	$0.36	329,803	0	54,778	384,581	48,073	0	136,002	42,064	$226,139	$158,442	$3,571	$115,850	$3,065
Sep-98	15,986	0	154,000	$20.67	NA	$0.36	330,481	0	54,891	385,372	48,172	0	136,002	42,150	$226,324	$159,048	$3,730	$114,650	$3,179
FY-98	191,842	0	1,848,000	[redacted]	[redacted]	[redacted]	3,921,560	0	651,312	4,572,872	571,611	0	1,632,020	500,159	$2,703,790	$1,869,082	[redacted]	$1,457,833	[redacted]
FY-99	131,692	0	1,821,750	$20.93	NA	$0.36	2,755,863	0	657,293	3,413,156	426,645	0	1,429,391	373,314	$2,229,350	$1,183,806	$4,914	$796,089	$3,976
FY-00	101,552	0	1,795,500	$21.40	NA	$0.37	2,173,376	0	662,527	2,835,903	354,488	0	1,251,918	310,177	$1,916,583	$919,320	$5,833	$527,497	$4,503
FY-1	80,892	0	1,769,250	$21.89	NA	$0.38	1,770,518	0	667,661	2,438,179	304,772	0	1,096,479	266,676	$1,667,927	$770,252	$6,604	$377,102	$4,880
FY-2	65,877	0	1,743,000	$22.38	NA	$0.39	1,474,609	0	672,686	2,147,295	268,412	0	960,341	234,860	$1,463,613	$683,683	$7,287	$285,596	$5,166
FY-3	54,304	0	1,716,750	$22.89	NA	$0.39	1,243,148	0	677,595	1,920,743	240,093	0	841,105	210,081	$1,291,279	$629,464	$7,917	$224,358	$5,390
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-17	0	0	0	$31.34	NA	NA	$0.00	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$7,917	$0	$5,390
Total	918,623	0	12,568,500				19,172,077	0	4,633,569	23,805,646	2,975,708	0	10,309,352	2,603,745	$15,888,805	$7,916,841		$5,390,060	

PD-NP

Proved Developed Non-Producing

NPR-3

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil bbls	Gas mcf	NGLS gals	Oil $	Gas $	NGLS $	Oil $	Gas $	NGLS $	Total $	Royalty @ 12.50%	CapEx $	OpEx $	Prod. Taxes 12.50%	Total $	Net Revenue $	Cumulative $000	Discounted @ 17.20%	Cumulative Discounted $000
Oct-96	0	0	0	$19.72	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($4)	($4,230)	($4)
Nov-96	0	0	0	$19.76	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($8)	($4,171)	($8)
Dec-96	0	0	0	$19.80	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($13)	($4,112)	($13)
Jan-97	0	0	0	$19.84	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($17)	($4,053)	($17)
Feb-97	0	0	0	$19.88	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($21)	($3,996)	($21)
Mar-97	0	0	0	$19.92	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($25)	($3,940)	($25)
Apr-97	0	0	0	$19.96	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($30)	($3,884)	($28)
May-97	0	0	0	$20.01	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($34)	($3,829)	($32)
Jun-97	0	0	0	$20.05	NA	$0.35	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($38)	($3,775)	($36)
Jul-97	0	0	0	$20.09	NA	$0.35	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($42)	($3,722)	($40)
Aug-97	0	0	0	$20.13	NA	$0.35	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($47)	($3,669)	($43)
Sep-97	0	0	0	$20.17	NA	$0.35	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($51)	($3,617)	($47)
FY-97	0	0	0				0	0	0	0	0	0	50,764	0	$50,764	($50,764)		($46,998)	
Oct-97	0	0	0	$20.21	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($101)	($42,475)	($89)
Nov-97	0	0	0	$20.25	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($152)	($41,874)	($131)
Dec-97	0	0	0	$20.29	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($202)	($41,283)	($173)
Jan-98	0	0	0	$20.34	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($252)	($40,699)	($213)
Feb-98	0	0	0	$20.38	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($303)	($40,124)	($253)
Mar-98	0	0	0	$20.42	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($353)	($39,557)	($293)
Apr-98	0	0	0	$20.46	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($403)	($38,998)	($332)
May-98	0	0	0	$20.50	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($454)	($38,447)	($370)
Jun-98	0	0	0	$20.55	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($504)	($37,904)	($408)
Jul-98	0	0	0	$20.59	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($555)	($37,368)	($446)
Aug-98	0	0	0	$20.63	NA	$0.36	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($605)	($36,840)	($483)
Sep-98	0	0	0	$20.67	NA	$0.36	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($655)	($36,320)	($519)
FY-98	0	0	0				0	0	0	0	0	0	604,616	0	$604,616	($604,616)		($471,889)	
FY-99	0	0	0	$20.93	NA	$0.36	0	0	0	0	0	0	622,996	0	$622,996	($622,996)	($1,278)	($418,954)	($938)
FY-00	0	0	0	$21.40	NA	$0.37	0	0	0	0	0	0	540,482	0	$540,482	($540,482)	($1,819)	($310,123)	($1,248)
FY-1	0	0	0	$21.89	NA	$0.38	0	0	0	0	0	0	717,764	0	$717,764	($717,764)	($2,537)	($351,405)	($1,599)
FY-2	0	0	0	$22.38	NA	$0.39	0	0	0	0	0	0	712,656	0	$712,656	($712,656)	($3,249)	($297,699)	($1,897)
FY-3	0	0	0	$22.89	NA	$0.39	0	0	0	0	0	0	2,847,628	0	$2,847,628	($2,847,628)	($6,097)	($1,014,971)	($2,912)
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	613,689	0	$613,689	($613,689)	($6,711)	($186,634)	($3,099)
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	(685,835)	0	($685,835)	$685,835	($6,025)	$177,965	($2,921)
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-17	0	0	0	$31.34	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
Total	0	0	0				0	0	0	0	0	0	6,024,759	0	$6,024,759	($6,024,759)		($2,920,708)	

PUD

Proved Undeveloped

NPR-3

NPR-3	PRODUCTION Oil bbls	PRODUCTION Gas mcf	PRODUCTION NGLS gals	PRICES Oil $	PRICES Gas $	PRICES NGLS $	GROSS REVENUE Oil $	GROSS REVENUE Gas $	GROSS REVENUE NGLS $	GROSS REVENUE Total $	COSTS Royalty @ 12.50%	COSTS CapEx $	COSTS OpEx $	COSTS Prod. Taxes 12.50%	COSTS Total $	Future Net Income Net Revenue $	Future Net Income Cumulative $000	Future Net Income Discounted @ 17.20%	Future Net Income Cumulative Discounted $000
Oct-96	0	0	0	$19.72	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$19.76	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$19.80	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$19.84	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$19.88	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$19.92	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$19.96	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$20.01	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$20.05	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-97	0	0	0	$20.09	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-97	0	0	0	$20.13	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-97	0	0	0	$20.17	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-97	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
Oct-97	0	0	0	$20.21	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-97	0	0	0	$20.25	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-97	0	0	0	$20.29	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-98	0	0	0	$20.34	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-98	0	0	0	$20.38	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-98	0	0	0	$20.42	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-98	0	0	0	$20.46	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-98	0	0	0	$20.50	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-98	0	0	0	$20.55	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-98	0	0	0	$20.59	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-98	0	0	0	$20.63	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-98	0	0	0	$20.67	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-98	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
FY-99	0	0	0	$20.93	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-00	0	0	0	$21.40	NA	$0.37	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-1	0	0	0	$21.89	NA	$0.38	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-2	0	720,000	(325,800)	$22.38	NA	$0.39	0	0	(125,738)	(125,738)	(15,717)	0	0	(13,753)	($29,470)	$0	$0	$0	$0
FY-3	0	180,000	(853,650)	$22.89	NA	$0.39	0	0	(336,933)	(336,933)	(42,117)	0	0	(36,852)	($78,969)	$0	$0	$0	$0
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-17	0	0	0	$31.34	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Total	0	900,000	(1,179,450)				0	0	(462,671)	(462,671)	(57,834)	0	0	(50,605)	($108,439)	$0		$0	

Unproven

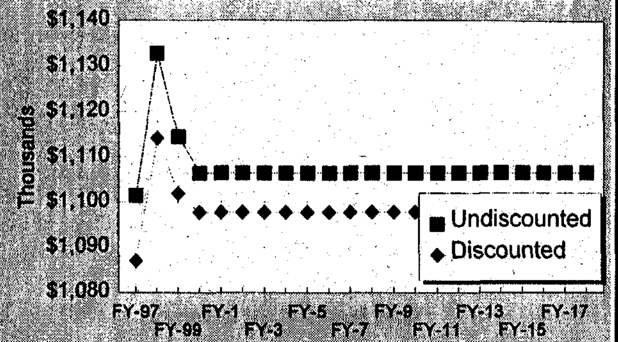
Unproven

NPR-3

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil bbls	Gas mcf	NGLS gals	Oil $	Gas $	NGLS $	Oil $	Gas $	NGLS $	Total $	Royalty @ 12.50%	CapEx $	OpEx $	Prod. Taxes 12.50%	Total $	Net Revenue $	Cumulative $000	Discounted @ 17.20%	Cumulative Discounted $000
Oct-96	0	0	0	$19.72	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$19.76	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$19.80	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$19.84	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$19.88	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$19.92	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$19.96	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$20.01	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$20.05	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-97	0	0	0	$20.09	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-97	0	0	0	$20.13	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-97	0	0	0	$20.17	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-97	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
Oct-97	0	0	0	$20.21	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-97	0	0	0	$20.25	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-97	0	0	0	$20.29	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-98	0	0	0	$20.34	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-98	0	0	0	$20.38	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-98	0	0	0	$20.42	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-98	0	0	0	$20.46	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-98	0	0	0	$20.50	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-98	0	0	0	$20.55	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-98	0	0	0	$20.59	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-98	0	0	0	$20.63	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-98	0	0	0	$20.67	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-98	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
FY-99	0	0	0	$20.93	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-00	0	0	0	$21.40	NA	$0.37	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-1	0	0	0	$21.89	NA	$0.38	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-2	0	0	0	$22.38	NA	$0.39	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-3	0	0	0	$22.89	NA	$0.39	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-17	0	0	0	$31.34	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Total	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	

Current Parameters
Price=INFL
Case=3
Royalty=12.50%
Bonus=$851,000
Severance=5.00%
Ad Valorem =7.50%
St. Tax Rate=0.00%
Fed Tax Rate= 35%
Mcf/bbl=6
Industry Rate=17.20%

Cumulative Federal Income

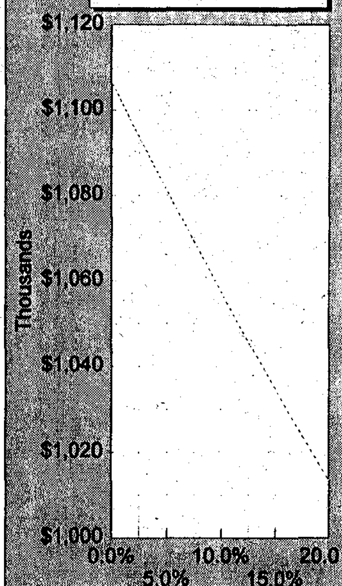


Operator Concerns

	RISK	
	Production	Expenses
PDP	100.0%	90.0%
PD-NP	80.0%	90.0%
PUD	0.0%	0.0%
Unproven	0.0%	0.0%

Federal Benefits Model
NPR-3+

Federal NPV



	Initial Income $	Royalties $	Federal Income Taxes $	Total Federal Income $	Cumulative $000	Discounted	Cumulative Discounted $000
FY-97	851,000	108,482	142,000	1,101,482	1,101	1,087,023	1,087
FY-98		52,357	(21,000)	31,357	1,133	27,103	1,114
FY-99		35,624	(54,000)	(18,376)	1,114	(12,210)	1,102
FY-00		23,912	(32,000)	(8,088)	1,106	(4,207)	1,098
FY-1		0	0	0	1,106	0	1,098
FY-2		0	0	0	1,106	0	1,098
FY-3		0	0	0	1,106	0	1,098
FY-4		0	0	0	1,106	0	1,098
FY-5		0	0	0	1,106	0	1,098
FY-6		0	0	0	1,106	0	1,098
FY-7		0	0	0	1,106	0	1,098
FY-8		0	0	0	1,106	0	1,098
FY-9		0	0	0	1,106	0	1,098
FY-10		0	0	0	1,106	0	1,098
FY-11		0	0	0	1,106	0	1,098
FY-12		0	0	0	1,106	0	1,098
FY-13		0	0	0	1,106	0	1,098
FY-14		0	0	0	1,106	0	1,098
FY-15		0	0	0	1,106	0	1,098
FY-16		0	0	0	1,106	0	1,098
FY-17		0	0	0	1,106	0	1,098
FY-18		0	0	0	1,106	0	1,098
Thereafter		0	0	0	1,106	0	1,098
TOTAL	851,000	220,375	35,000	1,106,375		1,097,709	
NPV=	851,000	190,678	56,031				

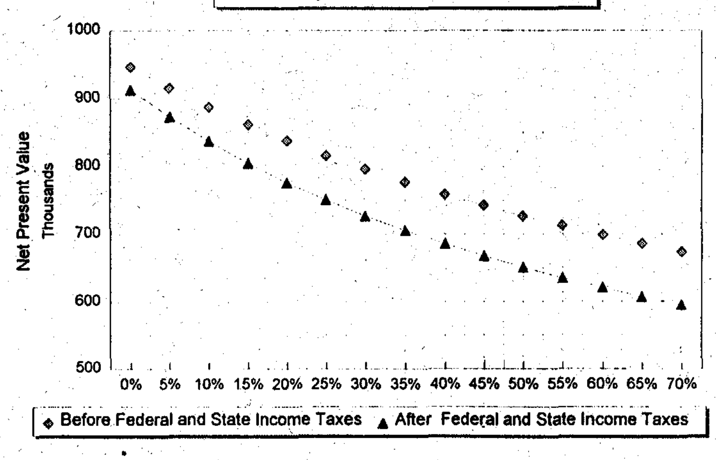
NPR-3+

Federal Income Tax Calculations

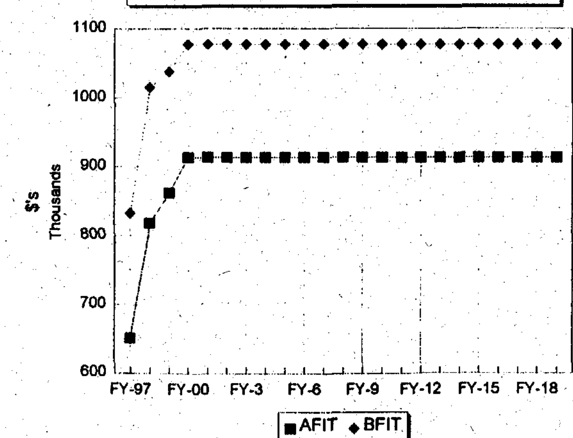
	Revenue $	Royalty, 80% Cap, OpEx, and Prod. Tax $	Allocated Overhead $	Depreciation $	Depletion $	Total Deductions $	Taxable Income $	State Income Taxes $	Federal Income Taxes $	After Tax Cash Flow $	Cumulative $000	Discounted @ 14.2%	Cumulative Discounted $000
FY-97	1,735,707	902,946	39,939	0	388,297	1,331,182	404,525	0	141,584	651,241	651	609,409	609
FY-98	837,719	655,017	36,923	0	206,994	898,934	(61,215)	0	(21,425)	167,200	818	137,005	746
FY-99	569,979	547,120	33,289	0	144,648	725,057	(155,078)	0	(54,277)	43,847	862	31,461	778
FY-00	382,592	343,535	20,436	0	111,061	475,032	(92,440)	0	(32,354)	50,975	913	32,028	810
FY-1	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-2	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-3	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-4	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-5	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-6	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-7	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-8	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-9	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-10	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-11	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-12	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-13	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-14	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-15	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-16	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-17	0	0	0	0	0	0	0	0	0	0	913	0	810
FY-18	0	0	0	0	0	0	0	0	0	0	913	0	810
Thereafter	0	0	0	0	0	0	0	0	0	0	913	0	810
TOTAL	3,525,997	2,448,617	130,588	0	851,000	3,430,205	95,792	0	33,527	913,263		809,903	

Discount Factor	Before Federal and State Income Taxes	After Federal and State Income Taxes
17.20%	851,000	
14.20%		810,000
0%	947,000	913,000
5%	916,000	873,000
10%	887,000	837,000
15%	862,000	805,000
20%	838,000	776,000
25%	816,000	751,000
30%	796,000	727,000
35%	777,000	706,000
40%	759,000	686,000
45%	743,000	668,000
50%	727,000	651,000
55%	713,000	635,000
60%	699,000	621,000
65%	686,000	607,000
70%	674,000	595,000

Industry Net Present Value



Cumulative Income to Industry



PD, PD-NP, PUD plus Unproven Before Federal Income Tax

NPR-3+

	PRODUCTION			REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue before bonus/price	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	12.50%	$	$	12.50%	$	$	$000	17.20%	$000
Oct-96	6,348	0	0	102,711	0	0	102,711	12,839	0	37,094	11,234	61,167	41,544	42	41,544	42
Nov-96	9,062	0	0	146,931	0	0	146,931	18,366	0	41,731	16,071	76,168	70,763	112	69,763	111
Dec-96	9,062	0	0	147,233	0	0	147,233	18,405	0	41,731	16,103	76,239	70,994	183	69,002	180
Jan-97	9,062	0	0	147,535	0	0	147,535	18,442	0	41,731	16,136	76,309	71,226	255	68,249	249
Feb-97	9,062	0	0	147,838	0	0	147,838	18,480	0	41,731	16,170	76,381	71,457	326	67,503	316
Mar-97	9,062	0	0	148,142	0	0	148,142	18,518	0	41,731	16,203	76,452	71,690	398	66,766	383
Apr-97	9,062	0	0	148,446	0	0	148,446	18,556	0	41,731	16,236	76,523	71,923	470	66,036	449
May-97	9,062	0	0	148,751	0	0	148,751	18,594	0	41,731	16,270	76,595	72,156	542	65,314	514
Jun-97	9,063	0	0	149,070	0	0	149,070	18,633	0	41,731	16,305	76,669	72,401	614	64,610	579
Jul-97	9,063	0	0	149,376	0	0	149,376	18,672	0	41,731	16,338	76,741	72,635	687	63,903	643
Aug-97	9,063	0	0	149,683	0	0	149,683	18,710	0	41,731	16,372	76,813	72,870	760	63,204	706
Sep-97	9,063	0	0	149,991	0	0	149,991	18,749	0	41,731	16,406	76,886	73,105	833	62,511	768
FY-97	106,038	0	0	1,735,707	0	0	1,735,707	216,964	0	496,138	189,844	902,946	832,764	[redacted]	768,405	[redacted]
Oct-97	4,162	0	0	69,027	0	0	69,027	8,629	0	38,223	7,550	54,402	14,625	847	12,329	781
Nov-97	4,162	0	0	69,169	0	0	69,169	8,646	0	38,223	7,566	54,435	14,734	862	12,245	793
Dec-97	4,162	0	0	69,311	0	0	69,311	8,664	0	38,223	7,581	54,468	14,843	877	12,162	805
Jan-98	4,162	0	0	69,453	0	0	69,453	8,682	0	38,223	7,597	54,502	14,951	892	12,077	817
Feb-98	4,162	0	0	69,596	0	0	69,596	8,700	0	38,223	7,613	54,536	15,060	907	11,993	829
Mar-98	4,162	0	0	69,739	0	0	69,739	8,717	0	38,223	7,628	54,568	15,171	922	11,911	841
Apr-98	4,162	0	0	69,882	0	0	69,882	8,736	0	38,223	7,643	54,602	15,280	937	11,827	853
May-98	4,162	0	0	70,025	0	0	70,025	8,753	0	38,223	7,659	54,635	15,390	953	11,744	865
Jun-98	4,162	0	0	70,169	0	0	70,169	8,771	0	38,223	7,675	54,669	15,500	968	11,661	876
Jul-98	4,162	0	0	70,313	0	0	70,313	8,790	0	38,223	7,690	54,703	15,610	984	11,577	888
Aug-98	4,162	0	0	70,445	0	0	70,445	8,805	0	38,223	7,705	54,733	15,712	1,000	11,488	899
Sep-98	4,162	0	0	70,590	0	0	70,590	8,824	0	38,223	7,721	54,768	15,822	1,015	11,405	911
FY-98	49,947	0	0	837,719	0	0	837,719	104,717	0	458,672	91,628	655,017	182,698	[redacted]	142,419	[redacted]
FY-99	33,196	0	0	569,979	0	0	569,979	71,247	0	413,532	62,341	547,120	22,859	1,038	15,372	926
FY-00	21,788	0	0	382,592	0	0	382,592	47,824	0	253,865	41,846	343,535	39,057	1,077	22,411	949
FY-1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-2	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-3	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-4	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-5	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-6	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-7	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-8	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-9	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-10	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-11	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-12	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-13	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-14	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-15	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-16	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-17	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
FY-18	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
Thereafter	0	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	949
TOTAL	210,969	0	0	3,525,997	0	0	3,525,997	440,752	0	1,622,206	385,659	2,448,617	1,077,378		948,607	

PDP

NPR-3*

Proved Developed Producing

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	12.50%	$	$	12.50%	$	$	$000	17.20%	$000
Oct-96	6,348	0	0	$16.18	NA	NA	102,711	0	0	102,711	12,839	0	37,094	11,234	$61,167	$41,544	$42	$41,544	$42
Nov-96	6,348	0	0	$16.21	NA	NA	102,922	0	0	102,922	12,865	0	37,094	11,257	$61,216	$41,706	$83	$41,116	$83
Dec-96	6,348	0	0	$16.25	NA	NA	103,133	0	0	103,133	12,892	0	37,094	11,280	$61,266	$41,867	$125	$40,692	$123
Jan-97	6,348	0	0	$16.28	NA	NA	103,345	0	0	103,345	12,918	0	37,094	11,303	$61,315	$42,030	$167	$40,273	$164
Feb-97	6,348	0	0	$16.31	NA	NA	103,557	0	0	103,557	12,945	0	37,094	11,327	$61,366	$42,191	$209	$39,856	$203
Mar-97	6,348	0	0	$16.35	NA	NA	103,770	0	0	103,770	12,971	0	37,094	11,350	$61,415	$42,355	$252	$39,445	$243
Apr-97	6,348	0	0	$16.38	NA	NA	103,983	0	0	103,983	12,998	0	37,094	11,373	$61,465	$42,518	$294	$39,038	$282
May-97	6,348	0	0	$16.41	NA	NA	104,197	0	0	104,197	13,025	0	37,094	11,397	$61,516	$42,681	$337	$38,634	$321
Jun-97	6,348	0	0	$16.45	NA	NA	104,411	0	0	104,411	13,051	0	37,094	11,420	$61,565	$42,846	$380	$38,235	$359
Jul-97	6,348	0	0	$16.48	NA	NA	104,625	0	0	104,625	13,078	0	37,094	11,443	$61,615	$43,010	$423	$37,839	$397
Aug-97	6,348	0	0	$16.52	NA	NA	104,840	0	0	104,840	13,105	0	37,094	11,467	$61,666	$43,174	$466	$37,447	$434
Sep-97	6,348	0	0	$16.55	NA	NA	105,056	0	0	105,056	13,132	0	37,094	11,491	$61,717	$43,339	$509	$37,058	$471
FY-97	76,176	0	0				1,246,550	0	0	1,246,550	155,819	0	445,133	136,342	$737,294	$509,256		$471,177	
Oct-97	3,384	0	0	$16.58	NA	NA	56,118	0	0	56,118	7,015	0	33,445	6,138	$46,598	$9,520	$519	$8,026	$479
Nov-97	3,384	0	0	$16.62	NA	NA	56,234	0	0	56,234	7,029	0	33,445	6,151	$46,625	$9,609	$528	$7,986	$487
Dec-97	3,384	0	0	$16.65	NA	NA	56,349	0	0	56,349	7,044	0	33,445	6,163	$46,652	$9,697	$538	$7,945	$495
Jan-98	3,384	0	0	$16.69	NA	NA	56,465	0	0	56,465	7,058	0	33,445	6,176	$46,679	$9,786	$548	$7,905	$503
Feb-98	3,384	0	0	$16.72	NA	NA	56,581	0	0	56,581	7,073	0	33,445	6,189	$46,707	$9,874	$558	$7,863	$511
Mar-98	3,384	0	0	$16.75	NA	NA	56,697	0	0	56,697	7,087	0	33,445	6,201	$46,733	$9,964	$568	$7,823	$519
Apr-98	3,384	0	0	$16.79	NA	NA	56,814	0	0	56,814	7,102	0	33,445	6,214	$46,761	$10,053	$578	$7,781	$527
May-98	3,384	0	0	$16.82	NA	NA	56,930	0	0	56,930	7,116	0	33,445	6,227	$46,788	$10,142	$588	$7,739	$534
Jun-98	3,384	0	0	$16.86	NA	NA	57,047	0	0	57,047	7,131	0	33,445	6,240	$46,816	$10,231	$598	$7,697	$542
Jul-98	3,384	0	0	$16.89	NA	NA	57,164	0	0	57,164	7,146	0	33,445	6,252	$46,843	$10,321	$608	$7,655	$550
Aug-98	3,384	0	0	$16.93	NA	NA	57,282	0	0	57,282	7,160	0	33,445	6,265	$46,870	$10,412	$619	$7,613	$557
Sep-98	3,384	0	0	$16.96	NA	NA	57,400	0	0	57,400	7,175	0	33,445	6,278	$46,898	$10,502	$629	$7,570	$565
FY-98	40,608	0	0				681,081	0	0	681,081	85,136	0	401,339	74,494	$560,969	$120,112		$93,603	
FY-99	28,377	0	0	$17.17	NA	NA	487,233	0	0	487,233	60,904	0	354,456	53,291	$468,651	$18,582	$648	$12,496	$577
FY-00	21,788	0	0	$17.56	NA	NA	382,592	0	0	382,592	47,824	0	253,865	41,846	$343,535	$39,057	$687	$22,411	$600
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-17	0	0	0	$25.72	NA	NA	$0.00	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$687	$0	$600
Total	166,949	0	0				2,797,456	0	0	2,797,456	349,683	0	1,454,793	305,973	$2,110,449	$687,007		$599,687	

PD-NP

Proved Developed Non-Producing

NPR-3+	PRODUCTION Oil bbls	PRODUCTION Gas mcf	PRODUCTION NGLS gals	PRICES Oil $	PRICES Gas $	PRICES NGLS $	GROSS REVENUE Oil $	GROSS REVENUE Gas $	GROSS REVENUE NGLS $	GROSS REVENUE Total $	COSTS Royalty @ 12.50%	COSTS CapEx $	COSTS OpEx $	COSTS Prod. Taxes 12.50%	COSTS Total $	Future Net Income Net Revenue $	Future Net Income Cumulative $000	Future Net Income Discounted @ 17.20%	Future Net Income Cumulative Discounted $000
Oct-96	0	0	0	$16.18	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	2,714	0	0	$16.21	NA	NA	44,009	0	0	44,009	5,501	0	4,637	4,814	$14,952	$29,057	$29	$28,647	$29
Dec-96	2,714	0	0	$16.25	NA	NA	44,100	0	0	44,100	5,513	0	4,637	4,823	$14,973	$29,127	$58	$28,310	$57
Jan-97	2,714	0	0	$16.28	NA	NA	44,190	0	0	44,190	5,524	0	4,637	4,833	$14,994	$29,196	$87	$27,976	$85
Feb-97	2,714	0	0	$16.31	NA	NA	44,281	0	0	44,281	5,535	0	4,637	4,843	$15,015	$29,266	$117	$27,647	$113
Mar-97	2,714	0	0	$16.35	NA	NA	44,372	0	0	44,372	5,547	0	4,637	4,853	$15,037	$29,335	$146	$27,320	$140
Apr-97	2,714	0	0	$16.38	NA	NA	44,463	0	0	44,463	5,558	0	4,637	4,863	$15,058	$29,405	$175	$26,999	$167
May-97	2,714	0	0	$16.41	NA	NA	44,554	0	0	44,554	5,569	0	4,637	4,873	$15,079	$29,475	$205	$26,680	$194
Jun-97	2,715	0	0	$16.45	NA	NA	44,659	0	0	44,659	5,582	0	4,637	4,885	$15,104	$29,555	$234	$26,375	$220
Jul-97	2,715	0	0	$16.48	NA	NA	44,751	0	0	44,751	5,594	0	4,637	4,895	$15,126	$29,625	$264	$26,064	$246
Aug-97	2,715	0	0	$16.52	NA	NA	44,843	0	0	44,843	5,605	0	4,637	4,905	$15,147	$29,696	$294	$25,757	$272
Sep-97	2,715	0	0	$16.55	NA	NA	44,935	0	0	44,935	5,617	0	4,637	4,915	$15,169	$29,766	$324	$25,453	$297
FY-97	29,862	0	0				489,157	0	0	489,157	61,145	0	51,005	53,502	$165,652	$323,505		$297,228	
Oct-97	778	0	0	$16.58	NA	NA	12,909	0	0	12,909	1,614	0	4,778	1,412	$7,804	$5,105	$329	$4,304	$302
Nov-97	778	0	0	$16.62	NA	NA	12,935	0	0	12,935	1,617	0	4,778	1,415	$7,810	$5,125	$334	$4,260	$306
Dec-97	778	0	0	$16.65	NA	NA	12,962	0	0	12,962	1,620	0	4,778	1,418	$7,816	$5,146	$339	$4,217	$310
Jan-98	778	0	0	$16.69	NA	NA	12,988	0	0	12,988	1,624	0	4,778	1,421	$7,823	$5,165	$344	$4,172	$314
Feb-98	778	0	0	$16.72	NA	NA	13,015	0	0	13,015	1,627	0	4,778	1,424	$7,829	$5,186	$349	$4,130	$318
Mar-98	778	0	0	$16.75	NA	NA	13,042	0	0	13,042	1,630	0	4,778	1,427	$7,835	$5,207	$354	$4,088	$322
Apr-98	778	0	0	$16.79	NA	NA	13,068	0	0	13,068	1,634	0	4,778	1,429	$7,841	$5,227	$360	$4,046	$326
May-98	778	0	0	$16.82	NA	NA	13,095	0	0	13,095	1,637	0	4,778	1,432	$7,847	$5,248	$365	$4,005	$330
Jun-98	778	0	0	$16.86	NA	NA	13,122	0	0	13,122	1,640	0	4,778	1,435	$7,853	$5,269	$370	$3,964	$334
Jul-98	778	0	0	$16.89	NA	NA	13,149	0	0	13,149	1,644	0	4,778	1,438	$7,860	$5,289	$375	$3,923	$338
Aug-98	778	0	0	$16.93	NA	NA	13,163	0	0	13,163	1,645	0	4,778	1,440	$7,863	$5,300	$381	$3,875	$342
Sep-98	778	0	0	$16.96	NA	NA	13,190	0	0	13,190	1,649	0	4,778	1,443	$7,870	$5,320	$386	$3,835	$346
FY-98	9,339	0	0				156,638	0	0	156,638	19,581	0	57,333	17,134	$94,048	$62,590		$48,819	
FY-99	4,819	0	0	$17.17	NA	NA	82,746	0	0	82,746	10,343	0	59,076	9,050	$78,469	$4,277	$390	$2,876	$349
FY-00	0	0	0	$17.56	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-17	0	0	0	$25.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$390	$0	$349
Total	44,020	0	0				728,541	0	0	728,541	91,089	0	167,414	79,686	$338,169	$390,372		$348,923	

PUD

Proved Undeveloped

NPR-3+

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil bbls	Gas mcf	NGLS gals	Oil $	Gas $	NGLS $	Oil $	Gas $	NGLS $	Total $	Royalty @ 12.50%	CapEx $	OpEx $	Prod. Taxes 12.50%	Total $	Net Revenue $	Cumulative $000	Discounted @ 17.20%	Cumulative Discounted $000
Oct-96	0	0	0	$16.18	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$16.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$16.25	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$16.28	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$16.31	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$16.35	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$16.38	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$16.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$16.45	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-97	0	0	0	$16.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-97	0	0	0	$16.52	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-97	0	0	0	$16.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-97	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
Oct-97	0	0	0	$16.58	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-97	0	0	0	$16.62	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-97	0	0	0	$16.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-98	0	0	0	$16.69	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-98	0	0	0	$16.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-98	0	0	0	$16.75	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-98	0	0	0	$16.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-98	0	0	0	$16.82	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-98	0	0	0	$16.86	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-98	0	0	0	$16.89	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-98	0	0	0	$16.93	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-98	0	0	0	$16.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-98	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
FY-99	0	0	0	$17.17	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-00	0	0	0	$17.56	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-17	0	0	0	$25.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Total	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	

Unproven

Unproven

NPR-3*

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil bbls	Gas mcf	NGLS gals	Oil $	Gas $	NGLS $	Oil $	Gas $	NGLS $	Total $	Royalty @ 12.50%	CapEx $	OpEx $	Prod. Taxes 12.50%	Total $	Net Revenue $	Cumulative $000	Discounted @ 17.20%	Cumulative Discounted $000
Oct-96	0	0	0	$16.18	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$16.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$16.25	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$16.28	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$16.31	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$16.35	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$16.38	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$16.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$16.45	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-97	0	0	0	$16.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-97	0	0	0	$16.52	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-97	0	0	0	$16.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-97	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
Oct-97	0	0	0	$16.58	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-97	0	0	0	$16.62	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-97	0	0	0	$16.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-98	0	0	0	$16.69	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-98	0	0	0	$16.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-98	0	0	0	$16.75	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-98	0	0	0	$16.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-98	0	0	0	$16.82	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-98	0	0	0	$16.86	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-98	0	0	0	$16.89	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-98	0	0	0	$16.93	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-98	0	0	0	$16.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-98	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
FY-99	0	0	0	$17.17	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-00	0	0	0	$17.56	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-17	0	0	0	$25.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Total	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	

Surface and Mineral Leasing and Maintenance

NPR-3	Maintenance Costs				Leasing Program				
DOI Case		NPV @	Surface	NPV @	First Sale			Total	NPV @
	Annual	7.00%	Income	10.00%	Bonus	Rentals	Costs	Revenue	10.00%
FY97	0	0	16,800	16,018	2,360	885	(1,770)	1,475	1,406
FY98	0	0	16,800	14,562		885	0	885	767
FY99	0	0	16,800	13,238		885	0	885	697
FY00	0	0	16,800	12,035		885	0	885	634
FY1	0	0	16,800	10,941		885	0	885	576
FY2	0	0	16,800	9,946		1,180	0	1,180	699
FY3	0	0	16,800	9,042		1,180	0	1,180	635
FY4	0	0	16,800	8,220		1,180	0	1,180	577
FY5	0	0	16,800	7,473		1,180	0	1,180	525
FY6	0	0	16,800	6,793		1,180	0	1,180	477
FY7	0	0	16,800	6,176			0	0	0
FY8	0	0	16,800	5,614	2,360	885	(1,770)	1,475	493
FY9	0	0	16,800	5,104		885	0	885	269
FY10	0	0	16,800	4,640		885	0	885	244
FY11	0	0	16,800	4,218		885	0	885	222
FY12	0	0	16,800	3,835		885	0	885	202
FY13	0	0	16,800	3,486		1,180	0	1,180	245
FY14	0	0	16,800	3,169		1,180	0	1,180	223
FY15	0	0	16,800	2,881		1,180	0	1,180	202
FY16	0	0	16,800	2,619		1,180	0	1,180	184
FY17	0	0	16,800	2,381		1,180	0	1,180	167
FY18	0	0	16,800	2,165			0	0	0
FY19	0	0	16,800	1,968	2,360	885	(1,770)	1,475	173
FY20	0	0	16,800	1,789		885	0	885	94
FY21	0	0	16,800	1,626		885	0	885	86
FY22	0	0	16,800	1,478		885	0	885	78
FY23	0	0	16,800	1,344		885	0	885	71
FY24	0	0	16,800	1,222		1,180	0	1,180	86
FY25	0	0	16,800	1,111		1,180	0	1,180	78
FY26	0	0	16,800	1,010		1,180	0	1,180	71
FY27	0	0	16,800	918		1,180	0	1,180	64
FY28	0	0	16,800	835		1,180	0	1,180	59
TOTAL	$0	$0	$537,600	$167,855	$7,080	$30,975	($5,310)	$32,745	$10,305

Known

2,360	acres in NPR-3 w/o mineral leases
50%	of acres offered for leased were actually taken.
50%	of bonus and rentals go to the lessor.

Assumed

Mineral leasing begins in FY97.

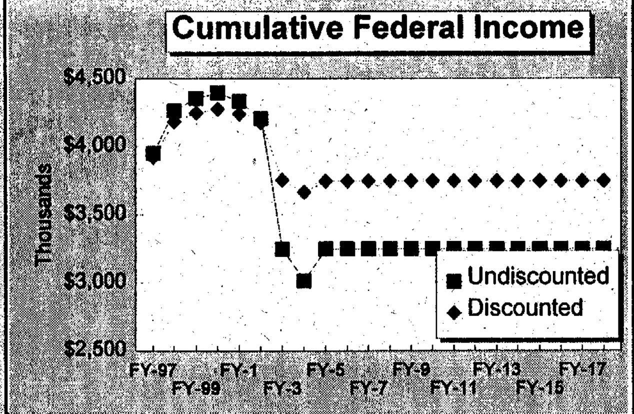
$0	Environmental costs required to begin leasing.
$4.00	initial bonus per acre
$1.50	rental per bonus first 5 yrs
$2.00	rental per bonus second 5 yrs
$16,800	per year in surface leases
$0	annual costs to maintain fee property
$1,770	Lease sale expenses @ $0.75/acre.

Value	($)	($/acre)
Maintenance	0	0
Surface Inc.	167,855	71.12
Mineral Inc.	10,305	4.37
NEPA cost	(28,604)	(12.12)
Total	$149,555	$63.37

APPENDIX C

DETAILED OUTPUT OF ECONOMIC MODEL FOR SALE

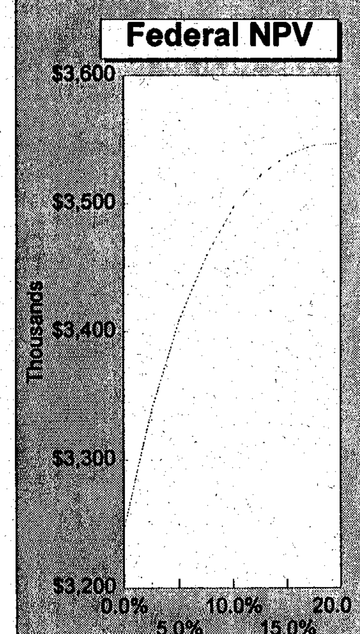
Current Parameters
Price=INFL
Case=4
Royalty=not used
Bonus=$3,497,000
Severance=5.00%
Ad Valorem =7.50%
St. Tax Rate=0.00%
Fed Tax Rate= 35%
Mcf/bbl=6
Industry Rate=17.20%



Operator Concerns

	RISK Production	RISK Expenses
PDP	100.0%	90.0%
PD-NP	80.0%	90.0%
PUD	60.0%	90.0%
Unproven	60.0%	90.0%

Federal Benefits Model
NPR-3



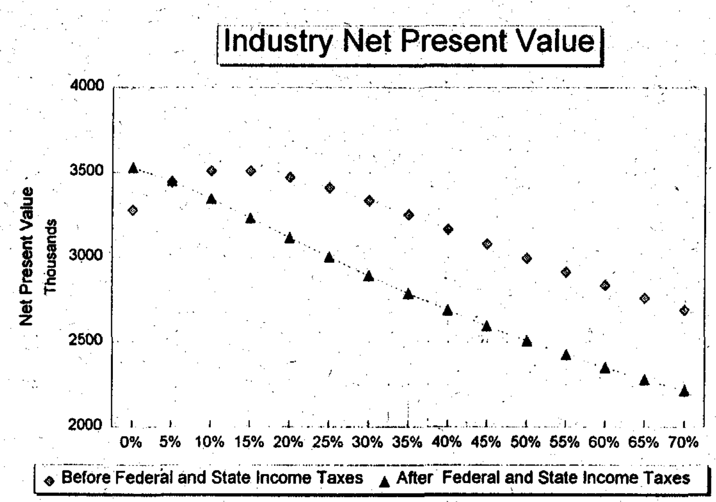
	Initial Income $	Royalties $	Federal Income Taxes $	Total Federal Income $	Cumulative $000	Discounted	Cumulative Discounted $000
FY-97	3,497,000	0	453,000	3,950,000	3,950	3,922,207	3,922
FY-98		0	315,000	315,000	4,265	260,505	4,183
FY-99		0	90,000	90,000	4,355	65,577	4,248
FY-00		0	42,000	42,000	4,397	26,963	4,275
FY-1		0	(63,000)	(63,000)	4,334	(35,634)	4,240
FY-2		0	(127,000)	(127,000)	4,207	(63,289)	4,176
FY-3		0	(960,000)	(960,000)	3,247	(421,501)	3,755
FY-4		0	(232,000)	(232,000)	3,015	(89,747)	3,665
FY-5		0	233,000	233,000	3,248	79,413	3,744
FY-6		0	0	0	3,248	0	3,744
FY-7		0	0	0	3,248	0	3,744
FY-8		0	0	0	3,248	0	3,744
FY-9		0	0	0	3,248	0	3,744
FY-10		0	0	0	3,248	0	3,744
FY-11		0	0	0	3,248	0	3,744
FY-12		0	0	0	3,248	0	3,744
FY-13		0	0	0	3,248	0	3,744
FY-14		0	0	0	3,248	0	3,744
FY-15		0	0	0	3,248	0	3,744
FY-16		0	0	0	3,248	0	3,744
FY-17		0	0	0	3,248	0	3,744
FY-18		0	0	0	3,248	0	3,744
Thereafter		0	0	0	3,248	0	3,744
TOTAL	3,497,000	0	(249,000)	3,248,000		3,744,494	
NPV=	3,497,000	0	247,495				

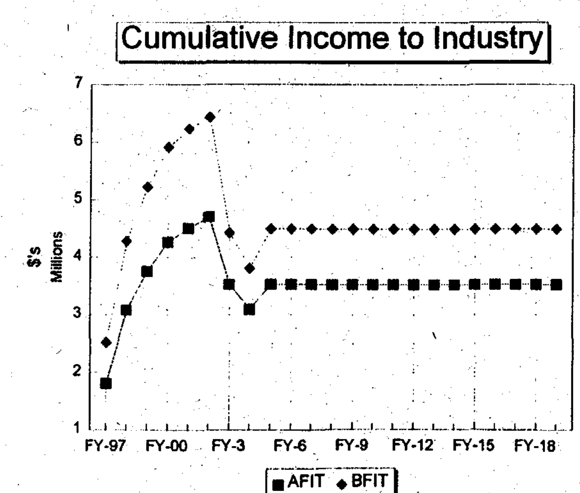
NPR-3

Federal Income Tax Calculations

	Revenue	Royalty, 80% Cap. OpEx, and Prod. Tax	Allocated Overhead	Depreciation	Depletion	Total Deductions	Taxable Income	State Income Taxes	Federal Income Taxes	After Tax Cash Flow	Cumulative $000	Discounted @ 14.2%	Cumulative Discounted $000
	$	$	$	$	$	$	$	$	$	$			
FY-97	6,477,498	3,958,549	253,483	0	971,625	5,183,658	1,293,840	0	452,844	1,812,623	1,813	1,696,190	1,696
FY-98	4,572,872	2,808,247	180,049	0	685,931	3,674,227	898,645	0	314,526	1,270,054	3,083	1,040,694	2,737
FY-99	3,413,156	2,479,032	165,217	0	511,973	3,156,222	256,934	0	89,927	678,980	3,762	487,183	3,224
FY-00	2,835,903	2,146,888	144,288	0	425,385	2,716,562	119,341	0	41,769	502,957	4,265	316,009	3,540
FY-1	2,438,179	2,119,015	146,047	0	353,231	2,618,293	(180,114)	0	(63,040)	236,157	4,501	129,928	3,670
FY-2	2,021,557	1,941,408	134,676	0	308,322	2,384,407	(362,850)	0	(126,997)	198,208	4,699	95,490	3,765
FY-3	1,583,810	3,928,826	124,191	0	273,297	4,326,314	(2,742,504)	0	(959,876)	(1,172,398)	3,527	(494,590)	3,271
FY-4	0	613,689	49,402	0	0	663,091	(663,091)	0	(232,082)	(431,009)	3,096	(159,218)	3,112
FY-5	0	(685,835)	19,652	0	0	(666,183)	666,183	0	233,164	433,019	3,529	140,070	3,252
FY-6	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
FY-7	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
FY-8	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
FY-9	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
FY-10	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
FY-11	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
FY-12	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
FY-13	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
FY-14	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
FY-15	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
FY-16	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
FY-17	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
FY-18	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
Thereafter	0	0	0	0	0	0	0	0	0	0	3,529	0	3,252
TOTAL	23,342,975	19,309,819	1,217,005	0	3,529,765	24,056,589	(713,614)	0	(249,765)	3,528,593		3,251,757	

Discount Factor	Before Federal and State Income Taxes	After Federal and State Income Taxes
17.20%	3,497,000	
14.20%		3,252,000
0%	3,279,000	3,529,000
5%	3,444,000	3,449,000
10%	3,509,000	3,346,000
15%	3,510,000	3,233,000
20%	3,472,000	3,117,000
25%	3,410,000	3,003,000
30%	3,334,000	2,892,000
35%	3,251,000	2,787,000
40%	3,166,000	2,688,000
45%	3,080,000	2,595,000
50%	2,995,000	2,508,000
55%	2,914,000	2,427,000
60%	2,835,000	2,351,000
65%	2,760,000	2,280,000
70%	2,688,000	2,214,000





PD, PD-NP, PUD plus Unproven Before Federal Income Tax

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	PRODUCTION			REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue before bonus/price	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	none	$	$	12.50%	$	$	$000	17.20%	$000
Oct-96	24,372	0	156,188	480,616	0	53,104	533,720	0	0	262,405	66,715	329,120	204,600	205	204,600	205
Nov-96	24,372	0	156,188	481,603	0	53,213	534,816	0	0	262,405	66,852	329,257	205,559	410	202,654	407
Dec-96	24,372	0	156,188	482,593	0	53,322	535,915	0	0	262,405	66,989	329,394	206,521	617	200,726	608
Jan-97	24,372	0	156,188	483,584	0	53,432	537,016	0	0	262,405	67,127	329,532	207,484	824	198,812	807
Feb-97	24,372	0	156,188	484,577	0	53,541	538,118	0	0	262,405	67,265	329,670	208,448	1,033	196,913	1,004
Mar-97	24,372	0	156,188	485,573	0	53,651	539,224	0	0	262,405	67,403	329,808	209,416	1,242	195,032	1,199
Apr-97	24,372	0	156,188	486,570	0	53,762	540,332	0	0	262,405	67,542	329,947	210,385	1,452	193,166	1,392
May-97	24,372	0	156,188	487,570	0	53,872	541,442	0	0	262,405	67,680	330,085	211,357	1,664	191,316	1,583
Jun-97	24,372	0	156,188	488,572	0	53,983	542,555	0	0	262,405	67,819	330,224	212,331	1,876	189,482	1,773
Jul-97	24,372	0	156,188	489,575	0	54,094	543,669	0	0	262,405	67,959	330,364	213,305	2,089	187,661	1,960
Aug-97	24,372	0	156,188	490,581	0	54,205	544,786	0	0	262,405	68,098	330,503	214,283	2,304	185,858	2,146
Sep-97	24,372	0	156,188	491,589	0	54,316	545,905	0	0	262,405	68,238	330,643	215,262	2,519	184,069	2,330
FY-97	292,464	0	1,874,250	5,833,003	0	644,495	6,477,498	0	0	3,148,862	809,687	3,958,549	2,518,951	[redacted]	2,330,289	[redacted]
Oct-97	15,987	0	154,000	323,124	0	53,665	376,789	0	0	186,386	47,099	233,485	143,304	2,662	120,806	2,451
Nov-97	15,987	0	154,000	323,788	0	53,776	377,564	0	0	186,386	47,196	233,582	143,982	2,806	119,663	2,571
Dec-97	15,987	0	154,000	324,453	0	53,886	378,339	0	0	186,386	47,292	233,678	144,661	2,951	118,528	2,689
Jan-98	15,987	0	154,000	325,120	0	53,997	379,117	0	0	186,386	47,390	233,776	145,341	3,096	117,403	2,807
Feb-98	15,987	0	154,000	325,787	0	54,108	379,895	0	0	186,386	47,487	233,873	146,022	3,242	116,286	2,923
Mar-98	15,987	0	154,000	326,457	0	54,219	380,676	0	0	186,386	47,585	233,971	146,705	3,389	115,179	3,038
Apr-98	15,987	0	154,000	327,127	0	54,330	381,457	0	0	186,386	47,682	234,068	147,389	3,536	114,081	3,152
May-98	15,987	0	154,000	327,799	0	54,442	382,241	0	0	186,386	47,780	234,166	148,075	3,684	112,992	3,265
Jun-98	15,987	0	154,000	328,473	0	54,554	383,027	0	0	186,386	47,878	234,264	148,763	3,833	111,913	3,377
Jul-98	15,987	0	154,000	329,148	0	54,666	383,814	0	0	186,386	47,977	234,363	149,451	3,983	110,842	3,488
Aug-98	15,986	0	154,000	329,803	0	54,778	384,581	0	0	186,386	48,073	234,459	150,122	4,133	109,766	3,598
Sep-98	15,986	0	154,000	330,481	0	54,891	385,372	0	0	186,386	48,172	234,558	150,814	4,284	108,714	3,706
FY-98	191,842	0	1,848,000	3,921,560	0	651,312	4,572,872	0	0	2,236,636	571,611	2,808,247	1,764,629	[redacted]	1,376,173	[redacted]
FY-99	131,692	0	1,821,750	2,755,863	0	657,293	3,413,156	0	0	2,052,387	426,645	2,479,032	934,124	5,218	628,182	4,335
FY-00	101,552	0	1,795,500	2,173,376	0	662,527	2,835,903	0	0	1,792,400	354,488	2,146,888	689,015	5,907	395,350	4,730
FY-1	80,892	0	1,769,250	1,770,518	0	667,661	2,438,179	0	0	1,814,243	304,772	2,119,015	319,164	6,226	156,257	4,886
FY-2	65,877	0	1,743,000	1,474,609	0	672,686	2,021,557	0	0	1,672,996	268,412	1,941,408	205,887	6,432	86,006	4,972
FY-3	54,304	0	1,716,750	1,243,148	0	677,595	1,583,810	0	0	3,688,733	240,093	3,928,826	(2,008,083)	4,424	(715,735)	4,257
FY-4	0	0	0	0	0	0	0	0	0	613,689	0	613,689	(613,689)	3,810	(186,634)	4,070
FY-5	0	0	0	0	0	0	0	0	0	(685,835)	0	(685,835)	685,835	4,496	177,965	4,248
FY-6	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
FY-7	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
FY-8	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
FY-9	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
FY-10	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
FY-11	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
FY-12	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
FY-13	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
FY-14	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
FY-15	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
FY-16	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
FY-17	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
FY-18	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
Thereafter	0	0	0	0	0	0	0	0	0	0	0	0	0	4,496	0	4,248
TOTAL	918,623	900,000	11,389,050	19,172,077	0	4,170,898	23,342,975	0	0	16,334,111	2,917,874	19,251,985	4,495,833		4,247,853	

PDP

Proved Developed Producing

NPR-3

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	12.50%	$	$	$000	17.20%	$000
Oct-96	24,372	0	156,188	$19.72	NA	$0.34	480,616	0	53,104	533,720	0	0	258,175	66,715	$324,890	$208,830	$209	$208,830	$209
Nov-96	24,372	0	156,188	$19.76	NA	$0.34	481,603	0	53,213	534,816	0	0	258,175	66,852	$325,027	$209,789	$419	$206,825	$416
Dec-96	24,372	0	156,188	$19.80	NA	$0.34	482,593	0	53,322	535,915	0	0	258,175	66,989	$325,164	$210,751	$629	$204,837	$620
Jan-97	24,372	0	156,188	$19.84	NA	$0.34	483,584	0	53,432	537,016	0	0	258,175	67,127	$325,302	$211,714	$841	$202,865	$823
Feb-97	24,372	0	156,188	$19.88	NA	$0.34	484,577	0	53,541	538,118	0	0	258,175	67,265	$325,440	$212,678	$1,054	$200,909	$1,024
Mar-97	24,372	0	156,188	$19.92	NA	$0.34	485,573	0	53,651	539,224	0	0	258,175	67,403	$325,578	$213,646	$1,267	$198,972	$1,223
Apr-97	24,372	0	156,188	$19.96	NA	$0.34	486,570	0	53,762	540,332	0	0	258,175	67,542	$325,717	$214,615	$1,482	$197,050	$1,420
May-97	24,372	0	156,188	$20.01	NA	$0.34	487,570	0	53,872	541,442	0	0	258,175	67,680	$325,855	$215,587	$1,698	$195,145	$1,615
Jun-97	24,372	0	156,188	$20.05	NA	$0.35	488,572	0	53,983	542,555	0	0	258,175	67,819	$325,994	$216,561	$1,914	$193,257	$1,809
Jul-97	24,372	0	156,188	$20.09	NA	$0.35	489,575	0	54,094	543,669	0	0	258,175	67,959	$326,134	$217,535	$2,132	$191,383	$2,000
Aug-97	24,372	0	156,188	$20.13	NA	$0.35	490,581	0	54,205	544,786	0	0	258,175	68,098	$326,273	$218,513	$2,350	$189,527	$2,190
Sep-97	24,372	0	156,188	$20.17	NA	$0.35	491,589	0	54,316	545,905	0	0	258,175	68,238	$326,413	$219,492	$2,570	$187,686	$2,377
FY-97	292,464	0	1,874,250				5,833,003	0	644,495	6,477,498	0	0	3,098,099	809,687	$3,907,786	$2,569,712		$2,377,286	
Oct-97	15,987	0	154,000	$20.21	NA	$0.35	323,124	0	53,665	376,789	0	0	136,002	47,099	$183,101	$193,688	$2,763	$163,281	$2,541
Nov-97	15,987	0	154,000	$20.25	NA	$0.35	323,788	0	53,776	377,564	0	0	136,002	47,196	$183,198	$194,366	$2,958	$161,537	$2,702
Dec-97	15,987	0	154,000	$20.29	NA	$0.35	324,453	0	53,886	378,339	0	0	136,002	47,292	$183,294	$195,045	$3,153	$159,811	$2,862
Jan-98	15,987	0	154,000	$20.34	NA	$0.35	325,120	0	53,997	379,117	0	0	136,002	47,390	$183,392	$195,725	$3,349	$158,102	$3,020
Feb-98	15,987	0	154,000	$20.38	NA	$0.35	325,787	0	54,108	379,895	0	0	136,002	47,487	$183,489	$196,406	$3,545	$156,410	$3,176
Mar-98	15,987	0	154,000	$20.42	NA	$0.35	326,457	0	54,219	380,676	0	0	136,002	47,585	$183,587	$197,089	$3,742	$154,736	$3,331
Apr-98	15,987	0	154,000	$20.46	NA	$0.35	327,127	0	54,330	381,457	0	0	136,002	47,682	$183,684	$197,773	$3,940	$153,079	$3,484
May-98	15,987	0	154,000	$20.50	NA	$0.35	327,799	0	54,442	382,241	0	0	136,002	47,780	$183,782	$198,459	$4,138	$151,439	$3,636
Jun-98	15,987	0	154,000	$20.55	NA	$0.35	328,473	0	54,554	383,027	0	0	136,002	47,878	$183,880	$199,147	$4,337	$149,817	$3,785
Jul-98	15,987	0	154,000	$20.59	NA	$0.35	329,148	0	54,666	383,814	0	0	136,002	47,977	$183,979	$199,835	$4,537	$148,210	$3,934
Aug-98	15,986	0	154,000	$20.63	NA	$0.36	329,803	0	54,778	384,581	0	0	136,002	48,073	$184,075	$200,506	$4,738	$146,606	$4,080
Sep-98	15,986	0	154,000	$20.67	NA	$0.36	330,481	0	54,891	385,372	0	0	136,002	48,172	$184,174	$201,198	$4,939	$145,033	$4,225
FY-98	191,842	0	1,848,000				3,921,560	0	651,312	4,572,872	0	0	1,632,020	571,611	$2,203,631	$2,369,241		$1,848,061	
FY-99	131,692	0	1,821,750	$20.93	NA	$0.36	2,755,863	0	657,293	3,413,156	0	0	1,429,391	426,645	$1,856,036	$1,557,120	$6,496	$1,047,136	$5,272
FY-00	101,552	0	1,795,500	$21.40	NA	$0.37	2,173,376	0	662,527	2,835,903	0	0	1,251,918	354,488	$1,606,406	$1,229,497	$7,726	$705,474	$5,978
FY-1	80,892	0	1,769,250	$21.89	NA	$0.38	1,770,518	0	667,661	2,438,179	0	0	1,096,479	304,772	$1,401,251	$1,036,928	$8,762	$507,662	$6,486
FY-2	65,877	0	1,743,000	$22.38	NA	$0.39	1,474,609	0	672,686	2,147,295	0	0	960,341	268,412	$1,228,753	$918,543	$9,681	$383,705	$6,869
FY-3	54,304	0	1,716,750	$22.89	NA	$0.39	1,243,148	0	677,595	1,920,743	0	0	841,105	240,093	$1,081,198	$839,545	$10,521	$299,236	$7,169
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-17	0	0	0	$31.34	NA	NA	$0.00	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$10,521	$0	$7,169
Total	918,623	0	12,568,500				19,172,077	0	4,633,569	23,805,646	0	0	10,309,352	2,975,708	$13,285,060	$10,520,586		$7,168,560	

PD-NP

NPR-3

Proved Developed Non-Producing

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	12.50%	$	$	$000	17.20%	$000
Oct-96	0	0	0	$19.72	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($4)	($4,230)	($4)
Nov-96	0	0	0	$19.76	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($8)	($4,171)	($8)
Dec-96	0	0	0	$19.80	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($13)	($4,112)	($13)
Jan-97	0	0	0	$19.84	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($17)	($4,053)	($17)
Feb-97	0	0	0	$19.88	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($21)	($3,996)	($21)
Mar-97	0	0	0	$19.92	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($25)	($3,940)	($25)
Apr-97	0	0	0	$19.96	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($30)	($3,884)	($28)
May-97	0	0	0	$20.01	NA	$0.34	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($34)	($3,829)	($32)
Jun-97	0	0	0	$20.05	NA	$0.35	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($38)	($3,775)	($36)
Jul-97	0	0	0	$20.09	NA	$0.35	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($42)	($3,722)	($40)
Aug-97	0	0	0	$20.13	NA	$0.35	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($47)	($3,669)	($43)
Sep-97	0	0	0	$20.17	NA	$0.35	0	0	0	0	0	0	4,230	0	$4,230	($4,230)	($51)	($3,617)	($47)
FY-97	0	0	0				0	0	0	0	0	0	50,764	0	$50,764	($50,764)		($46,998)	
Oct-97	0	0	0	$20.21	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($101)	($42,475)	($89)
Nov-97	0	0	0	$20.25	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($152)	($41,874)	($131)
Dec-97	0	0	0	$20.29	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($202)	($41,283)	($173)
Jan-98	0	0	0	$20.34	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($252)	($40,699)	($213)
Feb-98	0	0	0	$20.38	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($303)	($40,124)	($253)
Mar-98	0	0	0	$20.42	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($353)	($39,557)	($293)
Apr-98	0	0	0	$20.46	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($403)	($38,998)	($332)
May-98	0	0	0	$20.50	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($454)	($38,447)	($370)
Jun-98	0	0	0	$20.55	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($504)	($37,904)	($408)
Jul-98	0	0	0	$20.59	NA	$0.35	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($555)	($37,368)	($446)
Aug-98	0	0	0	$20.63	NA	$0.36	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($605)	($36,840)	($483)
Sep-98	0	0	0	$20.67	NA	$0.36	0	0	0	0	0	0	50,385	0	$50,385	($50,385)	($655)	($36,320)	($519)
FY-98	0	0	0				0	0	0	0	0	0	604,616	0	$604,616	($604,616)		($471,889)	
FY-99	0	0	0	$20.93	NA	$0.36	0	0	0	0	0	0	622,996	0	$622,996	($622,996)	($1,278)	($418,954)	($938)
FY-00	0	0	0	$21.40	NA	$0.37	0	0	0	0	0	0	540,482	0	$540,482	($540,482)	($1,819)	($310,123)	($1,248)
FY-1	0	0	0	$21.89	NA	$0.38	0	0	0	0	0	0	717,764	0	$717,764	($717,764)	($2,537)	($351,405)	($1,599)
FY-2	0	0	0	$22.38	NA	$0.39	0	0	0	0	0	0	712,656	0	$712,656	($712,656)	($3,249)	($297,699)	($1,897)
FY-3	0	0	0	$22.89	NA	$0.39	0	0	0	0	0	0	2,847,628	0	$2,847,628	($2,847,628)	($6,097)	($1,014,971)	($2,912)
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	613,689	0	$613,689	($613,689)	($6,711)	($186,634)	($3,099)
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	(685,835)	0	($685,835)	$685,835	($6,025)	$177,965	($2,921)
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-17	0	0	0	$31.34	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	($6,025)	$0	($2,921)
Total	0	0	0				0	0	0	0	0	0	6,024,759	0	$6,024,759	($6,024,759)		($2,920,708)	

PUD

NPR-3

Proved Undeveloped

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	12.50%	$	$	$000	17.20%	$000
Oct-96	0	0	0	$19.72	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$19.76	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$19.80	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$19.84	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$19.88	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$19.92	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$19.96	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$20.01	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$20.05	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-97	0	0	0	$20.09	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-97	0	0	0	$20.13	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-97	0	0	0	$20.17	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-97	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
Oct-97	0	0	0	$20.21	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-97	0	0	0	$20.25	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-97	0	0	0	$20.29	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-98	0	0	0	$20.34	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-98	0	0	0	$20.38	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-98	0	0	0	$20.42	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-98	0	0	0	$20.46	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-98	0	0	0	$20.50	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-98	0	0	0	$20.55	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-98	0	0	0	$20.59	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-98	0	0	0	$20.63	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-98	0	0	0	$20.67	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-98	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
FY-99	0	0	0	$20.93	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-00	0	0	0	$21.40	NA	$0.37	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-1	0	0	0	$21.89	NA	$0.38	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-2	0	720,000	(325,800)	$22.38	NA	$0.39	0	0	(125,738)	(125,738)	0	0	0	(15,717)	($15,717)	$0	$0	$0	$0
FY-3	0	180,000	(853,650)	$22.89	NA	$0.39	0	0	(336,933)	(336,933)	0	0	0	(42,117)	($42,117)	$0	$0	$0	$0
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-17	0	0	0	$31.34	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Total	0	900,000	(1,179,450)				0	0	(462,671)	(462,671)	0	0	0	(57,834)	($57,834)	$0		$0	

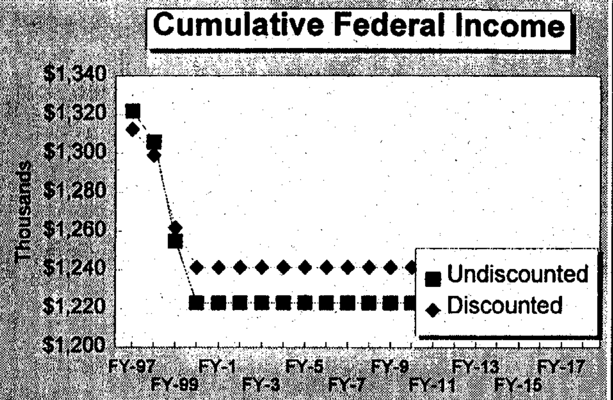
Unproven

Unproven

NPR-3

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	12.50%	$	$	$000	17.20%	$000
Oct-96	0	0	0	$19.72	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$19.76	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$19.80	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$19.84	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$19.88	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$19.92	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$19.96	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$20.01	NA	$0.34	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$20.05	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-97	0	0	0	$20.09	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-97	0	0	0	$20.13	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-97	0	0	0	$20.17	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-97	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
Oct-97	0	0	0	$20.21	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-97	0	0	0	$20.25	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-97	0	0	0	$20.29	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-98	0	0	0	$20.34	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-98	0	0	0	$20.38	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-98	0	0	0	$20.42	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-98	0	0	0	$20.46	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-98	0	0	0	$20.50	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-98	0	0	0	$20.55	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-98	0	0	0	$20.59	NA	$0.35	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-98	0	0	0	$20.63	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-98	0	0	0	$20.67	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-98	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
FY-99	0	0	0	$20.93	NA	$0.36	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-00	0	0	0	$21.40	NA	$0.37	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-1	0	0	0	$21.89	NA	$0.38	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-2	0	0	0	$22.38	NA	$0.39	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-3	0	0	0	$22.89	NA	$0.39	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-4	0	0	0	$23.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-5	0	0	0	$23.94	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-6	0	0	0	$24.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-7	0	0	0	$25.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-8	0	0	0	$25.61	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-9	0	0	0	$26.19	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-10	0	0	0	$26.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-11	0	0	0	$27.40	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-12	0	0	0	$28.02	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-13	0	0	0	$28.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-14	0	0	0	$29.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-15	0	0	0	$29.97	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-16	0	0	0	$30.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-17	0	0	0	$31.34	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-18	0	0	0	$32.06	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Thereafter	0	0	0	$32.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Total	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	

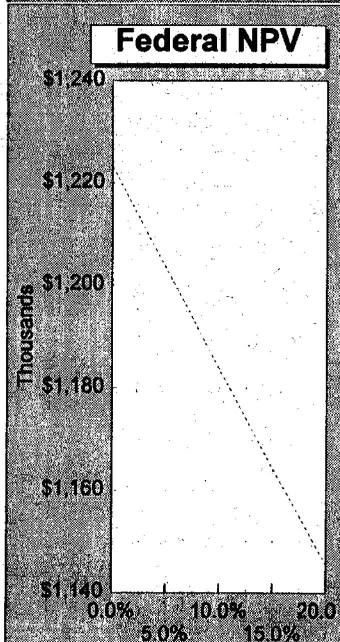
Current Parameters
Price=INFL
Case=4
Royalty=not used
Bonus=$1,164,000
Severance=5.00%
Ad Valorem =7.50%
St. Tax Rate=0.00%
Fed Tax Rate= 35%
Mcf/bbl=6
Industry Rate=17.20%



Operator Concerns

	RISK	
	Production	Expenses
PDP	100.0%	90.0%
PD-NP	80.0%	90.0%
PUD	0.0%	0.0%
Unproven	0.0%	0.0%

Federal Benefits Model
NPR-3+



	Initial Income	Royalties	Federal Income Taxes	Total Federal Income	Cumulative	Discounted	Cumulative Discounted
	$	$	$	$	$000		$000
FY-97	1,164,000	0	158,000	1,322,000	1,322	1,312,306	1,312
FY-98		0	(16,000)	(16,000)	1,306	(13,232)	1,299
FY-99		0	(51,000)	(51,000)	1,255	(37,160)	1,262
FY-00		0	(32,000)	(32,000)	1,223	(20,543)	1,241
FY-1		0	0	0	1,223	0	1,241
FY-2		0	0	0	1,223	0	1,241
FY-3		0	0	0	1,223	0	1,241
FY-4		0	0	0	1,223	0	1,241
FY-5		0	0	0	1,223	0	1,241
FY-6		0	0	0	1,223	0	1,241
FY-7		0	0	0	1,223	0	1,241
FY-8		0	0	0	1,223	0	1,241
FY-9		0	0	0	1,223	0	1,241
FY-10		0	0	0	1,223	0	1,241
FY-11		0	0	0	1,223	0	1,241
FY-12		0	0	0	1,223	0	1,241
FY-13		0	0	0	1,223	0	1,241
FY-14		0	0	0	1,223	0	1,241
FY-15		0	0	0	1,223	0	1,241
FY-16		0	0	0	1,223	0	1,241
FY-17		0	0	0	1,223	0	1,241
FY-18		0	0	0	1,223	0	1,241
Thereafter		0	0	0	1,223	0	1,241
TOTAL	1,164,000	0	59,000	1,223,000		1,241,371	
NPV=	1,164,000	0	77,371				

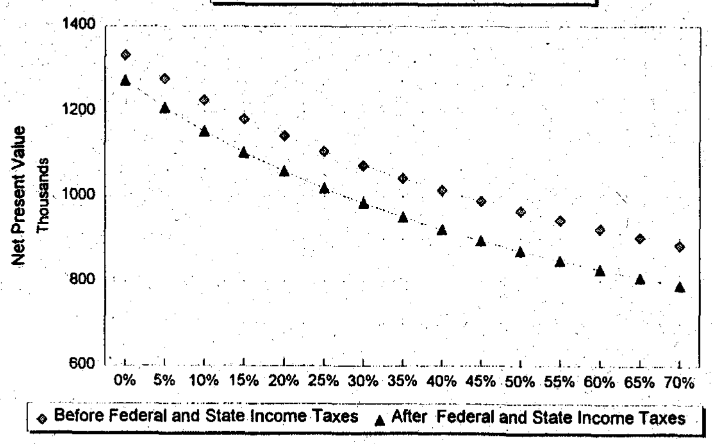
NPR-3*

Federal Income Tax Calculations

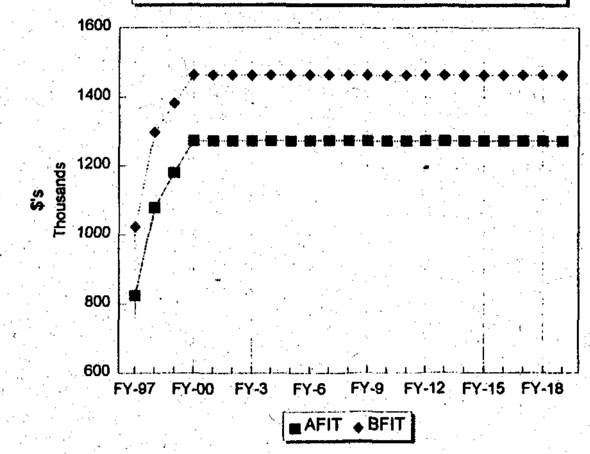
	Revenue $	Royalty, 80% Cap, OpEx, and Prod. Tax $	Allocated Overhead $	Depreciation $	Depletion $	Total Deductions $	Taxable Income $	State Income Taxes $	Federal Income Taxes $	After Tax Cash Flow $	Cumulative $000	Discounted @ 14.2%	Cumulative Discounted $000
FY-97	1,735,707	713,102	39,939	0	531,113	1,284,154	451,553	0	158,043	824,625	825	771,656	772
FY-98	837,719	563,389	36,923	0	283,127	883,439	(45,720)	0	(16,002)	253,405	1,078	207,642	979
FY-99	569,979	484,779	33,289	0	197,850	715,918	(145,939)	0	(51,079)	102,989	1,181	73,897	1,053
FY-00	382,592	301,689	20,436	0	151,910	474,035	(91,443)	0	(32,005)	92,472	1,273	58,100	1,111
FY-1	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-2	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-3	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-4	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-5	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-6	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-7	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-8	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-9	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-10	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-11	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-12	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-13	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-14	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-15	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-16	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-17	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
FY-18	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
Thereafter	0	0	0	0	0	0	0	0	0	0	1,273	0	1,111
TOTAL	3,525,997	2,062,958	130,588	0	1,164,000	3,357,546	168,451	0	58,958	1,273,492		1,111,296	

Discount Factor	Before Federal and State Income Taxes	After Federal and State Income Taxes
17.20%	1,164,000	
14.20%		1,111,000
0%	1,332,000	1,273,000
5%	1,277,000	1,209,000
10%	1,227,000	1,153,000
15%	1,183,000	1,104,000
20%	1,143,000	1,060,000
25%	1,106,000	1,020,000
30%	1,073,000	985,000
35%	1,043,000	952,000
40%	1,015,000	923,000
45%	989,000	896,000
50%	965,000	871,000
55%	943,000	848,000
60%	922,000	827,000
65%	902,000	807,000
70%	884,000	789,000

Industry Net Present Value



Cumulative Income to Industry



PD, PD-NP, PUD plus Unproven Before Federal Income Tax

NPR-3+

	PRODUCTION			REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue before bonus/price	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	none	$	$	12.50%	$	$	$000	17.20%	$000
Oct-96	6,348	0	0	102,711	0	0	102,711	0	0	37,094	12,839	49,933	52,778	53	52,778	53
Nov-96	9,062	0	0	146,931	0	0	146,931	0	0	41,731	18,366	60,097	86,834	140	85,607	138
Dec-96	9,062	0	0	147,233	0	0	147,233	0	0	41,731	18,405	60,136	87,097	227	84,653	223
Jan-97	9,062	0	0	147,535	0	0	147,535	0	0	41,731	18,442	60,173	87,362	314	83,711	307
Feb-97	9,062	0	0	147,838	0	0	147,838	0	0	41,731	18,480	60,211	87,627	402	82,778	390
Mar-97	9,062	0	0	148,142	0	0	148,142	0	0	41,731	18,518	60,249	87,893	490	81,856	471
Apr-97	9,062	0	0	148,446	0	0	148,446	0	0	41,731	18,556	60,287	88,159	578	80,944	552
May-97	9,062	0	0	148,751	0	0	148,751	0	0	41,731	18,594	60,325	88,426	666	80,041	632
Jun-97	9,063	0	0	149,070	0	0	149,070	0	0	41,731	18,633	60,364	88,706	755	79,160	712
Jul-97	9,063	0	0	149,376	0	0	149,376	0	0	41,731	18,672	60,403	88,973	844	78,277	790
Aug-97	9,063	0	0	149,683	0	0	149,683	0	0	41,731	18,710	60,441	89,242	933	77,404	867
Sep-97	9,063	0	0	149,991	0	0	149,991	0	0	41,731	18,749	60,480	89,511	1,023	76,540	944
FY-97	106,038	0	0	1,735,707	0	0	1,735,707	0	0	496,138	216,964	713,102	1,022,608		943,749	
Oct-97	4,162	0	0	69,027	0	0	69,027	0	0	38,223	8,629	46,852	22,175	1,045	18,694	962
Nov-97	4,162	0	0	69,169	0	0	69,169	0	0	38,223	8,646	46,869	22,300	1,067	18,533	981
Dec-97	4,162	0	0	69,311	0	0	69,311	0	0	38,223	8,664	46,887	22,424	1,090	18,373	999
Jan-98	4,162	0	0	69,453	0	0	69,453	0	0	38,223	8,682	46,905	22,548	1,112	18,214	1,018
Feb-98	4,162	0	0	69,596	0	0	69,596	0	0	38,223	8,700	46,923	22,673	1,135	18,056	1,036
Mar-98	4,162	0	0	69,739	0	0	69,739	0	0	38,223	8,717	46,940	22,799	1,158	17,900	1,054
Apr-98	4,162	0	0	69,882	0	0	69,882	0	0	38,223	8,736	46,959	22,923	1,180	17,743	1,071
May-98	4,162	0	0	70,025	0	0	70,025	0	0	38,223	8,753	46,976	23,049	1,203	17,588	1,089
Jun-98	4,162	0	0	70,169	0	0	70,169	0	0	38,223	8,771	46,994	23,175	1,227	17,434	1,106
Jul-98	4,162	0	0	70,313	0	0	70,313	0	0	38,223	8,790	47,013	23,300	1,250	17,281	1,124
Aug-98	4,162	0	0	70,445	0	0	70,445	0	0	38,223	8,805	47,028	23,417	1,273	17,122	1,141
Sep-98	4,162	0	0	70,590	0	0	70,590	0	0	38,223	8,824	47,047	23,543	1,297	16,971	1,158
FY-98	49,947	0	0	837,719	0	0	837,719	0	0	458,672	104,717	563,389	274,326		213,909	
FY-99	33,196	0	0	569,979	0	0	569,979	0	0	413,532	71,247	484,779	85,200	1,382	57,296	1,215
FY-00	21,788	0	0	382,592	0	0	382,592	0	0	253,865	47,824	301,689	80,903	1,463	46,421	1,261
FY-1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-2	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-3	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-4	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-5	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-6	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-7	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-8	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-9	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-10	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-11	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-12	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-13	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-14	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-15	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-16	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-17	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
FY-18	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
Thereafter	0	0	0	0	0	0	0	0	0	0	0	0	0	1,463	0	1,261
TOTAL	210,969	0	0	3,525,997	0	0	3,525,997	0	0	1,622,206	440,752	2,062,958	1,463,037		1,261,375	

PDP

Proved Developed Producing

NPR-3*

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	12.50%	$	$	$000	17.20%	$000
Oct-96	6,348	0	0	$16.18	NA	NA	102,711	0	0	102,711	0	0	37,094	12,839	$49,933	$52,778	$53	$52,778	$53
Nov-96	6,348	0	0	$16.21	NA	NA	102,922	0	0	102,922	0	0	37,094	12,865	$49,959	$52,963	$106	$52,214	$105
Dec-96	6,348	0	0	$16.25	NA	NA	103,133	0	0	103,133	0	0	37,094	12,892	$49,986	$53,147	$159	$51,655	$157
Jan-97	6,348	0	0	$16.28	NA	NA	103,345	0	0	103,345	0	0	37,094	12,918	$50,012	$53,333	$212	$51,104	$208
Feb-97	6,348	0	0	$16.31	NA	NA	103,557	0	0	103,557	0	0	37,094	12,945	$50,039	$53,518	$266	$50,556	$258
Mar-97	6,348	0	0	$16.35	NA	NA	103,770	0	0	103,770	0	0	37,094	12,971	$50,065	$53,705	$319	$50,016	$308
Apr-97	6,348	0	0	$16.38	NA	NA	103,983	0	0	103,983	0	0	37,094	12,998	$50,092	$53,891	$373	$49,480	$358
May-97	6,348	0	0	$16.41	NA	NA	104,197	0	0	104,197	0	0	37,094	13,025	$50,119	$54,078	$427	$48,950	$407
Jun-97	6,348	0	0	$16.45	NA	NA	104,411	0	0	104,411	0	0	37,094	13,051	$50,145	$54,266	$482	$48,426	$455
Jul-97	6,348	0	0	$16.48	NA	NA	104,625	0	0	104,625	0	0	37,094	13,078	$50,172	$54,453	$536	$47,906	$503
Aug-97	6,348	0	0	$16.52	NA	NA	104,840	0	0	104,840	0	0	37,094	13,105	$50,199	$54,641	$591	$47,392	$550
Sep-97	6,348	0	0	$16.55	NA	NA	105,056	0	0	105,056	0	0	37,094	13,132	$50,226	$54,830	$646	$46,884	$597
FY-97	76,176	0	0				1,246,550	0	0	1,246,550	0	0	445,133	155,819	$600,952	$645,598		$597,361	
Oct-97	3,384	0	0	$16.58	NA	NA	56,118	0	0	56,118	0	0	33,445	7,015	$40,460	$15,658	$661	$13,200	$611
Nov-97	3,384	0	0	$16.62	NA	NA	56,234	0	0	56,234	0	0	33,445	7,029	$40,474	$15,760	$677	$13,098	$624
Dec-97	3,384	0	0	$16.65	NA	NA	56,349	0	0	56,349	0	0	33,445	7,044	$40,489	$15,860	$693	$12,995	$637
Jan-98	3,384	0	0	$16.69	NA	NA	56,465	0	0	56,465	0	0	33,445	7,058	$40,503	$15,962	$709	$12,894	$650
Feb-98	3,384	0	0	$16.72	NA	NA	56,581	0	0	56,581	0	0	33,445	7,073	$40,518	$16,063	$725	$12,792	$662
Mar-98	3,384	0	0	$16.75	NA	NA	56,697	0	0	56,697	0	0	33,445	7,087	$40,532	$16,165	$741	$12,691	$675
Apr-98	3,384	0	0	$16.79	NA	NA	56,814	0	0	56,814	0	0	33,445	7,102	$40,547	$16,267	$757	$12,591	$688
May-98	3,384	0	0	$16.82	NA	NA	56,930	0	0	56,930	0	0	33,445	7,116	$40,561	$16,369	$774	$12,491	$700
Jun-98	3,384	0	0	$16.86	NA	NA	57,047	0	0	57,047	0	0	33,445	7,131	$40,576	$16,471	$790	$12,391	$713
Jul-98	3,384	0	0	$16.89	NA	NA	57,164	0	0	57,164	0	0	33,445	7,146	$40,591	$16,573	$807	$12,292	$725
Aug-98	3,384	0	0	$16.93	NA	NA	57,282	0	0	57,282	0	0	33,445	7,160	$40,605	$16,677	$823	$12,194	$737
Sep-98	3,384	0	0	$16.96	NA	NA	57,400	0	0	57,400	0	0	33,445	7,175	$40,620	$16,780	$840	$12,096	$749
FY-98	40,608	0	0				681,081	0	0	681,081	0	0	401,339	85,136	$486,475	$194,606		$151,725	
FY-99	28,377	0	0	$17.17	NA	NA	487,233	0	0	487,233	0	0	354,456	60,904	$415,360	$71,873	$912	$48,333	$797
FY-00	21,786	0	0	$17.56	NA	NA	382,592	0	0	382,592	0	0	253,865	47,824	$301,689	$80,903	$993	$46,421	$844
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-17	0	0	0	$25.72	NA	NA	$0.00	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$993	$0	$844
Total	166,949	0	0				2,797,456	0	0	2,797,456	0	0	1,454,793	349,683	$1,804,476	$992,980		$843,840	

PD-NP

Proved Developed Non-Producing

NPR-3*	PRODUCTION Oil	PRODUCTION Gas	PRODUCTION NGLS	PRICES Oil	PRICES Gas	PRICES NGLS	GROSS REVENUE Oil	GROSS REVENUE Gas	GROSS REVENUE NGLS	GROSS REVENUE Total	COSTS Royalty @	COSTS CapEx	COSTS OpEx	COSTS Prod. Taxes	COSTS Total	Future Net Income Net Revenue	Future Net Income Cumulative	Future Net Income Discounted @	Future Net Income Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	12.50%	$	$	$000	17.20%	$000
Oct-96	0	0	0	$16.18	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	2,714	0	0	$16.21	NA	NA	44,009	0	0	44,009	0	0	4,637	5,501	$10,138	$33,871	$34	$33,393	$33
Dec-96	2,714	0	0	$16.25	NA	NA	44,100	0	0	44,100	0	0	4,637	5,513	$10,150	$33,950	$68	$32,997	$66
Jan-97	2,714	0	0	$16.28	NA	NA	44,190	0	0	44,190	0	0	4,637	5,524	$10,161	$34,029	$102	$32,607	$99
Feb-97	2,714	0	0	$16.31	NA	NA	44,281	0	0	44,281	0	0	4,637	5,535	$10,172	$34,109	$136	$32,222	$131
Mar-97	2,714	0	0	$16.35	NA	NA	44,372	0	0	44,372	0	0	4,637	5,547	$10,184	$34,188	$170	$31,840	$163
Apr-97	2,714	0	0	$16.38	NA	NA	44,463	0	0	44,463	0	0	4,637	5,558	$10,195	$34,268	$204	$31,464	$195
May-97	2,714	0	0	$16.41	NA	NA	44,554	0	0	44,554	0	0	4,637	5,569	$10,206	$34,348	$239	$31,091	$226
Jun-97	2,715	0	0	$16.45	NA	NA	44,659	0	0	44,659	0	0	4,637	5,582	$10,219	$34,440	$273	$30,734	$256
Jul-97	2,715	0	0	$16.48	NA	NA	44,751	0	0	44,751	0	0	4,637	5,594	$10,231	$34,520	$308	$30,370	$287
Aug-97	2,715	0	0	$16.52	NA	NA	44,843	0	0	44,843	0	0	4,637	5,605	$10,242	$34,601	$342	$30,011	$317
Sep-97	2,715	0	0	$16.55	NA	NA	44,935	0	0	44,935	0	0	4,637	5,617	$10,254	$34,681	$377	$29,656	$346
FY-97	29,862	0	0				489,157	0	0	489,157	0	0	51,005	61,145	$112,150	$377,007		$346,385	
Oct-97	778	0	0	$16.58	NA	NA	12,909	0	0	12,909	0	0	4,778	1,614	$6,392	$6,517	$384	$5,494	$352
Nov-97	778	0	0	$16.62	NA	NA	12,935	0	0	12,935	0	0	4,778	1,617	$6,395	$6,540	$390	$5,436	$357
Dec-97	778	0	0	$16.65	NA	NA	12,962	0	0	12,962	0	0	4,778	1,620	$6,398	$6,564	$397	$5,378	$363
Jan-98	778	0	0	$16.69	NA	NA	12,988	0	0	12,988	0	0	4,778	1,624	$6,402	$6,586	$403	$5,320	$368
Feb-98	778	0	0	$16.72	NA	NA	13,015	0	0	13,015	0	0	4,778	1,627	$6,405	$6,610	$410	$5,264	$373
Mar-98	778	0	0	$16.75	NA	NA	13,042	0	0	13,042	0	0	4,778	1,630	$6,408	$6,634	$416	$5,209	$378
Apr-98	778	0	0	$16.79	NA	NA	13,068	0	0	13,068	0	0	4,778	1,634	$6,412	$6,656	$423	$5,152	$384
May-98	778	0	0	$16.82	NA	NA	13,095	0	0	13,095	0	0	4,778	1,637	$6,415	$6,680	$430	$5,098	$389
Jun-98	778	0	0	$16.86	NA	NA	13,122	0	0	13,122	0	0	4,778	1,640	$6,418	$6,704	$437	$5,044	$394
Jul-98	778	0	0	$16.89	NA	NA	13,149	0	0	13,149	0	0	4,778	1,644	$6,422	$6,727	$443	$4,989	$399
Aug-98	778	0	0	$16.93	NA	NA	13,163	0	0	13,163	0	0	4,778	1,645	$6,423	$6,740	$450	$4,928	$404
Sep-98	778	0	0	$16.96	NA	NA	13,190	0	0	13,190	0	0	4,778	1,649	$6,427	$6,763	$457	$4,875	$409
FY-98	9,339	0	0				156,638	0	0	156,638	0	0	57,333	19,581	$76,914	$79,724		$62,187	
FY-99	4,819	0	0	$17.17	NA	NA	82,746	0	0	82,746	0	0	59,076	10,343	$69,419	$13,327	$470	$8,962	$418
FY-00	0	0	0	$17.56	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-17	0	0	0	$25.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$470	$0	$418
Total	44,020	0	0				728,541	0	0	728,541	0	0	167,414	91,069	$258,483	$470,058		$417,534	

PUD

NPR-3+

Proved Undeveloped

	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil bbls	Gas mcf	NGLS gals	Oil $	Gas $	NGLS $	Oil $	Gas $	NGLS $	Total $	Royalty @ not used	CapEx $	OpEx $	Prod. Taxes 12.50%	Total $	Net Revenue $	Cumulative $000	Discounted @ 17.20%	Cumulative Discounted $000
Oct-96	0	0	0	$16.18	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$16.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$16.25	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$16.28	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$16.31	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$16.35	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$16.38	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$16.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$16.45	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-97	0	0	0	$16.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-97	0	0	0	$16.52	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-97	0	0	0	$16.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-97	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
Oct-97	0	0	0	$16.58	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-97	0	0	0	$16.62	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-97	0	0	0	$16.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-98	0	0	0	$16.69	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-98	0	0	0	$16.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-98	0	0	0	$16.75	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-98	0	0	0	$16.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-98	0	0	0	$16.82	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-98	0	0	0	$16.86	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-98	0	0	0	$16.89	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-98	0	0	0	$16.93	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-98	0	0	0	$16.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-98	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
FY-99	0	0	0	$17.17	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-00	0	0	0	$17.56	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-17	0	0	0	$25.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Total	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	

Unproven

Unproven

NPR-3*	PRODUCTION			PRICES			GROSS REVENUE				COSTS					Future Net Income			
	Oil	Gas	NGLS	Oil	Gas	NGLS	Oil	Gas	NGLS	Total	Royalty @	CapEx	OpEx	Prod. Taxes	Total	Net Revenue	Cumulative	Discounted @	Cumulative Discounted
	bbls	mcf	gals	$	$	$	$	$	$	$	not used	$	$	12.50%	$	$	$000	17.20%	$000
Oct-96	0	0	0	$16.18	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-96	0	0	0	$16.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-96	0	0	0	$16.25	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-97	0	0	0	$16.28	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-97	0	0	0	$16.31	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-97	0	0	0	$16.35	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-97	0	0	0	$16.38	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-97	0	0	0	$16.41	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-97	0	0	0	$16.45	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-97	0	0	0	$16.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-97	0	0	0	$16.52	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-97	0	0	0	$16.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-97	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
Oct-97	0	0	0	$16.58	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Nov-97	0	0	0	$16.62	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Dec-97	0	0	0	$16.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jan-98	0	0	0	$16.69	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Feb-98	0	0	0	$16.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Mar-98	0	0	0	$16.75	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Apr-98	0	0	0	$16.79	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
May-98	0	0	0	$16.82	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jun-98	0	0	0	$16.86	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Jul-98	0	0	0	$16.89	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Aug-98	0	0	0	$16.93	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Sep-98	0	0	0	$16.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-98	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	
FY-99	0	0	0	$17.17	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-00	0	0	0	$17.56	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-1	0	0	0	$17.96	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-2	0	0	0	$18.37	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-3	0	0	0	$18.78	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-4	0	0	0	$19.21	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-5	0	0	0	$19.65	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-6	0	0	0	$20.09	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-7	0	0	0	$20.55	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-8	0	0	0	$21.01	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-9	0	0	0	$21.49	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-10	0	0	0	$21.98	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-11	0	0	0	$22.48	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-12	0	0	0	$22.99	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-13	0	0	0	$23.51	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-14	0	0	0	$24.04	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-15	0	0	0	$24.59	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-16	0	0	0	$25.15	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-17	0	0	0	$25.72	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
FY-18	0	0	0	$26.30	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Thereafter	0	0	0	$26.90	NA	NA	0	0	0	0	0	0	0	0	$0	$0	$0	$0	$0
Total	0	0	0				0	0	0	0	0	0	0	0	$0	$0		$0	

NPR-3	Maintenance Costs				Leasing Program				
Sale Case		NPV @	Surface	NPV @	First Sale			Total	NPV @
	Annual	7.00%	Income	13.20%	Bonus	Rentals	Costs	Revenue	13.20%
FY97	0	0	0	0	4,720	1,770	(1,770)	4,720	4,436
FY98	0	0	0	0		1,770	0	1,770	1,470
FY99	0	0	0	0		1,770	0	1,770	1,298
FY00	0	0	0	0		1,770	0	1,770	1,147
FY1	0	0	0	0		1,770	0	1,770	1,013
FY2	0	0	0	0		2,360	0	2,360	1,193
FY3	0	0	0	0		2,360	0	2,360	1,054
FY4	0	0	0	0		2,360	0	2,360	931
FY5	0	0	0	0		2,360	0	2,360	823
FY6	0	0	0	0		2,360	0	2,360	727
FY7	0	0	0	0			0	0	0
FY8	0	0	0	0	4,720	1,770	(1,770)	4,720	1,134
FY9	0	0	0	0		1,770	0	1,770	376
FY10	0	0	0	0		1,770	0	1,770	332
FY11	0	0	0	0		1,770	0	1,770	293
FY12	0	0	0	0		1,770	0	1,770	259
FY13	0	0	0	0		2,360	0	2,360	305
FY14	0	0	0	0		2,360	0	2,360	270
FY15	0	0	0	0		2,360	0	2,360	238
FY16	0	0	0	0		2,360	0	2,360	210
FY17	0	0	0	0		2,360	0	2,360	186
FY18	0	0	0	0			0	0	0
FY19	0	0	0	0	4,720	1,770	(1,770)	4,720	290
FY20	0	0	0	0		1,770	0	1,770	96
FY21	0	0	0	0		1,770	0	1,770	85
FY22	0	0	0	0		1,770	0	1,770	75
FY23	0	0	0	0		1,770	0	1,770	66
FY24	0	0	0	0		2,360	0	2,360	78
FY25	0	0	0	0		2,360	0	2,360	69
FY26	0	0	0	0		2,360	0	2,360	61
FY27	0	0	0	0		2,360	0	2,360	54
FY28	0	0	0	0		2,360	0	2,360	48
TOTAL	$0	$0	$0	$0	$14,160	$61,950	($5,310)	$70,800	$18,616

Known

2,360	acres in NPR-3 w/o mineral leases
50%	of acres offered for leased were actually taken.
100%	of bonus and rentals go to the lessor.

Assumed

Mineral leasing begins in FY97.

$0	Environmental costs required to begin leasing.
$4.00	initial bonus per acre
$1.50	rental per bonus first 5 yrs
$2.00	rental per bonus second 5 yrs
$0	per year in surface leases
$0	annual costs to maintain fee property
$1,770	Lease sale expenses @ $0.75/acre.

Value		
	($)	($/acre)
Maintenance	0	0
Surface Inc.	0	0.00
Mineral Inc.	18,616	7.89
NEPA cost	(28,197)	(11.95)
Total	($9,581)	($4.06)

APPENDIX D

RMOTC COST AND BENEFIT CALCULATIONS

D.1 COST REVIEW

Some of the projects listed in this Appendix D actually took place over a period of more than one single year, but have been included in only one year above for simplification. The year chosen was based on the year in which the project was started, and weight was also given to that particular year in which the majority of the testing took place, if this information was easily discernible. For instance, the project "Bentonite Plugging" actually started in 1995, but has been included in 1996 spreadsheet above due to the fact that a majority of this project has yet to be completed due to certain delays. An exception to this general rule is the "Microbial EOR" project. The work for this project is currently ongoing, but a lot of work was taking place in 1995, thus its costs have been divided in half and included in both Tables D-2 and D-3.

This approach was chosen due to the fact that with the accounting information available to this Appraiser it was very difficult, if not impossible to quantify exactly how much was spent on a particular project during a particular year. Some projects last much longer than one year, and more importantly, some projects incur substantially higher costs at the end of the project (or at the beginning).

Table D-4 serves as a summary table of the total (and estimated) costs incurred by the Federal Government through the operation of RMOTC since its creation in 1994. Those costs include all DOE In-House Energy Management (IHEM) costs, all Energy Related Inventions Program (ERIP) funded costs, all Bartlesville Project Office (BPO) costs, and all Naval Petroleum Oil Shale Reserves (NPOSR) costs.

D.2 TESTING PROJECTIONS

Based on the research undertaken during the construction of this Report (such as the telephone interviews with potential future testing clients such as Schlumberger, Ltd.), on face-to-face interviews with RMOTC personnel, and finally on market data (i.e. the market study prepared for

TABLE D-1
RMOTC'S COSTS IN FISCAL YEAR 1994

Item		IHEM Funding	ERIP Funding	State Funding	BPO Funding	NPOSR Funding	Partner's Cash Contribution	Partner's In-Kind Contribution	Total Cost
Total Cost of Dropped Projects			$37.87			$2,870.57			$2,908.44
Testing Projects									
UW Motor Efficiency Study (94)						$16,528.78		$10,000.00	$26,528.78
Oil Well Power Controller (94)			$1,596.79					$3,735.00	$5,331.79
V-GER Lubricator (94)			$2,032.24					$4,000.00	$6,032.24
Downhole Steam Generator (94)						$18,807.41		$25,000.00	$43,807.41
Total cost of 1994 testing projects			**$3,666.90**			**$38,206.76**		**$42,735.00**	**$84,608.66**
FY 1994 IHEM Projects	*	$37,883.00							$37,883.00
FY 1994 Indirect/Overhead Costs	*					$322,500.59			$322,500.59
Total Costs In FY 1994		**$37,883.00**	**$3,666.90**			**$360,707.35**		**$42,735.00**	**$444,992.25**
Source: RMOTC Project Record, 5/31/96									
* These numbers were obtained by dividing the 94/95 cost summaries provided by RMOTC in half to obtain a value for 1994 alone.									

TABLE D-2
RMOTC'S COSTS IN FISCAL YEAR 1995

Item		IHEM Funding	ERIP Funding	State Funding	BPO Funding	NPOSR Funding	Partner's Cash Contribution	Partner's In-Kind Contribution	Total Cost
Testing Projects									
Mud Devil-Deaerator (95)			$7,084.45					$5,000.00	$12,084.45
In-Situ H_2S Remediation (95)				$1,983.89				$700.00	$2,683.89
D-Jax Pump-Off Controller (95)						$4,929.29		$5,000.00	$9,929.29
Paraffin & Scale Control (95)				$19,111.82				$2,500.00	$21,611.82
Downhole Dynamometer (95)						$1,709.48		$12,050.00	$13,759.48
Short-Radius Lateral Drilling (95)						$167,176.54		$50,000.00	$217,176.54
Electronic Tank Gauging (95)						$8,556.42		$3,500.00	$12,056.42
Parrafin & Scale Control (95)				$4,810.40				$2,000.00	$6,810.40
PowerJet Slotting Tool (95)						$60,448.44	$6,269.28	$25,648.00	$92,365.72
Slimhole Drill Stem Tester (95)						$22,553.70		$18,500.00	$41,053.70
Percussion Drilling (95)						$3,555.17		$60,000.00	$63,555.17
ASD Valve-Hydraulic Systems (95)						$2,573.06		$1,951.00	$4,524.06
Microbial EOR (95/96)	#		$2,341.31	$7,964.15		$1,921.63		$17,395.56	$29,622.64
Total Cost of 1995 Testing Projects		**$0.00**	**$9,425.76**	**$33,870.26**	**$0.00**	**$273,423.73**	**$6,269.28**	**$204,244.56**	**$527,233.58**
Training Programs									
Native American Environmental Training					$19,315.68				$19,315.68
Native American Drilling/Production Training					$24,087.18				$24,087.18
NOSR Core Analysis						$18,877.14			$18,877.14
Undergrad Training						$26,618.34			$26,618.34
Juan Juarez - DOE Intern					$481.19				$481.19
HBCU Training Program						$8,086.93			$8,086.93
HBCU Training Program						$2,274.83			$2,274.83
Jay LeBeau - Intern (95/96)	#					$1,936.56			$1,936.56
Oilfield Training Program (95/96)	#					$1,708.02			$1,708.02
RMOTC Training Center (95/96)	#				$887.93	$1,732.87			$2,620.80
Total Cost for 1995 Training Programs					**$44,771.98**	**$61,234.69**			**$106,006.67**

TABLE D-2
RMOTC'S COSTS IN FISCAL YEAR 1995

Item		IHEM Funding	ERIP Funding	State Funding	BPO Funding	NPOSR Funding	Partner's Cash Contribution	Partner's In-Kind Contribution	Total Cost
1995 IHEM Projects	*	$37,883.00							$37,883.00
1995 Contractor Fee						$51,940.00			$51,940.00
1995 Indirect/Overhead Costs	*					$322,500.59			$322,500.59
Total Costs-FY 1995 (Projects/Training/Overhead)		**$37,883.00**	**$9,425.76**	**$33,870.26**	**$44,771.98**	**$709,099.01**	**$6,269.28**	**$204,244.56**	**$1,045,563.84**

Source: RMOTC Project Report, 5/31/96

* These numbers were obtained by dividing the 94/95 cost summaries provided by RMOTC in half to obtain a value for 1995 alone.

\# The 95/96 costs were divided in half, with half counted in 1995 and half counted in 1996.

TABLE D-3
RMOTC'S COSTS IN FISCAL YEAR 1996

Item	IHEM Funding	ERIP Funding	State Funding	BPO Funding	NPOSR Funding	Partner's Cash Contribution	Partner's In-Kind Contribution	Total Costs To Date	RMOTC'S Estimated Additional Costs **	Partner's Estimated In-Kind Contributions	Estimated Total Project Cost for Ongoing and Planned Projects
Testing Projects											
Completed											
Microbial EOR (95/96)		$2,341.31	$7,964.15		$1,921.63		$17,395.56	$29,622.64			$29,622.64
ADJUST-A-Pump (96) (95 State Carry-Over Funding)			$12,429.36				$5,600.00	$18,029.36			$18,029.36
Smart Cable (96)					$3,483.41		$5,000.00	$8,483.41			$8,483.41
Anadrill A350XF Field Test (96)					$66,811.87	$46,500.00	$200,000.00	$313,311.87			$313,311.87
Downhole Telemetry Test (96)					$13,673.39		$52,000.00	$65,673.39			$65,673.39
Uniflo Oilcorp Pump (96)					$954.46			$954.46			$954.46
Second Wall Creek MARCIT (96)					$17.72			$17.72			$17.72
RMOTC Test Well (96)								$0.00			$0.00
Oil Removal from Produced Water using Bentonite (96)								$0.00			$0.00
Ongoing											
Auto Shut-Off Valve (96)					$2,135.21			$2,135.21	$2,064.79	$1,500.00	$5,700.00
Liquid Level Sensor (96)					$1,474.47			$1,474.47	$3,725.53	$3,000.00	$8,200.00
Bentonite Plugging (95/96)					$10,334.44			$10,334.44	$8,600.56	$40,000.00	$58,935.00
Downhole Permanent Pressure Gauge (96)					$2,116.63			$2,116.63	$16,401.37	$73,400.00	$91,918.00
Paraffin Control (96)					$4,111.39			$4,111.39	$13,888.61	$18,000.00	$36,000.00
Planned											
Schlumberger Gas Generator (96)					$1,785.45			$1,785.45	$5,114.55		$6,900.00
Air Injection Microbe Squeeze (96)					$1,719.29			$1,719.29	$11,060.71	$20,760.00	$33,540.00
TaBoRR (96)			$1,933.58					$1,933.58	$15,066.42	$17,000.00	$34,000.00
Low Pressure Fracs (96)					$1,320.53			$1,320.53	$41,999.47	$24,000.00	$67,320.00
Biodiesel (96)			$333.45					$333.45	$2,666.55	$3,000.00	$6,000.00
Bull Dauger Test (96)					$1,780.13			$1,780.13	$12,719.87	$1,275.00	$15,775.00
Rust Inhibitive Coatings (96)								$0.00	$3,000.00	$3,000.00	$6,000.00
Cameron Elastomers Pump (96)					$1,575.19			$1,575.19	$14,624.81	$40,742.00	$56,942.00
Petroleum Sludge Treatment (95/96 On Hold)					$450.02			$450.02	$12,049.98	$12,500.00	$25,000.00
Tensleep MARCIT (96)								$0.00	$30,000.00	$20,000.00	$50,000.00
Total Cost of 1996 Testing Projects	**$0.00**	**$2,341.31**	**$22,660.54**	**$0.00**	**$115,665.23**	**$46,500.00**	**$279,995.56**	**$467,162.63**	**$192,983.22**	**$278,177.00**	**$938,322.85**

TABLE D-3
RMOTC'S COSTS IN FISCAL YEAR 1996

Item		IHEM Funding	ERIP Funding	State Funding	BPO Funding	NPOSR Funding	Partner's Cash Contribution	Partner's In-Kind Contribution	Total Costs To Date	RMOTC'S Estimated Additional Costs **	Partner's Estimated In-Kind Contributions	Estimated Total Project Cost for Ongoing and Planned Projects
Training Programs												
Jay LeBeau - Intern (95/96)	#					$1,936.56			$1,936.56			
Oilfield Training Program (95/96)	#					$1,708.02			$1,708.02			
RMOTC Training Center (95/96)	#				$887.93	$1,732.87			$2,620.80			
FY-96 Internship Program						$2,080.41			$2,080.41			
FY-96 HBCU Internship Program						$1,310.88			$1,310.88			
Core Storage Facility (96)						$295.75			$295.75			
Total Cost for 1996 Training Programs					$887.93	$9,064.49	$0.00	$0.00	$9,952.42			
1996 IHEM Costs						$2,336.43			$2,336.43			
1996 Indirect/Overhead Costs						$342,786.00		$849.38	$343,635.38			
Total Costs-FY 1996 (Projects/Overhead/Training)			$2,341.31	$22,660.54	$887.93	$469,852.18	$46,500.00	$280,844.94	$823,086.86	$192,983.22	$278,177.00	$1,294,247.08

Source: RMOTC Project Record, 5/31/96

\# The 95/96 costs were divided in half, with half counted in 1995 and half counted in 1996.

* The estimated cost that has not yet been paid by RMOTC

** RMOTC's estimated additional costs will be derived from Federal sources (NPOSR).

TABLE D-4
SUMMARY OF FEDERAL FUNDS SPENT ON RMOTC

1994	FEDERAL TOTALS	COMPLETE TOTALS	RATIO %
Testing Projects (10)*	$41,874	$84,609	49%
IHEM Projects	$37,883	$37,883	100%
Indirect/Overhead Costs	$58,011	$58,011	100%
1994 TOTALS	**$137,768**	**$180,503**	**76%**

1995	FEDERAL TOTALS	COMPLETE TOTALS	RATIO %
Testing Projects (13)	$282,849	$527,234	54%
Training Programs	$106,007	$106,007	100%
IHEM Projects	$37,883	$37,883	100%
Contractor Fees	$51,940	$51,940	100%
Indirect/Overhead Costs	$586,990	$586,990	100%
1995 TOTALS	**$1,065,669**	**$1,310,054**	**81%**

1996	FEDERAL TOTALS	COMPLETE TOTALS	RATIO %
Testing Projects (8)(To Date)	$118,007	$467,163	25%
Estimated Additional Costs of Ongoing and Planned Testing Projects **	$192,983	$471,160	41%
Training Programs	$9,952	$9,952	100%
IHEM Projects	$2,336	$2,336	100%
Indirect/Overhead Costs	$345,122	$345,122	100%
1996 TOTALS	**$668,401**	**$1,295,733**	**52%**

* Includes dropped projects

** RMOTC's estimated additional costs will be derived from Federal Sources (NPOSR)

RMOTC by the Mid-Continent Technology Transfer Center) it can be reasonably assumed that the total demand for testing at RMOTC will increase over the next several years. This includes both the total number of future projects per/year as well as the total number of project costs per/year. This assumption is based on the following observations.

RMOTC has undergone extensive personnel and policy changes over the past year. This is clearly evident when looking at the Schlumberger Anadrill A350XF Field Test. This improvement also includes the appointment of a new RMOTC contractor manager, Clair Opsal, who seems to have much more engineering and more importantly, diversified management experience and overall capability than the previous RMOTC manager.

Furthermore, the continued marketing by RMOTC at conferences and in papers will serve to increase industry's knowledge of the facility as a potential test center. This had a major effect on RMOTC in 1995 as compared to 1994, when it was still very new and very unknown. As more and more information is disseminated concerning the testing center, this will undoubtedly increase the overall knowledge of RMOTC to industry, and thus will also increase the demand for testing new projects at RMOTC.

The question is how much of an increase will occur during the next several years. Although an increase is anticipated based on the general observations above, future increases in demand for testing at RMOTC will not be as dramatic as they have been during the last two and one-half years. Demand for additional tests at RMOTC will continually decrease (diminishing returns) over the next several years, and will eventually level out (estimated at three to four years from the present; five and one-half to seven years based on total RMOTC project life).

An extremely important point must be noted before this analysis concerning the future demand for testing at RMOTC proceeds. The potential for RMOTC to serve as a testing site for horizontal and lateral drilling tests is currently unknown, but is slightly negative based on past tests. It is still unclear whether the integrity of the rock at NPR-3 is of sufficient quality to make these types of drilling tests feasible for industry in the future (see Schlumberger project, and letter included in

Appendix E of Fact-Finding Report). Due to recent breakthroughs in drilling technologies such as horizontal and lateral drilling, these types of tests are in high demand in the oilfield testing industry at the current time, and are anticipated to remain there for several years to come. Therefore the results of the current experimentation by Schlumberger concerning the integrity of the rock at NPR-3 is tantamount to the future success of the testing center.

Table D-4 also lists the number of testing projects completed at RMOTC for the 1994, 1995, and 1996 years. As mentioned above, some of these projects took place over a period of more than one year, but have been placed in only one for simplification. As stated, this was done based on the start date, and any additional information available concerning the project (i.e. delays, expenditures by year, etc.), and is considered an accurate representation of the overall testing load at the facility over its first two and one-half years. Using this information along with the general observations made in the preceding paragraph, the projected increases in demand for testing projects at RMOTC was estimated, and is included in the main body of this Report.

It is anticipated that the total amount of testing projects at RMOTC each year will increase as it has over the past two and one-half years (three per year) and eventually will level out at approximately 22 projects in the year 1999, where it will remain indefinitely. In the year 1999, the RMOTC program will be six years of age and it is thus expected that any additional gains from "introduction" to new individuals in industry will have been eroded substantially, if not completely. Also, the maximum number of projects reached (22), is consistent with RMOTC's current capabilities while remaining a high-quality, customer-oriented testing facility.

In order to project the future costs to the Federal Government under this particular scenario, an average cost per project has been calculated, based on 38 completed, ongoing, and planned projects at RMOTC. These projects, along with their respective costs have been included in Table D-5. As shown at the bottom of Table D-5, the average cost per testing project at RMOTC has historically been approximately $41,817.

TABLE D-5
AVERAGE PROJECT COST AT RMOTC

TESTING PROJECT	TOTAL COST
1994 Projects	
UW Motor Efficiency Study (94)	$26,529
Oil Well Power Controller (94)	$5,332
V-GER Lubricator (94)	$6,032
Downhole Steam Generator (94)	$43,807
1995 Projects	
Mud Devil-Deaerator (95)	$12,084
In-Situ H_2S Remediation (95)	$2,684
D-Jax Pump-Off Controller (95)	$9,929
Paraffin & Scale Control (95)	$21,612
Downhole Dynamometer (95)	$13,759
Short-Radius Lateral Drilling (95)	$217,177
Electronic Tank Gauging (95)	$12,056
Parrafin & Scale Control (95)	$6,810
PowerJet Slotting Tool (95)	$92,366
Slimhole Drill Stem Tester (95)	$41,054
Percussion Drilling (95)	$63,555
ASD Valve-Hydraulic Systems (95)	$4,524
Microbial EOR (95/96)	$59,245
1996 Projects (completed)	
ADJUST-A-Pump (96) (95 State Carry Over Funding)	$18,029
Smart Cable (96)	$8,483
Anadrill A350XF Field Test (96)	$313,312
Downhole Telemetry Test (96)	$65,673
Uniflo Oilcorp Pump (96)	$954
1996 Projects (ongoing&planned)*	
Auto Shut-Off Valve	$5,700
Liquid Level Sensor	$8,200
Bentonite Plugging	$58,935
Downhole Permanent Pressure Gauge	$91,918
Paraffin Control	$36,000
Schlumberger Gas Generator	$6,900
Air Injection Microbe Squeeze	$33,540
TaBoRR	$34,000
Low Pressure Fracs	$67,320
Biodiesel	$6,000
Bull Dauger Test	$15,775
Rust Inhibitive Coatings	$6,000
Cameron Elastomers Pump	$56,942
Petroleum Sludge	$25,000
Tensleep MARCIT	$50,000
AVERAGE COST PER PROJECT:	**$41,817**

D.3 TRAINING PROJECTIONS

Training at RMOTC has declined substantially from 1995 to 1996 (no training programs took place during 1994). This has been explained in the Fact-Finding Report, and in brief, was basically due to financial factors which prevented the Native American groups from committing to visit NPR-3 in the State of Wyoming. RMOTC further considered the possibility of traveling to Oklahoma to conduct some training programs, but this was deemed non-cost-effective, and thus all plans involving the training of Native Americans were canceled for 1996.

RMOTC still sponsors various interns as also discussed in the Fact-Finding Report, and some of these programs are being carried out or have already been planned for 1996. The total amount spent to date on training programs, and the estimated expenditures for the remainder of 1996, however, are far lower than those for 1995. Besides the problems experienced concerning the Native American programs, RMOTC has also expended more resources and effort towards the attraction of companies for testing projects, which RMOTC hopes to use to become more self-sufficient.

Projections for training expenditures at RMOTC are thus difficult to determine based solely on historical data. It can be reasonably assumed, however, that there will be future training programs, and although not on the scale as was seen in 1995, there probably will be more expended towards training in 1997 and beyond than was spent in 1996. It should be noted than the Native American training programs which occurred in 1995 accounted for nearly $50,000 in expenditures. Michael Tyler, training manger at RMOTC claims that these programs will still be pursued vigorously in the future.

Based on these general observations, future training program expenditures at RMOTC for the next several years have been estimated, and are included in the main body of this Report. These expenditures are anticipated to be approximately $50,000 per year indefinitely.

D.4 OPERATING OVERHEAD PROJECTIONS

Under this analysis, these nominal costs (excluding inflation) are projected to increase as testing project demand rises over the next three years. This is anticipated to be a three percent increase in operating overhead costs due to the increased load on the testing facility. From 1999 on, these expenditures are forecasted to remain constant. These future increases are summarized graphically in the main body of this Report.

D.5 TOTAL COST PROJECTIONS

Future project testing costs were derived from the projected number of future testing projects and were based on an average project cost of $41,817 (see Table D-5). Future project training costs are based on assumptions made above, and for this analysis that amount is projected to be approximately $50,000 per year. Operating overhead projections have also been estimated based on the above discussion.

Both government and partner shares are included in the main body of this Report ("Total Historical and Projected Cost Summary for RMOTC"), and were based on the following observations. First of all, the Federal Government has been and will continue to be responsible in the future for all training costs incurred at RMOTC. As discussed in detail in the Fact-Finding Report, RMOTC was created by the DOE with training as one of its "missions" or goals, and RMOTC has completed training programs for Native Americans, Historically Black Colleges and Universities students, among others, and will continue to pursue these opportunities in the future. Therefore, the projected future training program costs will be borne completely by the Federal Government. Also, any overhead-related costs as defined above will also accrue completely to the Federal Government.

This is not the case, however, for future testing projects conducted at RMOTC. Historically, the Federal Government has borne a substantial amount of these costs, as part of the general "cost-share" programs available to potential inventors who may not be able to afford expensive testing programs, and also to help "jump start" the success of the RMOTC program. This is changing, however, and RMOTC has set as one of its goals in its most recently published Business Plan, that they intend to rely more on partner funds than those derived from the government or "cost-share" funds. Therefore, the government share for future testing projects has been projected to decrease by 5 percent per year until 1999 (starting at 30 percent in 1997, 25 percent in 1998, and 20 percent in 1999), after which point it will remain constant.

D.6 BENEFITS ASSOCIATED WITH RMOTC

The only tangible benefit associated with RMOTC and quantified in this section is that income tax revenue accruing to the Federal Government from the employment that is generated through the testing of various technologies at RMOTC. In other words, RMOTC funded testing projects create employment through, at the very least, those people that are directly working on RMOTC technologies. These technologies also foster further employment through sales of those successful products. This occurs directly, when an inventor sells his product himself or through a small venture company, and indirectly, when an inventor licenses this technology to a larger company for resale.

RMOTC is a very young program, and thus, there is not sufficient sales data available currently concerning the technologies that have been successfully tested there. Future sales of those true R&D projects, therefore, will have to be estimated, and the ERIP Study is used to create these sales projections. That document summarizes that every $1 grant given to an average inventor generates $19 in total cumulative sales. This ratio is used to project future sales of products already tested at RMOTC, and also for future testing projections, which were quantified in an earlier section.

The first step in this analysis is the quantification of the equivalent ERIP grant at RMOTC. This has been done in Table D-6 for all those projects tested at RMOTC which were considered to be

TABLE D-6
1994-1996 ADJUSTED GRANT AMOUNTS

	DIRECT AMOUNT	OPERATING OVERHEAD	PARTNER AMOUNT	ADJUSTED GRANT
1994 R&D PROJECTS				
Downhole Steam Generator	$18,807	$28,555	$25,000	$72,362
1994 TOTAL				**$72,362**
1995 R&D PROJECTS				
Downhole Dynamometer	$1,709	$3,669	$12,050	$17,428
Electronic Tank Gauging	$8,556	$18,368	$3,500	$30,424
PowerJet Slotting Tool	$60,448	$129,771	$31,917	$222,136
Percussion Drilling	$3,555	$7,632	$60,000	$71,187
Microbial EOR	$12,227	$26,249	$17,396	$55,872
1995 TOTAL				**$397,047**
1996 R&D PROJECTS				
Microbial EOR	$12,227	$13,185	$17,396	$42,808
Smart Cable	$3,483	$3,756	$5,000	$12,239
Downhole Telemetry	$13,673	$14,744	$52,000	$80,417
Auto Shut-Off Valve	$4,200	$4,529	$1,500	$10,229
Liquid Level Sensor	$5,200	$5,607	$3,000	$13,807
1996 TOTAL				**$159,500**
1994 - 1996 TOTAL				**$628,909**

true R&D projects. The RMOTC equivalent grant includes: the direct amount contributed to the particular project by RMOTC; the estimated portion of total operating overhead allocated to that particular project; the partner amount contributed during the testing project, in both in-kind and cash. The total of all of these items equals the "adjusted grant" or equivalent ERIP grant for each R&D project completed at RMOTC.

The estimated tax revenue generated from a particular project can then be estimated for each year (or each project), and this has been done in Table D-7. The present value of the adjusted grant amounts is first calculated using an escalation rate of 12 percent per year. Thus, the 1994 grant amount is compounded twice using this rate, while 1995 amounts are compounded once. The Net Present Value (NPV) of this amount is then calculated based on the "Sales Build-Up Forecast" Table included in the main body of this Report. At this point the adjusted grant has been both compounded and discounted to account for the time value of money both in the past and in the future (with regards to future sales).

The ratio described above (19:1) is then used to estimated total cumulative sales for all of those R&D projects. The ERIP study concludes that of all ERIP technologies studied from the 1980 to 1992 period, approximately 43 percent of total sales occurred directly (by the inventor or by a company created by the inventor), while 57 percent of total sales of ERIP technologies occurred indirectly (through a licensee or new owner of the technology). This percentage has been applied to the total estimated cumulative sales of those R&D products at RMOTC, and the direct and indirect sales are therefore also listed in Table D-7.

These sales numbers are then used to estimate the total number of jobs that will be created (through both direct and indirect sales). The ERIP study further concludes that in 1992, one full-time job is created through every $82,000 in direct sales and one for every $165,000 in indirect sales.

The total income tax revenue can then be calculated, also using the ERIP study, which concludes that in 1990, the average federal income tax per return was $4104. This number has been

TABLE D-7
1994-1996 TAX REVENUE DETERMINATION

	GRANT AMOUNT	PV 1996	NPV 1996	SALES TYPE	CUMULATIVE SALES	JOBS CREATED	TAX REVENUE
1994	$72,362	$90,771	$47,188	**TOTAL:**	$896,575		
				DIRECT:	$385,527	5	$23,038
				INDIRECT:	$511,048	3	$15,177
						8	**$38,214**
1995	$397,047	$444,693	$231,178	**TOTAL:**	$4,392,380		
				DIRECT:	$1,888,724	23	$112,863
				INDIRECT:	$2,503,657	15	$74,351
						38	**$187,214**
1996	$159,500	$159,500	$82,918	**TOTAL:**	$1,575,436		
				DIRECT:	$677,437	8	$40,481
				INDIRECT:	$897,998	5	$26,668
						14	**$67,149**
TOTAL	**$628,909**	**$694,964**	**$361,284**		**$6,864,391**	**60**	**$292,577**

adjusted for inflation, and is actually $4900 in 1996. The total tax revenue is then the total number of jobs created times this average income tax. These numbers are listed in the last column of Table D-7.

This same methodology has been applied to the testing projections of RMOTC, which are discussed in an earlier section of this report. These testing projections have been divided into the number of R&D projects versus demonstration projects, based on Table D-8, which lists all R&D projects and all demonstration projects tested at RMOTC and the total costs associated with them. As can be seen from the table, approximately 30 percent of total realized testing costs have been for those projects considered to be R&D, while the remaining 70 percent were spent for projects considered demonstration.

This ratio has then been applied to those future testing projections (above), and this is summarized in Table D-9. These numbers are then divided according to project funding source, which is also based on historical data (above). Thus total projected government and partner R&D project costs have been estimated, and are those two lines shaded gray in Table D-9.

Total projected income tax revenue can then be calculated, and is summarized in Table D-10. This Table is similar to Table D-7 described above. The direct and partner testing amounts are taken from Table D-9, and are added to the estimated operating overhead for R&D testing projects which was discussed in detail in an earlier section of this report. This gives us the projected grant amounts for all future years up to 2011.

Inflation at 3 percent per year is then factored in solely for the purpose of using a simpler discount rate in the "NPV" column of Table D-10. This discount factor is applied to projected cumulative sales for each year, and then total jobs (both direct and indirect) is estimated in the second to last column of Table D-10. Finally, the $4900 income tax average for 1996 is applied to estimate total projected tax revenues, listed in the last column of Table D-10.

TABLE D-8
RESEARCH AND DEVELOPMENT VS. DEMONSTRATION RATIOS

R&D PROJECTS	TOTAL COST	RATIO
Downhole Steam Generator	$43,807	
Downhole Dynamometer	$13,759	
Electronic Tank Gauging	$12,056	
PowerJet Slotting Tool	$92,366	
Percussion Drilling	$63,555	
Microbial EOR	$59,245	
Smart Cable	$8,483	
Downhole Telemetry Test	$65,673	
Auto Shut-Off Valve	$5,700	
Liquid Level Sensor	$8,200	
TOTAL	**$372,844**	**30%**
DEMONSTRATION PROJECTS		
UW Motor Efficiency Study	$26,529	
Oil Well Power Controller	$5,332	
V-GER Lubricator	$6,032	
Mud Devil-Deaerator	$12,084	
In-Situ H2S Remediation	$2,684	
D-Jax Pump-Off Controller	$9,929	
Paraffin & Scale Control	$21,612	
Short-Radius Lateral Drilling	$217,177	
Paraffin & Scale Control	$6,810	
Slimhole Drill Stem Tester	$41,054	
ASD Valve-Hydraulic Systems	$4,524	
ADJUST-A-Pump	$18,029	
Anadrill A350XF Field Test	$313,312	
Uniflo Oilcorp Pump	$954	
Second Wall Creek MARCIT	$18	
Bentonite Plugging	$58,935	
Downhole Permanent Pressure Gauge	$91,918	
Paraffin Control	$36,000	
TOTAL	**$872,933**	**70%**
TOTAL COSTS	**$1,245,777**	**100%**

TABLE D-9
ADVANCED BREAKDOWN OF TESTING PROJECTIONS

	1997	1998	1999	2000	2001	2002
PROJECTED TESTING COSTS	**$794,523**	**$878,157**	**$919,974**	**$919,974**	**$919,974**	**$919,974**
R&D (30%)	$238,357	$263,447	$275,992	$275,992	$275,992	$275,992
DEMO (70%)	$556,166	$614,710	$643,982	$643,982	$643,982	$643,982
FUNDING SOURCE						
GOVERNMENT	**$238,357**	**$219,539**	**$183,995**	**$183,995**	**$183,995**	**$183,995**
R&D	$71,507	$65,862	$55,199	$55,199	$55,199	$55,199
DEMO	$166,850	$153,677	$128,797	$128,797	$128,797	$128,797
PARTNER	**$556,166**	**$658,618**	**$735,979**	**$735,979**	**$735,979**	**$735,979**
R&D	$166,850	$197,585	$220,794	$220,794	$220,794	$220,794
DEMO	$389,316	$461,033	$515,185	$515,185	$515,185	$515,185

TABLE D-10
1997-2011 TAX REVENUE DETERMINATION

YEAR	DIRECT AMOUNT	OPERATING OVERHEAD	PARTNER AMOUNT	ADJUSTED GRANT	INFLATION	CUMULATIVE SALES	NPV*	TOTAL JOBS	TAX REVENUE
1997	$71,507	$42,924	$166,850	$281,281	$289,719	$5,504,666	$2,555,046	22	$108,902
1998	$65,862	$41,837	$197,585	$305,284	$323,875	$6,153,631	$2,550,249	22	$108,698
1999	$55,199	$38,076	$220,794	$314,069	$343,192	$6,520,639	$2,412,767	21	$102,838
2000	$55,199	$38,076	$220,794	$314,069	$353,487	$6,716,258	$2,218,917	19	$94,576
2001	$55,199	$38,076	$220,794	$314,069	$364,092	$6,917,746	$2,040,597	18	$86,975
2002	$55,199	$38,076	$220,794	$314,069	$375,015	$7,125,278	$1,876,656	16	$79,988
2003	$55,199	$38,076	$220,794	$314,069	$386,265	$7,339,036	$1,725,848	15	$73,560
2004	$55,199	$38,076	$220,794	$314,069	$397,853	$7,559,207	$1,587,131	14	$67,647
2005	$55,199	$38,076	$220,794	$314,069	$409,789	$7,785,984	$1,459,638	13	$62,213
2006	$55,199	$38,076	$220,794	$314,069	$422,082	$8,019,563	$1,342,314	12	$57,213
2007	$55,199	$38,076	$220,794	$314,069	$434,745	$8,260,150	$1,234,479	11	$52,616
2008	$55,199	$38,076	$220,794	$314,069	$447,787	$8,507,955	$1,135,216	10	$48,386
2009	$55,199	$38,076	$220,794	$314,069	$461,221	$8,763,193	$1,044,047	9	$44,500
2010	$55,199	$38,076	$220,794	$314,069	$475,057	$9,026,089	$960,105	8	$40,922
2011	$55,199	$38,076	$220,794	$314,069	$489,309	$9,296,872	$883,017	8	$37,636
TOTALS	$854,956	$579,746	$3,234,757	$4,669,459	$5,973,488	$113,496,267	$25,026,028	218	$1,066,669

A benefit-cost analysis can then be calculated and this is done in Table D-11. As can be seen from the Table, the total estimated costs for 1994 and 1995 (from RMOTC budget estimates, see above) are compounded to obtain a present value, and those future costs (1997-2011) are discounted at 7 percent (based on OMB Circular No. A-94, October 29, 1992). All of these adjusted costs are then summed to calculate the total costs associated with the operation of RMOTC, which is estimated to be $14,325,332.

The total benefits which have been estimated in Tables D-7 and D-10 are adjusted in the exact same manner to calculate the NPV of all past and projected benefits arising from RMOTC. The total tangible benefits (income tax revenues) arising from RMOTC is estimated to be $1,066,669 for the 1994 to 2011 time period. This gives a benefit-cost ratio of 0.10.

TABLE D-11
BENEFIT-COST ANALYSIS OF RMOTC

YEAR	COSTS	PV 1996 OF HISTORICAL COSTS		YEAR	BENEFITS	PV 1996 OF HISTORICAL BENEFITS	
1994	$290,000	$332,021		1994	$38,214	$43,751	
1995	$1,450,000	$1,551,500		1995	$187,214	$200,319	
1996	$2,600,000	$2,600,000		1996	$67,149	$67,149	
1997	$2,600,000	**$4,483,521**		1997	$108,902	**$311,219**	
1998	$2,100,000			1998	$108,698		
1999	$1,600,000	**NPV OF PROJECTED**		1999	$102,838	**NPV OF PROJECTED**	
2000	$1,100,000	**COSTS:**	**$9,841,811**	2000	$94,576	**BENEFITS:**	**$1,066,669**
2001	$600,000			2001	$86,975		
2002	$600,000			2002	$79,998		
2003	$600,000	**NET PRESENT VALUE**		2003	$73,560	**NET PRESENT VALUE**	
2004	$600,000	**OF TOTAL COSTS:**	**$14,325,332**	2004	$67,647	**OF TOTAL BENEFITS:**	**$1,377,888**
2005	$600,000			2005	$62,213		
2006	$600,000			2006	$57,213		
2007	$600,000			2007	$52,616	**BENEFIT/COST RATIO:**	**0.10**
2008	$600,000			2008	$48,386		
2009	$600,000			2009	$44,500		
2010	$600,000			2010	$40,922		
2011	$600,000			2011	$37,636		

APPENDIX E

DISCUSSION OF DISCOUNT RATES

DISCUSSION OF DISCOUNT RATES

Concept of Discounting Cashflow vs. Market Values

Although the concept of discounting is widely accepted, the selection of the appropriate discount rate has been the source of considerable debate and much disagreement. Gustavson Associates, for the purposes of valuing the NPR-2 & 3 as well as NOSR-1,2 & 3 properties, applied different discount rates to the different sites due to (a) the relative risk associated with developing and producing them and (b) the different ownership and operator under the retention and sale scenarios. These discount rates were built up as described in detail below.

Gustavson Associates have studied the market for producing oil and gas properties. It has been found that recent market transactions (sales and purchases) have recently been conducted at net present values of the future cashflows determined at discount rates in the 17 to 18 percent range. These rates are applied on a pre-tax basis and to a cashflow based on nominal oil prices. At the same time the weighted cost of capital has been 10 to 11 percent.

Further, it has been found that the market discount rate has been varying over the last decade as a direct function of the weighted cost of capital for the oil sector. For example, in the early to mid-1980s during high inflation rates and with the cost of capital being in the 15 percent range, producing properties sold at discount rates around 22 to 23 percent, again a mark-up of about 7 percent.

It is apparent that the oil sector in general requires a reasonable reward or profit corresponding to about seven percentage points for taking the risk of putting its capital to work. The same seven point mark-up for risk has also been experienced in other extractive industries of high unit-value commodities such as copper. Interviews with financial executives have revealed that these industries target their internal rate of return at the same general level, namely 17 to 18 percent. They discount at higher rates for more risky properties such as non-producing reserves and at lower discount rates for less risky (thereby buying at higher purchase prices).

We have analyzed these seven percentage points which the oil sector wants to realize above and beyond the return of its capital, with interest. But first, we will discuss the cost of capital.

COST OF CAPITAL

Cost of capital rates vary, but can be generalized for particular industries. This is the case with the oil industry, where the cost of capital as surveyed by the Society of Petroleum Evaluation Engineers (SPEE) is averaging 10.2 percent in 1996 (Spring). This number is weighted for debt at 30 percent. On the other hand, it was hypothesized that the government's cost of capital should approximate Treasury bill rates, that is, be weighted as 100 percent debt. Further, the financial industry will normally not make commercial oil loans much past five years due to oilfield reserve half-life generally being around five years. A rate of 6.5 percent (an average of the 5-year U.S. Treasury-bill interest rate over the last several years) was considered appropriate for this analysis. That rate (6.5 percent) is readily reconciled with the 7 percent suggested as a fall-back by the OM&B.

As mentioned above, producing U.S. oil properties sell at 7 percent above the industry cost of capital. We make the assumption that the Federal Government will be exposed to the same risks as an oil operator as will a large oil company.

In this Consultant's opinion, this risk associated with oil and gas production can be further summarized as follows. The risks relate to the realization of the predicted cashflow. Cashflow (net revenue before income taxes) is predominantly the produced net quantity of oil or gas multiplied by the market prices of the commodity less the operating cost. Local taxes play less of a role. Therefore, there are three risk categories inherent in oil and gas production, namely market price risk, operating cost risk, and production rate (quantity) risk. Market price risk is that risk associated with the rise and fall of oil and/or gas prices worldwide, in the operating region or both. The second category, operating cost risk, is that risk associated with the fluctuations in the cost of operations. Finally, there is production rate or engineering risks inherent in any oil and gas project, namely that risk associated with the ability to forecast and meet a specific rate of production subject to reservoir dynamics.

Based on market research, these various subcategories of risks have been broadly quantified as follows: market price risk weighs heavily and makes up about 3 percent of the total of 7 percent while operating cost and production rate risks are approximately 2 percent each.

A few market examples help support the numbers presented above. The 2 percent adjustment for operating cost risk can be clearly seen through the following example. Oil company and other investors are often given the choice between purchasing full working interest in a particular property, or merely a royalty interest in a producing property. Full working interest indicates that the investor will be responsible for all costs and will share in the net revenue interest from the production. A royalty interest conveys the right to receive oil or cash from the production without being responsible for any operating cost. Therefore, royalty interests usually sell at a 15 percent discount rate or expected rate of return), while total working interests sell at 17 percent discount rates as discussed above. This 2 percent difference represents the market's operating cost risk adjustment. In other words, when there is <u>no</u> operating cost risk the market values a producing property at a higher value corresponding to a 2 percent reduction in the discount rate.

Production rate risk can be quantified by comparing the oil industry with another extractive industry, where the rate of production of the commodity is rarely a factor, for instance, the aggregate industry. Only sand and gravel price and cost of production and transportation are major risks and not reserves or short-term rates of production. Aggregate industry operators usually experience a discount rate of around 15 percent for discounting the net cashflows associated with an operating mine or quarry. Production rate risk is again the difference between these two numbers, namely 2 percent.

Finally, the remaining three percent can in discount rate adjustment for risks be attributed to price risk. This is further proved by looking at the newly formed oil and gas derivatives market. A knowledgeable investor who understands and has experience in the derivative markets can nearly eliminate all market price risk associated with oil and gas investments, by locking into a set price for the commodity well into the future. This has had a profound effect on the valuation of oil and gas properties; the cumulative effect of efficiently using derivatives to hedge against price fluctuations has increased the value of subject properties by about 3 percent (when applied to future net cash flow) lending further proof to the discussion above.

A summation of the three major risk factors and their corresponding effect on discounted present value yield a total of a 7 percent adjustment, equal to the difference between cost of capital and market price.

APPLICATION TO DOE STUDY

The composition of both the public (government) and private (US oil company) discount rates used in the DOE study are summarized in Table E-1. All of the specific discount rates used in the study for all of the different properties are summarized under different use scenarios in Table E-2. As discussed throughout the DOE study, Gustavson Associates studies four general scenarios available to the DOE for each of the five properties. The property could be retained by DOE (Scenario 1), the property could be transferred to the DOI for leasing by the BLM (Scenario 2), or to another department or agency (Scenario 3) or the property could be sold outright to the private sector (Scenario 4). For purposes of discounting future cashflow (income and expenses), Scenarios 2 and 3 can be treated as one.

Table E-2 includes eight different "income" categories for all five properties (not all are applicable to all properties), and one expense category (surface maintenance) with varying discount rates applied depending on the characteristics of the property and the owner. Each category as well as its determined discount rate can be explained as follows:

> "**Royalties**" is defined as that royalty income to be received by the DOE or another government agency/department (only possible under Scenarios 1, 2 and/or 3 and/or for NPR-2, NPR-3 and NOSR-3), from existing and future production on a property currently operated by a third party; thus only those properties which are currently producing or predicted to produce are applicable. The appropriate rate to be used to discount this expected income stream would be the government's or public sector cost of capital (6.5

TABLE E-1 COMPOSITION OF A DISCOUNT RATE

	ENTITY TYPE	
DISCOUNT RATE COMPONENT	**PUBLIC (US GOVERNMENT)**	**PRIVATE (US OIL COMPANY)**
COST OF CAPITAL	6.50%	10.20%
PROJECT RISK:		
PRICE RISK	3.00%	3.00%
OPERATING COST RISK	2.00%	2.00%
PRODUCTION RATE	2.00%	2.00%
TOTALS	**13.50%**	**17.20%**

TABLE E-2 DISCOUNT RATE SUMMARY

		SCENARIO		
	INCOME CATEGORY	(1) RETENTION	(2) and (3) LEASING	(4) SALE
NPR-2	Royalties	11.5	11.5	N/A
	Surface Maintenance	7	7	N/A
	Grazing	N/A	10	13.2
	Income Taxes	N/A	N/A	13.5
	Mineral Leasing (Bonuses & Rentals)	N/A	10	13.2
	Rental of Existing Leases	10	10	13.2
	Royalties (to Estimate Bonus/Sale Price)	N/A	N/A	15.2
NPR-3	Production	13.5	N/A	N/A
	Grazing	10	10	13.2
	Income Taxes	N/A	13.5	13.5
	Mineral Leasing (Bonuses & Rentals)	N/A	10	13.2
	Royalties	N/A	11.5	N/A
	Production (to Estimate Bonus/Sale Price)	N/A	17.2	17.2
NOSR-2	Royalties	N/A	N/A	N/A
	Surface Maintenance	7	7	N/A
	Grazing	10	10	13.2
	Income Taxes	N/A	N/A	N/A
	Mineral Leasing (Bonuses & Rentals)	N/A	10	13.2
	Rental of Existing Leases	N/A	N/A	N/A
NOSR-1	Production	N/A	N/A	N/A
	Surface Maintenance	7	7	N/A
	Grazing	10	10	13.2
	Income Taxes	N/A	N/A	N/A
	Mineral Leasing (Bonuses & Rentals)	N/A	10	13.2
	Royalties	N/A	N/A	N/A
	Production (to Estimate Bonus/Sale Price)	N/A	N/A	N/A
NOSR-3	Production	13.5	N/A	N/A
	Surface Maintenance	7	7	N/A
	Grazing	10	10	13.2
	Income Taxes	N/A	13.5	13.5
	Mineral Leasing (Bonuses & Rentals)	N/A	10	13.5
	Royalties	N/A	11.5	N/A
	Production (to Estimate Bonus/Sale Price)	N/A	17.2	17.2

percent, see above) plus price risk (3 percent) and production rate risk (2 percent) which relate to the amount of royalty. The total adjusted discount rate equals 11.5 percent total. Since DOE would not operate these properties, its royalty revenue is not subject to operating cost risk.

"**Royalties (to estimate bonus/sale price)**", is the same royalty income as above; however, the property has been sold to the private sector (not the public sector) (Scenario 4 - only for NPR-2), and thus should be discounted as an investment from the private sector's perspective. Thus, instead of starting at the public sector's cost of capital, we start with the private sector's (10.2 percent, see above) and add price and production rate risks (3 and 2 percent, respectively) which equals a total of 15.2 percent. This revenue is likewise not subject to any operating cost risk.

"**Grazing**", is considered income received by allowing ranchers grazing privileges for their livestock (Scenarios 1,2, 3 and 4 applied to all properties). A discount rate of 10 percent is used for Scenarios 1, 2 and 3. The Office of Management and Budget (OMB) Circular No. A-94 recommends using a discount rate of 7 percent for "public investments"; conveying independent rights to graze on government property is considered to constitute such an investment. To this 7 percent must be added an additional "livestock price risk" component of 3 percent, the only difference being that the commodity in question under this analysis is livestock and not oil or gas. We have not studied the commodity market and hedging for best prices, but this approach was substantiated based on interviews with a few representatives of the ranching community. For Scenario 4, however, we start with the private sector's cost of capital (10.2 percent) and account for "price risk" (3 percent) which equals 13.2 percent total.

"**Production**" is that working interest income received from produced oil and/or gas (Scenario 1 and only applicable to NPR-3 and NOSR-3) on those currently produced properties which are operated by NPOSR. The discount rate adjustment used for these scenarios is 2 percent higher than that used for royalty income (as explained above) due to the fact that the DOE is now the operator and does indeed face operating cost risk.

"**Production (to estimate bonus/sale price)**", is based on the exact same income as under "Production" <u>but</u> as transferred to another department and leased/sold or to the private sector (Scenarios 2, 3 and 4 for NPR-3 and NOSR-3). We must account for the value to that third party. In other words, this category assumes an <u>industry operator</u> who continues producing the field until an economic limit is reached. The appropriate discount rate is therefore the same as the "Royalties (to estimate bonus/sale price)" plus an additional 2 percent due to the fact that operating cost risk must be accounted for, adjusting to a total of 17.2 percent for these scenarios.

"**Mineral leasing (bonuses & rentals)**", are those particular scenarios whereby a party (either another government agency/department or a private investor) would lease the property out to the other oil companies for their purpose of mineral extraction (Scenarios 2, 3 and 4 for all properties). Under Scenarios 2 and 3 (another government agency/department), a discount rate is found by taking the Office of Management and Budget (OMB) recommendation for the appropriate discount rate used above for public investments, which is 7 percent. To this must added price risk, because a potential oil company lessor would be faced with commodity price risk. This is the same derivation used under the "grazing" scenario above. It is assumed that if prices for the commodity (be it livestock or oil) suddenly became depressed, the chances to lease the land for a particular use (be it grazing or oil production) is directly affected by the price of that commodity; thus, perception of price risk must be included when discounting the expected future income stream. This same methodology is also used under Scenario 4; however, since the property has been sold to the private sector under this case, we begin with *industry's* cost of capital (10.2 percent). When perception of price risk is included, as above the total selected discount rate under this income category and Scenario will equal 13.2 percent.

"**Rental of existing leases**", applies to those oil and gas leases that are pre-existing (applicable under all Scenarios for NPR-2). The appropriate discount rates are derived under the exact same methodology as "Mineral leasing" described in the preceding paragraph.

"**Income taxes**", refers to the federal tax income accruing to the Federal Government from first transferring and leasing or outright selling a property to an oil company and then expecting that taxpayer to produce the oil and/or gas. The latter would in turn pay income taxes to the government (applicable for the three producing properties - NPR-2, NPR-3 and NOSR-3 for Scenarios 2, 3 and 4). The first component of the discount rate, therefore, would be the *government's* cost of capital, since the government is the "owner" of the tax rights. The risk components, however, should include all risk components outlined above (3 percent price risk + 2 percent operating cost risk + 2 percent production rate risk = 7 percent) because they all directly affect the net taxable total revenue generated, and therefore the perception of the risk of receiving the income tax to be paid to the government. The selected discount rate used under the "Income tax" scenario is thus 13.5 percent.

"**Surface maintenance**" is actually an "expense" category, and involves the perception of the government's future incurred expenses due to maintaining the surface land on all of the five properties. This future expenditure stream must be discounted in the same manner as the future income streams defined above for risk perception above the cost of capital; the appropriate discount rate is simply the base rate recommended by the OMB for public investments, namely 7 percent for each of the properties, under Scenarios 1, 2 and 3 (the government retains the property under some form). There is no probability that the surface maintenance shall not be paid.