Supplemental Edition
2000

Changes and Additions to the 1999 Edition

Investments in Energy Security

State Incentives to Maximize Oil and Gas Recovery

Interstate Oil and Gas Compact Commission

The Energy Council

Table of Contents

Introduction

This report is a supplement to the December 1999 version of *Investments in Energy Security: State Incentives to Maximize Oil and Gas Recovery*, published by the Interstate Oil and Gas Compact Commission (IOGCC).

The IOGCC, with funding from the U.S. Department of Energy, compiles this annual catalogue of oil and gas incentive programs to assist government entities in developing new, and enhancing existing, oil and natural gas incentives. The IOGCC is a 65-year-old organization representing the governors of 30 states that produce virtually all the domestic oil and natural gas in the United States.

Since the December 1999 edition was published, several new incentives have been enacted or implemented. New or significantly altered incentive projects, as of the publication of this report, are listed at the right.

In this report, the IOGCC uses a somewhat broader definition of "incentive" than is traditional. The IOGCC's scope is not limited to tax incentives, but includes any program that assists oil and natural gas producers in the efficient recovery of petroleum resources while maintaining health and environmental protection.

Changes/Additions Since the 1999 Report

State incentive programs are varied, including tax relief for low-volume, economically marginal wells or idle wells brought back into production; petroleum information services provided to the oil and gas industry; and incentives to develop and use new technologies that increase the efficiency of extraction. These programs vary in quantifiable effectiveness. While many have proven successful, over the years some incentives have been disappointments.

Please note that this supplement includes only the incentive catalogue portion of the IOGCC's annual study. Not included is the well-received economic analysis of selected incentives, written by David M. Garlick. Readers should obtain a copy of the December 1999 *Investments in Energy Security* for a comprehensive look at the value of oil and gas incentive programs to the states. Because of data requirements for thorough evaluation, the economic analysis section includes only those incentives reported to the IOGCC prior to the 2000 legislative sessions.

It is important to note that even when a particular incentive program is not extensively used by industry or judged successful based on economic rewards to the state, its adoption can strengthen the interests of oil and natural gas producers considering expanding in that state. The attitude displayed by the state in adopting incentives is one of welcome, and business people prefer to operate where they are welcome.

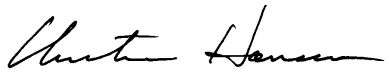
INTRODUCTION (continued)

In creating this report, the IOGCC worked with state, federal and international agencies and consulted with industry to compile and analyze information. Consistent with its mission of promoting the conservation and efficient recovery of petroleum resources while protecting health, safety and the environment, the IOGCC has created this publication to assist legislators and regulators who are crafting new incentives and to communicate states' actions with members of Congress, federal agency officials and the oil and gas industry.

A great deal of appreciation is due to the many individuals and organizations who provided information and guidance for this project. Many are recognized in the "Acknowledgments" portion of this publication, which also serves as a contact list for information regarding oil and gas incentive issues.

The Energy Council, an organization of elected and provincial legislators from 10 energy-producing states and the Canadian province of Alberta, has joined with the IOGCC in distributing this report. This collaborative effort will communicate findings to a wider audience.

Additional information about the IOGCC and an on-line version of this report can be accessed on the World Wide Web (www.iogcc.state.ok.us). For additional information about the Energy Council, call 972/717-8105.



Christine Hansen
Executive Director

State Incentive Programs

ALABAMA

NEW **Unit Operations**
A reduction of the percentage required for ratification of a unit agreement was enacted by the Alabama Legislature. This legislation reduces the percentage from three-fourthsto two-thirds for ratification of a unit agreement under the terms of the allocation formula established by the State Oil and Gas Board and for ratification of an addition to the unit area. There has been no effectiveness study conducted.
Citation: 2000 Acts of Alabama 1714
Effective date: September 1, 2000
Goal: To encourage enhanced recovery.
Active supporters: State Oil and Gas Board

NEW **Eastern Gulf Subsalt Project, Geological Survey of Alabama**
Researchers are conducting a research program called "Stratigraphic and Structural Framework of Subsalt Strata in the Mobile, Viosca Knoll (North), Pensacola and Destin Dome Areas of the Gulf of Mexico." This program is 50% supported by federal funds (Minerals Management Service) and 50% supported by the Geological Survey of Alabama.
Effective date: June 1999
Goal: To assess the hydrocarbon potential of ultra-deep Triassic strata from onshore areas in south Alabama and the Florida panhandle to the DeSoto Canyon salt basin.
Impact: Results from petrographic and petrophysical analysis of wells in onshore areas indicate that some sandstone units have porosity exceeding 20% at depths greater than 17,000 feet. In offshore areas, subsalt strata are imaged below broad salt pillows in seismic reflection data sets. Stratal geometries suggest development of deep rift valley lake facies with significant hydrocarbon source-rock and reservoir potential. Possible trapping geometries include structural traps associated with rift structure and angular unconformity traps sealed by salt.

NEW **Coalbed Methane Fracture System Study, Geological Survey of Alabama**
Researchers are beginning an investigation entitled "3-D Characterization of Natural and Induced Fractures in Coalbed Methane Reservoirs in the Black Warrior Basin in Alabama." This program is approximately 80% supported by federal funds (Environmental Protection Agency) and 20% supported by the Geological Survey of Alabama.
Effective date: September 2000 (projected)
Goal: To quantify the effects of hydraulic fracturing and water production in coalbed methane wells on domestic groundwater supplies using advanced reservoir modeling software.
Impact: This investigation will be the first to apply Discrete Feature Network (DFN) technology to model the flow of water in coalbed methane reservoirs. This study is intended to identify boundary conditions that facilitate coalbed methane operations while protecting shallow aquifers. Key variables to be incorporated in the model include natural fracture architecture, induced fracture geometry, the distribution of completed zones and well spacing.

ALABAMA (continued)

Severance Tax Exemption
Extends the reduced rate of taxation to 1% for any well for which the initial permit issued by the Oil and Gas Board is dated on or after July 1, 1996, and before July 1, 2002, except a replacement well for which the initial permit is dated before July 1, 1996. This rate is in effect for a period of five years commencing with commercial production, after which the previous rate applies.
Citation: Ala. Code § 9-17-25(b) (1975)
Effective date: July 1, 1996; *End date:* July 1, 2002
Goal: Defray the expense connected with producing oil and gas.

Royalty Payment
Increases the minimum royalty payment threshold to $100.
Citation: S.B. 92; Act 99-396

Marginal/Stripper Wells
Privilege tax is reduced from 8% to 6% of value on wells producing 25 barrels of oil or less per day, or 200 Mcf per day of natural gas.
Citation: Ala. Code §§ 40-20-1 and 2(a) (1975)
Effective date: 1985

Enhanced Recovery
Severance tax is reduced to 6% of value on any oil well produced or developed from a qualified enhanced recovery project. The State Oil and Gas Board of Alabama approves the projects and calculates "incremental production" by determining a base production rate. Incremental production for the project is production over that base rate. Incremental natural gas from a qualified enhanced recovery project is taxed at a reduced rate of 4%.
Citation: Ala. Code § 40-20-1 § 40-20-2(a)(2) (1975)
Effective date: May 1, 1985

New Wells
Severance tax is reduced from 2% to 1%, and privilege tax is reduced from 8% to 4% for:
- Discovery oil wells;
- Development oil wells when drilling commenced within four years of the completion date of the discovery well, and oil is produced from a depth of 6,000 feet or greater;
- Development wells when drilling commenced within two years of the completion date of the discovery well, and oil or gas is produced from a depth of less than 6,000 feet.

This tax reduction applies for five years from the date production begins from these wells.
Citation: Ala. Code § 40-20-2(a)(4) (1975)
Effective date: July 1, 1984

Severance Tax Reduction
The severance tax is defined as the privilege tax plus the production tax. The severance tax for oil and gas permitted on or after July 1, 1996, and before July 1, 1999, is reduced 50% from: production tax historically at 2% and the privilege tax historically as much as 8%. This bill gives a 50% tax break on both the privilege and the production tax from the commencement of production. The tax reduction now totals 1% production plus 3% privilege for the first five years of production.

ALABAMA (continued)

Citation: Ala. Code § 40-20 (1975)
Effective dates: July 1, 1996, through July 1, 1999

Offshore Deep Wells
A privilege tax reduction to 4% for offshore wells permitted after July 1, 1998, and a borehole depth greater than 18,000 feet. A privilege tax reduction to 6% for offshore wells permitted before July 1, 1988, with a borehole depth greater than 18,000 feet. The wells must be drilled offshore in state waters. All new wells drilled after July 1, 1988, qualify for a privilege tax reduction to 6%.
Effective date: July 1, 1988; no sunset.

New Wells
Oil and gas wells permitted on or after July 1, 1996, and before July 1, 1999, except a replacement well for a well for which the initial permit was issued before July 1, 1996, are eligible for a privilege tax reduction. The rate reduction of 4% is applicable for a period of five years commencing with commercial production, after which the 6% rate applies.
Citation: Act 96-277, House Bill No. 54; amends Ala. Code §§ 40-20-2(a) and 9-17-25 (1975)
Effective date: July 1, 1996

Discovery Wells
Privilege tax reduction for discovery wells found after July 1, 1984. A tax reduction of 6% for qualifying discovery wells for up to five years from production date. Replacement wells for discovery wells also qualify for remainder of the five-year period. All new wells drilled after July 1, 1984, qualify for a privilege tax reduction to 6%.
Citation: Ala. Code § 40-20-2 (1975)
Effective dates: July 1, 1984; five years from production date.

Gilbertown Field Project, Geological Survey of Alabama
Investigators have concluded a three-year program called, "Area Balance and Strain in an Extensional Fault System: Strategies for Improved Oil Recovery in Fractured Chalk, Gilbertown Field, Southwestern Alabama." The program developed new balanced structural models that were applied to fractured reservoirs in extensional growth-fault systems and helped guide redevelopment of Gilbertown Field where oil production has declined to marginally economic levels. The program was 50% supported by federal funds and 50% supported by the Geological Survey of Alabama and the University of Alabama.
Effective Date: March 1996; through September 1998
Goals: To develop and apply advanced structural theory to fractured oil reservoirs and to suggest ways that oil recovery can be improved.
Impact: Interest in this program by operators in the Gulf Coast region has been strong, and results are being disseminated through a vigorous technology transfer program. Results have provided an unprecedented view of the geometry, kinematics and reservoir characteristics of fractured chalk in the eastern Gulf Coast basin and the first production wells have been drilled since 1985.

ALABAMA (continued)

Core and Sample Library, Geological Survey and State Oil and Gas Board
The Geological Survey of Alabama maintains a core and well sample library that includes cuttings from 4,000 oil and gas wells, core from 1,700 oil and gas wells, cuttings from 2,800 water and stratigraphic test wells and core from 350 industrial mineral core holes. Rules and regulations of the State Oil and Gas Board require that exploration companies submit cores and drill cuttings following the completion of wells. Rule 400-1-3-.10 of the Code of Alabama 1975 states in part that "A complete set of cuttings, correctly labeled and identified as to depth, shall be filed with the Board within 30 days from the time of completion of any well unless otherwise approved by the Supervisor. If cores are taken, a complete set of cores, either whole or at least quarter slabs, correctly labeled and identified as to depth, shall be filed with the Board within six months from the time of completion of any well unless otherwise approved by the Supervisor." The facility has four viewing rooms for use by operators and researchers.
Goals: To encourage oil and gas production by making useful data available to producers. Counteract the loss of infrastructure in the independent industry.

ALASKA

Cook Inlet Royalty Reduction
Firms shall pay a royalty of 5% on the first 25,000,000 barrels (25 mmbls) of oil and the first 35,000,000 Mcf of gas (35 Bcf) produced for sale from that field that occurs 10 years following production. Production must begin prior to January 1, 2004. Fields eligible are Falls Creek, Nicolas Creek, North Fork, Point Starichkof, Redoubt Shoal and West Foreland.
Citation: Alaska Stat. 38.05.180(f)
Effective Date: August 8, 1998 *End date:* Ten years after production begins. Production must begin prior to January 1, 2004.
Goal: To initiate production from undeveloped or shut-in oil and gas fields in the Cook Inlet that were discovered prior to January 1, 1998, and have been undeveloped or shut-in from at least December 31, 1997.
Active Supporters: Industry and Legislature

Areawide Lease Sales
Provide an established time each year that acreage within a geographical region will be available for lease. This will increase the number of lease sales conducted by the state.
Effective date: January 1, 1997 *End date:* Ongoing
Impact: The first North Slope areawide lease sale brought $52 million in bonus bids, making it the fourth-largest sale in state history. The state subsequently held areawide sales in February 1999 (North Slope) and April 2000 (Cook Inlet). The state will hold three areawide sales in 2000.
Goal: To allow companies to plan and develop their exploration strategies and budgets years in advance. This will result in more efficient exploration and earlier development of oil and gas resources.
Active Supporters: Industry, Gov. Tony Knowles, Legislature
Impact: The first North Slope areawide lease sale brought in $52 million in bonus bids, making it the fourth-largest sale in state history.

ALASKA (continued)

Stranded Gas Development Act
This is not a strict incentive but rather an authorization for redesign of portions of Alaska's tax system. The law authorizes the Commissioner of Revenue, via an application process, to negotiate contracts with project sponsors to provide fiscal terms to improve the economic feasibility of developing Alaska's stranded gas resources for a liquefied natural gas export project. It allows fiscal arrangements to be tailored to the specific economics of a project. Those arrangements must be consistent with the long-term fiscal interests of the state. The state's 12.5% royalty share may or may not be changed.
Goal: To develop Alaska's North Slope gas reserves for a liquified natural gas (LNG) export project.
Supporters: The legislation was submitted by the governor of Alaska. It is supported by the Alaska Legislature and by private industry.

NEW **Stranded Gas Pipeline Carriers**
Gov. Knowles signed CSHB 290 into law, effective August 9, 2000. This law restricts common carrier status of a North Slope natural gas pipeline to intrastate transportation.
Citation: CSHB 290
Effective date: August 9, 2000
Goals: To free export shippers of North Slope natural gas from the common carrier requirement to accept all tendered volumes of natural gas.
Impact: The guarantee of pipeline capacity for an LNG export project is an incentive for developers of natural gas that is now stranded on the North Slope.

Economic Limit Factor
The severance tax rates for oil and gas are reduced by a field's Economic Limit Factor (ELF). During the life of a field, production income diminishes while some operating costs remain fixed. At some point, the total costs, including operating costs, royalties and production taxes, will exceed gross revenue and the field becomes unprofitable. This is called the economic limit. As production diminishes, the tax rate on the field also decreases. The ELF provides for lower tax rates based on daily per well production and the productivity of the field.
Citation: Alaska Stat. 43.55.012
Effective date: 1989
Goals: To keep fields in production as they decline and encourage operators to drill development wells.
Impact: Severance tax rate is effectively zero for the smaller oil fields in Alaska.

Shallow Gas Leasing
Over-the-counter leases are available specifically for the development of coalbed methane and shallow (less than 3000 feet) gas sands. There is no bonus payment to the state and annual rental payments are kept at 50 cents per acre. A reduced royalty of 6.25%, rather than 12.5%, applies if the shallow gas is sold to a local utility. The royalty reduction applies only if the shallow gas is not in direct competition with higher royalty, deeper gas. The bond requirement is $25,000, rather than $1 million for other gas drilling.
Citation: Alaska Stat. 38.05.177
Effective date: Adopted July 1996, no sunset
Goal: To locate local sources of gas that can be delivered to consumers in remote areas at

less cost than alternative energy sources.
Active Supporters: Industry, native corporations and rural utilities
Impact: The state held its first noncompetitive Shallow Gas Lease Offering on February 29, 2000. Thirty-six applicants submitted 263 lease applications.

Exploration Incentive Credit
Operators drilling on state lands may earn Exploration Incentive Credit (EIC) based on footage drilled and the region in which drilling takes place. Credits may be as high as 50% of eligible costs if performed on state land, and as high as 25% of eligible costs if performed on federal land or private land. Work must be performed within two years of the lease sale, and geophysical data from these activities must be made public after the sale.
Citation: Alaska Stat. 38.05.180(i)
Effective date: November 9, 1979
Goal: To encourage exploration on state land.
Impact: Two applications are pending in the Copper River Basin.

The Commissioner of Natural Resources may grant an EIC for exploratory drilling, stratigraphic test well drilling, and for geophysical work on other lands within the state (this includes federal as well as private land owned by Native Alaskan regional corporations formed under the Alaska Native Claims Settlement Act). Wells must be drilled three or more miles from another well or within three miles of an oil or gas well when the commissioner finds that they are drilled in separate exploration targets. Credits may be as high as 50% for wells drilled on federal land, and 25% for wells on private land. The amount of drilling credits is based on feet drilled. Exploration data remains confidential for two years. The amount of credit may not exceed $5 million per project, and the total of credits may not exceed $30 million.
Citation: Alaska Stat. 41.09.010
Effective date: July 7, 1994, through July 7, 2004
Goals: To encourage exploration in remote parts of the state and to provide a means for the state to obtain exploration data from state, federal and certain private lands.
Active Supporters: Division of Oil and Gas, Department of Natural Resources and industry
Impact: Not yet known.

Exploration License Program
The Exploration License Program (ELP) offers large unexplored areas of Alaska for exploration. The license confers the exclusive right to explore, for up to 10 years, areas between 10,000 and 500,000 acres in size. Applicants bid on the license, and the applicant willing to spend the most on exploration wins the license fee. No licensee may hold more than 2 million acres under license at any given time.
Citation: Alaska Stat. 38.05.131-134
Effective date: 1996
Goal: To encourage exploration in Alaska's interior and unexplored areas (not applicable to the Alaskan North Slope or Cook Inlet, which are known oil and gas provinces)
Impact: The state has received two proposals for the Copper River Basin and a license may be awarded by August 2000. The state is currently reviewing two license proposals for the Susitna Basin area.

ALASKA (continued)

Cook Inlet Discovery Royalty
Permits the granting of discovery royalty for wells in the Cook Inlet Sedimentary Basin that have discovered oil or gas in a previously undiscovered oil or gas pool, provided the wells are capable of producing in payable quantities. The discovery royalty is set at 5% for 10 years following the date of discovery.
Citation: Alaska Stat. 38.05.134
Effective date: July 1996
End date: Ongoing
Goal: To encourage exploration for oil and gas in the Cook Inlet.
Active Supporters: Alaska Legislature, small Cook Inlet exploration and production firms.

Royalty Reduction
If a delineated field or pool has not previously produced, the royalty can be lowered to 5%. The royalty may be reduced to 3% in an existing producing field or pool in order to prolong its economic life as costs per barrel increase. The royalty may also be reduced to 3% to establish production of shut-in oil or gas.
Citation: Alaska Stat. 38.05.180
Effective date: July 1995 through July 1, 2015
Goal: To encourage otherwise uneconomic production of oil and gas.
Active Supporters: Industry, Department of Natural Resources' Division of Oil and Gas.

ARIZONA

Property Tax Reduction
The Property Tax Reform and Reduction Act, passed by the 42nd Legislature in July 1996, reduced the property tax assessment ratio for all real and personal property used by producing oil, gas and geothermal interests to 28% of full cash value from 100%. The tax rate will decrease an additional 1% per year until holding at 25% in 1999 and thereafter.
Citation: A.R.S. 42-15002
Effective date: 1996 tax year; no sunset
Goals: To provide tax equity for oil, gas and geothermal interests, and to encourage leasing and exploration activity.
Active supporters: Paul Slayton, Mountain States Petroleum; John Somers, High Plains Petroleum; Arizona Oil and Gas Conservation Commission; Arizona Geological Survey
Impact: The tax assessment ratio reduction is effective in achieving tax equity.

ARKANSAS

Marginal Wells
Severance tax is reduced from 5% to 4% for marginal wells, which are defined by the state as wells which produce an average of less than 10 barrels of oil per day (BOPD) during any calendar month.
Effective date: February 25, 1983; no sunset

ARKANSAS (continued)

Act 1093 of 1995 provides severance tax relief to certain projects designed to increase oil production in Arkansas:

1. Idle Wells
Inactive oil wells (no production for 12 consecutive months) that are restored and re-established as producing wells are exempted from severance taxes for 10 years from the date of renewed production.
Citation: Ark. Stat. 15-72-1002

2. Idle Fields
An inactive oil field that is later returned to production shall be exempted from severance taxes for oil produced from all zones, horizons and formations that were once productive but have ceased to produce.
Citation: Ark. Stat. 15-72-1002

3. Enhanced Oil Recovery
Enhanced recovery projects approved by the Oil and Gas Commission are entitled to a 50% reduction in severance taxes for the incremental volume of oil attributable to the project.
Citation: Ark. Stat. 15-72-1001

4. New Technologies
Incremental production due to application of new research technologies approved by the Oil and Gas Commission is exempt from severance tax.
Citation: Ark. Stat. 15-72-1003
Effective date of Act 1093: April 10, 1995; no sunset
Goals: To provide an incentive to continue production from wells that have reached their economic limit, to encourage re-establishment of production from idle wells and to encourage initiation of enhanced recovery activities to maximize recovery of oil.
Impact: Because few operators have taken advantage of this program, it has been only moderately effective.

Discovery Gas Wells
The volume for discovery gas wells was increased from 50% to 75% of Absolute Open Flow. This change affects only newly discovered fields or zones discovered in existing fields that are deeper than any previous production in the field.
Citation: Arkansas Amendment to Rule D-16, Order Reference No. 74-94
Effective date: October 25, 1994; no sunset
Goal: To encourage exploration for and discovery of new gas sources in the Arkoma Basin.
Active supporters: SEECO, Inc. (filed the petition for the amendment), Thomas C. Mueller, and Samson Resources Company.
Impact: No new discoveries have been made since the adoption of this rule change.

Financial Responsibility
An amendment to an oil and gas rule reduces operator financial responsibility from $15,000 to at least $3,000 for each Intent to Drill or change of operator.
Citation: Amendment to Rule B-2, Order Reference 27-95

ARKANSAS (continued)

Effective date: June 21, 1995; no sunset
Goal: To increase exploration and drilling activity in Arkansas.
Active supporters: Oil and gas operators, Arkansas Oil and Gas Commission
Impact: The lowering of this requirement is thought to have helped bring new oil and gas operators to Arkansas.

Services
Severance tax credit for saltwater disposal costs is available for production from wells that produce both oil or gas and saltwater. Costs include depreciation of cash investment, maintaining and improving the system, costs of services, labor, supplies, utilities and other operating expenses.
Citation: Ark. Code Subchapter 2, 26-58-200 through 211
Effective date: June 11, 1969; no sunset

CALIFORNIA

Active, Idle, and Orphan Wells
In response to the growing number of idle and orphan wells, bonding levels for active and long-term idle wells and idle well fees were increased to provide more financial assurance and more funding to plug existing orphan wells. Such resources are needed to cover costs the Department of Conservation, Division of Oil, Gas, and Geothermal Resources (Division) incurs for orphan well plugging and abandonment, and remediation of hazardous conditions. In addition, operators can provide idle well management options in lieu of the above bonding and fee requirements.

The Division's orphan well plugging fund doubles to $1 million a year for the next five years, beginning July 1, 1999, before dropping back to $500,000 per year. The additional funds will help eliminate the state's current orphan well inventory.
Citation: §§ 3008, 3202, 3204, 3205, 3205.5, and 3206, Public Resources Code
Effective date: January 1, 1999
Goals: To provide funding for the state to plug and abandon orphan wells, encourage idle well management and eliminate environmental and safety hazards.

Idle and Orphan Wells
California provides a 10-year abeyance of the assessment on oil and gas produced from orphan wells and wells that have been idle for five (5) or more years when they are returned to productive status. Furthermore, the State Oil and Gas Supervisor may permit an operator to evaluate the economic viability of an orphan well for 90 days without having to provide bond coverage or assume plugging responsibility for the "adopted" orphan well.
Citation: § 3238, Public Resources Code
Effective date: January 1, 1997; no sunset
Goals: To resume production from idle and orphan wells, reduce the state's orphan well-plugging costs, increase the energy supply, eliminate environmental and safety hazards, create tax revenue, and produce jobs.
Impact: Positive response; nearly 1.2 million barrels of oil were exempted from the oil and gas assessment for 1999.

CALIFORNIA (continued)

Services
Natural gas used on-site for pressure-maintenance or other producing operations is exempt from assessment.

COLORADO

Marginal/Stripper Wells
Oil wells producing less than 10 BOPD are exempt from severance tax. A tax credit is available for 87.5% of ad valorem tax.
Citation: Colo. Rev. Stat. § 39-29-105
Effective date: January 1, 1985; no sunset
Active supporters: The Rocky Mountain Oil and Gas Association (RMOGA) drafted and supported this legislation.

Levy Reduction and Fee Eliminations
In an effort to encourage more effective land and soil reclamation, rules were promulgated to address concerns related to permitting, surface owner notification, site preparation and interim and final reclamation. Elimination of 0.2 mills of environmental response fund levy, all drilling permit fees, recompletion permit fees, pit and other environmental permit fees, change of operator fees, hearing fees and reduction in conservation fund levy.
Citation: Reclamation Rules (300-Series, 800-Series, 1000-Series, 1100-Series)

Tax Offset
Severance taxes in Colorado are imposed on up to 5% of the gross income at the well-head, with a credit granted for a portion of ad valorem taxes paid. The net result is approximately a 1% tax rate on gross production.
Effective date: January 1, 1978; no sunset

Secondary/Tertiary Recovery
Oil and gas leasehold and lands employing secondary/tertiary recovery or recycling projects are assessed at 75% of the annual gross production value.
Citation: Colo. Rev. Stat. § 39-7-102(2)(a) and (b)
Effective date: January 1, 1978; no sunset
Goal: To conserve and avoid waste of oil and gas.
Active supporters: RMOGA drafted and supported this program.
Impact: RMOGA believes this incentive has increased the efficiency of oil recovery through the application of secondary and tertiary recovery and recycling techniques.

Prohibition Against Additional Taxes
Municipalities and counties may not consider oil and gas wells and their related facilities as a business or occupation for the purpose of imposing an occupational privilege tax.
Citation: H.B. 1045 (1996)
Effective date: April 17, 1996; no sunset
Active supporters: RMOGA and Colorado Oil and Gas Association
Impact: RMOGA's membership believes this legislation has been extremely effective.

FLORIDA

Exemptions for New Fields, Old Wells and Shut-in Wells
This incentive encourages producers to drill wells in new fields, rework old wells and open shut-in wells by granting exemptions from tax on production from these type wells for a period of four to five years.
Citation: Fla. Stat. 211.027
Effective Date: July 1, 1997; ends 48 months to 60 months after start date
Goal: To encourage and increase oil production.

Deep Wells
Oil or gas produced after July 1, 1997, from wells at least 15,000 feet deep is exempt from production taxes for 60 months after completion date. No new exemptions will be granted after June 30, 2002.
Citation: Fla. Stat. Title XIV, § 211.02, and Chapter 86-178, Laws of 1986
Effective date: July 1, 1996, through June 30, 2007

New Wells
Production from new oil or gas wells in an existing field established before July 1, 1997, is exempt from severance taxes for 48 months after completion. No new exemptions will be granted after June 30, 2002.
Citation: Fla. Stat. Title XIV, § 211.02, and Chapter 86-178 (1986)
Effective date: July 1, 1996, through June 30, 2007

New Fields
Production from oil or gas wells drilled in a new field after July 1, 1997, is exempt from production taxes for 60 months after completion.
Citation: Fla. Stat. Title XIV, § 211.02, and Chapter 86-178 (1986)
Effective date: July 1, 1996, through June 30, 2007

Marginal/Stripper Wells
Severance tax is reduced from 8% to 5% for oil wells producing less than 100 BOPD. Stripper gas is taxed at $0.12 Mcf.
Citation: Fla. Stat. Title XIV, § 211.02, and Chapter 86-178 (1986)
Effective date: July 1, 1986; no sunset

Idle Wells
Wells idle for two years or more prior to July 1, 1997, are exempt from production taxes for 48 months.
Citation: Fla. Stat. Title XIV, § 211.02, and Chapter 86-178 (1996)
Effective date: July 1, 1996, through June 30, 2002

Horizontal Wells
Production from horizontal wells drilled after July 1, 1997, is exempt from severance taxes for 60 months after the completion date. No new exemptions will be granted after June 30, 2002.

FLORIDA (continued)

Tertiary Recovery
The severance tax rate is reduced from 8% to 5% for incremental production attributable to a tertiary recovery project.
Citation: Fla. Stat. Title XIV, § 211.02, and Chapter 86-178
Effective date: July 1, 1996, through June 30, 2007

Services
Oil and gas produced and used on-site are exempt from severance taxes.

ILLINOIS

NEW **Illinois First**
Illinois First is a statutory initiative granted by Gov. George Ryan and the Illinois Legislature with the purpose of enhancing transportation, public services, education and environmental infrastructure. The initiative includes $10 million over five years to plug abandoned oil and gas wells.
Effective dates: July 1, 1999, through June 30, 2005
Goal: To plug abandoned oil and gas wells and clean up abandoned production facilities throughout the state.
Active supporters: Illinois Oil and Gas Association (IOGA) and area legislators from oil-producing counties in the state.

Crude Oil Marketing and Education Act
This voluntary program is modeled after the Oklahoma Energy Resources Board. A tax of 1/10th of 1% of gross revenue of crude oil sales is collected into a fund. One-half of the fund is dedicated to abandoned oil field site cleanup and the remainder will fund energy education in public schools.
Effective date: July 1, 1998
Goal: To increase awareness of energy and oil issues among the general public, especially among school age children, and to clean up abandoned production sites.
Active supporters: IOGA

Oilfield Equipment Sales Tax Relief
Oilfield equipment is exempt from sales tax.
Effective date: 1996; no sunset
Active supporters: IOGA, State Representative John O. Jones (R), State Senator Bill O'Daniel (D), and State Senator Harry "Babe" Woodyard (R).
Goal: To keep the Illinois oil and gas market viable and able to compete with other states and countries.
Impact: $1 million per year savings to the oil industry, particularly small independent operators, is estimated.

Note: Illinois does not have a severance tax on oil or gas production.

INDIANA

Indiana has no oil or gas incentive programs. Severance tax on Indiana's oil and gas production is 1%.

KANSAS

REVISED **Unitization**
This act empowers the Kansas Corporation Commission (KCC) to unitize a pool upon request of a working interest owner under certain circumstances. First, the primary production from a pool has reached a low economic level and without introduction of artificial energy, abandonment of the well is imminent; or the unitized management sought is economically feasible and necessary to prevent waste. Second, the value of the estimated recovery is greater than the costs incident to conducting the recovery. Finally, the operation is fair and equitable. The act further establishes the rights of owners of oil and gas rights under unleased land as being a working interest to the extent of 7/8 interest and a royalty owner to the extent of 1/8 interest. The KCC can alter the extent of a royalty interest. Finally, the act states that it is the duty of the operator of the unit to file ad valorem taxes.
Citation: House Bill 2826 amending: K.S.A. 55-1304, K.S.A. 1999 Supp. 55-1305, K.S.A. 55-1308 and K.S.A. 55-1312
Effective date: March 30, 2000
Goals: Promote secondary operation / management standards for unitization.
Active supporters: Kansas Independent Oil and Gas Association (KIOGA), Kansas Petroleum Council (KPC), and the KCC

REVISED **Property Taxation**
This act relates to the property tax valuation of oil and gas properties. Factors to be considered when assessing property taxes include the age of the well, quality of product produced, nearness to market, the cost of operation, the probable life of the well, character, extent and permanency of market, the quantity of product produced, the number of wells being operated, and other factors affecting the value of the lease. The act also establishes the method for calculating the property taxes.
Citation: House Bill 2823 amending: K.S.A. 79-331
Effective date: April 13, 2000
Goals: To change the oil/gas valuation method fro county property tax purposes.
Active supporters: KIOGA, KPC and the KCC

Refundable Income Tax Credit for Property Taxes Paid
Gov. Bill Graves signed legislation which provided an income tax credit to working interest owners equal to 75% of the 1998 personal property tax paid on the working interest of an oil lease, from which the average daily production per well is 15 barrels or less. The property tax must have been levied for property tax year 1998 and timely paid during the income tax year in which the credit is taken. By making the credit effective for the tax year beginning after December 31, 1997, immediate relief is available. For taxable years commencing after December 31, 1998, an income tax credit is allowed equal to 50% of the property tax paid for wells producing 15 barrels or less per day when the price per barrel is $16 or less. The amount of the credit which exceeds the tax liability is refundable.

KANSAS (continued)

Citation: 1999 Kan. Sess. Laws, Ch. 154, New § 2
Effective date: May 27, 1999; no sunset.
Impact: $8.2 million immediately available to operators with continued future relief for marginal wells when oil prices are $16 or less.

Royalty Interests, Statute of Limitations on FERC-Ordered Refunds
The period of time during which first sellers of natural gas could commence a civil action against royalty interest owners to obtain refunds of reimbursements for ad valorem taxes on royalty interests during the years 1983 through 1988 was declared expired and the refund claims were deemed to be uncollectible. The Legislature reaffirmed that the Kansas five year statute of limitations found in K.S.A. 60-511 applied to these claims created when the Federal Energy Regulatory Commission (FERC), more than 15 years after its initial determination, reversed its long-standing policy that the Kansas ad valorem tax, which was based on production, was a severance tax and could be added to the maximum lawful price set by the NGPA at that time. FERC ordered first sellers to refund the amount of the ad valorem tax. This statute and that part of the FERC order relating to penalty and interest is under court challenge in both state and federal courts.
Citation: K.S.A. 55-1624
Effective Date: April 30, 1998

REVISED **Incremental Production**
A severance tax exemption for a period of seven years is given to the incremental production resulting from a production enhancement project begun on or after July 1, 1998. Incremental severance and production is defined as production in excess of base production. Base production is the average monthly amount of production for the 12-month period immediately prior to the project beginning date, minus the monthly rate of production decline. The monthly rate of production decline would be determined with reference to the same 12-month period used to determine the base production. The monthly rate of production decline is the decline that would have occurred except for the enhancement project. The credit does not apply in any fiscal year if in the preceding calendar year the price exceeded, in the case of oil, $20 per barrel; or, in the case of natural gas, $2.50 per Mcf. Language was added to clarify the existing law to include wells that have an established incline in production volumes and for wells that have had casing failures (or for other reasons lack production volumes) immediately prior to the enhancement project.
Citation: K.S.A. 1999 Supp. 79-4217
Effective dates: July 1, 2000
Goal: To promote old wells producing after enhancements, through tax relief.
Active supporters: KIOGA, KPC and the KCC

Marginal/Stripper Wells
The existing severance tax exemptions for marginal/stripper wells was expanded to increase exemptions and to allow for further increases in exemption amounts if oil prices decrease. The 2 BOPD exemption on oil produced from a lease or production unit increased to an average daily production of 5 BOPD. The 3 BOPD exemption for wells with a completion depth of 2,000 feet or more increased to an average daily production of 6 BOPD. Further exemptions were provided for if the price of oil decreases. Oil priced at $16 or less

now has a 7 BOPD exemption; should oil drop to $13 per barrel, the exemption is 10 BOPD exemption. Tertiary recovery from a water flood process from wells of 2,000 feet or less now has a 6 BOPD exemption and wells in excess of 2,000 feet have a 7 BOPD exemption. The exemption is 10 BOPD if the oil price reaches $14 per barrel. Tertiary recovery oil priced at $16 or less now has an 8 BOPD exemption and $14 oil would have a 10 BOPD exemption. The exemption for gas severed from a well having a gross value of not more than $81 per day during a calendar month was increased to $87.
Citation: K.S.A. 79-4217(b)(1) and (b)(2)
Effective dates: May 1, 1998; no sunset
Goal: To prevent premature plugging of wells.

Idle Wells
The "Three Year Inactive Wells Act" allows a 10-year exemption from severance tax for inactive wells returned to production. To qualify, a well must have been inactive prior to July 1, 1993, and must have produced no more than one of the 36 months prior to filing with the KCC for approval. This bill applies only to wells placed back in production prior to July 1, 1996.
Citation: K.S.A. 79-4217(b)(5)
Effective dates: July 1, 1996, through July 1, 2006

Secondary/Tertiary Recovery
Incremental production resulting from a tertiary recovery process is exempt from severance and production taxes.
Citation: K.S.A. 79-4217

New Wells/New Pools
Production from new pools is exempt from severance tax for 24 months from commencement of production.
Citation: K.S.A. 79-4217(b)(4)
Goal: To encourage exploration.
Impact: Industry spokesmen believe this is a very important exemption to Kansas' producers because it serves as a motivator for new exploration.

Natural Gas Severance Tax Reduction
Legislators enacted an annual stepped reduction in severance tax on natural gas from 7% to 4.33% over a three-year period. The final reduction took place in July 1996.
Citation: Kan. Sess. Laws Chapter 79, Article 4217
Effective date: July 1, 1994
Impact: The fact that natural gas has overtaken oil as Kansas' greatest-valued petroleum product is in part attributable to incentives such as this one.

Services
Electricity and other utilities used in the severance of oil and gas are exempt from state sales tax.
Citation: Kan. Sess. Laws Chapter 79, Article 3606
Effective date: July 1, 1994; no sunset

KANSAS (continued)

Natural gas used in injection projects, for fuel in recovery operations, or from a well having an average daily production with a value not more than $81, is exempt from severance and production tax.
Citation: Kan. Sess. Laws Chapter 79, Article 4217(b)(1)
Effective date: July 1, 1994; no sunset

Kansas Geological Survey
The Kansas Geological Survey (KGS) conducts research and provides information about the state's petroleum resources. The KGS conducts programs for the petroleum industry so the state will continue to enjoy the benefits of revenue generated by the industry. The KGS provides the petroleum industry with the benefits of research and information, much as the state land grant schools provide support to the agricultural industry.
Citation: Kan. Sess. Laws Chapter 76, Articles 322 through 326
Effective date: 1998
Goal: To encourage the development of natural resources of economic value.
Active supporters: State legislative support exists.
Impact: Oil fields have been discovered based on KGS research. The KGS is widely recognized as being the source of much petroleum information and for its work on problems posed by the industry. The survey frequently appears before legislative committees in support of tax incentives and provides technical assistance to the industry.

Digital Petroleum Atlas, Kansas Geological Survey
This is a long-term program to develop a prototype digital petroleum atlas for the United States, starting with Kansas and extending into the adjoining mid-continent region. Extensive data sets about typical plays, details from pools in production, and technologies that have provided the most effective exploration, development, production and additional recovery efforts are assembled and provided to operators in digital form. Hard copies are also available. The program focuses on helping operators determine why pools produce and behave the way they do so that analog techniques can be used where appropriate, regardless of the age of the rock and geography of pool setting. Currently the program is 80% supported by federal funds and 20% supported by Kansas general funds.
Citation: Direct congressional appropriation, through the U.S. Department of Energy
Effective date: August 1995; new appropriation in 1996
Goals: To lower exploration and production costs and increase success rates by facilitating technology and information transfer.

Petroleum Research Section (PRC), Kansas Geological Survey
The PRC conducts research and provides instructional services for the Kansas petroleum industry. It uses a wide variety of technologies and has a broad range of scientific interests. Most members of the section have industry experience. The section also operates the Kansas Well Core Library in Lawrence, which is open to the public.
Goal: To stem the decline in Kansas' oil production by providing research and petroleum data to the industry.
Impact: Reviews of the section's research and workshops have been very strong. The discovery of the Bluebell Field in Kansas has been attributed to work done by this group. The Petroleum Research Section is a national leader in making petroleum data available electronically, especially through the Internet.

KANSAS (continued)

University of Kansas Energy Research Center
The Kansas Geological Survey and the University of Kansas fund an integrated energy research program focused on petroleum. The Research Center coordinates information relating to ongoing petroleum research, and makes that information available to industry.
Goals: To stimulate energy research and assist in gaining funding. To help maintain the Kansas energy industry.
Active supporters: Kansas Geological Survey and academic units of the University of Kansas, including the geology department and the Tertiary Oil Recovery Project
Impact: The program has contracted more than $6.6 million in support of energy research. Many conferences and short courses have been held. The program integrates staff in 18 university departments that conduct energy research.

Technical Information Services for the Petroleum Industry
Through Technical Information Services, the Kansas Geological Survey provides public access to petroleum data, including scout tickets and well log data. The Well Sample Library in Wichita operates the sample cuts, archives well samples and makes these materials available to operators.
Effective date: 1987 (with earlier precursors)
Goals: To encourage oil and gas production by making useful data available to producers; counteract the loss of infrastructure in the independent industry.
Active supporters: Kansas Geological Survey

KENTUCKY

Credit for Production From Recovered Inactive Oil Wells and Gas Wells
These two incentives give producers a credit on the 4.5% severance tax imposed on production from oil and gas wells that are brought back into production after having been inactive for two years, or plugged and abandoned.
Citation: KRS 137.132 and KRS 143A.033
Effective date: July 15, 1998; no sunset
Goal: To recover inactive or abandoned wells.
Active supporters: Kentucky Oil and Gas Association, Kentucky Division of Oil and Gas

Investigation of Abandoned Wells
This statute allows producers with a proper testing permit to test inactive wells for 60 days prior to posting bond for the well.
Citation: KRS 353.730
Effective date: July 15, 1998; no sunset
Goal: To recover inactive or abandoned wells.
Active supporters: Kentucky Oil and Gas Association, Kentucky Division of Oil and Gas

LOUISIANA

REVISED **Act 2 of 1994**
This act, re-enacting La. R.S. 47:633, reduced severance taxes on the following categories of wells in order to stimulate exploration and development:

1. Marginal Wells
Oil wells producing less than 10 barrels of oil per day are exempt from severance taxes during any month in which oil prices average less than $20. When oil prices are greater than $20 per barrel, severance tax is reduced by 75% to 3.125%. Wells producing more than 10 and less than 25 barrels of oil per day with at least a 50% saltwater cut are taxed at 6.25%, a 50% reduction.
Citation: S.B. 31 (1994), La. R.S. Ann. of 1950, (renewed by Act 16 of 1996)
Effective date: July 1994 through June 30, 2003

2. Horizontal/New Discovery/Deep Gas or Condensate Wells
Severance taxes for oil or gas from horizontally drilled wells or recompletions, certified new discovery oil and natural gas wells, and gas or condensate produced from wells drilled to at least 15,000 feet are suspended from the date of first production for a period of 24 months (extended in 1996 Act 16 and in 1998 Act 7), or until payout of the well cost, whichever comes first. Payout of the well cost shall be determined by the Department of Natural Resources. To be eligible, new discovery wells must be completed in a new reservoir before September 30, 2000.
Citations: Act 2 (S.B. No. 31); S.B. 32, amending La. R.S. Ann. 47:633(7)(c)(iv)(a) and 648.2(1)(c), La. R.S. Ann. of 1950; 1996 Act 16
Effective date: July 7, 1994; no sunset
Goals: To encourage horizontal, new and deep well drilling. This is consistent with the public policy of Louisiana to promote economic growth and revitalize and stimulate the petroleum industry, which is in decline due to world markets and trends.
Active supporters: Governor's Energy Committee
Impact: According to a study by the Louisiana State University Center for Energy Studies, the program has been marginally effective in meeting its goals. Many of the new discoveries are deep wells that also qualify for reduced severance tax under Act 2 of 1994.

Produced Water Injection
To help accomplish the objective of reducing the discharge of produced water and to help ease the tremendous financial burden placed on the oil and gas industry, it is the purpose of this section to provide an economic incentive to producers of oil and gas by allowing them to realize a severance tax savings (20% on incrementally produced oil and gas) if they inject produced water into an oil or gas reservoir for the purpose of increasing the recovery of hydrocarbons.

Orphan Well Plugging
Act 404, passed by the Legislature in 1993 and amended by Act 297 of 1995, establishes an orphan well plugging and site restoration fund, which is overseen by an Oil Field Site Restoration Committee. This fund receives monies from a $10 annual fee per non-producing well (except temporarily abandoned or saltwater disposal wells in stripper fields) and a production fee totaling $0.01 per barrel of oil or condensate and $0.002 per Mcf of gas.

LOUISIANA (continued)

The bill also provides that at the time of property transfer, a site-specific trust account may be established to provide funds for site restoration. These accounts are based on an assessment of the full cost of restoration following a detailed review of site conditions and disclosure of known problems by the seller. Once established, the accounts remain with the site through subsequent property transfers. If an account is established and fully funded, the transferring party is not held liable by the state for future restoration costs. The 1995 amendment provides that contractors bidding on plugging and site restoration projects shall take the salvage value of equipment left on-site into account in making a bid.
Citation: 1993 La. Act 404; amended by 1995 La. Act 297

Tertiary Recovery
No severance tax shall be due on production from a qualified tertiary recovery project approved by the Secretary of the Department of Natural Resources until the project has reached payout. Payout is calculated from the total of production from investment costs; expenses particular to the tertiary project, not to include charges attributable to primary and secondary operations on that reservoir; and interest at commercial rates.
Citation: La. R.S. Ann. 47:633.4
Effective date: July 12, 1984; no sunset
Goals: To provide an economic incentive to producers to invest in tertiary recovery projects to enhance Louisiana's crude oil production, to the ultimate benefit of the state and the people.
Active supporters: Oil and gas industry, legislative leaders
Impact: Enhanced oil recovery projects have taken place, but it is unknown how many would have taken place in the absence of an incentive. One large project is currently active. Industry investment in the project is approximately $30 million. While the effectiveness of the program has not been studied, analysis of statistics from the Louisiana Department of Natural Resources and Department of Revenue and Taxation would be informative.

Marginal Gas Wells
Gas wells producing less than 250 Mcf per day are taxed at a reduced rate of $0.013/Mcf.

MARYLAND

There are no oil or gas incentive programs in Maryland.

MICHIGAN

Marginal/Stripper Wells
Severance taxes are reduced from 6.6% to 4% for production from stripper oil wells and from 5% to 4% for stripper gas wells. Stripper oil wells are defined by the state as wells with an average maximum daily production less than or equal to 10 BOPD.
Production from marginal oil properties receives the same reduction when average per well production is:
1. 20 BOPD or less for properties with average completion depths greater or equal to 2,000 feet but less than 4,000 feet;

MICHIGAN (continued)

2. 25 BOPD or less for properties with average completion depths greater or equal to 4,000 feet but less than 6,000 feet;
3. 30 BOPD or less for properties with average completion depths greater or equal to 6,000 feet, but less than 8,000 feet;
4. 35 BOPD or less for properties with average completion depths of at least 8,000 feet.

Citation: 1929 Mich. Pub. Acts 48
Effective date: March 19, 1996; no sunset
Goal: To increase well life and volume of production.
Active supporters: Petroleum industry and Michigan state government
Impact: This program encourages marginal and stripper wells to produce and not be plugged and abandoned.

Note: *The Michigan Court of Appeals, on July 23, 1996, held in an unpublished case that severance tax is not due on gas used on-site to purify gas, as purification costs are part of the costs of production. This decision is favorable to oil and gas producers.*

MISSISSIPPI

Enhanced Oil Recovery
Reduces the assessed tax rate to 3% of the value of the oil produced by an enhanced oil recovery method in which carbon dioxide is used when transported by a pipeline to the oil well, has been expanded to include any other enhanced oil recovery method approved and permitted by the State Oil and Gas Board on or after April 1, 1994.
Citation: Miss. Code Ann. § 27-25-503 (1) (2000)
Effective date: April 1, 1994; no sunset
Goal: To encourage the use of enhanced recovery methods of production.
Active supporters: Mississippi Independent Producers and Royalty Owners Association (MIPRO) and Mid-Continent Oil and Gas Association (MCOGA)
Impact: Believed to have increased the use of enhanced oil recovery techniques

Discovery Wells
Oil or gas produced from a discovery well for which drilling commenced on or after April 1, 1994, but before July 1, 1999, shall be exempt from taxes for five years. This exemption begins on the date of first sale of production for oil, and the earlier of one year from completion or the date of first sale for natural gas wells. This exemption applies to oil provided the price does not exceed $25 per barrel, and applies to natural gas provided the price does not exceed $3.50 per 1,000 cubic feet. Any such production for which a permit was granted by the Mississippi State Oil and Gas Board and drilling commenced before July 1, 2003, shall be exempt for five years, notwithstanding that this exemption shall be repealed from and after July 1, 2003.
Citation: Miss. Code Ann. § 27-25-503 (3) (a), § 27-25-703 (5) (a) (2000)
Effective dates: April 1, 1994, through July 1, 1999; expires July 1, 2003
Goal: To encourage the drilling of discovery wells.
Active supporters: MCOGA and MIPRO

Oil or gas produced from a discovery well for which drilling commenced on or after July 1,

1999, shall be assessed at the rate of 3% for five years. The assessment at this rate shall begin on the date of the first sale of production for oil, and the earlier of one year from completion or the date of first sale for natural gas wells. This reduced tax rate applies to oil provided the price does not exceed $20 per barrel, and applies to natural gas provided the price does not exceed $2.50 per 1,000 cubic feet. Any such production for which a permit was granted by the Mississippi State Oil and Gas Board and drilling commenced before July 1, 2003, shall be assessed at the reduced rate for five years, notwithstanding that this provision shall be repealed from and after July 1, 2003.
Citation: Miss. Code Ann. § 27-25-503 (3) (b), § 27-25-703 (5) (b) (2000)
Effective dates: July 1, 1999, through July 1, 2003
Goal: To encourage the drilling of discovery wells.
Active supporters: MCOGA and MIPRO
Impact: Drilling is reported to have increased 100% since this program became effective. This incentive also conveys to the industry a positive attitude on the part of the State of Mississippi and has resulted in a considerable cost savings to producers.

Development Wells or Replacement Wells Drilled In Connection With Discovery Wells
Production from a development or replacement well drilled in connection with the drilling of a discovery well shall be assessed at a rate of 3% for three years. This applies to oil from wells for which drilling commenced on or after January 1, 1994, but before July 1, 1999, and for natural gas produced from wells for which drilling commenced after January 1, 1994. This reduced rate begins on the date of first sale of production for oil, and the earlier of one year from completion or the date of first sale for natural gas wells. Any such production for which a permit was granted by the Mississippi State Oil and Gas Board and drilling commenced before January 1, 2003, shall be exempt for three years, notwithstanding that this exemption shall be repealed from and after January 1, 2003.
Citation: Miss. Code Ann. § 27-25-503 (3) (a), § 27-25-703 (5 (a) (2000)
Effective dates: January 1, 1994, through July 1, 1999, for oil; January 1, 1994, for natural gas; expires on January 1, 2003, for both oil and natural gas.
Goal: To encourage the drilling of development wells to increase production and reserves.
Active supporters: MCOGA and MIPRO
Impact: This program is thought to have been effective in encouraging drilling development wells by improving the economics of the well project.

Production from a development or replacement well drilled in connection with the drilling of a discovery well shall be assessed at a rate of 3% at the point of production for three years. This applies to oil and natural gas from wells for which drilling commenced on or after July 1, 1999. Any such production for which a permit was granted by the Mississippi State Oil and Gas Board and drilling commenced before July 1, 2003, for oil and January 1, 2003, for natural gas, shall be assessed at this reduced rate for three years, notwithstanding that this reduced rate shall be repealed from and after January 1, 2003.
Citation: Miss. Code Ann. § 27-25-503 (3) (b), § 27-25-703 (5 (b) (2000)
Effective dates: July 1, 1999, through July 1, 2003, for oil; July 1, 1999, through January 1, 2003 for natural gas
Goal: To encourage the drilling of development wells to increase production and reserves.
Active supporters: MCOGA and MIPRO
Impact: Encourages drilling development wells by improving the economics of the project.

MISSISSIPPI (continued)

Development Wells Utilizing 3-D Seismic
Oil or gas production from a development well utilizing three-dimensional seismic for which drilling commenced on or after April 1, 1994, but before July 1, 1999, shall be assessed at the rate of 3% at the point of production for five years. This reduced tax rate applies to oil provided the price does not exceed $25 per barrel, and applies to natural gas provided the price does not exceed $3.50 per 1,000 cubic feet. Any such production for which a permit was granted by the Mississippi State Oil and Gas Board and drilling commenced before July 1, 2003, shall be taxed at the reduced rate for five years, notwithstanding that this provision shall be repealed from and after July 1, 2003.
Citation: Miss. Code Ann. § 27-25-503 (4) (a), § 27-25-703 (6) (a) (2000)
Effective dates: April 1, 1994, through July 1, 1999; expires on July 1, 2003
Goal: To encourage the use of 3-D seismic technology in development drilling.
Active supporters: MCOGA and MIPRO
Impact: This incentive is believed to have contributed to the increased use of 3-D seismic technology in Mississippi.

Oil or gas production from a discovery well utilizing three-dimensional seismic for which drilling commenced after July 1, 1999, shall be assessed at the rate of 3% at the point of production for five years. This reduced tax rate applies to oil provided the price does not exceed $20 per barrel, and applies to natural gas provided the price does not exceed $2.50 per 1,000 cubic feet. Any such production for which a permit was granted by the Mississippi State Oil and Gas Board and drilling commenced before July 1, 2003, shall be assessed at the reduced rate for five years, notwithstanding that this provision shall be repealed from and after July 1, 2003.
Citation: Miss. Code Ann. § 27-25-503 (4) (b), § 27-25-703 (6) (b) (2000)
Effective dates: July 1, 1999, through July 1, 2003
Goal: To encourage the use of 3-D seismic technology in development drilling.
Active supporters: MCOGA and MIPRO
Impact: This incentive is believed to have contributed to the increased use of 3-D seismic technology in Mississippi.

Inactive Wells Exemption
Oil or gas produced before July 1, 1999, from a well inactive for two years, shall be exempt from taxes for three years beginning on the date of first sale of production. This exemption applies to oil provided the price does not exceed $25 per barrel, and applies to natural gas provided the price does not exceed $3.50 per 1,000 cubic feet. Any such production which began before July 1, 2003, shall be exempt for three years, notwithstanding that this provision shall be repealed from and after July 1, 2003.
Citation: Miss. Code Ann. § 27-25-503 (5) (a), § 27-25-703 (7) (a) (2000)
Effective date: Wells drilled prior to July 1, 1999; expires on July 1, 2003

Oil or gas produced on or after July 1, 1999, from a well inactive for two years, shall be exempt from taxes for three years beginning on the date of first sale of production. This exemption applies to oil provided the price does not exceed $20 per barrel, and applies to natural gas provided the price does not exceed $2.50 per 1,000 cubic feet. Any such production which began before July 1, 2003, shall be exempt for three years, notwithstanding that this provision shall be repealed from and after July 1, 2003.

MISSISSIPPI (continued)

Citation: Miss. Code Ann. § 27-25-503 (5) (b), § 27-25-703 (7) (b) (2000)
Effective date: July 1, 1999, through July 1, 2003

Marginal Well
The owner of a marginal well shall be entitled to a refund of two-thirds of the taxes paid monthly on oil produced from such well if the average monthly sales price of oil produced from such well does not exceed $12 per barrel. This incentive lowers the severance tax from 6% to 2%. Eligible wells are those producing 20 barrels per day or less from depths of up to 7,500 feet, and wells producing up to 40 barrels per day from depths greater than 7,500 feet. To receive the refund, the owner shall present the State Tax Commission with a statement from the State Oil and Gas Board certifying that the well is a marginal well. The State Tax Commission shall then determine the average monthly sales price of the oil sold from such well. The definition of a marginal well is determined by the State Oil and Gas Board.
Citation: Miss. Code Ann §27-25-503 (6) (2000)
Effective date: Expires July 1, 2003

Note: It should be noted that Miss. Code Ann. § 27-25-703, which deals with the severance tax levied on natural gas, will be effective as written until July 1, 2004. On July 1, 2004, a revised version of § 27-25-703 goes into effect.

Carbon Dioxide Exemption
Carbon dioxide produced after March 29, 1999, shall be exempt from the taxes levied for gas severance. The exemption for carbon dioxide shall be repealed July 1, 2004.

MISSOURI

Missouri has one plugging incentive program, which follows. Five counties of 160 now produce oil or gas. The state does not tax oil or gas production.

Plugging
In lieu of fines for regulatory violations, operators are offered the opportunity to do community service by plugging a comparable number of orphan wells selected by the state.

MONTANA

Marginal/Stripper Wells
House Bill 661 reduces the oil production tax rate on stripper oil from 10.5% to 5.5% when oil is less than $30 per barrel in the calendar quarter. The definition of "stripper well" has been expanded from a well producing 10 barrels of oil per day to 15 barrels of oil per day. Lower tax rates are provided for stripper well production when the price of oil remains below $30 per barrel in a calendar quarter.
Citation: § 15-36-303
Goal: To increase Montana's oil and gas production.

MONTANA (continued)

Horizontal Wells
Senate Bill 530 reduces production taxes for wells that are completed horizontally or have not been producing for five years or more. The bill lowers tax rates for the first year of production from previously non-producing wells and lowers the rate for horizontal wells for the first 18 months of production.
Citation: S.B. No. 530, amendment to § 15-36-303
Effective dates: December 31, 1995; January 1, 2002

Marginal/Stripper Wells
The first three barrels of oil produced per day from a well which produces less than 10 barrels per day are exempt from severance tax. A termination clause eliminates this tax exemption when crude oil prices reach $30 per barrel.
Citation: Mont. Code Ann. tit. 15, Chapter 571 (1995)
Effective date: July 1, 1995
Goals: To keep marginal wells in production and prevent premature abandonment.
Active supporters: Northern Montana Oil and Gas Association (NMOGA), Montana Petroleum Association (MPA), county commissioners, land and mineral owner associations.
Impact: This program is under study to determine its effectiveness.

Secondary/Tertiary Recovery
Severance tax is reduced for incremental production from secondary and tertiary recovery projects. Incremental secondary production is taxed at 3%. Incremental tertiary production is taxed at 2%.
Citation: Mont. Code Ann. tit. 15, Chapter 9 (1993)
Effective date: January 1, 1994
Goal: To extend economic life of depleted wells and fields through advanced technology application.
Active supporters: MPA, Shell Western Exploration and Production, Burlington Resources Oil and Gas, oil and gas county commissioners, land and mineral owners associations.
Impact: Oil production for 1995 is virtually flat, with 1994 production stemming an annual decline of 4% per year in previous years. This incentive coupled with the state's horizontal wells incentive is credited with stemming this decline.

New Wells
Oil or gas production from new wells is exempt from net proceeds tax for the first 12 months of production.
Citation: Mont. Code Ann. tit. 15, Chapter 655 (1987)
Effective date: 1987
Goal: To stimulate exploration and new production.
Active supporters: MPA, NMOGA, oil and gas county commissioners, land and mineral owners associations.
Impact: When the incentive took effect, oil prices were low and exploration dollars were not available to immediately take advantage of the incentive. The incentive is, however, a factor in the more favorable tax climate for new production.

Production from oil and gas wells drilled after March 31, 1995, is exempt from severance taxes for the first 24 months.

MONTANA (continued)

Citation: Mont. Code Ann. tit. 15, Chapter 581 of 1995
Effective date: May 1, 1995
Goal: To stimulate exploration and new production.
Active supporters: MPA, NMOGA, oil and gas county commissioners, land and mineral owners associations.
Impact: There is evidence of increased mineral leasing activity, 3-D seismic activity, recent drilling permits showing wildcat well plans, and permits for drilling in counties that have had little recent drilling activity prior to the incentive. The increase in these activities can be attributed to this incentive, the state's new well and horizontal wells incentives and continued favorable crude prices.

Idle Wells
Production from wells that have been idle and are brought back into production is exempt from severance taxes for the first 24 months.
Citation: Mont. Code Ann. tit. 15, Chapter 581 (1995)
Effective date: May 1, 1995
Goal: To stimulate production from idle wells.
Impact: Not yet known.
Note: *A similar 24-month tax "holiday" was withdrawn during the oil price spike which occurred during the Persian Gulf crisis.*

Horizontal Wells
Horizontal wells (including horizontally recompleted wells) are exempt from net proceeds tax for the first 18 months of production. The exemption expires when the price of oil exceeds $30 per barrel, and reactivates when it drops below $30 per barrel.
Citation: Mont. Code Ann. tit. 15, Chapter 9 (1993)
Effective dates: January 1, 1994, to January 1, 2002
Goal: To encourage the use of advanced technologies in oil production.
Active supporters: MPA, Shell Western Exploration and Production, Burlington Resources Oil and Gas (formerly Meridian Oil), oil and gas county commissioners and land and mineral owners associations.
Impact: It is reported that major producers have drilled more horizontal wells than anticipated, which may be at least partially in response to this incentive program. The recent 4% per year decline in production has been halted. Production for 1995 was virtually the same as 1994 production.

Services
Crude oil or gas used by operators in connection with operations is tax exempt.
Citation: Mont. Code Ann. § 15-36-305
Effective date: Title chapter currently in effect
Goal: To make the tax code more equitable by not taxing production which is actually a cost of doing business and not to be sold for a profit.

Tax Simplification
The Montana Oil and Gas Production Tax streamlines accounting procedures for oil and gas tax purposes and consolidates tax rates. Five different production taxes were consolidated into a single rate per well or field, which can be filed on a single return. A standard produc-

MONTANA (continued)

tion reporting date of 60 days following the end of a calendar production quarter was established. Production tax reporting is due 60 days following the end of a calendar production quarter.
Citation: 1995 Mont. Laws 451
Effective date: January 1, 1996
Goals: To overhaul the overly complex system for reporting and paying oil and gas production taxes; to attract producers by lowering the cost of doing business in Montana.
Active supporters: Producers, mineral royalty owners, Montana Gov. Marc Racicot, other state agencies, county and local governments and the Montana Department of Revenue
Impact: The new tax system is significantly more efficient. Positive feedback has been received from the stakeholders, who have indicated support for further simplification, and further action may take place to accomplish that goal.

NEBRASKA

Marginal/Stripper Wells
A severance tax reduction from 3% to 2% is available for oil wells that produce less than 10 BOPD.
Citation: Neb. Rev. Stat. tit. 57, §§ 701 through 719

NEVADA

NEW **Reduced Administrative Fee for New Production**
The amount of the administrative fee that a producer or purchaser of oil or natural gas must pay on new production pursuant to subsection 2 of Nevada Revised Statute 522.150 is one-half cent (5 mills) per barrel of oil or per 50,000 cubic feet of natural gas, as appropriate. New production is defined as production from new wells or existing wells completed in new intervals as determined by the Commission on Mineral Resources. Any qualifying well will receive a reduced administrative fee for one full year. Upon completion of a qualifying well, the producer will submit a Form 5, "Well Completion Report." The production date as reported on the Form 5 will be the effective date for the reduced fee.
Citation: NAC 522.343; NRS 522.040,50
Effective date: January 27, 2000

NEW MEXICO

New Wells
Credit of $15,000 against the operator's emergency school tax liability for each of the first 600 new wells drilled in the period from January 1, 1999, to July 1, 2000, as certified by Oil Conservation Division (OCD). Drilling must have been commenced during that time period and the well must be completed as a producer. Horizontal wells recompleted from vertical wells qualify.
Citation: OCD Rule 34; §§ 7-31-1 through 7-31-26, NMSA, 1978, as amended
Effective date: April 6, 1999; sunset July 1, 2001

NEW MEXICO (continued)

Goal: To stimulate economic development and provide jobs through investment in new oil and gas wells.

Stripper Wells
Reduces both severance and emergency school taxes for stripper well properties having average daily production of less than 10 barrels or 60 MCF per eligible well. Severance taxes are reduced from 3.75% to 1.875% or 2 13/16% and emergency school taxes are reduced from 4% to 2% or 3% for gas and from 3.15% to 1.58% or 2.36% for oil during periods of low prices (less than $1.15 and between $1.15 and $1.35 per MCF for gas and less than $15 and between $15 and $18 per barrel for oil).
Citation: OCD Rule 33; §§ 7-29B-1 through 7-29B-6, NMSA 1978, as amended
Effective date: June 18, 1999; no sunset
Goal: To encourage production from marginal wells and avoid premature abandonment and plugging.

Well Workover Project
Reduction in severance taxes from 3.75% to 2.45% for oil and gas produced from wells having qualified workover operations performed. Does not apply when oil price is $24 or more per barrel.
Citation: OCD Rule 32; §§ 7-29B-1 through 7-29B-6, NMSA 1978, as amended
Effective date: June 16, 1995; amendment effective June 1, 1999. Prior to that time, 1.875% rate applies to only the incremental production; no sunset
Goal: To encourage operators to perform workover operations to increase production and avoid premature abandonment and plugging.

***REVISED* Improvements in OCD Regulatory Processes**
The OCD Engineering Bureau significantly reduced the turnaround time for administrative applications from 39 days in 1997 to 28 days in 1998. For 1999, the turnaround time averaged 21 days.

In addition, with assistance from the industry, OCD is continually reviewing its rules and procedures to identify opportunities to change or eliminate outdated, unduly burdensome, or unnecessary requirements. The following rules were amended in 1999 and 2000.

- Rule 107—This rule, concerning tubingless completions, was amended effective February 26, 1999, to eliminate, in most cases, the requirement of application and approval prior to completion.
- Rule 112A—This rule, concerning multiple completions, was amended effective April 15, 1999, to eliminate, in most cases, the requirement of application and approval prior to completion.
- Rules 7, 11, 12, and 1201-1223—These rules, concerning notice and other procedural requirements, were amended effective July 15, 1999, to make the notice provisions simpler and more consistent between administrative and hearing applications. In addition, a conforming amendment was made to the notice provisions of Rule 303, concerning downhole commingling, effective July 30, 1999.
- Rule 104—This rule, concerning well spacing, was amended effective August 31, 1999, to relax setback requirements for gas wells. Oil and gas operators now have more

flexibility to select well sites, and fewer permits are required. The amendments also allow for the drilling of infill well on a 320-acre gas spacing unit.

- Rule 303.C—This rule, concerning downhole commingling, was amended effective May 15, 2000, to relax the requirements for obtaining approval to downhole commingle production from multiple pools in a wellbore. The amendment also established a simplified and more expedient approval process for certain oil and gas pools. This amendment should significantly increase the recovery of oil and gas reserves from existing wellbores.

The following are rulemaking activities being undertaken in 2000:

- Rule 101—This rule will be amended to allow letters of credit to satisfy the financial assurance requirement for well plugging. In early 2000, the New Mexico Legislature amended the statute to permit letters of credit for financial assurance in addition to security and cash bonds.
- Rule 711—This rule, concerning surface waste disposal facilities, is being amended to eliminate the need for Division approval of certain documentation prepared by waste generators. It is anticipated the new rule will be adopted in the fall of 2000.

Also, OCD issued an order on February 1, 1999, approving 80-acre infill drilling in the Blanco-Mesaverde Pool in the San Juan Basin. This action allows for the potential recovery of an additional 1.5 trillion to 3 trillion cubic feet of new gas reserves.

Production Restoration Project
Exemption from severance tax (3.75%) for wells that had fewer than 31 days of production in any period of 24 consecutive months after January 1, 1993, which are brought back into production. Does not apply when the oil price is $24 or more per barrel.
Citation: OCD Rule 31; §§ 7-29B-1 through 7-29B-6, NMSA, 1978 as amended
Effective date: June 16, 1995; no sunset
Goal: To encourage operators to return wells to production and avoid premature abandonment and plugging.

State Royalty Reductions
A lower royalty rate (5%) applies to oil wells operated pursuant to a state oil and gas lease if the wells averaged: (i) less than 3 BOPD for the preceding 12-month period but not more than 5 BOPD for any month during that 12 month period if producing from shallower than 5,000 feet; and (ii) less than 6 BOPD for the preceding 12-month period but not more than 10 BOPD for any month during that 12-month period for production from 5,000 feet or deeper. Certain conditions apply and an application and fee are required.
Citation: § 19-10-5.1, NMSA 1978, as amended.
Effective date: May 18, 1994; no sunset
Goal: To encourage production from marginal wells and avoid premature plugging and abandonment.

Enhanced Oil Recovery Projects
Severance tax reduced from 3.75% to 1.875% for oil produced from the date of positive production response. OCD approval is required. Does not apply when the oil price is $28 or more per barrel.

NEW MEXICO (continued)

Citation: OCD Rule 30; Enhanced Oil Recovery Act, §§ 7-29A-1 through 7-29A-5, NMSA 1978
Effective date: March 6, 1992, for carbon dioxide injection projects; January 1, 1994, for processes other than carbon dioxide; no sunset
Goal: To encourage the use of enhanced recovery techniques, including waterflooding, pressure maintenance, and tertiary recovery projects or expansions.

NEW YORK

New York State Energy Research and Development Authority
The New York State Energy Research and Development Authority (NYSERDA) was created by the state's Legislature in 1975 as a public benefit corporation. One goal of NYSERDA's research and development program is to expand the use of New York state's indigenous and renewable energy resources. NYSERDA's natural gas program has evolved into a multi-faceted research and development program structured around the following goals: to help develop new natural gas reserves through innovative exploration methods and reservoir studies; to enhance existing reservoir production by developing or demonstrating new technology and products; to increase natural gas storage from depleted natural gas fields and bedded salt; to improve industry environmental performance; and to conduct extensive industry outreach to educate firms on opportunities for economic production in New York state. Over the last five years, NYSERDA has provided more than $2 million for 50 natural gas and petroleum projects. Information on NYSERDA's programs can be found at www.nyserda.org.

Current Initiatives:
Natural Gas and Petroleum Emerging Resources Program
This Program Opportunity Notice (560-00) will be released in the fall of 2000 to solicit projects that will increase natural gas and petroleum production in New York state by identifying and expanding exploration targets. This program will specifically target five primarily gas-bearing formations: Devonian and Ordovician shales, Trenton/Black River, the Beekmantown formation, Herkmer/Oneida, and the Cambrian Theresa/Potsdam, and one oil-bearing and gas-bearing group: the Upper Devonian sands. Two types of projects will be solicited: Type 1—reservoir characterization studies ($75,000 maximum) and Type 2—reservoir development projects ($100,000 maximum). Type 1 projects will provide funding for characterization studies and research consortia. Type 2 projects will develop specific targets with the goal of leasing and testing the geological concept put forth. NYSERDA requires co-funding and may require royalties.

Natural Gas and Petroleum Technology Product Options Program
This Program Opportunity Notice (559-00) will use the real-options model for product development to create marketable products that improve the exploration and production efficiency of the oil and gas industry. Projects that target any aspect of the oil and gas production life cycle will be allowed, including exploration, production, gas storage, and environmental products that have applicability to New York's oil and gas industry. Funding during the options phase will be $20,000, while $200,000 will be available for a project chosen for further development. Projects must be co-funded and any products must be

NEW YORK (continued)

manufactured in New York. Projects chosen for development will require a recoupment strategy.

NORTH DAKOTA

North Dakota has a gross production tax of 5% and an extraction tax of 6.5% on oil. The following incentives relate only to a reduction on the extraction tax. In all cases the gross production tax is assessed.

REVISED **Abandonment of Wells—Suspension of Drilling**
This rule defines what constitutes abandonment of a well in the state of North Dakota. The rule also dictates how soon after abandonment a well is to be plugged and the drill site reclaimed. By giving the well temporarily abandoned status, the North Dakota Industrial Commission (NDIC) director may waive this requirement for one year. The director may extend a well's temporarily abandoned status for one year. The director also may approve suspension of the drilling of a well. If suspension is approved, a plug must be placed at the top of the casing. Unless authorized by the director, a well must be plugged and its site reclaimed if drilling has been suspended for 30 days.
Citation: 43-02-03-55
Effective date: August 1, 1999
Goal: To prevent the permanent plugging of wells due to low oil prices.
Active supporters: NDIC

REVISED **Application for Stripper Well Property Determination**
This rule gives the requirements for an operator desiring to classify a property as a stripper well property for the purposes of exempting production from extraction taxes.
Citation: 43-02-08-02
Effective date: August 1, 1999
Goal: To eliminate application costs.
Active supporters: NDIC

REVISED **Application for Workover Project Determination**
Applicants have the burden of establishing entitlement to the exemption provided in NDCC § 57-51.1-03 and upon completion of the workover project shall submit all information necessary for a determination by the director.
Citation: 43-02-09-04
Effective date: August 1, 1999
Active supporters: NDIC

Horizontal Re-entry Well Exemption
Oil produced from a horizontal re-entry well during the first nine consecutive months starting with the date the well was recompleted as a horizontal well is exempt from the oil extraction tax. The designation of a horizontal re-entry well is given to a well initially drilled and completed as a vertical well which is re-entered and recompleted as a horizontal well after March 31, 1995. This designation may also apply to the re-entry and recompletion of a vertical well that is classified by the NDIC as a dry hole.

NORTH DAKOTA (continued)

Citation: Rule 81-09-03-10
Effective date: April 1, 1995; no sunset
Goal: To increase oil production from a reservoir.
Active supporters: Oil and gas industry

Tribal Lands Oil Tax Exemption
Initial production of oil from a well is exempt from extraction tax (6.5%) for 60 months if:
• the well is located on a reservation, or
• the well is located on trust land held for a tribe, or
• the land is held by a tribe at the time this Act was passed.
Citation: N.D. Cent. Code 51-51.1-03(8)
Effective date: July 31, 1997; no sunset
Goal: To encourage petroleum development upon tribal lands.
Active supporters: Private individuals and independent producers

Marginal/Stripper Wells
Oil produced by stripper wells is exempt from extraction taxes. Stripper wells are defined as wells with average daily production for the past 12 months of up to 10 BOPD at a depth of less than 6,000 feet; up to 15 BOPD at a depth of 6,000 to 10,000 feet; and up to 30 BOPD at depths greater than 10,000 feet. Stripper wells must be certified by the NDIC.
Citation: N.D. Admin. Code Chapter 81-09-03 § 07
Effective date: August 1, 1987; no sunset

New Wells
Production from new wells drilled and completed after April 27, 1987, is exempt from extraction taxes for the first 15 months of production and taxed at a rate of 4% thereafter (reduced from 6.5%).
Citation: N.D. Admin. Code Chapter 81-09-03 § 06
Effective date: July 1, 1987; no sunset

Horizontal Wells
Production from new horizontal wells drilled and completed after April 27, 1987, but before April 1, 1995, is exempt from extraction taxes for the first 15 months following well completion, and is then taxed at a rate of 4% thereafter. Oil produced from a horizontal well drilled and completed after March 31, 1995, is exempt for the first 24 months. See trigger provisions below.
Citation: N.D. Admin. Code Chapter 81-09-03 § 06
Effective date: April 1, 1995; no sunset
Impact: Excellent, according to the North Dakota Petroleum Council (NDPC), which finds that horizontal drilling has increased. The NDPC attributes the quadrupling of drilling activity to this incentive, plus new technology, new finds and good oil prices. The NDIC's Oil and Gas Division statistics are expected to show an increase in permits and a decline in the rate of well plugging. As an unexpected benefit, while pursuing new horizontal plays, two new plays and two new fields have been discovered.

NORTH DAKOTA (continued)

Idle Wells
Production from oil wells that have been inactive for at least two years and are returned to production is exempt from extraction taxes for 10 years, beginning the first day of the month in which NDIC certification is received by the Tax Commissioner.
Citation: N.D. Admin. Code Chapter 81-09-03 § 11
Effective date: April 1, 1995; no sunset
Active supporters: This and the following incentives were promoted by the NDPC dating back to 1987. In most efforts, it received vigorous support from oil producing counties, rural electric cooperatives and economic development organizations.
Impact: The NDPC feels this and most of the other incentives have been great successes.

Workovers
Production resulting from qualifying workover projects is exempt form extraction taxes for 12 months, beginning the third month after completion of the workover project, and is taxed at 4% thereafter. Wells which have produced less than 50 BOPD during the last six months of continuous production before workover qualify for this exemption. The operator must notify the NDIC before beginning the project. The project must cost at least $65,000, or production must increase 50% or more in the first two months after project completion. See trigger provisions, below.
Citation: N.D. Admin. Code Chapter 81-09-03 § 08
Effective date: August 1, 1989; no sunset
Impact: There has been a substantial increase since implementation of this program.

Secondary/Tertiary Recovery
Incremental oil form secondary recovery projects is exempt from extraction taxes for five years, and incremental oil from tertiary projects is exempt for 10 years from the date incremental production commences. All oil from a qualifying secondary or tertiary recovery project is taxed at a reduced rate of 4% once the five- or ten-year exemption has expired. Non-incremental oil from a qualifying secondary recovery project when its average production level has increased to at least 25% over normal operations for six months is taxed at a reduced rate of 4%. Non-incremental oil from a qualifying tertiary recovery project that produces at least 15% above normal operations for one month and continues to operate as a qualified project is taxed at a reduced rate of 4%.
Citation: N.D. Admin. Code Chapter 81-09-03, 05, 05.1, 05.2, N.D. Cent. Code 57-51
Effective date: August 1, 1987; no sunset
Goals: To encourage use of secondary and tertiary recovery technologies and to encourage new investment in unitized fields.
Impact: Secondary and tertiary recovery projects have increased significantly.

Services
Natural gas used on-site in the production of oil or gas is exempt from production taxes.
Citation: N.D. Admin. Code Chapter 81-09-02 § 16
Effective date: Adopted August 1, 1986, and amended July 1, 1989; no sunset

Trigger Provisions
Tax reductions or exemptions granted for horizontal wells, new wells, idle wells and workovers are eliminated for periods in which the average price for crude oil exceeds $33 per

NORTH DAKOTA (continued)

barrel for the previous five consecutive months. The tax incentives are reinstated when that price is less than $33.
Citation: N.D. Cent. Code 57-51.1-03
Effective date: July 1, 1991; no sunset

Note: *According to the NDPC, North Dakota was the only state in 1995 to increase oil production after 10 consecutive years of decline. The most significant incentives have been the 15-month holiday for new wells drilled after April 1987, the incremental exemption for secondary and tertiary recovery projects and the 24-month tax holiday for all horizontal wells drilled after March 1995. A great deal of the North Dakota incentive program information herein is derived from the North Dakota Revenue Department tax incentive program summary, published April 1996.*

OHIO

Plugging
A landowner grant program has been established for the plugging of orphan wells. Between $200,000 and $350,000 per year will be set aside to fund this program. Eligible landowners can plug the orphan wells on their land sooner and have more control in the plugging process than in the state's traditional bid process. The landowners must receive bids from contractors for a plugging plan that complies with state regulations and submit an application to the Division of Mineral Resources Management. If approved, the landowner will be reimbursed for the cost of plugging. Recent contracts in the fall of 1998 to plug 36 wells under this program show promise to reduce the average cost per well of plugging, thereby providing for the ability to plug additional orphan wells.
Effective: October 1995
Goal: To encourage landowner-initiated plugging of orphan wells at a lower cost to Ohio.
Active Supporters: Ohio Oil and Gas Association
Impact: This program provides the division with a second effective mechanism to plug orphan wells in Ohio.

Amendment to Plugging
This amendment permits the division to transfer to landowners or their agents for production, a well eligible for plugging under this program if Ohio's well ownership requirements are met. Wells previously abandoned will become property of the state. Landowners or registered well owners can take over the well for production.

Ohio Oil and Gas Energy Education Program
With the passage of Substitute Senate Bill 46 in December, 1997, and the approval of producers and royalty owners in a required referendum held in March 1998, the Ohio Oil and Gas Energy Education Program (OOGEEP) became effective on April 1, 1998.

OOGEEP is a nonprofit organization and is funded entirely by independent producers and royalty owners through an assessment on the production of all crude oil and natural gas in Ohio. The assessment on crude oil is equal to one cent ($0.01) per gross barrel and one-tenth of one cent ($0.001) per gross thousand cubic feet of natural gas. All first purchas-

OHIO (continued)

ers of crude oil and natural gas are required to collect the assessment and submit quarterly payments directly to OOGEEP.

The OOGEEP Operating Board consists of six independent producers and one member representing a farmer's organization. As outlined in the Ohio Revised Code, they are appointed by the Ohio Department of Natural Resources, Division of Minerals Resources Management, Technical Advisory Council based upon recommendations from a qualified producers organization and an organization representing farmers, such as the Ohio Oil and Gas Association and the Ohio Farm Bureau.
Citation: Substitute Senate Bill 46
Effective Date: April 1, 1998
Goals: To facilitate educational programs; to encourage oil and gas education curriculum in classrooms; to promote public awareness about the industry; to educate and promote safety information on related facilities and equipment; and to demonstrate to the general public the importance and economic significance of the industry.

OKLAHOMA

NEW **Three-Dimensional Seismic Technology**
Production from an oil, gas, or oil and gas well drilled between July 1, 2000 and July 1, 2003, which is located within the boundaries of a three-dimensional seismic shoot and was drilled based upon three-dimensional technology, is exempt from paying gross production taxes for a period of time determined by the date on which the three-dimensional shoot was shot.
Citation: Okla. Stat. tit. 68, § 1001 (J)
Effective dates: July 1, 2000, through June 30, 2003
Active Supporters: Oklahoma Corporation Commission and oil and gas operators in the state.

Reduction in the State's Gross Production Tax
Reduction in the state's production tax when the price of oil is between $14 and $17 per barrel. The gross production tax falls to 4 percent from 7 percent. The gross production tax is reduced to 1 percent if oil prices fall below $14 per barrel.
Citation: H.B. 1003X
Effective date: Feb. 5, 1999, through July 1, 2001.
Estimates: Reduce taxes paid to the state by $29 million for fiscal year 1999 and approximately $35 million for fiscal year 2000.

Reactivation of Plugged and Abandoned Wells
Production from a qualifying well that was plugged and abandoned will be exempt from gross production tax for a period of 28 months from the date on which production was established. The qualifying well must be located within 1,320 feet of and within the original spacing unit of a well that has been plugged and abandoned and that had previously produced oil and/or gas in paying quantities. Further, the lease of which is not held by production and the primary term for the spacing well that previously produced in paying quantities has expired. This incentive applies to wells for which production is re-established

OKLAHOMA (continued)

on or after July 1, 1998, and prior to July 1, 2001.
Citation: S.B. 857
Effective date: July 1, 1998
Goal: To encourage re-evaluation and reactivations of abandoned leases and prospects.
Active supporters: State Sen. Paul Muegge and State Rep. Larry Rice

EXTENDED **Production Enhancement Projects (Workovers/Recompletions/Fracturing)**
Incremental production resulting from workovers, recompletions or fracturing projects to existing wells is eligible for the tax incentive as noted above for 28 months from the date of project completion. Production enhancement projects begun between July 1, 1994, and June 30, 2003, are eligible for this exemption. Incremental production is production above base production. For projects begun between July 1, 1994, and July 1, 2000, base production is the average monthly production during the 12 months prior to either the filing of the application or the commencement of the project, whichever is first, or the average monthly production for the month in which the well produced.
Citation: Okla. Stat. tit. 68, § 1001(G) (1991)
Effective dates: July 1, 1994, through June 30, 2003
Goal: To encourage operators to increase production from existing fields by performing workovers, recompletions, fracturing, installation of pumps, plunger lifts, and compression.
Impact: There have been 2,232 orders approved.

EXTENDED **Rebate Program Expansion for Compression and Pumping Mechanisms**
Initial installation of a gas compression and/or pumping mechanism will qualify incremental oil production for a rebate of 6/7ths of the gross production tax for 28 months from the date of first production utilizing installed equipment. (This is an expansion of the existing rebate program to include these two categories of work.)
Citation: Okla. Stat. tit. 68, § 1001 (G) (2) (e) ((7))
Effective dates: July 1, 1997, through July 1, 2003
Goal: To enhance profitable operations and to maximize ultimate extraction before wells are plugged.
Active supporters: Oklahoma Mid-Continent Oil and Gas Association, Oklahoma Independent Petroleum Association.

Secondary Recovery
Incremental recovery from approved secondary oil or gas recovery projects begun on or after July 1, 1993, and before July 1, 2000, is eligible for the above tax incentive until payout, not to exceed 10 years. Project payback provides for recovery of capital expenses, starting in 1989, and 50% of operating expenses, starting in 1993.
Citation: Okla. Stat. tit. 68, § 1001(D)(2) (1991)
Effective dates: July 1, 1993, through June 30, 2000
Goal: To encourage operators to increase ultimate recovery by employment of secondary recovery techniques.
Impact: There have been limited but increasing numbers of applications for this refund.

NEW **Secondary Recovery**
Incremental recovery from approved secondary oil or gas recovery projects begun on or after July 1, 2000, and before July 1, 2003, is exempt from paying the gross production tax

for up to five years, or ending upon termination of the secondary recovery process, whichever occurs first.
Citation: Okla. Stat. tit. 68, § 1001 (D) (3) (1991)
Effective dates: July 1, 2000, through June 30, 2003

EXTENDED **Tertiary Recovery**
Incremental recovery from approved tertiary oil or gas recovery projects begun on or after July 1, 1993, and before July 1, 2003, is eligible for the tax exemption incentive until payout, not to exceed 10 years. Project payback provides for recovery of capital and operating expenses. Administrative expenses and capital expenses of pipelines built to transport carbon dioxide to a project are excluded.
Citation: Okla. Stat. tit. 68, § 1001(D)(4) (1991)
Effective dates: July 1, 1993, through June 30, 2003
Goal: To encourage operators to increase ultimate recovery by employment of tertiary recovery techniques.
Impact: There have been limited but increasing numbers of applications for this refund.

EXTENDED **Idle Wells**
Wells brought back into production, may be exempt from paying gross production taxes for 28 months. The wells must have been reactivated between July 1, 1994, and July 1, 2003. Wells reactivated prior to July 1, 1997, must have been inactive for not less than two years. Wells reactivated between July 1, 1997, and June 30, 2003, must have been inactive for not less than one year.
Citation: Okla. Stat. tit. 68, §§ 1001 (F)(1), (2) (1991)
Effective dates: July 1, 1994, through June 30, 2003
Goal: To increase production from existing fields.
Impact: There has been a modest number of applications by operators, indicating that this program has had limited effect in bringing idle wells back into production. There have been 277 orders approved.

REVISED **Economically At-Risk Oil Leases**
Operators may apply to the Oklahoma Tax Commission for a 6/7ths incentive on demonstration that they operate a lease that is economically at-risk. A lease must operate at a net loss or net profit which is less than the severance tax paid for the lease during the previous tax year. Gross production tax exemptions under this section are limited to production from calendar years 1997 and 1998.
Citation: Okla. Stat. tit. 68, § 1001.3 (1999)
Effective dates: January 1, 1999
Impact: There were 3,169 in 1997 and 3,688 in 1998.

EXTENDED **New Discovery Wells**
Production from new discovery wells completed or re-entered between July 1, 1995, and June 30, 2003, is exempt for 28 months from the date of first sales. New discovery wells must produce crude oil in paying quantities at least one mile from the nearest producing oil well in the same producing interval; crude oil in paying quantities beneath current production in a deeper producing interval that is greater than one mile from the nearest oil well producing from the same producing interval; natural gas in paying quantities at a site that

is more than two miles from the nearest gas well producing from the same producing interval; or natural gas in paying quantities in a deeper producing interval that is at least two miles from the nearest gas well producing from the same producing interval.
Citation: Okla. Stat. tit. 68, §§ 1001(I)(1), (2), (3) (1991)
Effective dates: July 1, 1995, through June 30, 2003
Impact: There have been 74 orders approved.

REVISED and EXTENDED **Horizontal Wells**
Production from horizontally drilled wells is exempt until payout or for 24 months maximum. Production eligible for this refund must have commenced from wells drilled after July 1, 1995, and prior to July 1, 2003. Any incremental production from a horizontally drilled well production prior to July 1, 1994, is also exempt until payout or for 24 months maximum.
Citation: Okla. Stat. tit. 68, § 1001(E) (1) (1991)
Effective date: 1990; revised in 2000
Goal: To encourage the use of new technology and increase recovery.
Impact: There have been 68 orders approved.

REVISED and EXTENDED **Deep Wells**
Production from wells drilled to depths of 15,000 feet or greater, which were spudded between July 1, 1994, and June 30, 2000, are exempt from paying gross production taxes for a designated period. The exemption period is for 28 months, beginning with the date of first sales. Production from wells drilled to depths of 12,500 feet or greater, which were spudded between July 1, 1997, and June 30, 2003, are exempt from paying gross production taxes for 28 months beginning with the first sale of production.
Citation: Okla. Stat. tit. 68, §§ 1001(H) (1991)
Effective date: July 1, 1994, through June 30, 2000; and July 1, 1997, through June 30, 2003
Goal: To stimulate natural gas development in Oklahoma.
Impact: There have been 401 orders approved.

Special Programs
The Oklahoma Commission on Marginally Producing Oil and Gas Wells collects and distributes information on stripper production and performs many other activities useful to the petroleum industry, especially small operators. It is funded by small oil and gas taxes from nonexempt production. Producers can opt out of paying.

The Oklahoma Energy Resources Board (OERB) was established for energy education and the remediation of abandoned oil field sites. The OERB conducts educational programs for children, and spends at least half of its funding on oil field cleanup projects. The OERB also studies remediation technology using U.S. Department of Energy funds.

Small Business Linked Deposit Program
Provides low-interest loans to qualifying businesses, including oil-related businesses.

OREGON

Oregon currently has no oil or gas incentive programs.

PENNSYLVANIA

Grandfathering Pre-Act Wells from Bonding
Bonding is not required for any well drilled prior to April 18, 1985, the date of the Oil and Gas Act, or for on-site disposal of residual waste at these well sites.
Citation: 71 P.S. § 1934-A
Effective date: November 26, 1997; no sunset
Goal: To allow operators more working capital.
Active supporters: Independent oil producers

Orphan Wells
Permit fees are waived for producers who recondition an orphan well from the Department of Environmental Protection's plugging inventory and return it to production.
Citation: Pa. Laws 223, Chapter 6, § 601(c): Waiver for Rehabilitation of Abandoned or Orphan Wells
Effective date: August 1, 1992; no sunset
Goals: To bring wells back into service and remove them from the state's plugging list and to increase production while saving plugging costs for the state.
Impact: One producer in Pittsburgh has taken advantage of the program. There have been other inquiries about the program to the Department of Environmental Protection.

SOUTH DAKOTA

Oil Field Services
An oil field services sales tax provision provides a 1% tax exemption on oil field services. The effective tax rate is 3%.
Citation: S.D. Codified Laws Ann. § 10-45-5.3
Effective date: July 1, 1982; amended July 1, 1991; no sunset
Goals: To maintain a competitive oil field services industry in South Dakota, and to stimulate oil and gas exploration.
Impact: This incentive is thought to have had little impact.

Voluntary Environmental Audit
Voluntary environmental audit privilege provides limited immunity for violations of environmental law, rule, regulation or permit enforced by the Department of Environment and Natural Resources which are discovered and reported to the department within 30 days. The department is prohibited from prosecuting those violations if they are corrected within 60 days. If the violations are not corrected within 30 days, a written compliance schedule may be negotiated between the department and the operator. The department is prohibited from requesting the results of an environmental audit.
The environmental audit may not be used as a civil or criminal defense if the producer:
1. Willfully and knowingly committed the violation;
2. Has a pattern of repeated violations;

SOUTH DAKOTA (continued)

3. Has not corrected the violation within 60 days of discovery;
4. Has been penalized for a violation within two years of disclosure of the present violation.

Citation: S.D. Codified Laws Ann. §§ 1-40-33 through 36; § 1-40-3
Effective date: July 1, 1996
Goals: To encourage self evaluation and improve the environment by enabling businesses to perform self-assessment and to report and voluntarily mitigate environmental problems without the threat of penalty.
Active supporters: Introduced by the Senate Agriculture and Natural Resources Committee on behalf of the Department of Environment and Natural Resources; supported by the Industry and Commerce Association (ICA), the retailers' association and others.
Impact: Not yet known

Natural Gas Sold Out of State
The mineral severance tax is imposed at the time natural gas is sold or consumed, whichever occurs first. This effectively eliminates severance tax on natural gas sold out of state.
Citation: S.D. Codified Laws Ann. § 10-39A-3.1
Effective dates: March 8, 1978; amended July 1, 1991
Goal: To encourage development of the natural gas industry in South Dakota.
Active supporters: This program came about as a committee bill sponsored by the Department of Environment and Natural Resources.
Impact: Relatively little impact, as very little natural gas is sold out of state.

Oil and Gas Royalty Increment Status
The Commissioner of School and Public Lands can grant significantly lower state royalty rates on school and public lands, when no lease has been issued within the last 10 years, and no prospecting or exploration permit for oil and gas has been issued in the last five years. There cannot have been oil or gas production on the state-owned land or land within the immediate area. The rate may be lowered to 1/16 for the first three years of the lease, 1/12 for the second three years, and a minimum of 1/8 thereafter.
Citation: S.D. Codified Laws Ann. §§ 5-7-41 through 45
Effective date: July 1, 1993; no sunset
Goals: To encourage the development of oil and gas on public lands and to avoid any substantial impact on privately owned minerals immediately adjacent to these leased minerals.
Active supporters: Department of School and Public Lands
Impact: The effectiveness of this program has not been studied, but it is believed to have been very effective in increasing the number of leases granted on certain lands that otherwise would remain unleased. According to the Department of Environment and Natural Resources, this is reflected in oil and gas auction results in Hyde and Buffalo counties.

TENNESSEE

Tennessee has no oil or gas incentive programs.

TEXAS

REVISED **Extended Tax Rate Reductions - High Cost Gas Incentive**
Extension on the tax rate reduction for high-cost natural gas wells. There is a 100% reduction up to 120 months or until cumulative value of exemption equals 50% of drilling and completion cost.
Citation: H.B. 2615
Effective date: September 1, 1999, through August 31, 2010
Goal: To increase exploration for deep/high cost gas production.
Active supporters: Railroad Commission of Texas (TRC), Texas Independent Producers and Royalty Owners (TIPRO), Texas Oil and Gas Association (TXOGA), and regional oil and gas associations.

Severance Tax Administration
Removal of accelerated biennial due date ("speed up") for natural gas severance taxes and penalties for speeding up late payments. Eliminates early payment of natural gas tax in odd-numbered years.
Agency: Comptroller of Public Accounts

S.B. 290 Production Qualification Query System
This Internet-based Query System was developed to provide quick and easy access to oil leases and gas wells that meet the production criteria specified in SB290 for a temporary severance tax exemption. Depending on the price certified by the Comptroller, these wells and leases may be exempt from severance tax payments.
Citation: S.B. 290
Goal: To create a more efficient and easier way to access leases and wells that may qualify for the severance tax exemption.
Effective date: The query system was implemented in March 1999. This query is currently available through the TRC Web site.
Impact: Allows operators, gathers and interest owners to quickly and easily verify which wells or leases may be eligible for the severance tax exemption.
Active supporters: Industry, royalty owners, public.

Texas Oil and Gas Production Query System (ACTI)
Texas created an Internet-based production query system to provide quick and easy access to Texas oil and gas production information. The project was funded by the U.S. Department of Energy and initiated in conjunction with Lawrence Livermore National Laboratory and Texas A&M University.
Effective date: In March 1998, production information for 1997 and 1996 was made available on the Commission Web site through the ACTI Production Query System. In September 1998, production from 1993 through the current production month became available.
Goal: To use the technology to provide the global community with oil and gas information as a means of promoting further domestic exploration and production.
Impact: The production query system is being widely used. The public can access production totals by county, field, district, lease or operator.
Active supporters: Industry, royalty owners, public

TEXAS (continued)

Incremental Production
Oil leases with wells that averaged seven barrels of oil equivalent (BOE) a day or less in 1996 are eligible for a 50% tax reduction on incremental production. The period from September 1, 1997, through December 31, 1998, will be used to determine any increase in production over the 1996 baseline level. The reduction is maintained as long as the price of oil, as judged by the Texas Comptroller, remains below $25 per barrel (adjusted to 1997 dollars). It is suspended if the price reaches $25 or higher for three consecutive months and is reinstated when it is lower than $25 for three consecutive months.

For this incentive, the TRC reviewed all oil lease production records for calendar year 1996 and calculated the average daily BOE for each oil well. The BOE takes into account both oil and casinghead gas production, with 6 Mcf of gas being equivalent to one barrel of oil. If, during the four highest months of a lease's 1996 production, the production per day per well is no more than seven BOE, the lease is initially qualified. The TRC will certify that ratio which will be used by the Comptroller to calculate exempt production volumes. Primary, secondary, or tertiary techniques may be used; the primary production techniques must involve an expenditure of at least $5,000.
Citation: Proposed Statewide Rule 102; Texas Tax Code § 202.057
Effective date: September 1, 1997; applications for incremental production ratio determination must be filed before February 11, 1999. **Program ended February 10, 1999.**
Goal: To encourage operators of marginal oil leases to apply technology that will incrementally increase production. There is a beneficial effect on state and local economies of the increased production.
Active supporters: TRC, TIPRO, TXOGA, and regional oil and gas associations.

REVISED **Flared Casinghead Gas**
If an operator markets casinghead gas that had previously been released to the air (vented or flared) for 12 months or more in compliance with TRC rules and regulations, the operator may receive a severance tax exemption for that gas for the life of the oil well or lease.
Citation: § 202.058
Effective date: September 1, 1997
Goal: To conserve natural gas.
Active supporters: TRC, TIPRO, TXOGA and regional associations
Impact: This incentive pertains to a small number of wells.

REVISED **Two-Year Inactive Wells**
This incentive mirrors the successful three-year inactive wells incentive originally passed in 1993. Any oil or gas well that has not produced in more than one month in the last 24 is eligible for a 10-year severance tax exemption upon a return to beneficial production.
Citation: § 202.056
Effective date: September 1, 1997, to August 31, 2009, for application for certification; February 28, 2010, for certification; severance tax exemption is for up to 10 years from date of TRC certification
Goal: To encourage the return to productivity of inactive wells, with the resulting benefits to the state economy; to reduce the need for state and industry-funded plugging.
Active supporters: TRC, TIPRO, TXOGA and regional associations

TEXAS (continued)

Impact: This incentive is based on Texas' Three-Year Inactive Wells program, which enjoyed such success that at least nine states adopted similar programs, but was allowed to expire. In the year prior to the Three-Year Inactive Wells incentive, 368 wells inactive for three years or more were brought back into production. Following enactment, from September 1993 through February 1996, 6,071 wells were returned to production, with an annual average of 2,428 reactivated wells. This increase of 670% in inactive wells returned to production is valued at an estimated $565 million at the wellhead and approximately $1.65 billion to the economy of Texas each year. This benefit to the state is estimated to be enough to create 10,792 new jobs.

The Two-Year Inactive Well Program was originally scheduled to expire in August 1999. The 76th Texas Legislature extended the program for 10 years. This Two-Year Inactive well incentive became effective September 1, 1999. Following enactment, from September 1997 through September 1999, 2,514 wells were returned to production with an annual average of 1,257 reactivated wells. This increase of inactive wells returned to production is valued at an estimated $546 million at the wellhead and approximately $1.58 billion to the economy of Texas each year. This benefit to the state is estimated to be enough to create 4,642 new jobs.

Marginal Gas Wells
The TRC can exempt marginal gas wells from otherwise applicable production limitations if the wells are located in gas fields without special field rules. A marginal gas well is defined in the Texas Natural Resources Code as a gas well incapable of producing more than 250,000 cubic feet of gas per day under normal operating conditions. Prior to this legislation, the TRC was precluded from exempting individual marginal wells that exist in fields with other wells capable of producing above marginal limits. This legislation replaced the TRC's requirement to limit production from gas wells producing more than 100,000 cubic feet of gas per day unless it is a marginal well in a field for which special field rules are not in effect.
Citation: H.B. 1178; amends Tex. Nat. Res. Code Ann. § 86.091
Effective date: May 16, 1997
Goal: To relieve regulatory burden of testing marginal gas wells.
Impact: Raises the production limitations on marginal gas wells and reduces industry expense associated with testing of gas wells.

REVISED **Enhanced Oil Recovery**
Severance tax is reduced by 50% (from 4.6% to 2.3%) for oil production from new enhanced oil recovery projects and incremental production from expanded projects for 10 years after TRC certification of production response. The Railroad Commission certification is a three-step process: first, (form H-12), the operator seeks approval and area certification for the new/expanded project; second, (form H-13), the operator seeks Railroad Commission certification that the project evidences a positive production response (an increased rate of production attributable to the project); third, (form H-14), the operator files an annual status report without which the credits are not validated. The application for positive production response certification must be filed within three years of project approval for secondary enhanced recovery, and within five years for tertiary recovery.
Citations: Statewide Rule 50; Tex. Tax Code Ann. tit. 2(I), § 202.054

TEXAS (continued)

Effective dates: Effective 1989 for new projects, and 1991 for expanded projects. Deadline for applying for approval and area designation is December 31, 2007.
Goal: To encourage additional recovery of the state's oil reserves through the use of enhanced oil recovery technology, and to extend the lives of wells with the resulting benefit to the Texas economy through job creation and additional severance taxes.
Impact: From enactment in 1989 through the beginning of 2000, between 1,000 and 1,100 projects (including expansions) have been approved for initiation.

REVISED **High-Cost Gas Incentive**
Gas from high-cost wells spudded or completed between May 24, 1989, and September 1, 1996, is exempt from severance taxes through August 31, 2001. High-cost gas, as defined under this program, is primarily produced from designated tight formations, paralleling the federal statutes of the Natural Gas Policy Act of 1978. Legislation in 1995 designated wells spudded or completed from August 31, 1996, through August 31, 2002, eligible for severance tax reduction based on the drilling and completion costs of the individual well in relation to median drilling and completion costs of all high-cost gas wells spudded or completed in the previous fiscal year. The tax reduction is for the first 120 consecutive calendar months from the first day of production, or until the cumulative value of the tax reduction equals 50% of the drilling and completion costs incurred, whichever comes first. The 76th Legislature extended the reduction period to August 31, 2010.
Citation: Statewide Rule 101; Tex. Tax Code Ann. tit. 2(I), § 201.057
Effective dates: September 1, 1991; through August 31, 2010. (Applies to wells spudded between May 24, 1989, and August 31, 2001)
Goal: To encourage drilling for high-cost gas, with resulting benefits to the Texas economy
Active supporters: TRC and petroleum industry associations
Impact: This incentive, in combination with federal incentives, is credited with the drilling of more than over 14,000 new high-cost wells in the period since it took effect. These wells have a cumulative gas production of 9.7 trillion cubic feet with a wellhead value of $16.3 billion. The economic value of production is $47.4 billion. Texas state officials estimate that Texas producers between 1989 and 1995 drilled more than 6,000 wells because of the incentive. Extending the incentive is expected to spur drilling of another 3,300 wells between 1997 and 2000. In addition, the incentive contributed to a changing industry attitude and reinvestment in the industry. According to the Texas Railroad Commission, high-cost gas wells supplied about 20% of Texas' total natural gas production in 1994, and supplied about 5% of the gas used in the U.S. during the record cold winter of 1995–1996.

Marginal Wells on State Land
The Texas School Land Board may grant a reduced royalty rate for a period of two years for marginally economic state leases. To qualify, the lease must produce an average of 15 BOPD per well, or an average of 90 Mcf of gas per day per well. Once the reduced rate is granted, royalty rates will not increase for that lease for two years. Additional reductions can be applied for at the expiration of the two-year period. This tax reduction applies when oil prices average less than $25 per barrel.
Citation: Tex. Nat. Res. Code Ann. § 32.067, and Tex. Admin. Code tit. 31, § 9.7
Effective date: September 1, 1995
Goal: To extend the lives of leases on state lands.

TEXAS (continued)

REVISED **Co-Production Oil and Gas**
Co-production oil and gas are produced from an enhanced recovery project in which water and hydrocarbons are removed together from a reservoir. Regardless of whether it is a new or expanded project, co-production oil receives a 50% reduced severance tax rate from 4.6% to 2.3% for 10 years. The lower rate starts the first month the commission certifies positive production response. Co-production gas is exempt from severance taxes on the first day of the month that the commission certifies the project through August 31, 2001.
Citation: H.B. 2723 (1993), Texas Tax Code § 201.057
Effective dates: September 1, 1993. The deadline for certification applications was December 31, 1993. The oil severance tax reduction and the gas exemption for qualified wells is effective through August 31, 2001.
Goals: To encourage additional recovery of the state's oil reserves through the use of enhanced oil recovery technology and to extend the lives of wells.
Active supporters: TRC and Regional Oil and Gas Associations.
Impact: This incentive pertains to a very small number of producers.

Paperwork Reduction
Producers may delay payment of royalties until they reach a total of $100 or 12 months proceeds have accumulated, whichever comes first. Annual reporting for the lease may not exceed $3,000.
Citation: H.B. 1593
Effective date: June 15, 1995
Goal: To help the state and operators avoid the costs of administering small royalty checks.

Royalty Reduction
Royalty rates are reduced for production early in the terms of leases. For submerged areas, production in years one and two earns a royalty of 20%; production in years three and four earns 22%. For uplands production, year one earns a royalty rate of 20%; production in year two earns 22.5%.
Citation: School Land Board rule
Goal: To maintain overall royalty revenue while providing an operator greater working interest revenue.
Active supporters: TIPRO, Texas Mid-Continent Oil and Gas Association, and industry.
Impact: The effectiveness of this incentive has not been studied, but it is reported that more activity occurs earlier in the terms of leases since the rule took effect than prior to implementation of the incentive. The program benefits both the state and operators.

UTAH

Workovers/Recompletions
A working interest owner who pays for all or part of the expenses of a recompletion or workover is entitled to a tax credit equal to 20% of those expenses. The tax credit may not exceed $50,000 per well during each calendar year until December 31, 1994, and $30,000 per well during each calendar year, beginning January 1, 1995, through December 31, 2004.

UTAH (continued)

Citation: Utah Code Ann. § 59-5-102(3)
Effective dates: January 1, 1990, through December 31, 2004
Goals: To encourage investment in and continued production of wells, increase recovery, delay abandonment, establish new production, and provide for economic gains in areas of the state which have oil and gas activity. Since the cost of a workover is only a fraction of the cost to drill a new well, a workover incentive is expected to extend the producing life of wells in the Utah Basin, thereby creating jobs and tax revenue in that region.
Active supporters: Petroleum industry, county and state governments.
Impact: This is an effective and widely used incentive.

Graduated Severance Tax Rate
For oil, the severance tax rate is 3% up to and including the first $13 per barrel, and 5% of the value exceeding $13 per barrel. The severance tax rate for natural gas is 3% for the first $1.50 per Mcf, and 5% of value above $1.50.
Citation: Utah Code Ann. § 59-5-102(1)
Effective date: January 1, 1992; no sunset
Goal: To provide tax relief during periods of low prices, encouraging continued production.

Marginal/Stripper Wells
Stripper wells are tax exempt unless the exemption prevents the severance tax from being treated as a deduction for federal tax purposes. Stripper wells are defined as wells which produce an average of less than 20 BOPD for one year, or 60 Mcf or less of natural gas per day for 90 consecutive days.
Citation: Utah Code Ann. § 59-5-102(2)(b)
Effective date: January 1, 1984; no sunset
Goals: To encourage continued production activity and to avoid premature abandonment of marginal wells.

Field Exemption
The first $50,000 annually in gross value of each well or field is exempt from severance taxes, to be prorated proportionally among the interest owners.
Citation: Utah Code Ann. § 59-5-102(2)(a)
Effective date: January 1, 1947; no sunset
Goal: To encourage exploration activity.

Wildcat Wells
No severance tax is imposed on the first 12 months of production from wildcat wells started after January 1, 1990.
Citation: Utah Code Ann. § 59-5-102(2)(d)
Effective date: January 1, 1990; no sunset
Goal: To encourage exploration activity.

New Wells
The first six months of production from new wells started after January 1, 1984, but before January 1, 1990, and development wells started after January 1, 1990, is exempt from severance taxes.
Citation: Utah Code Ann. § 59-5-102(2)(e)

UTAH (continued)

Effective dates: January 1, 1984, (new wells); no sunset, and January 1, 1990 (development wells); no sunset
Goal: To encourage exploration activity.

Enhanced Recovery
A 50% reduction in severance tax is available for the incremental production achieved from an enhanced oil or gas recovery project.
Citation: Utah Code Ann. § 59-5-102(4)
Effective date: January 1, 1996; no sunset
Goals: To encourage initiation of enhanced recovery projects and use of marginal wells, increase production and avoid premature abandonment of marginal wells.
Active supporters: Industry and state government.

VIRGINIA

EXTENDED **Coalfield Employment Enhancement Tax Credit**
One cent per million BTUs of coalbed methane production is credited to the producer.
Citation: Va. Code Ann. § 58.1 - 439.2
Effective date: July 1, 1996, to January 1, 2007
Goals: To preserve and expand the coal industry and related jobs, and to encourage production of coalbed methane.
Active supporters: Virginia's coal producers
Impact: Production of coalbed methane has increased since this incentive was passed. It is not known to what extent this incentive affected the increase.

Sales and Use Tax Exemptions
Raw materials, fuel, power, energy, supplies, machinery, tools and repair/replacement parts used directly in the drilling, extraction, refining or processing of natural gas or oil and reclamation of the well area are exempt from the 3.5% state sales and use tax, and the 1% local sales and use tax. Exemption includes all phases of production and processing, including gathering, until gas is pipeline quality.
Citation: Va. Code Ann. § 58.1-609.3(12)
Effective dates: July 1, 1994, through June 30, 2001
Goal: To stimulate investment in Virginia by providing sales and use tax exemptions similar to exemptions offered in other Appalachian Basin states.
Active supporters: Virginia Oil and Gas Association
Impact: Initial, onetime revenue impact for Virginia's economy is estimated at $1 million. The 1996 impact is estimated at $250,000 to $325,000 (approximately $2,300 to $2,700 per conventional well, and $1,400 to $1,800 per coalbed methane well). As a result, some producers have increased investment in Virginia.

Pollution Control Equipment and Facilities Tax Exemptions
Certified pollution control equipment and facilities, including real and tangible property, which are certified by the Department of Mines, Minerals and Energy to be in conformity with state requirements, are exempted from state and local sales and use taxes and are eligible for exemption from local tangible personal property taxes.

VIRGINIA (continued)

Citation: Va. Code Ann. § 58.1-609.3(9), § 58.103660
Effective dates: July 1, 1994, to June 30, 2001
Goal: To promote the production of oil and gas in Virginia.
Active supporters: Virginia Oil and Gas Association
Impact: Some producers have increased investment in Virginia as a result of the approximately $25,000 to $30,000 ($100 to $150 per well) annual savings.

Virginia Department of Mines, Minerals and Energy, Division of Mineral Resources
The Division of Mineral Resources conducts research and provides information about the state's gas and oil resources for Virginia's gas and oil industry. The division maintains all information on coreholes, geologic features in gas and oil bearing areas, and a database on wells drilled in the Commonwealth.
Citation: Va. Code Ann. Chapter 25 of Title 45.1
Effective date: Virginia's geological survey was started in 1835
Goal: Enhance the development and conservation of energy and mineral resources in a safe and environmentally sound manner to support a more productive economy.
Active Supporters: Gas and oil operators
Impact: Customers continually rate the services of the division as very useful.

Direct Sales of Natural Gas by Producers
Producers of natural gas may sell directly to as many as 35 commercial and industrial customers without having to become certified as a public utility. The customer limit was raised during the 1997 Virginia General Assembly session from a 10-customer limit.
Citation: Va. Code Ann. § 56-265.1 (amended by 1996 Va. Acts 105)
Effective date: 1990, amendment effective July 1, 1997
Goal: To allow gas producers to sell natural gas to commercial and industrial customers in areas not served by local gas utilities.
Active supporters: Virginia gas producers, local economic development officials.
Impact: Several companies have extended service under this program.

Consent to Stimulate Coalbed Methane
The Virginia Gas and Oil Act requires a producer of coalbed methane to obtain consent from the coal operator of each coal seam located within 750 horizontal feet of a well or 100 vertical feet of any coal seam to be stimulated. A 1997 amendment to this requirement provides that this consent shall be deemed to be granted for any tract where title to the coal is held by multiple owners who have not leased the tract for coal development when the gas operator obtains consent from the co-owners holding a majority interest in the tract.
Citation: Va. Code Ann. § 45.1-361.29.F.2 (amended by 1996 Va. Acts 759 and 765)
Effective date: July 1, 1997
Goal: To allow production of coalbed methane gas when the consent to stimulate cannot be obtained from all co-owners of a tract of coal.
Active Supporters: Virginia Oil and Gas Association
Impact: It is too early to determine the effects of this change.

WEST VIRGINIA

Severance Tax Exemption
Imposes a tax equal to 5 percent of the gross value produced for the privilege of severing natural gas or oil. Effective taxable periods beginning on or after Jan. 1, 2000. An exemption from the severance tax is granted for natural gas provided free to surface owners. The exemption is granted to low-volume wells, producing less than 5 Mcf of natural gas per day or oil wells that produced an average of less than one-half barrel of oil per day during the calendar year immediately preceding a given taxable period. Natural gas or oil produced from a well that has not produced marketable quantities for five consecutive years immediately preceding the year in which the well is placed back into production and begins producing marketable quantities is also exempted for a maximum of 10 years.
Citation: H.B. 2749
Effective date: May 12, 1999
Goal: To maintain the production of marginal oil and gas wells.

Bona Fide Future Use Program
Wells that have not been producing in the previous 12 months can be designated as having a "bona fide future use." Such a designation would keep idled wells from being deemed abandoned and avoid subjecting them to a plugging obligation.
Goal: To stimulate returning existing, idled wells to production and encourage new wells.

Direct Use Sales Tax Exemption
When the exemption from sales tax for contractors was removed in 1989, subcontractors were included for the oil and gas industry, even though contract drillers were still exempt from sales tax on purchases used directly in the production of oil and gas. The 1994 Legislature clarified in Senate Bill 328 that this "direct use" exemption was available also to oil and gas subcontractors.
Effective date: 1989 and 1994

Natural Gas Vehicle Incentive
In April 1996, then Gov. Gaston Caperton signed a bill creating a tax credit that will be available for a period of 10 years. The credit can be applied for a vehicle converted to run on natural gas or the purchase of a factory-built natural gas vehicle. The credit will be worth $3,750 for a light duty vehicle under 10,000 pounds gross vehicle weight (GVW), $9,250 for a medium duty vehicle with 10,000 to 26,000 pounds GVW, and $50,000 for a heavy duty vehicle of more than 26,000 pounds GVW.

WYOMING

Wyoming Crude Oil Task Force
The task force was established in 1998 by Gov. Jim Geringer to recommend actions the state could take to assist producers during times of low prices. Among the recommendations:
- a general business tax to replace the tiered system of property tax;
- a minerals director position in the governor's cabinet;
- a state royalty rate reduction;
- a study of strategies to maximize Wyoming prices and market options;
- a suspension of state and federal plugging requirements in instances where wellbore integrity can be demonstrated;

- unified and simplified reporting;
- a task force to evaluate and integrate available technology and funding sources;
- optimization of motor efficiency and design and overall field operations for electric usage.

EXTENDED **Tertiary Recovery**
Incremental oil production resulting from tertiary recovery methods is taxed at a rate of 4%, reduced from 6%, for a period of five years. These projects must have been certified after July 1, 1985, and before March 31, 2003.
Citation: Wyo. Stat. § 39-14-205(c)
Effective dates: July 1, 1985, through March 31, 2003
Goals: To encourage investment in Wyoming and to increase recovery from existing fields.
Active supporters: Wyoming Oil and Gas Conservation Commission (WOGCC), the petroleum industry, and pro-business legislators
Impact: During periods of strong and stable oil prices the incentive was used frequently; otherwise application was scanty. In the first 12 years for which records are available 141,544,800 barrels of tertiary oil qualified for this exemption.

EXTENDED **Workovers/Recompletions**
Tax on incremental production of oil or gas resulting from a workover or recompletion is reduced from 6% to 2% for 24 months. To be eligible for this tax reduction, the workover or recompletion must be performed between July 1, 1993, and March 31, 2003.
Citation: Wyo. Stat. § 39-14-205(g)
Effective dates: July 1, 1993, through March 31, 2003
Goal: To encourage investment in existing wells so that recovery is increased, abandonment delayed, and new production established.
Active supporters: Petroleum industry, WOGCC and pro-business legislators.
Impact: 1,088 wells were worked over and 323 recompletions occurred during the period 1994–1999. Wyoming's rate of decline in oil production was reduced, showing that among other factors, this component was effective, according to the Petroleum Association of Wyoming. A significant amount of oil and gas qualified for this exemption.

REVISED and EXTENDED **New and Horizontal Wells**
Production from a new well drilled after July 1, 1993, and before March 31, 2003, is exempt from excise taxes for 24 months. The exemption for production between July 1, 1993, and December 31, 1994, is limited to the first 40 BOPD or the first 240 Mcf of gas per day, provided the price does not exceed $25 per barrel or $2.75 per Mcf. This exemption was amended May 1, 2000. As amended, gas wells drilled to a total depth of less than 2,500 feet are excluded from this exemption. Production from new wells or horizontal wells drilled between January 1, 1995, and March 31, 2003, is exempt from excise tax. The exemption is limited to the first 60 BOPD or the first 360 Mcf of gas per day, provided the price does not exceed $22 per barrel or $2.75 per Mcf.
Citation: Wyo. Stat. § 396-302(s), H.B. 288A
Effective dates: Effective January 1, 1995, for oil or gas produced between July 1, 1993, and March 31, 2003.
Goals: To encourage discovery of new reserves and continued production of older reservoirs. The May 1, 2000, amendment's goal was the exclusion of coalbed methane wells.
Active Supporters: Petroleum industry, WOGCC and pro-business legislators.

WYOMING (continued)

Impact: 9,860,000 gross barrels of oil plus gas equivalent were produced in the six years for which statistics are available. A total of 2,574 wells were triggered by the incentive during the fiscal years 1994, 1995, 1996, 1997, 1998 and 1999. The slowing of Wyoming's rate of decline in oil production is partially attributed to this incentive.

Idle Wells
A five-year severance tax reduction from 6% to 1.5% is available on oil produced from previously idle wells. Wells must not have produced for at least the two consecutive years prior to January 1, 1995. This tax reduction applies for the first 60 months of renewed production or until the average price of oil reaches a level of $25 per barrel averaged over the preceding six months, whichever occurs first.
Citation: Wyo. Stat. § 39-14-205(h)
Effective date: January 1, 1995; no sunset
Active supporters: Petroleum industry, WOGCC and pro-business legislators.
Impact: 263,000 gross barrels of oil in 1999.

Marginal/Stripper Wells
Wells which produce an annual average of less than 15 BOPD while the price of oil is less than $20 per barrel are taxed at 4% (reduced from 6%). When the price of oil is $20 or more, wells producing 10 BOPD or less receive the 2% tax reduction.
Citation: Wyo. Stat. § 39-14-205(a)(xx)(A)(B)
Effective date: January 1, 1995; no sunset
Goal: To encourage continued production from low-volume, marginal wells.
Active supporters: Petroleum industry, WOGCC and pro-business legislators
Impact: Wyoming recognizes that high severance tax rates contribute to premature abandonment. In 1982, taxable stripper production was almost 6% of the total taxable production. That number increased to 17% in 1999, when 6,785,000 barrels of oil qualified for this reduction. The importance of this incentive continues to grow as Wyoming's fields continue to mature.

Environmental Audit Privilege
This privilege gives oil and gas companies complete immunity from fines and penalties of the Department of Environmental Quality for violations that are reported to the department along with remediation plans.
Citation: Wyo. Stat. §§ 35-11-1105 and 1106
Effective date: February 18, 1995
Goal: To encourage environmental compliance.
Active supporters: Mineral industry, other Wyoming industries and pro-business legislators.

State-Funded Demonstration Project
The state of Wyoming, concerned with the economic and employment costs of abandonment of marginal wells, has funded a demonstration project which should benefit wells in danger of abandonment. The new technology is a hydraulic fracture technique for sandstone reservoirs. This technique is expected to produce oil economically from shallow sandstone formations, reducing the rate of abandonment for many marginal wells.
Effective date: Rock Creek Enterprises conducted the demonstration in April 1996.
Goal: To encourage production from marginal wells as a result of more efficient recovery.

Federal Incentive Programs

BUREAU OF LAND MANAGEMENT (BLM)

Royalty Rate Reduction for Stripper Oil Property
The operator or owner of a federal stripper oil property that is producing less than 15 BOPD average qualifies for a royalty rate reduction from the normal royalty rate of 12.5%. This royalty rate reduction is based on a sliding scale.
Citation: 61 FR 4748, 4750; 43 C.F.R. §§ 3103.4-1, 3103.4-4
Effective date: 1992; extended indefinitely in 1997
Goal: To extend the economic life of property and enhance production.

Heavy Oil Royalty Rate Reduction
Operators of properties that produce "heavy oil," crude oil with a gravity of less than 20 degrees API (American Petroleum Institute), are eligible for a royalty rate reduction. The royalty rate reduction is based on a sliding scale for qualifying heavy oil properties. The sliding scale is intended to somewhat offset the reduced prices paid for oil as gravity decreases. For example, at 20 degrees API gravity the royalty rate is 12.5%, which can be reduced to a minimum of 0.5% based on the corresponding API gravity of the oil.
Citation: 61 FR 4748, 4750; 43 C.F.R. §§ 3103.4-1, 3103.4-3
Effective date: Feb. 8, 1996
Goals: To extend the economic life of the property and to enhance production.
Impact: The BLM reports that for the first eight months the incentive was in effect, 30 California applicants qualified. Applicants in Louisiana, Nevada and Wyoming also have taken advantage of this incentive.

Fuel Substitution
A royalty rate reduction is available for operators who choose to burn clean fuel for on-lease beneficial use. The conversion for this exchange is BTU for BTU (1:1).

Note: *Any operator can request a royalty rate reduction on a federal lease property. A royalty rate reduction will be granted only on an economic basis after strict scrutiny.*

OTHER PROPOSED PROGRAMS

Adopt an Orphan Well
This program proposes to grant incentives for operators who voluntarily plug wells for which the public would otherwise assume liability. This concept is currently under review.

Environmental Compliance Self Certification
This proposed incentive allows reputable operators to check themselves for compliance. The program is intended to reward reputable operators for their diligence and reduce costs for both the company and the government. The concept is being tested at two sites in Wyoming.

DEPARTMENT OF COMMERCE

Emergency Oil and Gas Guaranteed Loan Program
Provides $500 million in loan guarantee authority to a board comprised of the Secretary of Commerce and the chairmen of the Securities and Exchange Commission and the Federal Reserve. Individual loans for as much as $10 million are eligible for guarantees of up to 85%. There are no minimum loan guarantee amounts and all loans must be repaid no later than December 31, 2010.
Citation: Public Law 106-51; 13 CFR Chapter V, Part 500; 64 FR 57946
Effective dates: Oct. 18, 1999; expires Dec. 31, 2001.
Eligibility: Any independent oil and gas company that is a small business concern under Section 3 of the Small Business Act that is an oil field service company whose main business is providing tools, products, personnel and technical solutions on a contractual basis to exploration and production operators that drill, complete wells and produce, transport, refine and sell hydrocarbons and their by-products as its main commercial business. The company also must have experienced layoffs, production losses or financial losses since the beginning of the oil import crisis, after January 1, 1997.
Goal: To assist the independent oil and gas producers in the United States with recovery from the low price period, while sustaining domestic oil production.

INTERNAL REVENUE SERVICE (IRS)

Natural Gas Vehicles
A $2,000 adjustment to gross income on federal taxes is available for the purchase of a natural gas powered vehicle (NGV). This adjustment can be applied for a vehicle converted to run on natural gas or for the purchase of a factory-built NGV. In the case of any natural gas powered truck or van with a gross vehicle weight (GVW) rating greater than 10,000 pounds but not greater than 26,000 pounds, the allowable deduction is $5,000. For a natural gas powered truck or van with a gross vehicle weight rating greater than 26,000 pounds, or any bus which has a seating capacity of at least 20 adults (not including the driver), the deduction is $50,000. The deduction pertains only to that portion of equipment installed (including installation costs) to convert a vehicle to the use of natural gas, or in connection with the exhaust from such vehicles.
Citation: IRC 179A
Effective date: Property placed in service after June 30, 1993, and before January 1, 2005

Oil and Gas Depletion
A percentage depletion allowance equal to 15% of gross production but not more than net property income is available to independent producers and royalty owners. Independent producers are those oil and gas producers who do not engage in significant refining or retailing of crude oil or gas. The depletable oil quantity is limited to 1,000 barrels of crude oil production per day. The allowance for percentage depletion cannot exceed 65 percent of a taxpayer's taxable income for the year. Marginal properties (heavy oil [20 degrees gravity or less] or 15 BOPD or 90 Mcf of gas per day/well or less) receive a depletion rate equal to 15% plus one percent for each whole dollar by which the reference price is less than $20 for the preceding calendar year, but not to exceed 25%.
Citation: I.R.C. §§ 613, and 613A
Effective date: In 1975, percentage depletion became the exclusive right of independent

producers. Congress made the change by first repealing percentage depletion for all oil and gas production through a section inserted into IRC 613(a) and then by excluding independent producers from the repeal in a then-brand-new IRC 613A.
Goals: To encourage drilling and maintain production while allowing applicants to claim the deduction on income tax returns.

Intangible Drilling (and Development) Costs
The intangible drilling and development costs (IDC) deduction encourages drilling by allowing a deduction to be claimed on income tax returns for the first year IDC is paid or incurred. Integrated oil companies have a 30% reduction rule under IRS section 291. The amount not allowable as a deduction shall be allowable as a deduction ratably over the 60-month period beginning with the month in which the costs are paid or incurred. Section 57(a)(2)(E) i and ii limits independent producer IDC deductions to a 40% (30% in the case of tax years beginning in 1993) reduction of alternative minimum taxable income before alternative minimum tax net operating loss (sometimes referenced as excess IDCs).
Citation: I.R.C. § 263(c)
Goal: To encourage drilling for oil, gas and geothermal wells.

Fuel From Nonconventional Sources
Credits for nonconventional fuel sources are given for synthetic fuels, oil shale, certain high cost natural gas including tight gas, coal seam gas, etc. The credit amounts to $3.00 per barrel of oil equivalent (BOE), essentially acting as a price floor for products from qualified properties. The amount of credit is adjusted by an annual inflation adjustment factor. The inflation adjustment factor is published by the Revenue Service. In the case of gas from a tight formation, the $3.00 is not adjusted. The credit is claimed on income tax returns after adjusting for crude reference price limitations (after inflation adjustment), other credits, grants, etc.
Citation: I.R.C. § 29
Effective dates: 1980-1992 wells drilled, 2002 for gas sold
Goal: To encourage development of alternative energy sources.

Enhanced Oil Recovery Credit
An income tax credit of 15% is available for U.S. qualified enhanced oil recovery (EOR) costs, with phaseout if the reference average price exceeds $28/BO multiplied by an annual inflation adjustment factor. The inflation adjustment factor is published by the Internal Revenue Service. If the EOR credit is taken, the deduction or basis of the related asset must be reduced. This covers tangible and intangible plus qualified tertiary injectant costs.
Citation: I.R.C. § 43(a)
Effective dates: First injection after December 31, 1990
Goal: To stimulate tertiary recovery of oil.

OTHER PROPOSED PROGRAMS

Oil and Gas Exploration and Development Credit

- A new crude oil and natural gas exploration and development credit is created equal to 20% of annual qualified investment up to $1,000,000. The credit is applicable against both regular and AMT tax liability, but is available only in tax years where

foreign crude and oil product imports exceed 50% of domestic consumption. The provision includes a broad definition of "qualified investments" related to exploration and production. Unused credits may be carried back three years and carried forward 15 years.

Citation: S. 595; H.R. 1116
Active supporters: Sen. Pete Domenici; Rep. Jerry Moran

New Operating Loss (NOL) Carryback For Certain Oil and Gas Losses

- Provides a special five-year carryback for eligible NOL's equal to the lesser of the amount which would be the taxpayer's NOL for the taxable year if only income and deductions attributable to operating mineral interests in oil and gas wells are taken into account or the taxpayer's NOL for the taxable year. Legislative language specifically excludes integrated oil companies from this benefit.

Citation: H.R. 2488; H.R. 423; S. 1833
Active supporters: Rep. Bill Archer; Sen. William Thomas; Sen. Thomas Daschle

Expensing of Geological Costs and Delay Rentals

- Allows for an election to expense domestic geological and geophysical (G&G) expenditures associated with oil and natural gas production. Currently, these expenses are considered capital costs and must be written off as worthless or amortized over a number of years in the form of cost depletion after production begins on the site.
- A current deduction would be allowed for delay rental payments associated with property contracted for oil and natural gas production. The current Treasury position requires these payments to be capitalized under § 262A.

Citation: H.R. 2488; S. 1833; H.R. 1971; S. 1042
Active supporters: Rep. Archer; Sen. Daschle; Rep. Wes Watkins; Sen. Kay Bailey Hutchison

Enhanced Oil Recovery Credit

- The enhanced oil recovery (EOR) credit extended to certain qualified non-tertiary oil recovery methods, including certain recovery methods currently excluded from the credit such as horizontal drilling, gravity drainage, cyclic gas injection (injection of hydrocarbon gas back into the reservoir from which it was originally produced), and water flooding.

Citations: S. 325; S. 595; H.R. 1116
Active supporters: Sen. Hutchison; Sen. Domenici; Rep. Jerry Moran

Tax Credit For Marginal Wells

- Proposes to amend the IRS Code of 1986 to provide a tax credit for marginal oil and natural gas well production. Offers a $3/bbl tax credit when the price of oil falls below $14/bbl. Also offers a credit of 50¢/1000 cubic feet when natural gas prices fall below $1.56.

Citation: H.R. 53
Active supporters: Rep. Watkins; Rep. William Thomas; Rep. Ernest Istook; Rep. Jerry Moran; Rep. Kevin Brady; Rep. Joe Skeen; Rep. Mac Thornberry; Rep. Jim McCrery; Rep. Steve Largent; Rep. J.C. Watts; Rep. Frank Lucas; Rep. Lamar Smith; Rep. Charlie Stenholm

MINERALS MANAGEMENT SERVICE (MMS)

Federal Oil and Gas Royalty Simplification and Fairness Act of 1996
The Royalty Simplification and Fairness Act (RSFA) streamlines the audit and appeal process, shortens records retention requirements, alters reciprocal interest requirements with industry receiving interest on overpayments, limits the liability period to seven years and specifies liable parties, and reduces reporting requirements through prepayments of royalties on marginal properties.
Effective dates: Provisions are effective beginning September 1, 1996.
Goals: To decrease the time required for collections owed to the U.S. government, to lessen burdensome and costly record keeping, to quicken resolution of money disputes and correction of underpayment/overpayment problems, and to provide a more cost-effective approach to royalty management by streamlining and simplifying certain royalty requirements and practices
Active supporters: U.S. Sens. Don Nickles, Frank Murkowski and Pete Domenici; U.S. Reps. Ken Calvert, Bill Brewster, Calvin Dooley, Billy Tauzin and Frank Lucas
Impact: The RSFA amends portions of the Federal Oil and Gas Royalty Management Act of 1982 to provide that owners of operating rights in a federal oil and gas lease are primarily liable for royalty payments on their portions of their lease, and that owners of record title for such leases are secondarily liable. This required the collection of data connecting the lessees with the parties who are currently paying and reporting on federal leases, an increased administrative burden on industry and government.

OTHER PROPOSED PROGRAMS
Royalty Relief for Deepwater Marginal Oil and Gas Fields

International Incentive Programs

CANADA

FEDERAL PROGRAMS

Atlantic Canada Investment Tax Credit (ACITC)
The federal government offers a tax credit specific to investments in Atlantic Canada. ACITC provides a credit equal to 10% of the cost of certain investments. Among those investments are the costs associated with bringing an offshore well into production. The ACITC is not refundable for foreign corporations, but is refundable under certain circumstances for Canadian-controlled private companies.

ALBERTA

Overview
The basis of the Alberta regime (program) is to have a royalty system that provides a fair return for Albertans on their ownership of resources and reflects general industry prices and costs. In the past, Alberta Resource Development has found problems with incentive programs and has moved away from them to a regime that reflects costs in particular situations where general formulas do not fit well. Thus, the regime is narrowly tailored to each specific situation.

Some lessons learned from past structuring programs include:
- Using routinely collected information and supporting these programs as part of normal administration procedures to gather and compile empirical data;
- Targeting the program only at the specific economic problem that may be restricting activity;
- Having straightforward rules and applying them consistently, rather than using one-off arrangements;
- Setting objective criteria so there are no unintended benefits;
- Isolating benefits at individual wells and limiting them to levels that would allow the producer normal and fair returns, not windfalls;
- Having a sunset date for the program to close it down or trigger a review.

Energy and Mineral Research Funding

Alberta has a long history of funding research to ensure that its resources are developed both efficiently and in an environmentally sustainable manner. Such research reflects an ongoing commitment by the government on behalf of the resource owners and the people of Alberta. Research is fundamental to resource development. Alberta's energy and mineral resources are directly or indirectly responsible for a significant portion of the province's total industrial output thanks largely to the technology that has been developed to recover resources and turn them into useful products. The province continues to support research that will further develop its resources in the interest of Albertans.

ALBERTA (continued)

The Department of Innovation and Science works cooperatively with industry through industry-led consortia to focus research spending and provide leverage for additional investment by industry.

The province funds research projects through the following three programs:

- **Research Program of the Alberta Oil Sands Technology and Research Authority**
  Government investment supports research at all stages, from basic research to commercialism; however, projects to develop technology with significant commercial potential are emphasized.
- **University Program**
  Academic researchers at universities across Canada can apply for funding under this program, which is tailored to the needs of university researchers.
- **Inventors Grant Assistance Program**
  The Inventors Grant Assistance Program helps inventors develop and test their ideas before bringing them to the marketplace. It generally assists inventors in the early stages of development, until they reach a stage where they can access more conventional sources of funding.

Focus for the Alberta government's energy and mineral research funding is in the areas of:

- In situ oil sands and heavy oil sands mining and extraction;
- Conventional oil, enhanced oil recovery and natural gas;
- Upgrading of bitumen and heavy oil;
- Transportation and marketing;
- Minerals and coal;
- Hydrogen and energy-related environmental technologies;
- University research programs.

Royalty: Ownership Share, Not Tax

Albertans take a royalty share of production as owners of the resource underlying approximately 80 percent of the province. Alberta Resource Development reserves the right to take that share in kind or in cash. This distinguishes the royalty from other taxes, and asserts jurisdictional rights of resource ownership and management.

Royalty System Calculated to Leave Normal Profit for Industry

When Alberta Resource Development calculates the royalty, it must be taken into consideration what it costs to find and develop the resources, not just the demanded market price. Alberta Resource Development bases its share on "above normal" profits — those profits above what motivates industry to develop the resources. Alberta Resource Development aims to capture all of the "above normal" profits from resource development over the life of the project.

Alberta Resource Development does that in two ways:

1. Competitive cash bonus bidding for mineral rights. Industry gets the right to explore, develop and produce resources by bidding on leases. A bid is based on a company's forecast of the project's profitability which they determine from their estimate of development costs, future prices, Alberta royalties, federal taxes and provincial taxes. The cash bonus system is intended to capture the remainder of the "above normal"

profit that the royalty system does not capture. This means that companies adjust their bids to reflect the varying costs of exploration and development, as well as changes in price forecasts.

2. Royalties. Alberta Resource Development captures an ongoing share of the value of production through the royalty system. The royalty system is based on the principle that Alberta Resource Development takes an ownership share of production. For natural gas and oil sands developments, Alberta Resource Development takes that share in cash; for conventional oil, Alberta Resource Development takes that share in kind.

Royalty Principles

The royalty system is based on several key principles:

1. Albertans receive a fair share of the value of production. This share is determined by leaving industry with a "normal profit" — a competitive incentive to develop resources in Alberta.
2. Alberta's fiscal regime is stable and predictable — industry knows the rules and can assess the economics of exploration and development to carry out business planning. The system is not characterized by short-term incentive programs which may or may not be continued.
3. Alberta respects the business rules in place when investments are made; changes are not retroactive.
4. The royalty system is designed to meet the objective of least administrative cost to industry and government, while providing enough detail to ensure a fair share can be collected for the province. The high level of detail required in some programs is a reflection of the complexity of the oil and gas business.

Accounting for Variability in Resources and Prices

1. Well vs. Mining (including in-situ oil sands)

- Drilling conventional oil and gas wells involves multiple operations with considerable geological uncertainty and a wide range of production results. There are more than 68,000 producing wells in Alberta. The royalty system provides a formula which is applied to production from a well. The formula must be flexible to take into account the types of products produced, the productivity of the well, and when the oil or natural gas pool was discovered. This means the formula will be different under different conditions.
- By contrast, mining has fewer, more capital-intensive sites with less uncertainty about the nature of the resource. The smaller number of coal mines and oil sands projects makes it practical and worthwhile to track project costs and use them as the base for calculating revenue-sharing. The Crown takes a percentage of gross revenue until the project development costs have been covered, then takes a share of the net revenue (profits). In the case of oil sands, the share is 1 per cent of gross revenue, and then 25 per cent of net revenue. In-situ oil sands projects are treated the same way as mining. These projects involve a large number of injection and recovery wells designed to drain a well-defined resource.

ALBERTA (continued)

2. Oil vs. Gas Wells

- Oil royalty is based on taking the province's share in kind (i.e., actual volume of oil). The value of the share is determined by the price received by our sales agents in the oil market.
- Natural gas royalty is based on taking the province's royalty share in cash. The province identifies its royalty share of production and values it according to the price the processed products receive at the gas processing plant. Natural gas must be processed before it can enter major pipelines. Processing results in a variety of products, including natural gas, ethane, natural gas liquids and sulphur. The Crown pays industry to process its royalty share of natural gas. It relies on the business interests of the producers to process that gas in the most economical way. Industry sells the province's royalty share along with its share. The province then takes its royalty share in cash, less what it allows the producer as an allowance (the Gas Cost Allowance) for processing the province's royalty share. The complexity of accounting within the natural gas royalty system relates in part to determining prices for the processed natural gas and various by-products at the gas plant. These prices are used to calculate royalty shares. Complexity also arises in accounting for processing costs used to calculate royalty shares and the Gas Cost Allowance (GCA). This GCA accounting has been simplified by attempting to identify generic costs rather than tracking costs for individual gas volumes.

3. Price sensitivity

- The province's royalty share is price sensitive. The royalty rate changes with price, within the constraints of minimum and maximum rates. Being responsive to price ensures that Albertans share in increased profits resulting from higher prices. (A stable royalty system reduces the risk industry takes when making investment decisions by allowing them to predict changes in royalty caused by price fluctuations.) Downward price sensitivity also provides some cushion to industry during times of low prices. This helps avoid pressure for short-term incentives in times of price and industry downturns (which would unpredictably strain government resources).

4. Production rate

- The royalty rate varies according to the rate of production. The royalty rate is first calculated based on price and then adjusted to take into account low or high production rates. Larger pools have higher production rates and are more profitable, since average costs are lower. Smaller pools tend to have lower production rates and lower profits.
- Well production rates start high, and decline over time. As wells producing from oil or gas pools reach low production levels they approach the point where it is no longer economic to keep them in production. By lowering royalty rates in this latter stage of production, the life of the well is extended. This keeps wells from being shut-in prematurely and helps to avoid wasting the resource.

5. Date of discovery (Vintage)

- The largest, most prolific, most profitable resources tend to be discovered first. The royalty system includes a number of features to recognize that it costs more to find and develop today than it did in the past.

- The royalty differs by vintage, the broad period of time in which the oil or gas was discovered. There is a higher royalty for production from oil and gas discovered before 1974; a lower royalty for production from oil and gas discovered between 1974 and 1992; and a still-lower royalty (third tier) for production from oil discoveries after 1992.
- Other features include a one-year royalty holiday for production from exploration wells for third-tier oil.

6. Quality
- The conventional oil royalty share is sensitive to the quality of oil produced. Heavy oil receives a lower price than light oil and pays a lower royalty rate as a result (at the same well production rate).

Royalty System: No Ad Hoc Programs
The system is stable and self-adjusting. It has a number of features which respond to:
- price fluctuations over time;
- different profitability levels which arise from various properties;
- changes in technology; and
- long-term changes in the overall economics of oil and gas production in Alberta.

Reporting Systems
- Government and industry have attempted to simplify royalty reporting. Individual royalty payers do not have to be concerned with the overall system, only with the specific formula and characteristics of their specific project.
- The process is complicated by uncertainties in data, reporting delays and the application of various features of the system. Simplification is an ongoing activity, with a focus on the most complicated area — royalties, including gas cost allowance.

Features of Alberta's Royalty System
During the 1980s and 1990s, Alberta promoted investment and development more directly through a number of ad hoc royalty reductions and cash payments meant to stimulate investment and employment, particularly when prices fell. In 1992, the province moved away from using incentive programs. The province calibrated the overall royalty system for foreseeable future market conditions. The province also revised the conventional oil and natural gas royalty systems to make them more self-adjusting to changes in profitability, by increasing price sensitivity. The system's production sensitivity was maintained.

Today's conventional crude oil and natural gas royalty systems have several additional features that deal with special situations. These features are not aimed at offering assistance in the form of temporary incentives to industry. Instead, the features promote three main objectives:

Objective 1 — Increase the attractiveness of investment in some higher cost ventures while still providing the province with a fair share of the resource.

ALBERTA (continued)

Objective 2 — Prolong the economic production life of mature oil pools, thereby conserving the province's oil resources. The province offers these features where the economic benefits to the province exceed the costs of the programs.

Objective 3 — Remove barriers to the development of new drilling technologies which increase recovery. The province believes that the long-term benefits of such programs will exceed the short-term costs.

ROYALTY PROGRAMS

Objective 1 Programs:

Deep Gas Royalty Holiday Program
This is Alberta's only royalty reduction program for natural gas. The program was put in place in 1985 to encourage exploration for deep gas pools. Deep wells are very expensive to drill. The program provides a reduction in royalty for wells dependant upon depth drilled past 2,500 meters.
Effective date: May 31, 1985; no sunset

Third Tier Exploratory Exemption
This permanent feature reduces royalty (for 12 months, to a maximum of $1 million) on the well that results in the discovery of a new productive pool. This allows an earlier payout of successful exploration well costs. This feature was introduced at the same time as the third-tier oil vintage. Wells producing from third-tier vintage oil pools receive a lower royalty rate. This lower royalty rate plus the holiday is meant to reflect the higher costs of finding and developing the smaller oil pools that remain to be found.
Citation: A.R. 16/93
Effective date: October 1, 1992; no sunset
Goal: To encourage the discovery of new oil reservoirs.

Alberta Royalty Tax Credit (ARTC)
The ARTC Program was originally put in place in 1974 to compensate for nondeductibility of royalties for federal income tax purposes. Today it is viewed as a program to reduce royalty payments made by small companies with a view to fostering the development of Alberta-based, independent oil and gas producers

Objective 2 Programs:

Reactivated Oil Well Holiday
A royalty holiday on the first 8,000 cubic meters of oil allows earlier recovery of costs of reactivating shut-in oil wells.
Citation: A.R. 352/92
Effective date: October 1, 1992; no sunset
Goal: To encourage reactivation of wells.

ALBERTA (continued)

Low Productivity Oil Well Policy
Very low productivity oil wells (at or below five per cent royalty rate for a long time) have their royalties capped at five per cent so investments to increase productivity are not limited by high royalty rates.
Citation: A.R. 350/92
Effective date: October 1, 1992; no sunset
Goal: To encourage additional production from low productivity wells.

Enhanced Oil Recovery Relief
This program offsets some costs of recovery after the less costly primary and secondary extraction methods have been exhausted. Tertiary recovery schemes are allowed to deduct approved costs from royalty payable on the extra oil recovered.
Effective date: 1977; no sunset
Goal: To encourage the use of enhanced recovery methods to conserve the province's petroleum resource.

Objective 3 Program:

Horizontal Reentry Oil Well Policy
This policy is meant to prolong the economic production life of mature oil pools by using a risky and expensive horizontal well technology, thereby conserving the province's oil resources. The program provides for a cap on royalty rates.
Citation: Reduction Regulation, A.R. 348/92
Effective date: October 1, 1992; no sunset
Goal: To encourage incremental production from mature pools.

NEWFOUNDLAND AND LABRADOR

Overview
The royalty regime is designed to be sensitive to the levels of risks and profits associated with the area in question and to be comparative with the royalty regimes in other districts, while providing an equitable sharing of revenues.

The similarity in the offshore and onshore geology, coupled with the potential for the discovery of hydrocarbon accumulations both in the onshore and nearshore areas, have led to increased interest by the petroleum industry in developing the western Newfoundland area. The establishment of a royalty regime contributes to lowering the risks to the petroleum industry as well as fully assessing the petroleum potential in this area.

This system is based on extensive economic analysis and is designed:
- to reflect the attractiveness of the province's onshore petroleum resources;
- to be sensitive to small and marginal prospects;
- to be competitive with the royalty systems applied in other jurisdictions; and
- to ensure a minimum level of fiscal benefits to Newfoundland and Labrador.

The royalty holiday provides the most assistance to small and marginal prospects, ensuring that no royalty will be paid on the first 2 million barrels, or equivalent, of production. The

basic royalty ensures that beyond 2 million barrels, the province will receive a minimum of 5 percent of gross revenue. The profit sensitive component is designed to reflect changing economic circumstances and to ensure our competitiveness with the systems applied in other jurisdictions. Unless a certain profit level is exceeded, then no additional royalty beyond the 5 percent basic will be levied. If, however, such a profit level is exceeded, then government revenue will increase as project profitability increases.
The discovery of hydrocarbons in Newfoundland and Labrador has the potential to create new economic opportunities. The development of a viable petroleum industry in western Newfoundland could represent a new industry whose magnitude will be very dependent on the success of the current round of exploration programs.

Definitions
Gross revenue: gross sales revenue less transportation costs to point of sale.
Net revenue: gross revenue less uplifted costs.
Costs: exploration, capital, and operating.
Uplifts: gross-up of costs (proxy for overheads).
Return allowance: allowance for a rate of return on investment (uplifted costs).

Components of Royalty Regime
The regime has three basic components that are:

1. Royalty Holiday — 2 million barrels or equivalent (the 2 million-barrel holiday in the onshore was used as an incentive to attract exploration and development of onshore petroleum resources);
2. Basic Ad Valorem Royalty — 5 percent of gross revenue;
3. Two Tier Net Profits Tax

a. Incremental Royalty — Tier 1: 20 percent of net revenue after a rate of return of 5 percent plus the long-term government bond rate
Type: Net profit based
Term: Commences upon incremental royalty tier 1 payout and continues to the end of production
Amount: Net revenue multiplied by the tier 1 incremental royalty rate and basic royalty is creditable against tier 1 incremental royalty
When: Eligible costs have been repaid, including eligible capital and operating costs; basic royalty; and a tier 1 incremental royalty return allowance

b. Incremental Royalty--Tier 2: 5 percent of net revenue after a rate of return of 15 percent plus the long-term government bond rate
Type: Net profit based
Term: Commences upon incremental royalty tier 2 payout and continues to the end of production
Amount: Net revenue multiplied by the tier 2 incremental royalty rate
When: Eligible costs have been repaid, including eligible capital and operating costs; basic royalty; incremental royalty — tier 1; and a tier 2 incremental royalty return allowance.

In 1996, the province announced the establishment of a royalty regime that applies to the development of all petroleum resources in the Newfoundland and Labrador offshore area,

NEWFOUNDLAND AND LABRADOR (continued)

with the exception of the Hibernia and Terra Nova projects. In conjunction with this regime, the government indicated its intention to provide an exemption from the application of the province's Retail Sales Tax (RST) to all petroleum related capital and operating expenditures in the offshore area.

This generic royalty regime will translate into increased industry activity, more employment and a stronger provincial economy. It will also provide government with a new source of revenue. The basic royalty commences at a low rate and increases as certain cumulative levels of production are reached, providing an incentive to develop small and marginal prospects by ensuring that minimal royalties are paid on these types of fields. Once cumulative production reaches 100 million barrels (mmbls) or, if the project becomes profitable before that point, the province will receive 5% of gross revenue increasing to 7.5% at higher levels of cumulative production.

The two tier net royalty is profit sensitive. It is designed to reflect changing economic circumstances and to ensure competitiveness with royalty systems in other jurisdictions. When a certain profit level is achieved, the net royalty is applied with the province receiving the greater of the gross or tier one net royalty payable. If profits increase beyond that level, government revenue will also increase. If these profits increase significantly, then government revenue will also increase significantly as the tier two net royalty component will levy an additional 10% of net revenue.

NOVA SCOTIA

Research and Development Tax Credit
The province of Nova Scotia offers a research and development tax credit, which is similar to the federal Scientific Research and Experimental Development incentive program. Nova Scotia taxpayers, who engage in qualified research, are eligible for this incentive.

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Definitions

Abandoned wells are wells which have been permanently plugged. The remaining petroleum production potential of these wells is often lost forever.

Bcf is an acronym for "billion cubic feet" of gas.

BOPD is an acronym for "barrels of oil per day."

Development wells are new wells drilled into existing reservoirs and are also known as "in-fill" wells.

Discovery wells are wells drilled to extract petroleum from a previously unproduced pool.

Enhanced oil recovery usually refers to the employment of tertiary recovery and secondary recovery methods. These higher technology, more expensive techniques include miscible fluid displacement, microemulsion flooding, thermal methods, and other chemical flooding methods.

Idle wells are oil or gas wells which have not been abandoned, but are not currently producing. Idle wells are also referred to as "inactive" or "shut-in" wells.

Incremental production is the increase in the amount of oil or gas produced as a direct result of an enhanced recovery or enhanced production project.

Mcf is an acronym for "thousand cubic feet."

Marginal wells are low-producing wells on the margin of profitability. States differ in the maximum a well can produce and qualify as a marginal well.

Orphan wells are idle wells whose owners are unknown, cannot be located, or are insolvent.

Primary recovery of oil is powered by the pressure energy existing in the reservoir. Further production requires the artificial introduction of energy.

Recompletion is a downhole operation in an existing well which initiates production in a geologic interval not currently producing in that well.

Secondary recovery generally consists of the injection of water in a controlled fashion into a known reservoir in order to displace the oil from the rock and push it to a producing well.

Severance tax is an excise tax levied on a barrel of oil or cubic foot of gas produced within a state. It is also called "production tax." Severance taxes are of two types: *ad valorem*, which is a percentage of the value of the product; and *specific* per barrel/Mcf, which is based on units of production (*i.e.*, $1/barrel).

Stripper wells are low-volume wells in the final stages of production. Exact definitions, as used in state incentive programs, vary from state to state. Since production from these wells is quite low, they are also marginal wells.

Tertiary recovery involves steam flooding or the injection of carbon dioxide gas to manipulate the reservoir and improve recovery.

Workovers are well-servicing operations designed to maintain, restore or increase the productivity of an oil or gas well and extend the well's economic life. Workovers can include such operations as repairing the cement casing in the well hole, re-acidizing, re-perforating, and removing accumulated sand or paraffin from the wellbore. These are standard operations that are not considered to be enhanced recovery projects.

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This publication is a supplement to the December 1999 version of the IOGCC report on state incentives, *Investments in Energy Security*. For a more comprehensive look, including an evaluation of the economic contributions of state incentives, please order the December 1999 report. **Copies are usually $45, but you can receive a $10 discount when you use this "supplemental publication" order form.**

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