

ALASKA LEGISLATURE COMMITTEE FILES 1995-1996 8672

9013 SENATE RESOURCES

4762 Federal Register / Vol. 63, No. 27 / Thursday, February 8, 1998 / Rules and Regulations

effective July and August. New royalty rate is effective September 1, 1998.

(iv) Royalty rate determinations in subsequent years.

(A) At the end of each 12-month period, beginning on the first day of the calendar month the royalty rate reduction went into effect, the operator/payer must determine the weighted average API oil gravity for the property for that period. The operator/payer must then determine the royalty rate for the following year using the table in paragraph (b)(5)(iii) of this section.

(B) The operator/payer must notify BLM of its determinations under this paragraph and paragraph (b)(5)(iv)(A) of this section. The new royalty rate will become effective the first day of the 12-month period after the first day of the 12-month period after the first day of the period commences to close, and will remain effective for 12 calendar months (plus the 2 calendar month grace period) during which the next 12 months' royalty rate is determined in the same year. Notification must include copies of the Purchaser's Statements (value received) and be mailed to the proper BLM office. If the operator does not notify the BLM of the new royalty rate within 60 days after the end of the subject 12-month period, the royalty rate for the heavy oil well property will return to the rate in the latest term.

**Example:** On September 20, 1997, at the end of a 12-month royalty reduction period, the operator/payer determines what the weighted average API oil gravity for the property for that period has been. The operator/payer then determines the new royalty rate for that 12 month using the table in paragraph (b)(5)(iv) of this section. Given that there is a 2-month grace period for the operator/payer to calculate the new royalty rate, the new royalty rate would be effective December 1, 1997 through November 30, 1998 (plus the 2 calendar month grace period during which the next 12 months' royalty rate is determined—December 1, 1998 through January 31, 1999).

(v) Prohibition. Any heavy oil property reported to an API average oil gravity determined by BLM is to have resulted from any manipulation of normal procedures or adulteration of oil sold from the property will not receive the benefit of a royalty rate reduction under this paragraph (b).

(vi) Certification. The operator/payer must use the applicable royalty rate when submitting the required royalty reports/payments to the Minerals Management Service (DOMMS). In submitting royalty reports/payments using a royalty rate reduction authorized by this paragraph (b), the operator/payer must certify that the API oil gravity for the latest and subsequent

12-month periods was not subject to manipulation or adulteration and the royalty rate was determined in accordance with the requirements and procedures of this paragraph (b).

(vii) Agency action. If an operator/payer inaccurately calculates the royalty rate, the BLM will determine the correct rate and notify the operator/payer in writing. Any additional royalties due are payable to DOMS immediately upon receipt of this notice. Late payment or underpayment charges will be assessed in accordance with 30 CFR 318.102. The BLM will terminate a royalty rate reduction for a property if BLM determines that the API oil gravity was manipulated or adulterated by the operator/payer. Terminations of royalty rate reductions for individual properties will be effective on the effective date of the royalty rate reduction resulting from a manipulated or adulterated API oil gravity so that the termination will be retroactive to the effective date of the improper reduction. The operator/payer must pay the difference in royalty resulting from the retroactive application of the non-manipulated rate.

The late payment or underpayment charges will assessed in accordance with 30 CFR 318.102.  
(8) The BLM may suspend or terminate all royalty reductions granted under this paragraph (b) and terminate the availability of further heavy oil royalty relief under this section.

(i) Upon a month's notice to the Federal Register when BLM determines that the average oil price has remained above \$14 per barrel over a period of 6 consecutive months (based on the WTI Crude Average posted prices and adjusted for taxation using the implicit price deflator for gross national product) on 1991 as the base year), or

(ii) After September 10, 1999, if the Secretary determines the royalty rate reductions authorized by this paragraph (b) have not been effective in reducing the loss of subsurface recoverable reserves. This will be determined by evaluating the expected versus the actual abandonment rate, the number of subsurface recovery projects, and the amount of operator investments in heavy oil production that can be attributed to this rule.

(7) The heavy oil well property royalty rate reduction applies to all Federal oil produced from a heavy oil property.

(8) If the lease royalty rate is lower than the benefits provided in this heavy oil well property royalty rate reduction program, the lease rate prevails.

(9) If the property qualifies for a royalty well property royalty rate reduction, as well as a heavy oil well

property reduction, the lower of the two rates applies.

(10) The operator/payer must separately calculate the royalty for gas production (including condensate produced in association with gas) from oil completions using the lease royalty rate.

(11) The minimum royalty provisions of § 3101.5-2 will continue to apply.

**§ 3162.1-4 (Amended)**  
9. Section § 3162.1-4(c)(2) is amended by removing the cross reference “§ 3101.4-1” and adding in its place the cross reference “§ 3101.4-1.”

**§ 3162.1 (Amended)**  
10. Section § 3162.1(a) is amended by removing the cross reference “§ 3101.4-2” and adding in its place the cross reference “§ 3101.4-1.”  
Dated November 4, 1997.

**30th Anniversary:**  
Arthur H. Secretary of the Interior,  
178 Doul. St.-4117 Foul St.-2-44, S-13 and  
Mullen Road, Denver

48 CFR Public Land Order 7180  
DOM-AO-1000-01; DPE-1841 OIL-8118  
(WALB)

Restoration of Secretarial Order of June 17, 1908: Washington  
Admiral Burgess of Land Means person,  
later:  
Attorney Public Land Order.

**NOTICE:** This order revises in its entirety's Secretarial order which withdrew 20 acres of National Forest System land for use by the Forest Service, Department of Agriculture, for the Laurier Administrative Site. This land is no longer needed for this purpose and the revision is needed to permit disposal of the land through auctions. This order will open the land to surface entry, subject to Section 31 of the Federal Power Act. This land is temporarily closed to mining by the Forest Service unless approved. This land has been and will remain open to mineral leasing.

**EFFECTIVE DATE:** March 11, 1998.  
FOR FURTHER INFORMATION CONTACT:  
BARRY McCANDY, BLM Oregon/  
Washington State Office, P.O. Box 3881,  
Portland, Oregon 97208-1881, 503-533-8118.

By virtue of the authority vested in the Secretary of the Interior by Section 504 of the Federal Land Policy and Management Act of 1976, 48 U.S.C. 1714 (1988), it is ordered as follows: 1. Secretarial Order dated June 17, 1908, which withdrew the following

PETROLEUM NEWS

EXPLORATION & PRODUCTION

Attachment 3

FIELD REPORTS

Report on North Slope field activity

BP promises to bring Milne Point back online, after... (text continues)

Milne Point appears to be the final point of North Slope activity as operations BP Exploration... (text continues)

The field was shut down on March 18 for major upgrades to the... (text continues)

When the field is restarted about mid-April, crude production... (text continues)

Concrete pipelines around... (text continues)

Additional production is... (text continues)

Meanwhile, Concrete... (text continues)

BP was also... (text continues)

Rehabilitation work... (text continues)

3-D seismic at Prudhoe... (text continues)

On other field development... (text continues)

With an... (text continues)

Experimental drilling... (text continues)

On the... (text continues)

The success... (text continues)

BP... (text continues)

It's... (text continues)

The... (text continues)

BP's... (text continues)

BP's... (text continues)

EXPLORATION

BP Identifies Prudhoe Bay satellite accumulations lying on top of main producing formation

Pools were found when field was being drilled, but volumes and flow were too low to compare with... (text continues)

By... (text continues)

The... (text continues)

It... (text continues)

Estimates... (text continues)



Prudhoe Bay satellites... (text continues)

... (text continues)

... (text continues)

... (text continues)



... (text continues)

... (text continues)

... (text continues)

... (text continues)

... (text continues)

... (text continues)

... (text continues)

... (text continues)

... (text continues)

... (text continues)

... (text continues)

... (text continues)

... (text continues)



Attachment 4

PETROLEUM NEWS • ALASKA 23

PETROLEUM ANALYSIS

PETROLEUM NEWS • ALASKA 27

## EXPLORATION &amp; PRODUCTION

## RESEARCH

## BP, DOE kick-off Bartlesville heavy oil research project

*The prize: Two billion barrels in place at Milne Point, with potentially 800 million barrels recoverable*

By Kristen Hudson  
PWI News Editor

A government-sponsored Bartlesville, Okla., research facility that has been involved in petroleum technology development since 1918 is working with BP Exploration (Alaska) Inc. on ways to make heavy oil recovery from Schrader Bluff-Milne Point on Alaska's North Slope economic.

The heavy oil prize at Milne Point is more than 2 billion barrels of oil in place, with potentially 200 million to 800 million barrels recoverable.

The 800-million-barrel end of the range would require enhanced oil recovery, which is the type of process targeted by the \$10.6 million five-year cooperative research and development agreement between BP, the U.S. Department of Energy and BDM-Oklahoma, which operates DOE's National Institute of Petroleum and Energy Research in Bartlesville.

Arden Sryczak, manager of thermal and gas-enhanced oil recovery for BDM-Oklahoma, said the project officially started with a kick-off meeting between BP and BDM in Bartlesville Jan. 31.

The government will fund the work at BDM, Sryczak said, adding that while

DOE has committed to the project it hasn't actually funded it yet. BP will fund most of the \$10.6 million in-house, including a pilot project at Schrader Bluff.

This year BDM-Oklahoma essentially will look at all the options, reviewing heavy oil development processes which have been used elsewhere, Sryczak said. The unique conditions in Alaska may require that we do things differently, but for a first year BDM will look at what has been done elsewhere and see what might work, he said. Methods for review include air injection and carbon dioxide or natural gas floods. After a review of processes used elsewhere, BDM may be involved in laboratory work and some mechanistic work, while BP will do some simulation work and the focused work leading up to a pilot project.

Cooper began heavy oil production from the Milne Point-Schrader Bluff accumulation, and pioneered many of the primary recovery technologies now in use there. BP's manager of subsurface engineering at Milne Point, Bruce Polinsky, said in December. Since acquiring the field in 1993, BP has drilled test wells and reduced drilling and casing costs, but hasn't yet reduced completion costs, Polinsky said.

Amstarco Hess "built up a huge exploration position" on the North Slope during the 1970s and 1980s, Van Dyle said.

"Obviously, they had an interest in Alaska because of their substantial (holdings) across the slope," he added.

Van Dyle said that while the company was an active explorer, it was never able to become a field operator, or a major producer on the North Slope.

"The one area where they had a strong interest was Nordstar," he said. "But, for whatever reason, they never saw it as an economic prospect."

The state's largest oil producer, BP has not only taken over Nordstar but intends to develop its estimated 130 million barrels of crude reserves, if it can gain financial incentives from the state.

However, BP believes it can develop the oil-rich field for about \$178 million, compared to the enormous \$1.8 billion price tag Amstarco Hess had put on the project.

"Their view of the North Slope was different because they weren't an operator," Van Dyle said. "They just didn't have the on-ground experience."

heavy oil fields of Alberta and Saskatchewan.

Koch is one of the largest Canadian exporters of heavy oil and one of the top five producers in Alberta's Cold Lake region, with plans to boost output to 40,000 barrels per day from 16,000. Much of Koch's production is piped to its 200,000-barrel-per-day Pico River upgrader in Minnesota.

Like Koch, Enx has made recent purchases of heavy oil reserves and has doubled its output to 17,000 barrels per day. The company's plans of heavy oil

million barrels of reserves, from Amstarco Canada.

But not everyone is a winner. Two Saskatchewan upgraders, located with capacity to process 200,000 barrels of

oil remain idle for a \$1.5 billion upgrade handling 180,000 barrels per day. While it started the project in the early 1980s it has said technological developments could

round. As much as \$115 million is said to be available.

#### Wildlife toll

Meanwhile, cleanup teams were tackling a 70,000 metric ton spill that blackened an estimated 35 miles of coastline and began to hit bird sanctuaries and wildlife.

BBC radio said the cost of cleaning up the oil slick had been estimated at £10 million (\$15 million).

A Royal Society for the Protection of Birds (RSPB) official said cur-pensation for the earlier Braer tanker spill amounted to £40-50 million (\$60-75 million). "...but we've talked to some people who expect it to be well above this for the Sea Empress."

The Braer ran aground in the Shet-

land Islands off northern Scotland in January 1995. During a few days the vessel broke up on rocks, spilling more than 80,000 metric tons of crude oil in U.K.'s biggest tanker spill (OGJ, Jan. 11, 1993, p. 26).

The RSPB official said on Feb. 27 about 4,500 oiled birds had been found so far in the Milford Haven area, and the toll was "growing daily and quickly." RSPB expects 7,000-8,000 oiled birds to be recovered before the slick is cleaned up, "...but we will have no idea how many will simply sink to the bottom."

One press report said about 30 gray seals, normally resident on the Skomer Island bird sanctuary off the coast west of Milford Haven, had been seen swimming in oil.

## Study centers on N. Slope heavy oil

The U.S. Department of Energy has approved a project aimed at developing methods to economically recover heavy oil in Schradler Bluff-Milne Point field on Alaska's North Slope.

Participants in a cooperative research and development agreement (CRADA) for the demonstration program are BP Exploration (Alaska) Inc., DOE, and BDM-Oklahoma Inc., operator of DOE's National Institute of Petroleum and Energy Research (NIPER), Bartlesville, Okla.

The seventh CRADA involving participation by DOE and BDM-Oklahoma and co-sponsoring by industry, it has the highest dollar value of any of the CRADAs so far. Total funding is to be \$10.6 million during 5 years.

Schradler Bluff-Milne Point field, covering more than 30,000 acres 12 miles west of giant Prudhoe Bay oil

and gas fields, is estimated to hold more than 2 billion bbl of 18-22° gravity oil.

"The reservoir and oil characteristics of Schradler Bluff make it a potential candidate for various enhanced oil recovery projects," said Arden Strickland, manager of thermal and gas enhanced oil recovery for BDM-Oklahoma at Nipex.

Among the methods that have been considered are air injection (combustion), various floods such as carbon dioxide or natural gas, and, to a lesser degree, steamflooding. Scoping studies with these processes have yielded potential recoveries of 12-47% beyond what is currently possible using conventional waterflood.

The main research goal will be to evaluate the most efficient, economic method of oil recovery for the field. The best recovery method will then be verified in a pilot field test.

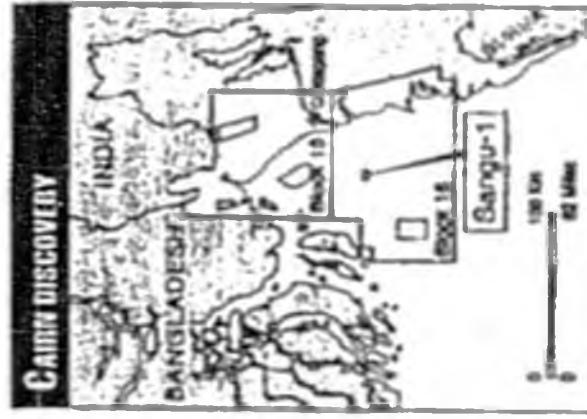
## Cairn tests gas strike off Bangladesh

A discovery by Cairn Energy plc, Edinburgh, in the Bay of Bengal has raised hopes for a new gas play off Bangladesh.

Exploration in Bangladesh has until recently focused in the northeast coastal region, but Cairn's Sango-1 well off Block 14 is said to have achieved the highest monitored recorded flow rate for the country.

Cairn said its Sango-1 flowed a maximum 50 MMcfid from a main gas bearing zone on test. A later test of a shallow reservoir boomed the well's combined flow to 82 MMcfid.

Chandakar Mobarraj Hussain, Bangladesh's minister of energy and mineral resources, said, "The discovery



ment options.

"The most likely development would be pretty straightforward," he said. "Conditions in the area are like the Gulf of Mexico, with water only 20-40 ft deep."

Thomas said Sango most likely would be developed using a small platform over a template on the site of the discovery well. One or two more wells would be drilled through the template to establish base production.

Sango gas is 96% methane, with no hydrogen sulfide and little carbon dioxide. There is no potential for liquids recovery, so processing requirements would be simple.

The discovery is 40 km offshore. While an export pipeline to shore is feasible, it "...needs more thought" than developments options because of strong currents in the Mouths of the Ganges area between the discovery and the shore.

Cairn holds two exploration licenses, Blocks 15 and 16, off Bangladesh.

## Amoco scores off Trinidad-Tobago

Amoco Trinidad Oil Co. has strong together four offshore discoveries in four attempts in an exploration program east of Trinidad and Tobago.

Amoco said combined reserves of the crudes could furnish more than half the fuel needed to supply an additional train for a proposed gas liquefaction project in Trinidad and Tobago, as well as provide a secure gas supply for other domestic users.

Amoco, which holds 100% interests in all the discoveries, disclosed the two

is of major significance to Bangladesh, opening a new hydrocarbon province.

"It extends the hydrocarbon province to the eastern part of the country from the eastern part to the south and west, including offshore. This should lead to rapid development of gas based industries and additional power for the country."

Cairn said other gas bearing zones in Sango-1 were not tested. The well has been completed as a potential producer and the rig moved to drill the Sango-2 appraisal, 5 km north. Drilling is expected to require 30-40 days.

Malcolm Thomas, Cairn's general manager, commented, said his company is tentatively assessing develop-

*An Opportunity to Develop  
Alaska's Heavy Oil Resources...*

**BP Exploration (Alaska) Inc.  
OXY USA Inc.**

**January 22, 1996**

***An Opportunity to Develop Alaska's Heavy Oil Resources...***

***I. Summary***

Underlying the Milne Point and Kuparuk River units on Alaska's North Slope is a series of shallow, heavy oil sands that form the largest proven, undeveloped oil field in the United States. If development of those sands were economic, a billion or more barrels of oil could be recovered.

Beneath the Milne Point Unit alone, in the Schrader Bluff Formation, there are about 300 million barrels of recoverable heavy oil.<sup>1/</sup> Initial development of that resource would entail drilling some 230 wells over a nine-year, labor-intensive development period, with peak production reaching at least 45,000 barrels per day. According to the University of Alaska, that activity would spawn

**Shallow Oil Sands Nomenclature**

AGE	TYPE LOG		TERMINOLOGY		
	MILNE POINT UNIT	RESERVOIR	Informal Milne Point Unit	Informal Kuparuk Unit	Formal North Slope
TERTIARY			K Sands	UPPER	SAGAYAH BRKTDK
			L Sands	UGNU SANDS	
			M Sands	LOWER	PRINCE CREEK
			N Sands		
CRETACEOUS			O Sands	WEST SAK SANDS	COLVELL

*Chart 1*

- ◊ Capital development expenditures of \$550 million, of which 61% or about \$333 million, would be spent in Alaska.

<sup>1/</sup> See Bidinger and Dillon, *Milne Point Schrader Bluff: Finding the Keys to Two Billion Barrels*, SPE 30289 (available through BP Exploration (Alaska) Inc.). The Schrader Bluff sands, in relation both to other heavy oil sands at Milne Point and the West Sak Sands at the Kuparuk River Unit, are depicted in Chart 1.

- ◊ *Production expenditures of \$601 million spread over a 41-year field life, of which 85%, or about \$511 million, would be spent in Alaska;*
- ◊ *Around 360 new high-paying jobs during the development phase, and 134 new high-paying jobs during the 41-year production phase. 75-80% of those jobs would be filled by Alaska residents, resulting in additional Alaska resident payroll of \$171 million throughout the development phase, and \$7.4 million annually during the production phase; and*
- ◊ *65 new public sector jobs created during the development stage as a result of this increased economic activity, and 25 new public sector jobs created during the 41-year production phase.<sup>7/</sup>*

And that, UAA projects, would flow solely from initial development of Schrader Bluff alone. All tolled, there are nearly 26 billion barrels of heavy oil underlying existing North Slope units--making ANS heavy oil a resource comparable to Prudhoe Bay. Successful initial development of Schrader Bluff could well result in technology transfers to other heavy oil lessees, and development of additional heavy oil deposits on the North Slope.

For the time being, however, and save for some minimal production from a Schrader Bluff pilot project, Alaska's heavy oil resources aren't being developed. Heavy oil is a thick and uncooperative substance, and its production poses a challenge to industry and governments worldwide.<sup>7/</sup> For its part, Alaska's oil industry has

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<sup>7/</sup> University of Alaska Anchorage, School of Public Affairs and Institute of Social and Economic Research, *"Heavy Oil Development: The Economic Impact,"* December, 1995.

<sup>7/</sup> Because heavy oil fields are "less attractive," Arthur D. Little recently told the Governor's Oil & Gas Policy Council, "changes in [government] fiscal terms may be necessary." Arthur D. Little/John Gault, *"Review of International Competitiveness of Alaska's Fiscal System,"* Preliminary Report for the State of Alaska, Department of Revenue, September, 1995 (*"Little Report"*) at 138. Guatemala, for example, imposes a lower royalty on heavier oil, according to a sliding scale based on the oil's viscosity. Ecuador does the same thing. *Id.* at 139-40. The U.S.

invested nearly \$270 million in the past decade tackling the technical barriers to lifting heavy oil from the cold, unconsolidated sands of the North Slope.

From an engineer's viewpoint, that pioneer effort succeeded. Complex and innovative completion technology was developed that can pull heavy oil from those sands at a sustained rate. But from an investor's eye, the pilot projects remain unconvincing. Initial flow rates from Schrader Bluff heavy oil wells have averaged only 275 barrels per day--far below the economic margin in this hostile working environment. <sup>1</sup>

As a result, additional Schrader Bluff development is not expected to yield the minimal rate of return necessary to justify the requisite capital investment. Indeed, over the past several years, and through the Spring of 1995, the state itself has largely written the resource off--at least for the foreseeable future. The Alaska Department of Natural Resources' March, 1995 oil production forecasts, for example, concluded that Milne Point would produce no more heavy oil over the next 20 years than that currently lifted from the unit's small pilot project. <sup>1</sup>

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Department of Interior, Bureau of Land Management, has also proposed reduced royalties for heavy oil production, again on a sliding scale basis. 60 *Federal Register* 18081 (April 10, 1995).

<sup>1</sup> By comparison, initial production rates from individual Prudhoe Bay wells reached 25,000 bbls./day. Even initial production of lighter oil from Milne Point's Kuparuk formation--which observers uniformly acknowledge to be at the ANS margin--averaged 862 bbl./day.

<sup>1</sup> DNR, *Historical and Projected Oil and Gas Consumption*, March, 1995 at 6-7. The same conclusion was reached in the Spring, 1995 Department of Revenue ("DOR") forecasts. DOR, *Revenue Sources Book*, Spring, 1995 at Table 24 (base case).

The Fall, 1995 DOR forecasts use a different approach for predicting future revenues from undeveloped ANS resources. Those Fall, 1995 forecasts include considerably more near-term production from a variety of speculative projects such as North Star, Schrader Bluff, Mikkelson Bay and Colville River Delta than did the Spring, 1995 DOR projections, although even here Schrader Bluff production isn't projected to peak, at 45,000 bbls./day, until 2005. *Revenue Sources*, Fall, 1995, Table 22. The forecasts' Schrader Bluff figures begin with the unit's business plan projections for Schrader Bluff development discussed in Section III(A), *post*, then risk-discount those projections by about 25%. (cont'd)

That discouraging forecast, however, needn't necessarily be, and this paper proposes a special royalty structure for new ANS heavy oil development that may materially change project economics. The proposal was developed in response to the invitation extended to Alaska's private sector by Governor Knowles and his Oil & Gas Policy Council to explore new partnerships to guide Alaska's economy into the 21st century.

The proposal, embodied in HB 325, would suspend royalties for the first five years of production from any new ANS heavy oil well drilled after June 30, 1996. When the suspension ended, royalties would return to the full lease rate.<sup>9/</sup> The suspension would apply only to the first 500 bbls./day of production from each well.

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The Fall forecasts' methodology reflects the assumption that some development from various problematic ANS resources will likely occur, and that by spreading that *regional* prognosis over several prospects on a risk-discounted basis, the forecasts can paint a rough picture of plausible future production from the region as a whole without staking that projection on the fate of any one particular field. *Id.*, see p. 19. Indeed, the forecasts do not purport to conclude that development of any single marginal prospect will or will not be economic.

Inclusion of Schrader Bluff in that mix of regional possibilities is encouraging, since it seemingly reflects a growing recognition that, with an improved economic environment, ANS heavy oil is a potentially developable resource. That recognition, in part, may be attributable to the considerable attention that heavy oil received in the Summer of 1995, both before the Oil & Gas Policy Council and the legislature.

On the other hand, nothing occurred between the Spring and Fall of 1995 to warrant an about-face in the state's longstanding belief that, *under the fiscal status quo*, ANS heavy oil development will likely not happen in the foreseeable future. No technological or production breakthroughs occurred between the Spring and Fall forecasts, and the Fall, 1995 DOR projections' "long range price forecast is almost identical to last spring's." *Revenue Sources*, Fall, 1995, cover letter at 1.

For all these reasons, the Fall, 1995 DOR forecasts shouldn't be viewed as heralding any reversal in the state's outlook for Schrader Bluff development in the absence of some change in the fiscal environment.

<sup>9/</sup> At Milne Point, for example, BP Exploration (Alaska) Inc., which owns 91.19% of Milne Point, would pay 12.5% on production assigned to some leases, and 20% on production assigned to others. OXY USA Inc., which owns the remaining 8.81% of the unit, would pay 12.5% on its share of production.

Any partnership should benefit each partner equally, and this proposal was tailored to accomplish that goal. For example:

*From the state's perspective:*

- ◇ *Given the unusually long life of heavy oil fields--in Schrader Bluff's case, an estimated 41 years--the state benefits more from incentives granted only for a finite period at the outset of production, rather than from more gradual incentives granted over the life of the field;*
- ◇ *The cost of administering the incentive is negligible;*
- ◇ *Suspensions have proven to be an effective tool in other oil producing jurisdictions to spur development of marginal fields. The state would be treading on proven ground;*
- ◇ *Only new heavy oil wells would benefit from the incentive, and for years now the state has assumed that no new heavy oil development will occur in the foreseeable future. As a result, the revenues contemplated by the state's various royalty agreements would be unimpaired;*
- ◇ *The short period of the incentive minimizes the state's exposure to unanticipated oil price increases or technological breakthroughs that might make heavy oil development more profitable. The state's window of exposure would be five years for each well, rather than over a 41-year field life; and*
- ◇ *By fashioning a specific incentive targeted to a single important resource, the state needn't re-invent overall state royalty policy or risk unintended consequences elsewhere.*

*Conversely, from the investor's perspective:*

- ◇ *The incentive is targeted at the initial years of production, and is therefore especially effective in allowing recovery of the lessee's capital investment in a reasonable period of time;*
- ◇ *The incentive would be available immediately;*
- ◇ *Because the incentive is granted by operation of law, its availability is certain, and serious investment decisions can be made in reliance on it; and*

- ◇ *Available economic and technical information suggests that this incentive will, in fact, materially improve the attractiveness of investing in ANS heavy oil development.*

Alaska's heavy oil reserves are an important public asset, and there are no risk-free options for managing it. One possibility, of course, is to wait things out, hoping for some unexpected, sustained oil price increase, or some technological advance, that would make heavy oil development attractive without any incentives. However:

- ◇ *As Arthur D. Little recently warned the Oil & Gas Policy Council, a "wait and see" strategy runs its own risks, since at some point the Trans Alaska Pipeline will no longer be available at a reasonable per-barrel tariff, if at all;*
- ◇ *In the case of ANS heavy oil, that risk is compounded by the fact that, even with incentives, heavy oil development may be economic only because it can share an existing infrastructure at Milne Point and Kuparuk River. In this respect, DNR's February, 1994 production forecasts predicted that Milne Point would be abandoned in 2006, while that agency's 1995 projections pegged the unit's abandonment date at 2011; <sup>7</sup> and*
- ◇ *History has proven that progress in tackling the challenge of ANS heavy oil development is very much a child of momentum. Discouraging results have, time and again, led to years of inactivity as interest inevitably turns to more cooperative resources. See Section II(D), post. Putting ANS heavy oil on the public back burner may leave it there far longer than decision-makers intended.*

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<sup>7</sup> DNR, *Historical and Projected Oil and Gas Consumption*, February, 1994 at 6-7; March, 1995 at 6-7.

It's time to make a decision about Alaska's heavy oil. Even if the ultimate choice is to wait and see, the debate initiated by Governor Knowles will at least assure that the decision is purposeful.

The issue raised by this paper is how to optimize the public's return on a significant asset. It is not about trading jobs for royalties. As this paper will explain, and as Chart 2 illustrates, the underlying

premise of this proposal is that the state will receive more royalties from heavy oil development by adopting the incentive than by maintaining the *status quo*. Indeed, if the state's policy-makers conclude otherwise, there is little sense doing what this paper proposes.

### Two Paths for Schrader Bluff

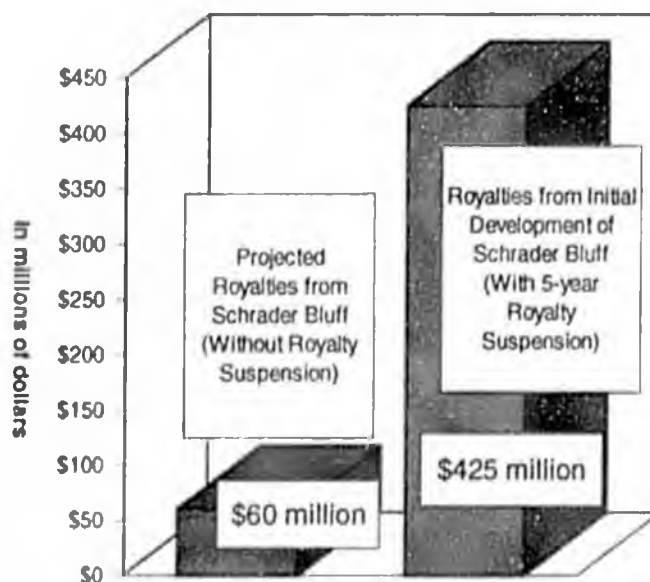


Chart 2. <sup>1/</sup>

<sup>1/</sup> Source: Applicable royalty rates were applied to: (1) DNR's Spring, 1995 production forecasts for Schrader Bluff, discussed *ante*; then to (2) lessee projections of likely future production from initial Schrader Bluff development. Projected oil prices were taken from the Alaska Department of Revenue's Spring, 1995 *Revenue Sources Book's* base case. Dollars expressed are nominal.

Every management option available to the state carries its own mix of risk and potential reward. We believe that a careful balancing of those options will lead decision-makers to look carefully at the kind of tailored incentive contained in HB 325.

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## *II. Background: Milne Point and Heavy Oil*

### *A. An Overview of the Milne Point Unit.*

The Milne Point Unit lies 12 miles west of Prudhoe Bay. *Chart 3.*

The unit was developed in the 1980's by Conoco Inc., Chevron and OXY USA Inc. ("OXY").

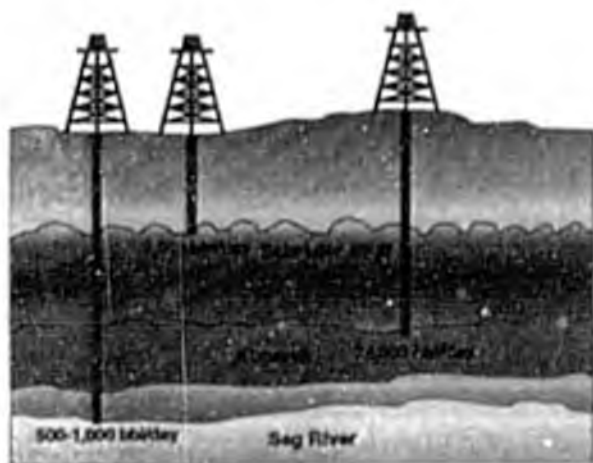
In late 1993, Conoco and Chevron sold their interest in the unit to BP Exploration (Alaska) Inc. ("BP"), and today 91.19% of the unit is owned by BP, and the remaining 8.81% by



*North Slope Fields and Milne Unit Outline*

*Chart 3*

### *Production Formations at Milne Point*



*Chart 4*

### *OXY*

Milne Point produces 28,000 barrels of oil daily from three formations (*Chart 4*):

*Kuparuk (24,000 bbl./day).*

Kuparuk production has been the unit's mainstay since production commenced in November, 1985.

With an American Petroleum Institute ("API") gravity of 22-24 degrees, Kuparuk oil's quality is slightly heavier than other principal ANS crudes.

*Sag River (500-1000 bbls./day).* In 1995, an initial long, horizontal well was drilled into this deepest of Milne Point formations. The well has produced only 500-1000 bbl./day because of the extraordinary amount of water produced from the formation. The API gravity of Sag River oil is about 35 degrees; and

*Schrader Bluff (3,000 bbl./day).* Current production from this formation's heavy oil reserves comes from a pilot project initiated in 1990. The API gravity of Schrader Bluff oil ranges from 14-20 degrees. The companies' efforts to overcome the roadblocks to development of this resource are discussed in subsection (D), *post*.

#### *B. The Unit's Economic Setting.*

In-and-of itself, development of Schrader Bluff's heavy oil is a marginal proposition. Compounding the challenge is the fact that the unit from which that oil would be produced has been plagued by economic difficulties since its inception, including:

- Ø *Low Production Rates.* When Prudhoe Bay began production, its wells yielded up to 25,000 bbls./day. Initial rates from Milne Point's most productive formation--the Kuparuk--averaged only 862 bbl./day, and daily well production has declined at an annual rate of 15-20% ever since. Milne Point, in fact, has the lowest per well production rates of any major unit on the North Slope;
- Ø *High Royalties.* Because of a special royalty surcharge imposed on eight Milne Point leases at the time of unit formation (see Appendix A), BP pays a 20% royalty on its 91.19% interest in those eight leases. Virtually all other ANS production, including OXY's share of Milne Point production, is subject to a 12.5% royalty;
- Ø *High Transportation Costs.* As Chart 5 illustrates, Milne Point oil must travel through three pipelines to reach tidewater at Valdez, and resultantly pays the highest

## Getting Heavy Oil to Market is Expensive

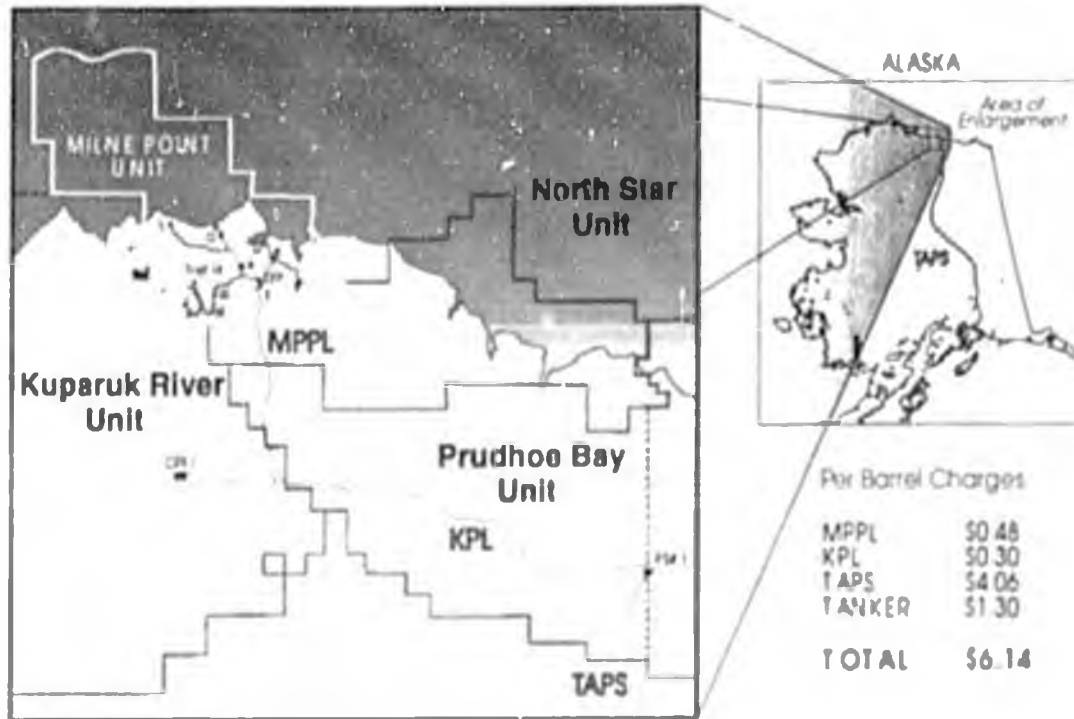


Chart 5

*transportation costs on the North Slope BP shares in those pipelines revenues; however, and except for an 8.81% interest in the Milne Point pipeline. OXY does not. Any income that OXY earns from its North Slope endeavors must come from Milne Point wellhead revenues, and*

*o Production Challenges. Even Kuparuk Formation production has required costly waterflooding from the outset of production.*

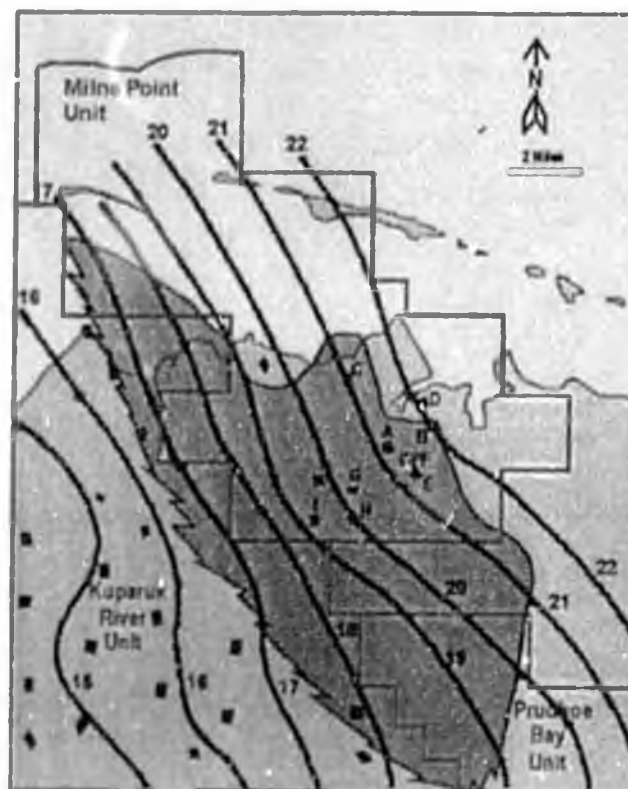
It is within this economic environment that BP and OXY have faced the challenge of developing the unit's heavy oil resources

### C. The Difficulties of Producing Heavy Oil.

The thickness, or viscosity, of crude oil is related to its gravity--the lower the gravity number, the heavier and thicker the oil. Outside of Milne Point, Alaska's currently-produced crudes range from 22-30 degrees at Prudhoe Bay to 25-35 degrees at Cook Inlet.

"Heavy oil" is generally defined as crude oil with an API gravity of 20 degrees or less.<sup>7</sup> As Chart 6 shows, the North Slope's heavy oil resources range from less than 14 degrees in the Kuparuk River Unit to 20 degrees in the southeast corner of the Milne Point Unit.

Thick as it is, heavy oil stubbornly resists lifting, and both downhole stimulation and mechanical lifting techniques are invariably needed to bring the oil to the surface. Compounding the problem on the North Slope is



SCHRADER BLUFF  
O Sand  
API Gravities

Chart 6

<sup>7</sup> For example, the Internal Revenue Code allows companies to claim a favorable percentage depletion allowance for "heavy oil" production, which the code defines to include oil with an API gravity of 20 degrees or less. 26 U.S.C. 5613A(c)(6)(F). And, the U.S. Department of Interior, Bureau of Land Management, employs a 20-degree threshold for its pending heavy oil royalty relief proposal. 60 *Federal Register* 31663 (June 16, 1995).

reservoir temperature. At depths of 5000 feet or less, the cold Arctic subsurface chills the oil to impractically low temperatures.

Moreover, in Schrader Bluff's case the heavy oil is entrained in unconsolidated sand. As the oil is lifted, sand comes with it, choking the well bore and fouling the well pump.

Heavy oil's specific gravity is close to water's; as a result, oil/water separation becomes especially difficult. Once separated, moreover, heavy oil's viscosity, and its relative paucity of more valuable lighter hydrocarbon fractions, makes heavy oil less valuable in the market.

Heavy oil wells are notoriously slow producers. And though heavy oil fields enjoy correspondingly long field lives, slow initial production rates considerably impair the investor's ability to recover its capital investment in a commercially reasonable time.

Schrader Bluff's heavy oil is thus triply disadvantaged: (1) it shares the unpleasant attributes of heavy oil generally, (2) the reservoir's shallow depth and unconsolidated sand impose yet additional engineering challenges, and (3) its development suffers all the economic handicaps facing Milne Point as a whole.

Even so, Alaska's North Slope lessees have invested hundreds of millions of dollars trying to make a go of this uncooperative resource.

#### *D. Industry's Efforts to Develop ANS Heavy Oil.*

The initial stab at ANS heavy oil came not at Milne Point, but rather at the adjacent Kuparuk River Unit, which is operated by Arco Alaska Inc. ("Arco"). The prize at Kuparuk River is potentially even greater than Milne Point's. While Schrader Bluff

might produce 300 million barrels of heavy oil. Kuparuk River's West Sak Sands could eventually produce two or more times that amount.

Beginning in September, 1984, Arco invested \$135 million drilling 13 wells into the West Sak Sands, and building associated facilities, before abandoning that pilot project in December, 1986. About 1 million barrels were ultimately produced from that endeavor, which meant that the project's development costs were about \$135/bbl.

It took industry five years to try again, this time at Schrader Bluff. At Milne Point's Tract 14, Conoco, Chevron and OXY invested about \$126 million on 22 heavy oil wells and associated facilities.<sup>7</sup> The project's expected recovery of at least 13.5 million barrels translates into a 15-fold improvement in per barrel investment costs over Arco's West Sak effort—from \$135/bbl to \$9.30/bbl.

The Tract 14 pilot was an exercise in ingenuity. To keep sand from the wellbore, the companies installed special gravel filters. To heat the oil as it rose through the permafrost zone, heat trace elements were wrapped to the production tubing. The reservoir was fractured to stimulate production, and an electric submersible pump was added downhole to lift the oil. *Chart 7.*

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<sup>7</sup> Conoco, Chevron and OXY brought considerable expertise to bear on the 1991 pilot project. OXY, in particular, has long been a leader in developing innovative lifting techniques for heavy oil, particularly in California, where OXY owns heavy oil properties.

Even so, development costs of \$9.3M/bbl still made the exercise uneconomic, and initial flow rates from Tract 14 wells only averaged 275

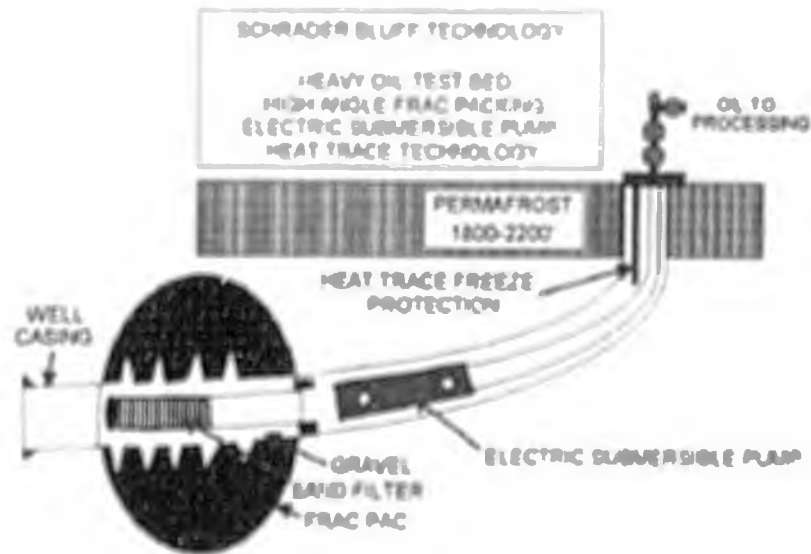


Chart 7

bbls/day. And so, at the end of 1991, further development of Schrader Bluff stopped.

It resumed again in 1994 with BP's acquisition of majority ownership in the unit. One heavy oil well was drilled in 1994, and, in 1995, BP and OXY invested \$15 million in six new wells, some well recompletions and additional technical study.

While evaluation of the 1995 drilling isn't complete, we do know that

- o Advances in technology and better geologic information have made initial flow rates of 300-400 bbls/day practical, and
- o Other, more conventional methods of stimulating heavy oil production are impractical. Conoco began water injection into Schrader Bluff wells in 1992, without proven success to date. Horizontal drilling, which improves lifting, has been tried at Schrader Bluff with mixed results. Steamflooding, a common recovery technique in the Lower 48, isn't feasible on the North Slope for environmental and practical reasons.

Experience thus suggests that any dramatic technological breakthrough that would greatly improve ANS heavy oil well productivity is unlikely in the foreseeable future. Put simply, engineering, while it has brought full development of Schrader Bluff

near the brink, may also have reached the point of diminishing returns. What happens from here is largely an economic question.

And it's a question worth pursuing, given the considerable benefit, to both the public and private sectors, of realizing the fullest possible return on heavy oil development.

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### III. The Consequences of Schrader Bluff Development

Ultimately, BP and OXY expect to recover at least 13.5 million barrels of heavy oil from the Tract 14 pilot project. Conversely, underlying Milne Point are about 300 million barrels of reasonably recoverable heavy oil. As one might expect, development of that resource would resonate throughout Alaska's economy.

#### A. The Parameters of Development.

DNR's Spring, 1995 production forecasts for Milne Point portray a unit peaking at 65,000 bbl/day

in 1999, then sharply declining until the unit is abandoned in 2011.<sup>17</sup> As

Chart 8 illustrates, with development of Schrader Bluff's heavy oil, the unit's

profile looks different.<sup>17</sup>

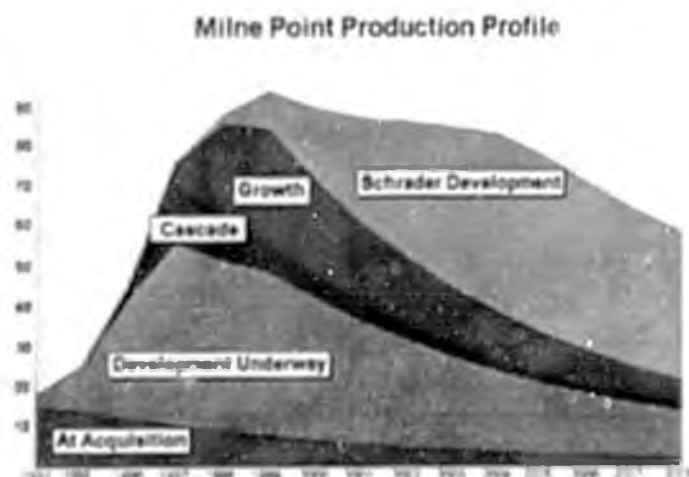


Chart 8

<sup>17</sup> Historical and Projected Oil and Gas Consumption, March, 1995 at 6-7

<sup>17</sup> The components of Milne Point production depicted in the chart include: (1) "At Acquisition." This component reflects Milne Point production existing when BP acquired majority ownership of the unit at the end of 1993. (2) "Development Underway" is principally comprised of additional Kuparuk formation production from the northwest corner of the unit. (3) "Cascade" refers to an accumulation lying to the southeast of the unit. Production from that lease will be routed through Milne Point's processing facilities. (4) "Growth" refers to a number of planned expansion projects, and (5) "Schrader Development," of course, refers to the unit's heavy oil resources. Without Schrader Bluff development, the companies project peak production in 1998-99 of about 80,000 bbl/day--a forecast more optimistic than DNR's projections. Milne Point's central processing facilities are being expanded to accommodate that increased production. Currently, the unit produces only 28,000 bbl/day--a limit dictated in part by the current capacity of the unit's processing facilities. On the other hand, the companies' forecasts do mirror DNR's projections of a sharp decline in unit production after 1999, absent development of Schrader Bluff.

It and when the project becomes commercially feasible, the Milne Point Unit business plan envisions that initial development of Schrader Bluff would involve drilling some 230 wells, and constructing new surface facilities and pads, over a nine-year development period, with a total capital cost of \$550 million. Once producing, those wells would peak at 45,000 bbls./day, and production would decline only gradually, giving the field a 41-year life.

Over the 41-year period, production expenses would average \$15 million annually, totalling \$600 million over the field's life.

*B. The Economic Impacts of Schrader Bluff Development.*

*1. Private Sector Employment*

The University of Alaska Anchorage has authored an economic impact analysis of the initial development scenario in the Milne Point business plan. <sup>17</sup> Employing the impact methodology developed by Professor Scott Goldsmith, the analysis charted both the direct and indirect employment and fiscal consequences of Schrader Bluff development. Looking first at the development phase of the project, those impacts included:

*Ø 233 direct oil industry jobs created during the nine-year development phase. <sup>17</sup> Of those jobs, 157 would be performed in Alaska, and 118 would be filled by Alaska residents;*

*Ø 142 indirect or spin-off Alaska private sector jobs, and an additional 62 jobs for Alaska industry vendors, created during the development phase alone;*

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<sup>17</sup> The analysis, entitled "Heavy Oil Development: The Economic Impact," is available on request from either UAA or BP.

<sup>17</sup> For the development phase, the UAA report expresses its projections in "man-years of employment" for the entire nine year development phase. To translate that number into "jobs," the total man-years (in the case of direct industry jobs, 2098 man-years) was divided by nine.

- Ø *All tolled, 322 new private sector jobs filled by Alaska residents during the development phase, out of a total of 361 new private sector jobs performed in Alaska; and*
- Ø *An Alaska resident payroll of \$171 million during the development phase, out of a total Alaska payroll of \$206.5 million.*<sup>17</sup> *Because Milne Point is a remote location, and because the jobs created by Schrader Bluff development are skilled, the average salary for each new direct oil industry job would be \$100,000/yr.*

Because the core infrastructure is already in place at Milne Point, the impacts of development-related employment would begin to be felt within months of the companies' commitment to the endeavor. Potentially, if that commitment is made early enough in 1996, the resultant jobs and payroll during the development phase would fuel the Alaska economy from 1996 through 2004.

Enhanced production would then commence in 1997. From that year, and until the year 2037, the UAA analysis projects that, throughout the period, Alaska would experience:

- Ø *58 new long-term direct oil industry jobs in Alaska, of which 46 would be held by Alaska residents;*
- Ø *An additional 76 new indirect and vendor jobs created in Alaska;*
- Ø *All tolled, 134 new private sector jobs created in Alaska, of which 122 would be held by Alaska residents; and*
- Ø *A total Alaska resident, private sector payroll increase of \$7.43 million/year, out of a total Alaska private sector payroll increase of \$8.58 million/year.*

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<sup>17</sup> All dollar figures expressed in the UAA report are in constant 1995 dollars.

The private sector employment impacts forecast in the UAA report are summarized in Chart 9

### Alaska Resident Private-Sector Jobs Created by Schrader Bluff Development

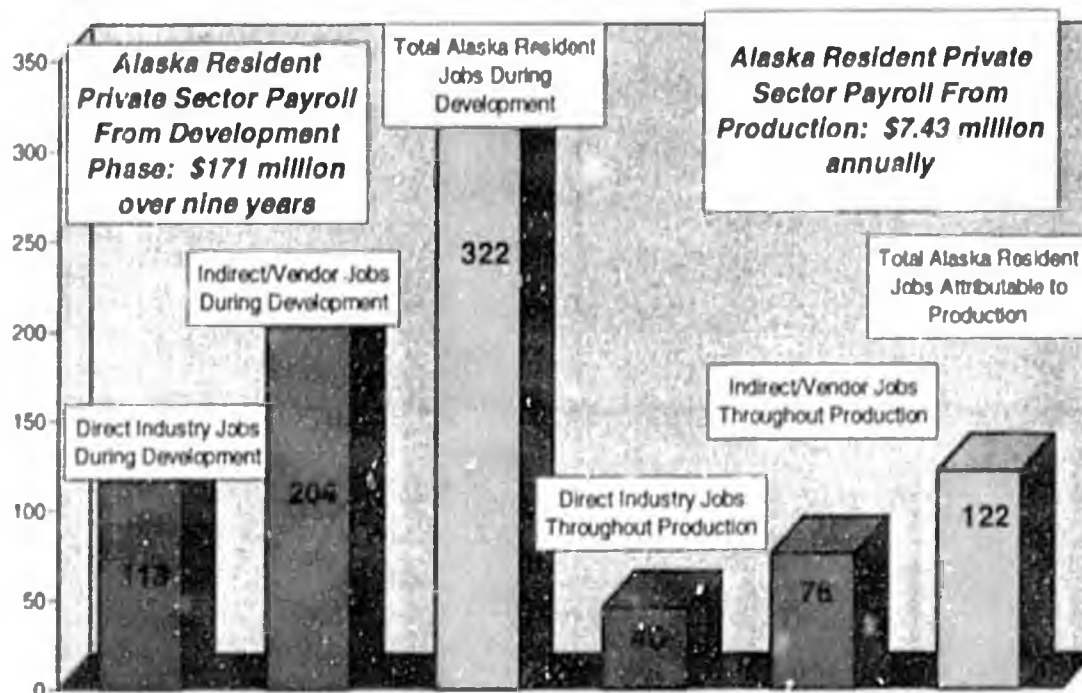


Chart 9

### 2. State Revenue Impacts

As Chart 2 indicates, the state can expect to receive \$365 million more in royalties than DNR's Spring, 1995 production forecasts would yield--if the passage of HB 325 stimulates development of Schrader Bluff.<sup>17</sup> For its part, and as Chart 10 illustrates, UAA looked at the aggregate of royalty and tax revenues that the state could expect to receive from initial Schrader Bluff development. UAA projects that the state would receive \$444 million in revenues, and a \$348 million net return (after accounting

<sup>17</sup> Again, the \$365 million figure is expressed in nominal dollars.

for increased government expenditures occasioned by the substantial increase in private sector employment), as a result of initial field development.<sup>17</sup>

One element of that net gain warrants special attention. Schrader Bluff development would cause a proportional increase in TAPS pipeline throughput occasioned by up to 45,000 bbl./day of

UAA's Projected State Revenues From Initial Development of Schrader Bluff, With a 5-Year Royalty Suspension  
In millions of 1985 dollars

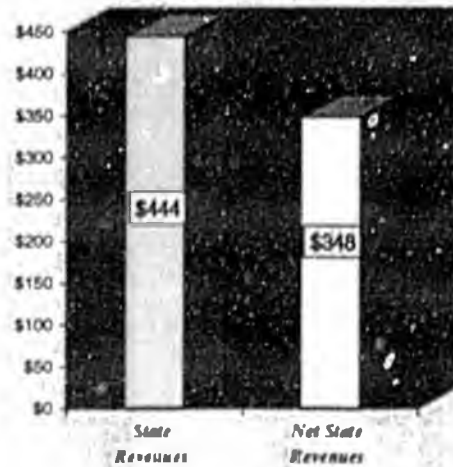


Chart 10

Schrader Bluff heavy oil travelling through it. Declining ANS production in the 21st century will cause upward pressure on per-barrel TAPS tariffs. As more Schrader Bluff oil passes through the TAPS line, the tariff on *all* ANS crude decreases, and the resultant wellhead value on *all* ANS crude increases.

That, in turn, results in higher state royalties on *all* ANS production. UAA estimates, in this regard, that if Schrader Bluff were developed, the state would earn between \$65-\$84 million in additional royalty income from *all* ANS production during Schrader Bluff's field life.

### 3. Public Sector Employment

UAA projects that the economic activity generated by Schrader Bluff development will occasion \$97 million in public sector costs over the life of the field. To a large extent, that translates into new public sector jobs.

<sup>17</sup> If TAPS pipeline throughput were lower than that scenario envisions, UAA's revenue and net revenue projections are, respectively, \$425 million and \$329 million.

UAA estimates that development will directly result in 27 additional state government jobs during the development phase, and an additional 10 state jobs lasting over the field's 41-year producing life. UAA also believes that second and subsequent rounds of public sector employment gains will be realized as the economic impact of the enterprise compounds itself. UAA concluded that 38 additional new public sector jobs--state and local--would be spawned by this multiplier effect during field development, while 15 additional new public sector jobs would be generated by the multiplier effect throughout 41 years of field production.

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#### IV. The Economics of Schrader Bluff Development.

##### A. The Rate of Return Necessary for Schrader Bluff Development.

\$550 million--the capital necessary to develop Schrader Bluff--is a considerable investment. And as Arthur D. Little recently reminded the Oil & Gas Policy Council, "[c]ompanies will review and compare all opportunities available to them worldwide, [and] governments are competing on a global basis to attract risk investment."<sup>17</sup>

The benchmark by which the attractiveness of Schrader Bluff investment will be measured is the "hurdle rate," which represents the minimal projected rate of return necessary to warrant consideration among the companies' investment options. That rate, in turn, is built on four components (Chart 11):

"Hurdle Rate" -- The Minimum Rate of Return Necessary to Justify Capital Investment



Chart 11

- o *The cost of capital.* Corporations acquire investment funds in one of two ways--borrowing, or attracting equity investment. The cost of capital is the weighted average of the company's bond interest rates and cost of equity.<sup>17</sup>
- o *Overhead.* Any new investment must bear its requisite share of the corporation's overall overhead costs, such as corporate management.

<sup>17</sup> Little Report at 9.

<sup>17</sup> Marino, *Handbook of Capital Expenditure Management* at 93 (1986). The cost of equity capital includes more than just dividends paid. The cost of capital for common stock, for example, consists of "the expected total return from dividend yield and capital gains." Block and Hirt, *Foundations of Financial Management*, App. 11A (1989); emphasis added.

Ø Risk. "[I]n order for investors to take more risk they must be compensated by larger expected returns...U.S. Treasury bills may be considered a riskless asset. When viewed in this context, an investor must achieve an extra return above that obtainable from a Treasury bill in order to induce the assumption of more risk." ;<sup>20</sup> and

Ø Profit. No enterprise invests without the expectation of some profit.

in today's market, and as Chart 11 suggests, these four "hurdle rate" components combine to require at least a 15% projected rate of return from any new investment--a benchmark validated by the *Little Report*:

*Companies will generally consider any field uneconomic if the gross project value is negative at a discount rate of about 15%.*

...  
*[Oil] companies generally look for a rate of return of about 15%...Projects with lower returns usually do not generate enough profits to encourage companies to commit time and resources to their development.*

*Little Report* at 120, 122.

Passing the hurdle rate does not guarantee investment capital because, as Arthur D. Little reminded us, any investment must still compete with often lucrative worldwide opportunities. The hurdle rate is a qualifying time, not a checkered flag--it is only enough to warrant the prospect's consideration by corporate policy-makers.

The hurdle rate is therefore a conservative measure of Schrader Bluff's prospects, and also a conservative measure of the effectiveness of any development incentive.

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<sup>20</sup>1 *Foundations of Financial Management*, op. cit. n. 19; see also *In the Matter of the Filing of Revised Tariffs by Cook Inlet Pipeline Co.*, Alaska Public Utilities Commission, January 14, 1985 at 26 (additional rate of return allowed because of risk that oil prices may drop in the future).

*B. Schrader Bluff's Projected Rate of Return.*

To forecast the likely rate of return from Schrader Bluff development, OXY seems the fairest candidate since, unlike other North Slope producers, OXY's revenues from Schrader Bluff production will come solely from wellhead revenues--OXY does not share in significant downstream pipeline, tanker or refinery profits.

For its presentation to the Oil & Gas Policy Council in June, 1995, OXY projected its rate of return from something of a best case. For example, initial flow rates from the Tract 14 pilot project have averaged only 275 bbls./day. The five best of those 21 wells managed initial rates of between 300-600 bbls./day, and OXY's projections assumed initial flow rates equal to the average of *only those five best producing wells*.

In other words, OXY assumed that the technological innovation and better geologic data gained through five years of experimentation at Schrader Bluff would yield the highest plausible reward.

To those production forecasts were applied:

- Ø Projected oil prices drawn from the Department of Revenue's Spring, 1995 base case revenue forecasts;<sup>17</sup>*
- Ø Well costs equal to the average costs of Tract 14's 21 wells;*
- Ø The existing 12.5% state royalty, and historically-based tax payments;*
- Ø Projected operating expenses taken from the unit's 1995 estimates; and*
- Ø Facilities costs from the operator's 1995-1997 business plan.*

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<sup>17</sup> As noted previously, the Fall, 1995 Department of Revenue long-range price forecasts are virtually identical to the Spring, 1995 forecasts. See n. 5, *ante*.

The results are depicted in Chart 12. In short, the projections show a:

- Ø 12.8% projected rate of return. The projection thus falls materially short of the 15% hurdle rate;

## Typical Heavy Oil Well Economics

Based on the 5 best wells to date in Tract 14

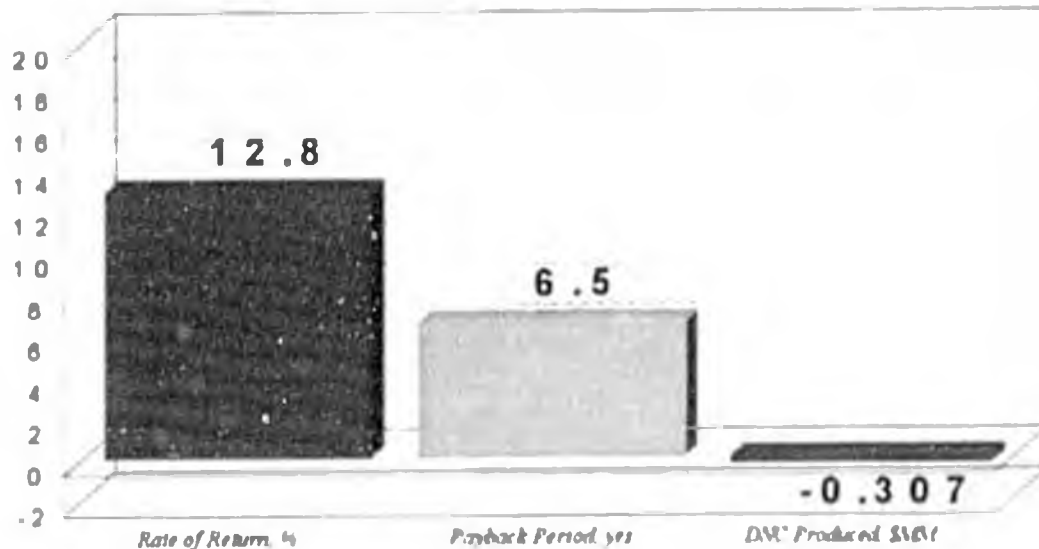


Chart 12

- Ø 6.5-year payout period. Five years is a commercially reasonable time for project payout. The extended payout period is a function, of course, of the inadequate rate of return; and

- Ø Negative discounted cash flow at 15%. As Arthur D Little observed, "[c]ompanies will generally consider any field uneconomic if the gross project value is negative at a discount rate of about 15%."

The numbers shouldn't be surprising. As we've seen, the state itself has long felt that development of Schrader Bluff is unlikely. And, despite

- ⇒ Arco's investment of \$135 million in the Kuparuk River Unit's West Sak sands.

⇒ Conoco's and OXY's investment of \$126 million in the Tract 14 pilot project; and

⇒ BP's investment of an additional \$15 million in pilot drilling, recompletions and technical studies in 1995.

the only heavy oil produced today on the North Slope flows from those limited experimental endeavors. Schrader Bluff heavy oil sits beneath a convenient unit infrastructure. And, as Chart 8 illustrates, full Schrader Bluff development is integral to prolonging the entire unit's economic life. There seems, in sum, no good reason for not developing that field, save for its inability to cross the hurdle rate threshold.

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V. *Legislation to Improve the Economics of Developing Alaska's Heavy Oil Resource*

A. *The Criteria for Legislation.*

Development of Alaska's heavy oil resource is a shared challenge. For its part, the private sector has invested nearly \$270 million over the past decade in a determined effort to increase production and reduce production costs.

For its part, the state will affect heavy oil investment decisions most directly through the royalty structure that it imposes. In tailoring that structure to optimize the public's return on heavy oil development, there are seven criteria that should shape the outcome:

- o *Specificity. As Section III(C)-(D) discussed, ANS heavy oil development presents unique challenges that are best met by a royalty structure tailored to the peculiarities of the resource. Revisiting general state royalty policy in order to spur heavy oil development may yield a result that is overbroad or insufficient, or which risks unintended consequences elsewhere.*

*For example, last year the legislature rewrote Alaska's general policy on oil and gas royalty relief. Ch. 85, SIA 1995, HB 207. From a statewide perspective, the legislation set a positive tone for encouraging public/industry partnerships in developing Alaska's marginal reserves. However, the heavy oil initiative that may best suit development of that resource—a five-year royalty suspension—would be impossible under that legislation. HB 207 requires a minimum 5% royalty for every year of production from new fields,<sup>17</sup> and a new field is eligible for relief only if there has been no commercial production from that field.<sup>18</sup>*

*Both of these limitations may make considerable sense generally. However, with respect to heavy oil especially, the*

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<sup>17</sup> AS 38.05.180(j)(4)(A).

<sup>18</sup> AS 38.05.180(j)(4)(B). As we have seen, about 3,000 bbls/day of heavy oil are produced and sold from Schrader Bluff's Tract 14 pilot project.

minimum royalty requirement of HB 207 fails to account for the fact that heavy oil wells invariably: (1) have low initial production rates; but (2) produce for an unusually long time. Thus, the state may--and in this case apparently will--benefit more from a royalty structure that assesses 12.5%-20% royalties commencing in the sixth year of production, than from a structure that imposes, say, a 5% royalty throughout field life. See Section VI(C)(6-7), post. <sup>17</sup>

- *Relevancy.* The task here is to materially improve the projected rate of return from the considerable capital investment necessary to develop ANS heavy oil reserves. Some royalty initiatives are aimed at lowering operating costs in order to prolong or renew production from declining wells. <sup>17</sup> Here, the targets are quite different: (1) improving the return on new investment; and (2) reducing the period for recovering that investment to a commercially reasonable one.
- *Certainty.* Companies are unlikely to make serious investment decisions on the mere possibility of a favorable royalty structure. A royalty structure established by operation of law, rather than one dependent on the uncertain outcome of an administrative proceeding, is considerably more likely to favorably influence investment choices.
- *Immediacy.* There is a window of opportunity for development of ANS heavy oil reserves--one that will last only so long as: (1) the current infrastructure at Milne Point and Kuparuk River remains operational; and (2) the TAPS line is able to carry heavy oil at reasonable per-barrel tariffs.

DNR has projected, as recently as March, 1995, that Milne Point will be abandoned in 2011. That does not mean, however, that Alaska has 15 years to debate heavy oil. For example, integral to the ultimate economic viability of heavy oil development is the assumption that, over a considerable portion of heavy oil field life, production costs can be shared

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<sup>17</sup> The relationship of HB 207 to the issues raised by this paper is discussed further in Appendix A.

<sup>17</sup> This, for example, is the purpose behind ILM's proposed heavy oil royalty regulations. Those regulations, which would establish a sliding-scale royalty for heavy oil wells, are intended to "place marginal or uneconomical shut-in oil wells back in production, provide an economic incentive to implement enhanced oil recovery projects, and delay the plugging of these wells until the maximum amount of economically recoverable oil can be obtained from the reservoir of field." 60 *Federal Register* at 14061 (April 10, 1995).

with other, conventional oil production from the same unit. And, as discussed in Section I, ante, the current momentum that has driven the 1994-95 pilot drilling and technical studies at Milne Point risks being lost if the project's economic prospects remain discouraging:

- Ø *Credibility.* Simply put, Alaska should look to initiatives that have proven successful in spurring capital investment in marginal fields in other oil producing jurisdictions.
- Ø *Sufficiency.* No one can guarantee the impact of any development initiative. On the other hand, if it is apparent that a given proposal would leave project economics below the competitive threshold, there is nothing gained by the exercise--and perhaps considerable to lose.
- Ø *Necessity.* The state should entertain economic incentives only if it concludes that the initiative will yield the state, and the public, a net economic benefit. Inherent in that philosophy is the proposition that the state should do no more than is reasonably necessary to induce the targeted activity. The state, in short, should not leave money on the table.

***B. The Proposed Initiative--A Five-Year Royalty Suspension on New Heavy Oil Wells.***

This paper, and HB 325, propose that the state suspend royalties, for the first five years of production, on the first 500 barrels of heavy oil produced from each new heavy oil well drilled on Alaska's North Slope after June 30, 1996.

The essential attributes of the proposal include:

- Ø *The Five-Year Suspension.* The suspension would be applied separately for each new heavy oil well drilled. When each well achieved five years' production, full lease royalties--at either 12.5% or 20%--would apply to all future production from that well.

*Because new heavy oil wells would be drilled over a nine-year development period, there would thus be no sudden shift from royalty-free to royalty-burdened production. Rather, field royalties would be phased in beginning in the sixth year of development, as Chart 13 illustrates.*

ADDITIONAL PRODUCTION FROM HEAVY OIL  
BY  
DEVELOPMENT YEAR

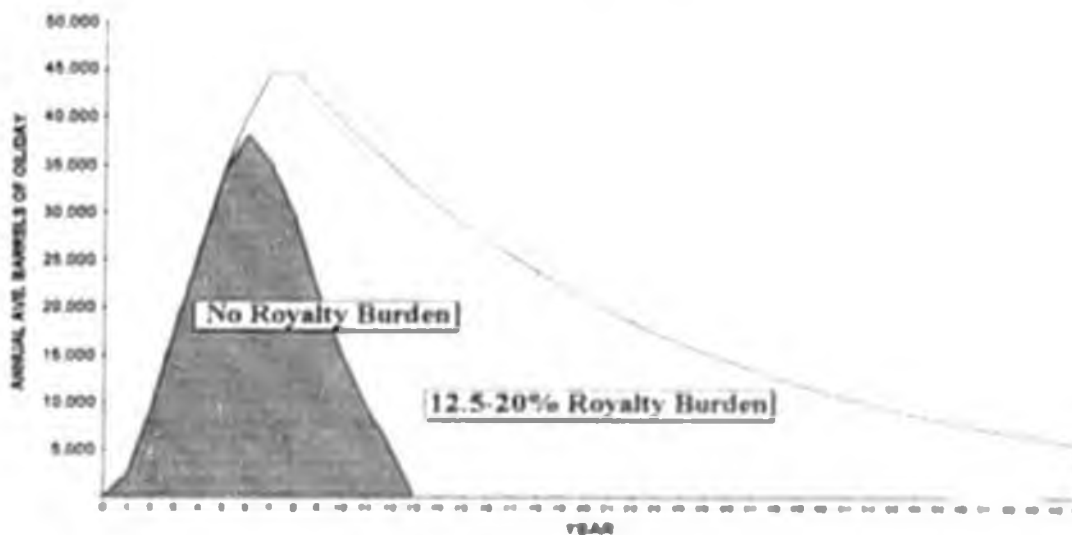


Chart 1.3

*The five-year limitation coincides with the period that most investors consider the longest reasonable time to recover capital costs.*

- o *The 500 bbls./day limitation. 500 barrels per day is as good a working definition as any of a marginal Alaska North Slope oil well. If a new ANS heavy oil well is able to achieve production in excess of that ceiling, that additional production would be subject to full lease royalties.*

*ANS experience suggests that new heavy oil wells probably won't reach this ceiling. Even initial production rates from Schrader Bluff's Tract 14 wells averaged only 275 bbls./day, and the five best Tract 14 wells on which OXY's economic forecast, discussed in Section IV, was premised, averaged about 430 bbls./day.*

- o *The Limitation to New Wells. The purpose of this initiative is to encourage additional development of ANS heavy oil reserves. As a result, the proposal does not affect production from any now-existing well, nor does it affect even new production from other formations such as Kuparuk or Sag River.*
- o *The Geographic Limitation to the North Slope. The economic and technical conditions on which the proposal is based are unique to Alaska's North Slope.*

### *C. Application of the Seven Criteria to the Proposed Royalty Suspension.*

Among any number of possible royalty structures, the five-year royalty suspension seems to best satisfy each of the seven criteria discussed in subsection (A):

#### *1. The Specificity Criterion*

The technical and economic challenges facing development of ANS heavy oil are unique, and by confining the proposal's scope to new heavy oil wells on the North Slope, legislation can be carefully tailored to those peculiarities.

Through that kind of specificity, the proposal addresses one of the drawbacks of Alaska's fiscal system noted in Arthur D. Little's report to the Oil & Gas Policy Council. Alaska, until now, has maintained a one-size-fits-all royalty structure. On the one hand, Little found that this system has been good to companies producing large, profitable fields--indeed, Alaska ranks in the top quarter of oil producing jurisdictions worldwide in that respect. *Little Report* at 150.

On the other hand, Alaska's uniform system ranks poorly in encouraging investment in marginal fields. *Id.*

Little's findings prove the obvious: when setting statewide policy, the legislative and executive branches are inevitably driven by the policy's impact on large fields such as Prudhoe Bay. The specific proposal envisioned in this paper avoids that, and enables Alaska to take a more surgical approach to royalty policy.

#### *2. The Relevancy Criterion*

According to Arthur D. Little, Alaska's fiscal regime "is not fiscally efficient," and in fact ranks 48th out of 101 fiscal systems studied worldwide in its impact on field

rate of return. *Little Report* at 10, 150. "The Alaskan terms," moreover, "do not provide any incentive for the development of marginal fields." *Id.* at 172.

The reason is this: Alaska demands money up-front, before the field recovers its capital investment, irrespective of the impact of that demand on the field's ability to recover its investment within a commercially reasonable time. *Id.* at 91 ("A single royalty rate," Little concluded, "can make marginal fields uneconomic to develop.")

By suspending royalties at the outset of production, rather than spreading a reduced royalty over the field's life, the proposal targets the critical capital recovery period, which Little found Alaska to have heretofore ignored.

Moreover, and as Chart 13, *ante*, illustrates, given the typical production profile of a heavy oil well, targeting initial capital recovery, instead of spreading relief over field life, benefits the state as well. Because production will be initially low, but sustained over an extraordinarily long period with an unusually gradual decline rate, the state can expect to receive full lease royalties for a majority of total well production.

### ***3. The Certainty Criterion***

The proposal requires no application or agency review. The suspension is imposed by operation of law upon the occurrence of objectively-measured events.

### ***4. The Immediacy Criterion***

The suspension will be immediately available for any new heavy oil well drilled on the North Slope after June 30, 1996. And, at least at Schrader Bluff, industry is capable of responding to the initiative quickly. Because the infrastructure necessary for additional Schrader Bluff development is in place, additional heavy oil drilling could begin within months of the proposal's enactment.

*5. The Credibility Criterion.*

Royalty suspensions, Arthur D. Little concluded, "will encourage field development," and are "particularly effective for marginal fields" when they are tied to specific amounts of production. *Little Report* at 192. As the following table indicates, production tax and royalty suspensions have served as a principal tool for oil producing jurisdictions seeking to encourage investment in marginal properties:<sup>27</sup>

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<sup>27</sup> Most oil producing states do not themselves own significant oil-producing property, and thus the production or severance tax is the principal source of those states' take. As a result, suspensions enacted in other states generally apply to the severance tax, rather than to privately-collected royalties.

*Production Tax and Royalty Suspensions in Other Jurisdictions*

<u>Jurisdiction</u>	<u>Investment Targeted</u>	<u>Length of Suspension</u>
<i>United States</i>	<i>Gulf of Mexico deep-water wells</i>	<i>Variable, depending on water depth</i>
<i>Texas</i>	<i>High-cost gas wells</i>	<i>10 years</i>
<i>Utah</i>	<i>Wildcat wells</i>	<i>First 12 months</i>
<i>Utah</i>	<i>Development wells</i>	<i>First 6 months</i>
<i>Oklahoma</i>	<i>Horizontal wells</i>	<i>Until payout</i>
<i>Oklahoma</i>	<i>Enhanced oil recovery projects</i>	<i>Until payout</i>
<i>Montana</i>	<i>Horizontal wells</i>	<i>First 18 months</i>
<i>Mississippi</i>	<i>Discovery wells</i>	<i>First 5 years</i>
<i>Mississippi</i>	<i>Re-activated wells</i>	<i>First 3 years</i>
<i>Kansas</i>	<i>Tertiary projects and shallow wells</i>	<i>Life of the project</i>
<i>Kansas</i>	<i>Discovery wells</i>	<i>First 12 years</i>
<i>Arkansas</i>	<i>Discovery wells</i>	<i>First 5 years</i>

According to the Texas Railroad Commission, its 10-year production tax suspension for high-cost gas wells netted that state, for the period 1989-93:

- Ø A 400% increase in the number of high-cost gas wells drilled annually in Texas above the number drilled annually before enactment of the incentive;*
- Ø \$4.122 billion more in natural gas produced in the state over the period;*
- Ø \$240 million in additional sales tax revenues generated over the period;*
- Ø 104,000 new additional employment years created over the period; and*

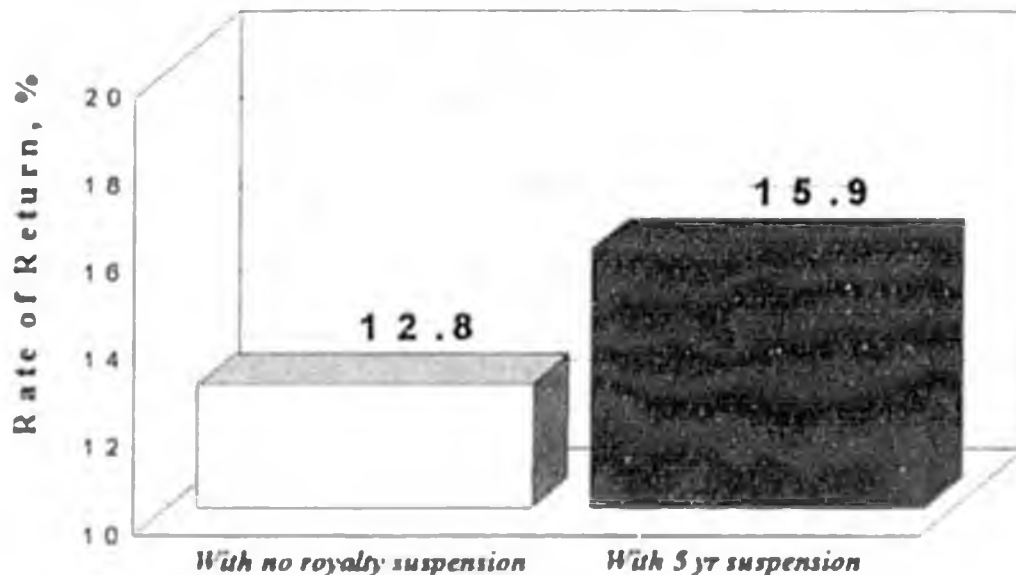
*0 \$12 billion in additional economic value generated for the state of Texas over the period. <sup>21</sup>*

As originally enacted, the Texas incentive was to expire in 1996. Based on its fiscal track record, the Texas legislature renewed the incentive this past year for an additional six years.

#### **6-7. The Sufficiency and Necessity Criteria**

As Chart 14 indicates, the five-year, 500 bbls./day royalty suspension moves Schrader Bluff's rate of return from the 12.8% projected by OXY to 15.9%.

**The Effect of Royalty Suspension on Schrader Bluff Development Decisions**



*Chart 14*

<sup>21</sup> Source: Texas Railroad Commission. "Extension of Tax Incentive for the Production of Certain High Cost Gas." undated (1994).

Chart 15 shows that the suspension proposal also reduces the capital recovery period close to a commercially reasonable five years.

### The Effect of Royalty Suspension on Schrader Bluff Economics

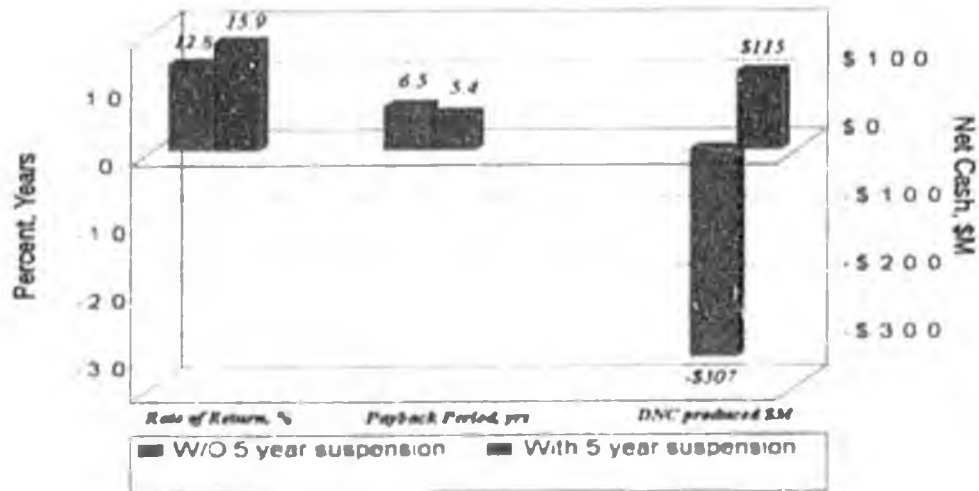


Chart 15

The five-year suspension thus seems *sufficient* to at least make Schrader Bluff development competitive with other industry investment opportunities. It appears to put that endeavor over the hurdle rate--an accomplishment that, as discussed *ante*, does not guarantee funding, but does lift the usually fatal burden of bearing below-hurdle rate economics.

It does so, however, by the thinnest of margins, suggesting that the proposal satisfies the *necessity* criteria as well. That's perhaps best illustrated by the \$115,000 positive net discounted cash flow projected on Chart 15, which is presented on a per-well basis. With each new heavy oil well costing perhaps \$2 million, that \$115,000 translates into slightly more than a 5% profit for any given well

The suspension proposal's fit with the necessity criteria--that is, with the concept that the state should leave nothing on the table--can be seen in three other ways:

1. *Built-in safeguards.* The proposal's 500 bbls./day ceiling, for example, protects the state in the event that an engineering breakthrough enables heavy oil producers to pull more oil through new ANS heavy oil wells. If any technologically-driven windfall occurs during the suspension period, the state will receive full lease royalties from the added production.

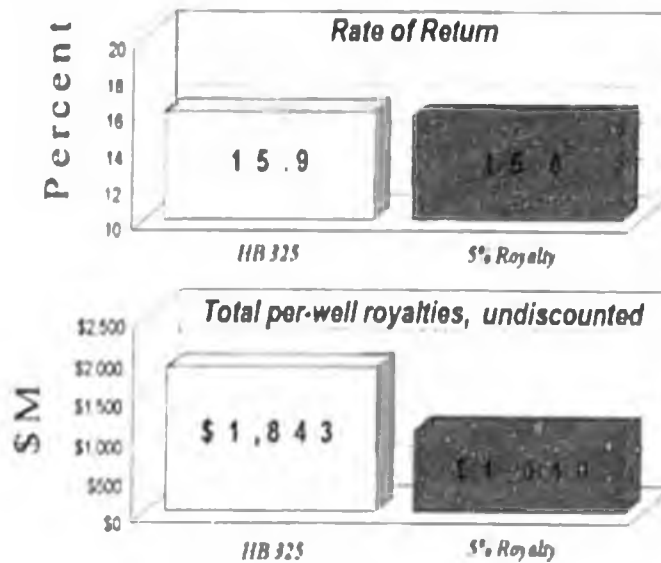
Moreover, and by the very nature of the suspension proposal, the state is better assured a full share of any increased profits caused by either technology or unanticipated oil price increases. With full lease royalties commencing in each well's sixth year of production, the state's risk of losing its full share of any unanticipated profits ends after five years. Conversely, simply reducing the lessee's royalties over the life of the field--to, say, 5%--would expose the state to that risk for over 40 years. And, the consequence of that difference is magnified by the fact that both oil prices and the state of technology are more predictable in the short run than over a four-decade period.

Similarly, if enhanced recovery techniques ultimately allow more total production than is now estimated, the state would enjoy full lease royalties from that increased production, since it would occur later in field life.

2. *Comparison to Other Incentives.* As Chart 16 shows, a 5% royalty reduction on new heavy oil wells, extending over the life of each well, would also push Schrader Bluff development over the hurdle rate. On a nominal dollar basis, however, the state's royalties over the life of the field would be considerably less. Because of their low initial production rates and slow decline rates, heavy oil wells are better suited, from a landlord's perspective, to a finite royalty suspension at the outset of production than to a reduced royalty over the life of the field.

**HB 325 Meets the Necessary and Sufficiency Criteria....**

*5 Year Royalty Suspension (HB 325) vs. 5% Royalty for the Well's Life*



*Chart 16*

3. *Return to the State.* This paper began with Chart 2, which compared: (1) the \$60 million in royalties that the state could expect to receive from the limited Schrader Bluff production forecast by DNR in the Spring of 1995; to (2) the \$425 million in royalties that the state could receive from development of Schrader Bluff under the unit's business plan, even with a five-year royalty suspension.

The suspension proposal would thus seem to meet the essential test of a successful partnership--considerable net benefit to both partners.

For its part, industry has already contributed about \$270 million to that partnership through the Schrader Bluff and West Sak pilot projects. And most recently, BP won a \$1.6 million U.S. Department of Energy Grant--to which BP will add \$9 million--to further refine heavy oil recovery technology.

Moreover, if development occurs, BP and OXY will contribute another \$550 million capital investment, and on a project basis won't recover that investment for at least seven years. Thus, the state, which will begin receiving full lease royalties on initial wells at the beginning of the project's sixth year, will see a positive net cash flow from its heavy oil partnership sooner than will its industry partners.

## *VI. Conclusion*

Some decision about Alaska's heavy oil reserves will be made this year--since, as we've seen, even a decision to do nothing carries its own risks, and ought to be a conscious choice, if that's the choice made. Indeed, waiting-to-see may present the highest stakes of all, since it is the only alternative that risks losing the entire resource.

Governor Knowles has provided a critical catalyst for this debate--a debate that, given the magnitude of the resource, warrants legislative involvement. And that discourse is likely to yield the best possible answer if it remains guided by three overriding issues:

- ◇ *Are Alaska's heavy oil reserves likely to be developed in the near future even without any stimulus on the state's part?*
- ◇ *If not, then do the benefits of immediate development, and the risk of waiting, warrant a special state/industry partnership to develop those resources now? and*
- ◇ *If immediate development is in the public interest, what form of royalty structure will best meet the seven criteria discussed in this paper?*

Irrespective of the outcome, the fact that the State of Alaska is about to have such a business-like discussion, as discussions between potential partners should be, sends an encouraging signal about the direction of Alaska's economic climate into the next century.

*Appendix A: Some Questions About the Heavy Oil  
Five-Year Royalty Suspension Proposal*

*Q: Why don't companies with heavy oil reserves simply use the process established last year in HB 207 (Ch. 85, SLA 1995).*

*HB 207 authorized discretionary royalty relief in three instances: (1) for new marginal fields; (2) to restore shut-in production; and (3) to prolong the economic life of older fields. A new field is eligible for relief only if "the field or pool has not previously produced oil or gas for sale." AS 38.05.180(j)(1)(C). About 3,000 bbls./day are produced from Schrader Bluff's Tract 14 pilot project. Schrader Bluff would thus be ineligible for "new marginal field" relief, and the remaining bases for relief under HB 207 are simply inapplicable.*

*For its part, Arco did produce and sell oil from its West Sak Sands pilot project at the Kuparuk River Unit, but has since abandoned that production. Arco, therefore, might be eligible for relief under HB 207 "to reestablish production of shut-in oil."*

*However, HB 207 imposes another barrier. As the white paper explains, a five-year royalty suspension at the outset of production seems better suited--from both industry's and the state's perspective--to spur additional heavy oil development than a reduced royalty over field life. HB 207, however, requires a minimum 3-5% royalty throughout the life of the field. AS 38.05.180(j)(4). Royalty suspensions, then, are categorically excluded under that legislation.*

*Of course, HB 207 could be amended. It shouldn't be, for these reasons:*

*1. As a general statement of state royalty policy, HB 207 sets a proactive tone for future state/industry cooperation in sustaining Alaska's oil and gas industry into the 21st century. It was landmark legislation in that respect--creative royalty management has long been discussed in Juneau, but there hadn't been much concrete action. HB 207 is an accomplishment that does not need revisiting;*

*2. On the other hand, HB 207 did not purport to solve every development challenge facing the state and the oil industry. That is why, for example, Governor Knowles charged his Oil & Gas Policy Council to address additional royalty management issues after the law had passed. Specifically, the state made a conscious choice, last session, to address heavy oil development separately through the Council and the responsible legislative committees; and*

*3. As discussed in the white paper, ANS heavy oil development presents unique economic and technical issues that are best addressed on their own. The terms and limitations in a general law such as HB 207 are sensible as a statewide rule--given the*

myriad circumstances they will govern. However, and as Arthur D. Little suggested to the Oil & Gas Policy Council, one-size-fits-all policies, which were necessarily developed with larger fields in mind, may actually impair development of smaller or unusual fields. The peculiar challenges facing ANS heavy oil development are ample proof of that.

Lastly, resorting to discretionary agency relief would satisfy neither the certainty nor immediacy criteria that, as the white paper explains, are critical to stimulating heavy oil development during the current window of opportunity presented by existing unit infrastructures, reasonable TAPS pipeline tariffs, and the momentum occasioned by the Tract 14 pilot project and BP's 1994-5 drilling program.

*Q. Milne Point already pays no severance tax because of the economic limit factor. Isn't royalty relief asking too much?*

Arthur D. Little, in his report to the Oil & Gas Policy Council, concluded that Alaska's royalty structure was "fiscally inefficient," and particularly harmful to marginal fields, because it demanded high payments before a field could recover its capital investment.

For its part, Alaska's severance tax cures that problem, and becomes sensitive to field productivity, through the ELF. However, in the case of marginal endeavors such as ANS heavy oil development, the progressive policies of the severance tax are undermined by a regressive royalty policy. That fact argues for consistency between the two fiscal regimes. The current inconsistency is a problem, then, but for reasons other than the question suggests.

The white paper shows that, even with application of the ELF, development of Alaska's heavy oil reserves is unlikely to occur unless the state revisits its royalty structure for that resource--a fact corroborated by: (1) the industry's inability to develop the resource, despite investing \$270 million in pilot drilling; and (2) DNR's oil production projections. Whether royalty restructuring is "too much" of a price to pay to develop that resource is, of course, the ultimate question. Given, however, that:

(1) the state is likely to receive only \$60 million in royalties from Schrader Bluff production if DNR's production estimates prove true; while

(2) the state may receive \$425 million in royalties if the royalty suspension proposal is enacted, and development of Schrader Bluff's reserves resultantly occurs,

it would seem that the state would not be paying much of a price at all.

*Q: OXY received a royalty reduction through a 1994 settlement agreement that restricted its right to apply for additional reductions from DNR. Isn't OXY's support of a royalty suspension an end-run around that agreement?*

*The 1994 settlement agreement returned OXY's Milne Point royalties to the same rate that the state had promised when OXY's predecessors acquired an interest in the Milne Point leases by competitive bid in 1969. The lease royalty rate was, and for OXY is now again, 12.5%.*

*Several years after acquiring those leases, Conoco (which was then the unit operator) and the other unit participants applied to DNR to form the Milne Point Unit. The state, however, informed the companies that it would not approve the unit agreement, and would allow the Milne Point leases to lapse, unless the companies agreed to increase the royalty on eight unit leases from 12.5% to 20%.*

*In late 1985, after oil prices had collapsed, the companies applied to DNR to reduce the unit's royalties. At the time, DNR believed that Milne Point warranted relief, especially given the unusually high 20% royalty that some unit production now bore, but also felt that that it was legally precluded from granting relief until the unit had produced oil for two years.*

*In January, 1987, the Milne Point Unit was shut-in--DNR having concurred that continued operation of the unit posed an unwarranted economic hardship.*

*Production resumed in April, 1989, and when two years' total production had been achieved in February, 1990, Conoco and OXY again applied for a reduced royalty. In two separate decisions issued on April 21 and 22, 1991, DNR denied those applications. Conoco and OXY then appealed those denials to Alaska Superior Court.*<sup>1</sup>

*The litigation lasted for over three years. In December, 1993, and after an unsuccessful eight-year effort to reach a royalty agreement with the state, Conoco sold its interest in Milne Point to BP Exploration (Alaska) Inc., as did Chevron.*

*OXY maintained its minority 8.81% interest in the unit, and in July, 1994 the litigation settled. OXY's royalties were returned to the same 12.5% rate that Alaska had promised OXY's predecessors back in 1969, when the leases were issued. The settlement, however, was personal to OXY. BP remained obligated--and remains obliged today--to pay a 20% royalty on its majority share of production from the eight affected leases.*

*Section 5.3 of the settlement agreement also restricted OXY's ability to apply to DNR for royalty reductions. That clause reads:*

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<sup>1</sup> *Conoco Inc. v. State of Alaska, Department of Natural Resources, 11U-91-797Civ.; OXY USA Inc. v. State of Alaska, Department of Natural Resources, 11U-91-798Civ.*

*Notwithstanding paragraph 18(h)(8) of the MPU Agreement and any otherwise applicable law, OXY cannot apply for any reduced royalty: (1) for any of the [eight 20% leases]...during the remaining life of the MPU; or (2) for any other liquid hydrocarbon production from the MPU, for five years from the effective date of this agreement.*

*By both its terms and intent, the agreement does not attempt to limit the legislature's authority to set state royalty policy. Rather, this clause was inserted after both parties agreed that neither wished to reenact the 4 1/2 years of costly administrative proceedings, and subsequent litigation, consumed by these discretionary royalty reduction applications.*

*And in any event, the question is academic, because if HB 325 is enacted, the state will still enjoy the full benefit of its bargain. The proposal would apply only to new heavy oil wells drilled after June 30, 1996. DNR's production projections have, as recently as March, 1995, assumed that future Schrader Bluff production will be limited to the unit's pre-existing Tract 14 pilot project. Thus, HB 325 would not affect any production that DNR believed would occur when it entered into the settlement agreement in 1994.<sup>17</sup>*

*In the scheme of things, this question is tangential to the heavy oil debate--after all, OXY owns but an 8.81% interest in one heavy oil field. Moreover, one needs to remember that the initiative for this discussion came not from OXY, but from the state itself. OXY was invited to participate in the debate over state oil policy initiated by the introduction of HB 207 and creation of the Oil & Gas Policy Council, and it has always been forthcoming on this count in its discussions with both the administration and the legislature. OXY, like anyone, is subject to new laws, and it welcomes the opportunity to exercise its right to participate in public debate over oil and gas legislation.*

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<sup>17</sup> Indeed, when the settlement agreement was entered into, DNR was not only projecting that no further development of Schrader Bluff would occur beyond the Tract 14 pilot project--it had concluded that the Milne Point Unit as a whole would be abandoned in the year 2006. DNR, *Historical and Projected Oil and Gas Consumption*, February, 1994 at 6-7.

*Q: How can we be assured that, if this initiative passes, our heavy oil reserves will actually be developed?*

*As the white paper explains, improving Schrader Bluff's economic outlook will not guarantee a positive investment decision. It will only allow Schrader Bluff to compete with other investment opportunities. Actual funding is always a function of available budget funds, the quality of competing prospects, and other variables.*

*Industry, however, does have a considerable stake in following through. First, it has already invested about \$270 million in heavy oil pilot projects--an investment it would plainly like to recoup. Second, lessees with heavy oil reserves do feel some sense of urgency. They know that, given the right economic climate, ANS heavy oil reserves are more valuable now than perhaps they'll ever be. There is an existing on-site infrastructure now; transportation costs are tolerable; and the momentum spawned by the Tract 14 pilot project and BP's recent drilling provides a stimulus to additional development that may well evaporate in a climate of disinterest.*

*Successful development of North Slope heavy oil is dependent on industry's ability to increase production rates and lower production costs, and the state's interest in crafting a workable royalty structure. Section II of the white paper explains how industry is meeting its obligations in that respect, and by enactment of an effective royalty initiative, the state would have done all it can. In that event, heavy oil would not be lightly disregarded by industry.*

*Finally, one should remember that the royalty suspension would apply solely to new heavy oil wells drilled after June 30, 1996. If Schrader Bluff or other ANS heavy oil reserves aren't developed, the state loses nothing.*

*Q: Why isn't this just another industry giveaway?*

*Bear in mind, in this respect, that the state "gives" nothing unless industry contributes to the partnership by heavily investing in heavy oil development.*

*But, yes, if the state concludes that Schrader Bluff and the Kuparuk River Unit's West Sak sands will likely be developed while existing unit infrastructures remain operational; while TAPS tariffs remain reasonable; and while existing development momentum perseveres, then the royalty suspension proposal is a giveaway, and the state shouldn't do it.*

*Q: If OXY owns only an 8.81% interest in Schrader Bluff, why is it so interested in all of this?*

*To begin with, heavy oil is something of a cause celebre for OXY. It is a nationwide leader in developing creative methods for lifting heavy oil.*

*And Milne Point is OXY's core asset in Alaska. OXY is the only original Milne Point participant remaining, and its perseverance over 15 difficult years reflects a stubborn commitment to realizing that unit's full potential.*

*And frankly, that is all to Alaska's advantage. The gene pool of Alaska's oil industry is shrinking, and that's unhealthy. Conoco gave up on Alaska in 1993, and other companies have considerably reduced their Alaska presence, laying off hundreds of Alaska employees over the past several years. The energetic participation of new, independent companies in Alaska's economy should be encouraged, both for its own sake, and to send a clear message that Alaska welcomes active, involved newcomers.*

# Alaska State Legislature



Representative Joe Green

(District 1)

## Sponsor Statement

### HB 325 - Heavy Oil Royalty Holiday

HB 325 allows the producers of heavy oil to forgo the payment of royalty to the state on the first 450 barrels of heavy oil produced each day, for a period of five years. The heavy oil considered in this bill is a thick, tar-like hydrocarbon that is more difficult to produce than the lighter, more conventional oil and gas. The purpose of suspending the royalty is to encourage the lessees of heavy oil deposits to do field research and hopefully develop the maximum amount of recoverable oil in a timely manner.

HB 325 requires no application, the suspension is automatic. In order to receive the suspension the producer must simply submit documentation to DNR certifying that the oil produced meets the definition of "heavy oil" and monitor the production rate to satisfy the requirements in the bill.

HB 325 sends a message to potential investors world-wide that the 19th Alaska Legislature supports the development of heavy oil.

# FISCAL NOTE

**STATE OF ALASKA**  
**1996 LEGISLATIVE SESSION**

**BILL NO. CSHB326(FIN)AM**

Revision Date: Original Dept Affected Natural Resources  
 Title: An Act authorizing suspension of payment BRU: Resource Development  
of a portion of the royalty due the state for initial production... Component: Oil & Gas Development  
 Sponsor: Representative Green  
 Requestor: \_\_\_\_\_ Component Serial No. 439

Expenditures/Revenues	(Thousands of Dollars)					
OPERATING EXPENDITURES	FY97	FY98	FY99	FY00	FY01	FY02
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
<b>TOTAL OPERATING</b>	00	00	00	00	00	00

<b>CAPITAL EXPENDITURES</b>	00	00	00	00	00	00
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<b>CHANGE IN REVENUES (1004)</b>	((172.5/well)	((172.5/well)	((172.5/well)	((172.5/well)	((172.5/well)	((172.5/well)
----------------------------------	---------------	---------------	---------------	---------------	---------------	---------------

FUND SOURCE	(Thousands of Dollars)					
1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
<b>TOTAL</b>	00	00	00	00	00	00

Estimate of any current year (FY96) cost: \$ none

**POSITIONS**

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

**ANALYSIS:**

(Attach a separate page if necessary)

It is not possible at this time to accurately predict the number of new wells that will be drilled that will qualify for the proposed royalty suspension. Nor is it possible to accurately predict the timing of the drilling of any of these new wells. For each new qualifying well that is drilled, if it produces at a rate of 450 barrels per day and oil is valued for royalty purposes at \$10 per barrel, and the royalty is reduced from 12.5% to 2.0%, then the annual royalty suspension will be \$172,500 per year for each of the first five years of well life. Assuming that the well produces at the 450 b/d rate for five years and oil prices stay flat, the total royalty suspension would amount to \$862.5 per well. For a new demonstration project equal in size and scope to the existing Mine Point Schrader Bluff heavy oil project, the royalty suspension would range from \$1.25 million per year at current well rates to \$2.76 million per year at well rates of 450 b/d/well.

Long term production behavior also is unknown for these wells. It is suspected that the wells will produce at a fairly constant rate for at least five years then production decline will begin. Behavior of the Mine Point Schrader Bluff wells is being analyzed to determine if any production trends are evident to date.

Prepared by: Ken Boyd, Director of Oil & Gas Phone: 259-8800  
 Division: Oil & Gas Date: 17-Apr-98  
 Approved by Commissioner: [Signature] Date: 17-Apr-98  
 Agency: Natural Resources

**PREPARER TO PROVIDE ALL DISTRIBUTION COPIES TO GOVERNOR'S LEGISLATIVE OFFICE**

## *The Relationship of HB 325 to the Three Categories of Royalty Relief Available Under HB 207*

### *HB 207's Subsection A Relief--Encouragement of New Marginal Fields*

This relief is authorized by AS 38.05.180(j)(1)(A) (as amended by HB 207). In one sense, this "Subsection A relief" serves the same purpose as HB 325--to encourage capital investment in new, marginal fields. However, Subsection A relief is available only if "the field or pool has not previously produced oil or gas for sale" AS 38.05.180(j)(1)(A)(ii). BP and OXY currently produce, and sell, about 3,400 bbls/day of Schrader Bluff oil from their Tract 14 pilot project, and Arco produced and sold West Sak Sands oil from its pilot project in the Kuparuk River Unit.

As a result, neither field is eligible for Subsection A relief.<sup>17</sup>

### *Subsection B Relief--Prolonging the Life of the Field*

Relief is available under this subsection to "prolong the life of an oil or gas field" AS 38.05.180(j)(1)(B). Relief can only be granted under this subsection if the lessee demonstrates by "clear and convincing evidence" that field life will be prolonged, *and* the relief would be "in the best interests of the state."

Royalty relief on these grounds pre-dates HB 207, and the precedent established by Conoco and OXY's application to change the special royalty surcharge for Kuparuk Formation production from the Milne Point Unit--the only oil and gas royalty reduction application ever processed by DNR--illustrates how narrowly the agency has interpreted this type of relief.<sup>18</sup>

The first impediment to relief under this clause is time. Conoco first applied for Milne Point royalty relief in 1985, ushering in five years of administrative and legislative debates. Conoco and OXY reapplied for relief under the Milne Point Unit Agreement in 1990. DNR Commissioner Heinze denied those applications in April, 1991, and two years of subsequent litigation finally culminated in a 1994 settlement.

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<sup>17</sup> As OXY has said in the past, the possibility of discretionary royalty relief under HB 207 would not provide a sufficient capital investment incentive to spur further development of Schrader Bluff, even if OXY were eligible for it. The only point here is that the possibility of obtaining both this kind of discretionary relief and the automatic suspension of HB 325 doesn't exist, because Schrader Bluff is ineligible.

<sup>18</sup> Conoco and OXY had applied to DNR, under a special relief provision in the Milne Point Unit Agreement, to amend the royalty provisions of that agreement--which included a 7.5% royalty surcharge above-and-beyond the 12.5% lease royalty. DNR, however, chose to decide the companies' requests under AS 38.05.180(j), which is the statute amended by HB 207.

While, after passage of HB 207, applications under Subsection B may not take nine years, neither does history suggest that they will be decided quickly

More of a barrier are the substantive limitations that DNR has placed on this type of relief. The first is the economic test--whether relief is necessary to "prolong the economic life of the field." DNR has defined this test as an "operating loss" test:

*At some point in an oil field's later life the production revenue (excluding the royalty barrels) will not be sufficient to cover all the cash costs, and operations may cease absent royalty reduction.*

<sup>17</sup> An operating loss test is a conservative benchmark, since it looks only to current operating balances, and disregards the question of whether the lessee has recouped, or will recoup, its capital investment. <sup>18</sup> And, in this regard, remember that the lessee must prove a future operating loss by "clear and convincing evidence." DNR has ruled that it is impossible for the lessee to make a "clear and convincing" showing except at the very end of field life. That's because, according to the agency, any economic analysis done earlier in a field's life would necessitate reliance on projections of future oil prices, and the resultant revenue estimates would be neither "clear" nor "convincing." *Recommended Decision* at 16.

Even were a lessee to surmount the economic test, the "best interest" test would remain. DNR has interpreted this test rather strictly, demanding, in quantifiable terms, a "net direct benefit to the state." *DNR Decision* at 1, emphasis added. Additional investment and/or revenues that will "clearly" and "convincingly" flow directly to the state as a result of the royalty relief must exceed the value of the royalties lost through the lower royalty rate. *Id.*, see also *Recommended Decision* at 15-16. Since lessees, at the very end of field life, will likely not be making considerable new capital investments even if relief is granted (but will merely be trying to hold on for a few more years), the state is likely to find a "net direct benefit" only if the lessee has demonstrated, clearly and convincingly, that a reduced royalty will prolong production past the field's natural otherwise economic life.

---

<sup>17</sup> *Decision of the Commissioner of Natural Resources Regarding the OXY USA Inc. Application for Royalty Reduction on ADI 47433, 47434, 47437, 47438, and 28241 (Kuparuk Participating Area, Milne Point Unit)*, April 17, 1991 at 1 ("DNR Decision").

<sup>18</sup> To the extent that DNR would consider the lessee's return on investment in granting relief under this subsection, DNR also decided, in the Conoco and OXY cases, that a lessee earns a reasonable rate of return if the rate at least equals the then-current return on risk-free 90-day U.S. treasury notes. *Recommended Decision of the Commissioner of Natural Resources Regarding the OXY USA Inc. Application for Royalty Reduction on ADI 47433, 47434, 47437, 47438, and 28241 (Kuparuk Participating Area, Milne Point Unit)*, December 28, 1990 at 10 ("Recommended Decision").

*Subsection C Relief--Reestablishing Shut-in Production*

One predicate to this relief is that the field must have been shut-in. Suspending oil production operations, and leaving the pads, wells and facilities in a condition amenable to resumption of production, is a rare event. It requires DNR approval, and--given the considerable cost of starting-up oil production anew--is not an action lightly taken. Indeed, we are aware of only two instances where oil production has been shut-in, and then later resumed: (1) Milne Point in the mid-1980's, and (2) South Middle Ground Shoal field, for one year in the 1990's.

Moreover, even in these unusual cases, the operator must still establish that royalty relief to reestablish shut in production would be "in the best interests of the state." This would require operators to clearly and convincingly demonstrate the same "net direct benefit" to the state that DNR has established as a condition to Subsection B relief.

\* \* \*

It seems rather sensible to prohibit a lessee from obtaining relief both under HB 325 and HB 207's Subsection A, since both laws are aimed at essentially the same purpose--encouraging capital investment in new fields. Subsection B, however, is a different matter, and the legislature will plainly need to take a hard look at the interplay between that subsection and HB 325.

Suppose, for example, that HB 325 results in full development of the Schrader Bluff field. Beginning in year 6, that will result in considerable royalty income to the state that it would not have received but for HB 325. Assuming a field life of 20 years, the state would continue to receive that income--at a royalty rate of 12.5%--for at least the next 12-13 years. Royalty relief would not be available under Subsection B during that period, especially in light of DNR's decision in the Conoco case. *See discussion of Subsection B, above.*

Near the end of field life, however, the state may be convinced that Schrader Bluff's field life could be extended, say, from 20 to 22 years if, under Subsection B, royalties were reduced from 12.5% to 5%.<sup>7</sup> Plainly, the state would yield a net direct benefit by gaining two additional years of royalty income, and in our view the legislature should consider retaining that flexibility in HB 325 itself.

<sup>7</sup> The minimum royalty allowable under Subsection B is 3%. AS 38.05.180(1)(B)

DRAFT

Introduced by: Governmental Affairs  
Date introduced: April 8, 1996  
Date passed:  
Date transmitted:

**RESOLUTION 96-0408.2**

**A RESOLUTION BY THE GREATER FAIRBANKS CHAMBER OF COMMERCE SUPPORTING THE STATE OF ALASKA INCENTIVES FOR THE DEVELOPMENT OF NORTH SLOPE HEAVY OIL RESERVES.**

WHEREAS, the production from Prudhoe Bay has declined over 40 percent and the total North Slope production has declined over 25 percent; and

WHEREAS, the North Slope contains in excess of 20 billion barrels of heavy oil; and

WHEREAS, the oil industry has spent in excess of \$250 million during the past 10 years to economically produce North Slope heavy oil.

**NOW THEREFORE BE IT RESOLVED** that the Greater Fairbanks Chamber of Commerce urges the State of Alaska to support (implement) incentives for the development of heavy oil on the North Slope.

**PASSED** on April \_\_, 1996 by the Greater Fairbanks Chamber of Commerce Board of Directors.

**DRAFT**

**This document is only a draft.**

---

Barton S. LeBon	It does not represent any formal action of the	William J. Robertson
Chairman of the Board	Greater Fairbanks Chamber of Commerce	President/CEO

04/22/96

LEGISLATIVE TELECONFERENCE NETWORK SYSTEM

LTN1150

15:27:18

PARTICIPANT LIST (ALL PARTICIPANTS)

BY:ANC

TCN:60790

SCHEDULED FOR:04/22/96 15:30 TO 17:00

FOR:ANC

PUBLIC HEARING

SENATE RESOURCES

LOCATION: ANCHORAGE

HB 325

KEN

BOYD

TESTIFY

04/22/96

LEGISLATIVE TELECONFERENCE NETWORK SYSTEM

LTN1150

16:09:31

PARTICIPANT LIST (ALL PARTICIPANTS)

BY:ANC

TCN:60790

SCHEDULED FOR:04/22/96 15:30 TO 17:00

FOR:ANC

PUBLIC HEARING

SENATE RESOURCES

LOCATION: ANCHORAGE

HB 325

KEN

BOYD

TESTIFY

HB 325

MIKE

O'CALLAGHEN

TESTIFY

04/17/96

LEGISLATIVE TELECONFERENCE NETWORK SYSTEM

LTN1150

16:05:20

PARTICIPANT LIST (ALL PARTICIPANTS)

BY:ANC

TCN:60749

SCHEDULED FOR:04/17/96 16:00 TO 17:00

FOR:ANC

PUBLIC HEARING

SENATE RESOURCES

LOCATION: ANCHORAGE

CONFIRMATION H

DAVID

NORTON

TESTIFY

HB 325

KEN

BOYD

TESTIFY

**HB**

**329**

# FISCAL NOTE

**STATE OF ALASKA**  
**1996 LEGISLATIVE SESSION**

Bill No. 1  
 Bill Version: HB 329  
 (H) Publish Date: 3/6/96

Revision Date: _____	Dept. Affected: <u>Public Safety</u>	Title: <u>An act providing for restitution to the state for the unlawful taking of game.</u>	BRU: <u>Fish and Wildlife Protection</u>
Sponsor: <u>Rep Bunde &amp; Rep Grussendorf</u>	Component: <u>Enforcement &amp; ISU</u>	Requestor: <u>H 225</u>	<u>Marine Enforcement</u>
Requestor: <u>H 225</u>		COMPONENT SERIAL NO. <u>490,493</u>	

**EXPENDITURES/REVENUES: (Thousands of Dollars) (inflation not included)**

OPERATING	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS CLAIMS						
MISCELLANEOUS						
<b>TOTAL OPERATING</b>	0	0	0	0	0	0
<b>CAPITAL EXPENDITURES</b>	0	0	0	0	0	0
<b>EXPANDED REVENUES (Revenue Code)</b>	0	0	0	0	0	0

**FUNDING: (Thousands of Dollars)**

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
<b>TOTAL</b>	0	0	0	0	0	0

Estimate of current year (FY 96) impact: \$ 0

**POSITIONS:**

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

**ANALYSIS: (Attach a separate page if necessary.)**

HB 329, if enacted, would not negatively impact the department's budget. Additional revenues would be generated to the General Fund but an accurate estimate is not available as the Department of Public Safety does not maintain computerized information for violations by specific animal species.

Prepared By: <u>Major Buell Russell</u>	Phone: <u>907 269-5682</u>
Division: <u>Fish and Wildlife Protection</u>	Date: <u>02/27/96</u>
Approved by Commissioner: <u>Ronald L. Otte</u>	Date: <u>3/5/96</u>
Agency: <u>Ronald L. Otte, Dept. of Public Safety</u>	

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For further distribution information call the Governor's Legislative Office

**COMMITTEE COPY**

# SENATE COMMITTEE REPORT

## First Committee of Referral

DATE: 3/28/96

FURTHER: Finance

DATE TURNED INTO OFFICE: 4-18-96

The Resources Committee considered HOUSE BILL NO. 329 am

"An Act providing for restitution to the state for the unlawful taking of game."

c/2

and recommends:

- be replaced with SEN CS HB 329 ( PES )
- adopt previous CS ( )
- attached amendment(s)
- adopt Letter of Intent by \_\_\_\_\_ Committee
- further referral to the \_\_\_\_\_ Committee

- Senate Bill:
- same title
  - new title
- House Bill:
- same title
  - technical title
  - new: SCR \_\_\_\_\_

SIGNING DO PASS	DP	OTHER RECOMMENDATIONS	NR	DNP	AM
<i>DeCoursey</i>	✓	<i>[Signature]</i>	✓		
<i>Rick Halford</i>	✓	<i>[Signature]</i>	✓		
<i>[Signature]</i>	✓				
CHAIR: <i>[Signature]</i>		CHAIR: <i>[Signature]</i>	✓		

**NEW FISCAL NOTE(S):**

Department	Date	Zero	Fiscal

**PREVIOUS FISCAL NOTE(S):\***

Department	Date	Zero	Fiscal
SAS	3/4/96	✓	

Fiscal note created

APPROPRIATION -- no fiscal note

\*Include fiscal notes accompanying Governor's bill

SENATE CS FOR HOUSE BILL NO. 329(RES)  
IN THE LEGISLATURE OF THE STATE OF ALASKA  
NINETEENTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:  
Referred:

Sponsor(s): REPRESENTATIVES RUNDE, Grussendorf, Ogan

A BILL

FOR AN ACT ENTITLED

1 "An Act providing for restitution to the state for the unlawful taking of game."

2 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

3 • Section 1. AS 16.05.925 is amended by adding a new subsection to read:

4 (b) In addition to a penalty imposed under (a) of this section, a person who  
5 is convicted of unlawfully taking an animal listed in this subsection may be ordered  
6 by the court to pay restitution to the state in the amount set out in this subsection for  
7 each animal unlawfully taken:

- 8 (1) Bear, black ..... \$ 600
- 9 (2) Bear, brown or grizzly . . . . . 1,300
- 10 (3) Bison . . . . . 1,300
- 11 (4) Caribou . . . . . 850
- 12 (5) Deer . . . . . 400
- 13 (6) Elk . . . . . 800
- 14 (7) Goat . . . . . 800
- 15 (8) Moose . . . . . 1,000

1  
2  
3  
4

(9) Musk oxen .....	3,000
(10) Sheep .....	1,100
(11) Wolf .....	500
(12) Wolverine .....	500.



# Alaska State Legislature

## Senate Resources Committee

State Capitol  
Juneau AK 99801

Official Business

MEMO

TO: Legal Services  
via fax: X2029

FROM: Annette Kreitzer, Aide to  
Senate Resources Committee

DATE: April 17, 1996

RE: FINAL CS for HB 329 (RES)

---

Using 9-LS1115K by Utermohle dated 4/8/96, please prepare a FINAL Senate CS for HB 329, Restitution for Certain Game Violations, for delivery to Senate Resources before floor session (11:00 a.m.) tomorrow. There were no additional changes.

Deliver to Room 115 of the Capitol. Thanks.

9-LS1115K  
Uermohle  
4/8/96

SENATE CS FOR HOUSE BILL NO. 329(RES)  
IN THE LEGISLATURE OF THE STATE OF ALASKA  
NINETEENTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:  
Referred:

Sponsor(s): REPRESENTATIVES BUNDE, Grussendorf, Ogan

A BILL

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4 (b) In addition to a penalty imposed under (a) of this section, a person who  
5 is convicted of unlawfully taking an animal listed in this subsection may be ordered  
6 by the court to pay restitution to the state in the amount set out in this subsection for  
7 each animal unlawfully taken:

8	(1) Bear, black .....	\$ 600
9	(2) Bear, brown or grizzly .....	1,300
10	(3) Bison .....	1,300
11	(4) Caribou .....	850
12	(5) Deer .....	400
13	(6) Elk .....	800
14	(7) Goat .....	800
15	(8) Moose .....	1,000

WORK DRAFT

WORK DRAFT

WORK DRAFT

1  
2  
3  
4

(9) Musk oxen ..... 3,000  
(10) Sheep ..... 1,100  
(11) Wolf ..... 500  
(12) Wolverine ..... 500.



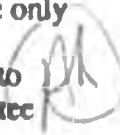
# Alaska State Legislature

Official Business

State Capitol  
Juneau AK 99801

## MEMO

TO: Legal Services  
via fax: X2029 this page only

FROM: Annette E. Kreitzer, Aide to   
Senate Resources Committee

DATE: April 5, 1996

RE: CS HB 329 (RES)

---

Please prepare a Resources Committee Substitute for HB 329 using the following language. I need the CS by Monday, April 8 at 5:00 p.m. for distribution to Resources Committee members.

1) Page 1, Line 4,  
INSERT following "a person who":  
is convicted of unlawfully

Page 1, Line 5,

DELETE [TAKES]  
INSERT following "unlawfully":  
taking



→ 30 days ms of driver license,  
P. Graham: w. ll w. w. Law, Ogar's office

HB 329:

Rep. Bunde

3 levels of discretion

concerned about ~~abuse~~ <sup>abuse</sup> 13 discretion  
Substance laws

1

① "seriously/unintentionally"

Opt. System:

- Civil penalty or fine will committed in  
a criminal court.
- Discretion always can 1 year

no intent to commit someone w/

Bunde

more ppl w/ ms of caught for time  
suspended license w/ opt. - a committed w/d  
to reduced penalty.

② what if someone relate to?

# CORRECTION

THE FOLLOWING DOCUMENT(S)  
HAVE BEEN REFILMED TO  
ASSURE LEGIBILITY OR PAGINATION



Rev. 6-78

Central Microfilm Services  
Department of Education  
State of Alaska

→ 30 days and of driver's license,  
P. System: will be w- Law, Ogas's System

HB 329

Rep. Bunde

3 levels of discretion

onward and ~~abuse~~ <sup>abuse</sup> B discretion

Substance laws

↓

severity/unintentionally

Opt. System

- Civil penalty in some, will come in  
a criminal court.

- Discretion always can go

is intent to commit someone of

Swiss

more ppl with one of right for time  
expedited sentence a year or a few days  
a reduced penalty

(L) what is, sentence, relate to?

Ques 1 AS16 → a concept of knowledge:

Ans Court of Appeal by  
→ oral ability - knowledge of a h to b person  
→ medicine - practice  
→ violation - knowledge in an eye, less monetary  
fine, less jail time.

Ques 2 → to → worse case scenario when worst case  
is better.

---

Ans: worst case offender

---

**SELECTED STATES' PENALTIES FOR WILDLIFE VIOLATIONS**

STATE	CRIMES	ANIMALS INVOLVED	PENALTY
ARIZONA	<i>Illegal taking, wounding, killing, possessing</i>	<i>Civil actions may be brought in the name of the state to seek to recover the following minimum sums as damage:</i>	
		Buffalo, elk, bighorn sheep, eagle, endangered species	\$750
		Bear, mountain lion, antelope, deer	\$450
		Turkey, javalina	\$150
		Beaver	\$75
		Goose, raptor	\$40
		Duck, small game animal or bird	\$15
	Nongame bird or game fish	\$10	
CALIFORNIA	<i>Taking and other violations</i>	Bighorn sheep, large cats, mammals and fish in game refuge, all furbearers, salmon, steelhead, striped bass, sturgeon, shad	\$2,000
	<i>Taking</i>	Endangered, threatened or protected birds of prey	\$5,000
	<i>Selling or purchasing</i>	Bear, sturgeon eggs	\$5,000
	<i>Violations of code (illegal size, illegal waters, etc.)</i>	Ahalone	\$5,000
	<i>Using gill nets to take, with exceptions</i>	Salmon, steelhead, striped bass	\$5,000
COLORADO	<i>Illegal killing or possessing</i>	<i>Violators guilty of a misdemeanor or shall be punished by a fine as follows:</i>	
		Eagles, endangered species, rocky mountain goat, moose, rocky mountain bighorn sheep, lynx	\$1,000
		Elk, threatened species	\$700
		Antelope, deer, black bear, mountain lion	\$500
		Raptors not otherwise covered, wild turkeys	\$200
		One illegal animal or bird	\$50
		Each additional illegal animal or bird	\$25
		One illegal fish	\$35
Each additional illegal fish	\$10		

**SELECTED STATES' PENALTIES FOR WILDLIFE VIOLATIONS**

STATE	CRIMES	ANIMALS INVOLVED	PENALTY		
IDAHO	<i>Illegal taking, possessing, wasting</i>	<i>The minimum criminal fine per animal for the following animals:</i>			
		Bighorn sheep, mountain goat, moose	\$500		
		Elk	\$300		
		Deer, pronghorn antelope, wild turkey, swan, sturgeon	\$200		
		Chinook salmon	\$100		
	<i>Illegal killing, possessing, wasting</i>	<i>In addition to criminal penalties, violators shall reimburse the state as follows:</i>			
		Bighorn sheep, mountain goat, moose, caribou	\$1,000		
		Elk	\$500		
		Deer, pronghorn antelope, wild turkey, swan, sturgeon	\$200		
		Chinook salmon	\$100		
MONTANA	<i>Illegal killing or possessing</i>	<i>In addition to other penalties, a person convicted shall reimburse the state as follows:</i>			
		Bighorn sheep, grizzly bear, endangered species	\$2,000		
		Elk, mountain goat, caribou, bald eagle, moose	\$1,000		
		Mountain lion, black bear, lynx, wolverine, buffalo, golden eagle, osprey, falcon, antlered deer, adult buck antelope	\$500		
		Other deer, antelope, fish, other raptors, swan, bobcat, white sturgeon	\$300		
		Paddlefish, grayling, fur-bearing animals not listed	\$100		
		Game birds (except swan)	\$25		
		Game fish	\$10		
		NEVADA	<i>Illegal killing or possessing</i>	<i>In addition to other penalties, persons are liable for civil penalties as follows:</i>	
				Big game mammal, bobcat, swan, eagle	\$250-\$5,000
Other fish or wildlife	\$25-\$1,000				
NEW MEXICO	<i>Illegal taking, killing, possessing</i>	<i>Violators guilty of a misdemeanor subject to fines for each animal as follows:</i>			
		Elk, bighorn sheep, oryx, ibex, barbary sheep	\$1,000		
		Deer, antelope, javalina, bear, cougar	\$400		
	<i>Illegal wounding, killing, possessing</i>	<i>Civil verdicts or judgments recovered by the state shall not be less than the following sums:</i>			
		Elk, mountain or barbary sheep, mountain goat	\$200		
		Cougar, bison, ibex, kudu, oryx	\$300		
		Antelope, black bear	\$100		
		Deer, javalina	\$50		
		Bird	\$10		
		Fish	\$1		

**SELECTED STATES' PENALTIES FOR WILDLIFE VIOLATIONS**

STATE	CRIMES	ANIMALS INVOLVED	PENALTY
UTAH	<i>Illegal taking, possessing or wanton destruction</i>	<i>Violators found guilty may be ordered to pay the suggested minimum restitution values for each animal as follows:</i>	
		Bison, bighorn sheep, rocky mountain goat, moose, bear, cougar, endangered species	\$1,000
		Elk, threatened species	\$750
		Golden eagle, river otter	\$500
		Pronghorn antelope, deer	\$400
		Bobcat	\$350
		Swan, sandhill crane, turkey, egret, pelican, loon, heron, raptors not endangered or threatened	\$100
		Furbearers except bobcat, river otter and threatened or endangered species	\$35
		Game birds except turkey, swan, sandhill crane	\$15
		Game fish	\$10
		Brine shrimp including eggs	\$8 per pound
Protected wildlife not listed	\$5		
WASHINGTON	<i>Illegal killing or possessing</i>	<i>The court shall order violators to pay reimbursement to the state in the following amounts for each animal:</i>	
		Moose, antelope, mountain sheep, mountain goat, all endangered wildlife	\$2,000
		Elk, deer, black bear, cougar	\$1,000
		Mountain caribou, grizzly bear	\$5,000
WISCONSIN	<i>Illegal killing, wounding, catching, trapping, possessing</i>	<i>If the court imposes a fine for game violations, the court may impose a wild animal protection assessment that equals the amount specified as follows:</i>	
		Endangered species	\$875
		Moose, elk, fisher, prairie chicken, sandhill crane	\$263
		Bear, wild turkey, wild swan	\$175
		Wildcat, fox, beaver, otter	\$88
		Deer, coyote, raccoon, mink	\$44
		Sharptail grouse, ruffed grouse, spruce hen, wild duck, coot, wild goose or brant	\$26
		Pheasant, Hungarian partridge, quail, rail, Wilson's snipe, woodcock, shore bird, protected song bird	\$18

**SOURCES:**

Center for Wildlife Law, University of New Mexico, "State Wildlife Law Handbook," 1993;  
 California Senate Office of Research, "Issue Brief: Summary of California 'Poaching' Laws," no date; and  
 Statutes from the states listed.

Table 8. Restitution, Spotlighting and Waste Statutes

**Restitution**

Civil Penalties and other forms of restitution are now required by most states for illegal taking of certain species of wildlife or big game animals. Several states, of which Colorado is a good example, provide for setting rules for replacement costs of fish and wildlife, costs of investigations, and setting schedules of replacement or restitution costs for court use, but usually do not prevent a court or jury from examining the reasonableness of the regulations or from assessing the special factors in a case which may make the true costs higher or lower than the amount stated in the rules. Colorado provides that "replacement costs" must be broadly construed to include habitat improvement or restoration where direct stocking is not feasible". There are many good examples of restitution provisions among the states, and schedules of specific animals and their "values" given (see Pennsylvania, Wisconsin, Louisiana, Minnesota and others for examples). Valuable restitution provisions should be mandatory and the amounts or values set for each species should be adequate to effect deterrence and to pay to restock the animal or otherwise compensate for its loss, and collection should be made for each animal, bird or fish as a separate offense. Most states do stipulate that restitution shall be required and collected. Colorado provides that the amounts collected for each animal "may not be for less than the sum stated by statute, but may be for such greater amount as the evidence may show the value of the wildlife to have been when living and uninjured". Wisconsin also provides that "no penalty prescribed in this chapter shall be diminished because the violation for which it is prescribed falls also within a more general prohibition," and that the burden is on the defendant to show that animals were commercially raised, taken for scientific purposes, or otherwise innocently and legally taken. Nearly all states provide that the civil or restitution penalties are in addition to any criminal penalties imposed. Pennsylvania, however, only assesses replacement costs for violations involving threatened or endangered species, or others designated by the Commission, but provides that additional compensatory and punitive damages for game or wildlife killed or habitat injured or destroyed may be sought by civil action, including costs of gathering evidence, expert testimony and other costs. Wisconsin, however, notes that a civil action shall be a bar to a criminal prosecution for the same offense and vice-versa. Amounts shall not be less than those stated in the statutes, and shall be for each protected animal, bird, fish or part taken. In Colorado, the division may bring a civil action against an owner whose dog inflicts death or injury to any big game other than bear or mountain lion, and to small game, birds and mammals according to established restitution values.

**Spotlighting**

Please refer to discussion in Chapter 3, "Wildlife Poaching in the U.S."

**Waste**

Please refer to discussion in Chapter 3. All states should have a "waste" provision and should clearly define what is "edible meat." Alaska and some other Western states are good examples; also Oklahoma and a few others include waste of aquatic resources, salmon or other wildlife, and more states should do so. Oklahoma is the only state to mention that "no person may capture, kill, mutilate or destroy wildlife protected by law and remove the head, claws, teeth, hide, antlers, horns or parts with intent to abandon the body, nor capture or mutilate a *living* wild animal protected by law by removing claws, teeth, hide, antlers or body parts, with such "waste" fines being up to \$1,000. It is disturbing to realize that live animals may be mutilated for valuable parts, but since some wildlife parts are worth more per ounce than cocaine, the lengths to which commercial poachers and others will go are not surprising.

Table 8. Restitution, Spotlighting and Waste Statutes

State	Restitution Statute Present	Spotlighting Statute Present	Waste Statute Present	State	Restitution Statute Present	Spotlighting Statute Present	Waste Statute Present
AK			•	MT	•	•	•
AL		•		NC	•	•	
AR			•	ND	•	•	
AZ	•	•	•	NE	•	•	•
CA	•	•	•	NH	•	•	
CO	•	•	•	NJ	•	•	
CT		•		NM	•	•	•
DE		•		NV	•	•	•
FL		•		NY	•	•	
GA		•	•	OH	•	•	
HI				OK	•	•	•
IA	•	•		OR	•	•	•
ID	•	•	•	PA	•	•	
IL	•	•	•	RI		•	
IN	•	•		SC	•	•	
KS	•	•		SD	•	•	•
KY	•	•		TN	•	•	
LA	•	•		TX	•	•	•
MA	•	•		UT	•		•
MD	•	•		VA	•	•	
ME		•		VT	•	•	
MI	•			WA	•	•	•
MN	•	•	•	WI	•	•	
MO				WV	•	•	
MS		•		WY	•	•	•

78

Table 14. States with Criminal Felony Provisions for Various Violations

Felony Provision Present				
Arizona	Idaho	Missouri	North Dakota	Texas
Arkansas	Illinois	Montana	Ohio	Utah
California	Indiana	Nebraska	Oklahoma	Virginia
Colorado	Kansas	New Hampshire	Oregon	Washington
Florida	Michigan	New York	South Dakota	West Virginia

Although only twenty-four states provide for felony provisions for various wildlife violations, virtually every state provides for misdemeanor violations. Examples of the types of violations that constitute felonies in various states are listed below.

**Categories for profit or commercial gain include:**

- knowingly capturing, killing, possessings, exporting, importing, or receiving an endangered species for profit or commercial enterprise;
- buying or selling game or protected animals for profit;
- game wardens accepting bribes;
- commercialization in general (aggregate value varies);
- combined sales greater than \$200 within a 90-day period by someone not possessing a commercial license;
- sale of fish with a value greater than \$250 caught with personal fishing gear; and
- wanton destruction of wildlife whose value is greater than \$500.

**Examples of specific animals include:**

- killing a raptor;
- releasing a live wolf;
- taking big game during closed seasons;
- destroying paddlefish or pallid sturgeon;
- killing a panther;
- using bull, bear, dog or other animal for fighting, baiting or as a target;
- killing an endangered species or destroying its nest or eggs; and
- illegally shipping a protected animal.

**Examples of previous violations include:**

- subsequent misdemeanor violations;
- subsequent violation of illegally taking fish or eggs;
- subsequent violations within 5 years involving big game or endangered species; and
- multiple convictions of using aircraft to harass wildlife.

**Other examples include:**

- resisting an enforcement officer;
- using an explosive substance to kill or catch a fish;
- abandoning, or not rendering assistance to someone hunter shot and/or not reporting it immediately;
- buying, selling, or using illegal devives for bear, deer or moose parts, bear traps, and spotlighting if not a natural person of that state; and
- having knowledge that fraud was committed in a tournament having a prize greater than \$10,000 and not notifying law enforcement.

REPRESENTATIVE CON BUNDE  
GO CHAIR HEALTH, EDUCATION  
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VICE CHAIR RULES

**Alaska State Legislature**  
**House of Representatives**

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## **SPONSOR STATEMENT**

### **HB 329**

### **“An Act providing for restitution to the state for the unlawful taking of game.”**

Penalties for violating wildlife protection laws vary with the crime and state. The most common crime classification for wildlife violations in all states is the criminal misdemeanor. For misdemeanors, states generally give judges discretion in choosing the amount of fine, length of jail term, or both. In Alaska, persons convicted of wildlife violations are guilty of a class A misdemeanor. The penalty is jail for up to a year and a fine of up to \$5,000(AS 16.05.925 (a)).

In addition to criminal penalties, some states have civil liability provisions of some kind. About half the state legislatures have assessed the value of wild life for civil liability proposes and list damages which may be sought as part of a civil penalty. Some states require the violator to pay, as a condition of sentencing, restitution to the state for each animal taken. Alaska is one of only 12 states which does not have restitution provisions for wildlife violations in statute. HB 32 provides a schedule of restitution for wildlife violators to repay as a condition of sentencing.

Alaskans are losing valuable wildlife to poachers. Each piece of game that is illegally taken from our state is an economic loss that affects both our hunting and tourism industries. HB 329 will hold those illegal takers of game accountable for the value of their take. Poachers will now have to pay restitution, as well as, the penalties already in statute.

I urge your positive consideration of this legislation.

# FISCAL NOTE

STATE OF ALASKA  
1996 LEGISLATIVE SESSION

BILL NO: HB 329

Revision Date: \_\_\_\_\_ Dept. Affected: Public Safety  
 Title: An act providing for restitution to the state for BRU: Fish and Wildlife Protection  
the unlawful taking of game. Component: Enforcement & ISU  
 Sponsor: Rep Bunde & Rep Grussendorf Marine Enforcement  
 Requestor: H. RES COMPONENT SERIAL NO. 490,493

**EXPENDITURES/REVENUES: (Thousands of Dollars) (inflation not included)**

OPERATING	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
<b>TOTAL OPERATING</b>	0	0	0	0	0	0
<b>CAPITAL EXPENDITURES</b>	0	0	0	0	0	0
<b>CHANGE IN REVENUES ( )</b>	0	0	0	0	0	0
Revenue Code						

**FUNDING: (Thousands of Dollars)**

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
<b>TOTAL</b>	0	0	0	0	0	0

Estimate of current year (FY 98) impact: \$ 0

**POSITIONS:**

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

**ANALYSIS: (Attach a separate page if necessary.)**

HB 329, if enacted, would not negatively impact the department's budget. Additional revenues would be generated to the General Fund but an accurate estimate is not available as the Department of Public Safety does not maintain computerized information for violations by specific animal species.

Prepared By: Major Buell Russell Phone: (907) 269-5882  
 Division: Fish and Wildlife Protection Date: 02/27/98  
 Approved by Commissioner: *Ronald L. Otte* Date: 3/5/98  
 Agency: Ronald L. Otte, Dept. of Public Safety

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