

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 8672
1478 SCOM 55: JNT. SPEC. COMM. ON STATE TAX POLICY, 1986-1987

1278

TABLE 6b

CALCULATIONS FOR REDUCING SEVERANCE TAX RATE BY 50%
COMPARED WITH BASE CASE 2

	RATE	<u>1987</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
<u>WITH SEVERANCE TAX RATE REDUCED 50%</u>					
VALDEZ F.O.B.		20.50	20.00	23.50	28.50
Less:					
PIPELINE LOSS		0.06	0.06	0.07	0.09
PIPELINE TARIFF		<u>4.35</u>	<u>3.25</u>	<u>2.05</u>	<u>1.52</u>
WELLHEAD PRICE		16.09	16.69	21.38	26.89
Less:					
ROYALTY	0.125	2.01	2.09	2.67	3.36
SEVERANCE	0.075	1.06	1.10	1.40	1.76
WPT	0.700	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
RETURN		13.02	13.51	17.30	21.77
<u>EQUIVALENT WELLHEAD PRICE</u>					
WELLHEAD PRICE		17.50	18.88	23.26	29.27
Less:					
ROYALTY	0.125	2.19	2.36	2.91	3.66
SEVERANCE	0.150	2.30	2.48	3.05	3.84
WPT	0.700	<u>0.00</u>	<u>0.54</u>	<u>0.00</u>	<u>0.00</u>
RETURN		13.02	13.51	17.30	21.77
<u>EQUIVALENT WELLHEAD PRICE INCREASE</u>					
WELLHEAD DIFFERENCE		1.41	2.19	1.88	2.38
WELLHEAD RATIO		1.088	1.131	1.088	1.088
<u>SUPPLY RESPONSE</u>					
AMOUNT OF OIL AFFECTED (MBD)		1,800	1,700	1,550	1,400
LOW ELASTICITY		0	0	0.05	0.1
%		0.00%	0.00%	0.42%	0.85%
QUANTITY (MBD)		0.00	0.00	6.5	11.9
MID ELASTICITY		0	0.025	0.1	0.2
%		0.00%	0.31%	0.85%	1.71%
QUANTITY (MBD)		0.00	5.2	13.1	23.9
HIGH ELASTICITY		0	0.05	0.15	0.3
%		0.00%	0.62%	1.27%	2.57%
QUANTITY (MBD)		0.00	10.5	19.7	36.0

TABLE 7

CALCULATIONS FOR EXEMPTION FROM WPT (HIGH PRICES)
COMPARED WITH BASE CASE 3

	<u>RATE</u>	<u>1987</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
<u>WITH ANS OIL EXEMPT FROM WPT</u>					
VALDEZ F.O.B. (HIGH)		23.00	23.00	29.00	36.00
Less:					
PIPELINE LOSS		0.07	0.07	0.09	0.11
PIPELINE TARIFF		<u>4.35</u>	<u>3.25</u>	<u>2.05</u>	<u>1.52</u>
WELLHEAD PRICE		18.58	19.68	26.86	34.37
Less:					
ROYALTY	0.125	2.32	2.46	3.36	4.30
SEVERANCE	0.150	2.44	2.58	3.53	4.51
WPT	0.000	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
RETURN		13.82	14.64	19.98	25.56
<u>EQUIVALENT WELLHEAD PRICE</u>					
WELLHEAD PRICE		20.28	23.98	26.86	34.37
Less:					
ROYALTY	0.125	2.54	3.00	3.36	4.30
SEVERANCE	0.150	2.66	3.15	3.53	4.51
WPT	0.700	<u>1.27</u>	<u>3.19</u>	<u>0.00</u>	<u>0.00</u>
RETURN		13.82	14.64	19.98	25.56
<u>EQUIVALENT WELLHEAD PRICE INCREASE</u>					
WELLHEAD DIFFERENCE		1.70	4.30	(0.00)	(0.00)
WELLHEAD RATIO		1.091	1.218	1.000	1.000
<u>SUPPLY RESPONSE</u>					
AMOUNT OF OIL AFFECTED (MBD)		1,520	1,050		
LOW ELASTICITY		0	0		
%		0.00%	0.00%		
QUANTITY (MBD)		0.0	0.0		
MID ELASTICITY		0	0.025		
%		0.00%	0.50%		
QUANTITY (MBD)		0.0	5.2		
HIGH ELASTICITY		0	0.05		
%		0.00%	0.99%		
QUANTITY (MBD)		0.0	10.4		

APPENDIX D

DESCRIPTION OF DOE OIL TRADE MODEL

The Oil Trade Model (OTM) simulates international petroleum production, transportation, and refining. Using a non-linear optimization technique, the model maximizes the sum of producers' and consumers' surplus, given supply and demand functions and various constraints on the system. The model can be used to investigate the effects of government policy and international events on crude and product supplies, demand, prices, and flows. The model incorporates refining costs, refinery technology, shipping costs, taxes, subsidies, and distribution costs into the analysis.

The model simulates the international petroleum system with:

- 15 crude oil supply regions
- 15 refining regions
- 15 product demand regions
- 6 transshipment points for crudes

- 15 crude oils (differentiated by gravity and sulfur content)
- 3 intermediate products (shipped among refining regions)

- 6 refined products (including high sulfur resid, low sulfur resid, distillates, gasoline, and naphtha)

- 100 refinery technologies
- 20 refinery constraints (capacities, material, etc.)

- 9 transport modes
- 12 quantity constraints on transport variables

OTM contains a non-linear objective function but its constraints are linear. The objective function contains both linear and non-linear terms. The linear terms are defined by refining and transportation costs. The non-linear terms are the product demand and crude supply functions.

Demand curves are specified for each product and region. Each curve is described by three parameters: a "reference" price and quantity, and constant price elasticity of demand. Supply curves are specified for each crude oil type and supply region.

The model's constraints may be interpreted as availability limits. The constraints maintain material balances, as well as specify refinery and transportation capacities. The refinery technology parameters specify the mix of products that are available. Other parameters can be introduced to model stockpile releases or accumulation of crude or products, net imports from the Centrally Planned Economies, and import quotas.

The output of the model is a complete description of the international petroleum sector. The data shows:

- o how much crude is produced in each region;
- o where and how each crude is transported for refining;
- o which refining technologies are used at what levels;
- o where and how products are shipped to demand regions;
- o consumption of products in demand regions;
- o prices of all crudes and products;
- o shadow prices of refinery capacities, transport capacities, crude producibility, etc.

For more detailed information, see A.S. Manne and K.C. So, "International Oil Trade Model: A User's Guide to OTM," Stanford University, March 1984.

APPENDIX E

SUMMARY OF FEDERAL REGISTER NOTICE COMMENTS

1. Introduction

On December 9, 1985, the Office of Industrial Resource Administration, U.S. Department of Commerce, published in the Federal Register a request for comments on the Alaskan North Slope crude oil study. This study, mandated by Congress in the Export Administration Amendments Act of 1985, required a review of issues concerning:

- o "possible changes in the existing incentives to produce crude oil from the Alaskan North Slope; and
- o "possible changes in the existing distribution of crude oil from the North Slope of Alaska and the appropriateness of continuing existing controls."

Thirty-four comments arguing either for or against the export of ANS crude oil were received from various members of the petroleum producing and refining industries, the transportation and engineering industries, labor organizations, and concerned citizens. Almost all of these comments focused on exporting Alaskan North Slope (ANS) crude oil rather than possible changes in the existing incentives to produce ANS crude oil.

The key issues raised by the parties commenting on this study involved the various impacts of lifting the export ban on Alaskan crude oil. These impacts encompassed the following areas: (1) exploration and production, (2) Federal and State revenues, (3) the refining industry, (4) consumers, (5) employment, (6) the shipping industry, (7) U.S. trade policy, (8) U.S. foreign policy, and (9) national security.

2. Exploration and Development

Many parties, both those in favor and those opposed to lifting the ban, addressed the impact on new petroleum development of allowing ANS crude exports. All parties agreed that by allowing ANS exports, the wellhead value of ANS crude would rise. Estimates of the wellhead price increase ranged from \$1-3 barrel. The parties disagreed, however, regarding the impact of higher wellhead prices on new Alaskan development.

Before discussing some of the parties' comments, it is interesting to observe that none of the parties provided specific estimates of the production increases resulting from a lifting of the ban. This fact apparently stems from the long lead times required to develop Alaskan oil (10-15 years), uncertainty about the quantity and quality of future lease acreage, and uncertainty about the future world oil price.

These factors made various parties reluctant to venture estimates of future production.

Just as all parties agreed that lifting the export ban would result in higher wellhead prices, the parties were pretty much in agreement that ANS production would begin to decline during the 1990s. In its comments, the State of Alaska presented estimate, by the Department of Revenue showing oil production declining from the approximately 1.8 million barrels per day (MMB/D) current level to 0.9 MMB/D by 1995. Exxon, which opposes lifting the ban, also cited the Alaskan estimate as a reliable indicator of the prospects for declining crude oil production.

The basic argument of the advocates for lifting the ban was that exporting oil to the Pacific Basin rather than sending it through the Panama Canal to the Gulf Coast results in a \$2.50-3.00 per barrel transportation savings. This savings is then transferred to the producers. The incremental revenue, after allowing for the deduction of Federal and State of Alaska tax revenues, could then be used for new exploration and development. Advocates of lifting the ban (such as the State of Alaska, Conoco, Amoco and the Yukon Pacific Corporation) all argue that this would result in new production that would not occur if the ban remains in place.

The advocates of lifting the ban also distinguished between the beneficial impact of lifting the ban on existing ANS output and the prospects for new, smaller fields such as Endicott Field and the second phase of the Milne Point development project. They argue that the additional wellhead profits resulting from lifting the ban are necessary to finance the small marginal onshore fields as well as offshore Alaskan petroleum exploration and development.

On the other hand, opponents of lifting the ban maintained that the additional profits to the producers would not significantly increase the economics of exploration and development on the North Slope. The Coalition to Keep Alaska Oil argued that in spite of depressed prices, the

"net production profits from the Sadlerochit field are \$5 per barrel and annual profits today total nearly \$3 billion a year. We fail to see how a net increase of less than \$1 per barrel to producers drastically improves the economics of exploration and development on the North Slope."

Exxon contended that lifting the export prohibition will not result in appreciably higher production. They believe that Alaskan development is already proceeding at full speed and is not being constrained by the lack of markets. Rather, in their view, the constraint is access by the companies to attractive lease acreage.

3. Federal and State Revenues

The major conclusion of the various parties on the revenue impacts were: (1) the Federal Government and the State of Alaska would obtain increased revenues, (2) the State of Alaska would not incur any offsetting costs such as the Federal maritime losses, and (3) the Federal Government would incur offsetting costs due to maritime losses.

Conoco stated that if the ban were lifted and 500,000 B/D were exported, it would provide \$3 billion in tax revenues for the Federal Government over the next ten years, and \$60 million annually for the State of Alaska over the next ten years.

Opponents of lifting the ban, such as the American Institute of Merchant Shipping, disputed the absolute level of benefits flowing to the U.S. Government. While they agreed that the State of Alaska will incur no losses, they do foresee the Federal Government receiving lower revenues because of losses on Title XI defaults, tax losses on non-federally insured ship bankruptcies, and tax losses resulting from ships and employees forced out of business. In this regard, the American Institute of Merchant Shipping stated that the Federal Government may recognize some increases in tax receipts, but it "will lose some \$800 million to \$1.5 billion of Federally insured Title XI mortgage loan guarantees." They also stated that the government will "lose tax revenues estimated at \$150 to \$200 million from bankrupt vessel operators in the domestic trade and their employees who would be forced out of employment."

4. Consumers

Advocates and opponents of lifting the export ban disagreed regarding the consumer impacts. The advocates put forth an economic efficiency argument to support their point. First, the export of the oil would result in more efficient transportation patterns and the reduced shipping charges would flow to Federal and State Governments as tax revenues and to the producers as additional profits. The latter would invest in exploration and development and expand Alaskan production. Increased production would expand the availability of world energy supplies and moderate any upward pressure on world oil prices.

The above arguments take a long-term approach to consumer benefits. They base it on the more efficient allocation of resources to the economy -- i.e., assets engaged in expensive shipping can be redirected to exploration and development -- and more energy supplies will lead to greater competition and ultimately moderate or even reduce world oil prices. The consumer would then benefit through reductions in the prices of petroleum products.

The opponents of lifting the ban reject this view. Instead, they argued that exports will result in refiners, particularly those on the West Coast, paying higher prices for replacement crude supplies. These higher prices will then translate into higher petroleum product prices. The opponents estimated that consumer prices could be \$1-2 billion per year higher if the ban were to be lifted. Moreover, the West Coast market would receive the brunt of the higher prices.

The Citizen/Labor Energy Coalition and the Coalition To Save Alaskan Oil argued that it is the interest of U.S. consumers to maintain the ban on ANS crude exports. Their arguments cited the elimination of the "West Coast price discount" if ANS crude were to be exported and the need for West Coast companies to obtain new crude suppliers to replace ANS crude and higher prices for consumers.

5. Employment

The advocates and opponents recognized that lifting the export ban would seriously harm employment in the maritime sector. Depending upon whether the party is an advocate or an opponent of lifting the ban, they took different perspectives on the potential unemployment problem in the maritime sector.

Advocates of lifting the ban basically viewed the maritime employment impact as part of an industry adjustment process. They generally view U.S. shipping as expensive and unable to compete in world markets. Lifting the ban would result in: (1) U.S. shipping companies becoming more competitive, and (2) the companies that are unable to compete would go out of business.

The advocates of ANS exports also pointed out that employment prospects would be enhanced in the petroleum sector. For example, AMOCO stated that, "The \$2-billion Endicott Field development project will employ more than 600 people during construction and provide at least 150 long-term jobs after production start-up, as well as numerous additional jobs in various service industries."

Many opponents of exporting ANS crude strongly argued that employment levels within the maritime sector would significantly decline with the export of ANS crude. The AFL-CIO's submission to the Federal Register Notice stated that "based upon an export level of 300,000 barrels per day and the estimated idling of 25 vessels, approximately 1700 maritime workers would lose their jobs."

Approximately 6,000 to 7,000 workers engaged in the supply of intermediate goods and services to the shipping industry would lose their jobs as well."

6. Refining Industry

The refining issue produced strong differences between advocates and opponents of lifting the ANS ban. The advocates addressed the presumed beneficial impacts for the West Coast refining industry. Their argument was that today West Coast refiners have a surplus of ANS and California heavy crudes. These heavy crudes yield a slate of products that is not optimally suited for the California market. Therefore: (1) refiners have a surplus of residual fuel oil that they must export at low prices, and (2) refiners face the prospect of investing large sums in refinery conversion facilities. Exporting ANS crude and importing light sweet crude in its place will result in a better slate of products for the California market. There will also be less surplus high sulfur residual fuel oil to market on the West Coast or export and the price of California heavy crudes will improve. Refiners' profits will increase over time as they market a more desirable slate of clean petroleum products that can command better prices.

On the other hand, the opponents of lifting the ban outlined a series of negative impacts for the refining industry. UNOCAL, TOSCO, Beacon Oil, Edgington Oil and the American Independent Refiners Association PADD V Committee contended that lifting the ban will result in loss of their ANS crude supplies to foreign customers and/or sharply higher prices to U.S. refiners for ANS crude. Erosion of profit margins -- the U.S. refiners will have to buy expensive foreign crude and may not be able to recover all their costs -- will result in some independent refiners going bankrupt. Additionally, the uncertainty in the refining sector given declining oil prices may lead to expanded petroleum product imports. The independent refiners viewed product imports as a threat to their continued existence. In short, the independents are more comfortable maintaining the status quo and using the existing mix of ANS and California crudes in their refineries.

7. Shipping

The comments on shipping produced some of the largest differences between the parties that provided comments. Both the advocates and opponents of the ANS export ban agreed that the U.S. Maritime sector would suffer the most if the ban were lifted:

The advocates believed that the U.S. shipping sector would suffer if the ban were to be lifted because in large part the maritime industry was uncompetitive. Dr. Fred Singer, for example, argued that lifting the ban would force the U.S. shipping industry to be

more competitive. Both Singer and other advocates of exports believe that this would be a good development for a number of reasons. First, the U.S. shipping industry would become more competitive. Second, uncompetitive shippers would go out of business and these assets would be reallocated to more efficient uses. They also believe that the overall national benefits derived from lifting the ban outweigh the debits incurred by the maritime industry. Finally, the advocates view exports as an opportunity for U.S. ships to carry part of the ANS crude.

The opponents of the ban sharply disagreed with the advocates. The opponents, who range from the shipbuilding and repair industry to UNOCAL, Exxon, and the AFL-CIO, believe that when the U.S. Congress passed the Trans-Alaska Pipeline Act (1973), it established an understanding that ANS crude was to be used exclusively in the United States. In reliance upon this, the companies built a large crude oil supply infrastructure comprised of a pipeline and a fleet of tankers. They view lifting the export ban as changing the ground rules in midstream and depriving the U.S. of its PADD V (West Coast) crude oil supply delivery infrastructure. Moreover, the disassembly of this crude oil delivery network would have substantial financial costs to the already hard pressed U.S. flag fleet.

The Transportation Institute pointed out that "the export of 300,000 B/D of ANS crude would reduce demand for tankers by over two million deadweight tons. This would cause nine vessels to be idled in the Pacific Basin and 16 in the Atlantic. The owners of these idled ships would lose approximately \$250 million a year in operating revenue. Additionally, the worldwide surplus of shipping capacity would prevent these ships from being sold at a price which would adequately compensate the owner."

The U.S. flag tanker tonnage dedicated to the ANS trade amounts to approximately 60 percent of U.S. operating tanker tonnage. The maritime critics of lifting the ban viewed this event as the possible prelude to a demise in U.S. ship construction and repair facilities. They believed that once the ban was lifted, U.S. shipyards would stop building new tankers. Moreover, there would be less demand for U.S. non-military ship repair facilities. In this regard, the National Marine Beneficial Association pointed out that "since Alaska and Gulf Coast ship repair facilities provide about 40% of all revenue earned by West and Gulf Coast ship repair facilities, Alaska oil exports would have a major impact on the shipbuilding industry as well."

The other major issue involves shipping ANS crude at various export levels. The maritime critics all rejected Free Market export volumes as totally unacceptable. There was a limited discussion of the small export volumes -- 50,000 - 200,000 B/D. To the extent it was discussed the maritime critics were not in favor of the partial export scenarios.

On the other hand, the State of Alaska and the Yukon Pacific Corporation endorsed partial exports as a reasonable alternative. In its comments, the State of Alaska argued for exports of 200,000 B/D (Note: This amount roughly approximates the State's share of royalty oil - i.e., 12.5 percent of production) and some exports from new fields. The State suggested that the impact on the U.S. shipping industry can be partially mitigated by requiring the use of U.S. flag tankers for part of the crude oil exports. Similarly, the Yukon Pacific Corporation would like to see exports determined by market forces but recognized that partial exports would be preferable to continuation of the ban.

"If any stopgap alternative is to be employed, freeing up new production from marginal fields for export would be best. This compromise would at least protect the current infrastructure set up to deliver Prudhoe Bay oil, while providing the incentives necessary to get new exploration and production on line."

8. Trade

The foreign trade impact of lifting the ANS crude export ban evoked numerous comments. The parties made their points on a more general level and addressed bilateral U.S./Japan trade issues.

Neither the advocates nor the opponents attempted to quantify systematically the export benefits and the corresponding crude oil replacement costs.

The American Association of Exporters and Importers and the State of Alaska cited the beneficial impact of lifting the export ban on U.S./Japan bilateral trade. Exports of ANS crude to Japan would demonstrate the willingness of the U.S. Government to remove trade barriers. Each 100,000 B/D of ANS crude exports would reduce the U.S. trade deficit with Japan by approximately \$900 million (at \$25 per barrel FOB Alaska). U.S. oil exports could lead to Japanese interest in Alaskan natural gas and coal and investment capital to facilitate new trade projects. This viewpoint of the benefits of lifting the ANS export ban also lead its adherents to argue that the Japanese may be willing to make concessions in other areas of the trade relationship.

The opponents cited a number of presumed negative trade impacts. Exxon, as well as some of the independent refiners, see a slightly negative trade impact if ANS crude is exported FOB Alaska and foreign crude is imported on a CIF basis. The United States would wind up with a small trade deficit stemming from paying a small differential to import crude in foreign tankers while exporting ANS crude on foreign ships. None of the commentators, however, attempted to quantify this small deficit.

The next level of opposition to the trade benefits came from those that are upset by the large U.S./Japan trade deficit. They view ANS crude exports as a short-term band-aid that slightly relieves a symptom of the bilateral trade problem but does not deal with the larger problem of access for United States goods to the Japanese market. It makes no sense for the U.S. to export market priced fuels and raw materials that the Japanese then convert into finished goods to compete with the United States in world markets.

9. Foreign Policy

In the realm of foreign policy, the commentators disagreed as to whether lifting the ban on exporting ANS crude would jeopardize or improve our interests. The advocates argued that exporting ANS crude would further the current U.S. international energy policy of providing our allies with dependable sources of crude oil. Specifically, if crude oil was exported to Japan, the U.S.-Japanese relationship might be strengthened by (1) allowing the Japanese to diversify their sources of crude oil, (2) reducing their trade surplus with the United States, and (3) perhaps opening the door to solving some of our other trade problems with Japan. At present, the Japanese are approximately 60 percent to 70 percent import dependent upon Middle Eastern oil producing nations for crude oil.

Furthermore, the advocates argued that ANS exports would be replaced by imports to the Gulf Coast from non-Middle East producing nations such as Mexico and Venezuela. This could further weaken OPEC's influence on the world oil market while helping Mexico and Venezuela to honor their debts with the United States and improving their current internal economic situation. It would also benefit current U.S. energy policy by allowing us to diversify further our sources for imported crude oil.

On the other hand, opponents argued that since the United States is dependent on imported oil for about 30 percent of its domestic needs, there would be no significant gains resulting from the export of ANS crude to our Pacific Rim allies. The United States would simply import oil, particularly from unreliable Middle East sources to replace the ANS crude. This would not result in an improvement in U.S. energy security.

Opponents of lifting the ban argued that the United States would obtain no trade concessions in terms of gaining access for manufactured goods to the Japanese in return for exporting crude oil. They based this observation on the view of prior U.S. experiences in negotiating with the Japanese and the fact that the United States currently has a large trade deficit with Japan. They also stated that it is inconsistent for the United States to export crude while we are filling the Strategic Petroleum Reserve with foreign crude.

10. National Security

The advocates and opponents disagreed as to the effects exporting ANS crude would have on current national security interests. The State of Alaska argued that the United States must maintain a strong energy position vis-a-vis rising energy prices and potential disruptions on the international oil market. Exporting ANS crude would enhance Japanese energy security. The additional profits from the ANS wellhead price increases resulting from lifting the export ban would flow to the producers. The latter would be invested in new production that would expand Free World supplies and moderate future oil price increases.

It is also argued that should oil shortages in the event of a national emergency arise, the President, under the International Emergency Economic Powers Act, does have the authority to restrict oil exports. (Note: other statutory authorities such as the EAA and EPCA also may be available.) Additionally, should North Slope crude restrictions be lifted, strict monitoring controls could be written into the short supply section of the Export Administration Regulations governing these exports.

Opponents, however, made the argument that national security interests would be hurt more than helped by exporting ANS crude oil. Although they argued that the United States would have to import Middle East oil as a replacement for ANS exports, most of their arguments addressed the impact on the domestic tanker fleet. Since Alaskan oil shipments employ approximately 46 percent of the vessels and 74 percent of the tonnage in the domestic tanker fleet, changes in this practice would significantly hurt this industry and result in many smaller tankers going bankrupt and being scrapped. These small tankers are the type of ships that the Defense Department (DOD) would use to deliver clean products (e.g., jet fuel) during a military mobilization. A recent GAO report points out that should a future emergency situation require a military mobilization, this could put the Defense Department in a position of relying on U.S.-owned ships registered under foreign flags to supply petroleum to U.S. forces overseas. This causes concern regarding the reliability of access to these ships since they are often organized under the foreign countries whose flags they fly and may not be easily requisitioned.

11. Postscript

After this section had been completed, comments were received from BP Alaska, an oil producing subsidiary of the British Petroleum Corporation, and from Senator Frank Murkowski of Alaska. Both commentators supported lifting the export ban on ANS crude oil. Their arguments favoring a lifting of the export ban were very similar to the points made by other commentators that support ANS oil exports.

[Docket No. 51194-5194]

Alaskan North Slope Oil Study; Inquiry**AGENCY:** Office of Industrial Resource Administration, International Trade Administration, Commerce.**ACTION:** Request for Comments, Alaskan North Slope Oil Study.

SUMMARY: Section 128 of the Export Administration Amendments Act of 1985 requires that the President undertake a comprehensive review of issues concerning: (1) Possible changes in the existing incentives to produce crude oil from the North Slope of Alaska; and (2) possible changes in the existing distribution of crude oil from the North Slope of Alaska and the appropriateness of continuing existing controls. The Department of Commerce has been designated by the President to coordinate and prepare this review. This notice is to solicit comments from interested parties to assist the Department in preparing the review.

DATE: Comments must be submitted on or before January 23, 1986.

ADDRESSES: Send written comments to Mr. Rodney A. Joseph, Acting Manager, Short Supply Program, Room 3873, Office of Industrial Resource Administration, International Trade Administration, U.S. Department of Commerce, 14th and Constitution Avenue, NW., Washington, DC 20230.

The public comments may be inspected at the Freedom of Information Records Inspection Facility, International Trade Administration, Room 4104, U.S. Department of Commerce, 14th and Constitution Avenue, NW., Washington, DC 20230.

FOR FURTHER INFORMATION CONTACT: Mr. Rodney Joseph, Acting Manager, Short Supply Program, Telephone Number: (202) 377-3984.

SUPPLEMENTARY INFORMATION: On July 12, 1985, the President signed the Export Administration Amendments Act of 1985 (Amendments) which extended and amended the Export Administration Act of 1979 (SEA).

Section 128(a) of the Amendments requires that the President undertake a comprehensive review of issues concerning (1) possible changes in the existing incentives to produce crude oil from the North Slope of Alaska (including changes in Federal and State taxation, pipeline tariffs and Federal leasing policies; and (2) possible changes in the existing distribution of

crude oil from the North Slope of Alaska (including changes in export restrictions which would permit exports at free market levels and at levels of 50,000 barrels per day, 100,000 barrels per day, 200,000 barrels per day, and 500,000 barrels per day) and the appropriateness of continuing existing controls.

The Amendments further state that such review shall include, but not be limited to, a study of:

(A) The effect of such changes on the energy and national security of the United States and its allies;

(B) The role of such changes in United States foreign policymaking, including international energy policymaking;

(C) The impact of such changes on employment levels in the maritime industry, the oil industry, and other industries;

(D) The impact of such changes on the refiners and on consumers;

(E) The impact of such changes on the revenues and the expenditures of the Federal Government and the Government of Alaska;

(F) The effect of such changes on incentives for oil and gas exploration and development in the United States, and

(G) The effect of such changes on the overall trade deficit of the United States and the trade deficit of the United States with respect to particular countries, including the effect of such changes on trade barriers of other countries.

The Amendments further direct the President to develop, after consulting with appropriate State, Federal, and Congressional officials and other persons, findings, options, and recommendations regarding the production and distribution of crude oil from the North Slope of Alaska, and to submit them to the Congress no later than April 12, 1986.

The Department of Commerce is coordinating this study. This notice is published to provide all interested parties with the opportunity to submit comments to the Department of Commerce for consideration in the study process.

Public Comments Invited

The Department of Commerce is soliciting comments from the general public, especially from interested parties in the maritime industry, the oil industry, consumer groups, environmental groups, foreign governments, and all other industries,

groups or individuals likely to be affected by any change in existing law governing incentives and distribution of crude oil from the North Slope of Alaska.

Interested parties are invited to submit written comments, opinions, data, information or advice with respect to the study to the Short Supply Program, Office of Industrial Resource Administration, U.S. Department of Commerce by January 23, 1986.

In the interest of accuracy and completeness, written comments are preferred. Written comments (three (3) copies) should be sent to the address indicated in the address section above. Oral comments should be directed to Rodney A. Joseph, OIRA, (202) 377-3984. If oral comments are received, the Department of Commerce official receiving such comments will prepare a memorandum summarizing the substance of the comments and identifying the individual making the comments, as well as the person on whose behalf they purport to be made. All such memoranda will be placed in the public rulemaking docket and will be available for public review and copying.

Written comments accompanied by a request that part or all of the material contained be treated confidentially will not be considered in developing the study. Such comments and materials will be returned to the submitter.

Communications from agencies of the United States Government or foreign governments will not be made available for public inspection. The public docket concerning this study will be maintained in the International Trade Administration's Freedom of Information Records Inspection Facility, at the address indicated in the address section above. Records in this facility may be inspected and copied in accordance with regulations published in Part 4 of Title 15 of the Code of Federal Regulations. Information pertaining to the inspection and copying of records may be obtained from Ms. Patricia L. Mann, International Trade Administration's Freedom of Information Officer, at the Records Inspection Facility address provided above or by calling (202) 377-3031.

Dated: December 3, 1985.

John A. Richards,
Director, Office of Industrial Resource Administration.

[FR Doc. 85-29008 Filed 12-9-85; 8:45 am]

BILLING CODE 3510-07-0

APPENDIX F

SECTION 126 OF THE EXPORT ADMINISTRATION AMENDMENTS ACT

SEC. 126. ALASKAN OIL STUDY.

(a) REVIEW OF ALASKAN OIL POLICY.—

(1) *IN GENERAL.*—The President shall undertake a comprehensive review of the issues and related data concerning possible changes in the existing incentives to produce crude oil from the North Slope of Alaska (including changes in Federal and State taxation, pipeline tariffs, and Federal leasing policies) and possible changes in the existing distribution of crude oil from the North Slope of Alaska (including changes in export restrictions which would permit exports at free market levels and at levels of 50,000 barrels per day, 100,000 barrels per day, 200,000 barrels per day, and 500,000 barrels per day), as well as the appropriateness of continuing existing controls. Such review shall include, but not be limited to, a study of—

(A) the effect of such changes on the energy and national security of the United States and its allies;

(B) the role of such changes in United States foreign policymaking, including international energy policymaking;

(C) the impact of such changes on employment levels in the maritime industry, the oil industry, and other industries;

(D) the impact of such changes on the refiners and on consumers;

(E) the impact of such changes on the revenues and expenditures of the Federal Government and the government of Alaska;

(F) the effect of such changes on incentives for oil and gas exploration and development in the United States; and

(G) the effect of such changes on the overall trade deficit of the United States, and the trade deficit of the United States with respect to particular countries, including the effect of such changes on trade barriers of other countries.

(2) *FINDINGS, OPTIONS, AND RECOMMENDATIONS.*—The President shall develop, after consulting with appropriate State and Federal officials and other persons, findings, options, and recommendations regarding the production and distribution of crude oil from the North Slope of Alaska.

(b) *CONSULTATION AND REPORT.*—In carrying out subsection (a), the President shall consult with the Committees on Foreign Affairs and Energy and Commerce of the House of Representatives and the appropriate committees of the Senate. Not later than 9 months after the date of the enactment of this Act, the President shall transmit to each of those committees a report which contains the results of the review under subsection (a)(1), and the findings, options, and recommendations developed under subsection (a)(2).

THE PRECEDING PAGES WERE TREATED AS
A UNIT IN THE ORIGINAL FILE.



REVIEW OF SOCIAL AND ECONOMIC CONDITIONS

University of Alaska, Anchorage, Institute of Social and Economic Research February 1985, Vol. XXII, No. 1

Alaska North Slope Oil Production and Revenue Projections

How much oil is produced on the North Slope in the coming years will greatly affect Alaska's economy and state revenues. In this Review, the author analyzes how future oil production and revenues from known North Slope fields could be affected by market prices and certain federal and state policies. He then projects the probable range of North Slope production and revenues to the year 2000, based on the likely range of oil prices and other factors. His major findings are:

- Despite the contribution of these new fields, onshore production will probably decline 60 to 70 percent by the year 2000. This decline will occur because production from the new, smaller fields will not come close to replacing current production from Prudhoe Bay.

- The cumulative total of oil produced in Alaska by the year 2010 could vary by several billion barrels, depending on the future price of oil. If oil prices maintain current levels, cumulative production from known fields on the North Slope will probably reach nearly 12 billion barrels by 2010. On the other hand, if prices fall back to mid-1970s levels, cumulative North Slope production could be reduced to less than 10 billion barrels.

INTRODUCTION

Industry sources estimate total oil in place in the vicinity of the Prudhoe Bay field on Alaska's North Slope to be about 60 billion barrels. As shown on the Figure 1 map, this total includes 23 billion barrels of original oil in place at Prudhoe Bay, 5.5 billion in the Kuparuk River field, and 3 billion in the Lisburne formation underlying the Prudhoe Bay field. In

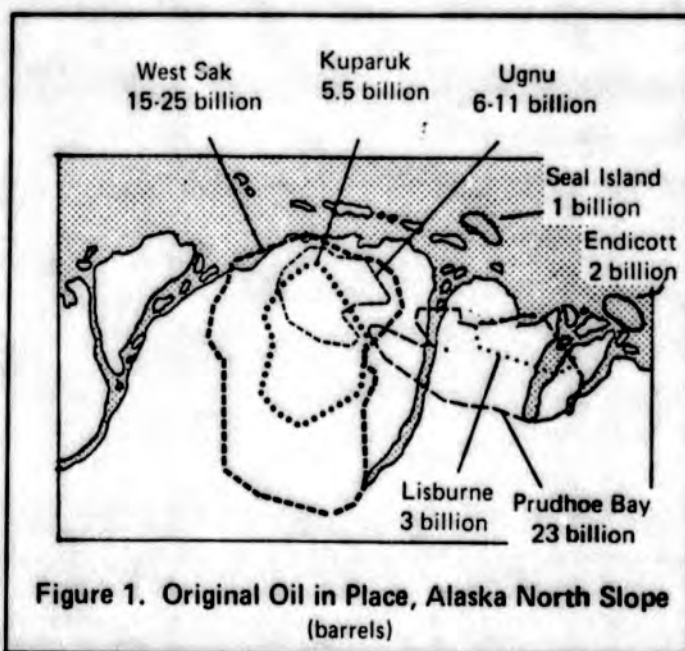


Figure 1. Original Oil in Place, Alaska North Slope (barrels)

addition, estimates of oil in place in the West Sak and Ugnu heavy oil zones overlying the Kuparuk River field range between 21 and 36 billion barrels. Known oil resources on the North Slope outside the immediate vicinity of Prudhoe Bay may bring the total oil in place in the region to 80 billion barrels.¹

However, industry can economically recover only a fraction of this original oil in place. This fraction is often called "recoverable reserves." Under

¹Atlantic Richfield Company, as reported in *Oil and Gas Journal*, June 25, 1984, p. 56, and Arlon Tussing, personal communication, May 20, 1984.

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FEATURE

Matthew Berman

Alaska North Slope Oil Production and Revenue Projections

Matthew Berman is an assistant professor of economics with the Institute of Social and Economic Research in Anchorage.

economic conditions prevailing during the mid-1970s, only around 9 billion barrels of oil at Prudhoe Bay (and possibly some limited production from the Kuparuk River field) could be considered recoverable reserves. Still, the expected profitability of the gigantic Prudhoe Bay field was sufficient to finance the investment in the Trans-Alaska Pipeline System (TAPS) and the basic infrastructure on the North Slope without considering any potential production outside of the Sadlerochit Reservoir at Prudhoe.

The dramatic surge of world oil prices in 1979-1981 (and the subsequent decline) completely changed the outlook for profitable development of non-Prudhoe production on the North Slope. Although some development of these fields is already underway, future economic conditions may still affect decisions to develop most of this potential production. While we do not know precisely what oil prices will be in the coming years, we do believe that there is a range of likely world market prices. We use three scenarios that bracket the likely price range to provide alternative projections of future production and revenues.

We also consider the potential effects on future North Slope petroleum production and revenues of certain policies which may affect the feasibility of production from marginal fields. We focus on the

effects of federal policy toward the oil and gas industry in Alaska and nationwide, but consider possible state initiatives as well. Policies considered include (1) permitting export of North Slope oil, (2) modifying Alaska severance and income taxes, and (3) extending the federal Windfall Profits Tax and eliminating the exemption for certain Alaska production.

SCOPE

This *Review* focuses on the North Slope region because that is where the largest concentrations of oil occur in Alaska and where most of the state's oil will be produced in the next 15 years. Currently, over 95 percent of Alaska's oil production takes place in the North Slope region, and its predominance is likely to continue for the foreseeable future. Oil production in the Cook Inlet region—the only other producing province—has been declining steadily and is not a significant factor in state revenue projections.²

This analysis concentrates on potential produc-

²Alaska Department of Revenue projections assume an average production decline rate of 12 percent per year. Total oil and gas royalties and severance tax collections would decline to 2 percent of total state royalty and severance taxes by 1990. See Petroleum Production Revenue Forecast, quarterly report, March 1984, Alaska Department of Revenue, Petroleum Revenue Division, p. 16, 18.

tion from known fields on the North Slope up to around the year 2000. It is likely that additional large oil reservoirs will be discovered in the region by the end of the century. The most promising unexplored areas within state jurisdiction are either offshore or within the boundaries of the Arctic National Wildlife Refuge. Exploration is just beginning in the wildlife refuge, and adjacent offshore areas have not yet been leased. While large discoveries may result from exploration in these areas, the lengthy permitting process and the high cost of access will most likely defer production beyond the year 2000.

Market prices and public policy will affect the location and intensity of industry exploration effort, timing of discoveries, and commencement of production. However, major impacts on future production resulting from an altered rate of discovery of new fields would also have little effect on future production until after the turn of the century. Since our focus is on Alaska petroleum production and revenues to the year 2000, we do not attempt to quantify this potential effect.

Instead, we analyze how market prices and government policies may affect the feasibility of investments to develop and operate major North Slope fields that have already been discovered. We project annual Alaska petroleum production and revenues to 2000, as well as implied cumulative production and revenues from the currently known North Slope fields to 2010.

While commercial discoveries and subsequent production are likely to occur on the Alaska Outer Continental Shelf (OCS), we do not have sufficient information to analyze the effects of prices and policies on OCS production until oil is discovered there. Under current federal policy, the state will receive no direct revenues from OCS production.³

We ignore the potential role of natural gas in the production and revenue scenarios analyzed below, assuming that the region's vast quantities of natural gas will continue to be useful only to support oil production-related activities. If a transportation system is ever built to market Alaska North Slope gas, the high cost would virtually assure that the wellhead price, and hence the direct state petroleum revenues, would be inconsequential. Natural gas discoveries from federal leases in the Bering Sea would likewise be uneconomical to produce under reasonable cost

and world market price scenarios.⁴

PRODUCTION AND REVENUES FROM KNOWN NORTH SLOPE FIELDS

The objective of this study was to analyze how Alaska petroleum production and revenues are likely to respond to certain specific assumptions about market prices and federal policy. This required an analysis of the potential economic feasibility of producing oil from known North Slope fields under a number of assumptions about size of reserves and cost of production, as well as price and policy factors.

Thus, our comparative projections involved a two-step approach. First, we determined if development of a known but undeveloped field would be economically viable under the set of assumptions associated with the particular scenario. We assumed development of a field was feasible if the anticipated discounted cash flow exceeded a 10-percent return on investment above inflation (see Assumptions, page 4). We then added production and revenues from fields calculated to have positive development values to derive the total regional projections.

We projected North Slope production and revenues under eight different scenarios. First, we considered three alternative scenarios for market prices of North Slope oil. Next we examined three scenarios relating federal policy to wellhead oil prices. Finally, we analyzed the effects of two hypothetical modifications to the state's petroleum tax structure.

The eight scenarios chosen cover only a small fraction of the potential variations in market and policy factors affecting Alaska North Slope production and revenues over the next several decades. Nevertheless, we believe that they represent the range of reasonable opportunities and expectations.

Sensitivity of Production to Wellhead Prices

Market Price Scenarios: The purpose of these scenarios is to project likely production rates based on economic feasibility of currently undeveloped North Slope oil fields under low-, moderate-, and high-price assumptions that bracket the likely range of outcomes. We do not attempt to estimate the sensitivity of production to small changes in the wellhead price, since sufficient information is not available to make an accurate assessment. The market price cases assume no change in current federal and state tax structures. (Continued on page 5.)

³A recent ISER report discusses the issues of OCS revenue sharing and the potential future magnitude of Alaska OCS production and revenues. See Matthew Berman and Karen White, "Sharing Revenues from the Outer Continental Shelf and Other Federal Lands," ISER, December 1984.

⁴See *Marketability of Bering Sea Natural Gas*, Dames and Moore, U.S. Department of the Interior, Minerals Management Service, Alaska Outer Continental Shelf Region, Social and Economic Studies Program, Technical Report Number 98 April 1983.

NORTH SLOPE PETROLEUM DEVELOPMENT ASSUMPTIONS

North Slope Fields Considered

We derived production scenarios for the North Slope region from actual and hypothetical development patterns for nine fields or development zones. These included the currently producing Prudhoe and Kuparuk fields as well as seven fields in various stages of feasibility study by industry. We explicitly considered multiple options for development of four of the nine fields, assuming optimistically that any technological problems encountered would be overcome.

Our assumptions for development patterns of new fields were broadly consistent with assumptions used by the Alaska Department of Revenue for forecasting state petroleum revenues. Unlike the department in its forecasts, we explicitly considered changes in the level of oil production which might be economically feasible under different market prices and public policies. Our production and revenue projections also differ in some minor details and refer to the calendar year, rather than the fiscal year. A brief description of potential development patterns considered for each of the fields is as follows:^a

Prudhoe Bay: We assumed an average production rate of 1.534 million barrels per day (BPD) from Prudhoe through 1987. In the basic projection, production would decline to 1.054 million BPD in 1990, and to just over 300 thousand BPD in 2000. If the miscible-gas, enhanced-oil recovery project proves feasible, production would decline somewhat more slowly with a cumulative increase in recovery of almost 115 million barrels.

Kuparuk: We considered development of the field in two discrete stages. Stage 1 describes the currently producing area while Stage 2 refers to the target of ongoing construction of development facilities for the Kuparuk River producing zone. If both stages of the Kuparuk field prove feasible, potential recoverable reserves would just exceed one billion barrels of oil. We assume peak production from each stage conservatively at around 110 thousand BPD, with production available from the second stage in 1985.

Lisburne: ARCO has been testing development wells in the Lisburne pool underlying the Prudhoe Bay field since 1982. We assumed recoverable reserves of around 450 million barrels if commercial development of this prospect is feasible, with production possible by 1987 and reaching

100 thousand BPD.

Milne Point: We examined two stages for development of the smaller Milne Point prospect. The first would target primarily the Kuparuk pay, which might begin producing in 1986, while the second stage would produce from the shallower West Sak pay, beginning in 1990. Peak production from each development stage would be around 30 thousand BPD, with recoverable reserves of about 100 million barrels from the combined project.

Endicott: If successfully developed, the Endicott River area might provide production of 85 thousand BPD, with a startup date in 1987. Although much larger amounts of oil are present in the vicinity, we assumed recoverable reserves of about 300 million barrels.

Gwydyr Bay: Production from this smaller North Slope field could start at 10 thousand BPD with reserves of around 30 million barrels. Production could start as early as 1987 if a decision is made soon to develop the field.

Flaxman: As much as 600 million barrels of oil may be recoverable in the Point Thompson-Flaxman Island area east of Prudhoe Bay. More than one-half of this amount, however, is more appropriately described as gas condensate in the giant Point Thompson gas field. We assumed that the gas field is not feasible to develop in any of the scenarios. However, we did consider development of less than 300 million barrels in a Flaxman field. Oil production, if feasible, might begin by 1990, with a peak flow rate of 80 thousand BPD.

Seal Island: Shell has recently confirmed a discovery in state and disputed state-federal waters in the Beaufort Sea, with two wells yielding 5,000 BPD of 40-degree gravity oil. If development is feasible, the new field could begin production by 1992, with cumulative recovery eventually exceeding 300 million barrels. We assumed a peak production rate of 85 thousand BPD and also assumed that the jurisdictional dispute would be resolved in favor of the State of Alaska.^b

West Sak: We considered two alternative phases for potential large-scale commercial development of shallow Cretaceous heavy oil deposits near the Kuparuk producing area. Phase I covered the area immediately overlying the Kuparuk, with which some development facilities and costs could be shared. This phase might begin in 1989, recovering as much as 750 million barrels if production is economically viable, with peak production reaching 150 thousand BPD. The second phase essentially covered additional development of a resource four times as large, possibly beginning in 1992, with higher costs due to the need to construct additional development facilities.

^aSee Alaska Department of Revenue, *Petroleum Production Revenue Forecast, Quarterly Report*, September 1984, pp. 13-16. A listing and documentation for the model used for the analysis presented in this Review, along with the exact production parameters and cost assumptions used for each selected North Slope field may be found in Matthew Berman, et al., *Alaska Petroleum Revenues: the Influence of Federal Policy*, ISER, October 1984, Appendix F.

^bSee *Oil and Gas Journal*, July 2, 1984, p. 27.

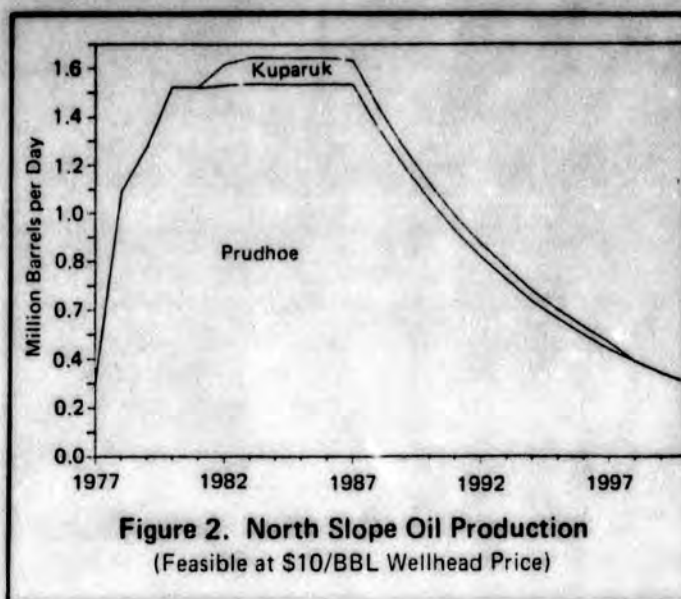
Low Price (Scenario 1): The low-price scenario assumes a constant real market price schedule of \$10 per barrel for Prudhoe Bay oil, or \$7.50 per barrel less than that currently prevailing on the North Slope. This price corresponds roughly to a world price of \$20 per barrel, which might result from the collapse of OPEC. The wellhead price of \$10 per barrel in 1984 dollars is roughly comparable, after adjusting for inflation, to the average price level prevailing during the initial 2 to 3 years of operation of the Trans-Alaska Pipeline. Thus, the low-price scenario projects feasible North Slope oil production at the real wellhead price level prevailing in the mid-1970s.

At the wellhead price levels prevailing in the 1970s, only Prudhoe Bay production (without the miscible-gas enhanced oil recovery project) can cover fixed development costs. Although development of the Kuparuk field is not profitable in the low case under the current industry tax structure, our estimates show that some Kuparuk development would be feasible under the lower state tax rates prevailing during the mid-1970s, even with the low market prices.

If oil prices fell back to the mid-1970s level, all major new North Slope investments would lose money, including the ongoing expansion of Kuparuk production. We assumed that current production rates at Kuparuk would continue in any case, since the major fixed costs have already been incurred there. Although producers might complete the current Kuparuk expansion as well, even with the low price projection, they would probably abandon all other North Slope development projects. Thus, the low-price case also represents a lower bound for likely North Slope oil production even if world oil prices collapse.

Figure 2 shows projected Alaska North Slope production under the low-price assumption. Total projected oil production in the low-price case begins falling in 1987 from its approximate current rate of 1.6 million barrels per day (BPD). Production declines to 1.1 million barrels in 1990 and to 300 thousand BPD in 2000.

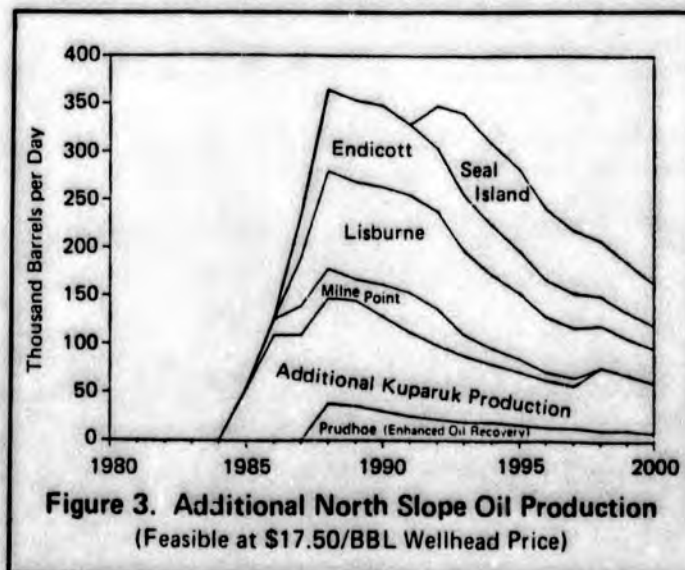
Moderate Price (Scenario 2): For the moderate-price scenario, we assumed that wellhead oil prices would remain constant (after adjusting for inflation) at about the current levels throughout the projection period. The moderate price projected for Prudhoe Bay was \$17.50 in 1984 dollars and \$16.00 for Kuparuk. This is a conservative price projection, due in part to the likely decline over time in the TAPS. tariff, at least in today's dollars. Thus, we might think of the moderate price projection as a risk-adjusted, middle-range scenario. It is roughly



consistent with the Alaska Department of Revenue's long-run wellhead price projections.⁵

The moderate-case scenario represents additional projected oil production made possible by the net rise in real wellhead oil prices to the mid-1984 level, assuming that the net price rise is permanent. Figure 3 projects incremental North Slope oil production under the moderate (1984 real price) assumptions above what was feasible under the low (1970s) price level. The figure shows production from four new fields—Milne Point, Endicott, Lisburne, and Seal Island—as well as additional production from Prudhoe Bay and Kuparuk. Production for three of the fields—Gwydyr Bay, Flaxman, and West Sak—still appears infeasible under the moderate-price assumptions.

⁵C.f. Alaska Department of Revenue, *Petroleum Production Revenue Forecast, Quarterly Report*, September 1984, p. 11.

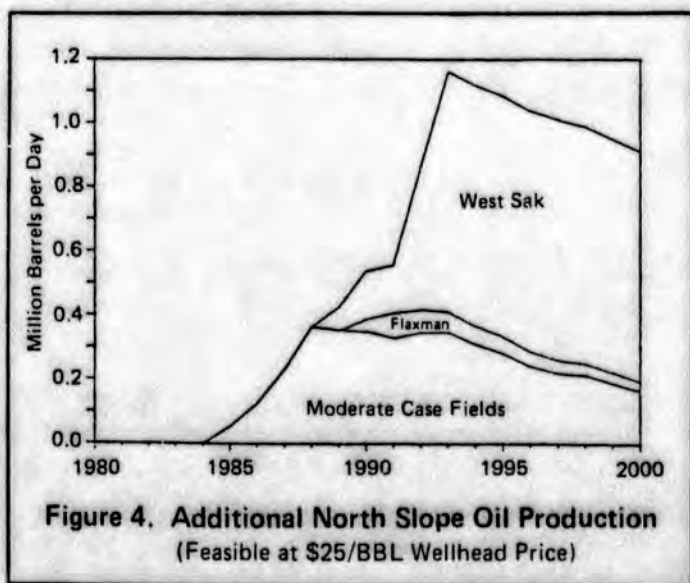


The figure shows incremental production, resulting from the net rise in world oil prices from the mid-1970s to 1984, peaking at over 360 thousand BPD in 1988. Incremental production would then decline to around 280 thousand BPD in 1995 and to around 160 thousand BPD in 2000. Although production would be declining by 2000 in all fields, two of the fields, Prudhoe Bay and Seal Island, would still be producing in 2010, according to the projections.

High Price (Scenario 3): The high-price scenario assumes a constant real price of \$7.50 per barrel greater than the current price, or \$25 for Prudhoe Bay oil. This is roughly the same real price as prevailed in 1981 at the historical peak of world oil prices. This scenario projects oil production that would be feasible if real wellhead oil prices were to return permanently to 1981 levels.

Figure 4 projects incremental production above the low-price case for the high-price scenario. In the high case, all the fields would be feasible except for Gwydyr Bay, which would be nearly feasible. While it is possible that this smaller field could be developed in conjunction with adjacent, more profitable fields, costs are apparently too high for it to stand on its own under even an optimistic price projection.

Incremental North Slope production feasible at the 1981 real wellhead oil price level (beyond that which was feasible at the 1970s price level) would rise to over 1.1 million BPD in 1993-1995. This figure includes about 300 thousand BPD from the "marginal fields" (fields which would be feasible in the moderate case but not in the low case), as well as 800 thousand BPD from the Flaxman and West Sak developments. Incremental production in the high-price scenario would decline slowly, still exceeding 900 thousand BPD by 2000.



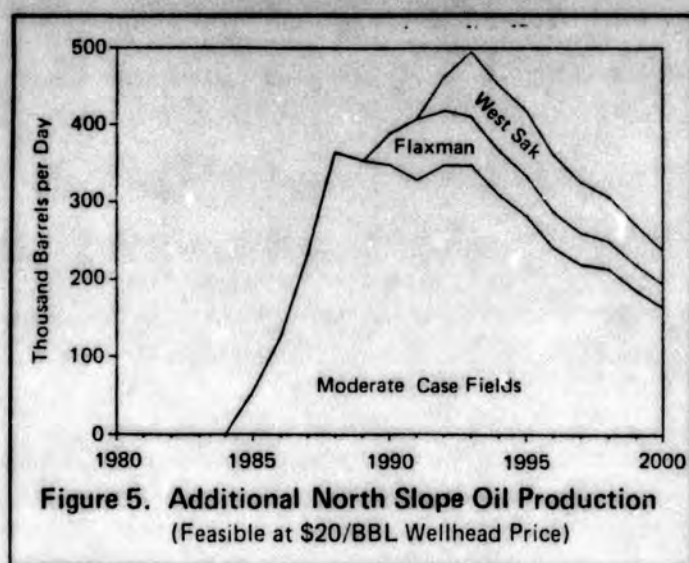
Federal Wellhead Price Policy (Scenario 4): A policy of major discriminatory federal action against Alaska petroleum producers and the state prevents export of oil carried through the Trans-Alaska Pipeline. The economic effect on Alaska petroleum production of lifting the current restriction is unclear at this point since it is not certain how producers and the state would choose to react to the foreign market opportunities, if they were available. It is most likely that a large portion of North Slope oil would continue to supply domestic markets. We assume for the sake of the scenario that the opportunity to export North Slope oil would lead to an increase in the average wellhead price of \$2.50 in 1984 dollars.⁶

A separate area of federal policy that has a large potential effect on North Slope wellhead oil prices is the set of rules chosen by the Federal Energy Regulatory Commission (FERC) as the basis for determining the TAPS tariff. The state and the pipeline owners have been disputing the tariff rules continuously since the pipeline began operation in 1977. A final ruling by the agency along the lines of the proposed settlement submitted by ARCO in December 1984, might also raise the average wellhead price on the North Slope by \$2.50 per barrel by the 1990s, similar to the export case assumption.

Figure 5 summarizes North Slope production for the hypothetical "export" case. Higher wellhead oil prices in this scenario, which might also arise from a favorable TAPS tariff ruling, would permit development of the first stage of West Sak heavy oil and the Flaxman field. These fields would provide 140 thousand BPD of additional production in 1995 and a little more than half that in 2000. Total projected production above that projected for the low (mid-1970s real wellhead) price scenario would peak at around 500 thousand BPD in 1993 and decline to 238 thousand BPD in 2000.

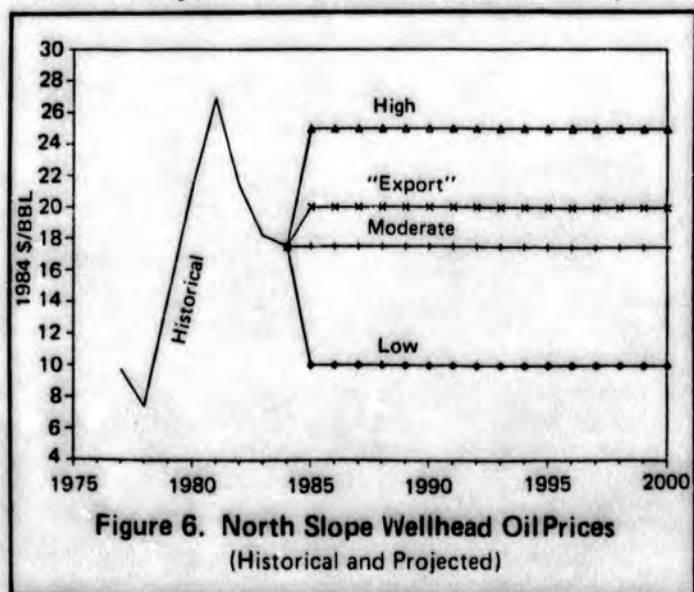
Direct wellhead price control is another area of federal petroleum industry policy that has in the past greatly concerned oil producers and producing states. Oil price controls are unlikely to reappear under current or weaker market conditions. Gas price controls are largely irrelevant to the North Slope region. Re-emergence of price controls would be possible under a scenario of renewed supply disruption.

⁶A detailed analysis of a number of scenarios for the potential effects of lifting the export ban on the price received for North Slope oil is contained in "The Export of Oil to Japan—State Revenue Impacts," in Alaska Department of Revenue, Division of Petroleum Revenue, *Petroleum Production and Revenue Forecast*, quarterly report, March 1983, pp. 17-24.



More likely, however, Congress would add a new producer excise tax (or simply extend the life of the Windfall Profits Tax), as much for its revenue-raising potential as for its redistributive role. We consider the impact of such a hypothetical move below.

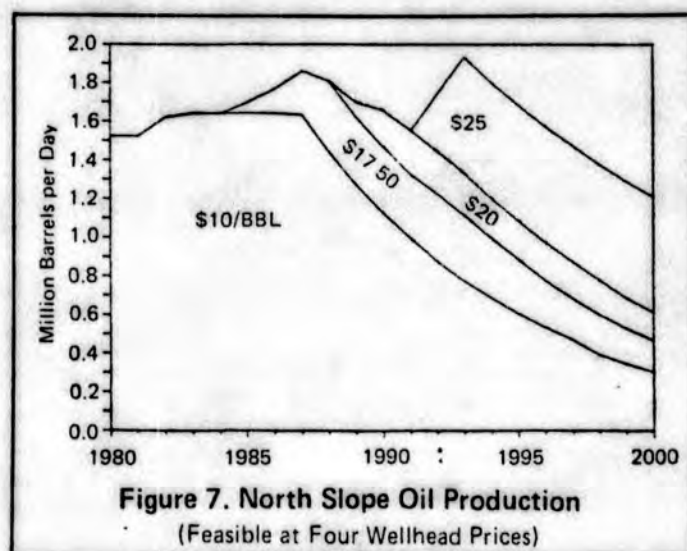
Analysis of price scenario results: Figure 6 summarizes the North Slope wellhead price assumptions for the four price scenarios, showing the relationship of projected to historical real price levels. Figure 7 summarizes total projected North Slope oil production rates for the four scenarios associated with the alternative projected wellhead price levels shown in Figure 6. Total oil production rates in the low-price case would begin falling from over 1.6 million BPD in 1987, dropping to 1.1 million BPD in 1990, and to 300 thousand BPD in 2000. The figure shows that annual production in the moderate price case would peak at 1.9 million BPD in 1987, then



decline to around 1.1 million BPD in 1993, and further decline to approximately 500 thousand BPD in 2000.

Higher wellhead oil prices in the export scenario would permit development of the first stage of West Sak heavy oil and the Flaxman field. Total North Slope oil production shown in Figure 7 for the export case would remain above 600 thousand BPD until 2000. Total North Slope production in the high price case, which includes large-scale development of West Sak sands, would actually peak at over 1.9 million BPD in 1993, and still exceed 1.2 million BPD in 2000.

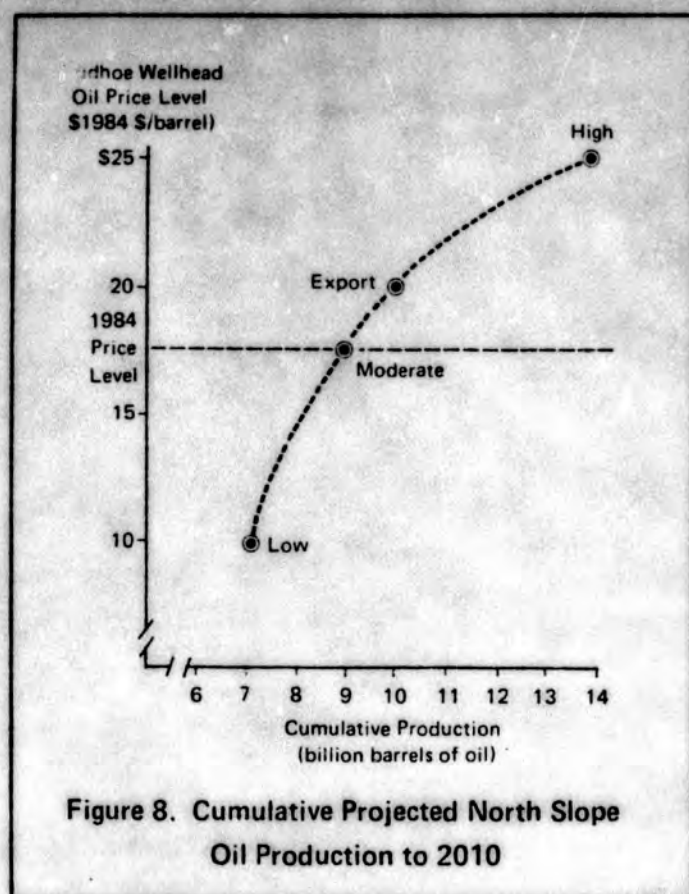
Table 1 shows the tabulation of cumulative projected production by field for the four wellhead-price scenarios discussed above. The table also includes for comparison a set of projections for North



Slope oil production made in 1981 by economist Arlon Tussing.⁷ Cumulative production to 2000 for all four of our scenarios is within the 95-percent confidence range of the former projections, with the Tussing "most-likely" scenario falling between the moderate and export-price scenarios of the current study. Our high-price and low-price projections, however, appear to narrow considerably the range of uncertainty of the earlier estimates regarding cumulative North Slope oil production that will be feasible in this century.

Figure 8 graphs the sensitivity of cumulative production from known North Slope fields to the wellhead price. This was done by interpolating results of the four scenario projections shown in Table 1. If

⁷Arlon R. Tussing, "The Outlook for Alaska North Slope Crude Oil Production: 1981-2000," *ISER Research Summary*, No. 8, January 1981, Table 2.



oil prices maintain current levels, cumulative production from known fields on the North Slope will probably reach nearly 12 billion barrels by 2010.⁸ If the price rose to \$20 per barrel (in 1984 dollars), cumulative production by 2010 might exceed 16 billion barrels. On the other hand, if producers expected wellhead prices to fall to \$10 per barrel (again in 1984 dollars), cumulative production might not reach 10 billion barrels.

Price Sensitivity of Revenues

In this section we analyze the sensitivity of expected future revenues to wellhead prices. The revenue patterns include the effects of changes in the quantity of oil which is feasible to produce as a result of price changes, as well as the effects of changes in unit wellhead revenues.

Figure 9 illustrates the projected pattern of Alaska state petroleum revenues received from North Slope oil production under the four different scen-

⁸Assuming original oil in place of 60 billion barrels, this implies a cumulative recovery rate of 20 percent. This rate is somewhat lower than industry averages, due to the large fraction of heavy oil (which is more difficult economically to extract) and the high-cost environment on Alaska's North Slope.

Table 1

Projected Cumulative North Slope Oil Production^a (billion barrels)

Field or scenario	To 2000	To 2010
Low Case	9.25	9.85
Prudhoe Bay	8.83	9.42
Kuparuk	0.43	0.43
Moderate Case	10.75	11.55
Prudhoe Bay	8.92	9.53
Kuparuk	0.87	0.93
Milne Point	0.10	0.10
Lisburne	0.37	0.38
Endicott	0.27	0.31
Seal Island	0.22	0.30
Export Case	11.55	12.63
Prudhoe Bay	8.92	9.53
Kuparuk	0.87	0.94
Milne Point	0.10	0.10
Lisburne	0.37	0.38
Endicott	0.27	0.31
Seal Island	0.22	0.30
Flaxman	0.20	0.26
West Sak	0.60	0.81
High Case	13.42	16.42
Prudhoe Bay	8.92	9.53
Kuparuk	0.87	0.96
Milne Point	0.11	0.11
Lisburne	0.37	0.41
Endicott	0.27	0.32
Seal Island	0.22	0.30
Flaxman	0.20	0.26
West Sak	2.47	4.55
Tussing (1981)^b		
95 percent	8.51	
Most Likely	11.24	
5 percent	22.62	

Note: Individual field projections may not add to scenario totals due to rounding.

^aIncludes production through 1983 of 3.23 billion barrels from Prudhoe Bay and 0.07 billion barrels from Kuparuk.

^bArlon R. Tussing, "The Outlook for Alaska North Slope Crude Oil Production: 1981-2000," *ISER Research Summary*, No. 8, January 1981, Table 2.

arios for the wellhead price of oil. Total state petroleum revenues in Figure 9 include oil royalties, oil severance and conservation taxes, petroleum property taxes on production property, and Alaska corporate

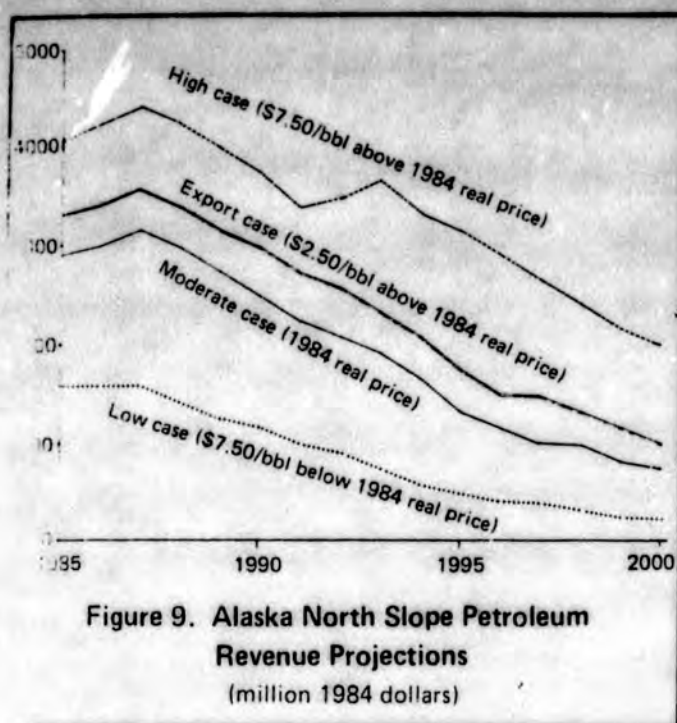


Figure 9. Alaska North Slope Petroleum Revenue Projections (million 1984 dollars)

ome taxes (apportioned share), but do not include the minor amount of revenues derived from gas production.

Projected state revenues in the moderate price case would average around \$3 billion in 1984 dollars until 1989, then decline to \$2 billion in 1992 and to \$730 million (all in 1984 dollars) in 2000. Real state petroleum revenues in the low-price case would decline from a level of \$1.6 billion per year to \$1 billion in 1991, and to only \$240 million in 2000. State revenues in the export case are 21 percent higher than in the moderate case in 1990 and 34 percent higher in 2000. Real state petroleum revenues in the high price case peak at \$4.4 billion in 1987 (measured in 1984 dollars), but are still over \$3 billion in 1995 and nearly \$2 billion in 2000.

We projected that federal petroleum revenues (Windfall Profits Tax and corporate income tax) derived from developing these same North Slope fields would show a pattern which is remarkably similar to that projected for the state revenues. Although projected federal corporate income taxes would be lower initially due to deductions for major field development expenditures, the federal government would receive approximately the same total revenue from these fields as would the State of Alaska.

Figure 10 summarizes projected cumulative state and federal petroleum revenues under the different price scenarios over the period 1983-2010, in 1984 dollars, derived from development of known North Slope oil deposits. The figure shows clearly the high

degree of uncertainty for Alaska petroleum revenues associated with uncertainty about the level of wellhead prices. Cumulative projected state petroleum revenues for 1983-2010 from the North Slope would amount to \$40 billion (in 1984 dollars) if current wellhead prices continue, but may ultimately total between \$20 and \$70 billion dollars, depending on future wellhead oil price levels. Cumulative federal revenues are slightly more responsive to wellhead oil prices than are state revenues, due to the federal government's greater reliance on income taxes as opposed to excise taxes and royalties for collecting petroleum revenues.

Effects of Revenue Policy on Production and State Revenues

A number of proposals that attempt to set a federal severance tax policy on energy resources have surfaced recently in Congress. These include a proposed national severance tax on oil of around \$3 per barrel and proposals to limit state severance taxes.⁹ A national severance tax of, say, \$3 per barrel, if it were applied to state royalty shares as well as to private production, would affect Alaska production and state revenues in the same way as would a \$3 reduction in the market price. One can infer from Figures 8 and 10 that the effect of such a new federal tax might be a reduction of around a billion barrels in recoverable North Slope reserves, and an accompanying loss

⁹The federal statute applies a tax rate schedule to the excess of the wellhead price over a "base price" representing a 1979 wellhead price level. See PL 96-223, 94 Stat. 229 (1980); 26 USC §§ 4986-4998.

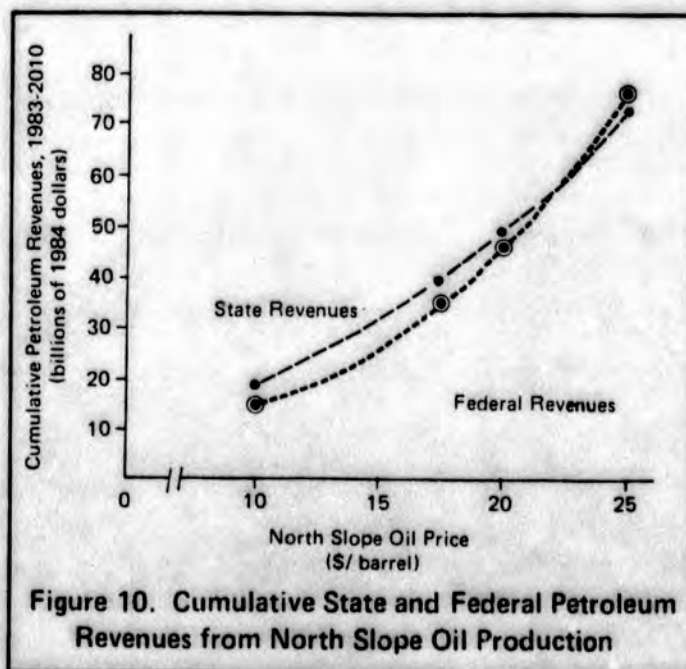


Figure 10. Cumulative State and Federal Petroleum Revenues from North Slope Oil Production

by 2010 of around \$10 billion (in 1984 dollars) in state revenues.

Federal Windfall Profits Tax Extension (Scenarios 5 and 6): Congress passed the federal Windfall Profits Tax in 1980 as part of the program removing controls from domestic oil prices. It is an excise tax on oil production with a rate structure based on the difference between current oil prices and 1979 levels—the so-called “windfall profit” from decontrol—and with a provision that causes the tax to expire automatically after about 10 years. Attempts to prolong the life of the Windfall Profits Tax, or even increase its effective rates, are more likely to succeed in Congress than attempts to impose a new federal tax. North Slope prices in the low and moderate cases would be low enough so that the Windfall Profits Tax would have a very limited impact. We considered two scenarios, however, in which Congress would not only extend the Windfall Profits Tax indefinitely, but also would eliminate the current special tax exemption for non-Prudhoe North Slope oil. One scenario combines the extended Windfall Profits Tax with the high-price scenario, the other with the export scenario.

Our accounting projections showed that extending the Windfall Profits Tax and removing the Alaska exemptions would not change the economic feasibility of any proposed North Slope development project. Indeed, even in the high-price scenario, only Prudhoe Bay would feel the impact of the tax. This is because the statute classifies production from all other North Slope fields as “newly discovered oil.” By statute, the “base price” for this type of oil increases 2 percent per year above inflation.¹⁰ Even with a \$7.50 increase in world oil prices, the North Slope price typically would not exceed the statutory base price.

However, an extended Windfall Profits Tax would have a significant impact on *federal revenues* from the Prudhoe Bay field. The tax would raise nearly \$500 million (measured in 1984 dollars) in additional federal revenues from Prudhoe Bay in 1995 in the high case, and nearly \$300 million more in 2000. State revenues would decline by \$20- to \$30-million annually in the 1990s, due to the effect of higher Windfall Profits Tax deductions from state taxable income. In the export case, federal revenues would increase by around \$170 million in 1995 and

by nearly \$100 million in 2000 if Congress were to retain the Windfall Profits Tax through the end of the century.

State Tax Policy (Scenarios 7 and 8): Scenarios associated with modifications of the Alaska petroleum tax structure would involve potential changes in economic feasibility of marginal fields which are more subtle and complex. We consider projections associated with two such scenarios. We assume the moderate wellhead price projection would prevail in both scenarios because it is more representative of likely future market conditions.

Both scenarios allow us to examine the effects of hypothetical reductions of the Alaska severance tax rate to 10 percent from the current 12.25- to 15-percent schedule. In one scenario, the legislature would eliminate the economic limit factor (ELF)—a formula which reduces the effective tax rate as average production rates per well decline—so that the effective rate would remain at 10 percent.¹¹

In the other scenario, the state would win court approval and reinstate the separate accounting method of assessing petroleum corporate income taxes. The separate accounting method assesses the Alaska corporate income tax rate of 9.4 percent on income earned within the state from oil and gas production and transportation activities. The tax was repealed in 1981 under pressure of litigation. This scenario assumes that the severance tax structure would stay intact, except for a reduction in the nominal rate to 10 percent.

The projections for the two state tax scenarios—both based on the assumption of moderate price levels—are remarkably different. In the scenario that eliminates the ELF, we projected that cumulative state revenues to 2010 would be 18 percent lower than with the current tax structure, even though the wellhead price assumptions are the same. Revenues would be lower partly because production in this case would be only 92 percent of moderate case production in 1990, and 95 percent of moderate case production in 2000. The Endicott field and the Milne Point field do not appear to be feasible to develop

¹¹See *Alaska Statutes*, 43.55. The exact formula for the economic limit factor for oil production equals:

$$(1 - [PEL/TP]) \exp (460 \times WD/PEL)$$

where: PEL = monthly production rate at the economic limit;
TP = total production during the month for which the tax is to be paid;

WD = total number of well days for which the tax is to be paid; and

“exp” indicates that the expression following is an exponent.

The economic limit factor (ELF) for gas production equals:

$$1 - PEL/TP.$$

¹⁰James Love, in “Evaluation of Proposed Federal Energy Taxes,” Alaska Department of Revenue, July 7, 1982, discussed several alternative proposed national energy taxes and their hypothetical impacts on the State of Alaska. Love also illustrated the minimal impact of the federal Windfall Profits Tax on North Slope oil under prevailing market prices, even if the exemption were removed for non-Prudhoe oil.

without the ELF. Apparently, the ELF provision reduces the effective severance tax rates projected for the marginal North Slope fields significantly below 10 percent, despite the apparent high nominal rates of the current tax structure. Thus, eliminating the ELF provides an example of an attempt to increase revenues which results in lower revenues.

The scenario in which the state modifies the corporate income tax to recapture revenue lost from reducing the severance tax rate to 10 percent provides no change in projected production from the moderate case. Total state revenues in this case would be only 1 percent lower than the moderate case projection in 1990 and would actually be 6 percent higher in 2000. Clearly, reinstating the separate accounting method for assessing petroleum corporate income taxes (if a court decision favors its constitutionality) would be a better option for protecting state revenue while encouraging production from marginal fields than turning the severance tax into a true flat-rate tax.

State Policy Toward the Marginal Fields

We have analyzed two possible modifications of Alaska's petroleum tax structure which included reducing nominal oil severance tax rates to 10 percent. One alternative would eliminate the economic limit factor (ELF) (which reduces effective severance tax rates for less-productive fields) to make the Alaska severance tax a true flat-rate tax. The other alternative would retain the ELF but reinstate the separate accounting method for the petroleum corporate income tax, assuming its constitutionality is upheld.

The alternative which eliminates the ELF performs poorly, mainly because it results in higher effective severance tax rates for non-Prudhoe production. Since projected production rates per well for many of these fields are relatively low, (resulting in a low projected ELF), it appears that even relatively low effective severance tax rates may deter development of some marginal fields on the North Slope. We have noted that known deposits of heavy oil on the North Slope near the Kuparuk field possibly contain over 40 billion barrels of oil in place. None of this oil is being produced commercially at the present time,

and any such development would clearly be only marginally profitable under reasonable price projections.

For the first stage of the hypothetical West Sak heavy oil development summarized above, our calculations showed a lack of economic feasibility, because developing the field would cost more than the value of the oil produced under the moderate price assumption. However, the present value of all excise taxes and royalties that would have to be paid by the producers to the State of Alaska is more than four times larger than the negative profit balance. Severance tax projections for this hypothetical development are very small (due to the ELF projected from low production per well of the heavy oil), despite its giant size. Under the development cost and price assumptions used for this field, the state's royalty share makes the difference between feasibility and infeasibility.

The same problem may also be present with other smaller fields on the North Slope. Of course, it would be financially irresponsible for the state to offer to reduce its royalty share on the speculation that this might make production feasible from marginal fields. However, the state might consider ways to credit the capital costs of developing new North Slope heavy oil fields against the first royalty payments owed when production begins. The royalty credit could be converted into a modified net profit share by having the credit repaid with shares of lease income at a rate of, say, 30 percent. Such a program could provide the state with a large increase in revenue, if it stimulates production from new fields which otherwise would not occur.

All our scenarios projected that North Slope oil production would decline steadily in the 1990s, despite the addition of a number of large new fields. This follows from the inevitable decline in the enormous rate of current production from Prudhoe Bay. However, production from new fields commencing over the next 8 years will also be declining by the late 1990s. State and federal policies that affect the feasibility of Alaska North Slope petroleum development will play a major role in determining the rate and magnitude of this expected decline.

Royalty
Oil

HOUSE SPECIAL COMMITTEE ON OIL AND GAS

AUGUST 11, 1986

Anchorage Legislative Information Office
10.00 A.M.

Members Present:

Rep. Mike Davis, Chairman
Rep. Sam Cotten, Vice-Chairman
Rep. Marco Pignalberi
Rep. Mike Szymanski
Rep. Andre Marrou, by teleconference from Homer

CALENDAR

Briefing on royalty oil at or near zero wellhead value.

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ACTION NARRATIVE

TAPE ONE SIDE ONE
Number 000

The House Special Committee on Oil and Gas was called to order at 10:05 a.m. Members present were Representatives Davis, Cotten, and Pignalberi. Rep. Szymanski arrived at 11:15 a.m. Rep. Marrou joined the meeting by teleconference at 10:20. Rep. Navarre was present at the Soldotna L.I.O.

Number 015

Rep. Davis introduced the issues to be discussed.

Number 050

The Commissioner of the Department of Natural Resources, Esther Wunnicke, made an opening statement. First, she outlined recent department activities which might be of interest to committee members. Issues included the Cook Inlet royalty solicitation, Chevron's application for a price reduction under the price reopener provisions of its royalty

oil contract, and Jim Eason's participation in the federal government's Royalty Management Advisory Committee.

Commissioner Wunnicke then addressed the topic of royalty oil near zero wellhead value. DNR had been assessing and ranking the state's options. The best alternative was mutual agreement with the oil producers, rather than unilateral state action. Preliminary discussions had begun involving DNR, Attorney General Hal Brown, and individual producers. The possibility of an underlift agreement was discussed at those meetings.

The oil and gas leases reserve a royalty for the state, typically 12.5%. In an underlift agreement the state would obtain the producers' consent to take a lower royalty percentage now, and a larger percentage later. AS 38.05 180 1 authorizes underlifting, provided the state receives back its deferred royalty share during the first half of field life, or no later than fifteen years after the start of production. AS 31.05 110 p further restricts underlifting. This statute limits recovery from fields unitized after June 30, 1978 to a daily rate not to exceed 10% of the state's royalty interest share of daily production at the time of underlift production.

These limitations allow underlift at Prudhoe Bay and Kuparuk, but would preclude it at the Milne Point field. The Prudhoe Bay underlifts could be recovered at some mutually agreeable rate. However, the Kuparuk underlifts could be recovered only at a rate less than 10% of daily royalty production rates.

Underlifts would not reduce production. Therefore, underlifting would not reduce deliveries to Alaska's in kind royalty purchasers. The state's royalty oil contracts expressly provide that the purchasers receive a percentage of field production calculated without regard to underlift. The Mapco contract is an exception.

In kind contracts obligate approximately 130,000 barrels per day from Prudhoe Bay, and approximately 4,500 barrels per day from Kuparuk. Currently only 75,400 barrels/day would be available for underlift. In addition, some of the oil must be left in-value to obtain royalty reports necessary to bill the state's purchasers.

A second option is for the state to take its royalty oil in kind and store it for future disposal. For the first time in history the state would be taking actual custody of the oil. Normally, royalty oil sales take place at the location where the state takes custody, and purchasers take responsibility for the costs and risks of loss of the oil. If Alaska chose to store the oil, it would have to pay field costs, pipeline tariffs, insurance costs, and storage fees, as well as bare the risk in case of accident. If oil prices did not rise, the state would lose money in the transaction.

Commissioner Wunnicke also discussed the state's liability for field costs. The Prudhoe Bay field cost settlement agreement provides that the state is liable for field costs for any oil it takes in kind. However, the in kind contracts pass this liability on to purchasers. The settlement agreement also allows producers to deduct the field cost allowance from their royalty payments for in value oil. The state's position is that the producers' deductions can reduce the oil's value to zero, but the state would not be required to pay the producers for the in value field costs. Allowing a deduction from a payment is not the same as assuming a liability to pay.

Ms. Wunnicke explained why the state could not order a reduction in production at fields in Alaska. Alaska's Oil and Gas Conservation Commission does not have the power to do so. Some other states, such as Texas, give their Conservation Commissions the statutory power to control economic waste. Alaska's statutes refer only to physical waste, which is inefficient production that depletes the reservoir.

Number 240

Rep. Cotten asked whether the the state's liability for field costs could accumulate during times when wellhead value was too low for the complete deduction, to be applied against future royalty payments.

Number 250

Steve Porter cited the text of the settlement agreement as the basis for the Commissioner's claim that there was a zero floor on deduction of field costs. The interpretation agreed with a general principle of oil and gas leasing, in which the land owner was entitled to payment by the producer for the extraction of the resource. The owner would never have to pay the producer to take the resource from the land.

Number 280

Rep. Cotten asked if the producers agreed with DNR's view.

Number 287

Commissioner Wunnicke replied that conversations between DNR and producers had not reached that level of detail. Producers might have a different legal interpretation of the liability for field costs.

Number 300

Rep. Marrou was present at the teleconference site in Homer. He requested a committee packet.

Number 310

Rep. Davis asked for the details of Chevron's request for a royalty price reduction.

Number 315

Commissioner Wunnicke replied that Chevron had simply approached DNR to find out if the department would negotiate a price reduction under the price reopener clause of the royalty contract. It was agreed that renegotiation would require legislative approval. Chevron had then requested that the time for the price reopener be amended to occur immediately before the legislative session.

Number 330

Rep. Davis inquired about discussions with Japan, Korea, and Taiwan regarding the purchase of Cook Inlet oil.

Number 332

Commissioner Wunnicke responded that the discussions were not negotiations, but rather an opportunity for Jim Eason to explain the solicitation package.

Number 340

Rep. Davis asked if DNR was drafting recommendations for changes in statute to lessen restrictions on underlifting.

Number 355

Commissioner Wunnicke said DNR would be alert to language restricting underlifting in future unitary agreements. The department felt bound by the existing statutes and unit agreements. Therefore, voluntary agreement by the producers would be necessary to underlift.

Number 370

Rep. Davis asked about the percentage of the state's royalty oil available for underlifting.

Number 400

Commissioner Wunnicke listed the state's royalty commitments.

Number 425

Rep. Davis asked that participants stand by while the teleconference system was cleared up.

Number 645

The meeting resumed.

Number 650

Commissioner Wunnicke reviewed the field costs for the various fields.

TAPE ONE SIDE TWO

Number 000

Rep. Cotten asked if any zero wellhead values had been reported.

Number 005

Commissioner Wunnicke replied there had been one report of a zero wellhead value from the Milne Point field in June.

Number 010

Rep. Cotten asked if Sohio had announced a new official price.

Number 017

Jim Palmer of Sohio shook his head "no". He said the current official prices were \$9.00 and \$10.00.

Number 020

Rep. Cotten asked what market prices would yield zero wellhead values.

Number 025

Commissioner Wunnicke said DNR and DOR calculated the figures slightly differently. The figures provided by the Dept. of Revenue showed zero wellhead values for Prudhoe Bay oil at \$8.10 - Gulf (\$8.80 including field costs). Kuparuk oil would have zero wellhead value at \$8.70 - Gulf (\$9.10 including field costs).

Number 040

Rep. Pignalberi expressed concern about Mr. Eason's position of the federal Royalty Management Advisory Committee. He did not want the State of Alaska to become involved in a valuation methodology which would increase the price of Cook Inlet gas. Low priced gas was in the best interest of in-state consumers.

Number 058

Commissioner Wunnicke explained that Mr. Eason was one of many advisors to the Secretary of the Interior. He was not serving as an official representative of the state.

Number 070

Rep. Pignalberi wanted to ensure that all parties went on record as soon as possible with their interpretation of the state's liability for field costs. He asked DNR to give a list of questions to royalty producers, so any differences would be pinned down.

Number 080

Commissioner Wunnicke replied that she felt the state's position was clear already.

Number 100

Rep. Pignalberi asked why DNR and DOR zero wellhead prices were different.

Number 105

Commissioner Wunnicke explained the differences in computation.

Number 140

Chat Chatterton, Chairman of the Oil and Gas Conservation Commission, gave his view of the situation. He pointed out that the state could take unilateral action to underlift. Article 6 Section 4 of the Prudhoe Bay unit agreement gave the Commissioner of DNR the right, on 90 day notice, to underlift that portion of royalty oil that is being taken in kind by 10%.

Mr. Chatterton gave a brief overview of the history of the world oil market. Prior to the 1930's there were great excursions in price. From the early 1930s until 1972, the United States controlled the world market price for crude oil by serving as the swing producer to meet demand. Several states had statutes that spoke to "market pro-ration". Texas, for example, had laws prohibiting the production of more oil than the market could use. Today, Saudi Arabia is the swing producer. The only countries which seem able to control production are those with nationalized petroleum industries.

Number 220

Rep. Davis asked whether sale of royalty oil at zero wellhead value could be considered economic waste, and banned as such.

Number 235

Mr. Chatterton said Title 31, which governs the Oil and Gas Conservation Commission, speaks only of physical waste. From the beginning he had been strongly opposed to the inclusion any language referring to economic waste in the regulatory powers of the Commission.

Number 250

Rep. Cotten asked if the legislature could change Title 31 to give the Commission such power if it choose.

Number 255

Chat Chatterton did not know of anything in the state constitution or statute that would prevent such action. Alaska is a member of the Interstate Oil Compact Commission which deals with physical waste. Texas, Louisiana, and Oklahoma are pro-ration states belonging to the Compact Commission. They restrict economic waste by regulating physical waste by evaporation from above ground storage.

Number 280

Rep. Szymanski joined the meeting.

Number 290

Chat Chatterton reminded the committee that the formula for field costs was arrived at through negotiation of the Amerada-Hess settlement. Perhaps a reduction in the charge could be negotiated. A reserves tax had been imposed in the past. The legislature could consider reinstituting such a tax.

Number 330

Rep. Davis asked for further explanation of the origins of the field cost formula.

Number 350

Bob Maynard replied that the field cost was a result of the Amerada-Hess case. Originally the case had two parts. The first was whether the state was liable for field costs if the royalty oil was taken in value or in kind. The second was the determination of the value of oil at pump station one to which the field cost was chargeable. The case was argued and briefed before the Juneau superior court in the late 1970's. In early 1980, the court rendered a judgement that the state was liable for field costs only when its royalty oil was taken in kind. At that time it was state policy to take all its oil in kind. The field costs at stake were upwards of \$1.10/barrel.

After the decision of the superior court and before an appeal to the supreme court, the state settled for a \$0.42 charge in 1980? dollars, whether the oil was taken in value or in kind. Field costs were a negotiated item, however the state had agreed to a court approved settlement. The field cost for in kind oil had always been considered a deduction from a

downstream value, similar to the situation when the tanker or TAPS charge might be high. It would surely not be the state's or the companies' position that there would be a charge for the TAPS tariff if the price of oil dropped below cost.

Number 410

Rep. Cotten asked if Mr. Maynard thought there should be an inquiry made into the producers' positions on those deductions.

Number 415

Bob Maynard said he was not sure if the people currently in charge of the production decisions were the same people involved in the original Prudhoe Bay settlement. If they were asked now, producers would probably concede nothing in their responses. However, Mr. Maynard did recall specific discussions of the liability vs. deduction issue.

Number 430

Rep. Pignalberi asked about Title 38.180g which referred to production rates. Unfortunately, the state had waived its authority to modify the quantity and rate of production at Prudhoe Bay and Kuparuk. Was there anything in the Prudhoe Bay unit plan which would allow the state to modify the production rate?

Number 455

Chat Chatterton responded that Article 11 Section 3 permits DNR to modify the rate of production for conservation purposes. He was not sure of the definition of conservation in that context.

Number 475

Rep. Pignalberi asked for an example of physical waste.

Number 485

Chat Chatterton referred him to the definitions in AS 31.05 170 (14).

Number 505

Rep. Pignalberi asked whether the definition in statute allowed for an interpretation to include fiscal and economic waste.

Number 510

Chat Chatterton said in his opinion it did not. While the evaporation technique worked for Texas prior to 1972, he doubted it would hold up today.

Number 540

Rep. Pignalberi asked a question submitted by Rep. Rieger. Did the state have any protection against the lag between the rise in market prices for crude and the time that increase in price was reported to the state?

Number 550

Commissioner Wunnicke replied that the price on which the royalty and severance tax were based was determined at the time of sale. The companies report back the actual amount the oil is sold for. Daily spot prices are used only for planning. The Department of Revenue is responsible for audits to ensure the producers are reporting truthfully.

Number 610

Rep. Davis rephrased the question by asking how closely the contract price could be expected to follow the spot price.

Number 635

Dick Monkman said the actual price producers received for their oil had been the subject of many disputes. Many oil companies do not simply sell their oil for cash. Instead, they exchange their ANS oil for other oil in other parts of the world. Therefore, there were arguments over the value of the oil received in trade.

Number 700

Chuck Logsdon described DOR's auditing procedure. He agreed with Mr. Monkman that determining the correct price of ANS crude was very difficult.

TAPE TWO SIDE ONE

Number 000

Rep. Pignalberi asked about the source of disputes over tax assessments.

Number 005

Chuck Logsdon replied that whenever you dealt with a very valuable resource in an area with a great deal of subjectivity billion dollar assessments could result. Essentially it was a question of value and costs.

Number 010

Rep. Pignalberi disagreed that these were areas of subjectivity. There were written records of all oil transactions. On a different subject, Rep. Pignalberi recalled reading that the composition of crude in the pipeline changed over time. By now a higher percentage of NGL (natural gas liquids) was in the stream, so the wellhead value should be higher.

Number 040

Chuck Logsdon replied that in a free market the price that a buyer and seller agree on should reflect the value of the product. There would be additional NGLs put into the line in the future. The average AGI gravity would probably not change very much because of the volume of oil in the pipeline.

Number 055

Rep. Pignalberi expressed concern that the state would not realize a benefit from the presence of the NGL. Perhaps the state ought to consider the fact that the pipeline was carrying to distinct products with two prices.

Number 065

Chuck Logsdon said that pricing structure would be difficult to achieve.

Number 080

Rep. Davis asked about the status of ongoing discussions with Conoco, and about the economic limit factor (ELF).

Number 085

Commissioner Wunnicke said the Dept. of Revenue could better address the ELF. She had not met with representatives of Conoco since the last legislative session. DNR had offered to spread the royalty due over time, but Conoco had not accepted. That offer was still good, but Ms. Wunnicke could not respond to the request for a royalty reduction without legislative approval.

Number 100

Rep. Davis asked whether DNR had been approached by any other producers seeking royalty reductions.

Number 105

Commissioner Wunnicke answered that she had not been approached by any other royalty oil contract purchasers with

respect to price reopeners. Perhaps their contracts had not come due yet.

Number 125

Rep. Davis asked if the Dept. of Revenue would like to comment on the ELF factor.

Number 130

Chuck Logsdon said there would be a lowering of Prudhoe Bay's effective tax rate due to the expiration of the 10 year production horizon specified "in whether or not the ELF is applied when the calculated value is greater than 0.7". There is a chance that low wellhead prices would encourage North Slope producers to file for a hearing and redetermination of the ELF based on actual production and price data. The evidence would probably be in their favor.

Number 160

Dick Monkman added that any recalculation of the ELF could not occur until this upcoming December or January. The problem with the economic limit factor is that near zero wellhead value, the ELF would also be extremely close to zero. When the ELF is multiplied by the severance tax, there could be a zero severance liability. For a recalculation, the companies would have to request a hearing, then present clear and convincing evidence of a new value.

Number 180

Rep. Szymanski asked what Conoco's current proposal is.

Number 190

Commissioner Wunnicke said there was a general request to reduce the royalty to 12.5%, but nothing more specific.

Number 195

Rep. Davis asked if DNR had evaluated the state's net profit share leases in light of the drop in oil prices.

Number 200

Commissioner Wunnicke responded that the only net profit share leases currently being produced were three in the Kuparuk unit. It was too early to evaluate those leases. In any case, they were binding agreements.

Number 215

Rep. Davis asked about the predicted return on the 1987 sale. What type of lease did DNR anticipate using in the future?

Number 225

Commissioner Wunnicke replied that net profit share agreements were always an option under consideration. At times when producers have cash flow problems, net profit share leases may be even more viable because the state shares the risk.

Number 235

Rep. Davis commented that when companies' profits came from transportation of oil rather than production, net profit share leases would not be to the state's advantage.

Number 240

Commissioner Wunnicke responded that those were important factors to consider.

Number 265

Rep. Pignalberi asked Mr. Monkman whether the revenue forecast the administration was currently working from took into account the possibility of a zero severance tax liability.

Number 270

Dick Monkman replied that "We're all crossing our fingers and knocking on wood and hoping that the February OPEC price agreement holds and that we won't be faced with that situation."

Number 287

Rep. Davis recessed the meeting for lunch at 12 noon.

Number 300

Rep. Davis reconvened the meeting at 1:30 p.m. Representatives Davis, Marrou, Pignalberi, Cotten, and Szymanski were present after lunch.

Number 310

Roger Marks reviewed royalty oil storage alternatives. The state's total royalty oil is about 220,000 barrels/day. By September, the total in kind royalty will be about 120,000 barrels/day. The wellhead value for Gulf coast sales is slightly over one dollar.

Mr. Marks commented that producers are not prone to store oil or curtail production since they earn profits on the pipeline,

shipping, and refining. They earn these profits off the state's royalty oil as well as their own. Subsequently, we can expect to see production even at negative wellhead values.

If we are in a world of vacillating prices, the state could optimize its ultimate revenue by storing its in value oil until the price recovers. Storage would not be riskless. Its ultimate feasibility depends on the timing of the eventual price recovery.

From an economic perspective, the best place to store the oil is in the ground. With underlifting, the only cost to the state would be the opportunity cost of foregone revenue. At the 10% discount rate currently earned by the permanent fund, that cost would be \$0.09/barrel for a six month period of underlifting, \$0.19 over a year, and \$0.39 over two years. That is also the necessary price recovery needed to break even. There would be a cash flow loss of \$220,000/day in royalty income, which would be made up when production occurred

If underlifting is not possible, the state could take its in value oil in kind, and store it. Eventually there would be an in kind sale similar to the one held last year. In general, the state would need to give producers 6 months notice for denomination. The state would take possession of the oil at pump station 1, which represents a radical departure from customary state policy. Traditionally, the state has unburdened its self at pump station one, exchanging any downstream benefits for administrative simplicity.

DOR has come up with three alternatives for storing royalty oil in addition to the preferable underlift option. The first option is storing oil in tankers near Valdez. The state would have to pay storage costs up front, possibly causing cash flow problems. There are many excess tankers in the world today, so they could be obtained fairly cheaply. The largest tanker that can enter the port of Valdez can hold about 1.9 million barrels, one half month of in kind royalty oil. A foreign bottom tanker could be charged for about \$10,000/day (\$0.16/barrel/month) including crew, pumpers and heating. If American bottom tankers were necessary, the cost would be \$15,000/day. The fee to transfer the oil from the pipeline to the tanker would be \$0.15. The mooring buoy would cost about \$2 million. Insurance would be about \$0.01/barrel/month.

The second option would be to build storage in Valdez. Land is available and could be leased for \$5,000/acre. A 510,000 barrel (25 day) storage tank would cover 2 acres, cost \$4.20/barrel, and require a year to build. The advantage of a tank farm over the tanker option is that it is a one time cost with cheaper long term per barrel rates. The state could always have access to the facility, there was less environmental risk, and it would assist Valdez in its economic

development. The disadvantages of this option are that it is slower to implement, and it is more expensive in the short term.

The third and best option economically, is storage in Lower 48 tanks. The independent storage industry is small and fragmented. Most major producers and refiners have their own tanks. 25% of the 40 million barrel independent storage capacity is currently idle. Storage costs would be approximately \$0.15/barrel/month, including pumping and insurance. The advantage of this option is that it is quicker to implement. The disadvantage is that the state would have to arrange transportation.

Mr. Marks presented a table comparing costs and necessary appropriations for the options over different time periods.

Number 515

Rep. Davis commented that the federal government was increasing its stored reserves and asked how that would affect Lower 48 storage.

Number 525

Roger Marks said DOR had contacted the federal Dept. of Energy to see if Alaska could store oil with the strategic petroleum reserve. The answer was no.

Number 550

Rep. Pignalberi suggested that the legislature ask the congressional delegation to petition D.O.E.

Number 560

Rep. Marrou asked about the feasibility of a refinery in Valdez with the owner shipping refined products to Asia.

Number 585

Rep. Pignalberi asked what Mr. Marks thought the state should do.

Number 590

Roger Marks said the state should compare costs and benefits.

Number 610

Rep. Szymanski asked if statutory changes would be necessary to implement any of the options.

Number 625

Rogers Marks replied that denomination of in value oil for a period longer than one year would require legislative approval. Underlift would have to be negotiated with producers.

Number 680

Chuck Logsdon discussed recent OPEC developments.

TAPE TWO SIDE TWO

Number 000

Chuck Logsdon continued his OPEC update. DOR will be putting together new revenue estimates in September. He was "cautiously optimistic" that the state's FY 88 revenues would be near the figures used in preparing the budget in March. Regardless of OPEC's action, there would be a large shortfall in FY 87.

Number 040

Rep. Pignalberi asked how aware OPEC was of Alaska oil production.

Number 050

Chuck Logsdon said the people he came in contact with were well aware of Alaskan oil and gas. They tended to lump the state with other high cost producing areas like the North Sea. They were also aware of the prohibition on export which prevented Alaska from being a player in the world market.

Number 065

Rep. Davis asked about the volume of world wide production, and OPEC's ability to drive up the price of oil.

Number 070

Chuck Logsdon said the result depended on the cooperation of major non-OPEC countries with discretionary production. Great Britain had declared its intention to continue producing at the same volume. On the other hand Egypt, Mexico, and Norway would probably voluntarily hold down production. In the most recent OPEC agreement, Iran had pledged to hold to 2.3 million barrels/day and ensure that Iraq does not increase production above 1.8 million. Iraq had not signed anything.

Number 115

Rep. Davis recessed the meeting until 3:00 p.m.

The final portion of the meeting was cancelled because Tom Hawkins was unable to make his presentation. The meeting therefore adjourned at 2:00 p.m.

Municipal Taxation

alaska taxable

SCOMM 55
JT. SP CMTE. ON
State Tax Policy
86-87
Municipal Taxation
#7



- ◎ *Municipal Taxation - Rates and Policies*
- ◎ *Full Value Determination*
- ◎ *Population and G.O. Bonded Debt*

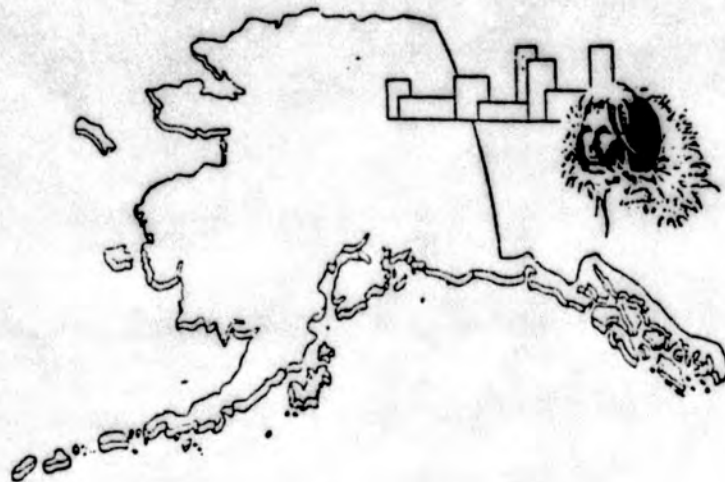
1985



**State of Alaska
Department of Community and Regional Affairs
Municipal and Regional Assistance Division**

**Volume XXV
January 1986**

ALASKA
TAXABLE
1985



STATE OF ALASKA

Bill Sheffield, Governor

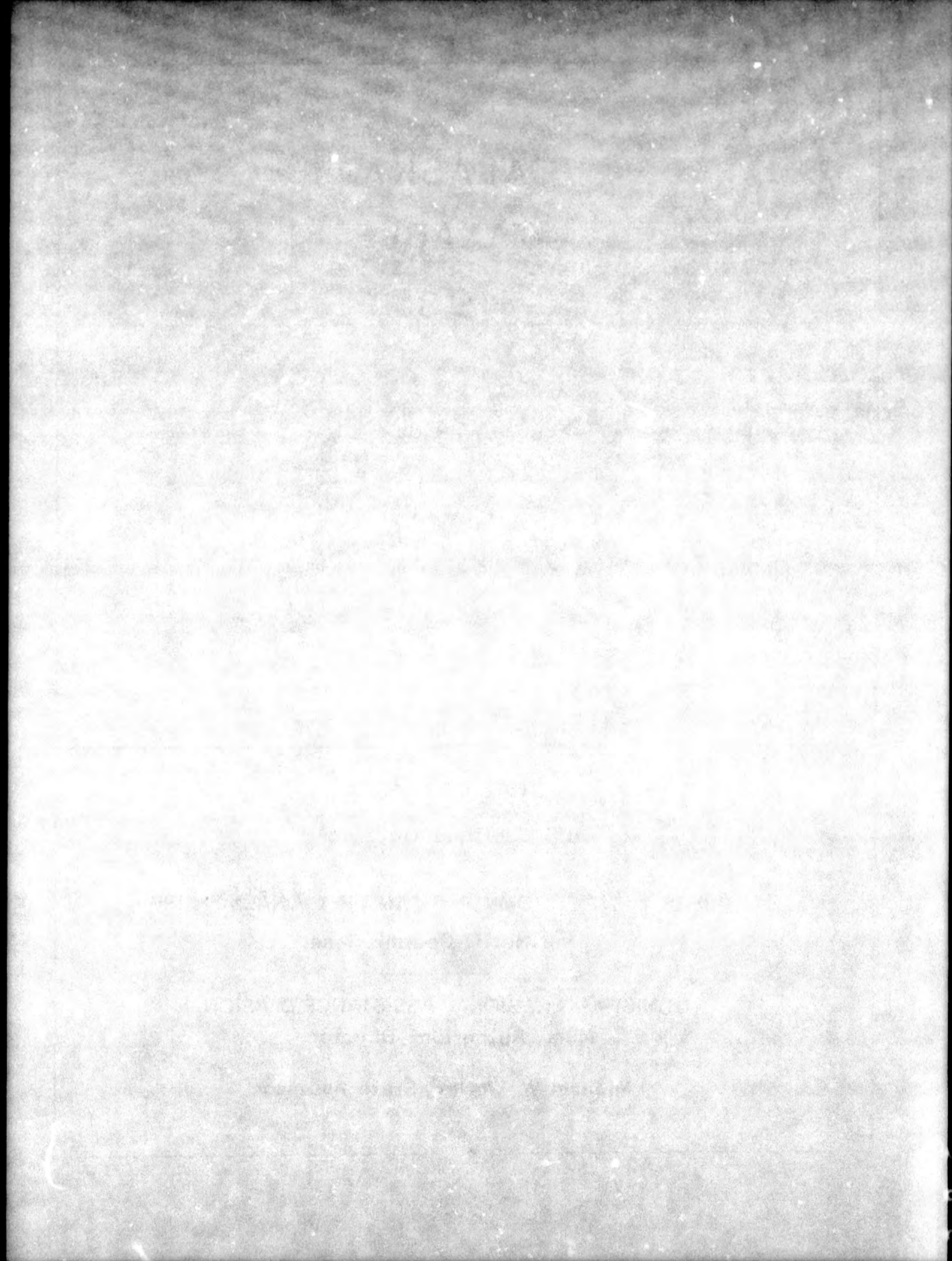
DEPARTMENT OF COMMUNITY AND REGIONAL AFFAIRS

Emil Notti, Commissioner

MUNICIPAL & REGIONAL ASSISTANCE DIVISION

Marty Rutherford, Director

Michael W. Worley, State Assessor



ALASKA TAXABLE

FOREWORD

The year of 1985 marked a distinctive change in the complexion of taxation in Alaska. As State oil and gas revenues continued their rapid decline, municipalities across the State began to address the question of whether they intend to maintain the same levels of local services they have become accustomed to over the past few years. With a seemingly inevitable reduction in State assistance to municipalities looming on the horizon, many cities and boroughs are now anticipating increases in their levels of municipal taxation. Some non-taxing communities are now considering the adoption of sales tax or property tax programs for the first time. We anticipate Alaska Taxable will be expanding in the future to accommodate those changes.

1985 was also a remarkable year from the standpoint of new legislation affecting the operation of local government, including assessment and taxation. At long last the Title 29 Rewrite (House Bill 72) was signed into law and became effective January 1, 1986. Included in this year's issue of Alaska Taxable is a brief overview of some of the more important assessment changes contained in Chapter 45 of the Rewrite.

ALASKA TAXABLE 1985

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ALASKA TAXABLE 1985

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TITLE 29, REWRITE
Effective January 1, 1986
CHAPTER 45

The Complete rewrite of Title 29, which became effective on January 1, 1986, resulted in a large number of revisions to statutes which govern the operation of Municipal Government. Listed below are some of the more important changes to the assessment and taxation chapter.

Assessment revisions to Title 29 with cross-references of citations (from new to old):

AS 29.45.030 (AS 29.53.020.) Required exemptions

AS 29.45.030(a)(2), [AS 29.53.020(a)(2) and AS 29.53.025(b)(2)(A)]

All household furniture of the head of a household is now required to be exempt. The new language combines the required and optional cites noted above but makes no reference to "effects of the head of a household" (jewelry, clothing, etc.) which was addressed under AS 29.53.025(b)(2)(A).

AS 29.45.030(b)(3), [AS 29.53.020(b)(3)(repealed) and AS 29.53.020(b)(4)]

The new language allows church exemptions for lots "required by ordinance for parking", but repeals the exemption for "lots adjacent to and necessary to convenient use".

AS 29.45.030(c), [AS 29.53.020(c)]

The "classroom space" language of this subsection has been clarified. The "classroom space" restriction now only applies to education use.

AS 29.53.030(f), [AS 29.53.020(f)]

The term "under (e) of this section" has been added as a housekeeping item. The old language was interpreted by some to say the State Assessor had to approve applications to be used for requesting any exemption. The new language corrects that problem by clearly relating State Assessor approval under this section only to the Homeowners' and Disabled Veterans' Exemption Programs.

AS 29.45.030(J), [AS 28.10.411(d)]

For several years, the language under AS 28.10.411(d) was such that the State was required to "reimburse" municipalities whether they participated in the exemption program or not. The language under AS 29.45.030(J) corrects that problem. The one loose end which still remains is the repeal of one subsection under AS 28.10.411 which is now in direct conflict with AS 29.45.030(J). The repeal of that language is contained in a bill by the Revisor of Statutes currently before the Legislature.

AS 29.45.050(b)(1), [AS 29.53.025(b)(1)]

This subsection has dramatically changed the taxation of boats and vessels. The \$5 and \$15 restrictions on boats and vessels have now been removed, allowing municipalities to value at any level they believe appropriate based on certificated net tonnage. In addition, the language increases flexibility in classifying boats and vessels. The five "net tons" restriction has been completely removed.

AS 29.45.050(b)(3), (new law)

This language allows municipalities to exempt personal property by ordinance if they wish.

AS 29.53.030. (repealed)

Special treatment of mining claims no longer exists under Title 29. Assessors are now free to decide the proper level of value for patented and unpatented (by possessory interest valuation) mining claims.

AS 29.45.090(a), [AS 29.53.050(a)]

This subsection adds language to the statutes which states "all property on which a tax is levied shall be taxed at the same rate during the year".

AS 29.45.140. Violations (new law)

This section allows municipalities to adopt an ordinance providing for a fine of up to \$1,000 and imprisonment for up to 90 days if a taxpayer knowingly makes a false statement "relative to the amount, location, kind or value of property . . . with intent to evade the taxation."

AS 29.45.200(b), (AS 29.53.135).

This section changes the number of members of the Board of Equalization from "a quorum" of the Assembly to "not less than three members".

AS 29.45.200(b), (new law) clarifies that the board of equalization may not order the assessor to change assessed values on any property except that specifically appealed to the Board.

AS 29.45.210(b), [AS 29.53.140(b) & (c)]

This amendment combines two subsections from old chapter 53 and adds language which makes it clear the Board of equalization may increase a value if it is found to be too low.

AS 29.45.210(c), [AS 29.53.140(e)]

This new language makes it clear that supplementary assessment rolls may be adopted at any time during the year. Prior to the passage of this language, some believed supplementary rolls could not be adopted after June 1.

AS 29.45.210(d), [AS 29.53.140(f)]

This subsection eliminates the "trial de novo" language from the old statute. In the past, evidence not presented at the Board hearing could be presented to Superior Court. Under the new law, "appeals are heard on the record established at the hearing before the board of equalization".

AS 29.45.230(e), [AS 29.53.160(e)]

This subsection has been rewritten to include a governor's declaration of natural disaster along with that of the President of the United States.

AS 29.45.250., (AS 29.53.180.)

Rates of Penalty and Interest. The rates of penalty and interest have been increased from 10 per cent and 8 per cent to 20 per cent and 15 per cent, respectively.

The Penalty of Personal property return late files has been increased from 10 per cent to 20 per cent. All these rates are maximum levels. Municipalities may set their own levels of penalty and interest by ordinance, provided they do not exceed the maximums.

AS 29.45.300(a), [AS 29.53.210(b)]

This language for the first time clearly makes personal property taxes as well as real property taxes a lien against the property assessed.

AS 29.45.500(c), (new law)

Until now, it has not been legal for a municipality to make a correction to the assessment roll after it has been certified. Corrections may now be made at any time if shown to be "manifest " and "clerical" in nature.

Chapter 1



Introduction:

The Alaska Property Tax

OFFICE OF THE STATE ASSESSOR

Statutory citations which relate directly to duties of the Office of the State Assessor.

Article X, Section 14 of the Alaska Constitution created the Municipal and Regional Assistance Division (formerly the Local Affairs Agency).

House Concurrent Resolution No. 14 of 1961 created the Office of the State Assessor within that Division.

AS 14.17.140; Determination of Full & True Value for State Aid to Education

AS 28.10.411 (d); Senior Citizen Motor Vehicle Tax Exemption

AS 29.05.210; Assistance to each borough incorporated after December 31, 1985, in

- 1) establishing initial sales & use tax assessment & collection department if the borough has adopted a sales or use tax;
- 2) determining initial property tax assessment roll if borough has adopted a property tax, including contracting for appraisal of property needed to complete the initial assessment.

AS 29.20.640 (3); Requirement for Municipalities to Report Assessment Statistics to Office

AS 29.45.030 (e)-(i); Senior Citizen and Disabled Veteran Tax Exemption

AS 29.45.060; Agricultural Use Assessment

AS 29.45.103-105; Monitoring of Municipal Property Tax Procedures

AS 29.46.090; Senior Citizen Sewer and Water Assessment Exemption

AS 29.45.040; Senior Citizen and Disabled Veteran Renters Tax Rebate

AS 29.45.045; Senior Citizen and Disabled Veteran Sales Tax Exemption on Rents

AS 29.60.030 (d)-(e); Determination of Full & True Value for Revenue Sharing Program

AS 43.56.010 (c) and AS 29.53.045 (c); Determination of Full & True Value for Municipal Assessment Limit

AS 44.33.403 (4)(a); Verification of Real Property Market Value

AS 44.47.050 (20); Authority to Inspect Municipal Assessment Records

AS 47.65.040 (c)(1); Older Alaskans Commission Funding Formula

CHAPTER I

INTRODUCTION

THE ALASKA PROPERTY TAX

The Power to Tax

The power to tax is an essential power of a state's sovereignty, and it does not depend on a grant of authority from the constitution. However, constitutional provisions regarding taxation serve to define and restrict the exercise of the state's otherwise unlimited power to tax.

The State Constitution places three major restrictions on the levy of property taxes:

1. "No tax shall be levied except for a public purpose."
(Article IX, Section 6)
2. "Standards for appraisal of all property assessed by the State or its political subdivisions shall be prescribed by law." (Article IX, Section 3)
3. "The State may delegate taxing powers to organized boroughs and cities only." (Article X, Section 2)

Unlike the state, boroughs and cities do not possess any inherent power of taxation; only such power as has been granted them by the State Constitution or the statutes. The power of taxation, therefore, is an extraordinary one, the administration of which is not to be left to implication or inference. For that reason, the Alaska Statutes, together with certain Attorney General's opinions and court decisions, clearly delineate the jurisdiction of municipalities in the assessment of property and in the levy and collection of taxes.

Uniform Measures

"Taxes are said to be 'equal and uniform' when no person or class of persons in the taxing district, whether it be state, county, or city, is taxed at a different rate than are other persons in the same thing, and where the objects of taxation are the same, by whomsoever owned or whatsoever they may be." (Weatherly Independent School Dist. V. Hughes, Tex Civ. App. 41 S.W. 2nd 445, 447.)

The first step toward establishing uniform assessment procedures in Alaska was taken in 1961-62 when the House Representatives and the Senate, responding to Section 3 of Article IX of the State Constitution (cited above) passed House Concurrent Resolution #14 (HCR14). This resolution in sum required the Local Affairs Agency (now the Division of Municipal & Regional Assistance within the Department of Community & Regional Affairs) to prepare a study of assessment problems and procedures in Alaska, a manual for Assessors and a report

recommending any legislation necessary "to assure a uniform, equalized, and realistic assessment of property throughout the state". The resolution further authorized the Agency to inspect the records of equalization, to hire an assessor, and to hold any hearings deemed necessary for the preparation of the study, the manual and the report.

The Local Affairs Agency, together with the Alaska Association of Assessing Officers, originally published the manual in 1963. That manual has been periodically updated with the latest revisions made in 1967.

There have been a number of reports and studies done by the Division of Municipal & Regional Assistance, the most recent of which was "An Examination of Property Tax Exemptions", prepared and distributed for the Second Session of the Eleventh Legislature.

In addition to HCR 14, in 1962 the legislature adopted AS 14.17.140 which required that "...the Department of Community and Regional Affairs, in consultation with the assessor for each district, shall determine the full and true value of the taxable real and personal property in each district".

The full and true value estimate, as prepared pursuant to the above statute, is used as the uniform measure of wealth for many state programs and appears in Table IV.

Definition of Full and True Value

Full and true value, the basis for the full value determinations, may be defined as "...the estimated price which the property would bring in an open market and under the then prevailing market conditions in a sale between a willing seller and a willing buyer, both conversant with the property and with prevailing general price levels." [Source: (AS 29.45.110 AM. CH 74 SLA 85)]. Full and true value determinations are made by the State Assessor annually in conformance with uniform standards as defined in Attorney General Opinion No. 18, 1962.

The Full Value Determination

Local control is a basic premise in Alaska's local government structure. As a result of that premise, municipalities have a unique amount of flexibility in the area of property tax administration.

There are Aumerous optional exemptions that may or may not be adopted, as the local government desires. Those optional exemptions include up to \$10,000 on residences and a provision for charging a small flat fee in lieu of property taxes on vessels, etc.

In addition to the optional exemptions, municipalities reassess based on several different time frames. Those time frames range from a reassessment every year to reassessment every four or five years.

Even though local systems vary widely, there existed a need for a common unit with which to measure local values uniformly. The Full Value Determination prepared by the State Assessor, Division of Municipal & Regional Assistance, became that measure.

Through the use of sales studies, as described in chapter two, and with the assistance of the local assessors, the State Assessor is able to adjust locally generated values to compensate for the optional exemptions and for the varying reassessment cycles.

Program Uses

The major programs using the full and true value estimate are:

1. State Revenue Sharing - the formula used to compute a municipality's State Revenue Sharing entitlement is based on relative wealth (full value determination) and local effort (locally generated revenues).
2. The Public School Foundation's funding formula uses full value determination as one of its components.
3. The local match portion of Cultural Facilities Grants is based partially on the full value determination.
4. Some grants for Senior Citizen programs are based on the full value determination.
5. The ability to bond for local programs is affected by full value determination.

Tax Limitation

There are four statutory tax limitations in Alaska. They apply to varying degrees and under various circumstances as explained below. In each case the limitation applies only to expenditures for the operating costs of local government. There is no limit on taxation to pay bonded indebtedness.

1. Second Class Cities may not levy taxes which exceed one half of one percent (.5%) of the assessed value of property within the municipality in any one year.
2. Any other type of municipality may not levy taxes which exceed three percent (3%) of the assessed value of property within the municipality in any one year.
- *3. No municipality, or combination of municipalities occupying the same geographic area, may levy taxes exceeding \$1500 per resident in any one year.

- *4. No municipality, or combination of municipalities occupying the same geographic area, may levy taxes which exceed the product of 225 (225%) percent of the average per capita full and true value of property in the state multiplied by the number of residents of the taxing municipality.

*Effectively, the limitation described under 4. above renders the limitation under 3. pointless. In every instance, potential revenues obtained through the use of limitation 4. would exceed those obtained by use of limitation 3.

Errors In Municipal Assessment,
Valuation, or Taxation Records

ALASKA STATUTE AS 29.45.103-105 was amended in Chapter 14 SLA 84 for the purpose of reviewing municipal assessments, valuation or taxation records and providing for notice of major errors.

CHAPTER 39, ERRORS IN MUNICIPAL ASSESSMENT,
VALUATION, OR TAXATION RECORDS,

Section

- 10. Inspection of records
- 20. Notice of errors found
- 30. Appeal
- 900. Definitions

19 AAC 39.010 INSPECTION OF RECORDS, (a) The state assessor will, in his or her discretion, inspect municipal records dealing with assessment, valuation or taxation.

(b) If a written complaint of an alleged major error in a municipality's assessment, valuation, or taxation procedures is submitted to the state assessor, the state assessor will, in his or her discretion, investigate the complaint. If an investigation is prompted by a complaint, the state assessor will give at least 30' days notice to the municipal assessor, stating the nature of the complaint and the state assessor's intention to investigate the complaint. The municipal assessor may participate in the review process. (Eff. / / , Register)

Authority: AS 29.45.103
AS 44.47.050(19)
AS 44.47.980

19 AAC 39.020. NOTICE OF ERRORS FOUND. (a) Immediately following a review of municipal records dealing with assessment, valuation or taxation, the state assessor will discuss with the municipal assessor any errors found in the course of the review.

(b) The state assessor will inform a municipality of any major errors discovered in the municipality's assessment, valuation, or taxation records. The major error will be resolved in the manner described in (c) or (d) of this section, in the state assessor's discretion.

(c) The state assessor will, in his or her discretion, verbally inform a municipality of a major error and work with the municipality informally to correct the problem.

(d) The state assessor will, in his or her discretion, send an official notice of a major error by certified mail, return receipt requested, which will contain at least the following information.

(1) a brief description of the major error found; and

(2) a directive to the municipality to correct the major error before the beginning of the next fiscal year.

(e) The state assessor will provide a copy of all notices of major errors issued under (d) of this section to the commissioner and to the Alaska Association of Assessing Officers, (Eff. / / , Register)

Authority: AS 29.45.105
AS 44.47.050(19)
AS 44.47.980

19 AAC 39.030. APPEAL. (a) If a municipality elects to appeal, under AS 29.45.105, a determination made by the state assessor, it shall provide a copy of its appeal to the Alaska Association of Assessing Officers.

(b) In deciding the appeal, the commissioner will consult with the Alaska Association of Assessing Officers and the appellant, and will, at the commissioner's discretion, consult with others. Parties to the appeal may offer testimony and may submit briefs and other evidence in support of their respective positions.

(c) Within 60 days after receiving the appeal, the commissioner will send a decision by certified mail, return receipt requested, to the municipality. In addition, the commissioner will send a copy of the decision to the Alaska Association of Assessing Officers. If the commissioner determines that a major error has been made in the municipality's assessment, valuation, or taxation procedures, the commissioner will notify the municipality of the changes that must be made. The municipality shall then correct its procedures before the beginning of its next fiscal year. (Eff. / / , Register)

Authority: AS 29.45.105
AS 44.47.050(19)
AS 44.47.980

19 AAC 39.900. DEFINITIONS, As used in this chapter,

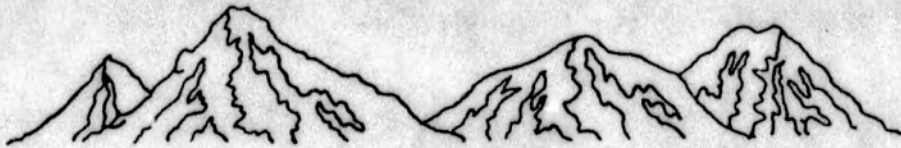
(1) "commissioner" means the commissioner of the Department of Community and Regional Affairs;

(2) "major error" means a violation of federal, state, or municipal property tax law;

(3) "state assessor" means the state assessor in the Department of Community and Regional Affairs, or a designee from the office of the state assessor. (Eff. / / , Register)

Authority: AS 29.45.105
AS 44.47.050(19)
AS 44.47.980

Chapter 2



POPULATION, VALUATION AND GENERAL OBLIGATION BONDED INDEBTEDNESS

OVERVIEW
POPULATION, VALUATION, AND GENERAL OBLIGATION BONDED DEBT

ALASKA LOCAL GOVERNMENT

Organized Boroughs and Unified Home Rule Municipalities

Unified Home Rule	3
Home Rule	1
First Class	-
Second Class	6
Third Class	<u>1</u>
Total	11

Organized Cities

	Within Boroughs	Outside of Boroughs	Total
Home Rule	7	1	12
First Class	3	17	20
Second Class	<u>16</u>	<u>99</u>	<u>114</u>
Total	26	121	146

The organized borough concept of areawide local government, rather than the traditional county form of government was adopted for Alaska primarily because vast amounts of its 586,400 square mile area were virtually uninhabited. With the development of those areas and the ensuing need for community services, the borough concept provided a mechanism for annexation or incorporation, as necessary, of the unorganized borough.

Organized boroughs, and home rule and general law cities which are situated outside the corporate limits of boroughs, have general municipal responsibilities and powers including areawide education, property assessment and collection of taxes, and planning and zoning; cities of the second class have limited taxing powers with no educational responsibility. In the unorganized borough, education is provided totally from state funds with no local effort required.

STATE POPULATION: July 1, 1985 (AS 29.88.015.(a)) The population figures shown here are estimated by the Department of Community and Regional Affairs for purposes of establishing the revenue limit under AS 29.53.050 and for distributing State shared revenues under AS 29.88.

Municipalities	Estimate	
*11 organized boroughs	484,467	
5 home rule cities	}	28,771
16 first class cities		
98 second class cities		
Subtotal	<u>35,951</u>	549,189
Unincorporated areas of the unorganized borough	<u>17,468</u>	566,657
Total		

* Population figures for organized boroughs include residents of the 26 home rule and general law cities located inside borough boundaries.

Municipal population figures as reported were compiled and used by the Department of Community and Regional Affairs for allocation of payments under the State Revenue Sharing Program (AS 29.88 and AS 29.89). All population figures are as of July 1, 1985.

FULL VALUE DETERMINATION: JANUARY 1, 1985

Area	(AS 29.53) Locally Assessed	(AS 43.56) State Assessed Oil and Gas	(AS 14.17) Full Value
Taxing Jurisdictions	26,483,050,900	15,195,533,300	45,080,439,800
Unorganized Borough	<u>-0-</u>	<u>3,834,798,100</u>	<u>3,834,798,100</u>
Total	26,483,050,900	19,030,331,400	48,915,237,900

AVERAGE PER CAPITA FULL AND TRUE VALUE: JANUARY 1, 1985
(including state assessed oil & gas)

Area	Full Value	Est. 7-1-85 Population	Per Capita Value
State of Alaska	48,915,237,900	566,657	86,322

The valuation figures above represent the Department's equalized full value figures for taxable real and personal property within 59 home rule and general law municipalities and includes the value of oil and gas related property as valued by the State Department of Revenue, Petroleum Revenue Division.

AVERAGE PER CAPITA FULL AND TRUE VALUE: JANUARY 1, 1985
(excluding state assessed oil & gas)

Area	Full Value	Est. 7-1-85 Population	Per Capita Value
State of Alaska	29,884,906,500	566,657	52,738

GENERAL OBLIGATION BONDED DEBT: JULY 1, 1985

Area	Total Debt	Est. 7-1-85 Population	Per Capita Debt
Municipalities	2,084,098,600	549,189	3,794
State of Alaska	<u>816,100,000</u>	566,657	1,440
Total, State & Local	2,900,198,600	566,657	5,118

The debt figures as shown above are total general obligation bonded indebtedness figures as reported by all municipalities and by the State of Alaska.

TABLE I

VALUATION, POPULATION, AND G. O. BONDED DEBT

Per capita valuation, per capita general obligation bonded debt, and debt as a percent of valuation are reported in Table I. Included are organized boroughs and home rule and general law municipalities. Excluded are cities of the second class without debt or for which no valuation data is available. Data reported below for debt and population is as of July 1.

YEAR	MUNICIPALITIES DEBT	STATE OF ALASKA DEBT	TOTAL DEBT	POPULATION	PER CAPITA DEBT
1975	351,421,098	392,508,000	743,929,098	379,286	1,961
1976	420,807,982	462,923,000	883,730,982	393,167	2,248
1977	519,599,526	530,008,000	1,049,607,526	398,983	2,631
1978	545,227,664	596,213,000	1,141,440,664	423,541	2,695
1979	768,508,903	670,503,000	1,439,011,903	429,649	3,349
1980	827,112,294	573,186,000	1,400,298,294	464,295	3,016
1981	1,091,019,504	701,178,000	1,792,197,504	422,187	4,245
1982	1,316,204,221	842,413,000	2,158,617,221	464,460	4,648
1983	1,619,154,450	946,183,000	2,565,332,450	516,324	4,968
1984	2,105,810,849	924,008,000	3,029,818,849	547,475	5,534
1985	2,084,098,600	816,100,000	2,900,198,600	566,657	5,118

TABLE 1

BOROUGH	R/P TOTAL FULL VALUE	STATE ASSESSED	TOTAL FULL VALUE	G.O. DEBT	POPULATION	PER CAP/DEBT	PER CAP/VALUE
ANCHORAGE	\$15,675,303,800	\$80,107,200	\$15,755,411,000	\$358,799,900	248,263	\$1,445	\$63,462
BRISTOL BAY	\$101,798,800	\$0	\$101,798,800	\$3,535,000	1,271	\$2,781	\$80,086
FAIRBANKS (CITY)	\$1,458,574,300	\$0		\$9,010,000	27,099	\$332	\$53,823
North Pole	\$187,457,100	\$0		\$1,218,500	1,640	\$742	\$114,303
Other	\$1,934,409,900	\$0		\$80,700,000	46,340	\$1,741	\$41,743
TOTAL	\$3,580,441,300	\$630,556,400	\$4,210,997,700	\$90,928,500	75,079	\$1,211	\$56,087
HAINES (CITY)	\$44,916,300	\$0		\$745,000	1,079	\$690	\$41,627
Other	\$49,029,200	\$0		\$555,000	768	\$722	63,840
TOTAL	\$93,945,500	\$0	\$93,945,500	\$1,300,000	1,847	\$703	\$50,863
JUNEAU (CITY)	\$436,658,900	\$0		\$0			
Douglas	\$76,111,100	\$0		\$0			
Other	\$1,100,618,900	\$0		\$47,651,000			
TOTAL	\$1,613,388,900	\$0	\$1,613,388,900	\$47,651,000	29,370	\$1,622	\$54,933
KENAI (HOMER)	\$215,845,000	\$0		\$2,113,000	3,817	\$553	\$56,548
Kenai	\$282,950,800	\$0		\$5,835,000	6,434	\$906	\$43,977
Seldovia	\$16,451,300	\$0		\$378,000	678	\$557	\$24,264
Seward	\$142,170,600	\$0		\$7,479,000	2,072	\$3,609	\$68,615
Soldotna	\$215,425,400	\$0		\$2,800,000	3,597	\$778	\$59,890
Other	\$1,871,875,200	\$0		\$119,324,000	22,321	\$5,345	\$83,861
TOTAL	\$2,744,718,300	\$545,500,900	\$3,290,219,200	\$137,929,000	38,919	\$3,544	\$84,540
KETCHIKAN (CITY)	\$391,440,000	\$0		\$10,840,000	8,414	\$1,288	\$46,522
Other	\$284,545,100	\$0		\$21,090,000	5,900	\$3,574	\$48,227
TOTAL	\$675,985,100	\$0	\$675,985,100	\$31,930,000	14,314	\$2,230	\$47,225
KODIAK (CITY)	\$391,834,100	\$0		\$2,455,000	6,602	\$371	59,350
Other	\$180,536,600	\$0		\$25,815,000	7,146	\$3,612	\$25,264
TOTAL	\$572,370,700	\$0	\$572,370,700	\$28,270,000	13,748	\$2,056	\$41,633
MAT-SU (PALMER)	\$141,412,400	\$0		\$2,048,000	3,016	\$679	\$46,887
Huston	\$50,971,300	\$0		\$0	725	\$0	\$70,305
Wasilla	\$309,314,700	\$0		\$0	3,666	\$0	\$84,373
Other	\$1,864,081,300	\$0		\$110,160,000	33,686	\$3,270	\$55,336
TOTAL	\$2,365,779,700	\$1,626,500	\$2,367,406,200	\$112,208,000	41,093	\$2,730	\$57,571
NORTH SLOPE	\$511,643,200	\$12,365,143,700	\$12,876,786,900	\$1,155,680,000	12,342	\$93,637	\$1,043,330
SITKA	\$396,227,900	\$0	\$396,227,900	\$12,400,000	8,221	\$1,508	\$48,197

CITIES	R/P TOTAL FULL VALUE	STATE ASSESSED	TOTAL FULL VALUE	G.O. DEBT	POPULATION	PER CAP/DEBT	PER CAP/VALUE
BETHEL	\$182,296,900	\$0	\$182,296,900	\$556,500	3,681	\$151	\$49,523
CORDOVA	\$120,673,000	\$0	\$120,673,000	\$0	2,520	\$0	\$47,886
CRAIG	\$34,707,400	\$0	\$34,707,400	\$0	1,167	\$0	\$29,740
DELTA JUNCTION	\$30,870,500	\$0	\$30,870,500	\$0	1,207	\$0	\$25,576
DILLINGHAM	\$94,669,900	\$0	\$94,669,900	\$0	2,100	\$0	\$45,080
EAGLE	\$9,104,500	\$0	\$9,104,500	\$0	194	\$0	\$46,930
GALENA	\$19,149,500	\$0	\$19,149,500	\$900,000	942	\$955	\$20,328
HOONAH	\$27,845,200	\$0	\$27,845,200	\$0	906	\$0	\$30,734
HYDABURG	\$12,688,900	\$0	\$12,688,900	\$0	463	\$0	\$27,405
KAKE	\$11,608,000	\$0	\$11,608,000	\$0	633	\$0	\$18,338
KING COVE	\$23,230,800	\$0	\$23,230,800	\$0	547	\$0	\$42,469
KLAWOCK	\$5,563,000	\$0	\$5,563,000	\$0	600	\$0	\$9,271
KOTZEBUE	\$93,245,100	\$0	\$93,245,100	\$0	2,981	\$0	\$31,279
NENANA	\$12,881,500	\$0	\$12,881,500	\$2,717,300	542	\$5,013	\$23,766
NOME	\$116,712,900	\$0	\$116,712,900	\$2,161,200	3,876	\$557	\$30,111
PELICAN	\$10,155,400	\$0	\$10,155,400	\$0	213	\$0	\$47,677
PETERSBURG	\$161,219,300	\$0	\$161,219,300	\$6,195,000	3,137	\$1,974	\$51,392
ST. MARY'S	\$4,239,400	\$0	\$4,239,400	\$0	563	\$0	\$7,530
SAND POINT	\$71,086,800	\$0	\$71,086,800	\$0	900	\$0	\$78,985
SKAGWAY	\$58,447,100	\$0	\$58,447,100	\$820,000	790	\$1,037	\$74,021
TANANA	\$11,195,400	\$0	\$11,195,400	\$0	425	\$0	\$26,342
UNALASKA	\$102,367,800	\$2,941,600	\$105,309,400	\$3,299,000	1,922	\$1,716	\$54,791
UNALAKLEET	\$19,714,500	\$0	\$19,714,500	\$0	787	\$0	\$25,050
VALDEZ	\$172,493,900	\$1,567,938,000	\$1,740,431,900	\$75,833,000	3,687	\$20,567	\$472,045
WHITTIER	\$19,419,200	\$0	\$19,419,200	\$0	338	\$0	\$57,453
WRANGELL	\$111,757,000	\$0	\$111,757,000	\$10,750,000	2,376	\$4,524	\$47,035
YAKUTAT	\$15,960,400	\$1,719,000	\$17,679,400	\$235,200	462	\$509	\$38,267
TOTAL CITIES	\$1,553,303,300	\$1,572,598,600	\$3,125,901,900	\$103,467,200	37,959	\$2,725	\$82,349
STATE	\$29,884,906,500	\$19,030,331,400	\$48,915,237,900	\$816,100,000	566,657	\$1,440	\$86,322
TOTAL BOROUGH	\$28,331,603,200	\$13,622,934,700	\$41,954,537,900	\$1,980,631,400	484,467	\$4,088	\$86,599
STATEWIDE TOTAL	\$29,884,906,500	\$19,030,331,400	\$48,915,237,900	\$2,900,198,600	566,657	\$5,118	\$86,322

Chapter 3



ASSESSMENT STATISTICS AND RATIO STUDIES

- LOCAL ASSESSMENT POLICY
- SALES-ASSESSMENT RATIOS
- FULL VALUE DETERMINATIONS

CHAPTER III
ASSESSMENT STATISTICS
AND RATIO STUDIES

The local assessor has a legal, professional and ethical responsibility to value uniformly all property within his/her jurisdiction. In addition, it is his/her duty to insure that all values on the assessment roll represent "full and true value" pursuant to AS 29.45.110 (Ch 60 SLA 85).

Assessment ratio studies may be used as a measure of uniformity and a tool with which to analyze values both within and among jurisdictions.

There are two major types of assessment ratio studies that can be conducted. They are sales ratio studies and appraisal ratio studies. The sales ratio study is the predominant method currently used in Alaska and, therefore, is the type of ratio study discussed herein.

The sales ratio study compares assessed values to sale prices (transacted during a specific time period and carefully verified).

The results of these comparisons are generally expressed as a ratio in terms of percentage.

The ratios are a result of division. In the process of analysis, the numerator is the assessed value and the denominator is the sale price. This ratio formula is expressed as follows:

$$\frac{\text{ASSESSED VALUE}}{\text{SALE PRICE}} = \text{RATIO (expressed as percentage)}$$

For example, if a residence sells for \$100,000 and is assessed at \$90,000, the ratio of assessment to sale price expressed as a percentage is 90% (ninety percent).

$$\frac{90,000}{100,000} = 90\%$$

Preparation of a Ratio Study

1. Assemble Sales Data

- (a) sources of sales data include, but are not limited to, recorders' offices, local realtors, developers, bankers, etc.
- (b) verify sales data by contacting one of the parties involved (grantee, grantor or realtor).

These ratios could also be used by the local assessor to determine his own level of assessment, internal equity, and to indicate areas that need professional attention.

Limitations of Use

Assessment ratio studies are devices for obtaining indications of the relationship between market values and assessed values, and show general assessment levels within and among areas. Even though these studies can point out areas where inequities exist, they will not, in themselves, correct disparities among individual properties.

A sales ratio study is no more accurate than the information input. Therefore, the utmost care in selecting, screening, and verifying information is essential.

Also, care must be given in order not to overload a study with specific types of property. The optimum arrangement is to segregate by class (commercial, residential, etc.) and type (improved, vacant, water front, etc.). That procedure allows for proper weight to be placed upon each class and type of property.

2. Select Samples

- (a) for sales ratio, disbursement of sales should be checked to insure uniform coverage of total areas and to avoid using an overabundance of information from a specific area;
- (b) in all cases, the selection process should be restricted to individual classes of property. (residential, commercial, industrial, etc.)

3. Compile Usable Data

- (a) correlate usable sales information into usable listing;
- (b) divide current assessed values by usable sales data and develop individual ratios;
- (c) sort resulting ratios and remove inconsistencies.

4. Compute Statistical Data

- (a) develop weighted mean;

Explanation of Statistical Terms Included Herein

Weighted Mean is computed by dividing the total of all of the assessed values by the total of all the sale prices. This is generally considered to be the most accurate indicator of the overall level of assessment on a unit wide basis.

Area Multipliers are obtained by dividing the ratio by 1.00. This multiplier then can be applied to assessments to bring a unit to the required level. (Caution: multipliers used unit wide or areawide tend to distort uniformity).

Uses of Ratios and Multipliers

The results of sales ratio studies may be applied in several ways depending on the need of the user.

The most common usage comes from state equalization or full value determinations. The normal current procedure for full value determination in Alaska is the use of the weighted mean ratio to determine full value.

Example:

<u>SALE PRICE</u>	<u>ASSESSED VALUE</u>	<u>RATIO</u>
106,000	100,000	94.34%
100,000	106,000	106.00%
109,000	107,000	98.17%
132,000	125,000	94.70%
127,000	130,000	102.36%
122,500	122,500	100.00%
129,000	137,000	106.20%
141,000	140,000	99.29%
<u>966,500</u>	<u>967,500</u>	<u>100.10%</u>

ASSESSMENT RATIO STUDIES

The following can be used by individual municipalities to help monitor assessment performance. They can be used to indicate the need for general reassessment or which neighborhoods or types of properties are most in need of reassessment.

Note: The following tests are only guidelines and are not intended to take the place of statistical tests. In each case, the sample size should be at least 30.

1. If $(A/S)/(A/S)$ is greater than 1.10
good indicator that the over assessment errors are more prevalent than under assessment errors.
2. If $(A/S)/(A/S)$ is less than 0.95
good indicator that the under assessment errors are more prevalent than over assessment errors.
3. If $(A/S)/(A/S)$ is greater than 1.10
good indicator that assessment regressivity exists.
4. If $(A/S)/(A/S)$ is less than 0.95
good indicator that assessment progressivity exists.

DEFINITIONS:

$\bar{A/S}$ = mean ratio

A/S = median ratio

$\bar{A/S}$ = weighted mean ratio (same as weighted average ratio)

regressivity = assessment bias such that high-valued properties are assessed with lower A/S than low-valued property.

progressivity = assessment bias such that high-valued properties are assessed with higher A/S than low-valued properties.

TABLE II

LOCAL ASSESSMENT POLICY

The following information should be used to interpret Table II:

FV = Full and True Value Assessment

EX = Exempt Property

NA = Municipality Does Not Levy Property Taxes

Optional Exemption: Optional residential exemption up to \$10,000 exercised
(AS 29.45.050(a))

State Collection: State collected, annual motor vehicle tax (AS 28.10.431)

5/15 Optional, 5 & 15 dollar fee collected in lieu of
property tax (AS 29.45.050(b)(1))

Note: Eight first class cities located outside of boroughs do not
levy or collect property taxes. They are: Galena, Hoonah,
Hydaburg, Kake, King Cove, Klawock, St. Mary's and Tanana.

Second class cities have no school responsibility but may levy a limited
property tax not to exceed five mills. The second class cities of Eagle
and Whittier are the only second class cities which levy and collect a property
tax.

TABLE II
LOCAL ASSESSMENT POLICY

<u>BOPOUGHS</u>	<u>RESIDENTIAL</u>		<u>GENERAL PERSONAL PROPERTY</u>	<u>BOATS & MOTOR VEHICLES</u>	<u>VESSELS</u>	<u>BUSINESS INVENTORY</u>	<u>AIRCRAFT</u>
ANCHORAGE, MUNICIPALITY OF	FV		FV	ST COL	FV	FV	FV
BRISTOL BAY BOROUGH	OP	EX	FV	FV	FV	FV	FV
FAIRBANKS NORTH STAR BOROUGH	OP	EX	EX	EX	EX	EX	EX
HAINES BOROUGH	FV		FV	FV	5/15	FV	FV
JUNEAU, CITY & BOROUGH	FV		FV	EX	EX	FV	FV
KENAI PENINSULA BOROUGH	OP	EX	FV	FV	FV	EX	FV
KETCHIKAN GATEWAY BOROUGH	FV		FV	ST COL	5/15	FV	FV
KODIAK ISLAND BOROUGH	FV		FV	ST COL	EX	FV	FV
MATANUSKASUSITNA BOROUGH	FV		FV	ST COL	FV	FV	FV
NORTH SLOPE BOROUGH	OP	EX	FV	FV	FV	FV	FV
SITKA, CITY & BOROUGH	FV		FV	FV	5/15	FV	FV
<u>CITIES</u>							
CORDOVA	FV		EX	EX	EX	EX	EX
CRAIG	FV		EX	EX	EX	EX	EX
DILLINGHAM	FV		FV	FV	FV	FV	FV
EAGLE	FV		FV	EX	EX	EX	EX
GALENA	NA		NA	NA	NA	NA	NA
HOONAH	NA		NA	NA	NA	NA	NA
HYDABURG	NA		NA	NA	NA	NA	NA
KAKE	NA		NA	NA	NA	NA	NA
KING COVE	NA		NA	NA	NA	NA	NA
KLAWOCK	NA		NA	NA	NA	NA	NA
NENANA	FV		FV	FV	FV	FV	FV
NOME	FV		FV	FV	FV	FV	NA
PELICAN	FV		FV	EX	5/15	FV	FV
PETERSBURG	FV		FV	ST COL	EX	FV	FV
ST. MARY'S	NA		NA	NA	NA	NA	NA
SKAGWAY	FV		EX	EX	EX	EX	EX
TANANA	NA		NA	NA	NA	NA	NA
UNALASKA	FV		FV	EX	EX	FV	FV
VALDEZ	OP	EX	EX	EX	EX	EX	EX
WRANGELL	FV		FV	EX	EX	FV	FV
YAKUTAT	FV		EX	EX	EX	EX	EX

TABLE III
STATISTICAL EVALUATION TABLE

REAL PROPERTY ONLY

MUNICIPALITY	WEIGHTED MEAN RATIO	ASSESSING DEPT BUDGET	REAL PROPERTY PARCELS	COST PER PARCEL	ASSESSMENT CYCLE
Anchorage, Municipality of	96.88	\$2,572,190	83,493	\$30.80	Annual
Fairbanks North Star	90.85	\$1,035,683	40,056	\$25.85	Annual
Haines Borough	89.81	\$ 49,227	2,197	\$22.40	Annual
Juneau, City & Borough	96.79	\$ 425,209	11,225	\$37.88	F/Y
Kenai Peninsula Borough	93.98	\$ 935,336	48,683	\$19.21	2 years
Ketchikan Gateway Borough	98.04	\$ 254,138	6,207	\$40.94	Annual
Kodiak Island Borough	91.64	\$ 192,860	4,091	\$47.14	3 Years
Matanuska-Susitna Borough	99.30	\$1,277,045	56,120	\$22.75	Annual
Sitka, City & Borough	97.56	\$ 121,060	2,784	\$43.48	Annual

TABLE IV

LOCAL ASSESSMENTS VS. FULL VALUE

The following information should be used to interpret Table IV:

Municipalities: Boroughs and cities organized under the laws of Alaska, except those second class cities which are located outside of boroughs and do not levy a property tax.

ASSESSED VALUES:

Locally assessed property values taxable under provisions of municipal ordinance and state law. (AS 29.45)

RATIOS:

The relationship in terms of percent, which actual assessed property values bear to the Department's full value determination.

FULL VALUES:

The full value of real and personal property taxable under provisions of local ordinance and state law as equalized by the Department of Community and Regional Affairs in conformity with uniform standards defined in Attorney General Opinion No. 18, 1962.

TABLE IV

REAL PROPERTY

BOROUGH	<u>Assessed</u>	<u>Ratio</u>	<u>Full Value</u>
Anchorage	\$12,800,000,000	96.88%	\$13,212,160,000
Bristol Bay	\$52,386,400	94.32%	\$55,541,100
Fairbanks (City)	\$1,028,480,900	93.63%	\$1,098,417,600
North Pole	\$132,139,700	92.69%	\$142,565,500
Other	\$1,437,762,000	88.80%	\$1,619,063,800
TOTAL	<u>\$2,598,382,600</u>	<u>90.85%</u>	<u>\$2,860,046,900</u>
Haines (City)	\$32,890,000	89.81%	\$36,623,000
Other	\$37,549,200	89.81%	\$41,811,000
TOTAL	<u>\$70,439,200</u>	<u>89.81%</u>	<u>\$78,434,000</u>
Juneau (City)	\$308,036,400	95.33%	\$323,130,200
Douglas	\$61,327,600	93.46%	\$65,620,500
Other	\$870,167,600	97.56%	\$891,921,800
TOTAL	<u>\$1,239,531,600</u>	<u>96.79%</u>	<u>\$1,280,672,500</u>
Kenai Peninsula (Homer)	\$163,747,700	88.34%	\$185,362,400
Kenai	\$224,339,100	91.32%	\$245,651,300
Seldovia	\$12,255,300	93.08%	\$13,165,900
Seward	\$77,827,300	91.07%	\$85,454,400
Soldotna	\$175,952,500	89.69%	\$196,187,000
Other	\$1,644,055,800	95.60%	\$1,719,682,400
TOTAL	<u>\$2,298,177,700</u>	<u>93.98%</u>	<u>\$2,445,503,400</u>
Ketchikan Gateway (City)	\$360,547,400	98.04%	\$367,758,300
Other	\$263,416,100	98.04%	\$268,684,400
TOTAL	<u>\$623,963,500</u>	<u>98.04%</u>	<u>\$636,442,700</u>
Kodiak (City)	\$222,002,500	92.59%	\$239,762,700
Other	\$131,641,300	90.09%	\$146,121,800
TOTAL	<u>\$353,643,800</u>	<u>91.64%</u>	<u>\$385,884,500</u>
Mat-Su (Palmer)	\$123,602,400	98.14%	\$125,950,800
Houston	\$47,457,100	96.06%	\$49,402,800
Wasilla	\$273,012,600	98.52%	\$277,107,800
Other	\$1,744,562,500	99.60%	\$1,751,540,700
TOTAL	<u>\$2,188,634,600</u>	<u>99.30%</u>	<u>\$2,204,002,100</u>
North Slope	\$321,024,600	86.96%	\$369,178,300
Sitka	\$322,641,800	97.56%	\$330,707,800
TOTAL BOROUGHs	\$22,868,825,800	95.85%	\$23,858,573,300

REAL PROPERTY

CITIES	<u>Assessed</u>	<u>Ratio</u>	<u>Full Value</u>
Bethel	\$0	0.00%	\$144,569,300
Cordova	\$59,878,900	93.46%	\$64,070,400
Craig	\$22,805,400	95.00%	\$24,005,700
Delta Junction	\$0	0.00%	\$24,915,300
Dillingham	\$61,592,900	100.00%	\$61,592,900
Eagle	\$3,918,600	52.40%	\$7,478,600
Galena	\$0	0.00%	\$16,888,800
Hoonah	\$0	0.00%	\$12,448,000
Hydaburg	\$0	0.00%	\$8,563,300
Kake	\$0	0.00%	\$11,021,500
King Cove	\$0	0.00%	\$14,079,000
Klawock	\$0	0.00%	\$5,070,700
Kotzebue	\$0	0.00%	\$83,389,200
Nenana	\$7,406,000	90.91%	\$8,146,600
Nome	\$81,744,200	89.44%	\$91,392,500
Pelican	\$6,127,200	105.26%	\$5,820,800
Petersburg	\$97,583,900	100.00%	\$97,583,900
St. Marys	\$0	0.00%	\$3,215,200
Sand Point	\$0	0.00%	\$17,817,400
Skagway	\$48,933,400	100.00%	\$48,933,400
Tanana	\$0	0.00%	\$10,765,400
Unalaska	\$53,733,200	88.34%	\$60,822,200
Unalakleet	\$0	0.00%	\$16,590,000
Valdez	\$135,067,100	100.00%	\$135,067,100
Whittier	\$11,153,100	100.00%	\$11,153,100
Wrangell	\$73,797,300	84.14%	\$87,703,700
Yakutat	\$9,804,800	83.33%	\$11,765,800
TOTAL CITIES	\$673,546,000	62.09%	\$1,084,869,700
UNORGANIZED BOROUGH	\$0	0.00%	\$0
TOTAL BOROUGHS	\$22,868,825,800	95.85%	\$23,858,573,300
STATEWIDE TOTALS	\$23,542,371,800	94.38%	\$24,943,443,000

PEPSONAL PROPERTY

BOROUGH	<u>Assessed</u>	<u>Ratio</u>	<u>Full Value</u>
Anchorage	\$1,875,622,100	76.15%	\$2,463,143,800
Bristol Bay	\$44,055,000	95.24%	\$46,257,700
Fairbanks (City)	\$0	0.00%	\$360,156,700
North Pole	\$0	0.00%	\$44,891,600
Other	\$0	0.00%	\$315,346,100
TOTAL	\$0	0.00%	\$720,394,400
Haines (City)	\$3,000,800	36.18%	\$8,293,300
Other	\$4,446,000	61.59%	\$7,218,200
TOTAL	\$7,446,800	48.01%	\$15,511,500
Juneau (City)	\$43,915,700	38.68%	\$113,528,700
Douglas	\$2,765,600	26.36%	\$10,490,600
Other	\$111,382,100	53.37%	\$208,697,100
TOTAL	\$158,063,400	47.51%	\$332,716,400
Kenai Peninsula (Homer)	\$30,482,600	100.00%	\$30,482,600
Kenai	\$37,299,500	100.00%	\$37,299,500
Seldovia	\$3,285,400	100.00%	\$3,285,400
Seward	\$56,716,200	100.00%	\$56,716,200
Soldotna	\$19,238,400	100.00%	\$19,238,400
Other	\$152,192,800	100.00%	\$152,192,800
TOTAL	\$299,214,900	100.00%	\$299,214,900
Ketchikan Gateway (City)	\$22,173,900	93.63%	\$23,681,700
Other	\$14,850,900	93.63%	\$15,860,700
TOTAL	\$37,024,800	93.63%	\$39,542,400
Kodiak (City)	\$29,073,600	19.12%	\$152,071,400
Other	\$21,295,600	61.88%	\$34,414,800
TOTAL	\$50,369,200	27.01%	\$186,486,200
Mat-Su (Palmer)	\$15,461,600	100.00%	\$15,461,600
Houston	\$1,568,500	100.00%	\$1,568,500
Wasilla	\$32,206,900	100.00%	\$32,206,900
Other	\$112,540,600	100.00%	\$112,540,600
TOTAL	\$161,777,600	100.00%	\$161,777,600
North Slope	\$142,464,900	100.00%	\$142,464,900
Sitka	\$55,520,100	84.74%	\$65,520,100
TOTAL BOROUGHs	\$2,831,558,800	63.30%	\$4,473,029,900

PERSONAL PROPERTY

CITIES	Assessed	Ratio	Full Value
Bethel	\$0	0.00%	\$37,727,600
Cordova	\$0	0.00%	\$56,602,600
Craig	\$991,500	9.26%	\$10,701,700
Delta Junction	\$0	0.00%	\$5,955,200
Dillingham	\$33,077,000	100.00%	\$33,077,000
Eagle	\$0	0.00%	\$1,625,900
Galena	\$0	0.00%	\$2,260,700
Hoonah	\$0	0.00%	\$15,397,200
Hydaburg	\$0	0.00%	\$4,125,600
Kake	\$0	0.00%	\$586,500
King Cove	\$0	0.00%	\$9,151,800
Klawock	\$0	0.00%	\$492,300
Kotzebue	\$0	0.00%	\$9,855,900
Nenana	\$4,734,900	100.00%	\$4,734,900
Nome	\$19,158,500	75.66%	\$25,320,400
Pelican	\$2,895,400	66.80%	\$4,734,900
Petersburg	\$10,245,300	16.10%	\$63,635,400
St. Marys	\$0	0.00%	\$1,024,200
Sand Point	\$0	0.00%	\$53,269,400
Skagway	\$0	0.00%	\$9,513,700
Tanana	\$0	0.00%	\$430,000
Unalaska	\$26,068,500	62.75%	\$41,545,600
Unalakleet	\$0	0.00%	\$3,124,500
Valdez	\$0	0.00%	\$37,426,800
Whittier	\$6,326,600	76.54%	\$8,266,200
Wrangell	\$5,622,600	23.38%	\$24,053,300
Yakutat	\$0	0.00%	\$4,194,600
TOTAL CITIES	\$109,120,300	23.29%	\$468,433,600
UNORGANIZED BOROUGH	\$0	0.00%	%0
TOTAL BOROUGHs	\$2,831,558,800	63.30%	\$25,700,384,600
STATEWIDE TOTALS	\$2,940,679,100	59.51%	\$26,483,050,900

REAL AND PERSONAL PROPERTY

BOROUGH	Assessed	Ratio	Full Value
Anchorage	\$14,675,622,100	93.62%	\$15,675,303,800
Bristol Bay	\$96,441,400	94.74%	\$101,798,800
Fairbanks (City)	\$1,028,480,900	70.51%	\$1,458,574,300
North Pole	\$132,139,700	70.49%	\$187,457,100
Other	\$1,437,762,000	74.33%	\$1,934,409,900
TOTAL	\$2,598,382,600	72.57%	\$3,580,441,300
Haines (City)	\$35,890,800	79.91%	\$44,916,300
Other	\$41,995,200	85.65%	\$49,029,200
TOTAL	\$77,886,000	82.91%	\$93,945,500
Juneau (City)	\$351,952,100	80.60%	\$436,658,900
Douglas	\$64,093,200	84.21%	\$76,111,100
Other	\$981,549,700	89.18%	\$1,100,618,900
TOTAL	\$1,397,595,000	86.62%	\$1,613,388,900
Kenai Peninsula (Homer)	\$194,230,300	89.99%	\$215,845,000
Kenai	\$261,638,600	92.47%	\$282,950,800
Seldovia	\$15,540,700	94.46%	\$16,451,300
Seward	\$134,543,500	94.64%	\$142,170,600
Soldotna	\$195,190,900	90.61%	\$215,425,400
Other	\$1,796,248,600	95.96%	\$1,871,875,200
TOTAL	\$2,597,392,600	94.63%	\$2,744,718,300
Ketchikan Gateway (City)	\$382,721,300	97.77%	\$391,440,000
Other	\$278,267,000	97.79%	\$284,545,100
TOTAL	\$660,988,300	97.78%	\$675,985,100
Kodiak (City)	\$251,076,100	64.08%	\$391,834,100
Other	\$152,936,900	84.71%	\$180,536,600
TOTAL	\$404,013,000	70.59%	\$572,370,700
Mat-Su (Palmer)	\$139,064,000	98.34%	\$141,412,400
Houston	\$49,025,600	96.18%	\$50,971,300
Wasilla	\$305,219,500	98.68%	\$309,314,700
Other	\$1,857,103,100	99.63%	\$1,864,081,300
TOTAL	\$2,350,412,200	99.35%	\$2,365,779,700
North Slope	\$463,489,500	90.59%	\$511,643,200
Sitka	\$378,161,900	95.44%	\$396,227,900
TOTAL BOROUGHs	\$25,700,384,600	90.71%	\$28,331,603,200

REAL AND PERSONAL PROPERTY

CITIES	Assessed	Ratio	Full Value
Bethel	\$0	0.00%	\$182,296,900
Cordova	\$59,878,900	49.62%	\$120,673,000
Craig	\$23,796,900	68.56%	\$34,707,400
Delta Junction	\$0	0.00%	\$30,870,500
Dillingham	\$94,669,900	100.00%	\$94,669,900
Eagle	\$3,918,600	43.04%	\$9,104,500
Galena	\$0	0.00%	\$19,149,500
Hoonah	\$0	0.00%	\$27,845,200
Hydaburg	\$0	0.00%	\$12,688,900
Kake	\$0	0.00%	\$11,608,000
King Cove	\$0	0.00%	\$23,230,800
Klawock	\$0	0.00%	\$5,563,000
Kotzebue	\$0	0.00%	\$93,245,100
Nenana	\$12,140,900	94.23%	\$12,881,500
Nome	\$100,902,700	86.45%	\$116,712,900
Pelican	\$9,022,600	88.85%	\$10,155,400
Petersburg	\$107,829,200	66.88%	\$161,219,300
St. Marys	\$0	0.00%	\$4,239,400
Sand Point	\$0	0.00%	\$71,086,800
Skagway	\$48,933,400	83.72%	\$58,447,100
Tanana	\$0	0.00%	\$11,195,400
Unalaska	\$79,801,700	77.96%	\$102,367,800
Unalakleet	\$0	0.00%	\$19,714,500
Valdez	\$135,067,100	78.30%	\$172,493,900
Whittier	\$17,479,700	90.01%	\$19,419,200
Wrangell	\$79,419,900	71.06%	\$111,757,000
Yakutat	\$9,804,800	61.43%	\$15,960,400
TOTAL CITIES	\$782,666,300	50.39%	\$1,553,303,300
UNORGANIZED BOROUGH	\$0	0.00%	%0
TOTAL BOROUGHS	\$25,700,384,600	90.71%	\$28,331,603,200
STATEWIDE TOTALS	\$26,483,050,900	88.62%	\$29,884,906,500

TABLE V

FULL VALUE DETERMINATION
January 1, 1985

The following information should be used to interpret Table V:

Municipalities: Boroughs and cities organized under the laws of Alaska (except those second class cities which are located outside of boroughs, and which do not levy a property tax.)

FULL VALUE, AS 29.45:

The full value of real and personal property taxable under provisions of local ordinance and state law as equalized by the Department of Community and Regional Affairs in conformity with uniform standards defined in Attorney General Opinion No. 18, 1962.

PERCENT OF TOTAL:

The relationship in terms of percent, which the equalized full value of property taxable under provisions of Title 29 bears to the full value determination.

FULL VALUE, AS 43.56:

The assessed value of oil and gas exploration, production and pipeline transportation property as determined by the Petroleum Revenue Division, Department of Revenue.

PERCENT OF TOTAL:

The relationship in terms of percent, which the value of property assessed by under AS 43.56 bears to the full value determination.

FULL VALUE DETERMINATION:

The full value of property taxable under provisions of municipal law (AS 29.45) and oil and gas related property as assessed by the State (AS 43.56).

Note: No valuation data has been compiled or is available for property taxable under provisions of municipal law which is situated within the unorganized area of Alaska (unorganized borough) or for the 94 second class cities therein.

TABLE V

FULL VALUE DETERMINATION
(as of January 1)

<u>BOROUGH</u>	<u>AS 29.53 FULL VALUE</u>	<u>AS 43.56 STATE ASSESSED</u>	<u>TOTAL FULL VALUE</u>
Anchorage	\$15,675,303,800	\$ 80,107,200	\$15,755,411,000
Bristol Bay	\$ 101,798,800	\$ 0	\$ 101,798,800
Fairbanks (City)	\$ 1,458,574,300	\$ 0	
North Pole	\$ 187,457,100	\$ 0	
Other	\$ 1,934,409,900	\$ 0	
TOTAL	\$ 3,580,411,300	\$630,556,400	\$ 4,210,997,700
Haines (City)	\$ 44,916,300	\$ 0	
Other	\$ 49,029,200	\$ 0	
TOTAL	\$ 93,945,500	\$ 0	\$ 93,945,500
Juneau (City)	\$ 436,658,900	\$ 0	
Douglas	\$ 76,111,100	\$ 0	
Other	\$ 1,100,618,900	\$ 0	
TOTAL	\$ 1,613,388,900	\$ 0	\$ 1,613,388,900
Kenai (Homer)	\$ 215,845,000	\$ 0	
Kenai	\$ 282,950,800	\$ 0	
Seldovia	\$ 16,451,300	\$ 0	
Seward	\$ 142,170,600	\$ 0	
Soldotna	\$ 215,425,400	\$ 0	
Other	\$ 1,871,875,200	\$ 0	
TOTAL	\$ 2,744,718,300	\$ 545,500,900	\$ 3,290,219,200
Ketchikan (City)	\$ 391,440,000	\$ 0	
Other	\$ 284,545,100	\$ 0	
TOTAL	\$ 675,985,100	\$ 0	\$ 675,985,100
Kodiak (City)	\$ 391,834,100	\$ 0	
Other	\$ 180,536,600	\$ 0	
TOTAL	\$ 572,370,700	\$ 0	\$ 572,370,700
Mat-Su (Palmer)	\$ 141,412,400	\$ 0	
Houston	\$ 50,971,300	\$ 0	
Wasilla	\$ 309,314,700	\$ 0	
Other	\$ 1,864,081,300	\$ 0	
TOTAL	\$ 2,365,779,700	\$ 1,626,500	\$ 2,367,406,200
North Slope	\$ 511,643,200	\$12,365,143,700	\$12,876,786,900
Sitka	\$ 396,227,900	\$ 0	\$ 396,227,900
TOTAL BOROUGH	\$28,331,603,200	\$13,622,934,700	\$41,954,537,900