D. Why $5 to $50 per gallon?

We believe that $5-$50 per gallon is reasonably related to the gravity of the harm caused by oil pollution. In arriving at the figure, we of course recognize that it is impossible to quantify the environmental harm caused by oil pollution. But this bill is not an attempt to rigidly pre-establish damages. It is a penalty scheme in lieu of damages for which the public will never recover. It is also, of course, intended to serve as a meaningful incentive for safe operations.

On this point, it should be noted that a significantly lower range would result in unreasonably low assessments at the low end of the scale. For example, at a maximum range of $1 per gallon, the discharge of 100 gallons of oil to a salmon stream would result in a penalty of $100 -- a sum hardly commensurate with the gravity of that kind of incident.

E. Shouldn't there be an upper limit on liability?

Under HB 137, an upper limit does exist -- $50.00 per gallon. The total limit of liability thus depends upon the total amount of oil spilled.

To place a dollar limit on the total amount that may be assessed would represent a policy judgment that, at a given point, the harm caused by oil pollution should be

borne by the public, rather than the discharger. The administration is not prepared to make that judgment. In this regard, it should be noted that Alaska currently imposes unlimited strict liability for actual damages -- as do Maine and Florida. See AS 46.03.822.

Admittedly, the recoveries which might be had under HB 137 are conceptually very high. So, it should be added, is the level of impact which an oil spill catastrophe can cause, as well as the figures which enter into industry's calculations in determining what level of safety is economically justifiable.

F. Why is it necessary to establish vicarious liability?

HB 137 does extend liability for the penalty to certain persons who are in a position to control the integrity of operations from which the discharge occurred. For example, oil terminals are made vicariously liable for spills caused by vessels which load at their facilities. Similarly, the lessee of an offshore platform is made vicariously liable for discharges caused from his platform, even though the actual cause of the discharge may be due to the acts of an independent contractor.

Focusing on the question of vicarious liability for terminals, it should be stressed that the owners of the transported oil are the ones who choose the carriers which

handle their products. Because of the terminal's ability to insure that only the safest vessels, and most experienced crews enter Alaska waters, it simply makes sense, as a matter of equity, to hold the terminal responsible for the vessels' actions, while they are in state waters.

It is this philosophy which motivated §204 of the Trans-Alaska Pipeline Authorization Act (43 USC §1653(c)) which makes the owners of the TAPS oil, through the Trans-Alaska Pipeline Liability Fund, vicariously liable for damages (above $14 million) caused by oil spills from vessels which service the terminal. It is this same philosophy which led the State of Maine, in its Oil Discharge Prevention and Pollution Control Act of 1970, to make oil terminals vicariously liable for oil spills caused by "vessels destined for the licensee's facilities." 38 M.R.S.A. §552. This vicarious liability provision was upheld by the Maine Supreme Court in Portland Pipe Line Corporation vs. Environmental Improvement Commission, 307 A 2nd 1 (1973).

There are very real practical reasons for creating vicarious liability, aside from the amount of control which the terminal exercises over the quality of the vessel and its crew. First, the "independent contractor" defense -- which may be available if vicarious liability were not created -- has generally caused severe problems in oil spill

enforcement. For example, the dogged insistence of Alyeska Pipeline Service Company that it is not responsible for oil spills caused by independent contractors engaged in Trans-Alaska Pipeline work has frustrated state enforcement efforts in that regard.

Litigation against the owner of the vessel will often be fruitless. The vessel's owner or charterer will often be protected under the federal Limited Liability Act (46 USC §183, 186), which provides that the liability for damages of the vessel's owner or bareboat charterer as a result of a maritime incident will often be limited to the value of the vessel and freight on board after the incident. After a tanker grounding, of course, that value will be rather small. Of course, since HB 137 imposes liability for penalties, and not damages, it will be the state's position that the Limited Liability Act is inapplicable. It is, however, far from certain how the federal courts will treat this hybrid regulatory approach vis-a-vis that act.

The Torrey Canyon disaster provides a tragi-comic example of precisely this problem. On March 18, 1967, the Italian master of this Liberian registered flagship ran aground off the coast of England, spilling, over a period of days, most of her 119,000 tons of crude oil. On March 28, the vessel was sunk by RAF bombers.

The Torrey Canyon was owned by Barracuda Tanker Corp., a subsidiary of Union Oil Co. of California. Barracuda owned the boat pursuant to a sale-lease back arrangement with Union.

Barracuda immediately sued to limit its liability. The federal court obliged, limiting Barracuda's liability to $50 -- the value of one lifeboat which survived the bombing. See In Re Barracuda Tanker Corp., 281 F. Supp. 228, 232 (S.D.N.Y. 1968).

The frustrated British and French governments finally resorted to a remedy unavailable to Alaska -- they seized the Torrey Canyon's sister ships in Singapore and Rotterdam and, in a very real sense, held them for ransom. Barracuda's insurers then paid the governments 3 million pounds sterling -- about one-sixth of the clean-up costs incurred as a result of the spill.

Vicarious liability is nothing new to hazardous undertakings -- particularly the handling of oil. Both as a matter of equity, and practical necessity, we believe it is imperative that those who induce, and profit from oil handling activities, and who in fact have the ability to control the integrity of those activities if they so desire, be impressed with a non-delegable duty to see that those operations are conducted in as safe as possible a manner.

Finally, it should be stressed that those upon whom vicarious liability is imposed are not without recourse if the penalty is assessed against them. As the Maine Supreme Court stressed in Portland Pipe Line Corp., supra, we are dealing here with a "mutually beneficial relationship [i.e. between terminal and vessels, and owners and operators where] there is, in the relationship, adequate opportunity to locate, among the business associates, the primary liability."

G. Will federal admiralty law let us do this?

The short answer is yes. Following the United States Supreme Court decision in Askew v. American Waterways Operators, 411 US 325 (1973), which upheld Florida's strict liability oil spill statute, it was argued by some that certain implications in that opinion might limit the state's ability to impose strict liability for sanctions or damages beyond the limits established in the Federal Water Pollutior Control Act -- i.e. $14 million dollars for vessels. In upholding Maine's unlimited strict liability oil spill law, the Maine Supreme Court, in Portland Pipe Line Cement, supra, specifically rejected that argument, and Congress has since made it clear that the Maine Supreme Court correctly interpreted its intent with regards to the state's power to enter the domain of admiralty, to seek redress for oil pollution. For example, in establishing the Trans-Alaska Pipeline Liability Fund, Congress stated with regard to vessels:

> "This subsection shall not be interpreted to preempt the field of strict liability or preclude any state from imposing additional requirements." 43 USC § 1653(c)(9).

To the same effect is the following provision in the federal law creating the Deep Water Port Liability fund:

> "This section shall not be interpreted to preempt the field of liability or to preclude any state for imposing additional requirements or liability for discharges of oil from a deep water port or a vessel within a safety zone." P.L. 93-697, § 18(k)(1).

Similar provisions are contained in comprehensive oil spill liability legislation now pending before Congress. It is clear that states have a "wide scope" in enacting laws pertaining to admiralty matters, as long as the law does not concern a matter requiring uniformity, or impair the harmony of the admiralty system. See Romero v. International Terminal Operating Co., 358 U. S. 354; Askew, supra. Both the courts and Congress have made it clear that the states' power to legislate in admiralty with regard to oil pollution is particularly broad.

H. Where does the money go?

The administration made a conscious decision, in submitting HB 137, not to specify how the penalties received should be allocated. If the bill is left untouched in this

regard, penalties collected would, pursuant to AS 30.25-.220(b), be deposited in the coastal protection fund. We believe it would serve no purpose to over-load the coastal protection fund with the substantial penalties which may be collected under this bill.

We would submit, for the legislature's consideration, that it would be more appropriate to return the penalties to the general fund, providing at the same time that the legislature may annually appropriate an amount equal to the penalties collected for the previous year for the purpose of financing renewable resource enhancement efforts in areas affected by oil pollution. These efforts, of course, could specifically include fish hatcheries. It is our belief that, in light of the extreme unlikelihood of effective recovery by fishermen for the full amount of damages actually caused to them as the result of oil pollution, that this mechanism would come as close as possible to, in fact, making the fishing industry whole after a catastrophe occurs. The department of law will be glad to assist the legislature in drafting a new subsection in this regard if that is the legislature's desire.

I. How does this bill affect private damages actions under AS 46.03.822?

This bill has no effect on the bringing of private damages actions under §822. It must be stressed that this section does not provide a damages remedy, but is rather a penalty law. It is true that the penalties are graded according to environmental and renewable resource impacts. However, again, the purpose of the bill is to provide a means of redress for harm caused by oil spills above those actual damages which might be proven in a given instance.

Respectfully submitted,

AVRUM M. GROSS
ATTORNEY GENERAL

By: Jonathon K. Tillinghast
Assistant Attorney General

HB

144

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

DEPARTMENT OF REVENUE

STATE OFFICE BUILDING / POUCH SA – JUNEAU 99811

February 23, 1977

The Honorable Alvin Osterback
Chairman
House Resources Committee
Alaska State Legislature
Room 118 - Capitol Building
Juneau, Alaska

Re: House Bill No. 144

Dear Mr. Osterback:

House Bill No. 144, an Act concerning the oil and gas properties production tax was introduced in the House on January 31, 1977 and was referred to the House Resources and Finance Committees.

For the consideration of the House Resources Committee, I am enclosing a Fiscal Note prepared by Mr. Thomas K. Williams, Director, Petroleum Revenue Division, Department of Revenue, Anchorage, concerning the proposed legislation.

Very truly yours,

R. D. Stevenson
Special Assistant

Enclosure
cc: The Honorable Steve Cowper
Chairman
House Finance Committee
Alaska State Legislature
State Capitol Building
Juneau, Alaska

Thomas K. Williams, Director
Petroleum Revenue Division
Department of Revenue
Anchorage, Alaska

THE LEGISLATURE OF THE STATE OF ALASKA
TENTH LEGISLATURE

FISCAL NOTE

I. REQUEST
Bill/Resolution No. HB 144
Title Act concerning the oil and gas properties production tax
Requested by _____ Date _____

II. FISCAL DETAIL
Agency Affected Revenue
Program Category Affected General Government - Fiscal Services
Budget Request Unit(s) Affected Petroleum Revenue

EXPENDITURES (Thousands of Dollars)

	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
TOTAL	None	None	None	None	None	None

FUNDING (Thousands of Dollars)

GENERAL FUND	-0-	-0-	-0-	-0-	-0-	-0-
FEDERAL FUNDS						
OTHER (Specify)						

POSITIONS

FULL TIME	None	None	None	None	None	None
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

This Bill would facilitate the administration of the present production tax, making it fully auditable for the first time since "stair steps" were introduced into the statute in 1970. No additional staff or other costs are anticipated to administer this Bill. Assuming a full and fair market price for Prudhoe Bay oil, estimated receipts under the Bill for production from the main reservoir of that field would be $131.3 million in FY 78, $205.6 million in FY 79, $362.4 million in FY 80, $585.9 million in FY 81 and $636.3 million in FY 82. Further comments (which are hereby incorporated into and made part of this Analysis) on the Bill appear in the attached memorandum from Thomas Williams to R. D. Stevenson.

IV. DATE February 18, 1977 PREPARED BY Thomas R. Williams
AGENCY Revenue
PHONE (907) 276-1363

Original: Legislative Finance
cc: Budget and Management
Prime Sponsor (First Legislator Named)

AGO 547429 +

33-001 (Rev. 10/76)

MEMORANDUM State of Alaska

TO: R. D. Stevenson
Special Assistant
Department of Revenue

DATE: February 18, 1977

FILE NO:

TELEPHONE NO:

FROM: Thomas K. Williams
Director
Petroleum Revenue Division
Department of Revenue

SUBJECT: SB 103 and HB 144
(identical Bills)

At the outset I would note that the Department of Revenue has recently released its review of Alaska's present taxation methods as they apply to the oil and gas industry. Within that review is the production tax, and recommendations regarding this tax have been made by the Department. This will shortly be followed up with specific bills.

SB 103 and HB 144 are identical. They incorporate a number of suggestions made last Session by the Administration to improve the production tax; however, these Bills do not reflect the latest recommendations in the Department's tax study. The most notable difference is that these Bills retain the basic "stair step" approach based on productivity, while the Department proposes a "curve" (instead of "steps") based on the actual economic condition of a property. The Department's recommendation recognizes and adapts itself to the fact that different areas of the State have different scales of economic production (i.e., in some places a far greater amount of production is needed to break even than is needed in others).

No simple set of "steps" can be structured for statewide application that will reduce the economic effect of the tax as the production of a property declines toward the minimum needed to break even. Either the tax will accommodate Cook Inlet operations and be too insensitive for non-coastal Native lands (whose break-even rates of production will more closely resemble the break-even rates for Prudhoe Bay than those for the Inlet), or else they will reflect the economic scale of operations for Native lands and Prudhoe Bay and give too much away to the Inlet operations.

If the "stair step" approach is to be retained despite its defects, the change to average well productivity as the basis for the "steps" is an improvement over the present tax. Both Bills make this change. However, they seem to give a bit too much away in their present definition of average daily per well production." A well operated only one day in the month would count the same as one operated every day of the month. To prevent the "one-day well" tax dodge, it is suggested that something along the lines of the following be used:

AGO 547430 +

(15) "average daily per well production" means the amount calculated by dividing the total number of barrels of oil produced from a lease or property during the calendar month by the well-days for that lease or property for the calendar month.

(16) "well-days" means the total obtained by determining the number of days each well of a lease or property was operated during the calendar month and then adding those numbers together for all the wells of that lease or property.

Again, this suggestion is made only if "stair steps" are to be retained: it would be unnecessary if the Department's proposed Economic Limit Factor (ELF) is adopted instead.

Despite the difference between "stair steps" and the ELF, these Bills do contain a number of the Administration's recommendations last Session that would still be beneficial.

Most important of these is the specification of the point at which the production is to be valued. There was litigation over this question for Cook Inlet production, and only the fact that the tax is being paid on the cents-per-barrel basis keeps the controversy from boiling up anew. A similar situation could develop at Prudhoe Bay. Specifying the valuation point corrects this and prevents a problem from arising.

Another good feature of the Bills is their proposal to extend the tax to flared gas and to tax that gas at a higher rate. Without a cents-per-Mcf tax, however, the percent-of-value tax could have little if any effect. A producer presumably would argue (before the courts?) that its flared gas has zero value or else why would it be flared.

Neither Bill would change the ordinary gas production tax rate to achieve rate parity with oil. This flaw in the existing tax structure was pointed out in the Department's tax study.

TKW/fm

cc: Sterling Gallagher
Commissioner of Revenue

John R. Messenger
Deputy Commissioner of Revenue

STATE OF ALASKA
THE LEGISLATURE

LEGISLATIVE AFFAIRS AGENCY

POUCH Y - STATE CAPITOL
JUNEAU, ALASKA 99811
907-465-3800

MEMORANDUM February 15, 1977

SUBJECT: HB 144, Proposed Change in Oil and Gas Production Tax (W.O. #3344)

TO : The Honorable Merle Snider
Alaska State Representative

FROM : Gregg K. Erickson
Director of Research

As you requested on February 8th, we are sending herewith a copy of the fiscal note for HB 144.

Also attached is a memorandum prepared by Al Latham for the Subcommittee on Oil and Gas Leasing and Taxing Policies, which sets out the expected revenues to accrue from this legislation. The memorandum evaluates a number of alternative proposals, but the one reflected in the bill is schedule B, with escalating floor price. In tables 1, 2 and 3, this is the second column from the left. For example, under the assumptions used, the proposed tax will yield $285.6 million in FY 1978. Also attached is a table showing the relative impacts on the oil companies doing business in Cook Inlet.

GKE:cm

cc: Legislative Finance

Attachments: Fiscal Note for HB 144
Memorandum of 15 January 1977, Latham to Croft
Table showing company by company impact of HB 144

AGO 547438

Effective Severance Tax Rate in Percent
Paid by Corporate Owners in Cook Inlet for Fiscal 1978
Under Present Schedule and Alternate Schedule

Corporation	Alternate Schedule	Present Schedule	Percent Increase/(Decrease)
Amoco	6.0	7.1	(15)
Arco	7.6	8.8	(14)
Marathon	10.3	9.9	4
Mobil	5.8	7.7	(25)
Phillips	6.0	7.1	(15)
Shell	4.7	5.7	(18)
Skelly	6.0	7.1	(15)
Socal	6.6	8.7	(24)
Superior	5.5	8.3	(34)
Texaco	5.5	8.3	(34)
Union	10.2	9.8	4

1/25/77

AGO 547439

THE LEGISLATURE OF THE STATE OF ALASKA
TENTH LEGISLATURE

FISCAL NOTE

I. REQUEST

Bill/Resolution No. House Bill No. 144

Title "An Act concerning the oil and gas properties production tax, and providing for an effective date"

Requested by Rep. Merle Snider Date 2/14/77

II. FISCAL DETAIL

Agency Affected Department of Revenue

Program Category Affected General Government

Budget Request Unit(s) Affected Petroleum Revenue Division

EXPENDITURES (Thousands of Dollars)

	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82
100 PERSONAL SERVICES	-0-	-0-	-0-	-0-	-0-	-0-
200 TRAVEL	-0-	-0-	-0-	-0-	-0-	-0-
300 CONTRACTUAL	-0-	-0-	-0-	-0-	-0-	-0-
400 COMMODITIES	-0-	-0-	-0-	-0-	-0-	-0-
500 EQUIPMENT	-0-	-0-	-0-	-0-	-0-	-0-
600 LAND & STRUCTURES	-0-	-0-	-0-	-0-	-0-	-0-
700 GRANTS, CLAIMS, ETC.	-0-	-0-	-0-	-0-	-0-	-0-
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-

FUNDING (Thousands of Dollars)

GENERAL FUND	-0-	-0-	-0-	-0-	-0-	-0-
FEDERAL FUNDS	-0-	-0-	-0-	-0-	-0-	-0-
OTHER (Specify)	-0-	-0-	-0-	-0-	-0-	-0-

POSITIONS

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

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

In addition to the changes in the tax rates, this bill provides for an administrative simplification of the oil and gas production tax. No additional costs for the proposed changes are anticipated and it is possible that some minor savings will result. Revenue increases due to passage of HB 144 are analyzed in the attached memorandum.

IV. DATE February 14, 1977 PREPARED BY Gregg K. Erickson, Director of Research

AGENCY Legislative Affairs Agency

PHONE 465-3802

Original: Legislative Finance
cc: Budget and Management
Prime Sponsor (First Legislator Named)

AGO 547440

33-001 (Rev. 10/76)

APPENDIX A

Effective Severance Tax Rates in Percent
Weighted by Production for Schedules A & B by Units

Fiscal 1978

Field Units	Schedule B	Schedule A	Percent Increase/Decrease
Beaver Creek	5.6	8.3	(32)
Granite Pt.			
280001	5.8	7.7	(25)
280002	5.1	7.5	(32)
280012	0	0	0
280022	6.8	8.0	(15)
Mac. River			
520001	11.7	10.5	11
520002	7.5	9.0	(17)
520003	7.4	8.8	(16)
Mid. Grnd. Shoal			
524001	4.2	5.6	(25)
524002	5.3	6.0	(12)
524003	4.9	5.8	(16)
524013	4.4	5.6	(21)
Swanson River			
772001	7.7	10.4	(26)
772002	0	0	0
Trading Bay			
800001	5.3	7.6	(30)
800002	0	7.2	(100)
800003	0	0	0
800004	5.7	8.5	(33)
800005	2.2	7.1	(69)
Composite	8.3	8.9	(7)

(This page revised 1/25/77)

Table 1

Comparison of Total Severance Tax Revenues
Generated by Schedules A and Variations on Schedule B
For Fiscal Year 1978
(millions of dollars)

Field	Schedule A	Schedule B (with escalating floor price)	Schedule B (w/o floor price)	Schedule B (with fixed floor price) $6.10/bbl	Schedule B (with floor price) $4.83/bbl
Cook Inlet	$ 21.3	$ 20.0	14.2	19.2	14.2
Prudhoe Bay	171.4	265.6	265.6	265.6	265.6
Total	192.7	285.6	279.8	284.8	279.8

Note: Assumes Well-head value of Prudhoe Bay Oil at $7.00/bbl in 1977 with 5% annual inflation thereafter.

AGO 547445

Table 2

Comparison of Total Severance Tax Revenues
Generated by Schedules A and Variations on Schedule B
For Fiscal Year 1979
(millions of dollars)

Field	Schedule A	Schedule B (with escalating floor price) $6.10/bbl	Schedule B (w/o floor price)	Schedule B (with fixed floor price) $6.10/bbl	Schedule B (with floor price) $4.83/bbl
Cook Inlet	19.6	17.9	12.7	16.2	12.7
Prudhoe Bay	255.8	409.7	409.7	409.7	409.7
Total	275.4	427.6	422.4	425.9	422.4

Note: Assumes Well-head value of Prudhoe Bay Oil at $7.00/bbl in 1977 with 5% annual inflation thereafter.

AGO 547446

Table 3

Comparison of Total Severance Tax Revenues
Generated by Schedules A and Variations on Schedule B
For Fiscal Year 1980
(millions of dollars)

Field	Schedule A	Schedule B (with escalating floor price) $6.10/bbl	Schedule B (w/o floor price)	Schedule B (with fixed floor price) $6.10/bbl	Schedule B (with floor price) $4.83/bbl
Cook Inlet	18.1	16.0	11.4	14.0	11.4
Prudhoe Bay	303.7	483.9	483.9	483.9	483.9
Total	321.8	499.9	495.3	497.9	495.3

Note: Assumes Well-head value of Prudhoe Bay Oil at $7.00/bbl in 1977 with 5% annual inflation thereafter.

AGO 54744?

MEMORANDUM

January 15, 1977

SUBJECT: Severance Tax Schedules (Supplement to C.O. #2883)

TO: The Honorable Chancy Croft, Chairman
Subcommittee on Oil and Gas Leasing and Taxing Policies

FROM: A. R. Latham
Research Analyst

Following your consideration of our memorandum on Oil Severance Taxation on Janaury 8, 1977, we were requested to perform further analysis with the following objectives:

1) Prepare a tax schedule which will leave the effective severance tax rate for the Cook Inlet Basin at present levels, eliminate tax liabilities on the first 100 barrels of production per day, and produce an effective tax rate at Prudhoe Bay of approximately 12.5%.

2) Analyze the effects on this schedule and on projected revenues of eliminating the floor price altogether, freezing the cents/bbl. option at present levels (i.e. $6.10/bbl) using the controlled "old oil" price as the floor price, and freezing the floor price at present levels for one year.

3) Contrast these above options to the present situation.

For the purpose of reference in this memorandum, let us define the present tax schedule as Schedule A and the proposed schedule, Schedule B.

Schedule A (Present Law)

Production (b/d per well)	Percent of Value Tax
0 - 300	5.0
301 -1000	6.0
over 1000	8.0

Floor Price $6.10/bbl 27' API

AGO 547441

Schedule B (Proposed)

Production (b/d per well)	Percent of Value Tax
0 - 100	0.0
101 - 300	4.0
301 -1000	6.0
1001 -1500	9.0
1501 -3500	11.0
over 3500	14.0

Floor Price $6.10/bbl 27° API

You may recall from our previous memo that the average severance tax rates over the two Prudhoe Bay units under the current law is 7.7% and over the 20 Cock Inlet units is 7.8%.

In Cook Inlet, since the various units produce such different volumes of oil, a better definition of the effective tax rate is the weighted average over the basin rather than the arithmetic average over the units as we have considered up to this time. This difference is of no consequence whatsoever in Prudhoe Bay since the two percentages are identical. In Cook Inlet, however, this is not true. The calculated weighted average over Cook Inlet is 0.9 percentage points higher, 8.7%, indicating that those units which pay the higher effective rates also produce the greater volumes.

In contrast, the new proposal produces an effective tax rate over Prudhoe Bay of 12.3%; in Cook Inlet the average rate over the units drops precipitously to 5.0% yet the average rate over the basin is only slightly lowered to 8.3%. It is thus seen that we have decreased the effective tax rate on the lower producers without significantly affecting the rate on the higher producers (See Appendix A). This means, however, that we still have units in Cook Inlet paying very high rates but none paying higher than Prudhoe Bay.

Let us now turn to the other versions of Schedule B. The effects upon the severance tax rate at Cook Inlet and Prudhoe Bay may be most easily illustrated by referring to Tables 1, 2 and 3.

We immediately observe from the Tables that altering the floor price or eliminating it altogether has no effect under present conditions on Prudhoe Bay.

The story in Cook Inlet is different indeed. Removing the floor price or lowering it to the value of the "old oil" controlled price will reduce the effective tax rate to 5.9% resulting in a 29% decrease in the anticipated tax revenues in Fiscal 78. Holding the floor price fixed at $6.10/bbl for 27° API oil will reduce the effective tax rate to 7.96% decreasing revenues by 4.0%. Holding the floor price constant for one year and letting it increase 5% annually thereafter will produce a negligible effect. (Approximately an 0.8% decrease in revenues over 5 years.) We must, however, be careful in equating the removal of the floor price and establishing it as the "old oil" controlled price simply because the effective rates and fiscal impacts are identical. We must always remember that removing the floor price allows the possibility of a drastic reduction in severance tax revenue (and royalty revenues) if there is a precipitous drop in the well-head value of oil.

ARL:cm
Attachments

HB

145

TENTH LEGISLATURE

FISCAL NOTE

I. REQUEST

Bill/Resolution No. HB 145

Title An Act relating to the Alaska net income tax

Requested by _____ Date 3/8/77

II. FISCAL DETAIL

Agency Affected Commerce & Economic Development

Program Category Affected Public Protection

Budget Request Unit(s) Affected Alaska Pipeline Commission

EXPENDITURES (Thousands of Dollars)

		FY 77	FY 78	FY 79	FY 80	FY 81	FY 82
100	PERSONAL SERVICES	0	17.5	37.3	39.3	41.2	43.3
200	TRAVEL						
300	CONTRACTUAL	0	.75	1.5	1.5	1.5	1.5
400	COMMODITIES	0	1	2	2	.2	.2
500	EQUIPMENT	0	1.0				
600	LAND & STRUCTURES						
700	GRANTS, CLAIMS, ETC.						
	TOTAL	0	19.6	39.0	40.9	42.9	45.0

FUNDING (Thousands of Dollars)

GENERAL FUND	0	19.6	39.0	40.9	42.9	45.0
FEDERAL FUNDS						
OTHER (Specify)						

POSITIONS

FULL TIME	0	1	1	1	1	1
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

Given the Commission's workload, satisfactory performance of the certification responsibility will necessitate hiring a staff person with specialized knowledge of tax accounting.

Effective date: January 1, 1978

IV. DATE 3/8/77 PREPARED BY William L. Murray

AGENCY Alaska Pipeline Commission

PHONE 279-0583

Original: Legislative Finance

cc: Budget and Management

Prime Sponsor (First Legislator Named)

33-001 (Rev. 10/76)

AGO 547448 +

THE LEGISLATURE OF THE STATE OF ALASKA
TENTH LEGISLATURE

FISCAL NOTE

I. REQUEST
Bill/Resolution No. HB 145
Title An Act relating to the Alaska Net Income Tax
Requested by _____ Date 2/25/77

II. FISCAL DETAIL
Agency Affected Commerce & Economic Development
Program Category Affected Public Protection
Budget Request Unit(s) Affected Alaska Public Utilities Commission

EXPENDITURES (Thousands of Dollars)

	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82
100 PERSONAL SERVICES		15.3	30.6			
200 TRAVEL						
300 CONTRACTUAL		2.1	2.1			
400 COMMODITIES		.2	.2			
500 EQUIPMENT		.8				
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
TOTAL		18.4	32.9			

FUNDING (Thousands of Dollars)

GENERAL FUND		18.4	32.9			
FEDERAL FUNDS						
OTHER (Specify)						

POSITIONS

FULL TIME		1	1			
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

Passage of this proposed legislation will require the Alaska Public Utilities Commission to employ at least one additional Financial Analyst III who would be responsible for examining the tax returns for intrastate pipeline.

Detailed expense estimate attached

Effective date : January 1, 1978

IV. DATE 2/25/77 PREPARED BY Susan B. Knowles per cvg
AGENCY Alaska Public Utilities Commission
PHONE 272-1487

Original: Legislative Finance
cc: Budget and Management
Prime Sponsor (First Legislator Named)

AGO 547449

33-001 (Rev. 10/76)

FISCAL NOTE

Re HB 145

1 Tax Accountant (UFA III, Range 18C)	$24408	
Benefits 25 1/2%	6226	$30634
Contractual:		
Office Space	1890	
Telephone	240	2130
Commodities:		
Stationery and Office Supplies	230	230
Equipment:		
Desk	295	
Chair	135	
Calculator	150	
Dictating Machine (Pocket Secretary)	250	830
		$33824

AGO 547450 +

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

DEPARTMENT OF REVENUE

STATE OFFICE BUILDING / POUCH SA — JUNEAU 99811

March 16, 1977

The Honorable Alvin Osterback
Chairman
House Resources Committee
Alaska State Legislature
State Capitol Building
Juneau, Alaska

Re: House Bill No. 145

Dear Mr. Osterback:

House Bill No. 145, an Act relating to the Alaska net income tax was introduced in the House on January 31, 1977 and was referred to the House Resources and Finance Committees.

For the consideration of the House Resources Committee, I am enclosing a Fiscal Note prepared by Mr. Gary L. Jenkins, Director, Audit Division, Department of Revenue, Juneau concerning the proposed legislation.

Very truly yours,

R. D. Stevenson
Special Assistant

cc: The Honorable Steve Cowper
Chairman
House Finance Committee
Alaska State Legislature
State Capitol Building
Juneau, Alaska

Gary L. Jenkins, Director
Audit Division
Department of Revenue
Juneau, Alaska

THE LEGISLATURE OF THE STATE OF ALASKA
TENTH LEGISLATURE

FISCAL NOTE

I. REQUEST

Bill/Resolution No. House Bill No. 145
Title An Act relating to the Alaska net income tax
Requested by House Resources Committee Date 2-1-77

II. FISCAL DETAIL

Agency Affected Revenue
Program Category Affected Fiscal Services
Budget Request Unit(s) Affected Audit Division

EXPENDITURES (Thousands of Dollars)

		FY 77	FY 78	FY 79	FY 80	FY 81	FY 82
100	PERSONAL SERVICES		88.1	317.8	317.8	353.3	353.3
200	TRAVEL		5.0	70.0	70.0	75.0	75.0
300	CONTRACTUAL		10.2	105.2	65.2	70.0	70.0
400	COMMODITIES		6	2.0	2.0	2.2	2.2
500	EQUIPMENT		1.8	6.0	1.0	1.8	1.0
600	LAND & STRUCTURES						
700	GRANTS, CLAIMS, ETC.						
	TOTAL	-0-	105.7	501.0	456.0	502.3	501.5

FUNDING (Thousands of Dollars)

GENERAL FUND	-0-	105.7	501.0	456.0	502.3	501.5
FEDERAL FUNDS						
OTHER (Specify)						

POSITIONS

FULL TIME	-0-	3	10	10	11	11
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

This bill will necessitate an Audit staff of 8 Field Auditors with a Clerk Typist III and a Tax Examiner to handle the clerical, typing and return processing duties. The other costs are related to the development of the computer processing systems and costs related to the positions. See memo attached to R. D. Stevenson dated 2/3/77

IV. DATE 2/3/77 PREPARED BY Gary Gerke
AGENCY Audit Division
PHONE 465-2320

Original: Legislative Finance
cc: Budget and Management
Prime Sponsor (First Legislator Named)

33-001 (Rev. 10/76)

AGO 547452 +

STATE of ALASKA

MEMORANDUM

TO: Mr. R. D. Stevenson
Special Assistant
Department of Revenue

DATE : February 3, 1977

FROM: Gary L. Jenkins
Director
Audit Division

SUBJECT: House Bill 145

House Bill 145 provides that all oil producing and pipeline companies would compute their income on a separate accounting basis. This concept, while appearing to be simplistic and easy to accomplish, actually is very complex. This has been pointed out by the recent report prepared by Messrs. Zeifman and Ainsworth for the Department of Revenue and the Legislature.

There are several specific areas of concern which we have regarding the Bill. First, it splits the responsibility for audit of the returns to two different agencies. For a company in the production of oil and gas, the returns would be audited by this Division, while for pipeline companies it is assigned to the APUC. I would strongly urge that the audit function for pipeline companies be assigned to this Division with the provision that the APUC will generate the reporting requirements which would be used as the basis for the audit. Sections 3, 6 and 8 of the Bill would need to be amended to accomplish this.

Second, it appears that the intent of the Bill is that the Department of Revenue would by regulation define what would be deductible as an expense and how such items as intangible drilling costs would be treated for reporting purposes. To accomplish this would necessitate the employment of two Auditors and the Clerk Typist III at least one year ahead of the effective date of the law to do the research needed for these determinations.

Third, on line 17 of page 5 of the Bill is a reference to the "allocation" formula required under Sec. 65 of the chapter. To be technically correct and to remove all doubts of what is meant, I would recommend that the proper term "apportionment" be inserted in place of allocation. To allocate is to specifically identify the nature of each item of income and assign it to the proper jurisdiction, while to apportion is to assign income on the basis of a formula.

Fourth, Sec. 4 of the Bill refers to AS 43.20.330 which was repealed in 1972 by Chapter 169 of the Session Laws. The proper reference is AS 43.20.335 with the two subsections identified as (j) and (k).

Fifth, the portion of Sec. 3 of the Bill which pertains to public reporting has provisions in it which may be unconstitutional. A primary tenant of our system of self-assessed tax is that the information reported shall remain confidential. The provision which would require

a summary of each return filed to be made public should be stricken from the Bill. That portion is included in lines 2 - 9 of page 6.

Lastly, there appears to be a conflict between Sections 9 and 10 of the Bill. Section 9 implies that the Bill would be effective on 1-1-77 while Section 10 states that it is effective on 1-1-78. Does Section 10 mean that returns would be due after 1-1-78 on income earned in 1977? I would recommend that this be clarified.

GLJ:mh

Commerce & Economic Development Legislative Council SB 105 AL

DEPARTMENT POSITION HB 145

DIVISION DIRECTOR	DATE	COMMISSIONER	DATE
Ak. Public Utilities Commission			February 14, 1977

GOVERNOR'S OFFICE USE

☐ POSITION NOTED ☐ POSITION APPROVED ☐ POSITION DISAPPROVED

BY: DATE:

SUMMARY

(1) RELATED BILLS (SIMILAR OR CONFLICTING)

(2) a. ORGANIZATIONAL SUPPORT FOR BILL		(2) b. ORGANIZATIONAL OPPOSITION TO BILL

(3) PROGRAM EFFECTS OF BILL

(4) FISCAL IMPACT: ☐ NONE XX FISCAL ANALYSIS ATTACHED

(5) AMENDMENTS PROPOSED:

(6) COMMENTS:

See attached for Commission position on proposed legislation.

AGO 547464

The certification procedure envisioned by the proposed legislation is a significant extension of the Commission's responsibilities because of both the scope of the task and its interrelationship with current regulatory activities.

The Commission will be required to review the accounts and certify the net taxable income of natural gas pipeline companies or, alternatively, to identify the deficiencies and, if possible, provide a reporting of the true and correct income. This procedure is akin to issuing an independent audit opinion and will require comparable standards of review and expertise. Additionally, the Commission is constrained to issue a certificate of compliance or deficiency within 45 days from receipt of a request of a pipeline carrier.

Section AS 42.05.502(c) anticipates some coincidence between the definition of net income for tax purposes and that used by the Commission in establishing rates and measuring rate of return. There are a number of differences between accounting for rate-making purposes and tax purposes. The information on net income currently filed and reviewed by the Commission is tailored to regulatory requirements and only tangentially relevant to the certification process. Thus, existing analysis of pipeline financial data, while complimentary, is not directly applicable to this task.

Given the Commission's workload, satisfactory performance of the certification responsibility will necessitate hiring a staff person with specialized knowledge of tax accounting. The alternative of developing in-house expertise and diverting limited staff resources to certification would dilute effective performance of existing regulatory responsibilities.

Title: An Act Relating to the Alaska Net Income Tax

Requested by: Date:

Return Date Requested:

Agency: Commerce Program: Public Protection

II. FISCAL DETAIL

Budget Request Unit(s) Affected:

A. EXPENDITURES: (Thousands of dollars)

	OBJECT	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81
00	PERSONAL SERVICES		0	15.3	30.6		
00	TRAVEL		0				
00	CONTRACTUAL		0	2.1	2.1		
00	COMMODITIES		0	.2	.2		
00	EQUIPMENT		0	.8			
00	LAND & STRUCTURES						
00	GRANTS, CLAIMS, ETC.						
	TOTAL			18.4	32.9		

B. FUNDING: (Thousands of dollars)

GENERAL FUND			18.4	32.9		
FEDERAL FUNDS						
OTHER						

C. POSITIONS:

PERMANENT/TEMPORARY	/	/	1/	1/	/	/
MAN MONTHS (P./T.)	/	/	6/	12/	/	/

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

Passage of this proposed legislation will require the Alaska Public Utilities Commission to employ at least one additional Financial Analyst III who would be responsible for examining the tax returns for intrastate pipelines.

IV. ATTACHMENTS

Detailed expense estimate

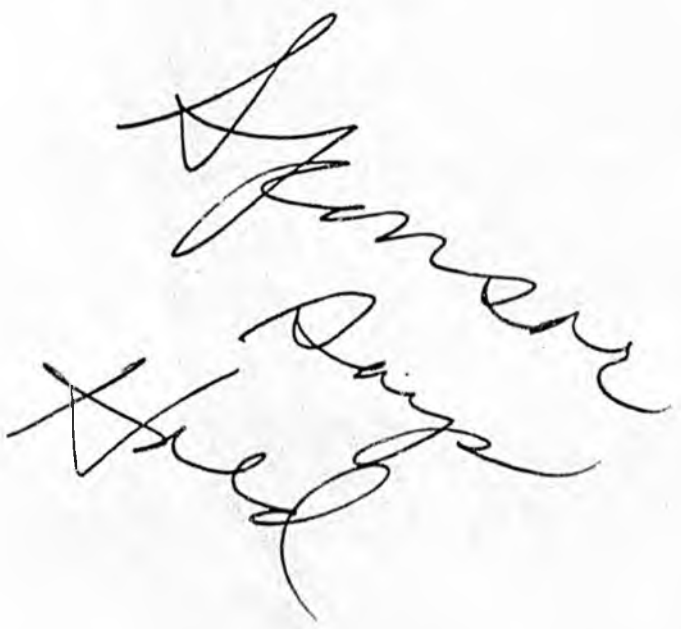
V. DATE: PREPARED BY:

iginal: Legislative Finance
Budget and Management
Prime Sponsor (First Legislator Named)

; 50

AGO 547466

1 Tax Accountant (UFA III, Range 18C)	$24408	
Benefits 25 1/2%	6226	$30634
Contractual:		
Office Space	1890	
Telephone	240	2130
Commodities:		
Stationery and Office Supplies	230	230
Equipment:		
Desk	295	
Chair	135	
Calculator	150	
Dictating Machine (Pocket Secretary)	250	830
		$33824



ALASKA ASSOCIATION OF REALTORS
2223 SPENARD ROAD
ANCHORAGE, ALASKA 99503
(907) 272-8016

REALTOR®

March 18, 1977

The Honorable Al Osterback
Chairman
House Resource Committee
Capitol Building
Juneau, Alaska 99811

Copy in all files

Dear Representative Osterback:

The Alaska Association of Realtors questions the effect of HB 156 as written on three basic counts: This Act erodes the inherent rights to private ownership of land (fee simple title) and it will have a potential drastic effect on the tax base of municipalities and boroughs. More particularly, this Act will not assure what it presumes to protect. The purchase of development rights to agriculturally-classified land would not assure the continuing or future agricultural use of the land.

The Alaska Association of Realtors is in favor of the preservation of the opportunity for agricultural use and development of lands suited to such occupation.

May we respectfully submit that tax relief on agricultural land that is in production is an incentive that should be explored.

Very truly yours,

Elden L. Haugen

Elden Haugen
Chairman
Legislative Committee
Alaska Association of Realtors

Alaska State Legislature

House

JUNEAU ALASKA

Memo to: Alvin Osterback, Chairman
House Resources Committee

From: Subcommittee on Parks, Timber and Lands
Sally Smith, Chairman

Re: HB 156-Privately Owned Agricultural Land

February 23, 1977

On request of the sponsor, we recommend that HB 156 be held indefinitely and not be taken up by the complete Resources Committee as scheduled.

Sally Smith

Mike Miller

Dick Eliason

Tape 18 Side 2
0998 - end and Tape 19
Side 1 - 0 - 2025

HOUSE RESOURCE COMMITTEE - Minutes - April 7, 1976

Subject: HB 654 Sale of school lands & other lands

Present were Eliason, Huntington, Osterback, Smith, Brown, Staff Assistant VAn Dor_n and Chairman Anderson.

Dale Tubbs, Deputy Director of the Division of Lands, began testimony. He stated that this bill gives corrections and changes to operation of the land bill--it ties up the loopholes.

Sect. 1 38.05.430 (c)
The present language doesn't allow school grant lands to be sold except to municipalities. The change is to remove the limiting wording. It would still require the Board of Education to review any proposed sales.
Question: Does it include college lands? No.
Question: How much land is involved? A. About 100,000 acres. It doesn't involve any lands being surveyed now. Most of the lands involved are around the large cities, with some in Southeast Alaska on U.S.F.S. land.
Question: Is the Board of Education for it? A. Yes.
Q. How about the rent being charged? A. The grant says that you must create revenue from the land. Market value will be paid for all lands sold.

Tubbs mentioned that some school lands had previously been sold, before 1971, in residential areas. The money is then used for schools wherever it is needed.

Huntington asked about the source of information for leasing or selling preferences. Answer was that School Board minutes contain that information.

Eliason asked about putting land into recreational lands. A. That's o.k., but the lands involved are still residential.
Question: Could control of lands be put under Natural Resources?
A. They are the managing agent now.
Question: Would money be used for buying other sites? A. Probably not. Only the interest can be spent.

Osterback asked whether homesites as defined under HB808 could go on this land. A. Not as it stands now, because the land must make money one way or another to meet requirements.

Smith added that the lands aren't necessarily in the right places for either schools or parks.

Sect 2 (regarding agricultural preference right holders.) Agricultural land is now being lost to subdivision because prices are too high to farm it. Wording needed gives the Director the responsibility of determining whether agriculture is the best use. Also, an "existing farmer" is the only one who could qualify for the agricultural lands.

Re: taxes on land forcing persons to sell, Tubbs replied that it is up to the local government unit to determine the tax on land.
Smith reminded the group that agricultural exemptions are still available.

(See approx. 1682 on tape for testimony not in minutes)

There was discussion of "adjacent" lands, as applied to the grazing industry.

Also discussed was the fact that the soil survey analysis for the state is not yet completed. In the end, the Director of Lands makes the final land use determinations.

Eliason asked about public hearings being required for agricultural land classification. A. At present none are required, just public notification. Recommendations are usually received from Planning and Zoning departments. The present law says that the state "shall negotiate". The new law would state "auction".

Rod Pegues, of the Attorney General's office presented testimony. The purpose of the change is to set a fair market value through auction of the land.. As to the price of the land at an auction being too high for the farmers, it was explained that the land that is designated agricultural would not be able to be subdivided, so the auction would be only between farmers. They themselves would determine the price.

Sect. 3. Adds wording on agricultural lands when agriculture isn't the highest and best use, in order to allow the land to be re-offered for commercial use.

Pegues stated that all decisions made by the Director of the Division of Lands are appealable. The court can then decide.

Senator Tillion stated that the state can't arbitrarily take the land from a farmer. The farmer must request the classification change.

Regarding how the conveyance is done, Tubbs stated that in paragraph 4, page 3, we need to add "agrees and consents" to accept payment. Also added should be "constructed" improvements. (Clearing the ground doesn't count as a "constructed" improvement.

Senator Tillion expressed concern that the farmer should be paid for his farm--not just the land. A discussion of "fee title" ensued--who should get the money for the farm.

Chairman Anderson stated that at the top of Page 3, language is needed to protect improvements on the land.

Re: paragraph 6. This is needed to protect the state rights to sell timber, gravel, and minerals on the land. Example was given of agricultural land with timber on it. You can use the timber on the land to develop the land, but you can't sell "off" the land, at the present. (Tape 2145)

Senator Tillion stated that what you want is to allow the guy to sell the timber, but don't allow the state to go on the land to get the timber or the gravel.

Pegues mentioned the situations where agreements can't be reached with the state. A mechanism isn't provided now for solving the problem. It must be stated--the bill can't remain silent.

Tubbs stated that lease agreements cover the situation, but a sale contract doesn't. Smith stated that a mutual agreement was needed with the proceeds going to the state.

Pegues stated that the only real problem is the disposal of gravel. Again, the basic question to solve is how to allow the farmer to use his own "things". He added that the value of the timber shows up in the bid amount.

Re: Sect. 6. Pegues said that minerals must be isolated or a lawsuit is possible. A subsection 6 can be added stating that "Nothing affects.....(tape 2308).

Discussion of renewing leases brought out the fact that there used to be a standard value used ($600.00), renewable. This allowed people to get their "foot in the door" for a minimal amount of money, and acquire more land, with little if any additional money. The automatic renewal has created a problem.

Question: How about eliminating the negotiating authority? Answer: Negotiating doesn't require a survey. The timespan involved can be shorter. If an auction is used, it takes at least a year to cover all the necessary paper work, including the survey. "Spot" classification is also a problem. The year's delay is an inconvenience to the buyer or lessee.

Tubbs answered that wherever competitive interest is involved, public auction is used anyway.

Regarding eliminating the automatic renewal on negotiated leases, Pegues said that the bill doesn't eliminate it, but it could be done. Tubbs said that all current leases <u>can</u> be renewed. The new wording would only apply to new leases.

Re: Section 6 of the existing statute, the wording "equivalent other measure" is used to cover different measuring standard language. Also, the limit should be changed to $5,000 as applied to timber. Negotiation for materials becomes critical. Sometimes it becomes limited to one bidder because of location or circumstances. The higher limit allows the state to take care of these projects without bids.

Re: Sect. 7. When the land is within 6 miles of a municipality the municipality would be allowed to bid.

Re: Sect. 8--Public Utilities shouldn't have to auction for land, if there is no other place that will suit their needs. Brown stated that the language is too simple. It needs to be tightened. A higher standard than "reasonably requires" is needed.

Smith suggested that "licensed public utility" would qualify.

Pegues stressed that we don't give them a right--the need has to be demonstrated.

Sect. 11 takes out existing language. Publication rules would be changed to make at least 30 days involved. At present the wording is such that the process can take as little as 15 days.

Concern was expressed that the Director of the Division of lands has too much power without control.

(Morning meeting adjourned until after the Session)

1:30 meeting Tape 19 Side 1 0523

Present were Hershberger, Rhode, Huntington, Smith, Osterback, Eliason, Van Doren and Chairman Anderson.

Discussion began on the issue of including not only "municipalities" but also "villages" in the 6-mile requirement (or privilege). Pegues stated that the problem has been indefiniteness. Village incorporation is limited.

Tubbs stated that if villages were included care would be needed. Half are now incorporated. We assume others will be soon. That would give the certainty needed for the qualifications. Also, if villages were included it would help to include only those outside a Borough. What we're aiming for is an official Planning Authority for each contact.

Discussion continued as to the differences between the villages and the Regional Corporations. It was suggested that the Corporations could be designated the contact organization.

Chairman Anderson stated that the land use patterns are pretty well set up for Corporations.

Tubbs added that the problem (village) will be more acute as the state acquires more land. Disposal of minerals is a problem now, but land is being taken care of.

Re: Sect. 12--This would repeal the renewal of lease wording. In one place it says renew, in another it says must review first. This would apply only to future renewals--not current ones.

Discussion of "high bid" on leases, and preference right structure took place.

Clarification was given as to school sites not being the same as school grant lands.

Tubbs stated that a reappraisal is done every 5 years on all leases. As land values climb, there is pressure to change recreational leases to sales.

Tubbs explained that Section 13 makes legal what's already being done--it ratifies previous leases granted under preference rights. Possibly 40 preference right leases have been offered.

Chairman Anderson asked what would happen if the bill didn't pass. Tubbs answered that they would continue working with the Planning Authority in any affected areas. Especially needed is the school grant land part of the bill. Otherwise, the schools are losing money. It is better to have the government manage the money, as under the bill, than the land, as now is being done.

Not all of the 100,000 acres of school grant land has been appraised as yet. Most of it is in urban areas. At present, there are many uses of the Anchorage area sites, both commercial and residential.

Pegues explained that the Board of Education makes the decisions on land use. Commercial property is leased. Residential will be sold.

Huntington asked who would do the appraising of the lands. Answer was that the Division of Lands has appraisers. It must be remembered that no two appraisals match. Appraising is not an exact science. Mr. Smith mentioned that the State of Alaska has qualifications that their own employees acting as appraisers must meet.

Tubbs stated that on school grant lands, development plans are submitted, then accepted if there is no competition for the land.

Question was raised about the problem in Southeast (possible problem) of school grant sections conflicting with Claims Act selections. Answer was given that exchanges can be made if problems are encountered.

Eliason expressed concern as to public input before the Director can classify land.

Re: Section 4, Tubbs would recommend passage. Smith mentioned that he would prefer retaining control by keeping the $250 limit as pertains to this section.

Re: Section 7, this is considered critical. Guidelines are created. A new subsection (b) is needed to cover the Regional Corporation responsibility as a Planning Agent.

Re: Section 13, this is needed for Title companies. i.e. if you deal with the government, but the government acts illegally, you're out of luck.

Smith asked that in Section 1, leave in the now-deleted words, but add "or for residential purposes". Also, on Page 3, Paragraph 6, Add a new subsection.

Recommendation was made to delete Section 4 leaving the section as it is in existing law. This would retain the $250 per year limit and 5-year leases.

Pegues explained that it is basically an inflation amendment.

Committee agreed to delete section 4.

Smith asked that on Page 4, between Lines 6 and 7, add (b) changing exempt limits to $500. Committee adopted the amendment.

Committee approved the "right of renewal" appeal wording.

Chairman Anderson asked that the Committee Substitute be drafted and ready as soon as possible.

Meeting adjourned.

Rep Sally Smith

P. O. Box 223
Douglas, Alaska 99824

February 3, 1977

The Honorable Alvin Osterback
Chmn., House Resources Committee
Alaska State Legislature
Juneau, Alaska

Dear Representative Osterback:

During the last few weeks, I have been developing an administrative manual for the State Board of Education. (I am a retired, former employee of the Department of Education for 25 years.) During the course of the project, I reviewed the various statutes applying to the Board and I noticed that legislation enacted a year ago expanded on the Board's responsibilities in connection with the leasing of school lands.

Prior to last year, the Board was required to approve the lease or other disposition of school lands. Their responsibilities and prerogatives have now been increased to the point where the Board is now the trustee for school lands and has the authority to employ special legal counsel and technical assistance to administer this program.

In my opinion, this is a misapplication of the Board of Education's function, and the Board's involvement in the management of school lands should be repealed.

School lands, like other categories of state lands, should be administered by the Division of Lands, Department of Natural Resources, the agency especially created for land management.

Actually, there is no connection between the Department of Education (Board of Education) and school lands. Up to statehood, certain surveyed sections of lands in each township were designated school lands (Sections 16-36, of each township). When such lands were leased or sold, the funds were placed in the "permanent school fund" and invested. The income (interest) from the permanent fund then goes to the State General Fund. Relatively speaking, the income from the permanent fund is small and is only indirectly involved in financing educational programs.

It is my understanding there has been some criticism of the Division of Land's handling of school leases in the past. If

there are problems concerning the leasing of school lands, they should be resolved by strengthening procedures in the Division of Lands, not by involving another agency in lands administration.

In ord[illegible]l its trusteeship responsibilities, the Board of Educ[illegible]quired to employ additional personnel to administer the [illegible].

I submit that the Board of Education should not be in the land leasing business, that it detracts from their primary educational function, and furthermore, could result in a needless expense.

With the above in mind, I respectfully request the Resources Committee to initiate legislation which would repeal the Board of Education's involvement in the leasing of school lands.

Yours truly,

Robert P. Isaac

cc: Senate Resources Committee
State Department of Education
State Department of Natural Resources

(14) School Lands - Title 38

Section 38.05.030(e). The sale, lease or other disposal of school lands under the jurisdiction of the department shall be made by the commissioner in accordance with the provisions of this chapter. However, disposal of school lands under this subsection, other than disposal by lease for a term of years, shall be made only for sites for school facilities or for public park and public recreation purposes. School lands may be exchanged for (1) state lands, (2) vacant, unappropriated and unreserved public lands and (3) lands owned by a city, borough or other public entity. In the case of unequal values, cash may be used to equalize land values. When the department determines that it is in the best interest of the state to dispose of the school lands located within Sections 16 and 36 in an organized borough or city of any class, the borough or city is authorized, and has preference for six months after notice, to acquire the land at the appraised value by purchase or exchange of land acceptable to the department. No sale, lease, exchange or other disposal of school lands may be made without the approval of the state Board of Education. The state Board of Edudation shall act as a trustee of school lands. The board may retain private counsel or other professional assistance when necessary to carry out its duties as a trustee.

STATE OF ALASKA
THE LEGISLATURE

LEGISLATIVE AFFAIRS AGENCY

POUCH Y - STATE CAPITOL
JUNEAU, ALASKA 99811
907-465-3800

MEMORANDUM

February 15, 1977

SUBJECT: HB 156, "An Act Relating to the Conservation of Privately Owned Agricultural Land" (W.O.# 3319, Partial)

TO: The Honorable Sally Smith

FROM: George Utermohlen
Research Analyst GU.

SUMMARY

House Bill 156 is a companion bill to Senate Bill 66 introduced by Senator Tillion. These bills seeks to conserve agricultural land by severing the rights to develop agricultural land from the fee title. Once the landowner has sold his development rights to the state, he is relieved of the tax burden associated with the development rights as well as the pressure to develop. The decreased tax burden is important to those who own agricultural land near major population centers where there is the greatest pressure to convert agricultural land to more intense use.

The landowner who wishes to sever the development rights from his agricultural land may sell them to the state. The purchase price of the development rights shall be determined by an independent appraisal of the value of the development rights. The cost of the appraisal is deducted from the purchase price. The development rights remain with the state until the landowner requests that the development rights be sold or leased and the Director of the Division of Lands and the Commissioner of Natural Resources agree. When the development rights are sold at public auction, the landowner has thirty days to meet the high bid. In exericing his preference right, the landowner may credit the value of improvements on the land towards the purchase price.

The only lands affected by this act are those lands for which a soil survey has been completed by the U.S. Soil Conservation Service. Those areas which have been surveyed by the Soil Conservation Service are the Kenai Peninsula, Anchorage, Matanuska Valley, Fairbanks, and Delta Junction.

At least 60% of the agricultural land for which the development rights are acquired must be rated as Class V or better by the Soil Conservation Service. A copy of the soil classification scheme is attached.

COMMENT

That area of law dealing with the acquisition of development rights is relatively new. No state has had similar legislation in effect long enough for all the potential problems to be realized. The best that can be done with new kinds of legislation is to address all the foreseeable problems in the initial legislation and to hope for sucess.

Those parts of the bill which deserve scrutiny in committee are addressed below.

1. In the proposed subsection 38.60.010(b), the only criterion for selecting land to be protected is the soil capability classification assigned to the land by the Soil Conservation Service. Other criteria which might also be considered are minimum acreage and past agricultural use. The state gains little in protected agricultural potential if the plots which are protected are too small for agricultural purposes or if the land has an unknown agricultural potential.

2. In subsection 38.60.010(c) the purchase price of the development rights is established by an appraisal of the development rights by an independent appraiser. The cost of the appraisal is deducted from the purchase price. This provision is meant to assure the landowner the best price for his development rights. However, if the cost of the appraisal is deducted from the purchase price, it may be in the best interests of the property owner to accept an appraisal by the Division of Lands, which will not be subject to a deduction equal to the appraiser's fee. It is suggested that the provision for an independent appraisal be at the option of the landowner.

3. Under subsection 38.60.020(a) are listed a few of the provisions to be included in any development rights purchase agreement. One of these provisions allows the construction of only those structures consistent with agricultural purposes. It is not clear if this provision would prevent a landowner who has not already built a home on the land from building a one-family residential structure for his personal use. Examples of those structures which would be allowed to be built while the state holds the development rights could be included as a guide for Division of Lands.

Another provision of this subsection limits the kinds of interest which a landowner can sell in his land if the state owns the development rights. This provision should be written so that it is clear that the landowner may not sell any interest in his land which would substantially hinder agricultural operations and that scenic, access, and utility easements would be permitted by the development rights purchase agreement.

4. Subsection AS 38.60.020(b), as proposed, would permit the Director of Lands to offer the development rights for sale or lease if requested by the landowner. The sale of development rights is by public auction. The landowner has 30 days to meet the high bid and repurchase the development rights. The value of improvements owned by the landowner may be credited toward the purchase price. The value of improvements owned by the landowner who is engaged in certain forms of capital intensive agriculture, as dairy farming, could be worth much more than the development rights. If these improvements could be credited toward the repurchase of the development rights, the landowner would be able to receive cash for his development rights, tax relief while the state holds the development rights, and then repurchase his development rights at no cost at any time before the value of the development rights exceeds the value of the improvements. An alternative form of improvement credits would allow credit only for those improvements made during the period when the development rights purchase agreement is effective.

5. The phrase beginning on line 26 of page 2 "included with the development rights sold" may be deleted because it is unnecessary and complicates interpretation of the section.

6. By requesting the Director of Lands to make the development rights available for purchase, the landowner consents to the sale and acknowledges that the development rights may be sold to a third party if he cannot meet the bid received at public auction. The provision of 38.60.020(b)(3)(B) is not consistent with the other sections of the bill and should be deleted, because it requires the landowner to assent to the sale of improvements. No improvements made by the landowner are affected by the sale of development rights; all improvements remain the property of the landowner.

7. The phrase "together with improvements" should be deleted from line 7 of page 3 [sec. 38.60.020(b)(4)] because it is not applicable to the situation which is addressed by this bill for the same reasons as given in Six above.

8. A new definition of "agricultural operations" which would change only the form of the existing definition is suggested as follows:

"agricultural operations" means those activities related to the production of domesticated plants and animals useful to man, including forage and sod crops, grains and feed crops, fruits, vegetables, and livestock;

9. A proposed amendment of the definition of "agricultural use" which alters the form of the definition, but not the meaning, is suggested as follows:

"agricultural use" means the use of substantially undeveloped land for the production of domesticated plants and animals useful to man, including forage and sod crops, grains and feed crops, fruits, vegetables and livestock; and other related uses and activities.

Because this aspect of land use legislation is relatively new, this bill is, in many respects, very general. It will be the responsibility of the Division of Lands to promulgate regulations which will enumerate the procedures to be employed in purchasing development rights to privately owned agricultural land.

This legislation shall benefit both the agricultural landowner who wishes to remain in agriculture, but is subject to pressure to convert his land to more intense uses, and the state, which will be able to conserve productive agricultural land. The ability of the state to acquire development rights to farm land will promote the retention of open space in areas subject to intense development pressure, however, the ability of the state to utilize this land use planning tool will depend upon the monies appropriated.

GU:mo
Attachment

SOIL CONSERVATION SERVICE

Soil Capability Classes

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants, require special conservation practices, or both

Class IV soils have very severe limitations that reduce the choice of plants, require very careful management, or both.

Class V soils are subject to little or no erosions but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife habitat.

Class VI soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife habitat.

Class VII soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.

Class VIII soils and land forms have limitations that preclude their use for commercial plants and restrict their use to recreation, wildlife habitat, or water supply, or to esthetic purposes.

HB 157

IN THE LEGISLATURE OF THE STATE OF ALASKA

TENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act making a special appropriation to the University of Alaska to determine the feasibility of using waste heat generated by the trans-Alaska pipeline for grain and forage drying; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA

* Section 1. The sum of $100,000 is appropriated from the general fund to the University of Alaska for a study to establish the feasibility to use waste heat recovered from pump station No. 9 of the trans-Alaska pipeline to dry grains and forages for livestock feed.

* Section 2. The unexpended and unobligated portion of this appropriation lapses into the general fund June 30, 1979.

* Section 3. This Act takes effect immediately in accordance with AS. 01.10-070(c).

THE LEGISLATURE OF THE STATE OF ALASKA
TENTH LEGISLATURE

FISCAL NOTE

I. REQUEST

Bill/Resolution No. Senate Bill No. 87

Title "An Act Making A Special Appropriation to the University of Alaska to Determine Feasibility of Using Waste Heat for Grain Drying" Date 9 February, 1977

REQUESTED BY Senator Kerttula

II. FISCAL DETAIL

Agency Affected University of Alaska

Program Category Affected Agricultural Experiment Station

Budget Request Unit(s) Affected Organized Research

EXPENDITURES (Thousands of Dollars)

	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82
100 PERSONAL SERVICES	3.4	24.6	37.9	-0-	-0-	-0-
200 TRAVEL	-0-	3.5	0.5	-0-	-0-	-0-
300 CONTRACTUAL	-0-	10.2	7.2	-0-	-0-	-0-
400 COMMODITIES	0.2	0.2	0.3	-0-	-0-	-0-
500 EQUIPMENT	2.5	9.5	-0-	-0-	-0-	-0-
600 LAND & STRUCTURES	-0-	-0-	-0-	-0-	-0-	-0-
700 GRANTS, CLAIMS, ETC.	-0-	-0-	-0-	-0-	-0-	-0-
TOTAL				-0-	-0-	-0-

FUNDING (Thousands of Dollars)

GENERAL FUND	6.1	48.0	45.9	-0-	-0-	-0-
FEDERAL FUNDS	-0-	-0-	-0-	-0-	-0-	-0-
OTHER (Specify)	-0-	-0-	-0-	-0-	-0-	-0-

POSITIONS

FULL TIME	1	2	2	-0-	-0-	-0-
PART TIME	-0-	-0-	1	-0-	-0-	-0-
TEMPORARY	-0-	1	1	-0-	-0-	-0-

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

See Attachment

IV. DATE 9 February, 1977

PREPARED BY Dr. F.J. Wooding, Dr. C.E. Lewis

AGENCY Agricultural Experiment Station

PHONE 479-7188 University of Alaska

Original: Legislative Finance

cc. Budget and Management

Prime Sponsor (First Legislator Named)

Senate Bill No. 87
Project Summary Totals

100	Personal Services		$ 65,857.39
	FY 77	$ 3,394.61	
	FY 78	$24,604.62	
	FY 79	$37,858.16	
200	Travel		$ 4,000.00
	FY 77	$ -0-	
	FY 78	$ 3,500.00	
	FY 79	$ 500.00	
300	Contractural Services		$ 17,400.00
	FY 77	$ -0-	
	FY 78	$10,200.00	
	FY 79	$ 7,200.00	
400	Commodities		$ 700.00
	FY 77	$ 200.00	
	FY 78	$ 200.00	
	FY 79	$ 300.00	
500	Equipment		$ 12,000.00
	FY 77	$ 2,500.00	
	FY 78	$ 9,500.00	
	FY 79	$ -0-	
		TOTAL	$ 99,957.39

Senate Bill No. 87
Analysis of Fiscal Note

FY 77 Costs

100	Personal Services		$ 3,394.61
	Assistant Professor of Resource Systems	$ 3,394.61	

This position would be employed for one month prior to FY 78 to begin implementation of the research project. It is the responsibility of the position to act as project co-principal investigator and to conduct the cost analysis, assist in data analysis of grains, and interact with technological contractural services provided.

$2,482.13	Salary ($2,482.13 per month X 1 month)
394.66	Leave Allowance (15.9%)
$2,876.79	Subtotal
517.82	Staff Benefits (18%)
$3,394.61	Position Total

400	Commodities		$ 200.00
	a) Bag tags and grain bags	$ 200.00	
500	Equipment		$ 2,500.00
	a) Laboratory grain dryer and associated equipment	$ 1,000.00	
	b) Grain storage bins	$ 1,500.00	
	TOTAL FY 77 COSTS		$ 6,094.61

Senate Bill No. 87

FY 78 Costs

100 Personal Services $24,604.62

Assistant Professor of Resource Systems $11,392.14

This position would be employed for three months to develop and coordinate the project. It is the responsibility of the position. to act as project co-principal investigator and to conduct the cost analysis, assist in data analysis of grains, and interact with technological contractural services provided.

$ 8,191.02	Salary ($2,730.34 per month X 3 months)
1,302.36	Leave Allowance (15.9%)
$ 9,493.38	Subtotal
1,898.76	Staff Benefits (20%)
$11,392.14	Position Total

Senior Research Assistant (21A) $11,922.48

This position would be employed for four months to develop the project. The person employed would be an agronomic specialist, skilled in laboratory techniques and would aid in laboratory work, calculating data and other duties assigned by the project heads.

$ 8,572.40	Salary ($2,143.10 per month X 4 months)
1,363.00	Leave Allowance (15.9%)
$ 9,935.40	Subtotal
1,987.08	Staff Benefits (20%)
$11,922.48	Position Total

Agricultural Laborer (11A) $ 1,290.00
(Temporary Help)

This position would be responsible for field work associated with grain harvest and storage and would be employed for one month.

$ 1,075.00	Salary ($1,075.00 per month X 1 month)
215.00	Staff Benefits (20%)
$ 1,290.00	Position Total

200	Travel		$ 3,500.00
	Travel required to review waste heat agricultural projects in parts of United States, such as California, Washington, Oregon, etc. to analyze various drying techniques for application in Alaska.	$ 1,000,00	
	The Scandanavian countries and England currently employ waste heat in the processing of agricultural products, particularly high moisture grains. A review of the techniques would be done to determine applications in Alaska.	$ 2,000.00	
	Approximately 20 trips to and from Delta Junction (Pump Station #9 site and field plot site) would be necessary during equipment adaption and harvest.	$ 500.00	
300	Contractural Services		$10,200,00
	Contractural services will be used to determine types and amount of fungal organisms and amounts or presence of micro toxins in stored grains; analysis of carbohydrate content (sugars & starches); and amino acid analysis of proteins.	$ 1,700.00	
	Technological consultants will be used for aid in analysis of technology for utilizing waste heat for grain drying and for aid in equipment design and installation.	$ 8,000.00	
	Computer run time will be necessary for cost analysis and grain analysis.	$ 500.00	
400	Commodities		$ 200.00
	a) Bag tags and grain bags	$ 200.00	
500	Equipment		$ 9,500.00
	200 bushel per hour grain dryer, conversion and heat transfer equipment.	$ 9,500.00	
		TOTAL FY 78 COSTS	$48,004.62

Senate Bill No. 87

FY 79 Costs

100 Peraonal Services $37,858.16

Assistant Professor of Resource Systems $12,740.13

This position would be employed for three months to coordinate and complete the project. The position would also collaborate in preparation of documentation for publication of the project results.

$ 9,010.11	Salary ($3,003.37 per month X 3 months)
1,432.62	Leave Allowance (15.9%)
$10,442.73	Subtotal
2,297.40	Staff Benefits (22%)
$12,740.13	Position Total

Senior Research Assistant (21A) $16,666.65

This position would be employed for five months to maintain and complete the project. The position would also assist in preparation of documentation of project results as assigned by project heads.

$11,787.05	Salary ($2,357.41 per month X 5 months)
1,874.15	Leave Allowance (15.9%)
$13,661.20	Subtotal
3,005.45	Staff Benefits (22%)
$16,666.65	Position Total

Secretary (12A) $ 4,123.43

Secretarial services would be necessary for two months to type project results and be responsible for any duties necessary for publication of documentation.

$ 3,379.86	Salary ($1,689.93 per month X 2 months)
743.57	Staff Benefits (22%)
$ 4,123.43	Position Total

Agricultural Laborer (11A) $ 4,327.95
(Temporary Help)

This position would be responsible for field work associated with grain planting, harvest, drying and storage and would be employed for three months.

$ 3,547.50	Salary ($1,182.50 per month X 3 months)
780.45	Staff Benefits (22%)
$ 4,327.95	Position Total

200 Travel $ 500.00

Approximately 20 trips to and from Delta Junction (Pump Station #9 site and field plot site) would be necessary during planting, harvest and drying seasons. $ 500.00

300 Contractural Services $ 7,200.00

Contractural services will be used to determine types and amount of fungal organisms and amounts or presence of micro toxins in stored grains; analysis of carbohydrate content (sugars & starches); and amino acid analysis of proteins. $ 1,700.00

Technological consultants will be used to aid in assessment of methods of utilizing waste heat for drying assessment of system performance and documentation of technological data. $ 5,000.00

Computer run time will be necessary for cost analysis and grain analysis. $ 500.00

400 Commodities $ 300.00

Parts needed for equipment adjustment and/or field preparation. $ 300.00

TOTAL FY 79 COSTS $45,858.16

Title:

The Feasibility of Utilizing Waste Heat from the Trans-Alaska Pipeline for Grain and Forage Drying

Principal Investigators:

Frank J. Wooding, Ph.D.
Associate Professor of
Agronomy

Carol E. Lewis, Ph.D.
Assistant Professor of
Resource Systems

Performing Organization and Address:

Agricultural Experiment Station
School of Agriculture and Land Resources Management
University of Alaska
Fairbanks, Alaska

Date:

February), 1977

THE FEASIBILITY OF UTILIZING WASTE HEAT FROM THE TRANS-ALASKA PIPELINE FOR GRAIN AND FORAGE DRYING

BACKGROUND

Much emphasis has been placed in recent years on energy utilization and it's impact on economic growth. In the face of an increasing world population, heavy demands are being made on energy supply sources, particularly as related to food production. It has become exceedingly important to conserve and improve the efficiency of energy available from both fossil and non-fossil fuels. This is very evident in the agricultural industry, particularly in small grain and forage production. As an example, natural gas forms the energy base for over 80 percent of the energy used in irrigation pumps, grain drying and anhydrous ammonia fertilizer production in Kansas. Decreasing supplies of natural gas can be expected with continuously rising prices.(1) This will be true in all agricultural areas of the United States. It is important to utilize the maximum energy available from any fuel source.

Alaska, in particular, is placed in a unique position in the scenario of total energy use in food production. Over 17 million acres of tillable land and 10 million acres of rangeland have been identified.(2) One area, the Delta-Clearwater region, in the interior is considered most attractive for future agricultural development for the following three major reasons:

1. The area contains approximately 10,000 cleared acres and over 100,000 acres of uncleared land with high agricultural potential. Portions of this acreage are currently in use for the production of grain and forage crops.

2. Pump Station #9 of the trans-Alaska pipeline is located centrally within the area. During beginning phases of oil flow, an average of 800,000 BTU per minute of low pressure turbine exhaust will be released at temperatures of 475° F at an ambient temperature of 0° F. At maximum oil flow, this will increase to an average of 1,000,000 BTU per minute at temperatures of 535° F.(3) These temperatures are considered within the range necessary to operate grain and forage dryers, which have an energy requirement in the neighborhood of 1/10 that available from Pump Station #9, if the grain and forage is harvested at moisture levels as high as 40 to 60 percent.(4,5)

3. The beginnings of a production and marketing infrastructure are present in the Delta-Clearwater area. A major road system serves as a connector to Fairbanks and Anchorage. Farm equipment and supply outlets are located within a 100 mile radius. Small grains and hay produced within the area are marketed within the state through established channels. In addition, Delta Junction is the headquarters of the Alaska Farmers Cooperative, Inc..

The potential for growth in agricultural production, processing and marketing in the Delta-Clearwater area will not be realized until several specific questions are resolved. These are:

1. Can waste heat be used for grain and forage drying? Although the heat generated by pump station turbine exhausts is extremely high, it is not in a form immediately usable in any agricultural application. Investigations show that systems can be designed within specifications of the turbines to use the heat generated.(6) The various methods of transfering the heat to the drying area must be investigated to determine that which is the most efficient. Use of waste heat for grain and forage drying may make production of these crops within Alaska economically attractive.

2. Will use of turbine exhaust gases for drying damage grains and forages? Indications are that there will be no damage and that there may be an advantage to using waste gases. Grains and forages should be analyzed both before and after a storage period to determine the effect of the exhaust gases, if any.

3. Will grains and forages produced meet international quality standards? Data from the Agricultural Experiment Station at Fairbanks indicate approximately 80 percent of barley produced in the Delta-Clearwater area can meet international standards. Again, analysis of grain and forage quality before and after a storage period will substantiate this data.

The conversion and use of gas turbine exhausts as an energy source for drying grains and forages is a key to large scale production of an animal feed product within Alaska.

PROJECT OBJECTIVES

The objective of this project is to show the feasibility for utilizing waste heat for drying grains and forages. This will accomplish:

1. The provision of a waste heat recovery system design for Pump Station #9 of the trans-Alaska pipeline or for similarly designed exhausting systems.

2. The provision of a method for more efficient use of fossil fuel in a multi-purpose system (pump station operation and crop drying).

3. A means to use high moisture grains and forages as a year-round feed base in Alaska and as a marketable product to areas outside the state.

All of the above will combine to provide the opportunity for growth of an agricultural industry which will include as major components production, processing and marketing of grains and forages. The industry will serve the immediate area and the state and provide consumer benefits including dollar savings per unit of energy expended.

PROJECT AREA

The Delta-Clearwater area is largely agricultural. It is serviced by a major highway system providing access to Fairbanks (90 miles west-northwest), Anchorage (300 miles southwest) and the Canadian border (200 miles southeast). The nearest railhead is in Fairbanks; the nearest port, Anchorage. Only charter airlines service the area with Fairbanks the nearest international airport. The area cannot be considered a bedroom community of fairbanks, although Fairbanks is considered the primary trade center. It was, previous to the trans-Alaska pipeline influx, a trading center for area farmers, most of whom had begun as homesteaders. In fact, Fairbanks, ninety miles west of the Delta-Clearwater area, from the turn of the century to the 1930's, was considered the center of Alaska's agriculture. Cattle and hogs were rainsed. Market vegetable production, hay production and grain production were under way.

In 1968, legislative action made additional land available to persons actively engaged in farming. Several area farms have grown because of this action but have not expanded substantially. As examples, a 1,000 hog production facility was established in 1970, but did not remain in operation because of lack of a consistent feed supply and lack of an existing market infrastructure.(7) A dairy operation involving more than one hundred head with a complete processing, packing and distributing facility exists in the area. In addition, a beef cattle feeding operation involving one hundred head was recently established. There is an on-going egg production operation of over 10,000 laying hens, as well as a sheepherder with a one hundred head flock. Agriculture in the area is not limited by climactic or biological factors, but by factors of a developmental and economic nature.

The transportation access in the Delta-Clearwater area provides a means for import and export of products. The same system makes distribution to inter and intra-state destinations possible, and provides access to shipping ports making available possibilities for international trade. Japan, in particular, imports 90 percent of its vital grains. Alaska, with a high quality grain product, could be in a good position to compete in the international livestock feed market. As the market is expanded, the Delta-Clearwater area could conceivably provide up to 100,000 acres of high quality agricultural land for production of grains and forages.

An ad hoc committee on agriculture has prepared an assessment of large scale barley production in the Delta-Clearwater area. The assessment indicates that farms approximately 3,000 acres in size, using fallow management systems are viable and that sufficient quantities of grain can be produced on 50,000 acres to warrent a 1 million bushel out-through elevator-dryer system.(9) Investigation of the potential of drying grains and forages with waste heat is, therefore, of high interest in terms of contribution to a renewable resource economic base for the state. The conclusion which may be reached is that waste heat utilization may well be the impetus needed for the revival and future development of agriculture in Alaska.

RELATED STUDIES AND PROJECTS

The following is a listing of projects, with references, of on-going and future research by the University of Alaska, Agricultural Experiment Station.

Grain and forage production:
For the past four years, a cereal grain research program has been conducted in the Clearwater-Big Delta region. Emphasis has been placed on evaluation of barley, oat and wheat varieties as feed grain crops. Oat varieties have also been evaluated as a forage and straw crop. Other areas of research include fertilizer response, comparison of production systems (continuous grain vs. summer fallow-grain), tillage practices, seeding rates, and weed control.

Burton, W. E., D. H. Dinkel, and F. J. Wooding, "So Many Questions-So Few Answers", Agroborealis, Vol. 3, No. 1, pp. 21-24, 1971.

Wooding, F. J., G. M. Paulsen, and L. S. Murphy, "Sulfer Composition of Soybeans as Affected by Macronutrient Deficiencies", Soil Science and Plant Analysis, 3:151-159, 1972.

Wooding, F. J. and C. W. Knight, "High Protein Grain from Interior Alaska", Agroborealis, Vol. 4, No. 1, pp. 12-13, 1972.

Martin, G. C., R. F. Barnes, A. B. Simons, and F. J. Wooding, "Alkaloids and Palatability of Phalaris arundinancea L. Grown in Diverse Environments", Agronomy Journal, 65:199-201., 1973.

Wooding, F. J. and A. C. Epps, "Grain Varieties for the Golden Valley", Cooperative Extension Service Publication . No. 46, University of Alaska, 1973.

Wooding, F. J. and C. W. Knight, "Barley Yields on Summer Fallowed and Stubble Land", Agroborealis, Vol. 5, No. 1, p. 22, 1973.

Wooding, F. J., D. H. Hassinger, and G. Willis, "Grains in Seward's Icebox", Agroborealis, Vol. 6, No. 1, pp. 4-6, 1974.

Wooding, F. J., J. L. Brossia, S. D. Sparrow and D. H. Hassinger, "Small Grains on Agricultural Land in Remote Areas of Alaska", Agroborealis, Vol. 7, No. 1, pp. 28-30, 1975.

On-going research concerns grain production in the Tanana Valley of interior Alaska. The objectives are to increase production of barley, oats, and wheat through a broad, intergrated, research program of variety testing and cultural practices. Triticale is to be evaluated as a potential new grain crop. Grains produced in a subarctic environment are to be evaluated for quality and suitability. In addition, grain adaptation tests are being conducted for remote areas of Alaska.

Wooding, F. J., "Small Grain Production in the Tanana Valley of Interior Alaska", Hatch Project, March 1, 1974.

Wooding, F. J., "Grain Adaptation Tests for Remote Areas of Alaska", Special Appropriation of Hatch Funds, 1974.

Since May, 1970, research on peas, barley and oat mixtures has been conducted to determine in-combination and independent response to harvest date and crop mix. The parameters of interest are protein, digestibility and yield.

Brundage, A. L., R. L. Taylor and V. L. Burton, "Barley, Oats and Peas, Alone and in Combination, for Forage", presentation at the Annual Meeting of the American Dairy Science Association, June, 1976.

Markets:

Past work on markets for agricultural commodities produced in Alaska has been largely confined to only statewide markets. The topics covered have included pork, beef, vegetables, dairy, and feed production. Although only limited local markets were identified, production within the state is small enough to allow market expansion in most areas.

Burton, W. E., "Alaska's Agriculture", Institute of Social, Economic and Government Research, University of Alaska, 1971.

Flynn, E. and W. Thomas, "Assessment of Markets for Fresh Vegetables in Anchorage", G. E. - TEMPO, Research Publication, 1973.

Thomas, W., and P. Linn, "Economic Factors in Alaskan Milk Marketing", Agroborealis, 1972.

Stephens, C., W. Thomas and V. Burke, "Supplying Alaska's Red Meat and Poultry Products, Institute of Agricultural Sciences, University of Alaska, 1975.

Research just beginning at the University of Alaska will analyze the export market for feed barley, malt barley, and grain and/or feed pellets. Identification will be made of possible markets and problems and opportunities associated with these markets. Included will be an analysis of price conditions, trade arrangements, transportation system requirements and appropriate domestic and foreign government regulations.

Thomas, W., "Agriculture in Alaska; 1976 - 2000 A.D.", Alaska Review of Business and Economic Conditions, Institute of Social, Economic and Government Research, University of Alaska, June, 1976.

Thomas, W., "International Markets and Marketing for Alaska Produced Farm Products", Research Project, Agricultural Experiment Station, University of Alaska, 1976. Sections of this marketing research will be carried on as in-kind contributions to the waste energy project proposed here.

Agricultural potential:
There are three agricultural potential studies which are on-going within the Agricultural Experiment Station. The major concern is economic and social impact on the state and on available markets for products from the state.

Buton, W. E., "Creating a Northern Agriculture, I, II, III, IV, V", University of Alaska, Agricultural Experiment Station Bulletin No. 42 through 46, 1975, 1976.

Faris, J. E. and R. J. Hildreth, "Consideration for Development - Alaska's Agricultural Potential", for the Federal Land Use Planning Commission of the University of Alaska, Agricultural Experiment Station, April, 1976.

Thomas, W. C., C. E. Lewis and F. J. Wooding, "The Potential for Production of Barley in the Delta-Clearwater Area of Interior Alaska", Univ. of Ak., Ag. Exp. Station, February, 1977, draft.

Waste heat utilization:
The utilization of waste heat in agricultural systems has been addressed within the Agricultural Experiment Station.

Dinkel, D. H., "Potential for Production of Intensively Cultured Crops in Alaska Using Geothermal or Waste Heat Sources", presented at the Second Int. Symp. on Cold Regions Engineering, Univ. of Ak., Aug. 13, 1976.

Lewis, C. E., "The Utilization of Waste Heat in Agribusiness Development ", presented at the Second Int. Symp. on Cold Regions Engineering, Univ. of Ak. Aug. 13, 1976.

PROJECT PROCEDURES

Method of Approach

A three part study will be conducted over a two year period to provide answers to those questions raised in the background discussion. The parts of this study are:

Part 1. Provision of an efficient design for the conversion of low pressure turbine exhaust to usable form.

Part 2. Determination of the effect of turbine exhaust gases on quality of grains and forages.

Part 3. Determination of grain and forage quality after drying with exhaust gas and after a period of storage at varying moisture levels.

Discussion of Part 1.

The exhausted heat available is in the form of a low pressure, high BTU per minute flow at high temperatures. Requirements of low back pressure for efficient turbine operation limit the design specifications for recovery of the heat. Both a fin tube and a tube/ambient air system have been suggested. Alternate possibilities will be considered. The possibility of a water jacket surrounding the recovery tube will be investigated, assuming a future need for heated water. Cost of the system and operation and maintenance requirements will be a primary consideration.

In FY 78, a small dryer (200 bushel per hour) will be purchased and equipped with heat conversion and transport systems which will allow utilization of turbine exhausts. If it is not possible, due to conflict with pipeline start-up operations, to use the Pump Station #9 site, an alternative source will be used. Several are available in the Fairbanks area. The dryer system is scheduled to be operational in FY 79.

After completion of drying of the FY 79 crops, an analysis of operating efficiency, cost of operation and conversion and installation costs will be prepared. The waste heat system will be compared to conventional drying systems using this cost data.

Discussion of Part 2.

During FY 78, grain and forage samples harvested either in Fairbanks or in the Delta-Clearwater area will be dried to moisture levels varying from 30 to 12 percent. The drying will be done at the Agricultural Experiment Station at Fairbanks using conventional drying methods. The objective of the FY 78 sampling is to establish a data base for Alaskan grains and forages dried using conventional methods. This data base will be used as a comparison when turbine exhaust is used for drying.

Before storage, contractural services will be used to analyze grain and forage quality. Particular attention will be given to carbohydrate content (sugars and starches), protein content, and amino acid composition of proteins.

The grain and forage samples will be stored in outdoor bins. After a nine month storage period, an analysis will again be conducted of carbohydrate content and proteins. Additionally, a determination will be made of the type and amount of fungal organisms and amounts or presence of micro-toxins in the stored grains and forages.

Discussion of Part 3.

During FY 79, the grain and forage drying procedure of Part 2. will be repeated. However, the drying will be accomplished using a waste heat source and a drying system described in Part 1.. Contractural services will again be used to perform the analysis described in Part 2. on the dried samples and on samples taken from grains and forages which have been stored for nine months.

After sample analysis is completed, carbohydrate content, protein levels, amino acid composition of proteins, and fungal types and micro-toxins present will be compared to those in the grain and forage samples in the control group of Part 2..

Summary of Data to be Collected

After completion of the three part study (July 1, 1979), sufficient data will have been collected to complete a report addressing the questions:

1. Can waste heat be used to dry grains and forages?

2. Will use of gas turbine exhaust for drying effect grains and forages?

3. Will grains and forages produced in Alaska meet internation quality standards both before and after storage?

The following data catagories will be used in the report.

1. Technology of waste heat recovery systems for use in grain drying.

2. Efficiency of waste heat recovery systems considering all energy uses within a system. An example would be the use of fossil fuel for pump station operation and a use of the exhaust heat from the turbines for crop drying.

3. Investment cost of the waste heat recovery system.

4. Operating cost of the recovery system.

5. Efficiency, investment cost and operating cost of conventional drying systems.

6. Quality characteristics of grains and forages stored at varying moisture contents for one season after drying by either conventional or waste heat methods.

7. Quality characteristics of grains and forages immediately after drying either by conventional or waste heat methods.

FOLLOW-UP

This project has been proposed to aid those persons already producing grains and forages within Alaska and those who may be considering a beginning enterprise. At present, there is no data base which the farmer can use to determine to what moisture level grains and forages should be dried to maintain quality after storage under interior Alaska climactic conditions. Moreover, much interest has been generated concerning the use of waste heat for grain and forage drying. It is

reasonable to assume an operating cost savings would be effected by waste heat utilization. When the cost of wasted energy is compared to investment cost of recovery systems, the qualitative savings of valuable fuels is also large. Cost savings may be even larger if the use of turbine exhaust proves beneficial in storage of grains and forages at higher than normal moisture levels. However, if gas turbine exhausts damage the crop, there will be no need for further consideration of waste heat for grain and forage drying. The completion of the much needed data base for drying of grains and forages utilizing waste heat.

FOOTNOTES

1. R. J. Robel, "There May be Energy Tomorrow but at a Frightful Cost", address to the Kansas Cooperative Council, 1976.

2. Alaska Rural Development Council, "Alaska's Agricultural Potential", prepared by the Agricultural Potential Committee ARDC Pub. No. 1, Fairbanks, Alaska, March, 1974.

3. Communication: Alyeska Pipeline Service Company, Anchorage, Alaska, April 28, 1976.

4. Operating and Parts List, Behlen Model K Grain Dryer, Behlen Manufacturing Company, Columbus, Nebreska.

5. Correspondence: MEC Company, Neodesha, Kansas, 1976.

6. Communication: Ekodyne, Inc., Santa Barbara, California, April 16, 1976.

7. Communication: F. J. Wooding, May, 1976.

8. A. Tussing, et. al., "Alaska Pipeline Report", Institute of Social Economic and Government Research, Univ. of Ak., Sept., 1971.

9. Thomas, W. C., C. E. Lewis, and F. J. Wooding, "The Potential for Production of Barley in the Delta-Clearwater Area of Interior Alaska", Univ. of Ak., Ag. Exp. Station, February, 1977, draft.

DREW'S SUGGESTION TO COMPLY W/SB 87 THIS BILL

Introduced: 2/2/77
Referred: Resources and Finance

IN THE HOUSE BY COWPER

HOUSE BILL NO. 158

IN THE LEGISLATURE OF THE STATE OF ALASKA

TENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act making a special appropriation to the University of Alaska for a study to develop the technology for using waste heat generated by the transalaska pipeline for ~~agricultural purposes~~ grain + forage drying; and providing for an effective date."

DR. DREW'S suggestion change → the study of grain drying + forage drying from pump station 9

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

* Section 1. The sum of $100,000 is appropriated from the general fund to the University of Alaska for a study to develop the technology necessary for utilizing waste heat in Alaska for the production of intensively cultivated agricultural crops.

* Sec. 2. The unexpended and unobligated portion of this appropriation lapses into the general fund June 30, 1979.

* Sec. 3. This Act takes effect immediately in accordance with AS 01.10.-070(c).

sub. SB 87 (1067 ON TAPE 8:05 PM)

CSHB 158

IN THE LEGISLATURE OF THE STATE OF ALASKA

TENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act making a special appropriation to the University of Alaska to determine the feasibility of using waste heat generated by the trans-Alaska pipeline for grain and forage drying; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA

* Section 1. The sum of $100,000 is appropriated from the general fund to the University of Alaska for a study to establish the feasibility to use waste heat recovered from pump station No. 9 of the trans-Alaska pipeline to dry grains and forages for livestock feed.

* Section 2. The unexpended and unobligated portion of this appropriation lapses into the general fund June 30, 1979.

* Section 3. This Act takes effect immediately in accordance with AS. 01.10-070(c).