582 SRES HB 854 1977-1978 8672

activity in recent years, and subsequent high rates of discoveries since it was introduced in 1974. This year, the program was extended, until 1981.

The system is simple and is based on a drilling credit which can be earned by all exploratory wells and which varies according to the footage drilled and the region drilled in. For example, under the Alberta system, a well drilled to 8,000 feet on the North Slope could earn a credit of, for example, $2 million, where a similar well on the Kenai Peninsula might qualify for a $1.5 million credit. Deeper wells could earn proportionately more, as would offshore wells. These credits could be scheduled to equal approximately one-third to one-half of the cost of a well in each region, and they could be used by the earning company against bonus bids in a State sale, or against lease rental payments of royalty payments. The result could be an influx of capital into Alaska, similar to what has taken place in Alberta. But since the Commissioner would control the incentive program by regulation, it would be capital that would be directed by the State to areas in which the State wished exploration to occur.

To allow the Commissioner the discretion to introduce such a drilling credit system, we have taken the liberty of proposing general language in section (f) that could be translated into detailed regulations for a successful incentive program (see Page 10).

The system would require control by the Department of Natural Resources, but it could operate with less manpower than is needed for the policing of net profit bidding or royalty-bidding systems. The benefits would be tangible and immediate, and would probably exceed, in terms of new revenues to Alaska, the theoretical and untried potential of royalty or net-profits bidding.

H. Terms and Regulations

On Page 11 of the draft, our proposed language in (G) would replace (G) and (H) in the original bill. Our language would be simpler and would accomplish the same purpose, we think.

I. Lease Terms

On Page 13 of the draft language, our new language in (H) would give the Commissioner the option to have five-year lease terms, but only where the Commissioner finds that environmental and economic conditions would not severely restrict operations. The original language in the bill requires a five-year lease unless severe environmental conditions require a longer period.

In most parts of Alaska, severe environmental conditions and remote exploration locations dictate that drilling and other exploration activity be done only on a seasonal basis. A five-year lease term would therefore place great strain on the operator in all parts of the State except for Cook Inlet or Southern Alaska locations where work can proceed year-round. Our proposed language would leave the 10-year lease term intact, although the Commissioner would have the option for shorter terms where environmental conditions permit.

Our proposed language would also give the Commissioner authority to go to larger lease tracts if circumstances require, if, for example, a work-commitment system is used.

J. 90-Day Provision

Also on Page 13 of the draft language, we also amend section (H) in language dealing with expiration of leases, to reflect unique Alaskan environmental problems in the term "reasonable diligence." This language

deals with activities that an operator may have underway at the time of the expiration of a lease. We would like to see environmental conditions taken into consideration by the Commissioner in delays that might affect an operator.

Also in section (H) on Page 13, we would suggest amending the language to reflect that a lease will be extended if there is a well capable of producing oil and gas, rather than a well producing oil and gas, as in the original language. Our reasoning is that there could be situations where a productive well has been drilled, but there are delays in building transportion systems to actually take the oil away.

K. Commissioner's Role in Conservation

On Page 17 of the draft, we propose new language that would clarify an apparent ambiguity in the original language regarding the Commissioner's conservation regulatory authority under Title 31 over pools unitized under this chapter. Our suggested language would reinforce the Commissioner's conservation authority, and would clarify this language.

L. Noncompetitive Leasing

Sohio-BP has no corporate position on noncompetitive leasing, but while some companies would like to have the option of noncompetitive leasing available, there may be situations where the State's broader public interest might not be served. Noncompetitive leasing can invite speculation in leases and in certain circumstances, there could be adverse environmental effects.

M. Joint Bidding Prohibitions

On Page 21 of the draft, the original language in the bill allows the Commissioner to restrict joint bidding by "major and multinational oil and gas companies" (these terms are nowhere defined). There are many serious problems that are discussed extensively in Part I, Section III C with respect to this provision. Based on the conclusions of the studies cited in this section ("Oil and Gas Leasing: How Competitive?"), we would suggest that it is neither necessary nor in the State's interest ot restrict joint bidding in any way. Such prohibitions not only restrict entry into Alaska leasing, but also could reduce potential revenues from lease sales. We would suggest deletion of this section from the bill.

N. State's Right to Purchase Oil and Gas

Section (v) on page 21 in H.B. 854 would include in leases a provision whereby the State would be allowed to puchase up to 100 percent of any gas discovered on State lands. This could be very harmful to the State in the long run, as it could effectively eliminate the financing of exploration programs by means of gas sale contracts. These contracts have been normal in Alaska, and in the past few years have contributed many millions of dollars to oil and gas drilling. This source of investment would be cut off and the proposed provision would only discourage exploration and the purposeful search for gas.

Under the terms of this section, contractual commitments would be impossible to make because the lessee would have no certainty of ownership of gas and would lose the right to dispose of his share of production to his best advantage, which could also be to the State's advantage. The result could be an increase in the risks and costs of exploration.

O. Data

In accordance with statements made by Administration officials with respect to the intent of the langugage in H.B. 854 relating to data acquisition and confidentiality, we have amended (w) of H.B. 854 on Page 21. Under our amended language in (s) on the same page, therefore, the Commissioner is given access only to noninterpretative data which shall be held confidential upon the request of the lessee or permittee as provided in AS 38.05.035. Additionally, in our (s) section, we have added that the Commissioner shall, by regulation establish procedures to govern access to and the safekeeping of such data.

As to the usefulness of such data acquisition, we would refer you to the analysis contained in PART I, Section III A above ("Data Acquisition: How Useful?"). This section additionally attempts to explain why data acquisition by the government is frequently viewed as the first step that inevitably leads to government drilling corporations.

P. Acreage Limitations

Section 3 AS 38.05.140(c) in H.B. 854 would limit any one company's onshore lease holdings to a limit of 200,000 acres. We would suggest that this limitation may be unnecessary in reaching the objective of encouraging competition and may, in fact, undercut the goal of maximizing competition on State lands simply because some companies are now near or at the proposed limit in terms of onshore acreage holdings. They would not be able to participate in future state sales for at least five years if this provision were enacted.

The limitation also seems to work against other objectives of H.B. 854. For instance, the Department of Natural Resources, in its comments on the proposed work commitment bidding method, acknowledges that large areas on the order of 100,000 acres are needed to make the type of bidding practical. Such acreage would be low potential, high risk land which would not normally be seriously considered for exploration. If the 200,000 acre maximum is retained, no responsible company could even bid on large work commitment parcels of this kind. Consequently, retention of this stipulation would narrow the leasing options available to the State and would be detrimental to the responsible assessment of State land.

II. SUMMARY AND CONCLUSIONS

In summary, we would offer these observations and conclusions:

1. H.B. 854 as currently drafted would create a State leasing system biased towards experimentation with procedures that are new and untried in Alaska. This may not be in the State's interest, because unusual leasing systems could lead to delays in petroleum development that could have serious consequences on future State revenues and Alaska's contribution toward U.S. energy needs.

2. The United States faces a critical energy-import problem that may have serious consequences for the Nation's economy. Alaska can contribute to the lessening of U.S. dependence on imported oil, but long lead times and large investments are needed to develop new petroleum discoveries in remote Alaskan locations. By enacting new leasing legislation that could lead to unusual and untried lease systems, the State could inadvertently delay exploration and development in remote Alaskan areas with resulting consequences in the global energy/economic sphere.

3. The State of Alaska faces a potentially serious revenue situation in the late 1980's as annual State expenditures increase and oil production from the Prudhoe Bay field begins to decline. Again, the long lead-times needed to find and develop new Alaskan oil discoveries would indicate that exploration must proceed soon on State lands to provide needed petroleum revenues.

4. Alternative bidding systems proposed in H.B. 854, although also proposed in OCS legislation now pending in Congress, have not had extensive use in the U.S., nor in very many other places in the world. Experience with royalty bidding in federal OCS sales has been dissappointing, and the federal government may now be reconsidering the use of alternate bidding systems other than the competitive bonus-bid procedures.

5. The majority of academic literature that we have been able to find supports the thesis that the traditional bidding methods have worked well in the leasing of public lands for petroleum development. Academic experts also seem to agree that alternative bidding systems present serious problems, except when used in certain special situations.

6. We have offered in Attachment 1 suggested language that would, we believe, improve many sections of H.B. 854, and give the Commissioner the flexibility he desires while at the same time encouraging the use of proven leasing systems unless special circumstances dictate the need for an alternate situation. Royalty-bidding in a drainage sale would be an example.

7. We have suggested an exploration work-credit program similar to a successful system used in Alberta that we believe would offer substantial incentives for increased Alaska oil and gas exploration.

LEASING METHODS EXAMINED

BUT NOT INCLUDED IN HB 854

1. The so-called "dual leasing" system which would authorize the State to issue separate exploration and production leases. Senator Ted Steven's amendment to S-9 would permit the exploratory lessee to share with the government (Federal) the costs of the exploratory drilling program, which would be managed by the lessee, in exchange for a share of the revenues received by the government from a subsequently issued production lease.

   The Administration believes that the State can know before it offers its land for drilling what development and production activities it expects to take place.

2. Dr. Mason Gaffney's ad valorem charge, or a "post" royalty system versus the "ante" systems in HB 854. In other words, the state determines its take before discovery, not after. Other governments, like the Canadian national, are going to the "post" systems, i.e. "progressive incremental royalty."

3. Incentives. There are no direct incentives to lessees contemplated in HB 854, except that "work commitment" would allow cash bonuses not to go to the government but instead used by industry for exploration.

4. Government equities in leases or state-owned and operated exploration companies are not envisioned in HB 854.

5. Oil Payment Bidding - shift royalty to rental.

6. Performance System which provides government with the authority to specify the exact rate and extent of resource development.

7. Share Bidding or Phillips Plan. Bonus bids are entered for the entire structure instead of for a specific tract. Based on their equity in the field, each company receives a percent of the profits or losses with a maximum percentage participation by any one company.

8. Alberta's so-called "checkerboard" leasing system wherein a reservation holder may apply for leases over not more than 50% of the area in the reservation in a checker-board pattern. These leases convey the right to produce and sell the Crown's oil and gas, and the government retains the right to alter unilaterally the terms and conditions of the arrangement.

Fax to: Bob Walker, Juneau May 26, 1978

From: Bleu Beathard, Anchorage

Proposed Amendments to HB 854
(In order of importance)

1. Section N, page 6, lines 20-25.

Delete first two sentences, replace with following:

An oil and gas lease must cover a reasonably compact area not exceeding 5,760 acres and must be for a period of ten years. The Commissioner may grant a lease for a term less than ten years but not less than five years if he finds that environmental conditions do not severely restrict operations.

2. Section 3 AS 38.05.140(c), page 12, lines 5-15.

Delete remainder of this section starting with sentence that begins No persons may take or hold, and replace with the following:

No persons may take or hold at any one time oil or gas leases exceeding in the aggregate 500,000 acres granted on tide and submerged lands and 500,000 acres on all lands other than tide and submerged lands, including leases held both as lessee and under option or operating agreement from others. Where more than a single person holds an interest in an oil or gas lease, each person shall be charged only with that percentage of the total acreage which corresponds to its percentage share of the total beneficial interest in the lease.

3. Section O, page 7, line 29.

Amend as follows:

for the fifth year and subsequent years, $3.00 per acre.

4. Section C, page 2.

Line 10 delete words third and fourth, change years to year.

Line 12 delete fourth.

Line 13 delete after the year.

AGO 546855 +

THE LEGISLATURE OF THE STATE OF ALASKA
TENTH LEGISLATURE

FISCAL NOTE

I. REQUEST
Bill/Resolution No. HOUSE BILL NO. 354
Title Leasing and exploration of state land for oil and gas development
Requested by Governor Date

II. FISCAL DETAIL
Agency Affected Department of Natural Resources
Program Category Affected
Budget Request Unit(s) Affected

EXPENDITURES (Thousands of Dollars)

		FY 78	FY 79	FY 80	FY 81	FY 82	FY 83
100	PERSONAL SERVICES						
200	TRAVEL						
300	CONTRACTUAL						
400	COMMODITIES						
500	EQUIPMENT						
600	LAND & STRUCTURES						
700	GRANTS, CLAIMS, ETC.						
	TOTAL						

FUNDING (Thousands of Dollars)

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

POSITIONS

FULL TIME	0	0	0	0	0	0
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)
Existing administrative staff are capable of evaluating and carrying out lease sales under any of the proposed leasing methods within the reporting period unless the number and volume of sales in significantly larger than expected. Should net profits or a post-discovery type leasing method be used by the State, prior to production some auditing and/or assessing functions will have to be increased. However, some of these services are now being performed by Department of Revenue personnel in reserves tax assessing, and by 1983, or thereabouts and beyond, when the impact of production is felt, may be interchangeable with Natural Resources personnel.

Jack Roderick

IV. DATE February 6, 1978 PREPARED BY Jack Roderick
AGENCY Commissioner's Office, Dept. of Nat. Resources
PHONE 279-5577

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

AGO 546856

33-001 (Rev. 12/77)

AMENDMENT

OFFERED IN THE ~~HOUSE:~~ Senate Resources BY: Chatterton

To: Senator Poland HOUSE BILL No. CSHB 815 (Finance)

SENATE BILL No. .

PAGE: 7 and 9 LINE: Pg. 7 - Lines 20 & 23
Pg. 9 - Lines 3,4 & 6

Page 7, Line 20

(a) Delete - (the unit) immediately preceding the word Production.

(b) Add - or lease immediately following the word tract.

Page 7, Line 23

Add - or lease immediately following the word unit.

Page 9, Line 3 & 4

(a) Delete - (the unit) immediately preceding the word Production.

(b) Line 4 - Add - or lease immediately following the word tract.

Page 9, Line 6

Add - or lease immediately following the word unit.

AGO 546857

R F

IN THE FREE CONFERENCE COMMITTEE ON HB 854
MOVED BY SENATOR CROFT:

Add the following subsection to SCS CSHB 854 (Resources), renumber the succeeding subsections accordingly, and adopt the thus amended version as the Free Conference Committee Substitute for SCS CSHB 854.

(x) The commissioner may include in any oil and gas lease provisions giving the state the right to purchase at the prevailing price an amount of oil and an amount of gas equal to the percentage amounts reserved in the lease to the state as royalty. The provisions shall provide that the lessee shall be given the same notice of the exercise of the option to purchase as is required for the state's exercise of its option to take royalty in kind. The commissioner may not include these provisions in any lease unless the intention to include it in the lease is stated in the final notice of sale issued not less than 30 days before the date of the sale.

prior knowledge –
Know ahead →

No Market for Gas →

Your Project needs gas on land yet to be leased.

AGO 546858

1. WITHIN 60 DAYS OF RECEIPT OF "LEASING PROGRAM" LEGISLATURE, BY CONCURRENT RESOLUTION, MAY DISAPPROVE "ALL OR ANY PART" OF PROGRAM. P. 2	1. ADMINISTRATION SUBMITS PROGRAM — NO "LEGISLATIVE VETO"
2. SLIDING SCALE ROYALTY BIDDING — EITHER FIXED OR BID — AND ALSO MANDATORY WHEN OFFERED FOR BID A SECOND TIME. P. 3 P. 12	2. SLIDING SCALE ROYALTY — DELETED
3. ROYALTY BIDDING — (4) (5) AS VARIABLE. P. 4	3. ROYALTY BIDDING ONLY WHEN "UNLEASED ACREAGE SUBJECT TO DRAINAGE BY OFFSETTING WELLS."
4. COMMISSIONER MAY DEFER CASH BONUS UP TO 5 YEARS. P. 6	4. DELETED
5. LEASE TERM — 5 YEARS, BUT "GREATER THAN 5 YRS. BUT NOT TO EXCEED 10 YEARS WHEN — — ENVIRONMENTAL CONDITIONS SECURELY RESTRICT OPERATIONS." P. 6	5. LEASE TERM — 5 YEARS, OR "10 YEARS WHEN — — — ENVIRONMENTAL CONDITIONS — — — —"
6. RENTAL CONTINUES UNTIL ROYALTY OR NET PROFIT EXCEEDS RENTAL FOR 3 YEARS. P. 7	6. DELETED
7. RESTRICTION ON JOINT BIDDING P. 10	7. DELETED
8. RIGHT TO PURCHASE FOR IN-STATE USE P. 11	8. DELETED
9. INCREASE ACREAGE MAXIMUM 300,000 ACRES — 10 YEARS TO CONFORM. P. 12	9. RAISED TO 150,000 ACRES (EXISTING LAW)

THE LEGISLATURE OF THE STATE OF ALASKA
TENTH LEGISLATURE

FISCAL NOTE

I. REQUEST
Bill/Resolution No. HOUSE BILL NO. 854
Title leasing and exploration of state land for oil and gas development
Requested by Governor Date

II. FISCAL DETAIL
Agency Affected Department of Natural Resources
Program Category Affected
Budget Request Unit(s) Affected

EXPENDITURES (Thousands of Dollars)

		FY 78	FY 79	FY 80	FY 81	FY 82	FY 83
100	PERSONAL SERVICES						
200	TRAVEL						
300	CONTRACTUAL						
400	COMMODITIES						
500	EQUIPMENT						
600	LAND & STRUCTURES						
700	GRANTS, CLAIMS, ETC.						
	TOTAL						

FUNDING (Thousands of Dollars)

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

POSITIONS

FULL TIME	0	0	0	0	0	0
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)
Existing administrative staff are capable of evaluating and carrying out lease sales under any of the proposed leasing methods within the reporting period unless the number and volume of sales in significantly larger than expected. Should net profits or a post-discovery type leasing method be used by the State, prior to production some auditing and/or assessing functions will have to be increased. However, some of these services are now being performed by Department of Revenue personnel in reserves tax assessing, and by 1983, or thereabouts and beyond, when the impact of production is felt, may be interchangeable with Natural Resources personnel.

Jack Roderick

IV. DATE February 6, 1978 PREPARED BY Jack Roderick
AGENCY Commissioner's Office, Dept. of Nat. Resources
PHONE 279-5577

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

AGO 546860

33-001 (Rev. 12/77)

HOUSE JOURNAL

LETTER OF INTENT

CSHB 854 (RESOURCES)

The Honorable Hugh Malone
Speaker of the House
Alaska State Legislature

Dear Mr. Speaker:

The Resources Committee substitute for House Bill 854 makes numerous changes in the legislation as proposed by the Governor. Two of these changes involve the deletion of the following language:

1. Subsection (f) on page 6.

2. In subsection (j) the following sentence (at the top of page 8 in the original bill) - "The commissioner may provide by regulation and in the lease that the lessee may earn production rights only to the depth drilled at the beginning of production from the lease."

The record should show that the committee's intent in deleting these two items was not to limit the discretion of the Commissioner of Natural Resources in these areas, but simply the result of its determination that the authority in both of these areas is implied, and does not require special authorizing language in the bill.

Alvin Osterback

Alvin Osterback, Chairman
House Resources Committee

Date: 4/14/78

AGO 546861

DESCRIPTION OF LEASING METHODS IN HB854

Currently, the State of Alaska's leasing system is a cash bonus bid with a minimum fixed royalty of 12.5 percent. The methods outlined below include the present system with different fixed royalties, sliding scale royalty with bonus bid, sliding scale royalty bid with fixed bonus, net profit share bid with fixed bonus, royalty bid with fixed bonus and exploration work commitment. The basic elements of these methods are summarized below.

(1) Bonus Bid With Fixed Royalty

Bonus bid with fixed royalty is the system currently used by the State of Alaska. In a lease sale, the winning bid for a tract is the one which makes the highest sealed or auctioned cash bonus bid. There is also a minimum royalty of 12.5 percent. An advantage of this system is that government receives revenue regardless if there are economical quantities of oil or gas found and/or produced. To avoid early termination of production, royalties need to be flexible during a field's declining years.

(2) Sliding Scale Royalty With Bonus Bid (or Sliding Scale Bid with Fixed Bonus)

Under this system, the government receives a cash bonus bid and a sliding scale royalty. We used 12.5 percent as a minimum figure and 62.5 percent as a ceiling wherein the rate in any period is dependent upon the production of that period.

The royalty rate is graduated in much the same manner as the federal personal income tax. Table I gives two examples of a sliding scale royalty schedule. The royalty is progressive, that is, the royalty on additional production increases. For example, in the South Central Area, the initial 500 barrels pay a royalty of 12.5 percent, the next 500 barrels pay 25 percent. The royalty rate increases by 12.5 percentage points per 500 barrels until 2000 barrels of output are achieved. All production beyond 2001 barrels pays a royalty of 62.5 percent. Thus, if production reaches 5000 barrels, the average royalty rate is 50 percent. In the limit, the average rate would converge towards 62.5 percent as daily production continues to increase.

As field productivity declines and well production falls, the producer backs down the schedule and royalties decline. In order to optimally exploit the field, the royalties should decline to zero near the end of field life. Actually, final rates of five or six percent would result in minimal early shut down.

TABLE I
TYPICAL SLIDING SCALE ROYALTY SCHEDULES

SOUTH CENTRAL AREA

Daily Average Prod. Rate (Bbls./day)	Incremental Royalty Rate (%)	Royalty For Specific Producing Rates: Producing Rate (Bbls./day)	Royalty Production (Bbls./day)	Average Royalty Rate (%)
-500	12.5	500	62.5	12.50
501-1000	25.0	1000	187.5	18.75
1001-1500	37.5	1500	375.0	25.00
1501-2000	50.0	2000	625.0	31.25
2001-2500	62.5	2500	937.5	37.50
		3500	1562.5	44.64
		4500	2187.5	48.61
		5000	2500.0	50.00

NORTH SLOPE AREA

Daily Average Prod. Rate (Bbls./day)	Incremental Royalty Rate (%)	Royalty For Specific Producing Rates: Producing Rate (Bbls./day)	Royalty Production (Bbls./day)	Average Royalty Rate (%)
-1000	12.5	1000	125	12.50
1001-2000	25.0	2000	375	18.75
2001-3000	37.5	3000	750	25.00
3001-4000	50.0	4000	1250	31.25
4001 and above	62.5	5000	1875	37.50
		7000	3125	44.64
		9000	4375	48.61
		10000	5000	50.00

Note: The Sliding Scale Royalty Schedule for the North Slope area is significantly higher than for the South Central area because the higher North Slope operating costs result in a much higher economic limit.

Hopefully, this illustration clarifies the relationship between production rates and royalty rates.

Greater flexibility in setting the initial rate is the major advantage of this system while not running the risk of an uneconomically (for Industry) high royalty rate. On the other hand, to achieve an overall lower royalty payment, a company might spread out production over a longer period of time. Usually, however, because of the time value of money and increased operating costs, oil companies generally try to accelerate production.

(3) Net Profit Share Bid With Fixed Bonus
A small fixed bonus is required as earnest money. The bonus is low enough to encourage producers to bid a high net profit share while permitting profitable development.

(4) Royalty Bid With Fixed Bonus
This system utilizes the same method to calculate fixed bonus as described for Net Profit Share. The bid parameter is a function of production instead of net profits. Since the bonus is fixed, interested parties bid on the royalty rate that the government is to receive. The advantage of royalty bidding is that little front end money is needed by Industry. However, this could encourage speculation causing an overbid. Royalty bidding should encourage more competition among bidders and may allow the smaller companies a better chance of winning the tract.

(5) Work Commitment With Fixed Bonus, Royalty or Net Profit Share
The government itemizes the performance criteria such as the rate and amount of work to be performed on each tract. The total bid specified in dollar terms and a portion of the bid used for exploration and development activities. This system gives the government some control over the rate and extent of resource development.

TWO VIEWS ON BIDDING STRATEGIES

WEALTH MAXIMIZING STRATEGIES FROM THE STATE'S VIEWPOINT

The choice of bidding method cannot be made on the basis of any single criteria but is the result of evaluating a number of factors including but not limited to the potential economic payoff and physical characteristics of the lease area. HB854 offers essentially four leasing schemes: (1) Bonus Bid - Fixed Royalty, (2) Royalty Bid - Fixed Bonus, (3) Net Profit Bidding with Fixed Bonus, (4) Work Commitment with Bonus Bidding. These options will be briefly evaluated.

Bonus Bid - Fixed Royalty

If the royalty is fixed at 12-½%, there is no reason to use this option. It is of historical value only. At higher fixed royalties, it has some merit, but the higher fixed royalty means a lower bonus bid which is supposedly the advantage of the system. Private discount rates are too high for bonus bidding to be advantageous to the State. For example, a brief examination of an annuity table suggests that increases in the discount rate rapidly diminish the present value of a future income stream. This income stream can be interpreted as the discounted net revenues resulting from the potential discovery and development of an oil field. Table II illustrates the discount rate effect.

Table II
Present Value of an Annuity of $1 Million
(Values in 10°$)

Number of Years	Discount Rates					
	6%	10%	14%	16%	18%	20%
20	$11.470	$ 8.514	$6.623	$5.929	$5.353	$4.870
30	13.765	9.427	7.003	6.177	5.517	4.979
N	16.67	10.00	7.14	6.25	5.56	5.00

From the State's viewpoint, a 6% discount rate may properly reflect the present value of the income generated by the potential oil discovery. The industry, on the other hand, is likely to discount the future net income stream at much higher rates, say 20%. Thus, the maximum bid under ideal circumstances would be $5 million for an income stream that would yield net revenues of on million per year in perpetuity. Perpetuity is longer than the life of Prudhoe Bay.

Royalty Bid - Fixed Bonus

Relatively easy to administer - reduces risk and front end filter to the private sector. With sliding scale, most early shut down problems are avoided. The fact

that the State receives a revenue stream over a 20+ year time horizon also is an attractive feature. The Beaufort Sale is an ideal candidate for a royalty bidding scheme.

Net Profit Bidding

This is very attractive from a risk sharing point of view. All risks (geologic, exploration, development, and production costs as well as product price) are shared with the industry. Would increase exploration and development in remote high risk areas. May be useful where there is low probability of bid find. Under ideal circumstances (political) is the best of all possible options but does have serious administrative problems.

Work Commitment

Cases where State wants information and is willing to specify type of information desired. Good for high risk areas in remote locations. May also be used where the State wants more information before putting structures up for competitive bidding scheme.

On balance, the royalty bidding schemes represent a substantial improvement over bonus bidding and are administratively tractable. Given the time to build the expertise, it may be advisable to shift to profit sharing or ad valorem schemes.

MULTIPURPOSE STRATEGIES

Bonus Bids

Bonus bidding should be applied in cases where the State has either:

(a) A very great amount of knowledge about the resource, or
(b) The prospect is of extremely high risk, the lessor has little knowledge of the resource and expected value revenues would be marginal.

The first case (a) where tracts might be offered for Bonus Bidding could be that of a drainage or near drainage situation where the State wished to maximize its near term discounted revenues. It would be advisable to not offer all of the tracts for bonus bidding, but to withhold a percent of acreage to be sold at a later date, (Report 2-77). Also, since royalty and other bidding methods have shown to offer higher expected value revenues for lower risk cases it could be advisable to mix royalty bidding with the bonus bidding, a practice followed by the Federal Government in the recent Cook Inlet OCS sale.

In the second case (b), that of extreme high risk, bonus bidding can be used as a filter to determine the value of marginal tracts. This is discussed under the section on (t) low potential, high risk and previously leased.

Report 2-77 indicates that for very high risk cases all bidding methods approach the same level of expected value income for the State. In cases of small and marginal potential reservoirs the bonus bid method with its ease of administration might afford optimum State revenues. Report 2-77 also indicates that in probability of success percents of 1 percent or less bonus bids could afford higher revenues, but the State should ensure that leasing under such high risk cases only occurs when sufficient knowledge is gained to indicate that the land to be leased is of such a low potential. For example, a geologic structure as large as the Prudhoe Bay anticline may have had a high degree of risk before it was drilled but its potential to hold enormous reserves was there. Bonus bidding should not have been used in that instance.

In summary, bonus bidding can be used when:

(1) Very small potential reservoirs are expected;

(2) Extreme risk is expected and the gaining of sufficient knowledge to determine the presence of reservoirs is unwarrented because of marginal to low potential indications.

(3) A sliding royalty should be considered in all bonus bid cases;

(4) This method could be used in a mixture with other methods such as royalty bidding;

(5) Also, in general, this method should only be considered when leasing in the less desirable state areas, i.e. those below the top 10 rank.

Royalty Bidding - Fixed Bonus

Report 2-77 indicates that royalty bidding and profit sharing deliver the highest expected value revenues to the State of all bidding methods. It is particularly effective where the probability of occurrence is high (i.e. low risk) and especially when the expected reservoirs are large. A sliding scale should be added in the declining production years to eliminate the problem of premature shut down. Cases for royalty bidding would be when:

(1) The State has enough knowledge to assess the size of potential traps.

(2) Potential reservoirs are not extremely small or of extreme risk.

The Beaufort Sea sale is a good example of a case for using Royalty bidding on tracts. In general, this method should be considered when leasing in the top 10 leasing areas on the desirability scale.

Net Profit Bidding

Net profit bidding would be most advantageous when costs and oil prices are in a state of extreme fluctuations making economic predictions unreliable. In remote high risk areas, this method might attract stronger bids than the royalty

or the bonus bid method.

Of the 35 potential State leasing areas, this method might be used to advantage on those areas below the top 10 in desirability.

Work Commitment

(See section (t)).

This bidding method can be best used where the State has a large (i.e. 100,000+ acres) area of probable low potential where industry has shown a general lack of interest in exploration and leasing. By offering a large area for lease to one lease owner, the State provides an extra incentive to undertake exploration and the State ensures the exploration by making the bid variable.

This method would be used in remote low potential high risk areas. Some of the State's 3 mile limit lands such as Area IX might be applicable to this method.

Low Potential & High Risk and Previously Leased Section (t)

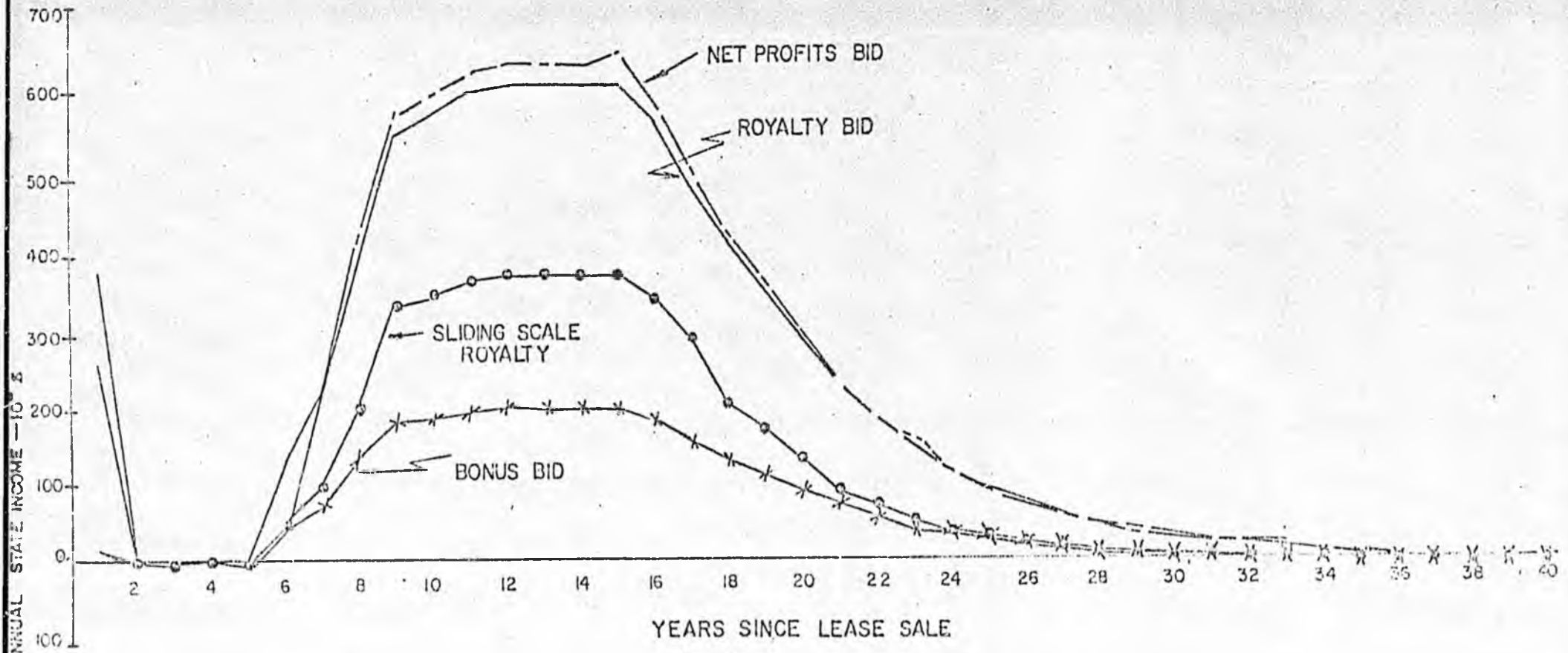
On the basis of exploration knowledge, lack of interest by industry and reasonable analysis, the department may determine that lands have very low potential for oil and gas.

As a means of encouraging the evaluation and possible development of these low potential lands, the department could:

(1) Offer the lands for competitive lease using a bonus bid with sliding royalty. A minimum bid equal to the first year's rentals could be used to filter the bids. This should give a check on the potential of the lands. The sliding royalty would act as a safeguard for very low value bonus bid tracts if a discovery is made later on the lands.

(2) On tracts that receive no acceptable bids, the commissioner could hold a non-competitive similtaneous drawing after proper notice (30 days). Tracts not receiving applications for the drawing could then be opened for over the counter applications. Tracts could be offered at fixed 50¢/year rentals, 5 year terms. A sliding scale royalty would be used in all cases to provide a revenue safeguard against future potential discoveries.

(3) In some cases, all tracts not receiving acceptable bids could be aggregated into large blocks (100,000 acres or more) and offered for work commitment bidding or development contracts.



COMPARISON OF STATE INCOME
FOR VARIOUS LEASING METHODS
AT 90% CHANCE SUCCESS

BEW 1-30-78

AGO 546869

Alaska State Legislature

Senate

Official Business

Committee on Resources

AGENDA 5-28-78

Pouch V
State Capitol
Juneau, Alaska 99811

CSHB 898 am	ALLOCATION TO AK FISHERIES DEVELOPMENT CORPORATION
CSHB 815 (Fin)	OIL AND GAS CONSERVATION
	THOMAS KRUEGER - EXXON
CSHB 854 (Fin)	LEASING AND EXPLORATION OF STATE LAND FOR OIL AND GAS DEVELOPMENT
	JACK RODERICK
	JOHN CARSON - CHEVRON
	DAVID MACE - SOHIO ROGER HERRARA - SOHIO
	ROD BOANE - EXXON

Alaska State Legislature

Senate

Committee on Resources

AGENDA

Official Business

Pouch V
State Capitol
Juneau, Alaska 99811

CSHB 854 - AN ACT RELATING TO THE LEASING AND EXPLORATION OF STATE LAND FOR OIL AND GAS DEVELOPMENT.

GEORGE FULFORD - DEPT. OF ENERGY & NATURAL RESOURCES
EDMONTON, ALBERTA

MARC SINGLETARY - ARCO

LARRY VAVRA - UNION

NORM GORSUCH - ATTORNEY

KEITH ARNOLD - AK OIL AND GAS

CLAUDE BROWN - TEXACO

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W. J. LEVY CONSULTANTS CORP.
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TEL. 212-586-5263-4
CABLE "WALTLEVY"

MAY 10 1978

May 5, 1978

The Honorable Steve Cowper
Chairman
House Finance Committee
Alaska State Legislature
Pouch V - State Capitol
Juneau, AK 99811

Dear Steve:

I'd like to review and expand a bit on my discussion last week before your House Finance Committee with respect to CS for House Bill No. 854 -- specifically the proposed exploration incentive credit system.

You will recall that we had suggested the possibility that a minimum work obligation be set out by the Commissioner on every lease offered for competitive bidding. The purpose would be to discourage speculative lease holding and to ensure that the State will get the benefit of actual exploratory activity by each successful bidder. Competing companies would, of course, reckon on the minimum work obligations when they calculate their bids.

We further suggested before your Committee that the exploration incentive credit system (pp. 4-5) may not be an essential incentive, particularly if there are work obligations and especially where prospects are attractive. In any event, the specific provisions of the bill look to be extremely awkward.

If the Legislature feels they should provide the Commissioner with authority for an exploration incentive system, we think you might alternatively consider something along the following

. . . /

AGO 546828

lines. First, expenditures up to minimum work obligations would not qualify. Second, beyond that minimum, additional expenditures on drilling exploratory wells could qualify for incentive credits. Credits could be related to footage and region; credits should never exceed a specified percentage of well cost -- as provided in the bill. Third, such credits could be applied against lease rentals -- not only on the lease where the well is drilled, but on any rentals accruing on State leases. To the extent that exploratory drilling credits exceed a company's accrued rentals, they might perhaps be carried forward. This could be a somewhat simpler approach to an exploration incentive credit system. It would apparently obviate the provision now in the bill whereby the Legislature has to appropriate offsetting funds to reimburse the Alaska permanent fund and the Alaska renewable resources development fund.

The proposed credits for geophysical work on State land within two seasons of an announced lease sale look to be even less necessary. We can appreciate a company's concern that costly exploration outlays designed to provide information to that company in advance of a scheduled lease sale may lose its proprietary value if a lease sale is deferred and the period of confidentiality expires. You may want to consider, therefore, that the period of confidentiality shall be extended by the Commissioner for work done on or proximate to areas scheduled for leasing if the lease sale is deferred beyond its announced date -- but not beyond some limited extension, say, 12 to 18 months.

I hope these thoughts may be of interest. Don't hesitate to call if we can be of any help.

Best regards.

Cordially,

Milton Lipton

/pt

cc: The Hon. Hugh Malone
The Hon. John Rader
The Hon. Kay Poland
Mr. Gregg Erickson

10-J3LH

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES

MINERALS AND ENERGY MANAGEMENT / 323 E. 4TH AVENUE – ANCHORAGE 99501

July 1, 1977

To The Honorable Hugh Malone
Speaker of the House of Representatives
Box 9
Kenai, AK 99611

Dear Mr. Malone:

The Division of Minerals and Energy Management has been appointed the lead agency in developing the Alaskan Petroleum Leasing System. A major portion of the Leasing System is the development of policies and goals which the System will be expected to satisfy.

The staff of the division has prepared a preliminary list of possible leasing policies and criteria for evaluation leasing methods (see attachments). We are asking that all appropriate State and Federal agencies, legislative committees, and private parties provide input to the Alaskan Leasing System by reviewing the attached list, commenting on them, and adding policies and criteria that may have been ommitted.

Because of the necessity of arriving at the final leasing system as rapidly as possible, the time schedule for initial input into the policy segment is very tight. Please send your comments to the Division of Minerals and Energy Management at the letterhead address to the attention of Kristina O'Connor by July 15.

Thank you for your prompt attention to this very timely and important matter.

Sincerely,

Joseph P. Green KMO

Joseph P. Green
Director

AGO 547096

OIL AND GAS LEASING PROGRAM

POLICY AND GOAL ANALYSIS

EXHIBIT I.

PROPOSED POLICY AND GOALS FOR THE ALASKA LEASING SYSTEM

Nonrenewable resources should be developed when a net benefit accrues to the State of Alaska, or as may become necessary from a national need.

I. ECONOMIC Leasing of state lands should provide economic benefit to the state by providing direct revenue and by contributing to the development of a broader business and industrial base.

A. The value of resource revenue to the state should exceed the appreciation of the resource if left undeveloped unless it becomes expedient to develop from an overriding need.

B. The state should receive true value from its resources.

C. Resultant development should contribute to development of other related resources, industries and associated businesses.

D. The state should encourage the reinvestment within Alaska of revenues derived from leasing and associated development.

E. One of the benefits of the leasing program should be the improvement and/or establishment of transportation, communication and related facilities

F. The leasing program must be stable and predictable for the benefit of the state and industry.

CRITERIA FOR EVALUATION OF LEASING METHODS

1. Encourage active exploration and development.
2. Receive equitable compensation for the State's resources.
3. Maximize production from existing fields, encourage development of marginal fields, and use of enhanced recovery projects, and discouraging premature shut down of marginal production.
4. Encourage appropriate capitalization.
5. Encourage the State and Industry to maximize discounted cash flow.
6. Encourage preleasing exploration but discourage duplication.
7. Promote bidding competition and increase numbers of bidders.
8. Allow the State to share good fortune of increased reserves and value of crude oil.
9. State should realize only minimal income from dry structures.
10. State and industry to maximize advantages in Federal income tax laws.
11. State to stabilize petroleum exploitation so that prospective lesees can be sure "ground-rules" won't be subject to frequent change.
12. Leasing system to reduce industry risk by small front end filter.
13. Discourage speculation and over bidding.
14. State equity to be based on value of reserves discovered.
15. Maximize State control over amount of State's revenue.
16. Minimize State control over industry
17. State to maintain right to take royalty oil and gas in kind.
18. Effeciency of administration and operation.
19. Criteria for selection of successful bidders.

OIL AND GAS LEASING PROGRAM

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D. The state should encourage the reinvestment within Alaska of revenues derived from leasing and associated development.

E. One of the benefits of the leasing program should be the improvement and/or establishment of transportation, communication and related facilities

F. The leasing program must be stable and predictable for the benefit of the state and industry.

G. The system should attempt to maximize ultimate oil and gas recovery consistant with sound economic practices and increase State employment.

II. POLITICAL: The leasing program should result in improved political harmony between local communities, state and federal government.

A. The leasing program should be compatible with development plans prepared by community, federal and other management groups such as native corporations and beneficial special interest associations.

B. Industrial resources needed for development in Alaska and distribution of the products should be planned to minimize adverse impact on other states or regions.

III. SOCIAL: Leasing should serve to improve the social well-being of Alaskan citizens.

A. The leasing policy should consider the effect a particular resource development would have upon the desired lifestyle of the majority of Alaskan people as well as upon local and statewide historical and cultural values.

B. A demographic study to minimize or determine cost effectiveness of the negative effects of resource development should be made a part of the leasing study.

C. The leasing program should encourage such social benefits as cultural and recreational activities; and improved medical, communication, transportation facilities, and general life style.

CRITERIA FOR EVALUATION OF LEASING METHODS

1. Encourage active exploration and development.
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16. Minimize State control over industry
17. State to maintain right to take royalty oil and gas in kind.
18. Effeciency of administration and operation.
19. Criteria for selection of successful bidders.

IV. ENVIRONMENTAL: Leasing and development should be conducted with minimal environmental damage and should occur only where benefits exceeds losses.

A. The leasing program must minimize the adverse environmental effects on subsistence and recreational hunting and fishing, water and air pollution, and on asthetic values.

B. Industry is to be encouraged to use methods and technology to minimize environmental problems and reduce need for scarce or limited resources such as water and gravel.

C. Hydrocarbon development when possible should utilize those renewable resources which are available so as to conserve and delay the exhaustion of non-replaceable resources.

V. RESOURCE MANAGEMENT: Alaska's resources should be developed only if there is a need for the resource and only if the state receives true value in return.

A. Lease planning should consider the timing and maximum efficient use of associated renewable and nonrenewable resources. (e.g. fresh water and gravel on the North Slope, excess hydroelectric power, etc.)

B. The Alaska Leasing System must be consistant with national and State goals in the area of energy conservation and development of alternate energy resources.

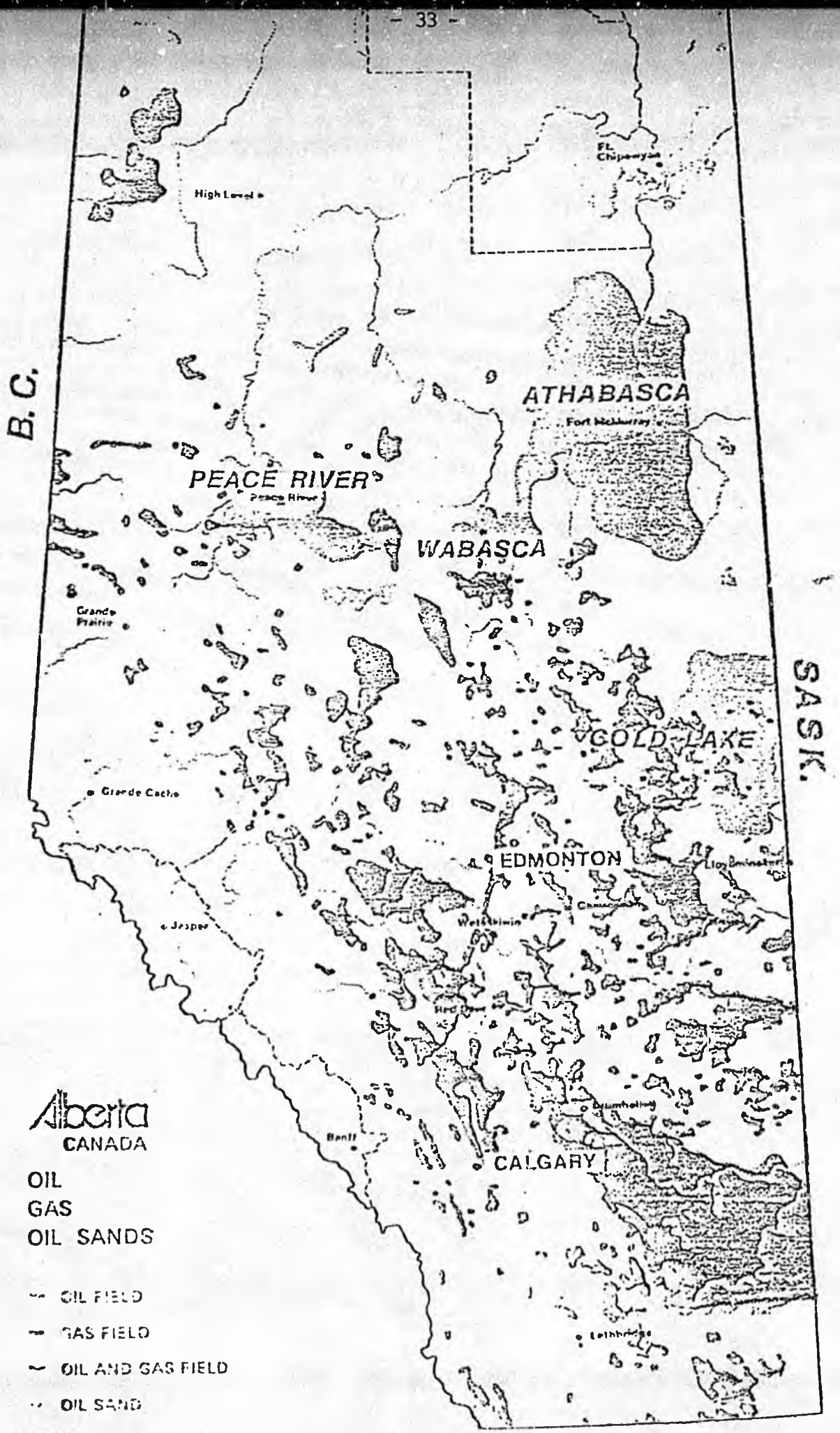

Fig 1

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GOVERNMENT INCENTIVES TO EXPLORATION

FIGURE 1

Alberta's oil and gas resources extend over most of the province and constitute a major source of energy. To expedite the location of such resources, the Government of Alberta on July 28, 1972, approved the Natural Resource Revenue Plan. A main feature of this plan was an increase in annual revenues to the Government of about 70 million dollars commencing in 1973. The Alberta government felt this to be a fair and reasonable additional return to the citizens of Alberta for their ownership of a depleting and non-renewable resource. This dollar figure has increased since the initiation of the program due to the escalating price of crude oil.

To offset this increase in revenues from industry and to stimulate increased exploratory activity in Alberta, the Government implemented the Exploratory Drilling Incentive System. The program has undergone several modifications since it was introduced, but essentially consists of a monetary credit for an exploratory well drilled for oil or gas. The credit may be applied against taxes payable under The Freehold Mineral Taxation Act,

.....2

royalties, rentals, fees and bonuses on petroleum and natural gas Crown minerals rights. A producing incentive exploratory well may also qualify for royalty or mineral taxation exemptions.

The Exploratory Drilling Incentive System is administered jointly by the Alberta Department of Energy and Natural Resources and the Alberta Energy Resources Conservation Board. Determination of qualifying footage upon completion or abandonment of the incentive exploratory well is made by the Board. Determination of the credit to be established is made by the Department.

Due to the close relationship between geophysical and drilling activity, it is found desirable to provide incentives for geophysical exploration. It is considered vital to maintain a high level of geophysical work to ensure the continuity of the search for new oil or gas reserves.

Therefore, the Alberta Government, in taking a second step toward maintaining the necessary level of petroleum activity in the province, implemented on January 1, 1975, the Geophysical Incentive Program.

The credit for a geophysical incentive program is determined from a

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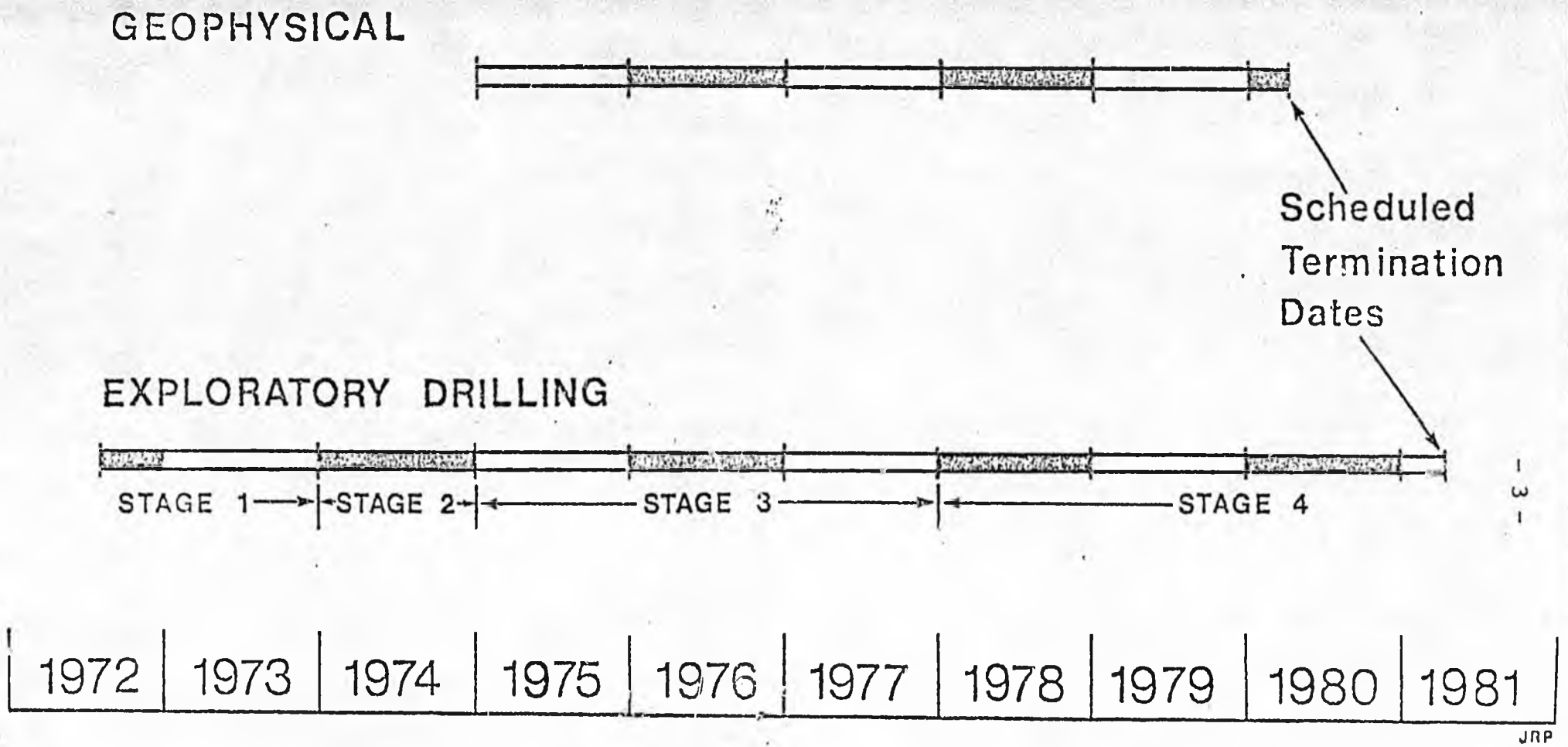

DURATION OF INCENTIVE PROGRAMS

A60 546764

Source: ERCB

FIGURE 2

formula based on the number of miles of subsurface coverage recorded and the geographical area in which the survey was conducted. The incentive credits maybe applied against revenues owing to the Crown, for bonuses on petroleum and natural gas, Crown mineral rights, fees, rentals, royalties and freehold mineral taxes.

FIGURE 2

The Exploratory Drilling Incentive System was implemented on August 1, 1972, and was scheduled to be in existence for a period of five years terminating on December 31, 1977.

After an extensive government task force study, an amendment was introduced extending the Exploratory Drilling Incentive System to March 31, 1981.

At the time the Drilling Incentive program was implemented, it was estimated that only 50% of ultimate oil and gas reserves in Alberta had been discovered. Exploratory activity had declined and many companies with substantial land holdings were apparently shifting their exploratory activity to the frontier areas. For this reason, the Government tried to "tie-in" the Natural Resource Revenue Plan with the Exploratory Drilling Incentive System to benefit those

.....4

operators who undertook exploration in Alberta.

Between 1964 and 1969, the number of new field wildcat wells drilled in Alberta maintained fairly high levels - about 500 wells per year. In 1971, this number dropped to about 300 wells per year.

A further indication of both the decline and shift in exploratory activity was indicated by seismic crew activity in Canada. Seismic activity dropped from a peak of 972 crew months in 1967 to a 1970 low of 724 crew months.

The shift of activity away from Alberta during 1970 and 1971 was of greater significance. From 1961 to 1967, close to 70% of Canada's geophysical activity occurred in Alberta. In 1968 and 1969, Alberta accounted for just over 60% of the total. In 1970, more Canadian seismic activity occurred outside Alberta than in Alberta.

There was a substantial drop in bonuses from the sale of Crown mineral rights. During the period 1965 to 1969, these revenues averaged $100 million per year. In 1970 and 1971, these revenues dropped to about $25 million per year.

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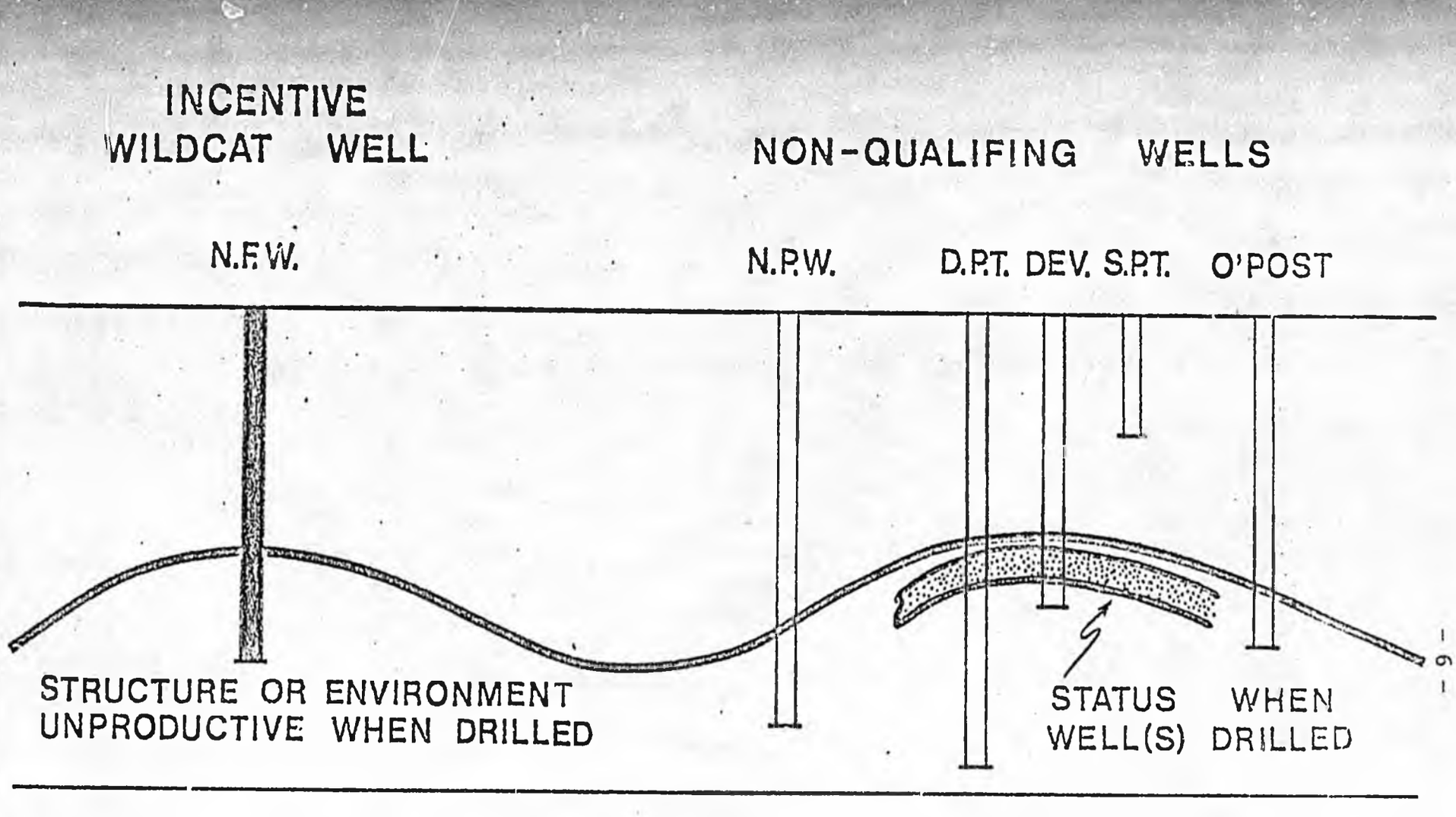

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INCENTIVE WILDCAT WELL

AUGUST 1, 1972 TO DECEMBER 31, 1973

FIGURE 3

AGO 546197

The Exploratory Drilling Incentive System, within the Natural Resource Revenue Plan, was designed to stimulate the discovery of crude oil reserves and shift exploratory activity back to the province by providing substantial rewards to the wildcat entrepreneur.

The objective of the Exploratory Drilling Incentive System was to encourage high risk exploratory drilling and increase the drilling activity in remote locations at a time when this type of drilling was declining in the province. The tendency in Alberta was to explore in known and reasonably accessible regions rather than stepping out in the search for new fields.

The Exploratory Drilling Incentive System has had several amendments since its original inception.

FIGURE 3

From August 1, 1972 to December 31, 1973, the program related to wells that were classified by the Energy Resources Conservation Board as "New Field Wildcats" under the "Lahee" classification system. A formula was derived which enabled the establishment of a credit equalling approximately 30% of the cost

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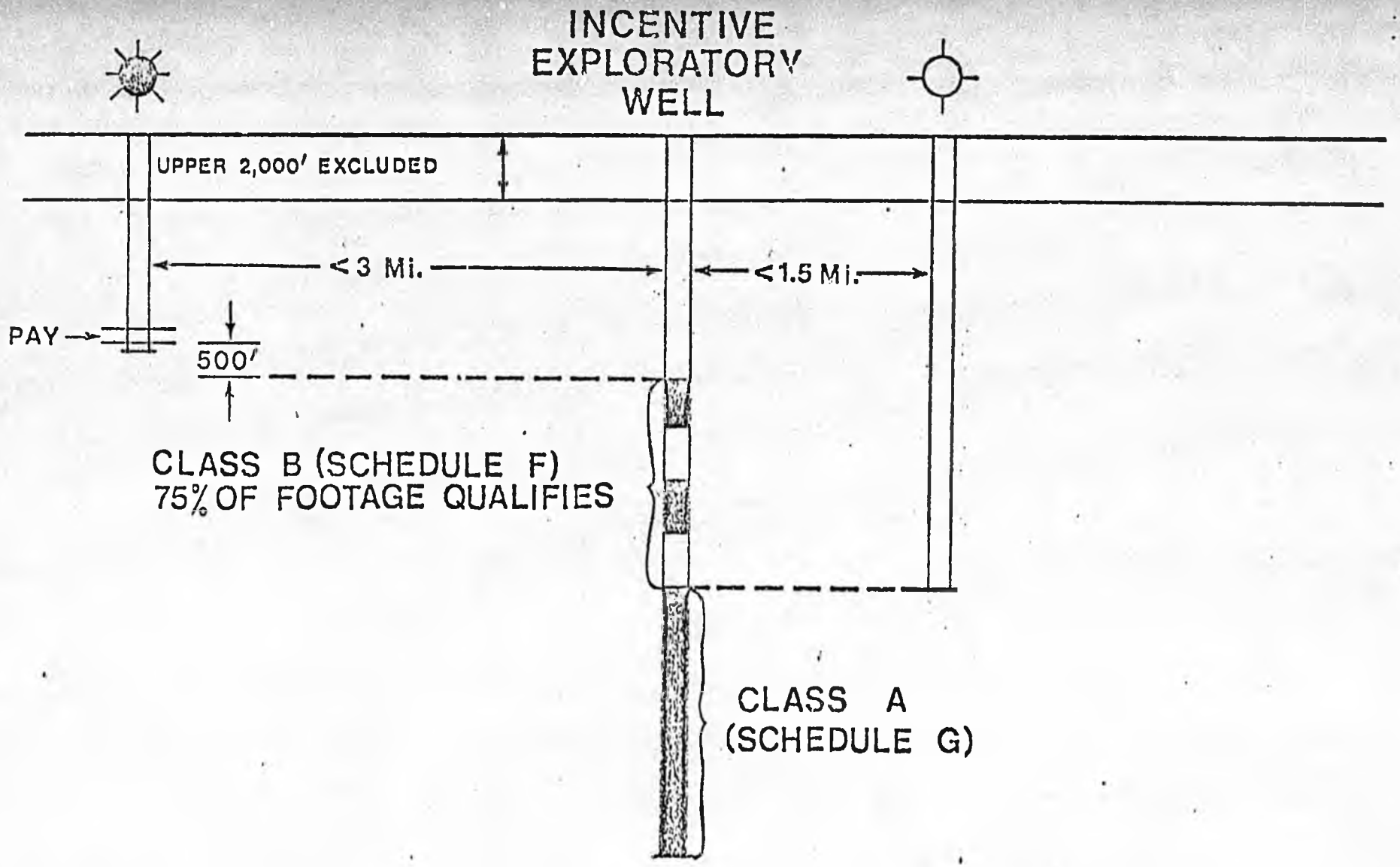

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TWO CLASSES OF QUALIFYING FOOTAGE

(EXCLUDING UPPER 2,000 FEET)

FIGURE 4

Energy Resources Conservation Board

AGO 546769

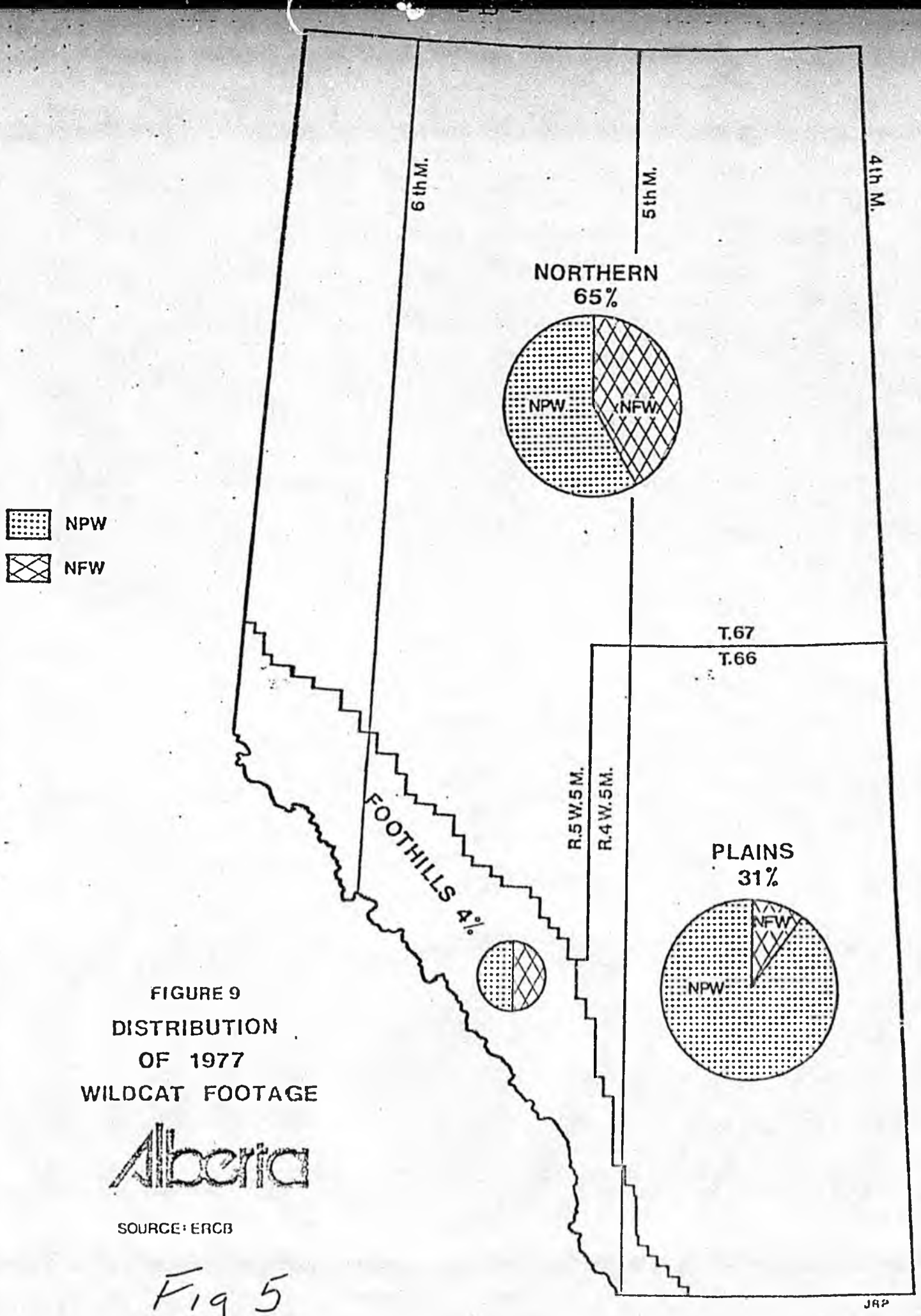

FIGURE 9

DISTRIBUTION
OF 1977
WILDCAT FOOTAGE

Alberta

SOURCE: ERCB

Fig 5

AGO 546770

of the well. The total footage of a new field wildcat qualified for incentive credit. A five-year crude oil royalty "holiday" was granted.

During this 17 month period, $16 million in drilling credits were earned by industry.

FIGURE 4

From January 1, 1974 to December 31, 1974 the program was expanded to include, along with the new field wildcats, about one-quarter of the more remote new pool wildcats and deeper pool footage. Figure 4 shows the principles that were adopted on January 1, 1974. The footage shown in white is known as Class "A" footage and it earned as credits, approximately 40% of the total recognized cost of the well. The Class "B" footage is applicable where a dry hole is within one and one half miles of the well. Class "B" footage earned about 30% support.

FIGURE 5

During this period, drilling costs were increased and a cost distinction was made for wells located in the Foothills, Northern and Plains regions.

.....7

These areas, as modified on February 26, 1975, are shown on Figure 5. Added features included a two-year natural gas royalty "holiday" and authorization for credits to be used to defray bonus payments tendered for Crown oil and gas mineral rights. The credits could continue to be used to offset payments due for royalty, rental or freehold mineral tax.

On January 15, 1974, the Alberta Petroleum Marketing Commission was created. Prior to its creation incentive credits established could be used by the holder to satisfy oil Crown royalty payments. This was discontinued on January 15, 1974 by the Commission.

During this 12 month period, the credits amounted to roughly $20 million and involved almost 600 wells.

From January 1, 1975 to December 31, 1977, the Government increased the benefits of the Exploratory Drilling Incentive System by expanding recognized well costs and by increasing the credit support for Class "A" and "B" footage to approximately 50% and 37½% respectively.

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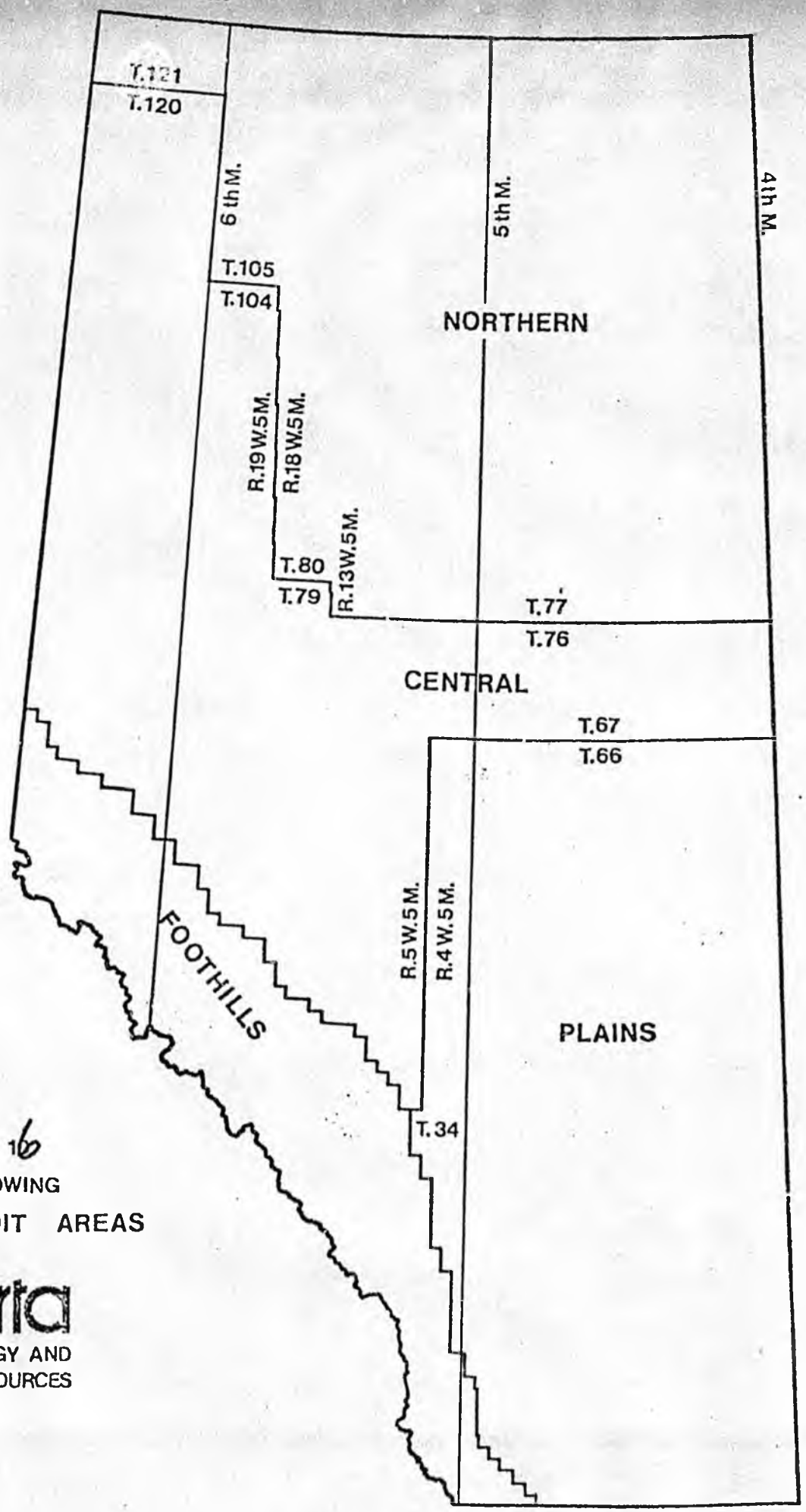


FIGURE 16

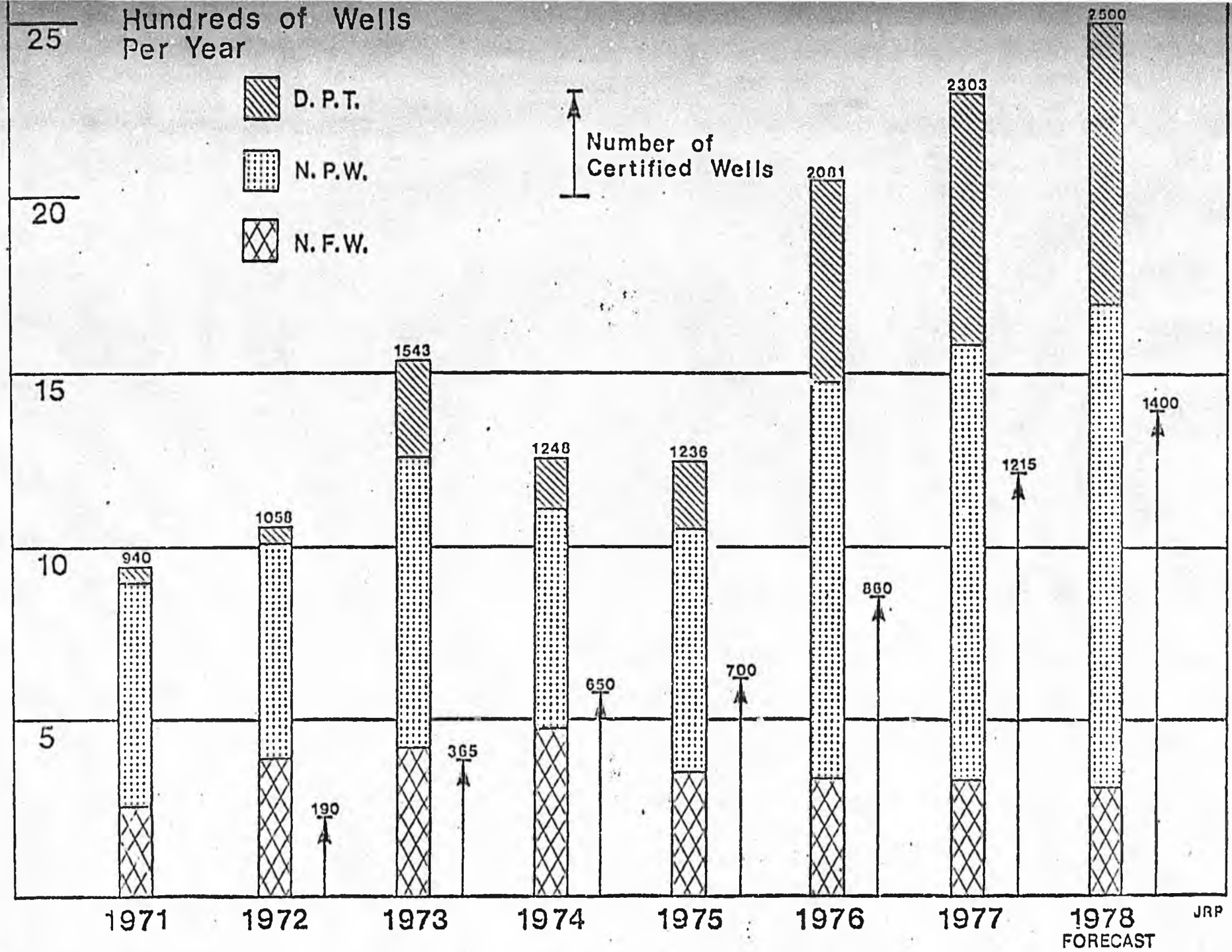
MAP SHOWING

DRILLING CREDIT AREAS

Alberta

ENERGY AND
NATURAL RESOURCES

AGO 546773



EXPLORATORY AND CERTIFIED WELLS, ALBERTA

Source: ERCB

FIGURE 6

AGD 546774

FIGURE 6

Commencing January 1, 1978 the drilling credit areas have been redefined. The Plains and Foothills Areas are unchanged, but the former Northern Area was divided into a Central and Northern Area. The boundary between the two new areas was defined on the bais on well costs, topographic and access considerations. The amendments also include the upper 2,000 feet of sediments from receiving any incentive credit and increase the credits for qualifying wells deeper than 3,500 feet.

For wells greater than 5,000 feet in depth, the incentive is increased by 25% to 45% depending on the location of the well.

FIGURE 7

There has been a considerable increase in the number of exploratory wells drilled in Alberta since inception of the incentive program in 1972. There were 1,058 exploratory wells drilled in 1972 compared with 2,303 drilled in 1977. The number of wells qualifying for incentive footage in 1972 was 190 compared to 1,215 in 1977. An increase is expected in 1978. The number of new pool

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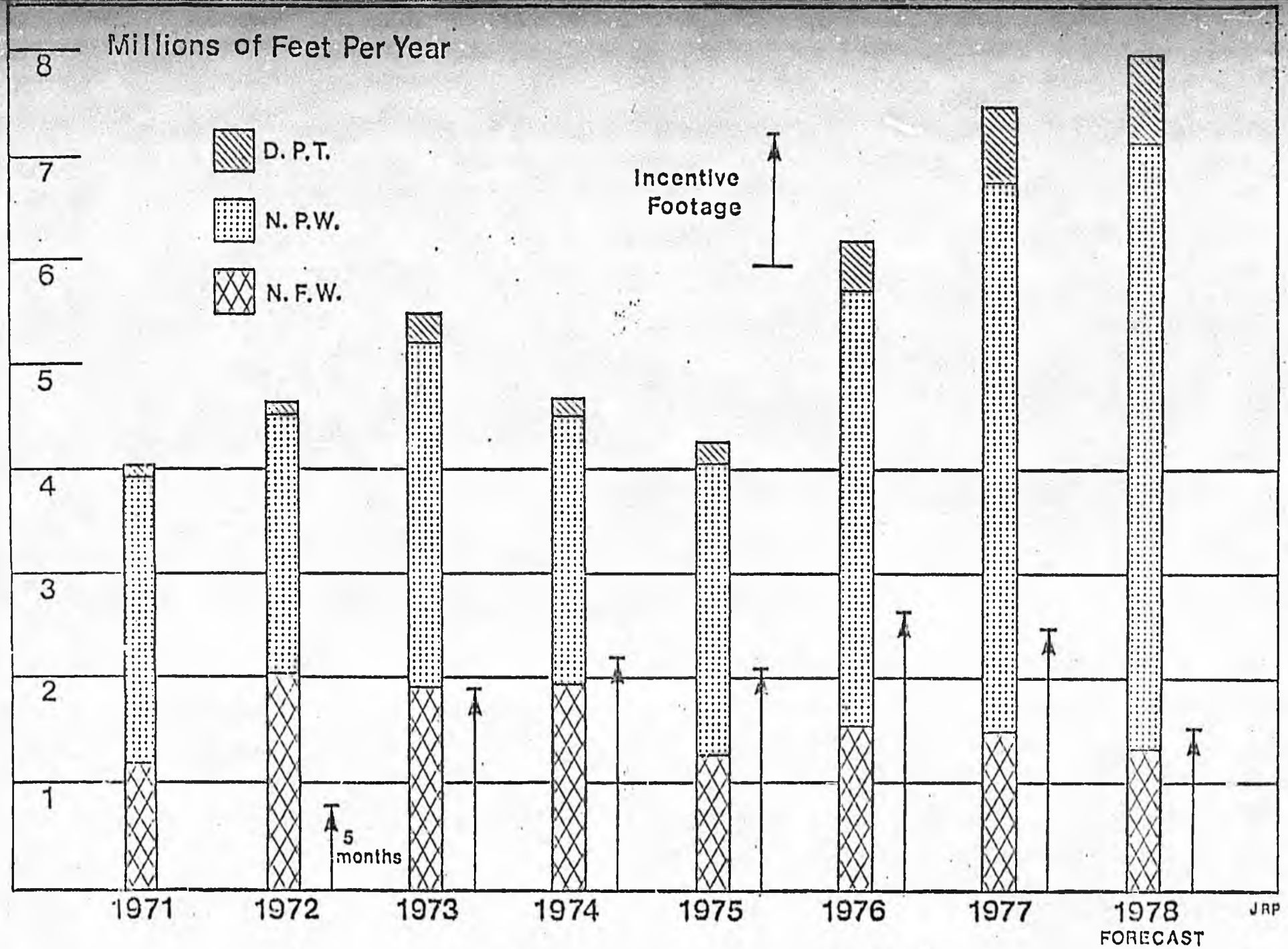
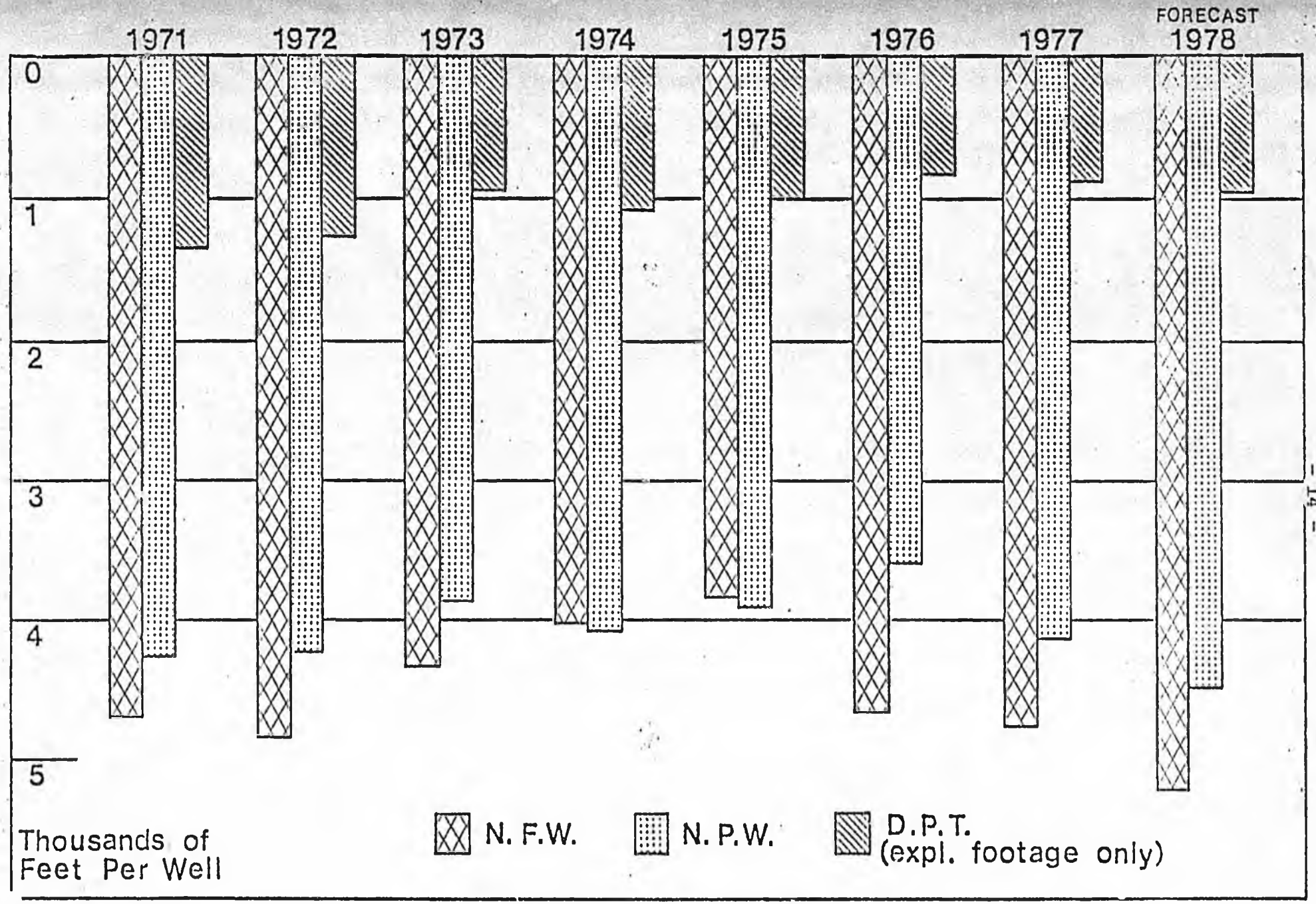


EXPLORATORY AND INCENTIVE FOOTAGE

Source: E&NR, ERCB

FIGURE 8

AGD 546776



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AVERAGE WELL DEPTH

Source: ERCB

FIGURE 9

AGO 546777

wildcats and deeper pool tests have increased since the program began, but the number of new field wildcats have declined.

FIGURE 8

The amount of exploratory footage drilled in 1977 exceeded all previous years. Footage for new field wildcats remained similar to 1976 at 1½ million feet, new pool wildcats increased to 5¼ million from 4¼ million feet in 1976, and deeper pool tests increased to 3/4 million feet from 1/2 million feet. The amount of footage certified under the program has increased since inception, equally divided between New Pool Wildcats and New Field Wildcats. In 1977 a total of 2½ million feet were certified to receive incentive footage. This figure shows an increase of 32% from the first full year the program was in operation.

Normally, 100% of the new field wildcat footage, 20% of the new pool wildcat footage, and 80% of the deeper pool test footage qualified for incentive benefits.

FIGURE 9

The average well depths per year has shown a gradual decrease from the period 1971 to 1976, but a slight upswing occurred in 1977. New field wildcats

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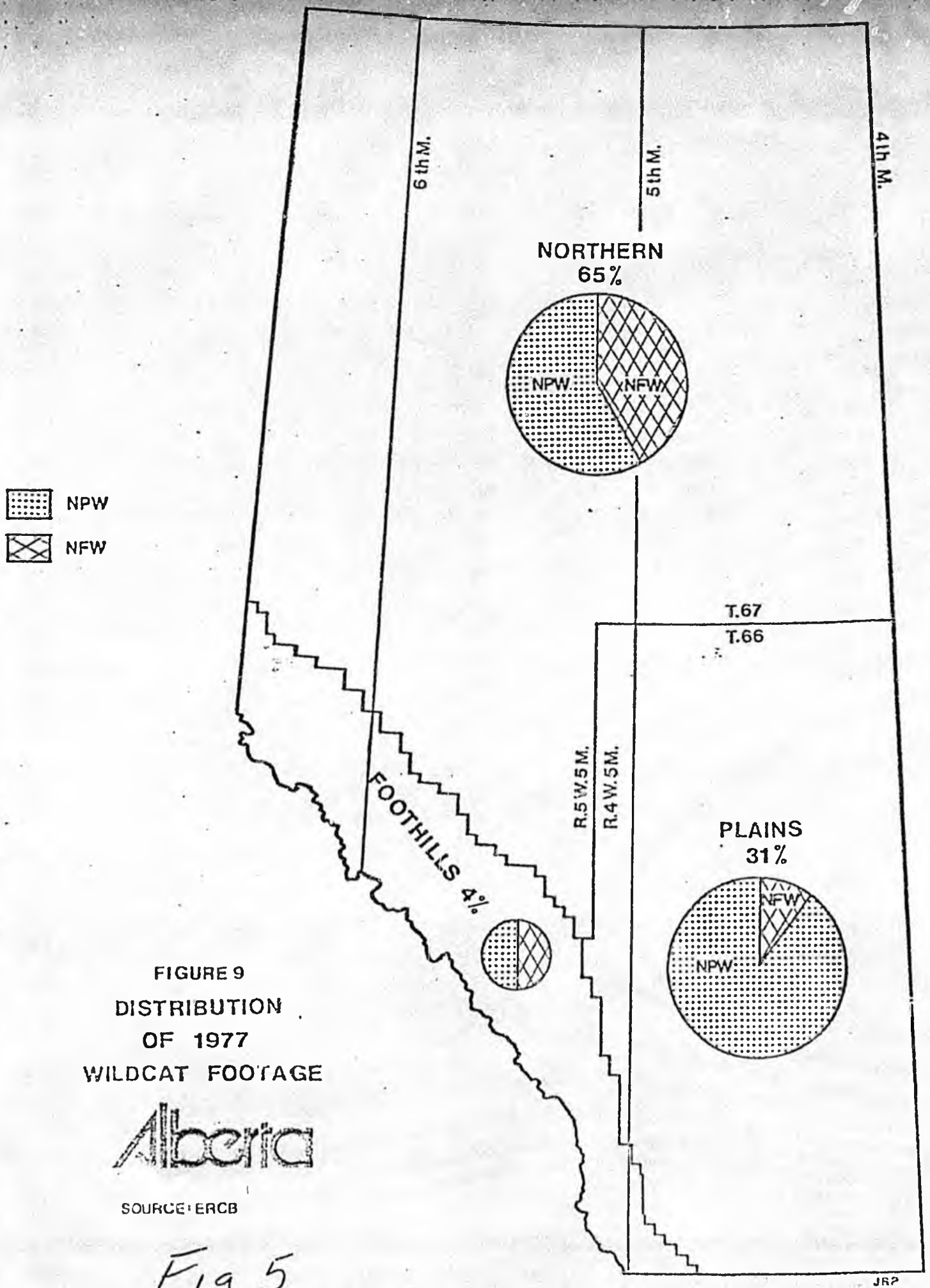

FIGURE 9
DISTRIBUTION
OF 1977
WILDCAT FOOTAGE

Alberta

SOURCE: ERCB

Fig 5

AGO 546779

averaged 4,800 feet in 1977, new pool wildcats averaged 4,100 feet, and deeper pool tests averaged 1,000 feet.

FIGURE 5

The majority of the exploratory footage drilled in 1977 was in the Northern Areas. The total footage drilled here was 65% of the total exploratory footage. Of this 65%, new pool wildcats constituted 65% and new field wildcats 36%.

Exploratory drilling in the Plains Area accounted for 31% of the total, with new pool wildcats forming 90% of the figure, and new field wildcats about 10%. Drilling footage in the Foothills Area constituted 4% of the total. Of this 4%, half were classed as new pool wildcats and half as new field wildcats. Deeper pool tests formed less than 10% of the total exploratory footage for the province in 1977.

These figures indicate a shift of emphasis since 1976 from the Plains Area to the more remote Northern Area. In both areas, the total footage of new field wildcats has taken a considerable drop from the 1976 figures. New field wildcat footage in the Foothills Area has increased.

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Geophysical Incentive Program

On January 1, 1975, the Alberta Government implemented the Geophysical Incentive Program to stimulate the level of seismic exploratory activty in Alberta. The program was scheduled to terminate on March 31, 1978. This program has been extended to March 31, 1980 through a recent amendment to the Regulations. The Government recognizes the positive effects improved geophysical techniques have on drilling success rates and feels geophysical work must be encouraged to search for the less obvious hydrocarbon accumulations.

The Geophysical Incentive Program is administered by the Department of Energy and Natural Resources.

Geophysical activities, primarily in the form of reflection surveys, provide the initial technical basis on which many exploration "plays" for new oil and gas deposits are planned. Such surveys have performed a key role in finding many of the prolific reef accumulations of hydrocarbons in the Alberta plains. Geophysical data is essential to interpreting the complex rock structures of the foothills which are expected to contain major new deposits of hydrocarbons.

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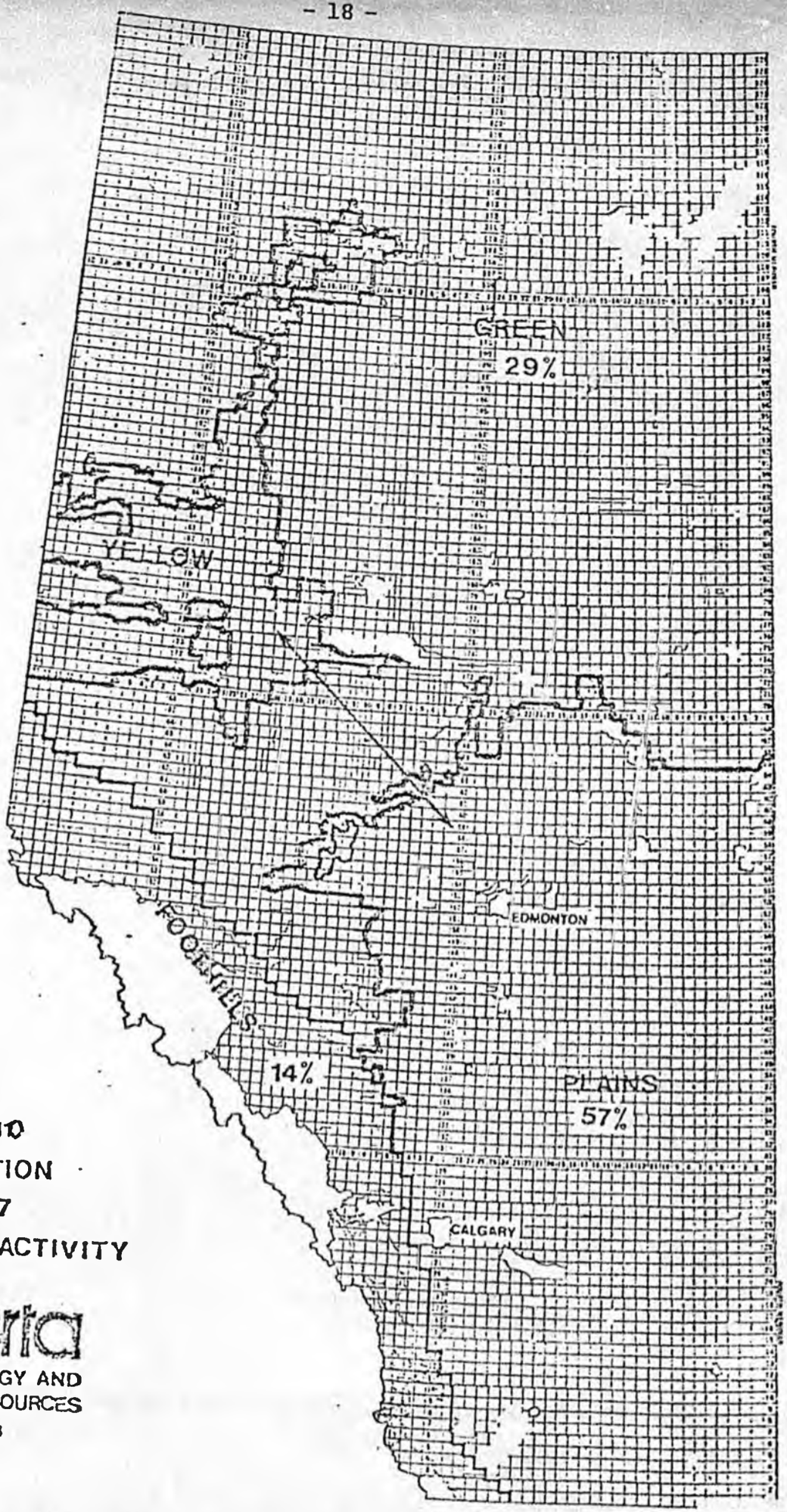

FIGURE 10
DISTRIBUTION
OF 1977
GEOPHYSICAL ACTIVITY

Alberta
ENERGY AND
NATURAL RESOURCES
JUNE, 1978

AGD 546782

The main features of the Geophysical Incentive Program are:

(a) The incentive will apply to seismic surveys certified after January 1, 1975.

(b) Incentive credits are established in the name of the licensee however, these credits may be allocated to partners sharing in the cost of the seismic program.

FIGURE 10

The incentive credits are determined from a formula based on the number of miles of subsurface coverage and the area in which the survey is conducted. Surveys carried out in difficult terrain in the Foothills and Green Areas receive a larger incentive credit than surveys carried out in the Plains region.

The determination of credit for a certified geophysical incentive program was calculated on the number of miles of minimum (400%) subsurface coverage by the following equation:

Credit (dollars) = 500 K M

Where K is the incentive factor for different geographic areas in Alberta where the program was conduted M is the number of miles of minimum subsurface

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coverage.

The incentive credits may be applied in the same manner as the exploratory drilling incentive credits. A licensee may apply for the monetary equivalent of the credit where he is not the owner of a mineral agreement or a freehold mineral right.

Any geophysical information and data obtained pursuant to a geophysical incentive program must be made available by the licensee to any person for a period of not less than five years

(a) three years after the date the program was certified.

(b) at a cost to that person of 60% of the credit determined for each mile of minimum subsurface coverage.

Amendments to the Geophysical Incentive Program effective April 1, 1978, reducing credit by 50% will result in a phase down of the program.

Credit (dollars) = 250 K M

The minimum subsurface requirements have been increased requiring 600% in the white and yellow area and 1200% in Foothills and Northern Areas.

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The total number of miles of subsurface coverage in 1977 that qualified for incentive credit was 28,000 miles. This figure reflects an increase of

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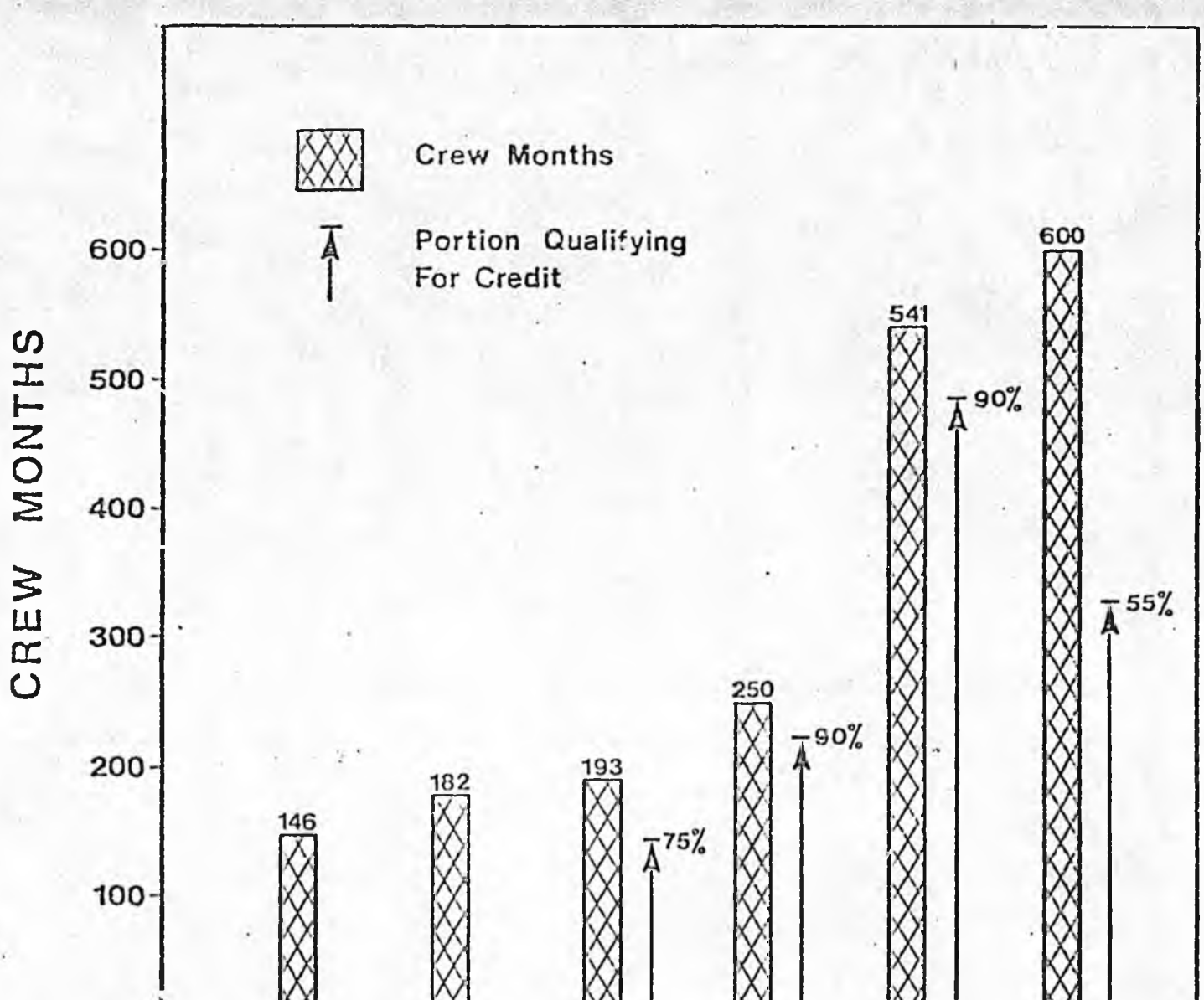

SEISMIC ACTIVITY & PORTION QUALIFYING FOR INCENTIVE CREDIT

FIGURE 12

AGO 546785

82% over the 1976 figure of 15,400 miles. Of this total, 16,105 miles was in the Yellow-Plains Area, 7,994 miles was in the Green Area and 3,921 miles was in the Foothills Area. These figures show an increase in activity in the Yellow-Plains Area, a decrease in the Foothills Area and unchanged activity in the Green Area.

FIGURE 12

This figure shows the crew activity from 1973 to 1978. In 1977 there were 541 crew months of activity, compared with 193 crew months in 1975 the first year the incentive program was in operation. The forecast is that the number of crew months will continue to increase.

In 1976 and 1977, 90% of the programs conducted in the province were certified under the Geophysical Incentive Program Regulations compared with 75% in 1975. The amendments effective April 1, 1978 are expected to reduce the number of programs submitted to the Department for credit. It is estimated that 55% of the programs shot in Alberta will receive incentive credits.

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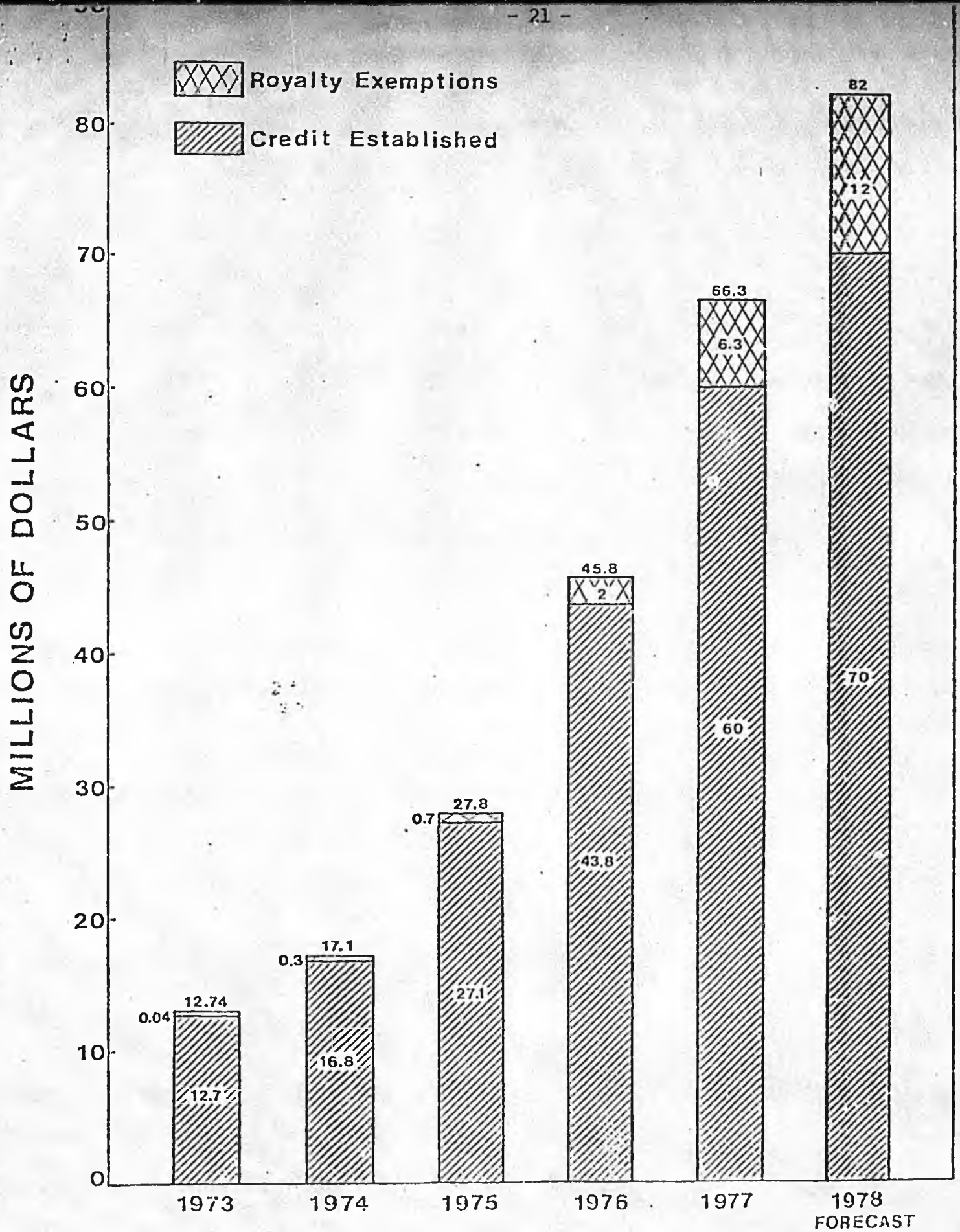

INCENTIVE COSTS ASSOCIATED WITH DRILLING ACTIVITY

AGO 546787

FIGURE 13

Energy & Natural Resources, June 1978

FIGURE 13

The Exploratory Drilling Incentive System and the Geophysical Incentive Program were initially devised to reduce the burden placed on industry when the Natural Resource Revenue Plan was initiated. The incentive programs were meant to reduce the increased royalties owed on Crown oil and gas mineral rights by financing a portion of the exploration costs. These incentive costs have escalated considerably in the years since the inception of the programs from a few million dollars to tens of millions of dollars per year.

The total costs to the Alberta Government for credit, royalty exemptions, cash refunds and administration of the programs amounted to over $90 million in 1977.

The cost for the Exploratory Drilling Incentive System in 1977 was 66.3 million dollars. This figure shows an increase over the 1973 costs of 12.7 million dollars. The credit established in 1978 is forecast to be $82 million. During the same period royalty exemptions have increased from $0.04 million to $6.3 million. It is forecast that royalty exemptions will reach $12 million in 1978.

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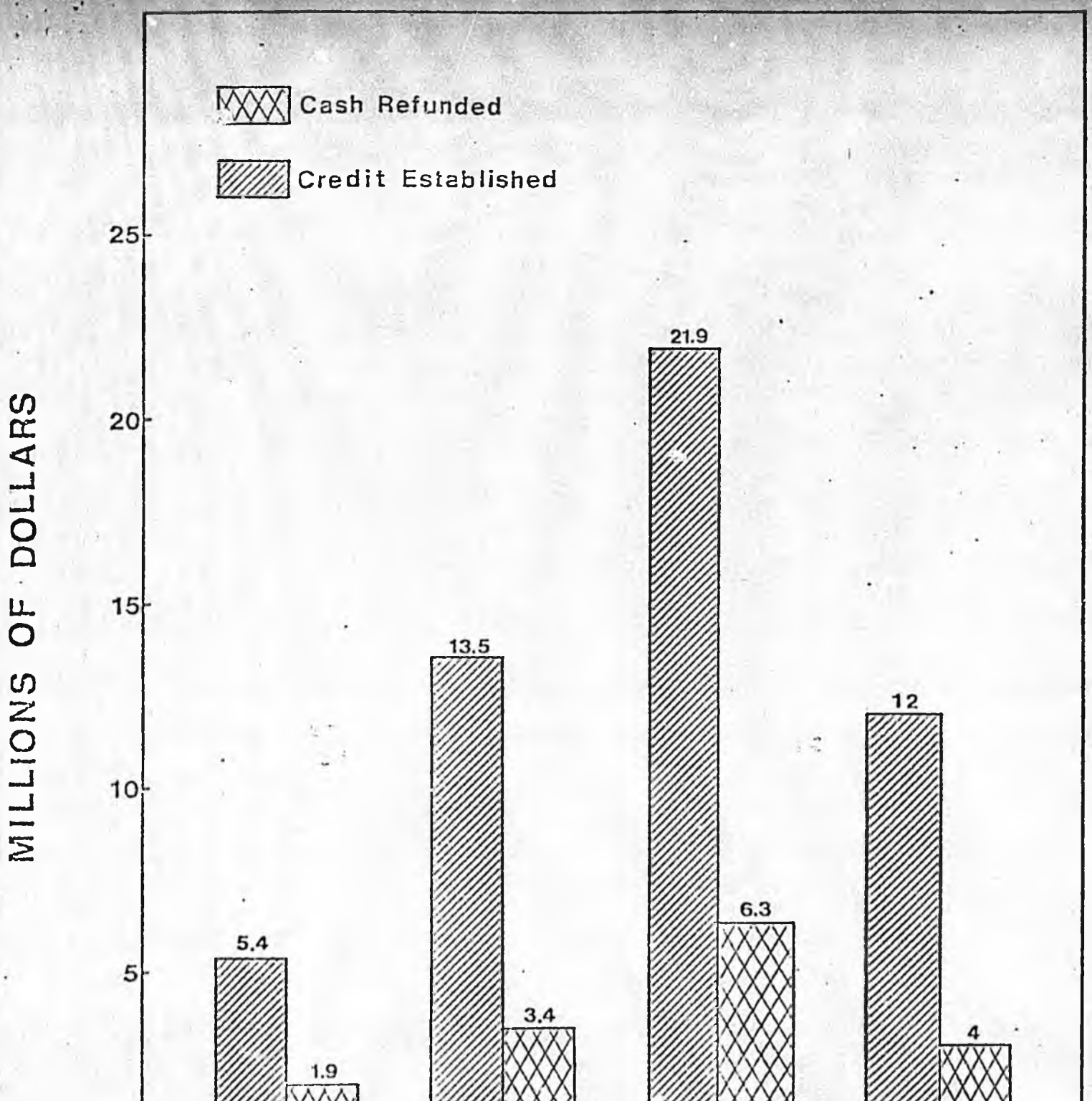
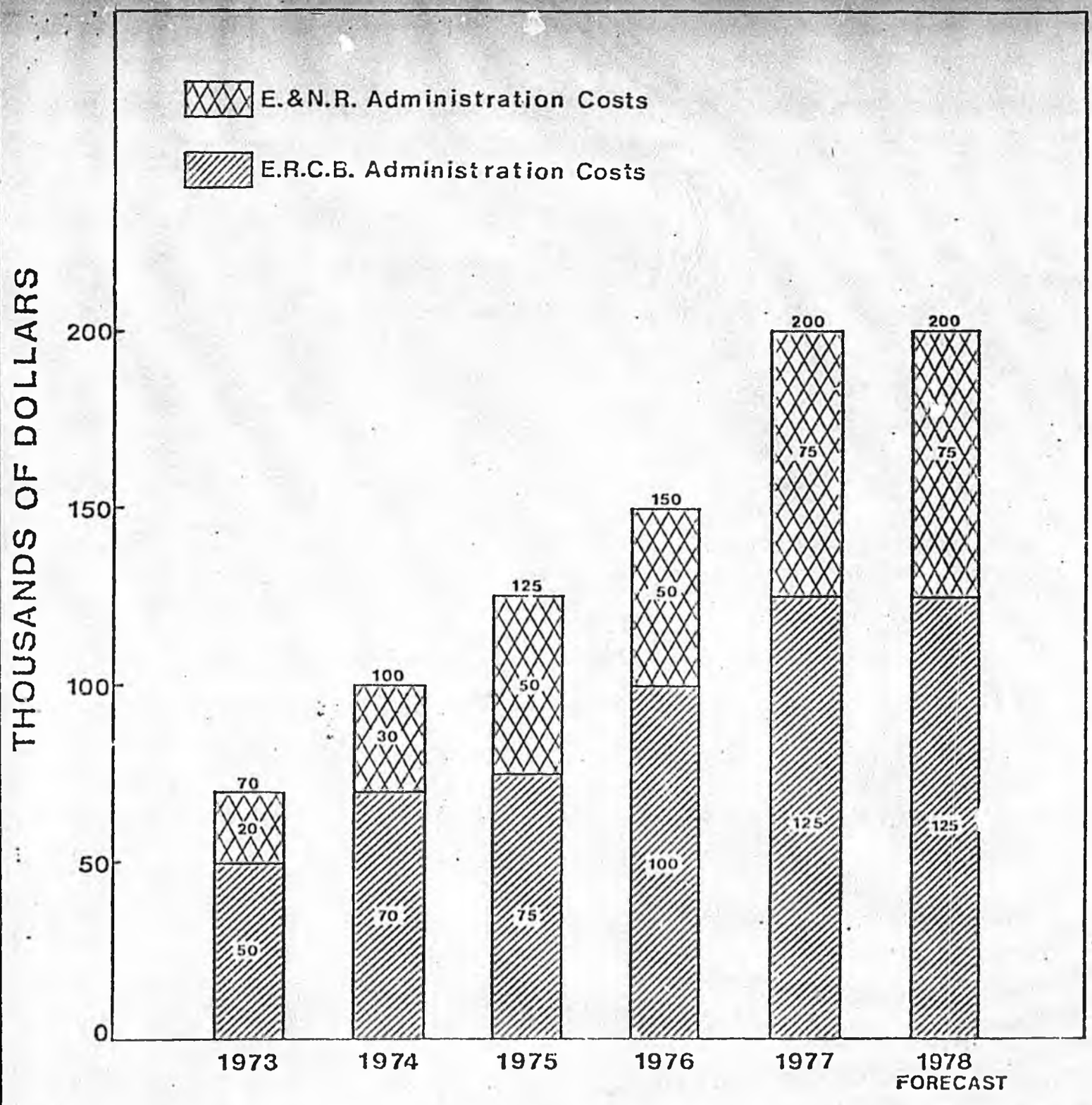


INCENTIVE COST ASSOCIATED WITH SEISMIC ACTIVITY AND CASH REFUNDED

AGO 546789

FIGURE 14

Energy & Natural Resources, June 1978

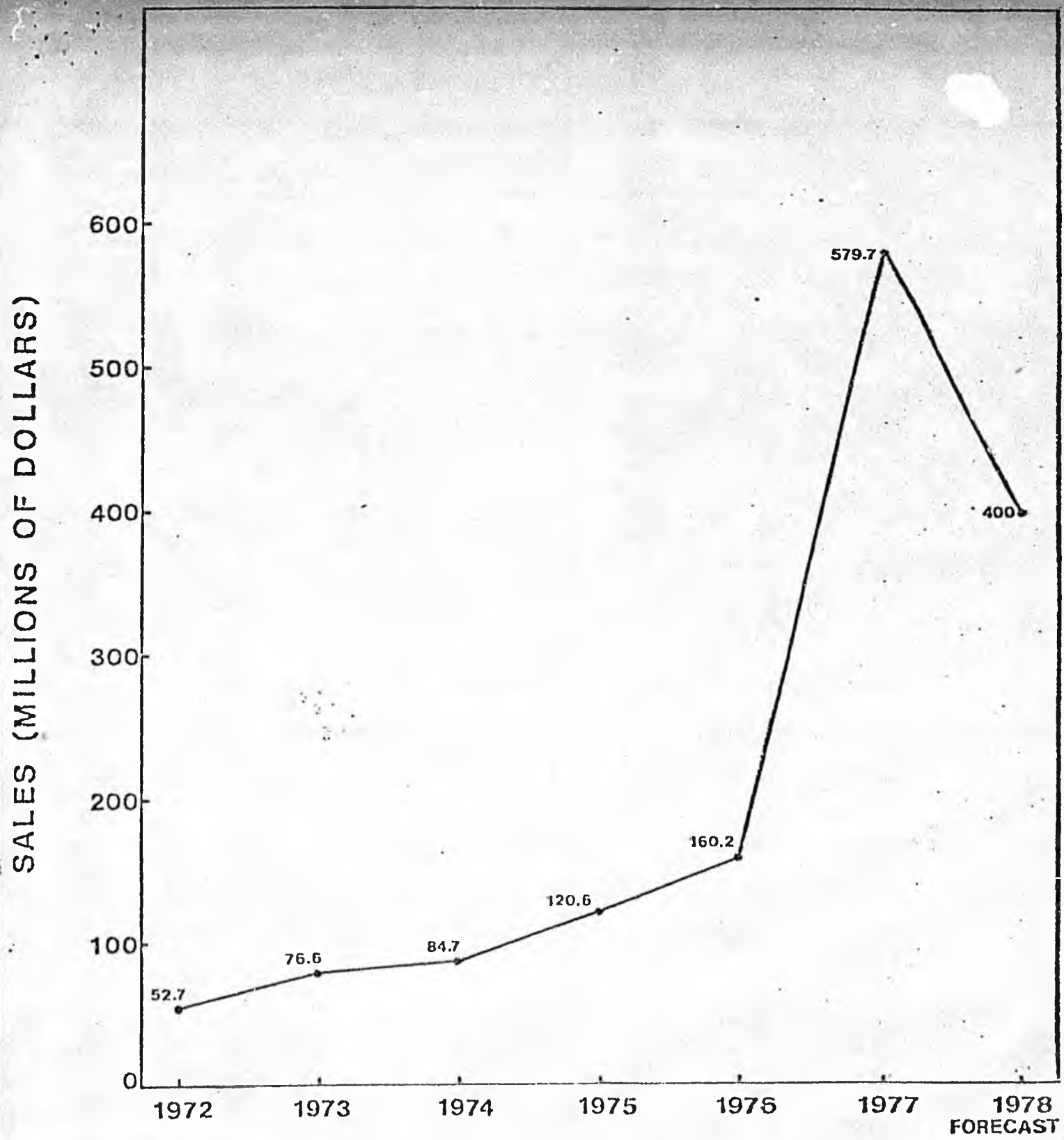


GOVERNMENT ADMINISTRATION COSTS ASSOCIATED WITH THE DRILLING AND GEOPHYSICAL INCENTIVE PROGRAMS

AGO 546790

FIGURE 15

Energy & Natural Resources, June 1978



SALES OF CROWN OIL AND GAS MINERAL RIGHTS

FIGURE 16

Energy & Natural Resources, June 1978

AGO 546791

FIGURE 14

$21.9 million was established as credit in 1977 for the Geophysical Incentive Program. This is an increase of more than 300% over the credit established in the first year the of the program. It is estimated that $12 million will be established as credit in 1978.

The cash refunded has increased from $1.9 million in 1975 to $6.3 million in 1977. We believed that in 1978 cash refunds will total $4 million.

FIGURE 15

In 1973, total administration costs were $70,000 roughly $50,000 for the ERCB and $20,000 for the Department. In 1977, these figures had risen to about $200,000 - $125,000 for the ERCB and $75,000 for the Department. It is expected that these figures will remain constant in 1978.

FIGURE 16

The revenue generated through sales of Crown oil and gas mineral rights has tripled from 1972 to 1976. During 1977 sales increased from $160 million to $579.7 million. The forecast for 1978 is 400 million.

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We recognize three factors which may exist when exploration is supported by an incentive program.

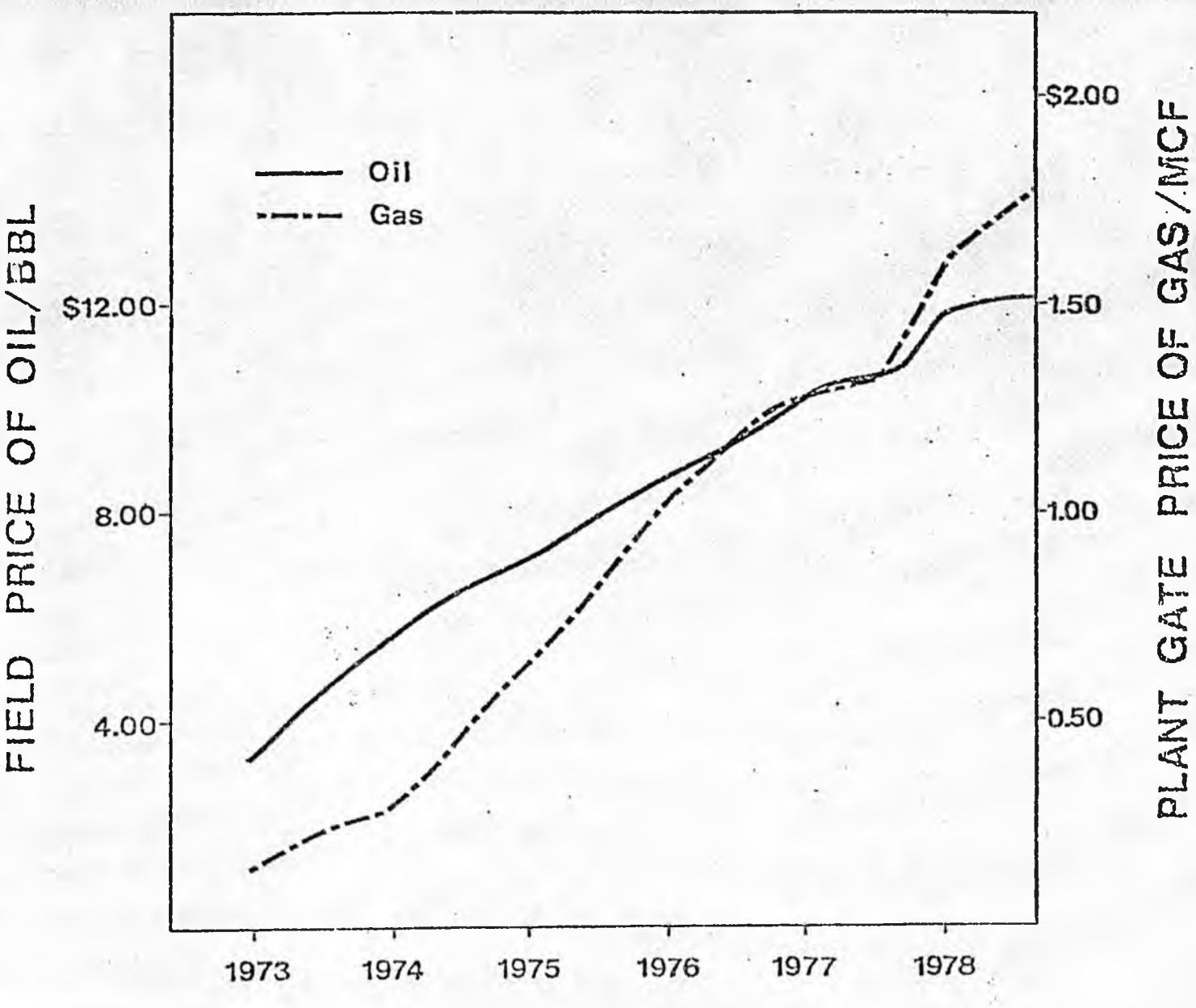
(a) The activity may have occurred even if it had not been supported by an incentive program.

(b) The exploration activity was advanced to take advantage of the programs before their scheduled termination dates.

(c) The activity may not be performed in the forseeable future without incentive support.

The second and third considerations appear in the present situation to be applicable. The programs have been directly responsible for the discovery of large additional reserves and have encouraged high risk deep drilling in the foothills region.

Although the definite effects of the programs on exploration activity cannot be quantitatively assessed, the general trend has shown a considerable increase in exploration activity since inception of the programs.



PRICE OF CRUDE OIL & NATURAL GAS

1973 - 1978

FIGURE 17

Energy & Natural Resources, June 1978

AGO 546794

STATE'S RIGHT TO PURCHASE OIL & GAS IN HB 854

The State has the right in HB 854(v) to purchase not more than 16 2/3% of the oil and up to 100% of the gas at the regulated price or fair market value at the point of sale. The right to purchase is needed to protect the "in kind" taking of its royalty by Alaska, a sale of said royalty, and a subsequent reduction of the royalty in the later stages of production (d).

New Mexico, 1973, enacted a law which gives it the right to reserve an option to purchase at any time at the prevailing market price any or all minerals, including oil and gas, produced from State land. Thus, New Mexico may purchase 100% of the oil and gas found on State land.

Whereas the New Mexico Commissioner is authorized to waive the reservation option with respect to any specific mineral, he may not do so for oil or gas.

The Act, Chapter 26 of the Session Laws of 1973, has never been exercised by New Mexico; thus no opportunity has been given to test its constitutionality.

If Alaska were to reserve an option to purchase up to the amount of the royalty, fixed or bid, an equivalent net profit share would have to be determined.

TESTIMONY ON H.B. 854

Mr. Chairman, members of the committee, my name is John Carson, and I appreciate the opportunity to comment on House Bill 854.

I've been a petroleum geologist for 22 years, and I'm presently Division Geologist in Alaska for Chevron U.S.A., the principal domestic oil and gas subsidiary of the Standard Oil Company of California. I've lived and worked in this state, and since 1965, I've been actively involved in all state lease sales and the two OCS sales in the Gulf of Alaska and the Lower Cook Inlet.

Chevron is aware of the amount of preliminary work done by the state administration and the Department of Natural Resources in researching and drafting this legislation.

We commend efforts in drafting legislation that proposes a five-year leasing program for Alaska. We believe the state should be encouraged in its effort to establish and maintain such a long-term program, with appropriate industry participation.

Members of the committee, the petroleum industry--as indicated by its response to your solicitations--clearly desires a realistic plan that can serve as the basis for an effective working relationship between the industry and the state.

Frankly, we believe the proposed legislation will inhibit or prevent orderly development of oil and gas resources in Alaska--to the detriment of the state government, its taxpayers and my own industry.

I will say candidly that this legislation is untenable from our point of view. If enacted into law, H.B. 854 would have a serious and far-reaching impact on my own company, and would give us serious cause to reconsider our exploration activities in the high-cost, high-risk frontier state lands of Alaska.

The situation we face today reminds me of a quote I heard the other day attributed to an executive of Walt Disney Productions, which recently announced that it was abondoning its latest recreation complex because of excessive and oppressive regulation.

The Walt Disney executive blamed the end of the project on, and I quote: "An irresponsible proliferation of delays, the never-ending requests for more irrelevant information and studies, and bureaucratic sidetracking and meanderings into unreasonable alternatives."

I realize this is the first of many hearings on this legislation, but H.B. 854, as now written, would be counter-productive. It actually would be a step backward at the very time our nation desperately needs an effective oil and gas exploration program.

Generally stated, we object to provisions covering: (1) the wide variety of bidding methods to be employed; (2) the Commissioner's access to all the lessee's data, including proprietary data; (3) the state's call on production; (4) short and restrictive lease term and conditions; (5) the need for the Commissioner to submit and defend his lease plan before the legislature; (6) the Commissioner's right to ban joint bidding by major companies; and (7) reduced acreage chargeability on state uplands.

Time does not permit me to discuss in detail each of the provisions, but I will attempt to outline our most significant objections:

First, the wide variety of bidding methods:

In advocating numerous bidding schemes--actually a shift from only cash bonus bidding, a system that has worked well--the administration hopes to maximize its financial return from state lands.

But Chevron believes a move away from the cash bonus method means the perilous abandonment of a proven concept that has brought stability to the state's leasing program. The bonus system would be replaced by an array of untested leasing methods, particularly in the frontier areas.

We believe this provision, if enacted, will transform Alaska into a trial-and-error laboratory in oil and gas leasing. It means replacing orderly development with uncertainty and the unknown. It's not a gamble Chevron feels is worth taking.

Before discussing each bidding system, all concerned parties should be aware that a move away from cash bonus bidding will result in three key developments:

First, it will shift a substantial part of the burden of risk from industry to the taxpayer.

Second, it will serve as a substantial deterrent to exploration and development, and

Third, it will cause the rapid and constant growth of state agencies to administer, evaluate and audit the leases and subsequent production. This places increasing demands on taxpayers to support this bureaucracy.

Chevron believes these are unacceptable consequences which would be intolerable to the taxpayers and leaders of this state.

As you know, cash bonus bidding provides that leases be awarded to the highest cash bonus bidder. This bonus is paid before the lessee can proceed with exploratory drilling on the lease.

The other bid methods provide for bid variables such as royalty, net profit, or work commitment. In these cases, the state receives nothing other than perhaps a small fixed bonus at the time of leasing. Other revenue is not forthcoming under the royalty and net profit schemes unless there is production. Simply stated: No production, no revenue.

In our opinion, cash bonus bidding is the only method that will strongly encourage the petroleum industry to lease and explore the state land.

We further believe that this method will result in the production of the most oil and gas and consequently will provide the most revenue, both to the state and the petroleum industry.

The other methods, employing biddable royalties and net profits, reduce the incentive to explore and produce. These alternatives, particularly in the case of biddable royalties, serve to shorten the economic life of the fields--resulting in less production and, therefore, less revenue.

Cash bonus bidding is particularly advantageous to the lessor in frontier areas of high risk. Most of Alaska's lands are in this category.

Now let's compare other proposed bidding methods with traditional cash bonus bidding. Because of time limitations, I can only touch briefly on these, but I am prepared to go into more detail if questions arise.

The royalty bidding method, although it allows oil and gas companies to acquire land with little cash, is a strong deterrent to early drilling. Very simply, it is easier and cheaper to wait on others to bear the risk and expense of exploratory drilling.

Having spent little capital to acquire the lease, an operator is tempted not to spend a dime to evaluate the lease, hoping an adjacent leaseholder may do it for him. Carried to the extreme, the effect of this would be that no wells would be drilled to evaluate the leases. This same problem is inherent in the net profits system, which I'll talk about shortly. On the other hand, when cash bonus is involved, the winning bidder has a strong incentive for early drilling because his bonus investment is earning him nothing.

In cash bonus bidding the state assumes none of the risk but still receives revenue from leases, whether or not they are productive.

The advantages of this system were clearly demonstrated a few years ago in the sale of federal leases off the coasts to Mississippi, Florida and Louisiana. Successful bidders paid $743 million for several tracts on one structure, the Destin Anticline, and spent over 10 million dollars drilling seven dry holes on the structure--all at no cost to the taxpayer. Under royalty or net profit bidding, the government would have received nothing.

What would government have received if it had sold the Gulf of Alaska on a royalty bid basis? As in the Gulf of Mexico case I previously cited, nothing. Should the taxpayer and the government be forced to suffer the loss of more than one-half billion dollars--when to date, no royalty appears forthcoming?

The NPRA comes to mind as another example of an area adjudged to possess high potential, but which so far is a disappointment. Again, if sold on a royalty bidding method, the lessors would have received nothing to date.

Let me emphasize that in all these cases, the areas were considered extremely attractive to both the industry and government. These are precisely the types of areas in which the state might be enticed to use a royalty or net profit bidding method. Yet none of these has led to any discovery or government revenue.

Proponents of royalty bidding believe it encourages competition among bidders and allows the small company and the independent improved entry into oil and gas lease bidding. Cash bonus bidding usually is blamed for tending to discourage small companies from bidding.

This is not supported by the facts. Small companies gain entry into the sale by joining with a larger company or with several other smaller companies. In the recent Lower Cook Inlet sale, independents and smaller companies bid on royalty and cash bonus tracts with about the same frequency as the majors. Of the 34 companies which bid in the sale, 18 were smaller companies. These 18 made successful cash bonus bids on 26 tracts, of which 13 were sold for more than one million dollars. Moreover, the small companies are represented in half of the top tracts of the sale.

The second proposed bidding method we are concerned about is net profit bidding. This system has most of the disadvantages of royalty bidding plus two more: It requires a huge staff to administer and audit.

For example, each property would require a battery of accountants to audit the companies' production and costs. Just as in the case of royalty bidding, the risks are passed on to the government. Furthermore, net profit bidding discourages cost-effective, efficient development practices.

Work commitment bidding is the least onerous alternative to cash bonus bidding methods and would be beneficial, provided that it is enforceable. We view this method with some caution because of the uncertainty of the conditions under which it might be imposed.

At this point, I would like to summarize why we believe a majority of the industry prefers cash bonus as the best method for both the state and the energy explorers.

First, we believe it is the foundation for all free enterprise contract arrangements;

Second, it is the simplest and easiest to determine and administer by all parties;

Third, it is fair and equitable; by this I mean that all parties travel at their own risk, and finally,

The right to explore is paid for in advance.

In 1977 the Department of Natural Resources completed a report entitled, "A Study of Petroleum Leasing Methods and Possible Alternatives." H.B. 854 apparently is based on this study and its conclusions.

In this study, a great deal of attention is given to the "percentage of acreage option." We assume this is the reason for granting the Commissioner authority to withhold acreage from any sale areas under Section 180 (c) (4) (f). Under this scheme, certain amounts of acreage would be withheld from a sale so that following a discovery the state could collect a windfall on drainage acreage sales. This is a workable approach only if you know which acreage to withhold and on which structures. This is rarely the case, as we saw in the MAFLA, Gulf of Alaska and NPRA. Furthermore, industry cannot bid or drill on only portions of prospects in high risk or high cost areas which predominate in Alaska.

I would like to make a few more comments about the Department of Natural Resources' report. The one overriding conclusion of that study was that a variety of bidding methods, widely employed, would increase the state's return from its commitment of oil and gas properties.

Chevron believes this conclusion is biased against cash bonus bidding, and we feel that the odds are against anyone knowing all they need to know to use the right method at the right time. The state, even if armed with a skilled staff and large amounts of data, can hope to do no better than an individual company in evaluating potential and risks, and these companies are more often wrong than right in their appraisals.

We believe the state's report, and particularly its main bias against cash bonus bidding, is based on a few but major faulty economic assumptions.

First, the authors of the report assume that the industry will make an 18 percent rate of return. Although this is very desirable, and would not be out of line considering the high risk involved, past experience shows that the industry has averaged no more than seven to eight percent from OCS ventures which approximates Alaska lands, according to several exhaustive studies. For example, in May 1977 Prof. Walter J. Mead of U.C. Santa Barbara testified before a U.S. House of Representatives Committee that weighted average rate of return from 184 leases issued in the Gulf of Mexico in 1954-55 amounted to only 7½ percent before taxes. This sale period was selected because these leases have a 20-year production history which provides a comprehensive data base.

Second, no reduction of state income was assumed in royalty cases, but it almost certainly will occur. The economic limit of a field is going to be greatly influenced by the amount of royalty. The higher the royalty, the earlier the economic limit is reached. When an operator can no longer produce oil or gas profitably the result will be oil and gas left in the ground and neither industry, nor the state, will make any money on it.

* * *

Next, I would like to turn to the provision of the bill that would require the lessee or permittee to make available to the Commissioner all data obtained from exploration and production activities on the lease or permit. We believe this provision raises fundamental questions about the appropriateness of the state's entry into the exploration business, and secondly, points to grave problems--from our point of view--about the preservation of confidentiality.