STUDIES IN GOVERNMENT MANAGEMENT
OF
OIL AND GAS RESOURCES IN CANADA

by

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ABSTRACT

Most of the unproduced oil and gas in Canada is subject to public ownership. This fact places a duty upon government to devise a management system for these resources which goes beyond the mere regulation of private rights, and ensures that the benefits from development flow to society as a whole.

This dissertation consists of two related studies of government management of onshore oil and gas in Canada. The first considers the question of jurisdiction under the Canadian constitution, a prerequisite to any assignment of government responsibility for resource management. Public ownership of onshore oil and gas in Canada traditionally means ownership by the provinces. At the same time, though, both the Dominion parliament and the provincial legislatures have exclusive legislative powers which are important in the development of these resources. The limits of the legislative authority are explored, and the relationship between Dominion legislative authority and provincial resource ownership is examined. The conclusions reached regarding jurisdiction are then applied to the principal stages of oil and gas development, from the allocation of rights to private operators through exploration, production, transportation, export and pricing.

The second study reviews the Alberta management system for Crown oil and gas. Again a functional approach is adopted, the system being described and evaluated in terms of its principal stages. Two criteria of efficiency and equity are employed for evaluation. Efficiency is defined as the best possible allocation of labour and capital among alternative uses, both
present and future, while equity refers to the distribution of benefits and costs from oil and gas development between the Alberta government and private individuals. The review is concluded with an assessment of the problems inherent in managing publicly-owned oil and gas resources, and suggestions for improvement of the current Alberta system.
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PREFACE

The essential principle of property being to assure to all persons what they have produced by their labour and accumulated by their abstinence, this principle cannot apply to what is not the produce of labour, the raw material of the earth. If the land derived its productive power wholly from nature, and not at all from industry, ... it not only would not be necessary, but it would be the height of injustice, to let the gift of nature be engrossed by individuals.

John Stuart Mill.

It is not in the national interest ultimately for questions of constitutional authority where uncertainty exists to be put aside....

Report of the Australian Senate Select Committee on Off-Shore Petroleum Resources.

The management of oil and gas resources in Canada involves a duty for government. For not only do these resources comprise an important part of the national heritage, but most of the oil and gas in the ground continues to be subject to public ownership. This factor has clear implications for the nature and scope of the resource management regime. What is needed is not simply a system for regulating rights as between private resource owners, but rather a system which recognizes this fact of public ownership and allows the benefits of resource development to flow to society as a whole.

In a federal state, however, there are usually difficulties involved in talking about specific government rights and duties. Plenary authority is not vested in a single unit of government. Instead, powers are divided and this division has implications regarding both rights and duties. In
Canada, onshore oil and gas resources provide a good example of this situation. Public ownership of these resources means ownership by the provinces and not by the Dominion. At the same time, though, the Dominion parliament is given legislative powers which are important in the development of these resources.

The establishment of a government management regime for oil and gas presupposes a clear understanding of the scope of both federal and provincial authority in this respect. No such understanding presently exists in Canada. The courts have seldom been called upon to resolve issues of jurisdiction relating to these resources, and in the cases that have been decided, the expedient has usually been adopted of ruling upon the matter in question without attempting to define the limits of federal and provincial authority in general. The result is that disputes between governments over oil and gas resources, of which the present energy confrontation between Ottawa and the producing provinces is a classic example, are argued in the context of considerable doubt concerning limits to authority.

This uncertainty is to be deplored. It provides a government with the opportunity to evade responsibility for the management of resources as important as oil and gas. It also encourages resort to acrimony and confrontation as the means of resolving the differences which must inevitably arise between governments, instead of the open bargaining which may be expected if the parties are fully aware of the strengths and weaknesses of their respective positions.

The first part of this dissertation sets out to cast some light upon this question of the division of powers relating to oil and gas resources. In the absence of definitive rulings by the Supreme Court of Canada, a
review is undertaken of the heads of power likely to be invoked to establish jurisdiction. So far as the federal government is concerned, the greatest potential lies in the trade and commerce power. The limits of this power have fluctuated considerably since 1867, but the present trend appears to be unmistakably in the direction of increased federal authority. The question to be answered is how far this trend may continue. There is the example of the United States Supreme Court's extension of the interstate commerce power in that country to the point where the federal government may control all activities, back to the wellhead, in relation to gas destined for interstate markets.¹ Is Canada headed for the same result? The thesis advanced here is that Canada, by virtue of its particular constitutional provisions, finds itself in a position fundamentally different from that of the United States. In particular, the bar to the continued expansion of the trade and commerce power in Canada is found in provincial authority relating to the management and sale of provincially-owned resources. The scheme adopted in the British North America Act, 1867, for the division of powers between the federal and provincial governments requires a peculiar accommodation to be reached - each level of government is given exclusive legislative authority in relation to matters which come within classes of subjects listed in sections 91 and 92 of the Act. A matter which comes within one class is thereby excluded from all others. In this respect, the legislative authority of the Dominion and the provinces is exclusive. Thus, a matter coming within the management and sale of provincially-owned

resources can not also come within the regulation of trade and commerce. The reconciliation of these two powers will go a long way towards defining the limits of federal and provincial authority over oil and gas in Canada.

Provincial ownership of oil and gas resources is also important for another reason. The exclusiveness of federal and provincial legislative authority suggests that, even in the absence of action by one level of government, the other level cannot enter into areas closed to it by the division of powers. The ownership of resources, quite apart from exclusive legislative authority, provides an exception to this rule. A province has all the rights of a private owner of resources and may act accordingly in managing or disposing of them. However, in this regard a province is, just like a private owner, subject to the requirements of valid federal legislation restricting its freedom of action.

There are, therefore, two independent sources of provincial jurisdiction over oil and gas resources. One is the exclusive legislative authority of the provinces under the constitution, while the other is the fact of ownership of most of these resources within provincial boundaries. The scope of the jurisdiction derived from each source may well be different, depending in the former case upon constitutional interpretation and in the latter case upon the extent to which the Dominion has exercised its legislative authority.

The second part of the dissertation examines the management system for publicly-owned oil and gas resources adopted in Alberta, the largest oil and gas producing province in Canada, to ascertain the extent to which this province has succeeded in meeting its obligations in relation to these resources. The appropriate measure of success, it is suggested, is the size
of net social benefits derived in Alberta from resource development. However, social benefits may take many forms and may be pursued by a government in a variety of ways. The Alberta government has not made clear its chosen objectives, and so an evaluation of the management system in terms of these is impossible. What can be done, though, is to suggest objectives which could be pursued by a government in devising a management system for publicly-owned oil and gas resources.

The objectives proposed in this part are efficiency and equity. Efficiency is defined in terms of the best possible allocation of society's resources of labour and capital among alternative uses, both present and future, which results in the largest possible net benefits to society. The advantage of this criterion lies in the fact that it indicates that social costs are incurred in the implementation of policies which deviate from efficiency requirements. This fact alone is not sufficient to cause a condemnation of these policies, of course, but the recognition of their cost is in itself important. Equity refers to the distribution of the benefits and costs arising from the development of publicly-owned oil and gas resources, but only as between government and the rest of society. The approach adopted is that the government, acting on behalf of Alberta society as a whole, is under an obligation to collect the surplus value that its resources have over all necessary costs of production. This is an onerous duty, there can be no doubt, but nevertheless it is a duty which is implicit in the provincial ownership of oil and gas resources.

Needless to say, perhaps, it is inherently unlikely that any resource management system would completely satisfy these twin criteria of efficiency and equity. A number of factors stand in the way of any such achievement.
The detailed review of the Alberta management system for oil and gas reveals four basic problems which preclude simple solutions: a lack of knowledge of the location and value of oil and gas deposits, the element of risk in exploration and production, the absence of perfect competition at different stages of oil and gas development, and the existence of political uncertainty among private operators. In the presence of these factors, any criticism of the existing management system must be qualified by asking whether a change in the system would necessarily produce a better result. One would be in a position to give a confident answer only when armed with empirical studies showing the sizes of the distortions produced by different policies. Nevertheless, a purely qualitative analysis of the management system is justified as demonstrating where the system does in fact deviate from the requirements of efficiency and equity. Rather than providing conclusive answers, it gives rise to further questions. In addition, since a government management system for resources is usually adopted in a climate of less than perfect information, a qualitative analysis provides a firmer foundation, although admittedly still an unstable one, for speculation on the improvement of that system.
PART I

JURISDICTION OVER ONSHORE OIL AND GAS
A. INTRODUCTION

In these days of anxiety about energy supply and prices, the importance of oil and gas in a national economy need hardly be stated. In Canada, these substances satisfy almost two-thirds of total energy demand. The control of domestic oil and gas resources is, therefore, a prize worthy of most government endeavours.

However, the issue of jurisdiction over onshore oil and gas exhibits many of the complexities of Canadian constitutional law and practice. In the first place, there is the question of ownership of these resources and the degree of control that flows therefrom. Then, there is the matter of the division of legislative authority which is nowhere specific in relation to oil and gas, but must be disentangled from such general powers as "the regulation of trade and commerce" and "the management and sale of the public lands belonging to the province". Finally, there is the problem of reconciliation of conflicting claims to control through competing rights of ownership and legislative authority.

The result, of course, is unlikely to be clear or precise. The only conclusion which lies beyond any doubt is that control over onshore oil and gas does not reside exclusively with either level of government. In recognition of this fact, the approach adopted here is functional. The different stages of development of onshore oil and gas are identified and the question of control is considered in relation to each. To do this, however, it is necessary to assign some content to the powers of ownership and legislative authority and so a review of existing constitutional authorities is initially undertaken.
B. PROVINCIAL OWNERSHIP OF OIL AND GAS

In the areas of Canada that were originally settled by British colonists, such parts of the common law as were appropriate to the situation and conditions applied. Thus the Crown owned all ungranted lands and was entitled to the same territorial and casual revenues arising from prerogative right as in England. In the areas which were acquired from the French king the position was less clear. It has never been finally determined whether, on cession or conquest, the French law as to the royal prerogative was replaced by the law of England or continued in force with the benefits accruing to the English Crown. However, so far as ungranted lands are concerned there is no practical difficulty for under French as well as English law at the time the Crown was entitled to ownership.

Initially, it seems, the Crown held and disposed of these lands for the benefit of the colonies in which they were situated. Still, for many years the revenues were under the control of the British parliament and not the local assemblies. A change in this situation first took place in New Brunswick in 1837, and followed shortly afterwards in the provinces of Canada and Nova Scotia. The result was that full control of the Crown's

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1 This historical review is based upon La Forest, Gerard V., Natural Resources and Public Property Under the Canadian Constitution, Toronto, University of Toronto Press, 1969, 3-14.


4 Ibid., 12.
casual and heriditary revenues arising in the provinces passed to the legislatures of the provinces concerned.

The position at Confederation was therefore as follows:

...the entire control, management, and disposition of the crown lands, and the proceeds of the provincial public domain and casual revenues, were confided to the executive administration of the provincial government as representing the Crown, and to the action of the provincial legislatures, so that the crown lands, though standing in the name of the Queen, were with their accessories and incidents, to all intents and purposes the public property of the respective provinces in which they were situate ....

The distribution of resources between the Dominion and the provinces at Confederation was effected largely by Part VIII of the British North America Act, 1867. Section 108 assigns specified property to the Dominion, and sections 109 and 117 confirm that the residue is to remain with the provinces.

Generally, oil and gas resources fall within this residue. A couple of exceptions are possible. Among the items of property transferred to the Dominion by section 108 are "Public Harbours". It remains an open question whether ownership of the beds of public harbours (including mines and minerals) was vested in the Dominion, or simply rights sufficient for the

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5 Per Ritchie C.J. in Mercer v. Attorney-General of Ontario (1881), 5 S.C.R. 538, at 633; ibid., 74.
6 30 & 31 Vict., c. 3 (Imp.).
Dominion to exercise its legislative functions respecting navigation and shipping. A similar issue arises in respect of Sable Island, namely, whether the transfer to the Dominion included mines and minerals or, in view of the fact that it is linked with "Lighthouses and Piers", more limited rights were intended.

When British Columbia and Prince Edward Island entered Confederation in 1871 and 1873, respectively, the terms of union in each case put these provinces in a similar position regarding public property as the four original provinces. British Columbia agreed to convey to the Dominion a tract of land twenty miles in breadth on each side of a railway to be built connecting it to Canada, but otherwise the public property provisions of the B.N.A. Act, 1867, applied to it. This agreement was subsequently amended to include three and one-half million acres of land in the Peace River District, known as the Peace River Block, in the transfer to the Dominion.

In the case of the prairie provinces, a different approach was adopted. In 1670 the Hudson's Bay Company had received a charter from

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8 The issue has not yet been squarely raised, and such authority as does exist is conflicting. In Holman v. Green (1881), 6 S.C.R. 707, the Supreme Court of Canada thought that s. 108 transferred ownership to the Dominion; however, in Attorney-General for Canada v. Attorneys-General for Ontario, Quebec and Nova Scotia, ibid., the Privy Council adopted a very restrictive approach to Dominion rights. For further discussion of this point, see La Forest, op. cit., note 1, 57-60, 63-64.

9 The Dominion legislative power in respect of the island is, moreover, coupled with "beacons, bouys and lighthouses": B.N.A. Act, 1867, section 91(9). Section 7 of the Act also contemplates that the island remains within the limits of Nova Scotia; ibid., 72-73.

10 Ibid., 31-34.

11 Ibid., 32
Charles II, granting title to a vast area of land, largely undefined in scope, draining into Hudson's Bay. In 1869 these lands were surrendered to the Crown, and in 1870 an Imperial Order in Council transferred both them and the Northwest Territories to Canada. Manitoba was created as a province of the new Dominion in the same year. In 1905, Alberta and Saskatchewan were formed. The remaining northern regions became the North-West and Yukon Territories, still subject to federal administration. As regards public lands, the prairie provinces at first were not placed on a similar footing to the other members of the Confederation. The lands continued under Dominion ownership, and it was not until 1930 that they were transferred to the provinces. The agreements between the Dominion and each of the provinces effecting this transfer recited that

[i]n order that the Province may be in the same position as the original Provinces of Confederation are in virtue of section one hundred and nine of the British North America Act, 1867, the interest of the Crown in all Crown lands, mines, minerals (precious and base) and royalties derived therefrom within the Province... shall...belong to the Province...and the said lands shall be administered by the Province for the purposes thereof...

A similar agreement was also made between the Dominion and British Columbia for the purpose of retransferring to that province all ungranted portions

13 The Manitoba Act, 1870, 33 Vict., c.3,s.30 (Can.), confirmed by British North America Act, 1871, 34-35 Vict., c. 28.
14 The Alberta Act, 1905, 4 Edw. 7, c.3,s.21 (Can.); the Saskatchewan Act, 1905, 4 Edw. 7, c.43,s.21 (Can.).
15 For the history of this transfer, see La Forest, op. cit. note 1, 35-45; and Thompson, A.R., "Basic Contrasts Between Petroleum Land Policies of Canada and the United States", 36 University of Colorado Law Review 187, 216 (1964).
16 The agreements were confirmed by federal and provincial legislation, as well as the B.N.A. Act, 1930, 21 Geo. V, c.26 (Imp.).
of the railway belt and the Peace River Block. Finally, when Newfoundland became a province in 1949 specified items of public property were transferred to the Dominion as under section 108 of the B.N.A. Act, 1867, but the remainder (including mines and minerals) was left to the province.

The general position is, therefore, that oil and gas resources within the provinces that have not been alienated by the Crown are vested in the Crown in the right of the province concerned, and are subject to provincial legislative and executive action in this capacity.

Indian lands present a difficulty. It has long been recognized that title to Indian lands in fee is vested in the Crown, and Indian title is "a personal and usufructuary right, dependent upon the good will of the Sovereign". The scope of this right is, however, far from clear. The reference to its "personal" nature has been explained by the fact that the right is "inalienable except by surrender to the Crown". But this has no bearing upon whether the right includes entitlement to mines and minerals. Such authority as there is available tends to support the view that Indian title amounts to a beneficial interest in the land, and although this

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17 Agreement of 20 February 1930 (Term 1), confirmed by federal and provincial legislation and the B.N.A. Act, 1930.
18 12 & 13 Geo. VI, c.22 (Imp.).
19 La Forest, op. cit. note 1, 45-47; see Term 37 of the Terms of Union between Newfoundland and Canada.
20 St. Catherine's Milling & Lumber Co. v. The Queen (1889), 14 A.C. 46.
21 Per Duff J. in Attorney-General for Quebec v. Attorney-General for Canada (Star Chrome case), [1921] 1 A.C. 408.
interest has usually been described in terms of occupation, hunting and fishing rights, there seems no reason in principle why it should not extend to the exploitation of minerals. Upon surrender of Indian title to the Crown, the Privy Council has held that this beneficial interest is exercisable by the province rather than the Dominion, despite federal legislative authority in respect of "Indians, and Lands Reserved for Indians". So far as Indian reserves are concerned, the position is governed by the terms of many federal-provincial agreements dealing with the subject.

The property subject to provincial government control is public property, not lands held as private property within a province. Section 109 of the B.N.A. Act, 1867, refers to "all lands, mines, minerals and royalties belonging to the provinces"; that this expression does not include private property was alluded to in Attorney-General of Ontario v. Mercer. Section 117 refers directly to "public property".

23 The nature of Indian title did not arise for determination in Calder et al. v. Attorney-General of British Columbia, 34 D.L.R. (3d.) 145 (1973). However, Hall J. described the title as "a usufructuary right and a right to occupy the lands and to enjoy the fruits of the soil, the forest and of the rivers and streams", ibid., at 173-174. Likewise, in Re Paulette's Application to File a Caveat, [1973] 6 W.W.R. 97, 148, Morrow J. found that the indigenous people were "prima facie the owners of the Lands" in question but did not specifically consider mineral rights.


25 For details see La Forest, op. cit. note 1, 108-133.

26 (1882-83), 8 A.C. 767, at 775-76; La Forest, op. cit. note 1, 24-25.
The degree of public ownership of oil and gas resources varies considerably from one province to another, depending largely upon the time at which different areas of Canada were first settled. Until the latter part of the nineteenth century it was the practice for Crown grants of both Dominion and provincial land to include mines and minerals, and so public ownership of onshore oil and gas resources in Ontario, Quebec and the eastern provinces is not substantial. In 1887 there was a change of Dominion policy. An order of the Governor-General in Council made under the authority of the *Dominion Lands Act of 1886* decreed that all future grants of Dominion land contain a clause reserving mines and minerals to the Crown. This order applied to lands situate in the Northwest Territories west of the third meridian, which approximately bisects Saskatchewan. In 1889 a further order similarly reserved mineral rights from Crown patents of Dominion lands east of the third meridian. Thus when public lands were transferred to the prairie provinces and British Columbia in 1930, public ownership of mines and minerals was still significant. This policy of reservation resulted in public ownership of mineral rights in about 90 per cent of the Peace River Block in Northeastern British Columbia, 80 per cent of the lands in Alberta and Saskatchewan, and 25 per cent of the sedimentary basin in southwest Manitoba. In addition, public ownership of oil and gas is almost universal in the Yukon and Northwest Territories.

28 P.C. 1070 of October 31, 1887.
30 P.C. 2167 of September 17, 1889.
31 This contains most of the sedimentary basin in the province.
C. THE NATURE OF PUBLIC PROPERTY RIGHTS

From the foregoing historical review it is clear that, prior to Confederation in 1867, the provinces had acquired legislative and executive control over the public property within their boundaries. After 1867, there was no need to look to the B.N.A. Act as a source of such authority. That Act allocated existing public property among the Dominion and the provinces, and also provided for a division of exclusive legislative authority, but in no way interfered with the rights already won to administer provincial property for the benefit of the provinces. These were inherent in the property itself.

Accordingly, in considering the nature of the rights exercisable by the provinces in relation to their public property, it is necessary to distinguish between pre-Confederation legislative and executive rights on the one hand, and exclusive legislative authority pursuant to section 92 of the B.N.A. Act on the other. This latter issue will be considered subsequently. As to the former, two principles apply. Firstly, in its capacity as owner of resources a province may act like a private property owner and deal with its resources as it sees fit. Secondly, and in so doing, the province is subject to any restrictions imposed by the common law or validly-enacted legislation, whether federal or provincial.

33 Supra, 3.
34 Ibid.
35 B.N.A. Act, 1867, sections 91 and 92.
37 Infra, 11.
There is little decided authority to be found either for or against these principles, and none, it would seem, so far as they relate to oil and gas resources. However, two cases concerning management of provincial timber resources are of interest.

In *Smylie v. The Queen*, the validity of an Ontario statute providing that a condition be inserted in all Crown timber licences that all timber cut thereunder be manufactured in Canada, was challenged on the ground that it dealt with a matter reserved to the Dominion Parliament by the *B.N.A. Act*, section 91(2), "the regulation of trade and commerce". The actual decision in the case will be considered later as it turned upon the scope of federal and provincial legislative authority under sections 91 and 92 of the *B.N.A. Act*. At this stage, what is of interest is a further argument adopted by Moss J.A. in reaching his conclusion favouring validity of the statute:

And I see no reason for thinking that the Legislature may not, in respect of this property, do what any subject proprietor might do, when proposing to dispose of his property, viz., attach to the contract a condition not impossible of performance, or unlawful *per se*, or prohibited by an existing law.

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38 (1900), 27 O.A.R. 172.

39 *Infra*, 34.

40 (1900), 27 O.A.R. 192.
This emphasizes the fact that there was no valid Dominion law restricting the right of the provincial legislature to include whatever conditions it saw fit in grants of timber licences over public lands. It was not necessary for the court to determine whether the impugned Ontario statute was in relation to a matter coming within "the regulation of trade and commerce". A sufficient ground for the decision was that the Ontario legislature acted in its capacity of property owner in accordance with existing, applicable law.

In Brooks-Bidlake and Whittall, Limited v. Attorney-General for British Columbia et al.,41 a case which also involved the validity of conditions included in provincial Crown timber licences, the facts presented the Privy Council with an opportunity to use this approach in reaching its decision. No reference was made to it, though, their Lordships' judgment being based entirely upon sections 91 and 92 of the B.N.A. Act.

At times the view has been expressed that there is a limit beyond which federal legislation can not affect provincial public property. Authority for this view is said to be found in the decision of the Privy Council in Attorney-General for Canada v. Attorneys-General for Ontario, Quebec and Nova Scotia.42 To the extent that this implies that there is an area within which valid federal legislation can not operate, it is misleading. That there is a limit to federal legislative authority is not open to doubt, but this limit is derived from sections 91 and 92 of the B.N.A. Act and not from the fact of provincial property ownership. Thus when federal

41 [1923] A.C. 450. The issues in this case are described in detail infra, 30-34.

legislation affects provincial property rights the relevant consideration is not provincial ownership but whether the federal statute is a valid exercise of Dominion legislative authority. The following passage from the judgment in the case shows that their Lordships appreciated the force of this distinction:

At the same time, it must be remembered that the power to legislate in relation to fisheries does necessarily to a certain extent enable the Legislature so empowered to affect proprietary rights. The suggestion that the power might be abused so as to amount to a practical confiscation of property does not warrant the imposition by the Courts of any limit upon the absolute power of legislation conferred. The supreme legislative power in relation to any subject-matter is always capable of abuse, but it is not to be assumed that it will be improperly used; if it is, the only remedy is an appeal to those by whom the Legislature is elected. If, however, the Legislature purports to confer upon others proprietary rights where it possesses none itself, that in their Lordships' opinion is not an exercise of the legislative jurisdiction conferred by s. 91. If the contrary were held, it would follow that the Dominion might practically transfer to itself property which has, by the British North America Act, been left to the provinces and not vested in it.

An extreme example of the relationship between federal legislative authority and provincial property rights is presented by Dominion attempts to expropriate provincial property. The cases on this subject give rise to considerable difficulty. It has been suggested that some heads of federal power include such a right of expropriation while others do not; that property rights awarded by section 109 of the B.N.A. Act by their very

43 Ibid., 712-13.
44 La Forest, op. cit. note 1, 150-55.
nature curtail the scope of federal legislative authority under section 91; and that in the exercise of some of its powers (at least), the federal government may not authorize the compulsory acquisition of provincial lands without payment of compensation. However, there is nothing in the terminology of the B.N.A. Act to support any of these as statements of general application. There is no reason why federal expropriation legislation should be judged on any basis other than that applicable to all other federal legislation. The question is whether a federal statute truly comes within the scope of federal legislative authority. The fact that it may affect provincial public property is not determinative. This was the view of the Privy Council in Attorney-General for Quebec v. Nipissing Central Railway Co. and Attorney-General for Canada:

....while the proprietary right in each Province in its own Crown lands is beyond dispute, that right is subject to be affected by legislation passed by the Parliament of Canada within the limits of the authority conferred on that Parliament. Reference was made to certain passages in judgments pronounced on behalf of the Board in earlier cases, in which emphasis was laid on the view that the regulative powers conferred upon the Dominion Parliament by s. 91 of the British North America Act did not authorize that Parliament to transfer to itself or others the proprietary rights of a Province. But those expressions must, of course, be taken subject to the observation of Lord Herschell in the first Fisheries case....that the power to legislate in respect of any matter must necessarily to a certain extent enable the Legislature so empowered to affect proprietary rights; and it may be added that where (as in this case) the legislative power cannot be effectually exercised without affecting the proprietary rights both of individuals in a Province and of the Provincial Government, the power so to affect those rights is necessarily involved in the legislative power.

46 Ibid.
Furthermore, no worthwhile distinction can be drawn between federal legislation "affecting" and "expropriating" provincial property. The interest of a province in its public property, while commonly referred to as "ownership", comprises in fact a number of rights amounting to beneficial entitlement. Whenever federal legislation affects provincial property the extent of these proprietary rights is diminished, and expropriation is merely the limiting case where the rights are extinguished entirely. The solution to the problem is not to be found in the degree of interference with provincial property rights. On the contrary, it lies in a careful determination of the substance of federal legislation and the scope of Dominion legislative authority under section 91 of the B.N.A. Act.

In summary, there are two principles applicable in defining the nature of rights exercisable by the provinces as owners of natural resources within their boundaries. In the first place, the provinces are in a position similar to that of private resource owners. They may deal with their property as they see fit and are in no way restricted in their legislative and executive actions to this end by the division of exclusive legislative authority effected by sections 91 and 92 of the B.N.A. Act. This has special significance when the validity of a provincial government action in relation to its property is considered in the absence of applicable federal legislation, for the authority for such action need not be sought in section 92. In the

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49 Supra, 3.
second place, these provincial property rights are subject to the provisions of validly-enacted federal legislation the authority for which is derived from the B.N.A. Act, 1867. There is no presumption of the inviolability of provincial public property.
D. THE DIVISION OF LEGISLATIVE AUTHORITY

Part VI of the B.N.A. Act, 1867, allocates legislative authority between the Dominion and the provinces. The most important sections in this part are 91 and 92 which deal with the exclusive legislative authority of the different levels of government. These sections are inter-related and must be considered together.

Section 91 authorizes the Dominion Parliament

to make Laws for the Peace, Order and Good Government of Canada, in relation to all Matters not coming within the Classes of Subjects by this Act assigned exclusively to the Legislatures of the Provinces....

This is the "general" power. Its content is determined by subtraction of provincial legislative authority assigned by section 92:

In each Province the Legislature may exclusively make laws in relation to Matters coming within the Classes of Subjects next herein-after enumerated....

There are sixteen such classes, the last of which is

Generally all Matters of a merely local or private Nature in the Province.

This allocates part of the residuary legislative powers to the provinces, the remainder being given to the Dominion under the general power above.

However, there is a further provision in section 91 which reads as follows:

...for greater Certainty, but not so as to restrict the Generality of the foregoing Terms of this Section, it is hereby declared that (notwithstanding anything in this Act) the exclusive Legislative Authority of the Parliament of Canada extends to all Matters coming within Classes of Subjects next herein-after enumerated....
of which there are thirty-one. The section then concludes with the statement that

any Matter coming within any of the Classes of Subjects enumerated in this Section shall not be deemed to come within the Class of Matters of a local or private Nature comprised in the Enumeration of the Classes of Subjects by this Act assigned exclusively to the Legislatures of the Provinces.

The scheme of sections 91 and 92 is apparent. Legislative authority is given to the Dominion and the provinces in relation to "matters"; these "matters" frequently come within "classes of subjects"; the provinces may legislate exclusively in relation to "matters" coming within the "classes of subjects" listed in section 92 and the Dominion may legislate exclusively in relation to all other "matters" including those coming within the "classes of subjects" listed in section 91; "classes of subjects" are so defined in scope that each "matter" is incapable of coming within more than one class at any particular time.

Although there has been frequent recognition of the exclusiveness

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50 The B.N.A. Act, 1867, contained 29 clauses of subjects in this section. Two were added subsequently; number (1A) by 13 Geo. VI, c. 81 (U.K.) and number (2A) by 3-4 Geo. VI, c. 36 (U.K.)

51 It seems that not all matters come within the legislative competence of either the provinces or the Dominion: see Laskin, Canadian Constitutional Law, Toronto, Carswell, 1973, 4th ed. (by Albert S. Abel), 92-97. However, the exceptions will not be considered here.

52 For a detailed discussion of the scheme of sections 91 and 92, see Abel, Albert S., "The Neglected Logic of 91 and 92", 19 University of Toronto Law Journal 487 (1969).
of the legislative authority of the provinces and the Dominion the courts have paid little attention to the scheme inherent in sections 91 and 92. The result has been the development of a number of doctrines of constitutional interpretation such as the "trenching" and the "ancillary" doctrines which are inconsistent with the wording of the sections. In more recent times, however, support for these doctrines has been diminishing and the courts have exhibited a willingness to re-examine the provisions of sections 91 and 92 without the complication of these artificial aids to interpretation.

A further example of the failure of the courts to recognize the interrelationship of sections 91 and 92 is found in many of the references


to the "paramountcy" of federal over provincial legislation. 57 The scope for such a doctrine is very limited if due regard is paid to the fact that a "matter" may come within only one "class of subject" as enumerated in those sections. 58 Thus the only case in which "paramountcy" becomes an issue is where federal and provincial legislation, each in relation to a different "matter", come into conflict. Moreover, the doctrine is entirely the creation of judicial decision, there being no express provision for it in the B.N.A. Act.

Despite the neglect to which the scheme of sections 91 and 92 has been subjected in Canadian constitutional cases, recourse to it may be justified in the present circumstances. As will be demonstrated later, the question of legislative authority over provincial oil and gas resources is unencumbered by binding authority. More importantly, perhaps, the scheme provides a clear and workable pattern for the interpretation of sections 91 and 92 which respects the historical reality of regional influence in resource management. Of course, it is no disadvantage either that the scheme accords with the plain meaning of the words used in sections 91 and 92.

Determination of the "matter" of a statute, or, in other words, its "pith and substance", 58A requires a close examination of the statute

57 Tennant v. Union Bank of Canada, op. cit. note 54, 45; Fish Canning case, op. cit. note 54, 118.


58A This expression was first used by Lord Watson in Union Colliery Co. Ltd. v. Bryden, op. cit. note 53, and has since been used repeatedly: Abel, op. cit. note 52, 489.
itself. The cases offer little assistance here. The exercise will be undertaken subsequently during the functional analysis of the oil and gas industry. For the moment, it is time to turn to the relevant "classes of subjects". In general, the courts have not made any consistent attempt to define the limits of these classes. Their decisions merely provide examples of choices made among classes of subjects which were competing as repositories for impugned legislation. Their predictive value is, therefore, limited.

The relevant classes in section 91 are:

2. The Regulation of Trade and Commerce.

3. The raising of Money by any Mode or System of Taxation.

29. Such Classes of Subjects as are expressly excepted in the Enumeration of the Classes of Subjects by this Act assigned exclusively to the Legislatures of the Provinces.

In section 92 they are:

2. Direct Taxation within the Province in order to the raising of a Revenue for Provincial Purposes.

5. The Management and Sale of the Public Lands belonging to the Province and of the Timber and Wood thereon.

10. Local Works and Undertakings other than such as are of the following classes: -
   a. Lines of Steam or other Ships, Railways, Canals, Telegraphs, and other Works and Undertakings connecting the Province with any other or others of the Provinces, or extending beyond the Limits of the Province.
   b. .......... 
   c. Such Works as, although wholly situate within the Province, are before or after their Execution declared by the Parliament of Canada to be for the general Advantage of Canada or for the Advantage of Two or More of the Provinces.
13. Property and Civil Rights in the Province.

16. Generally all Matters of a merely local or private nature in the Province.

Finally, the Dominion has the general power to make laws for the peace, order and good government of Canada in relation to all matters not coming within one of the enumerated classes.

Before considering the cases it is important to notice the interpretation placed by the courts upon the final paragraph of section 91. At first the Privy Council stated that it "applies in its grammatical construction only to No. 16 of s. 92", the source of the residuary provincial legislative authority. Before long, however, that view was repudiated and the Privy Council held that the paragraph was applicable to all sixteen classes of subjects in section 92. This hardly seems justified by the wording of the paragraph or the scheme of sections 91 and 92. An indiscriminate application of this latter interpretation could have the effect of emasculating provincial legislative authority. There is no evidence of such a trend, however, and the paragraph seems largely to have been ignored.

The classes of subjects with the greatest potential importance in the management of oil and gas resources are "the regulation of trade and commerce" and "the management and sale of the public lands belonging to the province". Both are defined in broad terms and the boundary line

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59 Quoted supra, 17.
61 Local Prohibition case, op. cit. note 55, 359-60; Great West Saddlery Co. v. The King, op. cit. note 53, 99-100.
between the two is far from clear. They have seldom been considered
together. 62 The limits of the federal trade and commerce power have
traditionally been discussed in relation to provincial authority over
"property and civil rights in the province" and "matters of a merely
local or private nature in the province", while the extent of provincial
power over public lands has been considered in the context of federal
authority over "fisheries", "aliens" and "indians". It therefore
seems necessary to review the cases upon each of the two classes
separately before attempting to consider them together.

From the beginning the Privy Council felt that the B.N.A. Act
required that the federal trade and commerce power be read down so as
to allow a wide scope for sections 92(13) and 92(16). In Citizens
Insurance Co. v. Parsons, 63 a case involving the validity of an
Ontario statute providing for statutory conditions in fire insurance
policies, the Board concluded:

Construing therefore the words "regulation of trade and
commerce" by the various aids to their interpretation
above suggested, they would include political arrangements
in regard to trade requiring the sanction of parliament,
regulation of trade in matters of interprovincial concern,
and it may be that they would include general regulation
of trade affecting the whole dominion. Their Lordships
abstain on the present occasion from any attempt to define
the limits of the authority of the dominion parliament in
this direction. It is enough for the decision of the pre­
sent case to say that, in their view, its authority to
legislate for the regulation of trade and commerce does not
comprehend the power to regulate by legislation the contracts
of a particular business or trade, such as the business of
fire insurance in a single province, and that its legislative
authority does not in the present case conflict or compete
with the power over property and civil rights assigned to
the legislature of Ontario by No. 13 of sect. 92. 64

62 The only example would appear to be Smylie v. The Queen, op. cit.
note 40; for a further discussion of this case see infra, 34.
64 Ibid., 113.
This view was sustained in a number of subsequent cases. It was even contended for a time that the trade and commerce power was virtually non-existent in that it could be involved only in furtherance of a general power which the Dominion possessed independently of it, but the Privy Council soon withdrew from this extreme position. It was also suggested that "regulation" did not include outright prohibition, but again this was not for long. Up to the time when appeals to the Privy Council were abolished the locus classicus of the law on this point was a judgment of Duff C.J., in which he said:

It would appear to result from these decisions that the Regulation of Trade and Commerce does not comprise, in the sense in which it is used in s. 91, the regulation of particular trades or occupations or of a particular kind of business such as the insurance business in the Provinces, or the regulation of trade in particular commodities or classes of commodities in so far as it is local in the provincial sense; while, on the other hand, it does embrace the regulation of external trade and the regulation of interprovincial trade and such ancillary legislation as may be necessarily incidental to the exercise of such powers.  

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68 Local Prohibition case, op. cit. note 55, 365.


70 Reference Re Natural Products Marketing Act, [1936] S.C.R. 398, 410, 3 D.L.R. 622, 629. It was in Attorney-General for Canada v. Attorney-General for Ontario (Labour Conventions case), op. cit. note 53, 353, that this judgment was commended as a statement of the existing law. The principles were finally approved in Canadian Federation of Agriculture v. Attorney-General for Quebec, [1951] A.C. 179, one of the last appeals to the Privy Council.
In more recent times the Supreme Court has shown a willingness to move away from this rather narrow view of the federal trade and commerce power. This trend may be seen in a series of cases concerned with the validity of legislation, both federal and provincial, establishing marketing boards for agricultural products. There are differences in approach discernible among the members of the Court but the following principles appear to have been established: first, there has been a rejection of the Privy Council's view that the scope of federal legislative authority in relation to trade and commerce is not sufficient to enable Parliament to regulate a particular trade or business; second, it continues to be recognized that "there is a field of trade within provincial power, such power being a subtraction from that comprehended within s. 91(2)"; third, in general terms the Dominion has power in respect of interprovincial and external trade and commerce while the provinces have power in relation to intraprovincial trade and commerce; fourth, in determining

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72 Murphy v. C.P.R. and Attorney-General for Canada, ibid., 632, 158, per Locke J. This was accepted without question in Caloii1 Inc. v. Attorney-General for Canada, [1971] S.C.R. 543, 20 D.L.R. 472, where the issue was whether the federal government could attach conditions as to area of use to oil import licences.

73 Attorney-General for Manitoba v. Manitoba Egg and Poultry Association, op. cit. note 71, 706, per Laskin J. This is also the basis of the Court's decision in Carnation Company Limited v. Quebec Agricultural Marketing Board, op. cit. note 71.

74 Reference Re Farm Products Marketing Act, op. cit. note 71.
whether a statute comes within federal or provincial authority, the fact that its provisions affect interprovincial or external trade is not conclusive; the question is whether the statute is "in relation to" interprovincial or external trade and commerce, and for this the stage at which the regulation is imposed and its purpose are important considerations; finally, interprovincial and external trade and commerce connotes a flow of products whereas intraprovincial trade and commerce suggests transactions completed within the province before any such flow begins.

On only one occasion has a member of the Supreme Court taken any steps to define the boundaries of the class of subjects described as "the regulation of trade and commerce" in addition to giving judgment upon the validity of the statute in question. In Attorney-General for Manitoba v. Manitoba Egg and Poultry Association, Laskin J. said:

> Etymologically, commerce refers to the buying and selling of goods, and trade has among its meanings (other than commerce) that of mercantile occupation. Although literal application is unthinkable, these meanings do indicate the capacity which inheres in s. 91(2).

The steps taken were admittedly tentative, but they could be an indication

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75 Carnation Company Limited v. Quebec Agricultural Marketing Board, op. cit. note 71, 252, 74; Attorney-General for Manitoba v. Manitoba Egg and Poultry Association, op. cit. note 71, 703, 169, per Marland J.

76 Reference Re Farm Products Marketing Act, op. cit. note 71, 205, 265, per Kerwin C.J.C.; Attorney-General for Manitoba v. Manitoba Egg and Poultry Association, ibid., 703, 179, per Martland J., 713, 187, per Laskin J.

77 Ibid.

78 Ibid., 708, 183-4
that the Supreme Court is on the brink of a substantial revision of the federal trade and commerce power. Such a revision, if it were to follow Laskin J.'s lead, would involve an attempt to stretch the limits of this class of subjects by reference to the words used in section 91(2) of the B.N.A. Act rather than the decision in earlier cases. It seems inevitable that this would result in a wider scope being given to "the regulation of trade and commerce" and a correspondingly narrower interpretation being placed upon "property and civil rights in the province" and "all matters of a merely local or private nature in the province". However, it is too early to do more than speculate upon this future possibility.

The courts have paid little attention to the scope of sections 92(13) and 92(16) and to their relationship inter se. An examination of the historical usage of the term "property and civil rights" in statutes enacted prior to the B.N.A. Act, 1867, suggests that its meaning was well settled at that time and encompassed social rather than commercial relationships. 79 It follows that provincial regulation of economic activity should seek justification from section 92(16) rather than section 92(13), but the courts have usually been content to mention both as possible sources of the required authority without distinguishing between them. 80 It should also be noted that a restriction upon provincial legislative authority is inherent in the words "in the province" contained in section 92(13). Attempts by a province to legislate in respect of

79 Abel, op. cit. note 52, 504.

80 An exception is provided by Rand J. in Reference Re Ontario Farm Products Marketing Act, op. cit. note 71, 211, 270, who thought that section 92(16) was the appropriate head of provincial power.
"property and civil rights" outside the province are, of course, ultra vires. 81

The reliance placed upon sections 92(13) and 92(16) as sources of provincial legislative authority, and the broad scope attributed by the Privy Council to these sections as compared with section 91(2), has obviated the need for a close examination of the class of subjects described in section 92(5), "the management and sale of the public lands belonging to the province and of the timber and wood thereon". This situation can not persist, however, if the Supreme Court continues to expand the scope of section 91(2).

A number of questions arise in relation to section 92(5). The first is whether the expression "public lands" includes provincial oil and gas resources. There are arguments in favour of a negative response. If "public lands" are given their widest meaning then the reference to "the timber and wood thereon" appears redundant, for they would be normal incidents to the land. Moreover, section 109 of the B.N.A. Act refers to "all lands, mines, minerals and royalties belonging to the several provinces" which suggests that a narrow interpretation was intended for "lands" in that section. However, these arguments have not generally prevailed against the traditional tendency of the courts to give these words their normal meaning, so as to include all incidents to land. In Attorney-General of Ontario v.

Mercer 82 the Privy Council regarded "lands" in section 109 as including mines and minerals. In Attorney-General of British Columbia v. Attorney-General of Canada (Precious Metals case)83 a similar interpretation was placed upon "public lands" in the agreement between British Columbia and the Dominion which formed part of the terms of entry of that province into Confederation; however, precious metals were not included. In Burrard Power Co. Ltd. v. The King 84 the Privy Council held that "public lands" in the same agreement included "the water rights incidental to those lands". Although the question does not appear to have been raised directly, the Privy Council held in Attorney-General for Canada v. Attorneys-General for Ontario, Quebec and Nova Scotia 85 that "public lands" in section 92(5) included fishing rights which were an incident to the ownership of lands. Finally, the word "lands" in section 109 is not limited to lands in which the province has unlimited ownership, but includes all estates and interests in land. 86 The same view would undoubtedly be taken of "public lands" in section 92(5) so that it extends to mines and minerals reserved from freehold grants.

It therefore seems clear that section 92(5) refers to oil and gas resources in the provinces the title to which is vested in the Crown on behalf of the provinces. It remains to determine the meaning of "management and sale" of these resources.

83 1889), 14 App. Cas. 295.
84 [1911] A.C. 87.
In Attorney-General for Canada v. Attorneys-General for Ontario, Quebec and Nova Scotia, the Privy Council spoke of the relationship between "the management and sale of....public lands" and "sea coast and inland fisheries". Their Lordships said:

...the terms and conditions upon which the fisheries which are the property of the province may be granted, leased or otherwise disposed of, and the rights which consistently with any general regulations respecting fisheries enacted by the Dominion Parliament may be conferred therein, appear proper subjects for provincial legislation, either under class 5 of s. 92, "The Management and Sale of Public Lands" or under the class "Property and Civil Rights." Such legislation deals directly with property, its disposal, and the rights to be enjoyed in respect of it, and was not in their Lordships' opinion intended to be within the scope of the class "Fisheries" as that word is used in s. 92.

This statement is a clear recognition of the exclusive legislative authority of the provinces pursuant to section 92(5), but the scope of the class of subjects described therein is limited. The matter of disposition of proprietary rights is confirmed as coming within the class, but these rights are required to conform in nature with valid Dominion legislation on matters within the "fisheries" class of subjects. Provincial legislative authority is described in terms of "the sale of...public lands" rather than "the management and sale....public lands", so far as fisheries are concerned. Although the Privy Council was not attempting an exhaustive definition of the provincial class of subjects it does appear that little scope was left for meaning to be attributed to

88 B.N.A. Act, 1867, section 91(12).
89 Op. cit. note 7, 716. The final reference to "s. 92" must be a mistake; s. 91 is clearly intended.
"management". This may be explained by the fact that, in the nineteenth century, little thought was given to the management of fisheries. Attention was confined to the only matter of economic significance in relation to these resources, the sale of fishing rights.

The issue was different in the cases on Indian lands. It was not whether the scope of one class of subjects, "the management and sale of... public lands", 90 had to be restricted to accommodate another class, "indians and lands reserved for indians". 91 Instead, the cases involved the nature of Indian title. This was regarded as an encumbrance upon property which prevented the dealing with that property in a manner inconsistent with Indian title. 92 Thus, the interest of a province in lands subject to Indian title was limited until surrender of that title to the Crown. 93

The scope of section 92(5) was considered again in Brooks-Bidlake and Whittall, Limited v. Attorney-General for British Columbia, et al., 94 this time in relation to federal legislative authority over "aliens". 95 The case involved timber licences issued by the British Columbia government over provincial Crown lands. The licences were for a year only, but were renewable from year to year if there had been compliance with the terms and conditions. One of the conditions was that no Chinese or Japanese should be employed in connection with timber operations. This was inserted pursuant

90 B.N.A. Act, 1867, s. 92(5).
91 B.N.A. Act, 1867, s. 91(2e).
92 Lysyk, op. cit. note 22.
93 St. Catherine's Milling & Lumber Co. v. The Queen, op. cit. note 20, 60. It should also be noted that section 109 of the B.N.A. Act, 1867, states that lands shall belong to the provinces subject to "any interest other than that of the province in the same".
95 B.N.A. Act, 1867, s. 91(25).
to Orders of the Lieutenant-Governor in Council made before the licences were issued. Subsequently, by the Oriental Orders in Council Validation Act of British Columbia, 1921, it was declared that the Orders in Council and the condition in question were valid and had the force of law, and that the violation of any such condition should be a sufficient ground for the cancellation of a licence. The appellant employed both Chinese and Japanese in its timber operations upon Crown lands. The British Columbia government refused to renew the appellant's licences, whereupon the appellant commenced an action seeking a declaration that it was entitled to employ Chinese and Japanese in its operations and an injunction restraining the government from interfering with the enjoyment of the licences.

The Privy Council decided the case in favour of the British Columbia government. Their Lordships said:

Sect. 91 reserves to the Dominion Parliament the general right to legislate as to the rights and disabilities of aliens and naturalized persons; but the Dominion is not empowered by that section to regulate the management of the public property of the Province, or to determine whether a grantee or licensee of that property shall or shall not be permitted to employ persons of a particular race. These functions are assigned by s. 92, head 5, and s. 109 of the Act to the Legislature of the Province; and there is nothing in s. 91 which conflicts with that view. 96

This implies a somewhat broader view of the class of subjects in section 92(5) than that taken by the Privy Council in Attorney-General for Canada v. Attorneys-General for Ontario, Quebec and Nova Scotia. 97 However, a subsequent case has done much to cloud the issue. The decision

in the Brooks-Bidiake case did not resolve all the questions outstanding in relation to employment of Chinese and Japanese on provincial forest lands in British Columbia. While the appeal in this case was pending, the Governor-General in Council referred to the Supreme Court of Canada the question whether the Oriental Orders in Council Validation Act was in excess of the powers of the legislature of British Columbia. In due course this also came before the Privy Council for determination. 98

The actual decision in this case is not relevant here as it was not based upon section 92(5). 99 What is important is the Privy Council's explanation of its earlier decision in the Brooks-Bidiake case. One may have been excused for thinking that Brooks-Bidiake was authority for the proposition that the Oriental Orders in Council Validation Act was legislation in relation to a matter coming within "the management and sale of... public lands" rather than "aliens", 100 but the Privy Council declined to confirm this. Without deciding the point their Lordships said that the British Columbia statute

may not altogether unreasonably be looked on as containing an approach to the laying down of something more than a mere condition for the renewal of the right to use Provincial property. 101

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99 Instead, it was based upon the validity of a federal statute, the Japanese Treaty Act, 1913, enacted pursuant to section 132 of the B.N.A. Act, 1867.
100 When the case was before the Supreme Court, the members of the Court divided equally on this question, Davies C.J., Anglin and Mignault JJ. deciding that the statute was in relation to a matter coming within section 91(25), and Idington, Duff and Brodeur JJ. deciding that it came within section 92(5): In Re the Employment of Persons on Crown Property (1922), 63 Can. S.C.R. 293.
101 [1924] A.C. 203, 211.
A distinction was drawn between a condition inserted in the grant of a licence, the breach of which affected property rights in the future, and a statute requiring insertion of such a condition and compliance with it, upon penalty of loss of property rights. On this basis the Brooks-Bidlake case was regarded as having said nothing whatsoever about the scope of provincial legislative authority under section 92(5).

This dictum lends weight to the view that the limits placed upon exclusive legislative authority by sections 91 and 92 of the B.N.A. Act do not define the extent of the executive power exercisable by both levels of government. The terms of the B.N.A. Act are not explicit in this regard, but section 12, when read with sections 64 and 65 of the Act, undoubtedly effects some division of executive power. The Privy Council in an earlier case, Bonanza Creek Gold Mining Co. Ltd. v. The King, not only recognized that such a division existed but also stated that the division corresponded with that achieved by the Act for legislative authority:

The effect of these sections of the British North America Act is that, subject to certain express provisions in that Act and to the supreme authority of the Sovereign, who delegates to the Governor-General and through his instrumentality to the Lieutenant-Governors the exercise of the prerogative on terms defined in their commissions, the distribution under the new grant of executive authority in substance follows the distribution under the new grant of legislative powers.

It has been suggested that the federal "spending" power is another example of executive power exceeding the limits of legislative authority. However, the basis for the spending power may lie in Section 91(1A) of the B.N.A. Act, "the public debt and property".

[1916] 1 A.C. 566.

Ibid, 580.
Their Lordships' explanation of the Brooks-Bidlake decision in the Oriental Orders in Council reference is inconsistent with this position. However, this is not the only reason why the explanation is unsatisfactory. First, it does not accord with the actual decision reached in the Brooks-Bidlake case, only a year earlier. Second, and more importantly, since there was valid federal legislation in effect prohibiting the type of discrimination practised by the British Columbia Government the explanation implies that the exercise of provincial executive power in areas closed to provincial legislation is not subject to federal legislation. This would make a mockery of the division of legislative authority in the B.N.A. Act.

In only one case has the issue been raised directly of the relationship between "the management and sale of the public lands belonging to the province" and "the regulation of trade and commerce". This was Smylie v. The Queen, 104 the facts of which have already been recounted. 105 The Ontario Court of Appeal decided that the provincial statute requiring the insertion of the restrictive condition in all Crown timber licences was in relation to a matter coming within section 92(5) rather than section 91(2). No attempt was made to define the limits of either class, though, apart from the conclusion that the attachment of conditions to the acquisition of public property came within "the management and sale of...public lands" even though this may affect "trade and commerce".

This gives a broader scope to section 92(5) than did Attorney-General for Canada v. Attorneys-General for Ontario, Quebec and Nova Scotia. 106

105 Supra, 10.
However, this would appear to be justified by the wording of sections 91 and 92. The "fisheries" class of subject is more specifically designated than the "trade and commerce" class, and so, in considering each in relation to "the management and sale of...public lands" it seems reasonable that the boundaries of the "fisheries" class should curtail the limits of the "public lands" class while the "trade and commerce" class should not. This is merely an example of the rule of statutory interpretation that the general gives way to the specific. "Fisheries" is a more specific class than "public property", but, on the other hand, "public property" is more specific than "trade and commerce". This rationalization does not succeed in defining the limits of the "public lands" class vis-a-vis the "trade and commerce" class, but it does suggest a reason why the Fisheries case need not cause a narrow view to be taken of section 92(5) in all respects, and also points to a basic principle to be applied in accommodating the boundaries of competing classes: the general must yield to the particular. 107

At this point it is interesting to consider the relationship of sections 91(2), 92(5), 91(3) and 125 of the B.N.A. Act, 1867. Section 91(3), it has already been noted, 108 defines the legislative authority of the Dominion regarding taxation. Section 125 says:

No Lands or Property belonging to Canada or any Province shall be liable to Taxation.

It has been held by the Privy Council in Attorney-General for British Columbia v. Attorney-General for Canada 109 that section 125 did not prevent the

107 Abel, op. cit. note 52, 510.
108 Supra, 20.
levying of federal customs duties upon goods imported into the province for sale therein, despite the fact that the goods were the property of the province. Their Lordships explained the relationship of the sections in the following way:

Section 91, which assigns powers to the Dominion, provides, among other things, that it shall enjoy exclusive legislative authority over all matters enumerated in the schedule, included among which are the regulation of trade and commerce and raising of money by any mode or system of taxation. The imposition of customs duties upon goods imported into any country may have many objects; it may be designed to raise revenue or to regulate trade and commerce by protecting native industries, or it may have the two-fold purpose of attempting to secure both ends; in either case it is a power reserved to the Dominion. It has not indeed been denied that such a general power does exist, but it is said that a breach is created in the tariff wall, which the Dominion has power to erect, by sec. 125, which enables goods of the Province or the Dominion to pass through, unaffected by the duties. But sec. 125 cannot, in their Lordships' opinion, be so regarded. It is to be found in a series of sections which beginning with sec. 102 distribute as between the Dominion and the Province certain distinct classes of property and confer control upon the Province with regard to the part allocated to them. But this does not exclude the operation of Dominion laws made in exercise of the authority conferred by sec. 91. The Dominion has the power to regulate trade and commerce throughout the Dominion, and, to the extent to which this power applies, there is no partiality in its operation. Section 125 must, therefore, be so considered as to prevent the paramount purpose thus declared from being defeated.

Central to this reasoning was the conclusion that the federal legislation imposing the customs duties came within the scope of Dominion legislative authority under section 91. No issue was raised as to the boundaries of competing classes of subjects in sections 91 and 92 and, in

110 Ibid., 225.
particular, section 92(5) was not in question, for the goods in the case were consignments of liquor and not "public lands". Therefore, the case does not go so far as to say that all federal customs duties are validly imposed. There remains the preliminary question whether the act levying the duties is in relation to a matter coming within one of the classes of subjects in section 91. 111

Nevertheless, the decision in this case gives rise to considerable difficulty and it may be doubted whether it is correct in principle. 112 If section 125 is to be read subject to the full extent of Dominion legislative authority under section 91 it has no effect whatsoever in preventing Dominion taxation of provincial lands and property. Yet this seems to be the position adopted by the Privy Council. The only other interpretation which supports the decision in the case is that section 125 restricts the scope of Dominion taxing authority under section 91(3) but not the federal trade and commerce power under section 91(2). Each case of Dominion taxation of provincial lands and property would then require a decision whether the legislation imposing the tax was in relation to a matter coming within section 91(2), when it would be valid, or section 91(3), when it would not.

111 The courts have consistently held that the Dominion can not use its taxing power to achieve a regulatory purpose which it cannot realize through direct regulation: In re Insurance Act of Canada, [1932] A.C. 41, 52; Attorney-General for Canada v. Attorney-General for Ontario (Employment and Social Insurance reference), [1937] A.C. 355.

112 The earlier statement by Clement, William, The Law of the Canadian Constitution, Toronto, Carswell, 1916 (3rd ed.), 643, that s. 125 "would operate no doubt to exempt from customs duties goods purchased abroad by a provincial government" is to be preferred.
But the Privy Council made no such distinction in reaching its conclusion, as the passage quoted earlier clearly shows.

Turning now to the question of limits to federal and provincial taxing authority, it becomes necessary to ask what constitutes taxation. The criteria laid down by the courts are in broad terms. In *Lawson v. Interior Tree, Fruit and Vegetable Committee* 113 Duff J. regarded levies imposed on products marketed by a provincial marketing authority in order to recover operating costs as taxes because they were (a) enforceable by law; (b) imposed under authority of legislation; (c) imposed by a public body; and (d) made for a public purpose. 114 Similarly, equalization charges designed to effectuate provincial schemes of price fixing as an aid to orderly marketing have been held by the Privy Council to be taxes. 115 In *Attorney-General for British Columbia v. Esquimalt and Nanaimo Railway Company* 116 a forest protection fund levy was said to be a tax since it was imposed compulsorily by legislation and was recoverable at the suit of the Crown, 117 even though it applied to a limited class of persons, was for a specific purpose, and its proceeds did not fall into general revenue.

114 Ibid., 363, 197.
117 Ibid., 121.
However, there are limitations to be placed upon these broad definitions. In particular, a distinction has been noted in more recent cases between taxation levied at the time of sale and charges imposed under cooperative marketing schemes. In Reference re the Farm Products Marketing Act 118 the Supreme Court held that the definitions of taxation developed in the earlier cases did not include a marketing scheme involving simply the pooling of products and returns by producers even though this was required by legislation. In Murphy v. Canadian Pacific Railways 119 the Court confirmed that a statutory pooling scheme did not necessarily amount to taxation. Even more significantly, it seems, the Court in Crawford and Hillside Farm Dairy Ltd., et al. v. Attorney-General for British Columbia, et al. 120 held that provincial legislation was not in respect of taxation where it established a compulsory marketing scheme requiring the pooling of all produce under the control of a designated body which was empowered to arrange all sales and distribute the net proceeds thereof among producers according to statutory formulae. Thus it is no longer the case that a marketing board is prevented from deducting operating expenses from gross proceeds of sales before distribution among producers, and the acceptance of the statutory formulae in the Crawford and Hillside Farm case suggests that the adjustment of returns among classes of regulated products is not taxation either. There may still be doubt, though, where a marketing scheme clearly provides for the transfer

of the proceeds of sale from one class of producer to another, but it seems likely that the Supreme Court would characterize such a scheme as a matter coming within the regulation of trade and commerce rather than taxation.

Provincial taxing authority is confined to direct taxation, and a great many cases have turned upon the distinction between this and indirect taxation. The classical view is set out in Bank of Toronto v. Lambe where the Privy Council adopted the definition of John Stuart Mill:

Taxes are either direct or indirect. A direct tax is one which is demanded from the very persons who it is intended or desired should pay it. Indirect taxes are those which are demanded from one person in the expectation and intention that he shall indemnify himself in the expense of another; such are the excise or customs.

Their Lordships were of the opinion that this definition expressed a common understanding of the indicia of direct and indirect taxation in 1867, and was thus likely to have been present in the minds of the framers of the B.N.A. Act. For this reason they refused to speculate whether Mill had stipulated that a tax, to be direct, must be general, for this would have run counter to such understanding and could not, therefore, have been incorporated in the B.N.A. Act. Stress was also laid on the fact that the Board was not concerned with the actual incidence of a tax, this being a matter of considerable complexity upon which economists found difficulty in agreeing. Rather, it was interested in the intended or desired incidence.

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121 B.N.A. Act, 1867, section 92(3), quoted supra, 20.
123 Ibid., 582.
Application of these principles has resulted in decisions that taxes imposed upon the final consumers of goods are direct, 124 whereas taxes upon intermediate transactions in the production or distribution of goods are indirect. 125 A tax calculated upon the gross value of production from a mine is indirect, 126 but a tax levied on net revenue from mining, calculated according to a statutory formula, is direct. 127 Also direct is a tax calculated at a fixed rate per acre of mineral land. 128 However, where a tax is in its real nature an export tax it will be very difficult to show that it is direct, for an export tax is normally collected on merchantable goods in course of transit in pursuance of commercial transactions which themselves determine the ultimate incidence of the tax. 129

Provincial taxing authority is further limited to taxation "within the province", which often requires a close examination of the operative legislation to identify the person or thing upon which the tax is imposed. If the person or thing is in fact within the province then the validity of the tax is unimpaired by its assessment on the basis of extra-provincial attributes. 130.


125 Lawson v. Interior Tree, Fruit and Vegetable Committee, op. cit. note 113; Lower Mainland Dairy Products Sales Adjustment Committee v. Chrystal Dairy Ltd., op. cit. note 115.


130 Bank of Toronto v. Lambe, op. cit. note 65.
Moreover, section 92(2) of the B.N.A. Act states that the class of subjects which defines the provincial taxing authority is restricted to matters with the common purpose of "the raising of a revenue for provincial purposes." The courts have not construed this provision narrowly and have rejected the suggestion that section 92(2) does not authorize taxation for a local purpose imposed upon a particular locality. 131 Also, the wording of the section is an indication that cooperative marketing schemes designed to achieve orderly and equitable marketing of products and not to raise government revenue would not come within the class.

The limits to Dominion taxing authority under section 91(3) of the B.N.A. Act are noticeably less confined. There is no distinction drawn between direct and indirect taxation, nor are the purposes of taxation specified. All that is really necessary to say is that the same rules of construction apply in defining the class of subjects in section 91(3) as with any other class in sections 91 or 92. Classes are mutually exclusive in scope, and a matter which comes within one class, such as the management and sale of public lands, can not also come within section 91(3). 132

Next to be considered are the classes of subjects defined by section 92(10)(a) and (c) of the B.N.A. Act, 1867. 133 Section 91(29) of the Act


133 Quoted supra, 20.
places these within the exclusive legislative authority of the Dominion, so that they are to be construed as if they were specially enumerated in section 91.\textsuperscript{134}

For present purposes the meaning attributed to "works and undertakings" is of great importance. No general definition has been established so far but the courts have rejected suggestions that a narrow view was intended.\textsuperscript{135} "Works" have been regarded as physical things rather than services,\textsuperscript{136} while "undertakings" describes the arrangements under which physical things are used.\textsuperscript{137} This distinction is made significant by the fact that the phrase used in section 92(10) (a) is "works and undertakings" whereas in section 92(10) (c) only "works" is used.

The class of subjects in section 92(10)(a) is further limited by the requirement that the works and undertakings connect two or more provinces. This presents a question of fact which in many circumstances will not give rise to any difficulty. The connection exists notwithstanding the partial use of the system by purely intraprovincial traffic.\textsuperscript{138} In some cases,

\begin{itemize}
\item \textsuperscript{134} Montreal v. Montreal Street Railway, op. cit. note 65, 342.
\item \textsuperscript{135} See, for example, the reasons for judgment of the Privy Council in Attorney-General for Ontario v. Winner, [1954] A.C. 541.
\item \textsuperscript{137} Radio case, ibid. 315; Quebec Railway Light and Power Company Beaufort, [1945] S.C.R. 76, 24, T D.L.R. 145, 151, per Rinfret C.J.
\item \textsuperscript{138} Montreal v. Montreal Street Railway, op. cit. note 65.
\end{itemize}
though, where the fact of connection is established, there is a related problem of how far the interprovincial system extends before the connection is broken. An example is provided by Luscar Collieries Limited v. McDonald \(^{139}\) where the Privy Council held that a branch line feeding into an interprovincial railway was part of that railway and accordingly within federal legislative competence under section 92(10)(a). The branch line in this instance was operated by the company controlling the interprovincial railway and their Lordships noted that traffic on the branch line could pass without interruption to such parts of the Dominion as were served by the interprovincial railway, \(^{140}\) but it is not clear whether this formed the basis of the decision or if the physical connection alone was sufficient. \(^{141}\) An interprovincial oil pipeline has been held to come within section 92(10)(a) \(^{142}\) but this issue of the extent of such a line has not yet been raised for determination by the courts. \(^{142A}\)

\(\text{\(^{139}\) [1927] A.C. 925.}\)

\(\text{\(^{140}\) Ibid., 929-930.}\)

\(\text{\(^{141}\) In a subsequent case, B.C. Electric Railway v. Canadian National Railway, [1932] S.C.R. 161, 2 D.L.R. 728, the Supreme Court of Canada held that physical connection alone was not sufficient.}\)


\(\text{\(^{142A}\) The issue has arisen, however, before the federal Board of Transport Commissioners. Westspur Pipeline Company, which owned and operated an extra-provincial pipe line under the Pipe Lines Act, R.S.C. 1952, c. 211, applied to the Board for leave to sell to a subsidiary company those parts of its}\)
The terms of section 92(10)(c) suggest that the class of subjects defined therein is limited only by the meaning attributed to "works".

No support is offered for the proposition that the courts may review a declaration in order to establish whether it was properly made in the prevailing circumstances. It has been held that a declaration must have statutory force, but, this being so, the courts have not chosen to stipulate requirements as to form. Recently, the Supreme Court of Canada has confirmed the validity of a declaration which is general in its terms, and expressed to cover works to be constructed as well as existing ones of the class.

facilities forming is gathering system in Saskatchewan. The subsidiary did not have authority under the Pipe Lines Act to operate extra-provincial pipe lines, so the question was raised whether, after the sale, the gathering system would remain part of an extra-provincial pipe line. The Board considered five factors as relevant in this determination: (1) physical connection; (2) ownership; (3) operation; (4) purpose of the gathering lines; (5) whether the gathering lines were part of the undertaking of Westspur. It concluded that they were physical connection was insufficient to decide the issue, as was ownership. As to operation, the Board found that the role would not result in any real separation of the trunk line business from the gathering business. The purpose of the gathering lines was clear, to feed the trunk lines as well as to operate for the benefit of producers. Finally, the change in ownership did not prevent the gathering lines from forming an integral part of Westspur's interprovincial undertaking. Therefore, the Board concluded that the gathering units could not be regarded severable, and hence entirely local in character. The Board hastened to assert, though, that this finding did not mean that in all circumstances gathering lines located wholly within a province and connected to inter-provincial trunk lines would be regarded as part of the inter-provincial undertaking: (1957) 76 C.R.T.C. 158, especially at 177-179.

144 Montreal v. Montreal Street Railway, op. cit. note 65, 342.
145 Laskin, op. cit. note 51, 481.
Finally, the general Dominion power "to make laws for the Peace, Order, and Good Government of Canada" has been subjected to noticeably different interpretations by the courts. At first it was thought to operate whenever uniform legislation was required in relation to a matter affecting several provinces. This did not last long, though, and instead the general power was afforded a dual operation, firstly, as a residuary power where a matter did not come within any of the classes of subjects listed in sections 91 and 92, and secondly, in an emergency context where a matter was not only of "national concern" but also of "such dimensions as to affect the body politic of the Dominion". The first operation allowed the incorporation of Dominion companies but since at this time the Privy Council took a very wide view of the classes of subjects listed in section 92(13) and (16) there was little scope for much else. The second operation confirmed the validity of various federal wartime regulations but did not extend to the settlement of widespread industrial disputes or the resolution of crop marketing problems.

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149 Supra, 22; see also Local Prohibition case, op. cit. note 55.


152 Natural Products Marketing reference, op. cit. note 70.
recently, this very narrow view of the general power has been effectively abandoned by the Supreme Court of Canada which has chosen to judge the validity of federal legislation according to criteria such as whether it "goes beyond local or provincial concern" or deals with a matter "of national concern" devoid of any suggestion of emergency. 153

Two principles appear to have been established regarding the general power. Firstly, it does not extend to matters coming within the classes of subjects listed in section 92, the scope of which is therefore crucial. Secondly, while it does include all matters coming within the classes of subjects in section 91 (these having been enumerated "for greater Certainty, but not so as to restrict the Generality" of the power), it does not amount simply to a residuary power, for to regard it so would be to ignore section 92(16). This sub-section, when considered together with section 91, effects a division of the residuary legislative authority between the provinces and the Dominion, the former having power over "generally all matters of a merely local or private nature in the province" and the latter having power to legislate for "the Peace, Order and Good Government of Canada". Regarded in this way the content of the general power becomes clearer: it encompasses legislation which is "the concern of the Dominion as a whole". 154

One aspect of the general power deserves further mention. It is the incorporation of Dominion Companies. On a number of occasions the issue has arisen not as to the existence of this power but rather as to the extent to which it allows the regulation of the activities of such companies.


The courts have generally recognized that incorporation and the regulation of specified activities are separate matters and that the former does not necessarily include the latter. This distinction was not decisive in British Columbia Power Corporation Limited v. Attorney-General of British Columbia, however, where the fact of federal incorporation of one of the companies involved resulted in a significant curtailment of the province's power to regulate energy distribution in the province by the means chosen (public ownership of distribution facilities). It may be doubted whether this decision is correct as it appears to go beyond the principles established in the earlier Privy Council judgments that federal companies were entitled to become established as such and could not be subjected to discrimination, but had no constitutional guarantee of being able to carry on any particular business within provincial regulatory power.

There is no authority governing the situation where the company concerned is a Crown corporation and thus an agent of the Crown, whether federal or provincial. It may be said that complex questions of Crown immunity arise but it is submitted that, notwithstanding, the result should be the same. The authority of the Dominion and provinces to establish such bodies may not be doubted but the provisions of the B.N.A. Act as to the division of legislative authority are clear and should be taken as overriding any immunity which may exist at common law.

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156 (1963), 44 W.W.R. 65, 47 D.L.R. (2d) 633.

157 Laskin, op. cit. note 51, 560.

158 In the case of the provinces, however, there are limits to be placed on such a company's activities by virtue of section 92(11) of the B.N.A. Act.
E. JURISDICTION ON A FUNCTIONAL BASIS

The complex process of exploitation of oil and gas resources may be divided into a number of stages. Although this involves a degree of artificiality, since the line separating one function from the next may be difficult to draw in practice, it allows the question of jurisdiction over these resources to be considered in relation to their actual development rather than in the abstract.

1. Allocation of Rights.

A province may dispose of publicly-owned oil and gas resources as an incident of its ownership power. In so doing, the province has all the rights of a private owner of resources and is not curtailed by limits placed upon its exclusive legislative authority. On the other hand, though, the disposal is subject to the provisions of valid federal legislation. 159

Of greater importance is the scope of provincial legislative authority. It seems beyond doubt that the allocation of rights over Crown oil and gas resources is a matter coming within "the management and sale of the public lands belonging to the province." 160 The cases have not determined the limits of this class of subjects. 161 The history of dealings with Crown lands in the colonies prior to confederation suggests that the entire

159 Supra, 9-15.
160 B.N.A. Act, s.92(5).
161 Supra, 27 et seq.
control was intended to reside with the provinces and that revenues therefrom were to play a crucial role in the maintenance of provincial budgets. This accords with the ordinary meaning attributable to "management and sale" of a resource.

The time at which property in oil and gas passes from the Crown into private ownership pursuant to the provincial allocation system is of vital importance to the limits of this class. Once property passes, the sale is complete and the oil and gas no longer fit the description, "the public lands belonging to the province". However, even if property in oil and gas remains in the Crown after production, the substances cease to be land or incidents to land, and become chattels. Thus, the limits to the class described in section 92(5) are certainly exceeded after oil and gas are produced, and may be reached earlier if the allocation system transfers property from the Crown prior to production.

In general, the process of selection of the party to receive Crown oil and gas rights, the nature of such rights, their extent, duration, and the consideration paid therefor, are all matters coming within "the management and sale of the public lands belonging to the province". However, questions arise in relation to some special circumstances.

The first is whether a Dominion company or a federal Crown corporation is placed in any favoured position vis-à-vis all other parties in the acquisition of Crown oil and gas rights. The view of the authorities adopted here, that Dominion companies were entitled to be established and to

162 Supra, 2-3.
163 Supra, 48.
carry on business without discrimination, but were otherwise subject to provincial regulatory power, requires the conclusion that such companies occupy no favoured position. To find otherwise would be to suggest that the scope of the class of subjects described in section 92(5) should be read down to accommodate the very much broader federal residuary power, contrary to the scheme inherent in sections 91 and 92.¹⁶⁴

Next, there is the question whether a province is restricted as to the method by which the consideration for the sale of Crown oil and gas rights may be calculated and paid. Three examples are readily available. Until recently, the Alberta government assessed royalties on oil production from Crown leases according to a sliding scale which rose with increased rate of production per well from 5% to almost 25% of gross wellhead value. A new scale which took effect on April 1, 1974, retains the old scale as a basic royalty and adds a supplementary royalty which also varies with rate of production and is calculated upon the difference between the current price of crude oil and the price prevailing on March 31, 1974. The average supplementary royalty rate is 65% for "old" oil and 35% for "new" oil.¹⁶⁵ The second example is provided by the Alberta gas royalty which is also calculated on a sliding scale basis rising not with rate of production but with selling price at the wellhead.¹⁶⁶ Thirdly,

¹⁶⁴ Supra, 17.

¹⁶⁵ The royalty is described in greater detail in Part II, "Government Management of Oil and Gas in Alberta", 18.

¹⁶⁶ Ibid., 19.
Saskatchewan has applied an oil "royalty surcharge" calculated by deducting the "basic wellhead price" (specified by legislation) from the "international wellhead price" (determined by the Minister as the wellhead value of oil having regard to prevailing prices and transportation costs). The issue is whether the legislation imposing these charges is in relation to a matter coming within "the management and sale of the public lands belonging to the province", or, instead, within a federal class such as indirect taxation or "the regulation of trade and commerce".

Two approaches are open. The narrower of them asks whether the charges in question may be regarded as royalties at common law, analogous to rent, giving the holder thereof an interest in land. If so, it seems clear that they must be characterized neither as taxation nor as an interference with trade and commerce. The common law has not sought to curtail the ingenuity of landowners in assessing royalties or rent according to whatever criteria may be agreed upon in the circumstances. In The Queen v. Westbrook, the consideration for a lease to dig clay for making bricks was an annual rental of two pounds per acre plus "a royalty of one shilling and six pence for every thousand of bricks moulded in any one year." Lord Denman C.J., giving the judgment of the Court of Queen's Bench, said:


169 (1847), 10 Q.B. 178.
When the case is thus laid bare, there is no distinction between it and that of the lessee of coal mines, of clay pits, of slate quarries: in all these the occupation is only valuable by the removal of portions of the soil: and whether the occupation is paid for in money or kind, is fixed beforehand by the contract, or measured afterwards by the actual produce, it is equally in substance a rent: it is the compensation which the occupier pays the landlord for that species of occupation which the contract between them allows. 170

More recently, the Privy Council was of the opinion, in Attorney-General of Alberta v. Huggard Assets Ltd. and Attorney-General of Canada, 171 that the fact that a royalty was "variable", in that its amount may depend upon the whim, from time to time, of the grantor, did not cause it to be so "uncertain" as to prevent it from being rent. 172

The broader approach does not require that these charges be characterized as royalties or rent. It simply asks whether they form part of the consideration paid for the acquisition of oil and gas rights. The fact that they do not amount to royalties or rent, strictly construed, does not prevent them from constituting part of this consideration. Stirling L.J. put the position thus in Re Adam's Estate: 173

It is also to be borne in mind that the object of a mining lease is to enable the lessee to remove for his own benefit the minerals demised, and widely differs from that of a lease of a portion of the surface where the lessee is expected, after enjoying the use and occupation of the demised property for a term of years, to deliver it up to the lessor in the same state and condition as at the commencement of the lease. The rent reserved by a mining lease rather resembles an instalment of purchase-money for the demised minerals than what is understood by rent reserved on an ordinary demise of the surface. 174

170 Ibid., 204.
172 Ibid., 440.
173 [1902] 2 Ch. 46.
174 Ibid., 58.
Irrespective of whether the Alberta and Saskatchewan leases amount to a demise of oil and gas in the ground, a question taken up later, there seems little doubt that the royalties imposed on production, however calculated, form part of the consideration for the sale of Crown rights. This being the case, the legislation imposing or amending these royalties is in relation to a matter coming within "the management and sale of the public lands belonging to the province".

Then, there is the vexed question of the extent to which a province can make the sale of Crown oil and gas rights subject to conditions. In the absence of conflicting federal legislation the province may simply rely upon its ownership power to insert any conditions that could be included by a private resource owner. Where such federal legislation does exist, though, the province is restricted to the scope of its exclusive legislative authority. A statute inserting conditions in a sale of oil and gas rights will be valid only to the extent that it is in relation to a matter coming within a provincial class of subjects, usually "the management and sale of the public lands belonging to the province".

An example is provided by the Alberta statute, The Gas Resources Preservation Act. First enacted in 1956, this statute seeks to

175 Infra, 62.

176 This may be done by either legislative or executive act, without affecting the consequences: supra, 9-15.

regulate the removal of gas produced pursuant to a Crown lease or other title from Alberta. The intent of the Act is stated therein, as follows:

The intent, purpose and object of this Act is to effect the preservation and conservation of the oil and gas resources of the Province belonging to the Crown in right of Alberta and to provide for their effective utilization having regard to the present and future needs of persons within the Province. 179

This alone does not indicate the subject matter of the statute, though. A person wishing to remove gas from the province may apply to the Energy Resources Conservation Board for a permit to do so, 180 and the Board is not allowed to grant a permit unless in its opinion it is in the public interest to do so having regard to

(a) the present and future needs of persons within the Province, and

(b) the established reserves and the trends in growth and discovery of reserves of gas or propane in the Province. 181

A person who removes gas from Alberta without a subsisting permit authorizing the removal is guilty of an offence. 182

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178 Ibid., s. 2.1, inserted by S.A. 1973, c.90, s.2. Prior to 1973, the Act applied also to gas produced from freehold oil and gas leases.

179 Ibid., s.3, added by S.A. 1973, c.90, s.3.

180 Ibid., s.4.

181 Ibid., s.6(3). For a detailed description of the procedure followed by the Board and the Factors considered in reaching its decision, see Part II, "Government Management of Oil and Gas in Alberta", et seq.

182 Ibid., s.21.
Two possibilities present themselves. One is that this is an Act in relation to the conservation of publicly-owned oil and gas in Alberta, the other is that it is an Act in relation to the removal of gas from the province. It is submitted that the latter description fits the statute better. The permit system operates with respect to removal of gas rather than production. The two operations are closely linked, in that production may not occur unless removal is possible, but this is not necessarily the case. It is also true that a primary (though not the only) factor considered by the Board in reviewing an application for a permit is the inventory of gas available for Alberta use. Nevertheless, the method chosen for influencing the level of Alberta supplies is the control of gas removal from the province. Conservation may be achieved by the Alberta government without resort to this indirect mechanism.

The Act is, therefore, in relation to a matter coming within, "the regulation of trade and commerce" rather than "the management and sale of the public lands belonging to the province" and lies beyond the limits of the exclusive legislative authority of the province.

The next question is whether a condition included in the grant of Crown oil and gas rights, having the same effect as the provisions of The Gas Resources Preservation Act or requiring compliance with them, has any greater effect. For example, a term of the Alberta petroleum and natural gas lease reads as follows:

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183 Part II, "Government Management of Oil and Gas in Alberta", 89.

The lessee shall comply with the provisions of the Oil and Gas Conservation Act, and The Gas Resources Preservation Act, and any Act or Acts passed in substitution for them or either of them, and any order of the Energy Resources Conservation Board made pursuant to any of such Acts, and any regulations that at any time may be made under the authority of any of such Acts, and all such provisions, orders and regulations shall be deemed to be incorporated into this lease and shall bind the lessee in the same manner and to the same extent as if the same were set out herein as covenants on the part of the lessee. Each and every provision, order or regulation hereafter made shall be deemed to be incorporated into this lease and shall bind the lessee as and from the date it comes into force, but in the event of conflict between any order or regulation hereafter made and any order or regulation previously made the order or regulation last made shall prevail.

In the absence of federal legislation to the contrary, this condition represents a valid exercise of the province's ownership powers in relation to oil and gas and is thereby enforceable. Where federal legislation does exist regulating the movement of gas from one province to another, though, the condition must bow to this legislation. To hold otherwise would provide an immunity for provincial executive action in relation to matters coming within the scope of exclusive federal legislative authority. 185

However, a further clause in the Alberta petroleum and natural gas lease must also be noted. It provides: 186

6. The lessee covenants, and it is an express condition upon which this lease is granted, that natural gas produced from the location shall be used within the Province of Alberta, unless the consent of the Lieutenant Governor in Council to its use elsewhere has been previously obtained. Upon any breach of this covenant and condition occurring, whether with or without the consent or knowledge of the lessee, this lease, in so far as it relates to the natural gas within and under the location, shall forthwith be terminated, shall become null and void, and shall cease to have any further force or effect, and the natural gas within and under the location, freed and discharged from any interest or claim of the lessee or any other person or persons whomsoever claiming by, through or under the lessee.

185 Supra, 34.
This does not prohibit the removal of gas from Alberta without a permit, or make such removal an offence. Nevertheless, the link with *The Gas Resources Preservation Act* is clear. The approval of the Lieutenant Governor in Council has never been granted, as a matter of practice, unless a permit has first been issued by the Board.\(^\text{187}\) This link may be sufficient to make the clause inoperative in the face of federal legislation regulating interprovincial movement of gas, if the courts are prepared to look behind the words of the statutes to their administration.\(^\text{188}\) However, the issue is not free from doubt. In any event, though, it seems that the validity of the clause matters little to the end result.

Firstly, the clause is drafted in the form of a determinable limitation rather than a condition subsequent. It does not prohibit the removal of gas from Alberta without approval or give the Alberta government a cause of action for breach. Instead, it provides that the rights of the lessee under the Crown lease shall determine upon the happening of such an event, without the necessity of any further action on the part of the Alberta government. The courts have long drawn a distinction between the effects of a determinable limitation and a condition subsequent. In particular, the results are different if the provisions are void. A grant subject to a condition subsequent, which is judged to be void, becomes absolute, since the grant is properly limited even though the condition fails.\(^\text{189}\) However, a grant subject to a determinable limitation which is void wholly

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\(^{187}\) See Part II, "Government Management of Oil and Gas in Alberta", 88 \textit{et seq.}

\(^{188}\) The case for such recourse by the courts is eloquently made by Abel, \textit{op. cit.}, note 52, 495-496.

fails, since the grant has no proper limitation. Thus, even if the clause effecting the limitation of the lessee's interest was held to be inoperative as going beyond the powers of the Alberta government, the lease would determine, with the consequence that the future removal of gas from the province would be prevented.

Secondly, there is authority for the proposition that if a covenant forms part of the consideration for which the lease is granted, a finding that the covenant is void may cause the entire grant to fail for want of adequate consideration. In Attorney-General for British Columbia et al. v. Brooks-Bidlake & Whittall, Limited, four judges of the Supreme Court of Canada suggested that if the condition there in question was void, then the licence itself was void as the condition formed part of the consideration for the grant of the licence. It seems that whether there is a failure of consideration is a question of fact to be decided in all the circumstances of the case.

The result is in no way illogical. Despite the impact of the determinable limitation upon interprovincial trade and commerce, and the fact that a province may use such a device to regulate interprovincial trade and commerce indirectly, a province is free to grant such rights as it thinks fit over publicly-owned oil and gas resources. The association between the duration of these rights and interprovincial trade and commerce is of considerable importance to the lessee, who should be aware that the grant is not absolute, but there is no ground for arguing that the courts

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191 (1922), 63 S.C.R. 466.
192 Per Davies C.J. and Mignault J. (at 480), Auglin J. (at 479) and Idington J. (at 472).
should intervene to give the lessor something which the province did not offer in the first place. A failure to give effect to the determinable limitation would produce this consequence.

Accordingly, a province may use an allocation system to exercise considerable control over publicly-owned oil and gas resources while they remain in the ground. Once production has taken place, the opportunity for continuing control is substantially reduced although events taking place after production may have an effect upon future rights in relation to resources still in the ground.

2. **Exploration.**

Exploration for Crown oil and gas resources is a matter coming within "the management and sale of the public lands belonging to the province". A provincial government is free to choose the method by which such exploration is conducted, either by a Crown corporation or by government subsidy of private industry operations. Once an allocation of Crown oil and gas rights has been made to private industry, whether or not subsequent exploration is for Crown or private resources depends upon the nature of the rights granted. More specifically, it depends upon whether property in the oil and gas passes with the grant or at some later time. In Alberta, most exploration is conducted pursuant to Crown reservations which convey the exclusive right to drill wells for oil and gas in the subject lands and

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193 For example, see the Exploratory Drilling Incentive Regulations, 1974, Alta. Reg. 18/74, described in detail in Part II, "Government Management of Oil and Gas in Alberta", 38 et seq.
the right to produce these substances if discovered, but do not convey property in the oil and gas, which remains with the Crown. Hence, this exploration may be described as being for Crown oil and gas resources and lies within the exclusive legislative authority of the province.

Exploration for private oil and gas resources is a matter coming within either "property and civil rights in the province" or "generally all matters of a merely local or private nature in the province", depending upon the view taken of the scope of the former class of subjects. The latter is to be preferred in principle, but in any event the result is the same.

In sum, a province's legislative control over exploration within its borders does not seem to be in doubt.

3. Production.

The volume of oil and gas recoverable from a pool and the rate of production attainable are both determined by individual reservoir characteristics. Of particular importance is the nature of the reservoir energy, or drive. Production of oil or gas from a pool is necessarily accompanied by a decline in reservoir pressure which in turn reduces productive capacity. Above a critical production rate, which will vary from one reservoir to the next, the total volume of oil and gas ultimately produced from a

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195 Supra, 26.
pool depends upon the chosen rate of production. All these factors demonstrate the link between regulation of production and resource management in relation to oil and gas. Production of Crown oil and gas is clearly a matter coming with "the management and sale of the public lands belonging to the province". This class of subjects includes development of a pool and control over the rate of production of oil and gas therefrom.

Again, the time at which property in oil and gas passes from the Crown into private ownership pursuant to the allocation process is of considerable significance. If property passes before the point of production, the regulation of production is not in relation to Crown oil and gas and so is not a matter coming with "the management and sale of the public lands belonging to the province". On the other hand, if property passes upon or after production, the regulation of production is a matter coming within this class.

The Alberta petroleum and natural gas lease grants the right to the oil and gas that are the property of the Crown in the lease area subject to any exceptions expressed in the lease. The nature of this right is left to the lease document itself, the granting clause of which reads as follows:

...in consideration of the rents and royalties hereinafter provided and subject to the terms and conditions hereinafter expressed, Her Majesty hereby grants unto the lessee in so far as the Crown has the right to grant the same the exclusive right to explore for, work, win and recover petroleum and natural gas within and under the lands more particularly described as follows..., together with the right to dispose of the petroleum and natural gas recovered.

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198 Alberta Mines and Minerals, Minerals Division, Form 160-A.
The clause is not specific as to the time when property in oil and gas passes to the lessee, but the implication to be derived from the concluding phrase is that this does not occur until the substances are produced. This is consistent with the view that the lessee does not have an interest in land but rather a bare licence to conduct specified activities within the lease area. 199 It follows that the Alberta government may control the method and rate of production from Crown petroleum and natural gas leases.

The result would not be different even if the lessee were judged to have an interest in land, such as a profit à prendre, prior to production. In this event the Crown would still retain a reversionary interest in the oil and gas in the ground sufficient for these substances to fit the description, "the public lands belonging to province". Only in the case where the Crown made an absolute grant of oil and gas in situ would provincial jurisdiction over production be relinquished as from the date of the grant.

Oil and gas production in Alberta is regulated in a variety of ways. The relevant statute is The Oil and Gas Conservation Act. 200 Generally, there is a prohibition against "waste", defined to mean underground or surface loss of recoverable oil or gas, excessive dissipation of reservoir energy or failure to use suitable enhanced recovery operations. 201

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201 Ibid., sections 138,2.
specifically, the Energy Resources Conservation Board, which is charged with the administration of The Oil and Gas Conservation Act, assigns maximum rate limitations to oil wells and pools, with the object of obtaining production of the greatest possible volume of oil therefrom. Similar limitations are not applied to gas production but the prohibition against waste is enforced by the Board. In addition, the Board administers a system of market demand prorationing for oil, which consists of a determination of the demand for oil from the province on a monthly basis and the allocation of this demand among all producing pools and wells. There is no comparable scheme in effect for gas production but the Board is empowered to restrict the total amount of gas produced from a pool during any period and to distribute the total production in an equitable manner among wells in the pool, in order to give each producer the opportunity of producing his share of gas in the pool.

The most controversial of these measures is undoubtedly the market demand prorationing scheme for oil. It operates as a producers' cartel, tending to keep the price of oil above what it would otherwise be, and encouraging economic inefficiency at the production stage. Its principal objectives appear to be maintenance of price stability and

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202 For a detailed description of the system of maximum rate limitations see Part II, "Government Management of Oil and Gas in Alberta", 59-60.

203 Ibid., 60.

204 For a description and criticism of the market demand prorationing scheme, see ibid., 62 et seq.

205 The Oil and Gas Conservation Act, op.cit. note 199, s.35; see ibid.

206 See Part II, "Government Management of Oil and Gas in Alberta", 62 et seq.
sharing of the available market among competing producers. Nevertheless, there can be little doubt that the substance of the scheme is the regulation of rates of production. Accordingly, so far as Crown leases are concerned, the legislation establishing the scheme is in relation to a matter coming within "the management and sale of the public lands belonging to the province". The objectives sought to be achieved by the government in its chosen management scheme, together with any incidental effects caused thereby, are not such as to alter the basic character of the activity, which is management of publicly-owned resources.

In the case of privately-owned oil and gas, however, the position is more complicated as reliance is necessary upon either section 92(13) of the B.N.A. Act, "property and civil rights in the province" or section 92(16), "generally all matters of a merely local or private nature in the province". The prohibition against waste and the assignment of maximum rate limitations to wells and pools are clearly matters coming within one or the other of these classes, as also is the allocation of total pool production among competing operators within the pool. Authority for this proposition is to be found in the judgment of the Supreme Court of Canada in Spooner Oil Limited and Spooner v. The Turner Valley Gas Conservation Board and The Attorney-General of Alberta. It was there held that the Turner Valley Gas Conservation Act, which established a Board with power to limit

207 Ibid.
209 S.A. 1932, c.6.
production of naptha and gas from any well in the field with a view to reducing the waste of gas by flaring, was not in relation to a matter coming with "the regulation of trade and commerce", but in relation to a matter coming within one of the classes of subjects in Section 92 of the B.N.A. Act. On the same basis, there can be no real doubt that a province can legislate requiring compulsory unitization of pools. However, the market demand prorationing scheme goes beyond the prevention of waste and the sharing of production among wells in a common pool by allocating total provincial demand among pools in the province. The question is whether this aspect of the scheme, as regards the production of privately-owned oil, comes within "the regulation of trade and commerce". The answer depends upon a characterization of the scheme and a definition of the scope of this class of subjects. The prorationing scheme undoubtedly has an effect upon the marketing of privately-owned oil. But is the scheme, in essence, in relation to marketing or production? The controls are placed squarely on production. Thereafter, a private owner is free to market his oil as he sees fit. The influence of the scheme on price is significant but is not of such importance as to prevent the scheme as a whole from being regarded as one establishing production quotas. The scope of the federal class of subjects is to be derived from the meaning attributable to the words "trade" and "commerce". Laskin J. has suggested


211 Cf. The Oil and Gas Conservation Act, op.cit. note 199, ss.87-95, with The Oil and Gas Conservation Act (Sask), R.S.S. 1965, c.360, as amended by S.S. 1966, c.66; ss.34-43a.
that "commerce" refers to buying and selling while "trade" includes mercantile occupation. Of course, he was careful to point out that these definitions should not be regarded as exhaustive, and this seems particularly so in relation to "trade". The real question is whether control over production comes within "trade and commerce". It is submitted that, in ordinary circumstances, it should not. Production is an activity distinct from that of exchange which is implicit in trade and commerce. On this basis, the federal class of subjects comprising "the regulation of trade and commerce" does not extend to the assignment of production quotas for oil within the province, especially since it is apparent that this procedure is not directed towards regulation of the interprovincial movement or sale of goods. It is, therefore, suggested that control of the rates of production of privately-owned oil is a matter coming within the provincial residuary class of subjects.

Finally, oil and gas production facilities could be the subject of a declaration by the Parliament of Canada under section 92(10)(c) of the B.N.A. Act, since they apparently fall within the definition of "works" applied by the courts. This would have the effect of taking the regulation of production from these facilities outside provincial legislative authority and including it in the federal sphere. However,

212 Supra, 25.

212A There are dicta of Rand J. to the contrary in Reference re Farm Products Marketing Act, op.cit. note 71, 210, 269.

213 Supra, 43-45.

the power to control production must be distinguished from the power to
grant rights in respect of oil and gas in the ground. The provincial
ownership of oil and gas reserves and the provincial authority to allocate
production rights in respect of these reserves would not be affected by
federal assumption of the power to legislate in respect of production
facilities. A declaration with regard to these works would allow federal
control of production within the scope of rights granted by a province
to private operators over provincial oil and gas resources, but would not
allow the federal government to expand such rights in extent or duration.
If the rights were determinable upon the making of a federal declaration,
or simply expired with the passage of time, the federal legislative autho-
rity over production facilities would not allow continued production in
the absence of a further provincial grant.

Barring such a declaration, it may be said that the regulation of
production of oil and gas, whether Crown or privately-owned, falls within
the scope of exclusive provincial legislative authority. It is only where
controls go beyond the regulation of production and attempt to influence
the interprovincial or international movement of oil and gas that federal
power is invoked. The market demand prorationing scheme does not have this
effect.

4. **Transportation.**

The question of jurisdiction over transportation *prima facie* involves
a number of classes of subjects, namely:

Local Works and Undertakings other than such as are of the following
Classes:
(a) Lines of Steam or other Ships, Railways, Canals, Telegraphs, and other Works and Undertakings connecting the Province with any other or others of the Provinces, or extending beyond the Limits of the Province;

(c) Such Works as, although wholly situate within the Province, are before or after their Execution declared by the Parliament of Canada to be for the General Advantage of Canada or for the Advantage of Two or more of the Provinces;

The Regulation of Trade and Commerce;

Property and Civil Rights in the Province;

Generally all Matters of a merely local or private Nature in the Province.

In these circumstances it has been suggested that consideration be given first to the more specific classes and then to the more general. 215

The building and operation of pipelines for the interprovincial movement of oil and gas are matters coming within "works and undertakings connecting the province with any other or others of the provinces, or extending beyond the limits of the province". That much seems clear. However, questions arise not in relation to interprovincial trunk lines but with respect to gathering and feeder lines which collect oil and gas from the producing fields and carry them to consumption points in the province as well as to the trunk lines.

Initially, it is interesting to note the extent of the jurisdiction presently exercised by the Dominion through conferral of powers upon the National Energy Board. The National Energy Board Act 216 claims control over any pipeline within the following definition:

215 Abel, op.cit. note 52, 510; supra, 35.

"pipeline" means a line for the transmission of gas or oil connecting a province with any other or others of the provinces, or extending beyond the limits of a province, and includes all branches, extensions, tanks, reservoirs, storage facilities, pumps, racks, compressors, loading facilities, interstation systems of communication by telephone, telegraph or radio, and real and personal property and works connected therewith. 217

Despite this broad definition, though, jurisdiction has mainly been exercised in respect of trunk lines. 218

Whether a line connects one province with another is a question of fact, 219 making generalization difficult. At one end of the spectrum is a branch line linking a producing field to an interprovincial trunk line, and used solely for carrying oil or gas for interprovincial markets. 220

At the other is a gathering system for products used exclusively within the province. In between are gathering and feeder lines which serve both intraprovincial and extraprovincial markets to differing degrees. A good example is the Alberta Gas Trunk Line System. It collects all gas which is to be removed from the province and carries it to various border points where the gas passes into the systems of the trunk line companies. The building and operation of its facilities have traditionally been

217 Ibid., s.2.

218 In Alberta, for example, gathering and feeder lines have come under the control of the Department of Mines and Minerals and, more recently, the Energy Resources Conservation Board; see Part II, "Government Management of Oil and Gas in Alberta", 82 et seq.

219 Supra, 46.

220 In Re Westspur Pipe Line Co. Extension (1957), 74 C.R.T.C. 263, the federal Board of Transport Commissioners had little doubt that the building and operation of such a line was matter within the federal class of subject.
subject to provincial control. 221 The question of fact in this case, whether this local work and undertaking connects Alberta with other provinces or, on the other hand, merely connects the provincial system with other facilities which themselves are interprovincial, admits of no easy answer. It is submitted that Alberta Gas Trunk Line Company Limited's existence as an operating entity separate from the interprovincial transmission companies supports the latter conclusion. 222 This does not mean, though, that the Trunk Line Company's de facto monopoly over gathering and feeder facilities could not be broken by the National Energy Board's granting of a permit to Trans-Canada Pipelines Limited to extend its operations in Alberta.

The characterization of the building and operation of pipelines as matters coming within "local works and undertakings" automatically excludes them from "the regulation of trade and commerce" and the other broader classes. As regards other activities, though, the result may be different. For example, the question has arisen whether a lien claimed under a provincial act can be enforced against the property of a federally-regulated interprovincial pipeline. The answer must depend upon whether the statute providing for the lien is viewed as being in relation to a matter coming within "local works and undertakings...connecting the province with any other or others of the provinces "or a matter coming within "property

221 For an account of the formation of Alberta Gas Trunk Line Company Limited and its operations, see Part II, "Government Management of Oil and Gas in Alberta," 84 et seq.

222 The Dominion Parliament could bring these works within federal jurisdiction, though, by an appropriate declaration pursuant to section 92(10)(c) of the B.N.A. Act.
and civil rights in the province". The Supreme Court of Canada preferred
the former. 223 On the other hand, if the Alberta Legislature were to
enact a statute requiring Alberta Gas Trunk Line Company Limited to carry
only specified volumes of gas in its system for removal from the province,
this statute would be in relation to a matter coming within "the regulation
of trade and commerce" rather than "local works and undertakings". 224

Most aspects of the interprovincial movement of oil and gas are sub-
ject to federal jurisdiction whereas intraprovincial movement is a matter
for the provinces. So far as the building and normal operation of pipelines
are concerned, though, jurisdiction depends upon a question of fact in each
case, whether the line connects two or more provinces or extends beyond
the limits of any one. Works within provincial jurisdiction may be trans-
ferred to federal jurisdiction if declared by Parliament to be for the
general advantage of Canada or for the advantage of two or more provinces.

5. Exports.

The export of oil and gas from Canada is a matter coming within "the
regulation of trade and commerce". Parliament may thus control the quantity,
type and price of products sent outside the country. At present this power
is exercised by the National Energy Board through a system of export licences. 225

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223 Campbell-Bennett Limited v. Comstock Midwestern Limited and Trans
Mountain Pipe Line Company, op.cit. note 142, applied in Cant v. Canadian
Bechtel Limited (1957), 12 D.L.R. (2d) 215, as regards provincial wage legis-
lation; contra, Canadian Pacific Railway v. Attorney General of British Columbia,
241. The latter view has considerable appeal.

224 Cf. The Gas Resources Preservation Act, discussed supra, 54 et seq.

225 National Energy Board Act, op.cit. note 223, Part VI.
In addition, the Oil Export Tax Act\(^{226}\) imposed a levy of variable amounts upon oil leaving Canada between 1 October, 1973, and 1 April, 1974. \(^{227}\)

The interprovincial movement of oil and gas within Canada is also a matter coming with "the regulation of trade and commerce", and for this reason it has been suggested that The Gas Resources Preservation Act\(^{228}\) is invalid. \(^{229}\)

Is this position any different as regards oil and gas owned by a province after production, such as royalty oil delivered in kind to the Alberta Petroleum Marketing Commission or gas purchased at the wellhead by the British Columbia Petroleum Corporation? \(^{230}\) The movement of such oil and gas across provincial or national boundaries can not be regarded as a matter coming within "the management and sale of the public lands belonging to the province" since, after production, oil and gas are no longer "land". Therefore, such movement is a matter coming within "the regulation of trade and commerce" and is subject to exclusive federal legislative authority. Nevertheless, the federal government may be restricted in the forms of export controls that may be applied to provincially-owned oil and gas. Section 125 of the B.N.A. Act provides that:

\(^{226}\) S.C. 1973 (1st Sess.), c.53. The Act is discussed in a somewhat broader context infra, 76.

\(^{227}\) Exporters have been advised by the federal government that the levy will be continued, retroactive to 1 April, 1974, by new legislation to be passed at the next session of Parliament.

\(^{228}\) Op.cit. note 177.

\(^{229}\) Supra, 56.

\(^{230}\) The establishment and operations of these provincial Crown corporations is described infra, 84, 87.
No Lands or Property belonging to Canada or any Province shall be liable to Taxation.

If the words of this section were given their ordinary meaning, they would prevent the imposition of a federal export tax on provincially-owned oil and gas. The federal government would be forced to turn to other methods of export control, such as quotas or outright prohibition, for such oil and gas. However, it has already been noted that the Privy Council has interpreted the prohibition in section 125 as subject to the express federal legislative powers in section 91 of the Act, including the trade and commerce power and the taxing power, and if this interpretation is adopted in future there will be no limits placed upon federal control over exports by virtue of provincial ownership of oil and gas.

6. Pricing.

Control over pricing of oil and gas is linked closely with the distribution of the benefits arising from the production and use of these resources. The main contenders for these benefits are four in number: producers, engaged in operations upon Crown and private leases in Alberta, Saskatchewan and British Columbia; consumers, located mainly in the United States and the more populous Canadian provinces of Ontario and Quebec; the governments of the producing provinces, which own the majority of the oil and gas resources within their boundaries; and the federal government. An increase in the price of oil or gas works to the detriment of consumers, of course,

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231 A position advocated supra, 37.

232 Supra, 35-37.
but offers new potential for revenues for producers, the governments of the producing provinces and the federal government. The distribution of such increased revenues between the producers and the governments of the producing provinces depends largely upon the terms under which producers are given rights over Crown oil and gas resources, and to a lesser extent upon the taxing power of the producing provinces. The degree to which the federal government shares in these revenues depends upon the scope of its taxing power. Moreover, the federal government may attempt to exercise other powers, such as the trade and commerce power, to prevent price increases and thereby benefit consumers of oil and gas.

The recent constitutional conflict between Ottawa and "the West" provides a good example of efforts by both federal and provincial governments to exercise control over the pricing of oil and gas in Canada. It also demonstrates the complex issues of jurisdiction that arise in relation to pricing.

Traditionally, Canadian oil prices west of the Ottawa Valley have been determined by reference to the prices prevailing in the mid-western United States, the major export market for Canadian crude oil. Canadian gas prices have also been influenced strongly by United States prices, which in turn have been regulated by the Federal Power Commission in that

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233 Since 1971, when the National Oil Policy was adopted, the domestic market for crude oil west of the Ottawa Valley has been reserved for local production.

234 For further details see Part II, "Government Management of Oil and Gas in Alberta", 95 et seq.
country on a cost of service basis. However, in September, 1973, this link between Canadian and United States oil and gas prices was broken when oil prices in the United States began to rise sharply, reflecting higher international prices, the Middle East conflict and subsequent oil embargo, and the prospects of energy shortages in the United States. In Canada, the federal government responded to this movement in oil prices with a "two-price policy" for oil, adopted as part of its anti-inflation programme. This policy comprised a voluntary freeze on domestic oil prices supported by a federal subsidy for refiners east of the Ottawa Valley, who were dependent upon the international market for their supplies, and a federal export tax imposed on domestic oil sold to the United States. The tax was calculated to reflect the difference between the rising United States and the stable Canadian oil prices. At this time the average wellhead price for Alberta oil was about $3.80 per barrel and the export tax was set at $0.40 per barrel. By February, 1974, the federal tax had risen to $6.40 per barrel as United States oil prices continued to increase. 235

The federal policy provided clear benefits for Canadian oil consumers in the form of product prices considerably below international levels. Initially, the federal treasury also benefited from the proceeds of the export tax but these were used, in the main, to pay the subsidy to refiners east of the Ottawa Valley. These benefits to consumers were obtained at the expense of revenues foregone by the producers and the governments of

235 The tax was imposed by the Oil Export Tax Act, op.cit. note 226, enacted in January, 1974, but made retroactive to October 1, 1973. During the intervening period the tax was in fact levied by the National Energy Board through its refusal to grant export licences unless prices were increased by the difference between Canadian and United States prices, which was to be paid subsequently to the Canadian treasury.
the oil-producing provinces. Such revenues were substantial. By February, 1974, the federal export tax was raising about $6 million per day on exports of just less than one million barrels of oil per day. In addition, similar amounts were lost on the one million barrels of oil produced each day for consumption within Canada.

The producing provinces objected strongly to both the domestic price freeze and the export tax, and responded to the federal policies in a variety of ways. In December, 1973, Alberta amended The Mines and Minerals Act 236 in order to give the Lieutenant Governor in Council the power to prescribe new royalty scales for oil and gas produced from all Crown leases in the province. 237 At the same time, The Petroleum Marketing Act 238 was passed establishing the Alberta Petroleum Marketing Commission, a provincial Crown corporation, with broad powers relating to the sale of all oil produced from Crown leases. Amendments were also made to The Arbitration Act 239 concerning the redetermination of gas prices under some existing, long-term contracts. 240 In Saskatchewan, the legislature

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237 S.A. 1973, c.94, s.4.

238 S.A. 1973, c.96.

239 R.S.A. 1970, c.21

enacted The Oil and Gas Conservation, Stabilization and Development Act which, inter alia, expropriated most freehold oil and gas rights in the province, imposed a royalty surcharge on all oil produced from Crown leases, and provided for payment of a mineral income tax whenever the royalty surcharge was inapplicable.

Events in British Columbia proceeded somewhat differently. The government there was concerned with gas rather than oil. Several months before the federal policies were announced for oil, the government had established the British Columbia Energy Commission and had requested it to investigate the export prices paid for gas produced in the province. In September, 1973, the Commission reported that, owing to an absence of effective competition in the purchase of gas in the field, the prices paid to producers were considerably below the value of gas based upon prices of competing forms of energy. In fact, only one buyer, Westcoast Transmission Company, a federally regulated transmission company which operated the trunk line system serving both British Columbia distributors and the export market, was active in the purchase of gas in the field. Moreover, approximately 70% of the gas produced in the province was exported to the United States. In November, 1973, acting on the Commission's recommendation,

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the British Columbia legislature passed the Petroleum Corporation Act which created the British Columbia Petroleum Corporation, an agent of the Crown, with power to explore for, develop, produce, buy and sell oil and gas.

The differences between the federal government and the governments of the producing provinces were discussed at a federal-provincial First Ministers' Conference in January, 1974, where an agreement was reached to continue the domestic price freeze and the export tax until April 1, in exchange for the remittance of half of the proceeds of the export tax to the producing provinces. At a further such meeting in April, a new arrangement was worked out whereby the wellhead price of oil would be allowed to rise by $2.70 per barrel, the export tax would be reduced accordingly, and the federal government would retain all revenues raised by the tax to subsidize oil prices east of the Ottawa Valley. The increase in wellhead prices for oil took effect on April 1, 1974, and the Alberta government introduced new royalty scales as of that date.

Also in April, 1974, the federal Parliament gave first reading to the Petroleum Administration Act containing several provisions dealing with the pricing of oil in Canada. Firstly, the Bill would continue the export tax beyond its expiry date of April 30, 1974. Secondly,

\[\text{244 S.B.C. 1973, c.140.}\]
\[\text{245} \text{This agreement was implemented in the Oil Export Tax Act, op.cit. note 226, s.4.}\]
\[\text{246 Supra, 51.}\]
\[\text{247 1974 (2nd Sess.), Bill C-18.}\]
the Bill would authorize the Minister for Energy, Mines and Resources, with the approval of the Governor in Council, to enter into an agreement with the government of an oil-producing province establishing mutually acceptable prices for oil produced in that province. Thirdly, in the absence of such an agreement, the Bill would empower the Governor in Council to establish maximum prices for oil "that enters into interprovincial or international trade or that is mixed or blended with crude oil that has been acquired for movement out of the province of production." Fourthly, the Bill would establish a scheme for the payment of subsidies to importers of oil for consumption in Canada. The Bill was not passed prior to the dissolution of Parliament but is to be introduced again in the forthcoming session.

Finally, the federal budget of 6 May, 1974, proposed that provincial royalties should be made non-deductible in the calculation of taxable income from oil and gas production. This measure also was not enacted before the dissolution of Parliament.

This manoeuvring demonstrates the three points at which control of pricing may be sought, namely, at the wellhead, upon entry into interprovincial or international trade, and at the stage of final consumption. They will be considered in turn.

The transaction by which property in Crown oil and gas passes into private ownership is a matter coming with "the management and sale of the public lands belonging to the province". This allows a province to influence the wellhead pricing of oil and gas if property passes upon production. The flexibility that a province has in fixing the consideration
for sale has already been noted, and undoubtedly has not been exhausted yet. For example, instead of relying upon royalties, a province could dispose of publicly-owned oil and gas resources under an arrangement whereby the wellhead price for these resources was fixed by the province as and when production took place, this price in turn governing the amount of the consideration paid by the lessee to the Crown for the right to produce oil and gas.

However, once property has passed in the produced substances a province can no longer rely upon section 92(5) of the B.N.A. Act. Attempts by a province to regulate the prices at which oil and gas are sold at any subsequent transaction, such as between a private producer and purchaser, can not be justified on this basis. Nevertheless, examples of attempts by provinces to regulate prices after production are numerous.

For instance, the Alberta Petroleum Marketing Commission is made the exclusive agent to sell each Crown lessee's share of oil on behalf of the owner thereof, with the power to negotiate and agree to a price at which the oil is to be sold, and is directed to sell within Alberta the lessee's share of oil at the highest price that it may reasonably negotiate having regard to market conditions prevailing at the time of the sale. So far as oil destined for the interprovincial market is concerned, the question is whether this statute is in relation to a matter coming within "the regulation of trade and commerce". The substance of this part of the

247A Supra, 51 et seq.
247B The Petroleum Marketing Act, op.cit. note 238, s.21.
statute is not difficult to ascertain; it is the regulation of prices paid to private oil producers. Since the ordinary meaning of "commerce" is buying and selling, prima facie the matter comes within "the regulation of trade and commerce". However, the cases leave room for considerable doubt. In *Carnation Company Limited v. Quebec Agricultural Marketing Board*, the Supreme Court of Canada held that regulation of the price paid to producers for goods which, after processing, left the province to a substantial degree, was a matter coming within a provincial class of subject. On the other hand, dicta in the *Reference Re the Farm Products Marketing Act* supports the position that as soon as goods have entered the interprovincial flow their pricing is a matter within "the regulation of trade and commerce". The case of *Attorney-General for Manitoba v. Manitoba Egg and Poultry Association* dealt with provincial controls, applied not before goods left a province, but upon their entry from outside. The decision provides further authority for the proposition that if goods are moving in the interprovincial flow, they are not subject to provincial price regulation. Nevertheless, the Supreme Court acknowledged the correctness of its earlier judgment in the *Carnation* case; Laskin J. emphasised that the stage of dealing at which the regulation is imposed, and its purpose, are important considerations, and that it cannot be categorically stated that ultimate

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249 Op.cit. note 71, 210, 269, per Rand J.; 231-2, 289-90, per Locke J.
extra-provincial destination will foreclose provincial regulation of intermediate steps in the marketing process. Nevertheless, if the Carnation case is to be reconciled with the Manitoba Egg case, it must be on the basis of a finding of fact that the goods in the former case had not entered the interprovincial flow at the time of the provincial price regulation. No guidance is given on the subject of when goods are deemed to have entered this interprovincial flow.

In any event, The Petroleum Marketing Act goes beyond the position considered in the Carnation case. For not only does the statute seek to control the price of all oil produced and sold in the province, it also requires that all oil produced in the province be sold in the province. In these circumstances it seems difficult to argue that the matter of the statute, the pricing of oil produced in Alberta, comes within either "property and civil rights in the province" or "generally all matters of a merely local or private nature in the province". Instead, it comes within "the regulation of trade and commerce".

In addition, The Mines and Minerals Amendment Act, 1973 makes every Crown petroleum and natural gas lease subject to a condition that the lessee's share of oil produced under the lease shall be sold through the Alberta Petroleum Marketing Commission. It is submitted that, in the circumstances, this provision is not in relation to a matter coming

252 Ibid., 713.
253 For a criticism of these cases, see Weiler, Paul C., "The Supreme Court and the Law of Canadian Federalism", 23 University of Toronto Law Journal 307, 333-338 (1973).
255 Ibid., s.5, inserting s.170.2 in The Mines and Minerals Act.
within "the management and sale of the public lands belonging to the province", even though the Alberta government retains the right under a lease to alter its terms and conditions from time to time, but rather a matter coming within "the regulation of trade and commerce". Therefore, in the face of conflicting federal legislation, both the provision in the Act and the condition itself would be void, although in the absence of such legislation they amount to a valid exercise of the province's ownership powers.

The Alberta Petroleum Marketing Commission is also charged with the responsibility of accepting delivery within Alberta of the Crown's royalty share of oil, in kind, and is required to sell this oil within Alberta at a price that is in the public interest of Alberta. The substance of this provision is the sale of public property within the province, a matter coming within "generally all matters of a merely local or private nature in the province". The only question that arises is whether a sale by the Commission would be subject, as regards price, to the requirements of a valid federal marketing scheme for oil moving in interprovincial trade. It is submitted that the Crown ownership of the oil would not take it outside such a scheme and while the Commission would not be required to sell in the inter-provincial market, if it chose to do so it would have to comply with the scheme in the same way as a private seller.


The Petroleum Marketing Act, op.cit. note 238, s. 15.
The Petroleum Administration Act,\textsuperscript{257A} if subsequently passed by Parliament, would establish a valid federal marketing scheme for oil entering interprovincial or international trade. Both the fixing of prices for such oil and the licensing of persons engaged in such trade would be matters coming within "the regulation of trade and commerce". A question arises, though, as to when oil enters interprovincial or international trade. The determination of this issue is of vital importance to the scope of federal and provincial powers. It is submitted that oil produced from Crown leases does not enter interprovincial or international trade until after production. The regulation of activities, including pricing, up to and including the point of production is, so far as provincially-owned oil and gas are concerned, a matter coming within "the management and sale of the public lands belonging to the province". In the case of privately-owned reserves, though, oil may sometimes enter interprovincial or international trade prior to production as, for example, when reserves are sold for production and shipment across provincial boundaries.\textsuperscript{257B}

Turning now to gas, The Arbitration Amendment Act, 1973\textsuperscript{258} contains rules that apply whenever the purchase price of gas in Alberta may be redetermined by arbitration pursuant to the terms of a gas purchase contract. The Act requires that the arbitrator must be a Canadian citizen ordinarily resident in Alberta. It also provides that arbitration proceedings relating to the purchase price of gas may be commenced at the option of either party

\textsuperscript{257A}Op.cit. note 247.

\textsuperscript{257B}Even in this case, though, certain aspects of production such as assignment of quotas and prevention of waste may be matters coming within a provincial class of subjects; \textit{supra}, 67.

\textsuperscript{258}Op.cit. note 240.
under the contract notwithstanding that the terms of the contract require the concurrence of both parties. Most importantly, though, the Act sets out the formula which must be applied by the arbitrator in redetermining the purchase price. The arbitrator is required to ascertain the "field value" of gas based upon its "commodity value", which in turn is defined as the thermal value of gas plus any premium value determined by reference to the inherent special qualities of gas when compared with competing energy sources. It is this feature of the Act that demonstrates that it is not simply in relation to the regulation of contractual rights in Alberta. Instead, the Act establishes a price-fixing scheme for gas sold under those contracts which allow for price redetermination by arbitration, irrespective of the destination of the gas.

Unlike The Petroleum Marketing Act, The Arbitration Amendment Act does operate with respect to actual transactions taking place within the province. However, this fact alone does not ensure that the Act is within provincial competence. The authorities are such that it is difficult to be confident concerning the outcome of a constitutional challenge to the Act. The Carnation case suggests that the ultimate destination of goods will not necessarily preclude provincial regulation of prices paid in transactions completed in the province. However, the question is whether this

259 See the decision of the Manitoba Court of Appeal in The Queen v. Klassen (1959), 20 D.L.R. (2d) 406, from which leave to appeal to the Supreme Court of Canada was denied. In this case it was held that a purely intraprovincial transaction was subject to federal legislation validly enacted under the trade and commerce power.
decision must be viewed restrictively in order to reconcile it with the later Manitoba Egg case. It is submitted that this difficulty should be overcome by an examination of the substance of the statute in question, in the light of its legislative history. 260 The Arbitration Amendment Act seeks to regulate the pricing of gas sold under a certain class of contracts. It does more than provide a procedural mechanism for use in determining prices - the Act also sets out the factors to be considered in determining such prices. In this respect the Act goes beyond the statute which came before the Supreme Court of Canada in the Carnation case. It is therefore suggested that The Arbitration Amendment Act is in relation to a matter coming within "the regulation of trade and commerce" rather than any of the provincial classes of subjects.

Contrary to the situation in Alberta, the British Columbia Petroleum Corporation has relied upon indirect action to influence both the export prices and the wellhead prices of gas produced in the province. The Corporation initially negotiated an agreement with Westcoast Transmission Company whereby Westcoast became, in effect, a contract carrier of gas for the Corporation instead of a wholesale buyer and seller of gas. Westcoast agreed to assign all its producer contracts to the Corporation and to buy all its gas from the Corporation at a price equal to the value of its domestic and export sales less a cost of service and a return on its rate base. An increase in the export price of gas was achieved through reliance upon a term of the sales contract between Westcoast and its

260 For further details of the legislative history of The Arbitration Amendment Act, see Part II, "Government Management of Oil and Gas in Alberta", 99 et seq.
United States purchaser. This term requires that the export price be at least 105% of the price charged to the British Columbia Hydro and Power Authority, a provincial Crown corporation which distributes gas in the lower mainland region of the province. B.C. Hydro was persuaded to increase the price that it paid to Westcoast for gas, thereby triggering an increase in the export price pursuant to the 105% clause. Finally, the British Columbia Petroleum Corporation has used the de facto monopoly position that it acquired from Westcoast as the purchaser of the bulk of the gas produced in the province to set wellhead prices at desired levels. The difference between the prices paid by the Corporation to gas producers and the proceeds of its sales to Westcoast becomes part of provincial Crown revenues. 261

The significance of this scheme lies in the fact that there is no legislative requirement for gas producers to sell to the British Columbia Petroleum Corporation, and neither has there been any attempt on the part of the British Columbia government to control export prices except by reliance upon the terms of existing or negotiated contracts. Westcoast Transmission Company remains subject to federal regulation regarding gas exports, both as to price and as to quantity, under the National Energy Board Act. 262 The British Columbia Petroleum Corporation would similarly be subject to such federal regulation if it should choose to sell gas in export markets on its own account, rather than through Westcoast. By way


of contrast, The Petroleum Marketing Act \(^{263}\) requires producers of all oil from Crown leases in Alberta to accept the Alberta Petroleum Marketing Commission as their agent for selling their oil, irrespective of the market in which the oil is consumed.

It has already been noted that the Oil Export Tax Act \(^{264}\) was enacted as part of a broad federal scheme seeking the control of domestic oil prices throughout Canada.\(^{264A}\) Does this factor mean that the Act is, in reality, in relation to a matter coming within, not "the regulation of trade and commerce", but one of the provincial classes of subjects? There is no doubt that the tax had an effect upon the management and sale of Crown oil and gas in the provinces by reducing the scope for provincial revenue therefrom. Nevertheless, it does not seem possible to say that the substance of the Act is other than the control of the international flow of oil, a matter coming within "the regulation of trade and commerce". Its impact upon provincial government revenues is merely one example of the interrelated nature of federal and provincial powers.

Jurisdiction over the pricing of oil and gas at the consumption stage within a province is subject to some doubt. The difficulty arises when such pricing has an effect upon the flow of oil and gas into the province.

\(^{263}\) Op.cit. note 238.


\(^{264A}\) Supra, 76.
from outside its boundaries. In Home Oil Distributors Limited v. Attorney-General of British Columbia,\(^{265}\) the Supreme Court of Canada faced just this situation. The British Columbia statute in question provided for the control of pricing of certain coal and oil products within the province by a statutory board. There was clear extrinsic evidence that one of the objects, at least, of such control was the regulation of the inflow of certain oil products from California. However, the Supreme Court looked only to the actual wording of the statute and held that it related to transactions taking place entirely within the province, a matter coming within one of the provincial classes of subjects.\(^{266}\) However, a different approach was evident in the more recent case of Attorney-General for Manitoba v. Manitoba Egg and Poultry Association,\(^{267}\) where the activities of a marketing board affected the flow of eggs into Manitoba and the Supreme Court found that the marketing scheme had as "a direct object" the regulation of the importation of eggs.\(^{268}\) The result seems to require a close examination of the statute in question to ascertain its "matter". If this is the prevention of excessive prices for goods sold in the province it is likely to come within "generally all matters of a merely local or private nature in the province". On the other hand, if it is the curtailment of the inflow of goods or the subjection of imported goods to discriminatory marketing conditions, it comes

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\(^{266}\) The fact that a transaction takes place entirely within a province no longer seems to be sufficient to bring all its aspects within provincial legislative authority; supra, 86.


\(^{268}\) Ibid., 717, 189, per Laskin J.
within "the regulation of trade and commerce".

The Petroleum Administration Act \(^{269}\) would, if passed by Parliament, seek to control the pricing of oil products at the consumption stage by restricting the subsidy paid on imported oil to those companies which have voluntarily maintained the level of product prices suggested by the federal government. The attachment of this condition to the subsidy does not, it is submitted, prevent the subsidy scheme from being regarded as a matter coming within "the public debt and property." \(^{270}\) Similarly, although there is no class of subjects in section 92 of the B.N.A. Act corresponding to that described in section 91(1A), there appears nothing to prevent a provincial government from offering grants to sellers of oil in the province subject to a condition that their prices conform with provincial guidelines. In fact, this approach has been adopted by the British Columbia Energy Commission in stipulating allowable price increases for petroleum products. \(^{271}\) Where provincial price guidelines differ from federal guidelines concerning the same product, there is no suggestion that one must give way to the other. Each seller is free to choose between the two, or may decide to comply with neither.


\(^{270}\) B.N.A. Act, s.91 (1A) - the federal "spending power".

\(^{271}\) The British Columbia scheme has not offered cash grants to sellers. Instead, price increases on some products (e.g. heating oil) have been allowed conditional upon the exercise of price restraint regarding other products (e.g. gasoline). The B.C. Energy Commission is given legislative authority to control prices directly, by the Energy Amendment Act, 1974, (Bill 18), but has not used this authority so far.
Aside from the question of control over pricing, the scope of the taxing powers of the provinces and of the Dominion is important in determining the distribution of benefits flowing from an increase in prices for oil and gas. It has already been noted that the taxing power of the provinces is limited to "direct taxation within the province". An example of such taxation is the Alberta Freehold Mineral Taxation Act which levies a tax at a flat rate upon the assessed value of freehold oil and gas reserves in the ground. The validity of this Act is not open to question.

Of greater interest is the proposal in the federal budget of 6 May, 1974, to make provincial royalties non-deductible in the calculation of taxable income from oil and gas production. The only limit placed upon the federal taxing power is that derived from the scheme of sections 91 and 92 of the B.N.A. Act. It must therefore be asked whether this provision, if included in the Income Tax Act by future federal legislation, is in relation to a matter coming within "the management and sale of the public lands belonging to the province" or "the raising of money by any mode or system of taxation". The background to the present

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272. Supra, 40.
273. S.A. 1973, c. 89.
274. Supra, 41.
275. Supra, 41.
277. There are dicta of the Privy Council recognizing that the federal taxing power may not be used to usurp the legislative authority of the provinces; supra, 42.
federal-provincial energy confrontation is a vital ingredient in the determination of this question. In principle, it is submitted that the former class is to be preferred in all the circumstances. To make the major element of the consideration paid to the provinces for Crown oil and gas rights non-deductible for income tax purposes is to discriminate by taxation against the development of these resources, a matter coming within the provincial class of subjects.

Another issue of potential significance is the taxation of provincial Crown corporations. At present, the Income Tax Act expressly exempts such bodies from its ambit.\(^{278}\) The constitutional exemption from such taxation depends, however, upon the interpretation placed on the words of section 125 of the B.N.A. Act. The only decided authority has the effect of emasculating the section.\(^{279}\) Nevertheless, as previously argued, this authority is open to question and the ordinary meaning of section 125 would allow exemption of provincial Crown corporations from the scope of the federal taxing power.\(^{280}\)

In summary, the issue of pricing of oil and gas is one where legislative authority is shared between the Dominion and the provinces. The latter have the right to dictate wellhead pricing of Crown resources and, in ordinary circumstances, the pricing of products consumed in the province. However, the Dominion can control the pricing of goods moving to inter-

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278. Ibid., s. 149 (1)(d).
provincial and international markets. The possibility for conflict between federal and provincial pricing regimes is obvious, but should not require resort to any question of paramountcy. An impasse between provincial wellhead pricing and federal export pricing may hopefully be resolved by negotiation, but if not, will in fact be resolved by cessation of exports. Similarly, if a federal pricing scheme for interprovincial oil sets limits lower than those required by provincial wellhead pricing, the authority of the province is not required to yield to that of the Dominion. What gives way it is suggested, is the flow of interprovincial oil until the inconsistency is resolved. This affords a province great bargaining power, in effect amounting to a veto, but this power is no more than is implicit in its exclusive legislative authority regarding the management and sale of its resources.

F. CONCLUSION

Canada appears to be on the verge of an extension of the federal trade and commerce power, such as occurred in the United States some thirty years ago. In that country, the increase in federal legislative authority led to the Natural Gas Act, 281 passed by Congress in 1938 and upheld by the Supreme Court in 1954. 282 This Act allowed the Federal Power Commission to regulate all sales, as far back as the wellhead, of gas destined for interprovincial markets. The question for Canada is whether an expansion in federal power


282 Phillips Petroleum Company v. State of Wisconsin et al., 347 U.S. 672 (1954). The Court held that a company engaged in production, gathering, processing and sale of gas, though not in the interstate transmission of gas, was subject to regulation by the F.P.C. under the Act. The company in question sold its gas to five interstate pipeline companies which in turn transported and resold the gas to consumers in 14 states.
could continue to the same limits.

The Canadian constitution is very different from the United States counterpart. The scheme inherent in the division of powers contained in sections 91 and 92 of the B.N.A. Act requires an exclusiveness in the legislative authority of the provinces and the Dominion. The limits to federal power must therefore be sought not only in the classes of subjects assigned to the Dominion, but also in the classes of subjects assigned to the provinces.

In particular, what distinguishes the Canadian situation from that in the United States is the ownership of most oil and gas resources by the provinces in which they are located. But this ownership alone does not secure the position of the oil and gas producing provinces against the encroachment of federal legislation. What does, is the fact that the B.N.A. Act gives the provinces the exclusive right to make laws in relation to matters coming within "the management and sale of the public lands belonging to" the provinces. This right, combined with the fact of substantial resource ownership, provides an effective bar to unlimited expansion of the federal trade and commerce power.

Provincial ownership of oil and gas resources also has another result. Quite apart from its exclusive legislative authority in relation to these resources, a province has all the rights of a private owner in dealing with them. A province may therefore manage its resources with more freedom than is suggested by an examination of the scope of its legislative authority under section 92 of the B.N.A. Act. This represents an important exception to the principle of exclusiveness of legislative authority and prevents a
challenge by private parties to provincial legislation which would, in the absence of ownership of resources, be beyond provincial competence. However, in acting as an owner of resources a province is, just like a private owner, subject to the requirements of valid federal legislation restricting the province's freedom of action.

Although limits must be placed upon federal legislative authority in relation to oil and gas, it is clear that the producing provinces do not have absolute power over these resources. Both levels of government may exercise control at different stages in the development process. However, this fact in no way diminishes the importance of an examination of the scope of federal and provincial authority. It should be remembered that government powers imply not only rights but also a duty, to exercise these powers properly on behalf of constituents. A similar duty is even more clearly involved in the public ownership of resources in the provinces. A government can not be expected to perform its obligations without knowledge of the limits of its authority. Moreover, it is suggested that the bargaining that must inevitably result between the provinces and the Dominion regarding the development of resources as important as oil and gas, would be conducted better, with less resort to acrimony and wasteful confrontation, in a climate of understanding of the limits of respective powers.
PART II

GOVERNMENT MANAGEMENT OF

OIL AND GAS IN ALBERTA
A. **INTRODUCTION**

The discovery of the Leduc field in 1947 marked the establishment of Alberta as a major oil and gas producing province. In the twenty-seven years since then, Alberta has never been seriously challenged for its position as the leading producer of oil and gas in Canada. At the same time, the dominance of the oil and gas industry in the economy of Alberta has never been open to question.

The Crown in the right of the province owns some 80% of minerals in the ground, including oil and gas. Nevertheless, in many respects the Crown has been the passive partner of private enterprise in the development of these resources. The influence of private ownership of minerals has been disproportionately strong, perhaps because the earliest discoveries were made in areas where it was significant, and certainly because experience in the development of these resources was gained from Texas, Louisiana, Oklahoma and California, where private ownership was the norm. Alberta has maintained an unbroken tradition of reliance upon private enterprise for the conduct of exploration and production operations for Crown minerals as well as those subject to private ownership, and when problems have arisen requiring government intervention, the protection of private rights has been paramount in any solution adopted.

The subject of this essay is government management of Crown oil

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1 The site of the Leduc discovery well, for example, was the farm of Mike Turta, where mineral rights were privately owned.
gas resources in Alberta. It is not an historical review of the different policies that have been adopted from time to time during Alberta's life as a producing province, but rather an analysis of the management system presently in force. As such, it deals with government action from the time of first allocation of private rights over Crown oil and gas through the exploration and production phases of the industry to the transportation, export and sale of the produced substances.

In order to give something more than a descriptive account of this management process, some method of evaluation needs to be adopted. Here, the management system is judged according to efficiency and equity criteria. The concept of efficiency is directed towards net social benefit. It thus takes into account the benefits derived by Alberta society from oil and gas resources as well as the costs incurred by society in finding, developing and using them. Two matters are important here: the amount of society's investment of labour and capital in producing these resources, and the timing of this investment. Firstly, if the amount of investment is too low, society will not obtain all the available benefits from these resources, while if the amount of investment is too high, the cost of producing these benefits, in terms of wasted labour or capital, will be excessive. Either way, net social benefits will not be at a maximum. Economic theory shows that this maximum is achieved when the marginal social benefits from investment equal the marginal social costs, that is to say, the social benefits derived from investment of an additional unit of either labour or capital equal the social costs thereof. These social costs, in turn, are represented by the social benefits that could have been

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2 It is restricted to conventional oil and gas resources, thereby omitting reference to the quite different management system adopted for the oil sands and other heavy oil deposits.
obtained by investment of that unit of labour or capital in its next most productive use. Secondly, the timing of investment has two aspects. Since society has a positive time preference, in that benefits won today have a greater value than similar benefits won at some point in the future, investment made too early or too late will be akin to excessive or inad­equate investment. Furthermore, since one of the costs of using oil and gas resources today is the present value of the benefits that could have been obtained by deferring their use to a future time, society will obtain the maximum net benefits from oil and gas resources only by adoption of a time path for their use which makes the marginal benefits of present use equal to the present value of the marginal benefits of use at all future times.3

In summary, efficiency is defined in terms of the best possible allocation of society's resources among alternative employments, including present and future uses, which results in the largest possible total of net benefits to society. When an efficient allocation of resources is achieved no increase in net benefits may be obtained by increasing or decreasing the employment of any resource or by altering the time path of investment of consumption.4

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3 This concept, described as "user cost", is developed fully in Scott, A.D., Natural Resources, The Economics of Conservation, Toronto, University of Toronto Press, 1955.

There is no clear indication that the Alberta government has sought to manage Crown oil and gas resources with the objective of efficiency in mind. Other factors such as the maintenance of employment in the oil and gas industry and the preservation of equity among individual producers are frequently mentioned and represent, of course, entirely legitimate government objectives. However, the value of efficiency as a benchmark for assessment of government actions lies in the fact that these other policies, to the extent that they result in a deviation from efficiency requirements, give rise to social costs which should always be recognized as the price paid for their pursuit.

The second criterion adopted in the assessment of Alberta's management system for oil and gas resources, that of equity, is employed in a somewhat narrow sense. It refers to the distribution of the benefits and costs arising from development of these resources, but only as between government and private enterprise. The matter of distribution among the different sectors of industry is left open. The approach adopted in the application of this equity criterion is that the government is obliged, in fulfilment of its duty to the Crown and the Alberta public, to collect the economic rents produced from development of Crown oil and gas resources or at least to explain, in terms of government policy, the reasons for distribution of any part of these economic rents among industry or any

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5 Economic rents are defined as the surplus of revenues generated in the development of oil and gas resources over all necessary costs incurred in the process, including adequate compensation for risk and uncertainty, when development takes place at the socially-desired rate. Thus, private operators who contribute labour or capital to the development of publicly-owned oil and gas resources are fully compensated without resort to the economic rents.
sections of the Alberta, Canadian or foreign public. This follows from the fact of public ownership of the majority of Alberta oil and gas resources. To the extent that the government fails to collect the economic rents generated by these resources, it allows the benefits of public property to be enjoyed by a sector of society rather than by society as a whole. Thus the question of equity is treated as between government on the one hand, and private industry and individuals on the other.

In addition, the failure by the Alberta government to capture a substantial proportion of the economic rents has efficiency as well as equity implications. This is due to the high level of investment in oil and gas operations from outside Alberta. In the absence of such external investment, the distribution of rents among private operators would not result in inefficiency because the rents would not be lost to Alberta society. This is not the case, though, where some private operators are not members of the Alberta public. To the extent that they obtain economic rents, the rents are lost to Alberta. Even if these rents are reinvested in Alberta by the private operators, the result is the same since reinvestment adds to the foreign indebtedness of Alberta society.

There are over two hundred companies engaged in exploration for, and production of, oil and gas in Alberta. The size of their operations varies considerably, ranging from production of a few barrels of oil or a few thousand cubic feet of gas daily on the part of small independents to over two hundred thousand barrels of crude oil and natural gas liquids and almost five hundred million cubic feet of gas per day on the part of the largest majors. Eight companies are considered to have fully integrated
Canadian operations comprised of exploration, production, transportation, refining and marketing. The remainder are involved only in exploration and production. The integrated companies' principal shareholders are all foreign companies, while the non-integrated companies have various ownership positions ranging from wholly Canadian-owned to wholly foreign-owned. A sizeable number of the Canadian companies are privately-owned although this number, and its composition, fluctuates constantly as does the make-up of that portion of the industry represented by the smaller producers.

Production of crude oil and natural gas liquids averaged over 1.32 million barrels per day during 1973, the highest rate in Alberta's history. Oil is usually purchased from producers by refinery operators on a monthly basis. In 1973 only 10% of total production was consumed in Alberta, while 29% was sent to other Canadian provinces and 61% was exported to the United States. Oil is carried out of the province by large diameter pipelines, the Interprovincial Pipeline to Saskatchewan, Manitoba, Ontario and the mid-western United States and the TransMountain Pipeline to British Columbia and the north-western United States.

In 1973, Alberta produced natural gas at an average rate of 7.16 billion cubic feet per day, of which some 5.76 billion cubic feet were

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6 This account is taken from the Report of the Energy Resources Conservation Board entitled Field Pricing of Gas in Alberta, ERCB Report 72-E-06, August, 1972, 3-1.


8 Ibid., 4.
available for sale after allowing for processing and fuel losses.\textsuperscript{9} Unlike crude oil and natural gas liquids, gas is usually purchased on long-term contracts, lasting from 20 to 25 years, by transmission companies when the gas is carried out of the province, and by utility companies for consumption therein. Alberta utilities bought 15\% of total production in 1973.\textsuperscript{10} Gas destined for removal from Alberta is collected by the Alberta Gas Trunk Line Company Limited and carried to border points where it enters the interprovincial pipelines of the transmission companies. TransCanada Pipe Lines Limited serves Canadian markets east of Alberta and exports to the eastern and midwest United States; Alberta and Southern Gas Company Limited supplies gas to California; and Westcoast Transmission Company Limited purchases small quantities of Alberta gas for carriage along with British Columbia gas in its system serving British Columbia and the north-west United States. In 1973, almost 40\% of Alberta's production of natural gas was exported to the United States while more than 40\% was consumed in British Columbia and other Canadian provinces as far east as Quebec.\textsuperscript{11}

\textbf{B. ALLOCATION OF OIL AND GAS RIGHTS}

The first stage in government management of Crown oil and gas resources in Alberta is usually the allocation to private enterprise of exploration and production rights. This is a most important step, for it establishes private enterprise in the management process right from the beginning and

\begin{itemize}
\item[9] Ibid., 8.
\item[10] Ibid., 7.
\item[11] Ibid., 7.
\end{itemize}
limits the scope of future government action in relation to the development of publicly-owned oil and gas resources. Moreover, the terms upon which private enterprise obtains exploration and production rights determine the extent to which the government will be successful in collecting the economic rents.

In essence, the present allocation system operates in two stages. The first stage is generally represented by a petroleum and natural gas reservation and the second by a petroleum and natural gas lease. The two stages are linked by a possibility of conversion from reservation to lease upon surrender to the Crown of 50% of the reservation area. Government revenue is obtained from lease rentals, production royalties and sales of surrendered areas. The entire process is governed by The Mines and Minerals Act and regulations thereunder.

1. Petroleum and Natural Gas Reservation

A reservation is initially obtained in unexplored areas by application to the Director of Minerals.14 There is a discretion to refuse an application but no mention is made in the Act or regulations of the factors to be considered in exercising this discretion. The practice has been to issue reservations to qualified applicants according to the time of filing.

12 Except in "Block A", infra, 24.


There is a fee of $250 per reservation. The maximum area that may be contained in a reservation is 156 square miles but there is no restriction placed upon the number of reservations that may be acquired by a single applicant.

The key to maintaining a reservation in force is the conduct of an exploration programme approved by the Minister. A reservation holder is required to submit a plan within 90 days describing the nature of the proposed examination. A number of reservations with a total area not exceeding 200,000 acres may be grouped for the purpose of this exploration programme. If the plan is acceptable to the Minister the initial term of four months is extended. Provided that satisfactory progress is made with exploration, further renewals are available upon payment of stipulated fees.

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15 Ibid., section 5.
16 Ibid., section 6. The area is 4½ townships, each comprising 36 sections.
17 Ibid., section 11.
18 Ibid., section 11. A group must consist of reservations held by the one person or company but there are no restrictions upon the location of reservations that may be included in a group; Ibid., section 15.
19 The initial term is four months with two renewals of four months each. Then, there may be four further renewals of six months each upon satisfactory progress being made with exploration and upon payment of a fee of ten cents per acre for each renewal. Upon a representation to the Department that the nature of the terrain or the inaccessibility of the area under reservation or any other condition over which the holder has no control, has seriously retarded the performance of the exploration programme, the Minister may grant further extensions of up to two years upon such terms and conditions as he sees fit. Thereafter, where a well has been or is being drilled on lands in a reservation or group of reservations, six renewals of three months each may be obtained upon payment of the following fees:
   (a) 10 cents per acre for the first renewal;
   (b) 15 cents per acre for the second renewal;
   (c) 20 cents per acre for the third renewal;
   (d) 25 cents per acre for each of the fourth, fifth and sixth renewals; Ibid., sections 11-15.
fees so that a reservation may continue for as long as six and a half years.\textsuperscript{20} A deposit is payable upon application for a reservation and if the exploration programme is not conducted in accordance with the approved plan this deposit is forfeited to the Crown.\textsuperscript{21} Upon termination of the reservation, the holder is required to furnish a report to the Department showing factual data obtained, information upon each hole for which a well licence was not required, and such further information as the Minister may require.\textsuperscript{22} To date it has not been the practice of the Department to require disclosure of raw data obtained from geophysical surveys.

A reservation conveys the exclusive right to drill a well or wells for petroleum and natural gas in the lands contained in the reservation and the right to produce these substances if found, but does not convey the right to the produced substances which remain the property of the Crown.\textsuperscript{23} Entitlement to petroleum and natural gas is acquired upon the granting of a lease.

2. Petroleum and Natural Gas Lease.

The holder of a reservation does not have an absolute right to obtain a lease, but merely an exclusive right to apply for a lease or leases

\textsuperscript{20} Ibid.

\textsuperscript{21} Ibid., section 5. The deposit is $2,500 for each 20,000 acres or part thereof.

\textsuperscript{22} Ibid., section 17. Where a licence is obtained for the drilling of a well under The Oil and Gas Conservation Act, disclosure of drilling information must be made to the Energy Resources Conservation Board; infra.

\textsuperscript{23} Ibid., section 9.
of the petroleum and natural gas rights in part of the lands contained in
the reservation.\textsuperscript{24} This means that the Minister, who appears to have the
right to issue leases under \textit{The Mines and Minerals Act},\textsuperscript{25} has a discretion
to refuse an application for a lease. Nevertheless, the normal practice
has been to grant lease applications provided that the applicant has
fulfilled his obligations under the reservation.\textsuperscript{26}

Restrictions are placed upon the selection of leases from a reservat-
on. Leases may not exceed 50\% of the area of any township included in a
reservation.\textsuperscript{27} The maximum area of a lease is nine sections if the lease
area is square or eight sections if it is rectangular (in which case the

\begin{flushright}
\textsuperscript{24} Ibid., section 19. This distinction was important in a Queensland
mining case, \textit{Cudgen Rutile (No.2) Pty. Ltd. et al. v. Chalk} (judgment of the
full court of the Supreme Court, as yet unreported). There, the holder of
an authority to prospect claimed to be entitled to the grant of a mining
lease upon application, on the basis of a term of the authority which read:
Right to Acquire Mining Leases: Subject to due performance and observance
of the provisions of the Acts and the terms, conditions, provisions and
stipulations of this Authority to Prospect on the part of the Holder to be
performed or observed, the Holder shall be entitled at any time and from
time to time during the said period to apply for and have granted to him
in priority to any other person or company, a mining lease for the minerals
specified in clause 5 hereof under the Acts over any part of the lands
comprised within this Authority to Prospect.
The Court rejected this claim, recognizing the government's discretion
to refuse a grant. The decision has recently been appealed to the Privy
Council, from which judgment is pending.

\textsuperscript{25} The Act is not explicit in this regard: see sections 113, 9, 11-12.

\textsuperscript{26} An exception arose in the case of a holder of a Block A permit in
the Cypress Hills area. This permit extended into a provincial park and
the permit holder, when applying for a lease, included areas within the
park boundaries in his lease application. The application was not granted,
and an agreement was negotiated with the permit holder whereby other areas
were exchanged for the areas applied for inside the park boundaries:
Communication with the Director of Minerals, Department of Mines and

\textsuperscript{27} Petroleum and Natural Gas Reservation Regulations, 1962, \textit{op.cit.}
note 14, section 26(1).
length may not exceed four sections). The minimum area of a lease is a quarter-section. Lease areas must form a chequer-board pattern or be separated from one another by a corridor at least one mile wide. The areas of a reservation not selected for lease are surrendered and become Crown reserves.

There is no necessity for discovery of petroleum or natural gas prior to an application for lease. However, where a reservation holder has made a commercial discovery of oil he is required to apply for a lease or leases of the petroleum and natural gas rights in the lands containing the discovery well.

A lease grants the right to the petroleum and natural gas that are the property of the Crown in the lease area subject to any exceptions expressed in the lease. The Mines and Minerals Act does not specify the nature of this right to petroleum and natural gas. To ascertain this it is necessary to turn to the lease document, the form of which is


29 Petroleum and Natural Gas Reservation Regulation, 1962, op.cit. note 14, section 26(4). A number of lease areas may be accumulated into a "concentration of leases" not larger than the maximum lease area, if desired: ibid., section 26(3).

30 Ibid., section 30. However, a lease selection of less than the 50% entitlement does not require surrender of all of the remaining reservation area. The reservation remains in force in respect of areas not covered by leases or Crown reserves established upon the initial lease selection: ibid., section 19(2).

31 Ibid., section 20.

32 The Mines and Minerals Act, op.cit. note 13, section 121.
determined by the Minister. The granting clause of the current lease document reads as follows:

...in consideration of the rents and royalties hereinafter provided and subject to the terms and conditions hereinafter expressed, Her Majesty hereby grants unto the lessee in so far as the Crown has the right to grant the same the exclusive right to explore for, work, win and recover petroleum and natural gas within and under the lands more particularly described as follows..., together with the right to dispose of the petroleum and natural gas recovered.

The nature of this disposition has not been subject to judicial determination. However, it is clear that the principle to be applied in interpreting the lease document is to ascertain the intention of the parties from the words in the document. There is no indication in the words chosen that a severance of oil and gas from the existing mineral estate is intended. Accordingly, the lessee does not acquire either a freehold or a leasehold estate in the oil and gas in the ground. Whether there is an intention to grant a lesser interest in land, such as a profit à prendre, is more difficult to answer. The Supreme Court of Canada has held, in the case of Berkheiser v. Berkheiser et al., that

33 Ibid., section 122.
34 There are a number of cases in which a variety of interests in oil and gas have been claimed, where the courts have established the principle that the governing factor is the intention of the parties as demonstrated by the words used in their agreements; for example, see St. Lawrence Petroleum Ltd. et al. v. Bailey Selburn Oil and Gas Ltd. et al. (No.2), [1963] S.C.R. 482, 45 W.W.R. 26, 41 D.L.R. (2d) 316; Bensetti v. Reece (1969), 70 W.W.R. 705; Emerald Resources Ltd. v. Sterling Oil Properties Management Ltd. (1969) 3 D.L.R. (3d) 256; Saskatchewan Minerals v. Keyes, [1972] S.C.R. 703, 2 W.W.R. 108, 23 D.L.R. (3d) 573.
the freehold oil and gas lease generally in use in western Canada does give a lessee an interest in land. However, the wording of the freehold oil and gas lease is significantly different from that of the Crown lease. The granting clause of the lease in the Berkheiser case read as follows:

The Lessor...doth hereby grant and lease...all the petroleum and natural gas...within, upon and under the lands...together with the exclusive right and privilege to explore, drill for, win, take, remove, store and dispose of, the leased substances....

The intention here to grant an interest in oil and gas in the ground is apparent. However, the omission from the Crown lease of any grant of these substances until after they are produced suggests that the Crown lessee has no interest in land but merely a licence to conduct specified operations relating to Crown oil and gas.

A further question that arises is whether the Crown petroleum and natural gas lease amounts to a contract enforceable against the Crown. The lease document is drawn in the form of a contract and legal consideration passing from the lessee to the Crown is not in doubt. A number of covenants are expressed to be between the lessee and the Crown but these impose obligations upon the lessee only and not upon the Crown. The sole source of obligations undertaken by the Crown appears to be the granting clause, quoted above. Moreover, there is the doctrine that the Crown may not contract so as to fetter its freedom of executive action in circumstances where public policy demands the retention of this freedom. The scope of this doctrine is uncertain and there is no apparent example of its application to the allocation of private rights over Crown

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36 Clauses 12-19, lease document (Form 160-A).

37 The doctrine derives its principal support from the case of Rederiaktiebolaget Amphitrite v. The King, [1921] 3 K.B. 500.
resources. Nevertheless, it is open to argument that the public interest requires freedom in executive action in the management of Crown oil and gas resources.

In any event, the covenants contained in the Crown lease document demonstrate a clear intention on the part of the Crown to retain the right to alter the terms and conditions of the lease by future, unilateral action. The first covenant reads as follows:

1. The lessee shall comply with the provisions of The Mines and Minerals Act and any Act passed in substitution therefor, and any regulations that at any time may be made under the authority of the said Acts, and all such provisions and regulations that prescribe, relate to or affect the rights and obligations of lessees of petroleum and natural gas rights, the property of the Crown, shall be deemed to be incorporated into this lease and shall bind the lessee in the same manner and to the same extent as if the same were set out herein as covenants on the part of the lessee. Each and every provision or regulation hereafter made shall be deemed to be incorporated into this lease and shall bind the lessee as and from the date it comes into force, but in the event of conflict between any regulation hereafter made and any regulation previously made the regulation last made shall prevail.


This achieves the result that the future executive action of the Crown is not fettered irrespective of the nature of the lessee's interest under the lease.  

The term of a lease is ten years. There is no general requirement that the lessee carry out exploration or development work during this period. However, an inducement to explore is contained in the renewal provisions. Upon expiry of the primary term, a lease continues only as to that part of the lease area within the spacing unit for each producing well.

After the fifth year of the initial lease term the Minister may give the holder of a lease upon which there is no producing well a notice requiring the holder to commence drilling operations within one year. Failure to comply with such a notice may result in cancellation of the lease unless the Minister grants an extension of time for compliance and

40 In recent years lessees have accepted changes made to lease terms and conditions without resort to court action. Perhaps the best example of this is the removal, in 1972, of the 16 2/3% ceiling upon royalty rates contained in both The Mines and Minerals Act and many lease documents. The Mines and Minerals Amendment Act 1972, S.A. 1972, c.68, s.3, struck out the section (143) in the previous Act stipulating such a ceiling, and a further amendment in 1973, S.A. 1973, c.94, s.4, inserted section 142.1 which provides expressly that any maximum royalty provision in a lease document is void.

41 The Mines and Minerals Act, op.cit. note 13, section 125.

42 Ibid., section 126. The normal spacing unit for a producing well is 160 acres. Where the spacing unit for a well is less than one section the lease continues as to one section: ibid. If a well is being drilled upon expiry of the primary term the lease continues as to the spacing unit until completion of the well: ibid., sections 130-132.
the lessee pays a delay penalty.\textsuperscript{43} In the case of leases granted since 1962, which have an initial term of ten years, the Department has not found it necessary to issue drilling notices in recent years as the level of exploration has been generally satisfactory. The Department has also taken into account in refraining from issuing drilling notices, factors such as the current shortage of drill pipe, rigs and specialized labour. There has been no attempt to use the provision to promote a turnover of acreage before the expiry of the initial lease term. In the case of leases acquired before 1962, which have an initial term of 21 years, drilling notices have been issued automatically to take effect at the end of the tenth year of the term. However, such notices have never been applied on a discretionary basis to individual leases, but always in furtherance of a declared policy generally applicable to all leases of a specified age.\textsuperscript{44}

The consideration paid in respect of a lease selected from a reservation consists of a rental and a royalty. The annual rental is one dollar per acre of land under lease.\textsuperscript{45} Where a well is a gas producer or a lease is within a natural gas field the Minister has a discretion to reduce the rental to 50 cents per acre, or if there is no market available for the

\begin{itemize}
  \item \textsuperscript{43} Ibid., sections 125.1-125.5.
  \item $1 per acre for the first year,
  \item $3 per acre for the second year,
  \item $5 per acre for the third year,
  \item $9 per acre for the fourth year.
  \item Communication with the Director of Minerals, op.cit. note 26.
  \item The Mines and Minerals Act, op.cit. note 13. section 113. Fifty percent of expenditures incurred in geological or geophysical exploration or in the drilling of wells on lands contained in the reservation may be credited against the first year's rental for any leases acquired out of the reservation: Petroleum and Natural Gas Reservation Regulations, op.cit. note 14, section 22.
\end{itemize}
gas, to 25 cents per acre.\textsuperscript{46} This discretion is usually exercised in a lessee's favour where the Minister is satisfied that the lessee has carried out development drilling in the lease area sufficient to delineate the gas accumulation.\textsuperscript{47}

The Alberta government recently introduced new royalty rates for both petroleum and natural gas.\textsuperscript{48} Previously, the petroleum royalty was calculated on a sliding-scale basis, rising from 5\% to 25\% with increasing rate of production from each well. The average rate prior to the adoption of the new scale was 22.8\%.\textsuperscript{49} The new scale retained the old as a basic royalty and added a supplementary royalty which also varies with rate of production, and is calculated upon the difference between the current price of crude oil and the price prevailing on March 31, 1974. The supplementary royalty is considerably higher for "old" oil than for "new" oil.\textsuperscript{50} For both old and new

\textsuperscript{46} The Mines and Minerals Act, op.cit. note 13, section 124. Before a reduction becomes effective, however, the Minister may require a lessee to drill a well to search for petroleum. While a reduction is in force, the Lieutenant-Governor in Council may order the drilling of wells for natural gas.

\textsuperscript{47} Communication with the Director of Minerals, op.cit. note 26.

\textsuperscript{48} Petroleum Royalty Regulations, Alta. Reg. 93/74, taking effect on April 1, 1974; Natural Gas Royalty Regulations, Alta. Reg. 16/74, taking effect on January 1, 1974. The government acted pursuant to powers given by The Mines and Minerals Act, op.cit. note 13, sections 31, 142, 145.

\textsuperscript{49} Statement to the Legislative Assembly by the Hon. Bill Dickie, Minister of Mines and Minerals, March 28, 1974.

\textsuperscript{50} The average supplementary royalty rate is 65\% (of the difference between current and March 1974 prices) for "old" oil; but only 35\% for "new" oil; ibid. However, these are only average figures. The distinction between "old" and "new" oil is based upon the date of discovery of a pool or upon the date of increase in reserves obtained from implementation of an enhanced recovery scheme: Petroleum Royalty Regulations, op.cit. note 49, section 2.
oil, though, the new royalty scales are derived by application of a complex formula which effects uniform increases in the previous royalty scales. This formula is set out in Table 1. In the case of old oil the increase is by a factor of 1.7732 so that the scale now rises from 8.866% to 44.33% with increasing rate of production from each well. The average rate when weighted according to existing production rates is 40.429%. In the case of new oil the increase is by a factor of 1.222 so that the scale now rises from 6.11% to 30.55% with increasing rate of production from each well. If new oil is produced at the same rate as old, the average royalty rate for new oil will be 27.864%. The different scales are depicted in Figure 1.

The new gas royalty is calculated on a sliding scale basis, rising not with rate of production but with selling price. Different schedules apply to "old" and to "new" gas. These are set out in Table 2. For old gas the royalty rises from 22% when the wellhead price is 26 cents or less per thousand cubic feet to 48.68% when the wellhead price is $1.20 per thousand cubic feet. For new gas, the rates are 22% for 26 cents gas and 31.66% for $1.20 gas.51 The scales are depicted in Figure 2. Where the Minister is satisfied that the actual selling price of any gas is less than the fair value thereof, he is required to direct that the fair value be used instead of the actual selling price for the purpose of calculating royalty.52 On the other hand, when the royalty rate is such as to impair the economic feasibility of production of gas from any well or pool, the Lieutenant-Governor in Council may reduce the applicable royalty rate.53

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51 Ibid.
52 Ibid., section 2(2).
53 Ibid., section 5.
TABLE 1.

The royalty for a month shall be calculated in accordance with the following equation:

\[ R = S + kS \left( \frac{A - B}{A} \right) \]

Where

- \( R \) is the royalty payable, in barrels;
- \( S \) is the number of barrels determined in accordance with the Table in this Schedule;
- \( k \) is the royalty factor for the month that is applicable to the crude oil from the well;
- \( A \) is the par price of crude oil for the month;
- \( B \) is the select price of crude oil for the month.

Table

"Barrel" means 34.9723 gallons

<table>
<thead>
<tr>
<th>Monthly Production in Barrels</th>
<th>Portion of Crown Royalty Payable for the Month in Barrels</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 1200</td>
<td>The number of barrels determined by dividing the barrels produced by 120 and adding 5 to the quotient, then multiplying by the barrels produced and dividing by 100.</td>
</tr>
<tr>
<td>1200 and over</td>
<td>180 barrels plus one-fourth of the number of barrels produced in excess of 1200 barrels.</td>
</tr>
</tbody>
</table>

SOURCE: Petroleum Royalty Regulations, Alta. Reg. 93/74, Schedule B.
FIGURE 1: PETROLEUM ROYALTY SCALES

Crown Royalty (%) vs. Monthly production in barrels

OLD OIL
NEW OIL
BASE SCALE
TABLE 2
CROWN ROYALTY
NATURAL GAS AND RESIDUE GAS

1. In this Schedule,
   (a) "F" means the average selling price per Mcf for the month of natural gas or residue gas;
   (b) "R%" means the Crown's royalty share expressed as a percentage of the natural gas or residue gas.

2. Where the selling price of natural gas or residue gas on which royalty is payable is less than or equal to 26 cents per Mcf, the royalty payable thereon is 22 per cent of the natural gas or residue gas.

3. Subject to section 4 of this Schedule, where the selling price of natural gas or residue gas on which royalty is payable is greater than 26 cents per Mcf and within a range of selling price in the column in the following table headed "Selling Price", the royalty payable on the natural gas or residue gas is the percentage thereof computed in accordance with the equation shown opposite that range in the column headed "Royalty Percentage":

<table>
<thead>
<tr>
<th>Selling Price (in cents per Mcf)</th>
<th>Royalty Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>26 to 28</td>
<td>[ R% = \frac{572 + 25(F - 26)}{F} ]</td>
</tr>
<tr>
<td>28 to 30</td>
<td>[ R% = \frac{622 + 30(F - 28)}{F} ]</td>
</tr>
<tr>
<td>30 to 32</td>
<td>[ R% = \frac{682 + 35(F - 30)}{F} ]</td>
</tr>
<tr>
<td>32 to 34</td>
<td>[ R% = \frac{752 + 40(F - 32)}{F} ]</td>
</tr>
<tr>
<td>34 to 36</td>
<td>[ R% = \frac{832 + 45(F - 34)}{F} ]</td>
</tr>
<tr>
<td>36 to 72</td>
<td>[ R% = \frac{922 + 50(F - 36)}{F} ]</td>
</tr>
<tr>
<td>over 72</td>
<td>[ R% = \frac{2722 + 65(F - 72)}{F} ]</td>
</tr>
</tbody>
</table>

TABLE 2 (Cont'd.)  
CROWN ROYALTY

NATURAL GAS AND RESIDUE GAS

4. (1) In this section, "new gas well" means a well (a) for which the well licence under The Oil and Gas Conservation Act was issued after January 1, 1974, and (b) that in the opinion of the Minister obtains natural gas from a pool initially discovered after January 1, 1974.

(2) Section 3 of this Schedule does not apply to natural gas obtained from new gas wells or to residue gas obtained by processing that natural gas.

(3) Subsections (4) and (5) apply only to natural gas obtained from new gas wells and to residue gas obtained by processing that natural gas.

(4) Where the selling price of natural gas or residue gas on which royalty is payable is greater than 26 cents per Mcf and within a range of selling price in the column in the following table headed "Selling Price", the royalty payable on the natural gas or residue gas is the percentage thereof computed in accordance with the equation shown opposite that range in the column headed "Royalty Percentage":

<table>
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<td>28 to 30</td>
<td>$R% = \frac{620 + 26(F - 28)}{F}$</td>
</tr>
<tr>
<td>30 to 32</td>
<td>$R% = \frac{672 + 28(F - 30)}{F}$</td>
</tr>
<tr>
<td>32 to 34</td>
<td>$R% = \frac{728 + 30(F - 32)}{F}$</td>
</tr>
<tr>
<td>34 to 36</td>
<td>$R% = \frac{788 + 33(F - 34)}{F}$</td>
</tr>
<tr>
<td>over 36</td>
<td>$R% = \frac{854 + 35(F - 36)}{F}$</td>
</tr>
</tbody>
</table>

FIGURE 2: NATURAL GAS ROYALTY SCALES

Crown Royalty (%)

OLD GAS

NEW GAS

Price
3. **Block A.**

The two-stage system of reservations and leases does not apply in all parts of Alberta. In Block A, townships 1 to 64 west of the fourth meridian, a more generous system has been devised to stimulate waning interest in exploration. The first stage of this system is represented by a permit. The important distinctions between a permit and a reservation are, firstly, the holder of a permit is required to pay a rental which is refunded in part when the drilling of a well is commenced and, secondly, provided that a well has been drilled to test for petroleum or natural gas, the holder of a permit may apply for a lease of the petroleum and natural gas rights in all of the permit lands without surrender of any Crown reserves. The maximum area of a permit is 36 sections. The term is six months plus three extensions of six months each, with two further extensions of six months each if the drilling of a well is in progress.

4. **Natural Gas Licence and Lease.**

Special provision is made for the case where gas is discovered in a reservation or permit area. The holder may apply for a licence of

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54 Petroleum and Natural Gas Permit Regulations, Alta. Reg. 250/62, sections 7, 11. The rental for each six months period is 50 cents per acre and refunds are at the rate of 30 cents, 20 cents or 10 cents per acre depending on whether the well is commenced during the first, second, or third six-month period, respectively.

55 Ibid., section 6.

56 Ibid., section 8.

57 Ibid., sections 9 -10.
the natural gas rights in the zone or zones containing the gas. A licence gives the right to drill wells for gas into the specified formations and to produce gas when found. In fact, the holder is required to drill at least two such wells. Before a licence expires the holder has the exclusive right to apply for a lease or leases of the rights in the natural gas indicated by drilling in the licence zones. The conditions upon which a natural gas lease are granted are less onerous than those contained in a petroleum and natural gas lease.

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59 Ibid., section 14. Entitlement to gas when produced is not specified but presumably remains with the Crown.


61 The term of a licence is six months, plus five extensions of six months each provided that satisfactory progress reports are filed and the rental of five cents per acre is paid for each six months period: Natural Gas Licence Regulations, 1962, op.cit. note 58, section 9.

62 Ibid., section 17. The Minister may grant a natural gas lease only in specified circumstances, namely:
   (a) if the natural gas is required in the operation of a natural gas utility, or
   (b) if the area is required to complete a spacing unit for a productive natural gas well, or
   (c) the area is required for a unit operation. The Mines and Minerals Act, op.cit. note 13, section 149.

63 The area acquired under lease may depend upon the depth of the gas producing zones. Maximum areas are
   (a) six sections for a well depth of up to 3,000 feet,
   (b) eight sections for a well depth of between 3,000 and 6,000 feet,
   (c) ten sections for a well depth exceeding 6,000 feet.
However, if the holder of a licence has delineated a natural gas field by the drilling of adequately spaced wells the Minister may grant a natural gas lease for the zone or zones covering the entire field: Natural Gas Licence Regulations, 1962, op.cit. note 58, section 17. The term of a natural gas lease is 21 years renewable for further periods of 21 years (cont.)
5. **Crown Reserves.**

Crown reserves are available for disposition upon such terms and conditions as may be prescribed by the Lieutenant Governor in Council. These may include payment to the Crown of a share of the products, or of an overriding royalty or of any other consideration in addition to the normal royalty on oil and gas.\(^\text{64}\)

A number of different methods have been used in practice for allocating rights over Crown reserves, depending upon the history of the acreage prior to its surrender to the Crown. If a discovery of oil has been made upon a reservation prior to the lease selection and surrender of Crown reserves, the Department will usually offer the Crown reserves for sale in the form of petroleum and natural gas leases. If a discovery of gas has been made, the offer is likely to be made in the form of Crown reserve natural

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\(^{64}\) *The Mines and Minerals Act, op.cit. note 13, section 112.*
gas licences. Where the holder of a reservation has selected leases and has surrendered Crown reserves without having drilled a well in the reservation area, the Department generally offers a special form of title known as a Crown reserve drilling reservation. This allows further exploration in the area before leases are obtained.

The Department seldom offers Crown reserves for sale in the absence of a request from industry. An exception to this policy occurs when there is a possibility of drainage of oil or gas by producing wells on an adjoining lease area. Normally, the holder of a reservation who has selected leases from within the reservation area will request posting of the surrendered Crown reserves within a year of going to lease, as this enables him to bid for the Crown reserves with information obtained from previous drilling operations while this information remains confidential. It is Department practice to offer Crown reserves for sale upon receipt of such

65 Crown Reserve Natural Gas Licence Regulations, Alta. Reg. 308/62, as amended by Alta. Reg. 230/65. The terms and conditions of such a licence, and the rights acquired thereunder, are identical with those of an ordinary natural gas licence.

66 Crown Reserve Drilling Reservation Regulations, 1962, Alta. Reg. 284/62. The holder of a Crown reserve drilling reservation is required to commence the drilling of a well within one year of the date of issue, and if that well does not indicate a commercial deposit of oil must drill a further well in the area. The holder then has the right to apply for a petroleum and natural gas lease in respect of an area not greater than that specified in the notice offering the reservation, usually one-quarter of the total area of the Crown reserve drilling reservation. In other respects a Crown reserve drilling reservation is similar to an ordinary reservation.

67 For a discussion of the disclosure provisions affecting drilling information, and periods of confidentiality, see infra, 54.
An invitation to bid for Crown reserves is advertised. Sealed bids are invariably required. The type of consideration is a cash bonus, in addition to the ordinary rental and royalty payments. Sliding bids may be submitted as long as they demonstrate a clear choice on the part of the person making the bid and do not amount to an attempt to rebid in the event of initial failure. Considerable flexibility is allowed in the construction of such bids which are frequently submitted by both majors and independents.

The Lieutenant Governor in Council may reject bids in his discretion. In practice, a bid of less than $10 per acre will not be accepted for a petroleum and natural gas lease on Crown reserves. Furthermore, the Department attempts to assess the value of parcels offered for bid where information is available for this purpose. Such information will usually consist of bids received for comparable tracts or the results of drilling in adjoining areas. The results of geological surveys are not disclosed to the

Communication with the Director of Minerals, op.cit. note 26.

Ibid. An example of a sliding bid is as follows: if a company is interested in parcels 1, 4 and 7, it may submit a bid in the following terms:

First choice - parcel 1 $x
   parcel 4 $x-5
   parcel 7 $x-6

If I am unsuccessful in obtaining all three parcels with my first choice, please disregard this and consider my second alternative:

Second choice - parcel 1 $x 1
   parcel 4 $x

If I am unsuccessful in obtaining both parcels 1 and 4 with my second choice, please disregard this and consider my third alternative:

Third choice - parcel 1 $x 5.
Department and so are not available. The assessed value of a tract and the number of bids received for it are both taken into account in deciding whether or not to accept the highest bid received.\(^70\)

6. **Critique.**

The overwhelming feature of the Alberta system for allocation of Crown oil and gas rights is its complexity. On the one hand, this is attributable to the use of a two-stage process. Not only do two types of rights have to be defined, but also it becomes necessary to make rules governing conversion from one stage to another and surrender of areas to the Crown. These conversion and surrender provisions accentuate information spillovers, whereby a person conducting exploration operations does not benefit fully from the information generated by his operations.\(^71\) They also add to the difficulties encountered in reaching agreement for unit development of a pool or field.\(^72\) It is argued that a two-stage process encourages exploration, but there appears to be no reason why this must necessarily be so; nor is it clear that an incentive is required for all types of exploration or that a two-stage rights structure provides the best incentive available. On the other hand, considerable complexity results from the special provisions made for gas under natural gas licences and leases. In the past these were justified by reference to the difficulties encountered in marketing gas, but now the situation has changed completely with high prices and strong demand for all available gas resources. In

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\(^{70}\) Ibid.  
\(^{71}\) Infra, 43.  
\(^{72}\) Infra, 81.
sum, therefore, much of the complexity of the Alberta system of rights allocation appears to serve no useful end at this time.

The system is also open to criticism on efficiency grounds. Both the oil and the gas royalties are "gross" royalties, in that they are calculated by reference to wellhead volume and price without any allowance for costs of discovery, development or production. A gross royalty may cause economic inefficiency through shut-down of a producing well when the marginal value of production is no longer sufficient to meet both royalty and operating costs, although it still exceeds operating costs alone. In the case of oil this possibility is diminished by the sliding-scale nature of the royalty, the marginal rate of which falls with declining production rates. In the case of gas it may presumably be avoided entirely by exercise of the Lieutenant Governor in Council's discretion to reduce royalty rates when economic conditions require it.

However, imposition of gross royalties at high marginal rates affects not only the abandonment of wells but also the level of investment in production facilities during the life of a producing field. Royalty payments, from the point of view of the producer, are either deducted from marginal revenue or added to marginal cost. Either way, a wedge is driven between social and private marginal revenues and costs. The marginal pool from society's point of view is outside the producer's extensive margin so that, in

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73 **Supra, 21.**

74 Natural Gas Royalty Regulations, op.cit. note 48, section 5.

75 The producer's extensive margin is the point at which his marginal costs of investing in the undeveloped pool are just equal to his marginal revenues therefrom, that is to say, the point at which it becomes profitable to develop this pool.
the absence of government subsidy, the pool will not be developed. More significant, perhaps, in view of Alberta's maturity as an oil producing province is the similar distortion at the intensive margin. This results in underinvestment in both initial production facilities and enhanced recovery schemes, as compared with the situation where gross royalties are not applied.

The royalty for oil is calculated according to monthly production per well rather than per acre of land drained. This provides an incentive for the drilling of more wells than would be required for optimum production from a reservoir in those cases where such drilling will achieve a reduction in the effective marginal royalty rate. Such a reduction will be possible only where production from a well falls below 1200 barrels per month, since at higher production rates the marginal royalty rate is constant. Thus, this incentive for overdrilling may not be large.

A number of provisions of the allocation system affect the timing of investment in exploration and production. First, the method of issuing reservations over unexplored areas on the basis of filing, or "first-come first-served", gives Crown oil and gas rights in these areas the characteristic of common property resources. Operators are forced to

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76 The intensive margin is the point at which the marginal cost to the producer of further investment in a partially developed pool is equal to the marginal revenue derived from that further investment.

77 Supra, 17-21. This may be compared with the additional royalty scale applicable to federal lands under the Canada Oil and Gas Land Regulations, SOR/61-252, as amended.

78 Supra, 21.

79 Supra, 8.
take up reservations before they otherwise would, since failure to do so may well result in loss of the opportunity to acquire any rights at all. This free-entry system encourages the great "land plays" that have been a mark of oil and gas exploration in Alberta. Second, once a reservation has been acquired, work commitments must be undertaken in order to maintain the reservation in force. 80 This also tends to cause an acceleration of investment in exploration. Third, the restrictions placed upon renewal of a lease beyond the initial term of ten years 81 may affect the timing of investment in both exploration and development, as may the issue of drilling notices to lessees after the fifth year of the lease term. 82 Finally, the imposition of lease rentals at a fixed rate per acre 83 provides an incentive to speed up the development of a lease area. All these factors operate in the same direction, encouraging earlier investment in exploration and development than private enterprise would otherwise be willing to undertake. Whether or not this involves inefficiency depends, of course, upon whether the rate of investment chosen by private enterprise in the absence of these provisions would be slower than Alberta's efficient rate. 84

80 Supra, 9-10.
81 Supra, 16.
82 Supra, 16-17.
83 Supra, 17-18.
84 Welfare economics shows that a perfectly competitive market system achieves the optimum allocation of resources among different uses, as well as between present and future: Lerner, A.P., The Economics of Control, New York, Macmillan, 1944; Bator, Francis M., "The Simple Analytics of Welfare Maximization", American Economic Review, March 1957, 22-59. However, the conditions for the establishment of a perfectly competitive market system are stringent: many buyers and sellers, absence of distorting taxes, perfect capital markets and perfect knowledge of present and future.
A number of situations could give rise to this. One would be substantial monopoly control of production. A second would be better foresight on the part of government than industry of future price changes for oil and gas. A third would be the use by private enterprise of a discount rate lower than the social discount rate for Alberta. However, none of these appears very likely. The threat of monopoly control has always been less serious at the production stage than at the later stages of transportation and refining. The recent dramatic price changes were foreseen by neither government nor industry. It is generally assumed that, because of tax distortions, the private discount rate is higher than the social rate in developed economies. Thus, it seems that the provisions in the allocation system encouraging earlier investment in both exploration and production involve a social cost to Alberta.

Government revenues from oil and gas production in Alberta are substantial. The sources of these revenues are rentals, royalties and Crown reserve sales. A detailed analysis of government revenues, by year and source, is contained in Table 3. Rentals were important in the past as they gave an element of stability to revenues when markets for oil and gas were uncertain. Their significance has declined with changes in market conditions, and rates have not been revised for several years. Royalties now account for a clear majority of government revenues from oil and gas, reflecting Alberta's position as a developed petroleum province. In 1973 royalties represented over 72% of total revenue whereas prior to 1970 they traditionally provided less than 50%. This growth in importance of royalties has been accompanied by a decline in revenues raised by Crown reserve sales. In 1959 these sales provided more than 50% of government oil and gas revenues and in 1965 this figure was still 48%, but by 1973
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<tr>
<td><strong>SALES OF CROWN RESERVES</strong></td>
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<tr>
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<td>243,002,562</td>
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<td>P. &amp; N.G. Reservations</td>
<td>53,265,271</td>
<td>15,621,854</td>
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<td>N.G. Leases</td>
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<td><strong>TOTAL</strong></td>
<td>319,288,483</td>
<td>68,219,771</td>
<td>51,081,647</td>
<td>71,827,742</td>
<td>53,964,080</td>
<td>44,631,156</td>
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<tr>
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<td>P. &amp; N.G. Natural Gas</td>
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<td>29,676,306</td>
<td>31,664,033</td>
<td>31,860,182</td>
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<td><strong>TOTAL</strong></td>
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<td>Oil</td>
<td>128,179,149</td>
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<td>25,612,872</td>
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**SOURCE:** Alberta, Department of Mines and Minerals
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<td>71,480</td>
<td>34,703</td>
<td>76,681</td>
<td>11,730</td>
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<td>84,820,152</td>
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<td>57,407,720</td>
<td>53,220,302</td>
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<tr>
<td>P &amp; N.G.</td>
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<tr>
<td>Oil</td>
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<td>$218,215,982</td>
<td>$260,486,936</td>
<td>$296,513,004</td>
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it had fallen to below 10% and was of less significance than rental revenue.

The increasing reliance upon royalties has implications for risk sharing. Royalties place a substantial portion of the risk incurred in oil and gas exploration and production upon the government, whereas cash bonus bids and rentals place this risk upon private operators. In recent years, therefore, the Alberta government has assumed a greater proportion of the risk inherent in oil and gas operations conducted in the province.

While the size of government revenues is impressive, this in itself gives no indication of the effectiveness of the allocation system in collecting the economic rents. In fact, the system has a number of weaknesses in this regard.

First of all, there is the matter of issuing reservations and permits on a free entry basis. In unexplored areas, this encourages a dissipation of potential economic rents in premature exploration. In areas adjoining reservations and permits where some exploration has taken place, it allows the benefits flowing from information spillovers to be won by the private operators who are first to apply for reservations and permits instead of by the government.

Secondly, there is the sale of Crown reserves. It is sometimes claimed that this alone collects 50% of the economic rents for the government. However, this claim is greatly overstated. The private operator selects the area to be retained by him under lease and, despite the restrictions placed upon such lease selections, \^{85} will endeavour to keep

\[^{85} \text{Supra}, 11-12.\]
substantially more than 50% of the potentially productive acreage. The
Crown reserves will, therefore, usually comprise all of the inferior acre­
age originally within the reservation. Moreover, the effectiveness of
Crown reserve sales in collecting the economic rents from this acreage
depends largely upon the degree of competition in bidding, the attitude
of private operators towards risk and the discount rates employed by
private operators and by government. The practice whereby Crown reserves
are put up for sale before the information obtained from drilling operations
on nearby lands is generally available is a clear bar to competition. 86
This problem would not be as serious if the government were able to make an
accurate assessment of the value of Crown reserves, and to fix minimum bids
accordingly, but this is not possible at present. The government is handi­
capped in this endeavour by lack of access to geophysical data possessed by
private enterprise. If private operators are averse to risk, or incur costs
in spreading risk among ventures, their bids for Crown reserves will be
reduced accordingly. Finally, a competitive bidding system will not
derive for the government all of the economic rents if the discount rate
employed by industry in calculating bids is greater than the social discount
rate. Since this is likely, 87 it represents a further difficulty encountered

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86 It is sometimes said that limitations placed upon the dissemination of information prior to lease sales result in higher bids for the govern­ment, since lack of information leads to a greater dispersion in amounts bid for a single tract, and the government is free to accept the highest bid. This assumes that bidders are risk takers, and do not discount bids for uncertainty, a matter which is discussed in more detail, infra, 113. Furthermore, any increase in high bids would be a short term phenomenon only, as bidders offering more than the economic rents for a tract would be driven out of business in the long term by their failure to recover their capital and an appropriate return thereon.

87 A number of distortions in the market mechanism, principally those resulting from the income tax system and capital market imperfections, make this appear likely.
in the sale of Crown reserves.

Thirdly, a gross royalty, whether fixed or calculated according to a sliding scale which increases with either production or price, is incapable of obtaining for the Alberta government more than a share of the economic rents generated by oil and gas production. There are a number of factors which are important in determining the size of the economic rents in any field. These are the quantity of oil and gas capable of production, the costs of discovery and production, the rate of production and the selling price. None of the Alberta royalty schedules take full account of all these factors. Moreover, the characteristics of oil and gas fields vary so considerably from one to another that it would not be possible to devise a single royalty scale capable of obtaining all of the economic rents from all fields throughout the province.

The Alberta allocation system gives the government great flexibility in fixing and revising applicable royalty rates. On the one hand, this flexibility is an important factor in determining the equity of the system as it allows the government to take account of unforeseen changes in price and market conditions and to share in any benefits therefrom. On the other hand, though, this imports a degree of uncertainty into the allocation system for which private enterprise must compensate by higher discounting of future revenues. The price of this flexibility is paid in reduced government revenues from Crown reserve sales and the requirement of a higher private return from investment in exploration and production.

Finally, it should be recognized that any loss of efficiency resulting

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88 Supra, 13-16.
from the allocation system reduces the size of the economic rents generated by oil and gas production, which represent the maximum revenues potentially available to the government of Alberta from these publicly-owned resources.

C. Exploration

1. Geophysical Work

Geophysical operations may be conducted upon practically all lands in Alberta, including those subject to a reservation or lease held by another.\(^{89}\) In the case of private land the consent of the owner or occupier is required. The conduct of geophysical operations is regulated by a system of licences, issued by the Director of Minerals. A licence remains in force for one year, but is renewable thereafter.\(^{90}\) The holder of a licence is obliged to file reports on operations with both the Department of Mines and Minerals and the Energy Resources Conservation Board, but there is no requirement for disclosure of raw data from geophysical surveys.\(^{91}\)

2. Government Incentives

Two special incentives are offered for exploratory drilling.\(^{92}\) One

\(^{89}\) All operations are subject to the Geophysical Regulations, Alta. Reg. 26/59 as amended by Alta. Regs. 425/59, 271/65, 38/69 and 238/70. For exceptions to the lands upon which operations may be conducted, see section 5. Operations include (a) seismic operations, (b) gravimetric operations, (c) magnetic operations, (d) electrical operations, (e) geochemical operations, (f) test drilling, and (g) other methods of investigating subsurface.

\(^{90}\) The Mines and Minerals Act, op. cit., note 13, section 189.

\(^{91}\) Ibid., section 193.

is a government contribution towards drilling costs, the other an exemption from Crown royalty upon oil and gas production. Both are restricted to wells certified by the Energy Resources Conservation Board\textsuperscript{93} as "incentive exploratory wells".\textsuperscript{94}

The government contribution towards drilling costs takes the form of a credit applicable against rentals, royalties and penalties due under Part 5 of The Mines and Minerals Act, the purchase price of Crown reserves, and taxes levied under The Freehold Mineral Taxation Act.\textsuperscript{95} Drilling of the well must have commenced before December 31, 1977, and a credit established thereby must be applied against moneys or taxes payable prior to December 31, 1979. The amount of the credit allowed depends upon a determination by the Board, after the well is completed and all relevant drilling information is supplied to the Board. Intervals of depth may qualify either as class A footage or as class B footage. This determination is based upon the proximity of the nearest abandoned or completed well. The amount of credit also varies according to the locality of the well in the province, being lowest in the plains area where drilling costs are cheapest, higher in the northern area, and highest in the foothills area where drilling costs are greatest. Details of the credit available for class A and class B footage, respectively, are reproduced in Tables 4 and 5. The intent of the subsidy programme is to contribute about

\textsuperscript{93} For a discussion of the history, composition and activities of the Board, see infra, 45.

\textsuperscript{94} Exploratory Drilling Incentive Regulations, 1974, \textit{op.cit.} note 92 section 2.

\textsuperscript{95} \textit{Ibid.}, section 10. The Freehold Mineral Taxation Act, S.A. 1973, c.89, imposes a tax upon oil and gas reserves subject to private ownership in the ground.
**TABLE 4**

**DRILLING INCENTIVE CREDIT**

Applicable to Class A Footage

Class A footage shall be determined as being the depth interval of a well that has not been duplicated either by

(i) a drilled and abandoned well within approximately one and one-half miles, or

(ii) a completed well or a well that in the opinion of the Board warrants completion, within approximately three miles.

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<th>Basis for Credit, Plains Area</th>
<th>Basis for Credit, Northern Area</th>
<th>Basis for Credit, Foothills Area</th>
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<td>Incremental</td>
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<td>$/foot</td>
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**SOURCE:** Exploratory Drilling Incentive Regulations, 1974, Alta. Reg. 18/74, Schedule A.
TABLE 5
DRILLING INCENTIVE CREDIT
Applicable to Class B Footage

Class B footage shall be determined as being the depth interval of a well that has been duplicated by the deepest drilled and abandoned well within approximately one and one-half miles, providing that such depth interval has not been duplicated within approximately three miles by a completed well or a well that in the opinion of the Board warrants completion.

<table>
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<th>Depth, Feet</th>
<th>Basis for Credit, Plains Area</th>
<th>Basis for Credit, Northern Area</th>
<th>Basis for Credit, Foothills Area</th>
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</table>

SOURCE: Exploratory Drilling Incentive Regulations, 1974, Alta. Reg. 18/74, Schedule B.
40% of the cost of drilling class A footage and about 30% of the cost of drilling class B footage.\textsuperscript{96}

The exemption from Crown royalty is for a period of five years in the case of oil and two years in the case of gas, calculated from the date upon which production of the well commences. It is available only in respect of production from intervals designated as class A or class B footage in wells that commenced drilling before December 31, 1977, where no other well within three miles and producing from the same pool has the benefit of the exemption.\textsuperscript{97}

Incentives of this type for exploratory drilling were first introduced in December 1972 when the Alberta government increased the maximum oil royalty rate from 16\%{\frac{2}{3}}\% to 25\%.\textsuperscript{98} They were designed to offset the effect of this increase upon exploration in the province, and then, as now, were intended to be particularly attractive to small operators who, in the government's opinion, are responsible for the vast majority of drilling activity in Alberta in recent years.\textsuperscript{99}

The drilling subsidy affects both the level and timing of investment in exploration. From the point of view of the private operator, it reduces the marginal cost of exploratory drilling so that some areas previously outside the extensive margin are brought within it. Moreover, as the

\textsuperscript{96} Oilweek, February 4, 1974, 9.

\textsuperscript{97} Exploratory Drilling Incentive Regulations, 1974, \textit{op.cit.} note 92, sections 11-12.

\textsuperscript{98} Exploratory Drilling Incentive Regulations, 1972, Alta. Reg. 387/72, now superseded.

\textsuperscript{99} Oilweek, February 4, 1974, 8.
scheme is of limited duration it encourages the drilling of intra-marginal wells while it remains in force instead of at some future time.

The royalty exemption also influences both the level and timing of investment in exploration, the former by increasing the expected value to the private operator of marginal revenue from production and the latter by operating for a specified time only. The exemption may also affect the timing of production from a well by encouraging the operator to tilt production rates as far as possible towards the present at the expense of the future, subject to maximum allowable production rates. However, this is unlikely to be significant as the effect of discounting will probably also cause this result even in the absence of the royalty exemption. 100

Incentives for exploration in Alberta are required because of two features of the government allocation system for Crown oil and gas rights, these being information spillovers and the imposition of gross royalties at substantial rates. Information spillovers are caused when a private operator is unable to obtain the full benefits generated by his exploration programme. This happens when his reservation or permit is not large enough to encompass the total area about which he derives information during exploration, and particularly as a result of the obligation to surrender to the Crown at least 50% of his reservation acreage. 101 The inability to benefit fully from exploration causes less investment in


101 Supra, 11.
exploration than is warranted by the social benefits therefrom, and so government subsidy of exploration is called for. The imposition of gross royalties has the same effect as discussed earlier in relation to investment in production facilities. By driving a wedge between social and private marginal revenues and costs, such royalties reduce the level of investment in exploration below that which is best for society. Again, government subsidy of exploration is required.

The degree to which the Alberta exploration incentives provide solutions to this problem is difficult to assess. The drilling credit is similar to a Crown subsidy for specified exploratory operations. Nevertheless, it provides a partial solution only as no subsidy is given for pre-drilling exploratory expenditures such as costs incurred in geological and geophysical operations. The royalty exemption increases the return to private operators from exploration and production and thereby offsets the disincentive effects of information spillovers and gross royalties, but its effectiveness must depend upon the magnitude of these different effects.

Finally, it should be noted that the incentives do not contain any provisions of special benefit to small, independent operators, despite the government's wish to assist them. It would seem that the problems faced by such operators are spreading of risk and obtaining access to capital.

102 Supra, 30.
103 Supra, 42.
104 Spreading of risk is not a problem, of course, if small independents are not risk averse. However, the tendency for such operators to enter into joint ventures, despite the transactions costs involved, suggests that there is a degree of risk aversion among small independents. For a more detailed discussion of the problem of risk, see infra, 113 et seq.
Risk may be spread by entry into a number of joint ventures, though these involve transactions costs. The subsidy for drilling costs reduces risk but does not assist in spreading the residue among a number of ventures. The royalty exemption may operate as a source of risk capital if the operator succeeds in achieving production but does not make entry any easier for the new explorer. In summary, while these incentives are undoubtedly useful to many small independents and may in fact be used more by them than by the majors, they are not directed specifically towards the disadvantages faced by these independents and are equally available to all, large and small.

D. PRODUCTION

Government regulation of the many aspects of oil and gas production in Alberta has long been entrusted to the Energy Resources Conservation Board, which was established originally in 1938 under the name of the Petroleum and Natural Gas Conservation Board. In 1971, when the Board received its present name, its jurisdiction was extended to the coal, the hydro and the electric energy industries. It consists of five members appointed by the Lieutenant Governor in Council, assisted by a staff of 436, including advisory and technical people. Each year the Board levies a tax upon the assessed value of all oil and gas properties in the province at a rate calculated to produce half of its estimated expenditures during

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the fiscal year. Remaining expenditures are met from provincial government revenue.

Before considering the types of controls placed by the Board upon oil and gas production practices in Alberta it is useful to review some of the physical and economic factors relevant to the accumulation and production of these substances. Reservoirs, or pools, of oil and gas occur in the ground when certain geologic conditions are met. The fluids are contained in porous rock from which they are prevented from escaping by a surrounding impenetrable formation. The most common type of reservoir is the anticlinal (or structural) trap, which results from an upfolding in rock strata creating a dome-like structure. The oil and gas are held in place by an impervious layer of rock above, and, frequently, a layer of water below. A second reservoir type is the fault-sealed trap, which occurs when a porous rock stratum is abruptly broken by a fault creating a barrier of impenetrable rock. If the porous stratum is tilted, oil and gas will migrate upwards until they accumulate at the fault. A third reservoir type is the stratigraphic trap, caused by a change in the permeability of a geologic stratum instead of by a fault. The porosity and total volume of the rock comprising a reservoir determine the amount

108 This account relies heavily upon Bradley, Paul G. The Economics of Crude Petroleum Production, Amsterdam, North Holland Publishing Co., 1967, 42-45.
109 Permeability is a measure of the ease with which fluids flow through porous rock.
of oil and gas that may be contained therein. The permeability of the rock controls the production rates which may be attained. Well production rates are also determined by the energy available to overcome resistance to flow.

Three types of reservoir energy, or drive, may be present either alone or in combination. They are gas cap drive, solution gas drive and water drive. A gas cap exerts pressure on the oil from above so that when a well is drilled into the oil zone, the oil flows to the surface. Gas held in solution exerts pressure on the oil internally, with the same result. Water drive exerts pressure on the oil and gas above by encroachment through the porous rock as production takes place. These types of reservoir energy are described as primary recovery mechanisms.

Production of oil or gas from a reservoir is necessarily accompanied by a decline in reservoir pressure, which in turn reduces the productive capacity of wells therein. The rate of decline depends upon individual reservoir characteristics and especially upon the nature of the drive mechanism. At times it may be possible to maintain or even increase reservoir pressure by introduction of water, gas or other suitable fluids into the producing formation. This procedure is variously described as artificial, secondary or enhanced recovery.

The productivity of a reservoir is less than proportional to the number of wells drilled therein because past a certain point there is well interference, caused by the fact that total reservoir energy is limited. In fact, the area over which oil and gas migrate through porous rock may be very wide,
so that one well might ultimately drain a very large reservoir.\textsuperscript{110} If it were not for the time preference of private operators and society, this would provide the cheapest method of developing a reservoir. Taking that time preference into account, though, means that a single operator developing a reservoir will find it worthwhile to invest in further production facilities up to the point where, in present value terms, the marginal benefit from earlier production equals the marginal cost of additional investment.

However, development of a reservoir is not a single stage process whereby all necessary wells are drilled before production commences. Wells need to be periodically worked over either for cleaning or to improve the rate of flow by fracturing the zone around the well bore. As reservoir pressure declines, consideration must also be given to the adoption of enhanced recovery schemes or the drilling of further production wells. Investment in production facilities is a continuing process throughout the life of a reservoir.\textsuperscript{111}

It follows that the natural unit for the development of oil and gas deposits is the reservoir. Nevertheless, although this was recognized as early as 1940 in Alberta,\textsuperscript{112} other considerations have been more important.


\textsuperscript{111} Ibid., 20

\textsuperscript{112} The 1940 Royal Commission on Alberta's Oil Industry reported this fact; see Harrison, Rowland, "Regulation of Oil Well Spacing", 8 Alberta Law Review 357, 367 (1970).
in the regulation of production. The division of freehold land rights is effected on a neat rectangular basis in Alberta, and so is the allocation of Crown oil and gas rights, so that there is no correspondence with sub-surface geological formations. To this factor the courts have added the rule of capture.

This rule is an adjunct to the legal ownership theory applicable to oil and gas in the ground. In the major producing states of the United States, where public ownership of oil and gas is virtually unknown, there were considerable differences of opinion as to the nature of this ownership, and in Canada this issue has not yet been conclusively

113 Three main theories of ownership have been espoused in the United States: the non-ownership (or Oklahoma) theory, the qualified ownership (Pennsylvania) theory and the ownership in place (Texas) theory. Under the non-ownership theory, no person owns oil and gas until it is produced and any person may "capture" the oil and gas if able to do so. However, a person may not go upon the land of another to effect the capture, so it is necessary to have an interest in land authorizing the drilling of the well used to effect the capture. The qualified ownership theory does recognize property rights in oil and gas in the ground but regards them as something less than a fee. Owners of these rights can not be absolutely deprived of them without this amounting to a taking of private property. But where several owners have similar rights in respect of a common source of supply of oil and gas, the rights of one may effectively be lost through a failure to exercise them prior to depletion of the source. The ownership in place theory, now the most widely accepted of the three, regards an interest in oil and gas in the ground as the same as an interest in solid minerals, that is to say, as forming part of the fee. It is sometimes called the absolute ownership theory. However, the interest may be lost by depletion of a common pool by an adjoining landowner; the courts rationalized this situation by describing the fee as "defeasible". There is widespread difference of opinion among writers as to the classification of these theories and their application in different states. See Williams and Meyers, Oil and Gas Law, New York, Matthew Bender, 1972, Vol.1, Cap 2, 203; Summers, W.L., The Law of Oil and Gas, Kansas City, Vernon Law Book Co., 1954, Vol. 1, Cap. 2, 11; Laycraft J.H. and Head, Ivan L., "Theories of Ownership of Oil and Gas", 31 Canadian Bar Review 382 (1953).
Nevertheless, whichever ownership theory was adopted in each jurisdiction, the rule of capture was recognized. This rule states simply that, irrespective of the nature of title to oil and gas below the surface, a person producing these substances from a well located upon lands for which he holds the mineral rights acquires title to the oil and gas upon their reduction into possession. Thus, owners of mineral rights for adjoining lands covering a single oil and gas reservoir are

The Privy Council was given the opportunity to choose among the different ownership theories in Borys v. Canadian Pacific Railway and Imperial Oil Limited, [1953] A.C. 217, but declined to do so. Their Lordships said (at 229):

For the purpose of their decision their Lordships are prepared to assume that the gas whilst in situ is the property of the appellant even though it has not been reduced into possession, but the question is not whose property the gas is, but what means the respondents have use to recover their petroleum.

See MacIntyre, J.M., "The Development of Oil and Gas Ownership Theory in Canada", 4 University of British Columbia Law Review 245 (1969), who points out that there are persuasive arguments favouring adoption of the ownership in place theory in Canada.

The rule of capture is apparent in each of the ownership theories applied in the United States, supra, 49, note 113. Acceptance of the rule in Canada has never seriously been questioned; MacIntyre, ibid. 265; and the rule was confirmed by the Privy Council in Borys v. Canadian Pacific Railway and Imperial Limited, ibid., at 220. Their Lordships said:

If any of three substances [gas, oil and water] is withdrawn from a portion of the property which does not belong to the appellant but lies within the same container and any oil or gas situated in his property thereby filters from it to the surrounding lands, admittedly he has no remedy. So, also, if any substance is withdrawn from his property, thereby causing any fugacious matter to enter his land, the surrounding owners have no remedy against him. The only safeguard is to be the first to get to work, in which case those who made the recovery become owners of the material which they withdrew from any well which is situated on their property or from which they have authority to draw.
placed in competition with one another to produce from the pool before
the opportunity to do so is lost.\footnote{115A}{The results of this competition in the early oil-producing days in the United States are described by Ise, John, \textit{The United States Oil Policy}, New Haven, Yale University Press, 1926, 105 \textit{et seq}.}

In these circumstances, an operator must ignore the future in deciding upon current production plans. User cost is zero since any oil and gas not produced today may not be available for production in the future. Production continues up to the point where price equals the marginal cost of present production. This rate is faster than that chosen where the reservoir is subject to sole ownership and price is equated to the sum of marginal and user costs, both of which are then positive.

Government regulation of production in Alberta has been directed towards achieving a reduction in the rates of production which normally prevail when the rule of capture is in force in a pool. Such rates may cause not only a substantial loss in economic efficiency through the misallocation of production over time, but also a reduction in the total quantity of oil and gas recovered from a pool by rapid dissipation of reservoir energy. A number of regulatory devices have been adopted.

1. Well Spacing\footnote{116}{For an account of the history of well spacing in Alberta, see Harrison, Rowland, \textit{op.cit.} note 112.}

The Board controls the drilling of all wells in the province by a system of well licences.\footnote{117}{\textit{The Oil and Gas Conservation Act}, \textit{op.cit.} note 106, sections 23-32.} The minimum area in respect of which a well
licensure may be obtained is a drilling spacing unit. A person having oil and gas rights in part only of a drilling spacing unit is required, before drilling a well, to obtain the authorization of those holding the rights in the remaining area of the spacing unit. The process of combining rights in a drilling spacing unit for the purpose of drilling a well is known as pooling. In the event that it is not possible for an owner of oil and gas rights to obtain a voluntary pooling agreement, the Board may, with the approval of the Lieutenant Governor in Council, order compulsory pooling after a hearing into the matter.  

The drilling spacing unit for oil is usually 160 acres while that for gas is 640 acres. In special cases the Board may prescribe different areas. Where a pool is subject to a unit agreement the Board may, on application, order a variation or suspension of the spacing requirements regarding that pool.

The size of the drilling spacing unit for oil has increased over the years, from 40 acres in 1950 to 80 acres in 1957 and then to 160 acres in 1962. However, a few oil reservoirs have been developed on more than one spacing pattern. Drilling spacing units for gas have

118 Ibid., section 82.
120 Ibid., section 4.030.
121 The Oil and Gas Conservation Act, op.cit. note 106, section 81(4).
been set at 640 acres since 1952. The Board requires that any variation in the normal spacing pattern be shown to have economic advantages. There is little tendency today for spacing units to increase in size; on the contrary, the Board is now receiving a number of applications for permission to conduct infill drilling. In considering these applications the Board is concerned to protect the rights of other operators in the pool and will not usually give the necessary permission unless there is substantial agreement among operators that infill drilling is required.

The Board also designates the precise location of a well within a drilling spacing unit. A well drilled outside the target area suffers a penalty in the form of a reduction in its allowed maximum rate of production.

The regulation of well spacing places a limit upon the tendency induced by the rule of capture towards excessive and competitive investment in production wells. This limit, however, is an arbitrary one in that it is basically insensitive to the physical and economic characteristics of individual pools which, in the absence of the rule of capture, would determine the appropriate drilling and production plan. Any uniform system of well spacing must have this result. It may assist in mitigating

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124 Infill drilling is further drilling within the area of a spacing unit already containing a well.
125 Communication with the Technical Assistant to the Chairman of the Board, Calgary, 25 July, 1974. In addition, see the Board's Informational Letter No.IL-OG 72-11, "Well Spacing and Infill Wells in Oil Pools".
126 *Oil and Gas Conservation Regulations, op.cit.* note 119, section 4.020.
the inefficiency caused by the rule of capture but is incapable of removing it entirely.

2. Production Rate Limitation

An operator who obtains a licence from the Board for the drilling of a well is required to supply all relevant well data to the Board. If the well is capable of production, the operator must also supply reports on tests conducted as well as subsequent production history. One year after the well is completed, the Board is obliged to make such information available to the public.

The Board uses the information collected with regard to all wells in the province to monitor and evaluate production practices. The Oil and Gas Conservation Act forbids the commission of "waste", which is defined, in addition to its "ordinary meaning", to include "wasteful operations", which are in turn defined as follows:

(i) the locating, spacing, drilling, equipping, completing, operating or producing of a well in a manner that results or tends to result in reducing the quantity of oil, gas or crude bitumen ultimately recoverable from a pool or oil sands deposit under sound engineering and economic principles, or

(ii) the locating, drilling, equipping, completing, operating or producing of a well in a manner that causes or tends to cause excessive surface loss or destruction of oil, gas or crude bitumen, or,

(iii) the inefficient, excessive or improper use or dissipation of reservoir energy however caused, or

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128 Oil and Gas Conservation Regulations, op.cit. note 119, Part 11.
129 Ibid., Part 12.
130 Ibid., section 12.150.
(iv) the failure to use suitable enhanced recovery operations in a pool where it appears probable on the basis of available information that such methods would result in increasing the quantity of oil or gas ultimately recoverable from the pool under sound engineering and economic principles or,

(v) the escape or the flaring of gas, if it is estimated that, in the public interest and under sound engineering principles and in the light of economics and the risk factor involved, the gas could be gathered, processed if necessary, and it or the products therefrom marketed, stored for future marketing, or beneficially injected into an underground reservoir, or

(vi) the inefficient storing of oil, gas or crude bitumen, whether on the surface or underground, or

(vii) the production of oil, gas or crude bitumen in excess of proper storage facilities or of transportation and marketing facilities or of market demand therefor. 132

In recognition of the fact that, beyond a critical rate of production, the total volume of oil which may be recovered from a reservoir is inversely related to the production rate, the Board places limits upon production rates for reservoirs, portions thereof and individual wells therein. The degree of sensitivity of oil recovery to production rate varies according to the physical characteristics of the reservoir, the stage of reservoir depletion, and particularly the drive mechanism. Recovery of oil by means of solution gas drive is largely independent of production rate within practical limits, recovery by gas cap drive is more sensitive to production rate than the solution gas mechanism, and recovery by means of water drive is most sensitive to the rate of production. In the case of a combination of several active drives, production rate may affect total recovery through both its influence upon the effectiveness of each drive and the part played by each drive in the combined recovery mechanism.

132 Ibid., section 138, 2.
Although individual well production rates do not necessarily affect total reservoir recovery, in some circumstances the well rate can cause segmentation of a reservoir by water or gas coning or local encroachment of active water and thus reduce ultimate recovery.\textsuperscript{133}

The Board has provided the following assessment of the relationship between the maximum efficient rate (MER) of a pool, defined as the maximum rate at which oil can be produced without avoidable underground waste,\textsuperscript{134} and well spacing. It is depicted in Figure 3. For a reservoir of given physical characteristics and producing under a given recovery mechanism, there is a reservoir MER independent of individual well effects, which is constant at any particular stage of depletion regardless of spacing. This is indicated by the line ABC on the figure. Similarly, for each well there is in principle an individual well MER, which varies almost inversely with spacing. This is indicated by the line DBE. The well spacing corresponding with the point of intersection B depends upon the reservoir rock characteristics, the mobility of the reservoir fluids and the recovery mechanism. Where the actual spacing is closer than that corresponding with B, the MER for the pool is the reservoir MER represented by the line AB. Where the actual spacing is wider than that corresponding with B, the MER for the pool is determined by the summation of the individual well MERs, represented by the line BE. Thus, in general, the relationship between pool MER and spacing takes the form of the line ABE. In addition, however,

\textsuperscript{133}Watkins, op.cit. note 122, 18-19; Report and Decision on Review of Plan for Maximum Oil Production Rate Limitation in Alberta, OGC\textsuperscript{B} Report 65-3, Calgary, March 1965, 13-17.

\textsuperscript{134}Report, ibid., 18-20.
FIGURE 3: RELATIONSHIP BETWEEN MER AND WELL SPACING

the Board considers that there may be special cases where loss of pool recovery could result from excessive rates of production at individual wells, even where withdrawals from the pool as a whole are not in excess of the MER.

There is no universally applicable formula for the determination of MERs. The calculation of actual reservoir MERs requires representative reservoir fluid and rock data, significant performance history and detailed knowledge of recovery processes, and, therefore, time to evaluate each new discovery. In the absence of such a formula, therefore, the Board in 1965 adopted the following procedure. A few pools, most of which produce heavy crude oil, were allowed to operate under "good production practice". Generally speaking, this rule was applied only to pools of relatively low productivity discovered prior to Leduc in 1947. Such a pool was not assigned a rate limitation by the Board but the operator was required to produce his wells in such a manner as would prevent underground waste. Some other pools, principally those for which an enhanced recovery scheme was approved by the Board, were assigned specific MERs after a hearing in which the production characteristics and history of the pool were reviewed in detail. In the case of most pools, the Board staff determined a provisional rate limitation (PRL) by application of a general formula, and when it appeared that production from a pool would soon approach the PRL the Board requested the operators to make an MER study and submit it to the Board for consideration, usually at a public

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135 Ibid., 25.
136 Ibid., 40.
hearing. In addition, the Board placed restrictions on the amount of gas or water that could be produced with any given quantity of oil, in order to maintain reservoir pressure. Finally, in those pools where it seemed possible that individual well production rates could affect ultimate recovery, the Board kept well performance under surveillance and assigned maximum permissible rates (MPRs) where required.

During 1973, the Board conducted a review of all of the oil pools in the province, some 1,500 in total. It found that the majority of the approximately 800 light and medium gravity oil pools subject to market demand prorationing were producing at or near capacity and that maximum rate limitations (MRLs) were required. As a result, some 145 pools or parts of pools were made subject to good production practice and some 630 pools or parts thereof were assigned MRLs, based upon reservoir and production characteristics.

Limitations upon production rates are assigned by the Board with physical rather than economic considerations in mind. The objective is to allow production of the largest possible volume of oil rather than

138 *Ibid.*. The restrictions were by way of specified gas-oil ratios (GORs) and water-oil ratios (WORs).
140 *Infra*, 62 et seq.
141 Maximum rate limitation is a general term and may include both maximum efficient rates and provisional rate limitations.
143 Note, for example, the definition of MER, *supra*, 56.
to obtain the maximum present value of the oil produced. The Board takes no account of the time preference of operators, or of society, and does not consider future price trends, in fixing limits upon rates of production. To this extent the system is inefficient. However, private operators cannot be relied upon to produce at a rate which is best for society because of the likelihood of a divergence between private and social discount rates. If the private discount rate is higher than that of society, restrictions are required upon rates of production but these should be chosen to maximize the net social value of oil rather than ultimate recovery.

No general system of maximum rate limitation applies to gas reservoirs. The Board monitors production practices to ensure that ultimate recovery is not affected, and operators are subject to the blanket prohibition in The Oil and Gas Conservation Act against waste.

The Board also uses well and reservoir production information to supervise enhanced recovery schemes. All such schemes require Board approval before going into operation. At the end of 1973, there were 370 schemes in force in some 230 pools in Alberta, and the Board calculated that about one-third of the province's original recoverable reserves were attributable to them.

Moreover, the Board may require enhanced recovery in any pool or portion thereof, with the approval of the Lieutenant Governor in Council, when necessary to prevent waste. The most common example of the

144 The Oil and Gas Conservation Act, op.cit. note 106, section 38.
146 Ibid., section 37.
Board's exercise of this power is when an application for installation of a scheme is received from one operator in a pool, and the Board, after a public hearing, decides that the scheme should be extended throughout the entire pool. However, there are occasions upon which the Board has initiated a scheme by calling upon the operators in a pool to show cause, again at a public hearing, why a scheme is not required to prevent waste. 147

In deciding whether to require the adoption of an enhanced recovery scheme the Board not only reviews the energy sources, reservoir rock and fluid characteristics of the pool to obtain a forecast of the increased production attributable to the scheme, but also calculates whether the scheme will allow the operator a return on his investment at prime interest rates, adjusted for risk. The assessment of risk and the appropriate compensation therefor is a matter of judgment. The Board usually considers a range of possibilities and the sensitivity of its conclusions to the assumptions upon which they are based. 148

This procedure takes no account of the Crown's interest in enhanced recovery, through its royalty share. It so confirms the conclusion previously reached that the imposition of Crown royalties at high marginal rates provides a substantial disincentive to enhanced recovery. 149 The portion of oil production which is attributable to the increase in reserves resulting from an enhanced recovery scheme adopted since April 1, 1974, is

147 Communication with the Technical Assistant to the Chairman of the Board, op.cit. note 125.
148 Communication with Mr. D.R. Craig, Vice-Chairman, ERCB, Calgary, 29 January, 1974.
149 Supra, 31.
defined as "new oil" for the purposes of calculation of Crown royalty and thus attracts royalty on the lower scale, but this reduces the degree of the disincentive rather than removes it completely.

3. Market Demand Prorationing

Production of oil in Alberta is also regulated by a complex system known as market demand prorationing. In essence, this consists of a determination of province-wide demand for oil on a monthly basis and allocation of this demand among producing pools and wells.

During the course of Alberta's life as an oil-producing province there have been a number of different prorationing schemes in effect. The first comprehensive plan was introduced in December 1950, and remained in force until January 1958, when substantial revisions were introduced. In July 1964 a new scheme was announced and, after a transition period, was fully implemented by May 1969. This scheme continues to apply today, with minor amendments.

Prorationing is administered by the Energy Resources Conservation Board pursuant to powers given by The Oil and Gas Conservation Act. The Board devised the present scheme, as it did with previous plans,

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150 The term "prorationing" is sometimes used to describe two quite distinct regulatory mechanisms, namely, Maximum Efficient Rate (or MER) prorationing and Market Demand (or MD) prorationing. The former has been mentioned, supra, 56. The latter will, for the remainder of this section, be described simply as "prorationing".

151 The history of prorationing in Alberta is recounted in detail in Watkins, op.cit. note 122.

after a series of public hearings called to review methods of proration. It applies to light and medium crude only. The demand for heavy oil has usually exceeded productive capacity and so curtailment of output has not been called for. Also, pools on good production practice are exempt from the plan.  

The scheme has three stages. The first is the determination of demand for Alberta oil, by type, from all sources. This is done at monthly Board hearings when prospective purchasers submit nominations for the ensuing month. Addition of nominations gives a figure known as the provincial allowable.

The second stage consists of allocation of the provincial allowable among pools in the province capable of production of crude oil. This is done on the basis of proratable reserves. Each pool's share of the provincial allowable is determined by the ratio that the sum of its ultimate and remaining reserves bears to the sum of provincial ultimate and remaining reserves. If any pool is unable to produce its share of the provincial allowable, due to physical incapacity or assignment of a lower maximum rate limitation, the excess of its share over production

153 Report and Decision on Review of Plan for Proration of Oil to Market Demand in Alberta, OGCB Report 64-10, Calgary, July 1964, 171. The following description of the plan is based upon information derived from this Report.

154 The three stages are provided for specifically in The Oil and Gas Conservation Act, op.cit. note 106, section 34(1).

155 Remaining reserves are the total reserves, recoverable by methods employed in the pool, remaining in the pool from time to time. Ultimate reserves are defined as those ultimately expected to be capable of production after all exploration and production has been completed.
capability is distributed among the other pools.

The third stage involves distribution of pool allocation among wells in the pool. Three different situations arise here. First, where an entire pool is subject to a unit operation, the distribution is determined by the unit agreement. Secondly, where there is no unit operation in effect and no part of the pool is subject to an enhanced recovery scheme, the distribution is performed on the basis of the area assigned to each producing well, subject to a minimum allowance or incentive allowable, where applicable. The area assigned to a producing well is the production spacing unit, made up of the drilling spacing unit together with contiguous areas under uniform ownership \(^{156}\) for which there is adequate geological and other evidence that the underlying oil is practically recoverable from the well. A production spacing unit is established upon application to the Board and may not exceed two and one-quarter sections. \(^{157}\) Thirdly, when portions of a pool are operated as units or are subject to enhanced recovery schemes while others are not, the distribution is determined according to the product of the assigned area and the recovery factor for each producing well in the pool, again subject to a minimum allowance or an incentive allowable. \(^{158}\) The recovery factor

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\(^{156}\) Tracts are considered to have uniform ownership, where the ownership of the lessor's interest is the same and the ownership of the lessee's interest is the same or where all owners have agreed to pool; Report, op.cit. note 153, 134.

\(^{157}\) Ibid., 179.

\(^{158}\) Ibid., 128. If part of a pool is subject to an enhanced recovery scheme it will qualify for project status. This means that production may be taken from any part of the pool subject to the scheme, provided that ultimate recovery is unaffected. This allows similar flexibility and operating cost savings to unit development of the pool.
represents the Board's estimation of the fraction of oil in place which will ultimately be recovered from the pool, and is therefore greater when an enhanced recovery scheme is in effect. It is calculated on the assumption that the scheme is applied to the pool as a whole and this provides an incentive for extension of any scheme throughout the pool. In all cases, well allowables are subject to maximum rate limitation where this is necessary to prevent loss of ultimate recovery from the pool, and the Board imposes penalties designed to prevent undue waste of reservoir energy during production.\textsuperscript{159}

The minimum allowance operates as a floor below which a well share is not allowed to fall. If the initial distribution of a pool allocation among wells results in an allowance below this minimum, that well is given the minimum allowance and the shares of other wells are reduced accordingly.\textsuperscript{160} The minimum allowance is designed to avoid premature abandonment of wells and to permit the completion and operation of wells drilled in low reserve per acre pools. It is therefore intended to allow recovery of completion and operating costs and to give a satisfactory return on the former.\textsuperscript{161} The size of the minimum allowance is related directly

\textsuperscript{159} By application of gas-oil ratios and water-oil ratios, \textit{supra},\textsuperscript{59}.

\textsuperscript{160} \textit{Report}, op.cit. note \textsuperscript{153},\textsuperscript{66}. This is different to the method of calculation of minimum allowances used in pre-1964 schemes. There, the minimum allowance was a basic allowance. The fraction of total pool allocation needed to satisfy minimum allowances of all wells was allocated first, and then the remainder of the pool allocation was shared among wells according to their maximum permissible rates of production (MPRs).

\textsuperscript{161} \textit{Ibid.}, 173. Once again, this may be contrasted with the concept of minimum allowances under pre-1964 schemes which allowed recovery of drilling as well as completion and operating costs.
to well depth. 162

The incentive allowable plan was adopted in 1972 to provide encouragement for exploratory and development drilling in pools with low reserves per acre. 163 The incentive is related to proratable reserves. It has the effect of increasing the minimum allocation to wells in pools where proratable reserves are less than 2,500 barrels per acre.

The first stage of the prorationing scheme, the calculation of demand for oil on a monthly basis, assumes a given price for oil. It thus removes any incentive for producers to reduce price in order to capture a larger share of the available market. The only way in which a producer can improve his market share is to increase his productive capacity. Furthermore, the price for oil loses its responsiveness to changes in demand and supply which would otherwise cause price weakening, and therefore has a tendency to remain above what it would be if a free market were operating. 164

The allocation of the provincial allowable among pools has an effect upon investment at the extensive margin. Without prorationing, it is most unlikely that all pools would share in the available market. Alloc-

162 Ibid., 77. Board studies have shown that completion and operating costs vary as more or less continuous functions of depth. The allowance is 15 barrels per day for depths up to 2,400 feet, and is scaled exponentially with depth up to 65 barrels per day at 15,000 feet.

163 Report and Decision on the Application of the Independent Petroleum Association of Canada for a Discovery Allowable, ERCB Report 72-B-06, Calgary, 1972. It was suggested at the hearings preceding adoption of this plan that it would also act as an incentive for exploration throughout the province, but this possibility was dismissed by the Board. Ibid., 97.

164 For a detailed discussion of pricing in Alberta, see infra, 95 et seq.
ration would be performed, in effect, on the basis of marginal cost of production, and for some pools the marginal cost would exceed the market clearing price. Therefore, the prorationing scheme allows production from high-cost pools at the expense of reduced production from low-cost pools. Investment at the extensive margin is encouraged at the same time as there is over-capacity in other pools.

The use of reserves for allocation of production among pools is quite arbitrary, as there is no continuous relationship existing between reserves and marginal cost of production. Furthermore, the actual formula adopted by the Board for this purpose is also arbitrary. The Board recognized the disadvantages inherent in using either ultimate reserves or remaining reserves: with ultimate reserves there is a tendency for pool allocation to exceed capacity when production declines in the later years of the pool's producing life, whereas with remaining reserves the allocation is reduced as reserves decline, thus extending indefinitely the life of the pool. The Board sought to avoid the more serious aspects of both these problems by adopting a formula based on proratable reserves, a combination of the two.

There are also effects upon exploration investment, although these appear to be contradictory. On the one hand the allocation formula encour-

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165 Not all high-cost pools would be placed in production for in some cases a return would not be obtained upon investment. Nevertheless, the bias in favour of high-cost fields is apparent in the scheme. This is reinforced by the system of minimum allowances and incentive allowables.

166 Report, op.cit. note 153, 90.

167 Ibid., 111.
ages exploration by reducing the risk of failure, since early production is allowed from some fields which would be extra-marginal in the absence of prorationing. On the other hand, exploration is discouraged as the rewards paid for successful effort are diminished, since production from low-cost pools is reduced below the level which would otherwise be achieved. This is another example of the bias contained in the system favouring marginal deposits at the expense of intra-marginal deposits. A further significant factor is the influence exerted by prorationing on price, which serves to encourage exploration by ensuring relative price stability at a level above that which would prevail in a free market.

Both the minimum allowance and the incentive allowable increase investment at the intensive margin, the former by ensuring the recovery of completion costs and a return thereon and the latter by contributing to drilling costs in a specified category of pools. Otherwise, the significance of the method chosen for the distribution of total pool allocation among individual wells lies in equity rather than efficiency considerations. The area assigned to a well is used as a proxy for the reserves recoverable from that block in the absence of drainage by adjoining wells in the pool. It is not a very accurate proxy, though, since it ignores such important factors as the volume of oil and gas bearing rocks, porosity and permeability. These may vary significantly from one part of a pool to another.

The main objectives sought to be achieved by prorationing are set out in The Oil and Gas Conservation Act:

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(a) to effect the conservation of, and to prevent the waste of,
the oil, gas and crude bitumen resources of Alberta,\textsuperscript{169} (b) to afford each owner the opportunity of obtaining his share of the production of oil or gas from any pool or of any crude bitumen from any oil sands deposit.

Two problems are apparent here: the physical loss of oil resulting from wasteful production and storage practices, and the rule of capture.\textsuperscript{170}

The first of these, physical waste, has frequently been attributed to a basic instability in oil and gas pricing caused by the stochastic nature of new discoveries. The prime example quoted in support of this view is the development of the East Texas field in the 1930's when the price of oil fell to as low as ten cents per barrel and the loss of oil through dissipation of reservoir energy and ineffective storage practices was immense. To avoid such price instability and consequent physical waste, the argument runs, it is necessary to regulate price and distribute the quantity demanded at that price among producing pools. This is the justification for the first and second stages of the prorationing process.

\textsuperscript{169} "Conservation" is not defined. "Waste" is defined, \textsuperscript{supra}, 54.

\textsuperscript{170} The rule of capture is described \textsuperscript{supra}, 50. These same two problems lay at the heart of prorationing schemes adopted earlier in the United States. Professor Eric W. Zimmermann, has noted that:

\ldots there are two major objectives of the present regulatory program: (1) the prevention of waste of oil and gas, through which the ultimate recovery of these products from their reservoirs is greatly increased; and (2) the protection and adjustment of correlative property rights appertaining to each owner of land in an oil and gas pool. These two objectives have become the primary aims of petroleum conservation and regulation.

A variation of this theory states that crude oil production exhibits decreasing costs and is thus a natural monopoly. There are unlimited economies of scale in production. Hence government regulation is required to prevent ruinous competition followed by emergence of a single producer. The falsity of this view has been effectively demonstrated.\textsuperscript{171} Production of oil and gas, at least after a certain point is reached, is attended by increasing marginal costs whether considered on the basis of a single pool or an entire producing region. There is no evidence to suggest that this point at which marginal costs begin increasing is such as to give any one producer a significant share of the total market.

The random nature of discovery and size of new fields is well known, but this in itself is not sufficient to demonstrate that unregulated oil and gas production would be attended by considerable price fluctuations. These fluctuations are more likely to happen in the early stages of development of a producing region when established markets are small in relation to the size of new discoveries, but even then there will be a time lag between initial discovery and full production from a pool, during which less violent adjustments to prices and markets can be made. Furthermore, even rapid price changes will not cause physical waste in the absence of the rule of capture so long as a future market for oil and gas is expected to be available. All that will happen is that the entry of a lower-cost producer from a newly-discovered field will cause a displacement, and temporary shut-down, of some previously profitable fields.

In the later stages of development of a producing region, the discovery

\textsuperscript{171} Adelman, op.cit. note 110, 13-44.
of a new low-cost field is unlikely to have a significant impact on price. Rates of production from existing fields will be subject to periodic decline leaving room for the entry of a new producer. Additions to reserves and production capacity will come as much from the installation of enhanced recovery schemes as from new discoveries, and while a large new discovery may result in the delay of such installations it will seldom do more to price than retard its inevitable increase.

The events of East Texas provide a particularly bad model for policy determination in other times or jurisdictions as they resulted from a combination of peculiar conditions which are unlikely to be repeated. The field discovered was very large in comparison with previously-established reserves, the discovery was made at the onset of the Great Depression, and the rule of capture was in full force. The influence of this last factor, alone, seems to have been largely underestimated in explanations of the wasteful practices of this era.

The third stage of the Alberta prorationing scheme, the distribution of pool allocation among individual wells in the pool, is designed to overcome the excesses attributable to the rule of capture. The rule is modified by the imposition of a set of well production quotas, but is

172 Reserves in the East Texas field were then calculated to be 2 billion barrels, more than twice the annual U.S. output: ibid., 43.

173 Ibid. But see Ise, op.cit. note 115A, who recognized this problem as early as 1926.
otherwise left intact. This means that a producer must still discount user costs since he will not be able to obtain more than a fraction of any present production which he defers to the future. Accordingly, oil and gas reservoirs subject to divided ownership can not be used for storage of inventories even though they provide the most efficient storage means available.

The situation in Alberta which resulted in the introduction of pro rationing was caused largely by the rule of capture. Production capacity grew tremendously from 1947 to 1950 with the discovery of major oil fields

\[174\] Rae, D.A., "Equitable Sharing and End Use of Natural Gas", 7 Alberta Law Review 429 (1969). The writer describes an application made to the Gas Utilities Board, on a referral from the Oil and Gas Conservation Board, upon which the Gas Utilities Board rules that it had no jurisdiction to order one producer to limit its total cumulative production from the Fort Saskatchewan Field, thereby leaving the other principal producer with the exclusive right to produce, when it pleased, the balance of the recoverable gas in the field. The circumstances were as follows. The principal parties were both lessee-distributors of natural gas from the field. The Conservation Board had fixed allowables for wells in the field. The respondent, Mid-Western Industrial Gas Limited, was producing its wells at rates close to these allowables while the applicant, Northwestern Utilities Limited was not, preferring to use its reserves in the field for peak load requirements. Northwestern estimated that Mid-Western's total share of the reserves in the reservoir at the time of the application consisted of XY million cubic feet, and applied to the Gas Utilities Board for an order to the effect that when Mid-Western had produced XY million cubic feet it be prohibited from producing further. The Gas Utilities Board decided that such an order could not be made under the provisions of the then (November 27, 1964) Oil and Gas Conservation Act, which differ little from those of the present Energy Resources Conservation Act in this regard. Although this decision related to gas rather than oil, it has general application and provides a clear illustration of the limits of market demand prorationing in the development of oil and gas resources according to economic efficiency criteria and in achieving equity among producers in a common pool.
at Leduc, Redwater, Joarcam, Golden Spike, Fenn Big Valley and Acheson. Although markets were extended into Saskatchewan, Manitoba and Ontario by displacement of United States' oil, there was excess capacity in the Alberta fields. In 1950 in the Redwater field alone, it was estimated that there was excess capacity of some 62,000 barrels per day representing 84% of Alberta's average oil production.

The rule of capture was important in the development of this excess capacity. Changes in the provincial land regulations in July, 1947, had introduced the requirement of surrender to the Crown of one half of the area under permit before conversion to lease. This provision resulted in greater fragmentation of ownership of mineral rights in any producing field and, given the rule of capture, encouraged competitive development drilling. Imperial stated that it completed 286 producing wells in Redwater, where it owned 50% of the reservoir acreage, to meet the competition presented by twenty other companies that had acquired leases over the Crown acreage.

Furthermore, the rule of capture led to substantial inequities among competing producers in this situation of excess capacity. In 1950 the major crude oil purchasing companies - British American and Imperial - began limiting the amount of oil that they would take from certain fields. The share of production that an independent producer obtained from a pool thus became dependent upon the availability of a sales contract with one of

175 Watkins, op.cit. note 122, 57-61. The following historical account is derived from this source.

the integrated companies. This was an intolerable situation for producers, and in August, 1950, Continental, a company operating wells in the Leduc-Woodbend field, applied to the Conservation Board for Imperial to be declared a common purchaser of oil from the field. Continental was under contract to sell its production to British American, which had consistently purchased lower volumes from wells than did Imperial, and Continental submitted that as a result, it had lost the opportunity to produce 46,167 barrels of oil during the period, May 1, 1949 to July 31, 1950. The Board called a hearing to consider Continental's application and the result was the adoption of the 1950 prorationing scheme. 177

In these circumstances it is difficult to find any justification for the inclusion of the first and second stages of the prorationing scheme. The principal cause of industry instability was the rule of capture. To dispense with it did not require the establishment of a producers' cartel. If the Board was concerned by the market situation of many producers, few purchasers, and unpredictable additions to supplies, perhaps another prescription for instability, it could have taken steps to break the power of the integrated companies by requiring unitization of pools prior to production, by enforcing common purchaser requirements and, if necessary, by suggesting government entry into wellhead purchasing. It should also have suggested that the government curtail the allocation of exploration and production rights over Crown oil and gas resources while the problem of overcapacity persisted. The Board has subsequently suggested that all three stages of the prorationing scheme were necessary to achieve equity among pools, 178

177 Watkins, op.cit. note 122, 73.
but this presumes a somewhat unusual view of equity. It is not generally the rule that all resource owners are entitled, as of right, to a share of the market, nor is it clear that they should be. Usually, the market shares of resource owners are determined by their relative marginal costs of production.

What was really needed in Alberta in 1950 was a revocation of the rule of capture. The first and second stages of the prorationing scheme were not relevant to this end. The third stage did not set out to achieve it either, but merely introduced a modification to the rule designed to prevent its worst features. Complete abolition of the rule does not appear to have been seriously contemplated by the Board, although this course was open by requiring compulsory unitization of pools.

Today, the rapid increase in demand for oil from Alberta has almost overtaken the excess production in the province which has traditionally provided the justification for the prorationing scheme. In 1973, following the Board's review of all pools subject to the plan, only 25 were not assigned maximum rate limitations but continued to have their allowables set by market demand. It is a measure of the inefficiency of the prorationing scheme, though, that these few pools account for some 45% of the province's total production. The Board recently called a hearing to review the need for continuing the plan but its report on the matter has not yet been published.

The system of market demand prorationing does not apply to gas pro-

180 March 27, 1974.
duction. Operators in the same pool may produce at whatever rate they choose, subject to the prohibition against waste, and there is no general sharing of provincial demand among pools. However, the Board has the power to see that equity is achieved among competing producers in a common pool. After conducting a public hearing, it may restrict the total amount of gas produced during any period from a pool and may distribute the total production in an equitable manner among wells in the pool, for the purpose of giving each producer the opportunity of producing or receiving his share of gas in the pool. However, resort to this power has seldom been necessary because of the high degree of unitization of gas pools.

4. Unitization

Unitization is the process whereby a number of owners of oil and gas rights in tracts overlying a common pool or field merge their interests so that the pool or field may be operated as a single unit. In place of their previously-existing rights in oil and gas produced from individual tracts, the owners accept a share in the joint production from the unit. Unitization is not always complete - a number of owners may enter into such an agreement despite the fact that others with interests in the pool or field do not. However, unitization is to be distinguished from pooling where owners combine their interests simply within a drilling spacing unit.

In Alberta, the Board is charged with the duty of encouraging unitization. The Minister of Mines and Minerals may, with the authority of

181 The Oil and Gas Conservation Act. op.cit. note 106, section 35.
182 Infra, 78.
183 The Oil and Gas Conservation Act, op.cit. note 196, section 81.
the Lieutenant Governor in Council, enter into a unit agreement on behalf of the Crown. The entire area of the unit, whether or not it contains some lands in which the oil and gas rights are privately owned, then becomes a location for the purposes of calculating Crown royalty which is applied to actual production from all wells in the unit regardless of ownership. However, if the assessment of Crown royalty in this manner, using the ordinary royalty scales, gives rise to an inequitable situation or produces a substantial disincentive to unitization where this would otherwise be desirable, the Lieutenant Governor in Council may authorize the Minister to enter into a special royalty agreement applicable to the unit.

The negotiation of unit agreements is an entirely voluntary process. The Board offers no special incentives for unit development of a pool or any portion thereof, except that which flows from a combination of unit development and enhanced recovery, in the form of an increased allocation under the prorationing scheme.

In the case of gas pools, the natural incentives for unit development are strong. A gas plant is usually required for processing the product and individual producers will combine to make that investment. In so doing they will decide the shares in which each must contribute to costs and as these usually correspond with entitlement to production from the pool,

185 Ibid., section 145.
186 Communication with the Director of Minerals, op.cit. note 25.
187 Ibid. Also, see The Mines and Minerals Act, op.cit. note 13, section 184.
188 Supra, 65.
the major difficulty in obtaining a unit agreement is overcome. Furthermore, the method of selling gas also provides an incentive for unit development of a pool. Gas purchasers generally buy reserves, and have access to these reserves throughout the life of the purchase contract and the pool. Production is taken from the pool as required, and will often vary substantially from one season to another. The production capacity of a reservoir strongly influences its value for if producibility is good, the reservoir may be used to meet peak load requirements. In all these circumstances, the maintenance of equity among different producers in a pool is very difficult without unit development and so the incentive to negotiate a unit agreement is strong. Most gas pools are unitized, although in some large pools there may be a number of unit agreements in effect. Where pools cover a considerable area and reservoir rocks are thin, drainage across the pool is not usually significant. 189

The incentives for voluntary unitization of oil pools are not as powerful, and as a result, unit development is not as widespread. Nevertheless, approximately 75% of Alberta oil production comes from unit operations or from enhanced recovery schemes to which the Board has given project status. 190

The Oil and Gas Conservation Act 191 also contains provisions for compulsory unitization where owners in a pool or field are unable to reach agreement. The Board is required to hear an application made by owners of over 50% of the working interests, calculated on an acreage basis, in a

189 Communication with the Technical Assistant to the Chairman of the Board, op.cit. note 125.
190 Ibid.
pool or field, and may hear an application lodged by owners of less than 50% of the working interests. The factor to be considered by the Board in conducting such a hearing is whether unit operation of the pool or field is desirable in the interest of conservation. If the Board determines that it is, it may, with the approval of the Lieutenant Governor in Council and subject to a specified degree of acceptance of the proposed plan by owners of interests in the pool or field, order that the pool or field be operated as a unit. This order may contain provisions dealing with all of the issues normally contained in a unit agreement, such as appointment of the unit operator, allocation to each tract in the unit of its share of oil and gas produced from the unit, payment of the unit development and operating costs, and establishment of an operators' committee and determination of the voting interest of each member of this committee.

However, before the Board can make such an order it must obtain statements from at least 85% of the owners of production rights in the proposed unit area, and at least 85% of the owners of lessors' royalty interests in the area, signifying their acceptance of the proposed plan.

These provisions of The Oil and Gas Conservation Act have never been proclaimed, and so have not been used to achieve compulsory unitization. The government takes the view that they will only be brought into force "if necessary", and that this situation has not yet arisen as progress with voluntary unitization has generally been satisfactory.

Unitization has a number of advantages. In the first place, it abrogates the rule of capture. In this way, it removes any necessity for the third stage, at least, of market demand prorationing as well as the regulation of well spacing. More generally, it provides the opportunity
for production of oil and gas from a pool by the most efficient means, based upon reservoir characteristics rather than an arbitrary surface division of property rights:

Under unit operation, freedom to locate wells in conformance with the structural characteristics of the reservoirs and to utilize fully the reservoir-drive mechanism will permit more efficient recovery with fewer wells. 192

This is of particular significance in the continuing development of a pool as reservoir energy falls. Subject to the effects of the Crown royalty, which have already been noted, unit operation of a pool allows investment in enhanced recovery at a time and to a degree calculated to produce the maximum present value of production. Divided ownership, on the other hand, even when prorationing is in effect, operates as a disincentive to such investment as each operator is aware that he will be unable to derive the full benefits therefrom.

The difficulty encountered in unitization is the reconciliation of the different property interests in a producing pool. These interests may be very numerous, and the costs incurred in reaching a voluntary agreement may be substantial. The case for and against unit development, therefore, depends largely upon the attitude adopted towards private rights. If such rights may be ignored then unitization should be adopted in every case. If private property rights are to be respected, unitization of a pool or field should only be required when the benefits to be derived from unit operation exceed the transactions costs incurred in establishing the unit.

Transactions costs increase with the number of parties involved in the negotiations. Therefore, the fragmentation of ownership which results from the two-stage allocation system of rights over Crown oil and gas resources, with the requirement of surrender of at least 50% of reservation areas upon conversion to lease and the further allocation of these Crown reserves to competing operators, inevitably makes unitization more difficult.

Transactions costs could also be reduced by a system of compulsory unitization. At one extreme would be a system of unitization by government decree. An alternative is the Alberta system of compulsory unitization, not yet in force. The hearing procedure and requirement of acceptance by large majorities of the different interest owners add to transactions costs, but are undoubtedly included to provide a measure of protection for private rights. The compromise reached between transactions costs and protection of private rights is clear.

The advantages to be obtained from unit development of pools have long been recognized in Alberta. The 1940 Royal Commission on Alberta's Oil Industry reported, firstly,

that the ideal Conservation is attained only under unit operation, and secondly,

that in the absence of unit operation, the compromise measure of Conservation and Proration law must be accepted. 193

It is not clear why the Board, in recommending market demand proration in 1950, rejected the solution of unitization. Perhaps it was a very strong regard for the sanctity of private rights in oil and gas. If so, the Board's faith in prorationing was somewhat misplaced. Neither the present

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193 Harrison, op.cit. note 112, 368.
prorationing scheme nor its predecessors attempted to achieve absolute equity among competing owners of oil and gas rights. The present scheme, as has already been noted, bases allocation of production within pools principally upon the surface area of rights held without consideration of the volume or producibility of reserves. 194

E. **TRANSPORTATION**

Both the building and the operation of pipelines are regulated by The Pipe Line Act,195 which applies to all pipelines in Alberta except those situated wholly within the property of a refinery or other plant and those subject to the jurisdiction of the National Energy Board.196 A permit is required for the construction of an oil or gas line.197 An application for a permit is made to the Energy Resources Conservation Board which is empowered to grant permits subject to such terms and conditions as the Board may see fit. A licence is required for the operation of a pipeline.198 Licences may be granted by the Superintendent of Pipe Lines after plans and specifications of the line have been filed with the Board.

194 Supra, 64.
196 Ibid., section 4. The lines subject to the jurisdiction of the National Energy Board are described in Part I, "Jurisdiction over Onshore Oil and Gas Resources", 70.
197 Ibid., sections 5-12. Since January 1, 1972, the administration of the Act has been entrusted to the Energy Resources Conservation Board, in place of the Department of Mines and Minerals.
198 Ibid., sections 14-16.
There are important differences in the operation of oil and gas pipelines. An oil pipeline is generally a carrier only; it takes oil owned by others and delivers it to refineries. It does not purchase the oil but charges a fee for carriage. There is some degree of competition possible from other modes of transport, such as rail, truck or ship. The gas pipeline is faced with competition from liquefaction only, a relatively recent and expensive process. The pipeline operator is usually in the position of a monopoly purchaser, who then transmits the gas which is sold on long term contract. The regulation of pipelines in Alberta has reflected these differences.

Applications for permits to construct oil lines in Alberta have been considered by reference to the financial and technical ability of the applicants and the government has not been concerned to prevent duplication of facilities. On the contrary, competition among pipeline operators has been looked upon favourably as a means of preventing transportation charges from becoming excessive.

Discrimination by pipeline operators among different oil producers may be avoided under The Oil and Gas Conservation Act. The Board has the power, upon application and after a hearing, to declare the operator of a pipeline to be a common carrier. The operator is then prohibited from discrimination of any kind as between producers, and especially as between any oil in which he is directly or indirectly interested and that

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199 Olisa, Martin M., "Government Control of Oil and Gas Pipe Lines in Alberta", 5 Alberta Law Review 226. There has been no noticeable shift in this policy since the administration of The Pipe Line Act passed to the Board in 1971.

of independent producers.\textsuperscript{201} Moreover, once a pipeline operator has been declared a common carrier, if an agreement cannot be reached between the operator and any person wishing to have oil carried in the pipeline as to the tariff to be charged for this service, an application may be made to the Public Utilities Board to fix the tariff.\textsuperscript{202} However, resort to these provisions has been very infrequent. The market demand prorationing scheme has meant that discrimination among producers on the basis of volume of oil carried is most unlikely, and there appear to have been few instances of discrimination on the basis of carrying charges.

So far as gas pipelines are concerned, there are two quite different situations depending upon whether the gas is destined for consumption within or outside Alberta. Gas used within the province is purchased from producers by the gas utility companies who own and operate their own transmission systems. Gas which is to be removed from the province is collected by the Alberta Gas Trunk Line Company Limited and carried to various border points where it passes into the transmission systems of the principal exporters from the province.

The Alberta Gas Trunk Line Company Limited was incorporated in 1954 by special Act of the Alberta Legislature.\textsuperscript{203} The capital stock of the

\textsuperscript{201} Ibid., section 49.
\textsuperscript{202} Ibid., section 56.
company is divided into class "A" common shares, available for purchase by private investors, and class "B" common shares, which are restricted to gas utility, export and producing companies. Four directors are appointed by the Lieutenant Governor in Council, four are elected by the holders of class "B" common shares, and seven by the holders of class "A" common shares. All must be Canadian citizens and residents of Alberta. The holders of class "A" common shares have no voting rights.

Since 1954, the Alberta Gas Trunk Line Company Limited has had an effective monopoly over the construction and operation of all pipelines carrying gas for removal from the province. This has prevented any duplication of facilities. The monopoly has been maintained by the insertion of a condition in all permits issued for removal of gas from the province, stating that the permit holder will use only the facilities of the Alberta Gas Trunk Line Company Limited.

204 In 1973, there were 16,800,000 class "A" common shares on issue, which were held:
- (a) as to 45% by some 22,000 individual Canadian investors, of whom 15,000 were resident in Alberta,
- (b) as to 53% by Canadian institutional investors whose beneficial or nominee holdings were estimated to be over 90% by or for Canadians, and
- (c) as to 2% by foreign investors.


205 The Alberta Gas Trunk Line Company Act, op.cit. note 203, sections 18, 19.

206 Ibid., section 5c.

207 For example, the condition inserted in the permit issued to Pan-Alberta Gas Ltd. in February 1974 reads as follows:
The Permittee shall remove or cause to be removed pursuant to this Permit only such gas as is delivered to it through facilities of The Alberta Gas Trunk Line Company Limited at the interconnections of their pipe lines....

The company operates as a carrier of gas only and not a buyer and seller. It has the power to fix charges for transportation and other services performed. These may be reviewed by the Public Utilities Board upon application by an interested party or upon the direction of the Lieutenant Governor in Council. In practice the company is paid transportation charges on a cost of service basis which includes operating expenses, income and other taxes and depreciation of pipeline and plant facilities, together with an annual return on its rate base which is composed of the depreciated investment in plant and an allowance for working capital.

In the case of gas as well as oil pipeline operators, The Oil and Gas Conservation Act provides for common purchaser, common processor and common carrier orders. The only recent common carrier application for gas was in 1963, when an order was made declaring Cretaceous Pipelines Limited a common carrier from the Willingdon Field and the Hairy Hill Field. The applicant demonstrated that it had an adequate supply of gas, there was an existing market, and attempts to negotiate with the operators of the pipeline for the use of the line had failed. The Board granted the application after consideration of the economics of alternatives to the

208 The Alberta Gas Trunk Line Company Act, op.cit. note 203, section 30.

209 Annual Report 1973, 12. It is interesting to note that, prior to 1973, the company was able to defer all income taxes and pass the full savings thereof on to its customers. In 1973, a charge was made for a portion of these deferred taxes, resulting in an increase of $5.9 million in transportation charges. Ibid., 13.

proposed order. It has been suggested that this is an acknowledgment that the Board is principally concerned with achieving equity among competing producers in a common pool.\textsuperscript{211} There have been five common purchaser applications in Alberta, and a review of these has also shown that the Board has regarded its primary function as one of achieving equity among competing producers.\textsuperscript{212}

On the whole, therefore, government regulation of transportation of oil and gas in Alberta has been directed towards leaving these activities in the hands of private enterprise, while preventing abuse of the natural monopoly position enjoyed by a pipeline operator. This is best exemplified by the case of oil pipelines. The formation of the Alberta Gas Trunk Line Company was probably motivated as much by the government's desire to maintain control over the removal of gas from the province\textsuperscript{213} as by the possibility of preventing duplication of facilities and exploitation of monopoly power.

F. EXPORTS

The export from Alberta of natural gas is controlled by the 
\underline{Gas Resources Preservation Act}.\textsuperscript{214} The object of this Act is:

to effect the preservation and conservation of the oil and gas resources of the Province belonging to the Crown in right of

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{212} \textit{Ibid.}, 438-442.
\item \textsuperscript{213} Discussed \textit{infra}.
\end{itemize}
\end{footnotesize}
Alberta and to provide for their effective utilization having regard to the present and future needs of persons within the Province. 215.

Any person wishing to remove gas from Alberta is required to apply to the Energy Resources Conservation Board for a permit. The Board will usually conduct a hearing on the matter. It may not grant a permit unless it is of the opinion that it is in the public interest to do so having regard to the present and future needs of persons within Alberta and the established reserves and the trends in growth and discovery of reserves of gas in Alberta. The grant of a permit by the Board is subject to the approval of the Lieutenant Governor in Council. The Board may include such terms and conditions in the permit as it sees fit, and in particular may specify (a) the pool, field or area, and the point on a pipeline or processing plant, from which gas may be removed, (b) the annual quantities of gas that may be removed from each location, (c) the maximum quantity of gas that may be removed daily from each location, (d) the conditions under which the removal of gas may be interrupted, (e) a requirement that the permit holder supply gas at a reasonable price to any community or consumer in Alberta that can reasonably be supplied by the permit holder, and (f) the duration of the permit. In the event of an unforeseen emergency which jeopardizes the supply of gas to consumers in Alberta, the Board may, with the approval of the Lieutenant Governor in Council, adjust the allowable rates of production of gas from any well, pool or field or require the diversion of any gas intended for

215 Ibid., section 3. Prior to 1973 the Act applied to all gas produced in the province. An amendment in that year (S.A. 1973, c.90) restricted the application to production from Crown lease, licence or reservation, ibid., section 2.1.
industrial use outside Alberta to such other uses as the Board may direct. 216

The Board may cancel a permit for failure to comply with any of its terms or conditions or for contravention of any provision of the Act. 217

In general terms the procedure adopted by the Board in considering an application for a permit is as follows:

First, it estimates the proved reserves of gas in the province.

Second, it analyses and projects the trends in the growth of reserves of gas in the province.

Third, it estimates the gas requirements of the province for the ensuing thirty-year period.

Fourth, it calculates the gas necessary to meet the annual and peak day requirements of the province for a thirty-year period and to meet existing permit requirements.

Finally, it analyses the surplus position of the province for gas having regard to the proved reserves, the growth in reserves, the thirty-year requirements and the existing permit commitments. 218

The Board's estimate of proved reserves is derived from Board reservoir data and makes use of submissions made by industry at various hearings during each year. It is published annually in the Board's report on reserves of crude oil, gas, natural gas liquids and sulphur. 219

The growth

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216 Ibid., sections 4-9. In certain circumstances the Board may, with the approval of the Lieutenant Governor in Council, grant a permit for the export of limited quantities of gas or propane without conducting a hearing; ibid., section 12. The removal of propane from the Province otherwise than by pipeline is not subject to permit; ibid., section 24, and Alta. Reg. 285/65.

217 Ibid., section 13.


219 See, for example, Reserves of Crude Oil Gas, Natural Gas Liquids and Sulphur, Province of Alberta, Calgary, ERCB Report 74-18, December 31, 1973.
rate in reserves projected by the Board will not exceed the average rate experienced over the previous ten years and may be below that where a decline has been noticed in more recent years. The number of years for which growth is anticipated is calculated by reference to the excess of ultimate reserves over proved reserves. The gas requirements of the province are estimated following periodic hearings on the subject of Alberta's requirements of energy and energy resources. In assessing the surplus position of the Province, the Board divides requirements and reserves into two categories, contractable and remaining. Contractable requirements are the total of the Alberta requirements which would normally be under contract to utility companies or large industries and the existing export permit commitments. Remaining requirements include those for delivery to meet local needs in the latter portion of the thirty-year

\[ T_g = \frac{R_{ULT} - R_{PR}}{10} \]

where \( T_g \) = years of reliance upon future gas reserves;

\( R_{ULT} \) = marketable reserves ultimately expected after all exploration and production has been completed;

\( R_{PR} \) = proved marketable reserves at the time of application of the formula.

period plus the gas necessary to sustain peak deliveries in the terminal
year. Contractable reserves are those available for delivery now or in
the near future which are under contract or available for contract.

Remaining and future reserves include those currently beyond economic reach,
those where production has been deferred but can be expected within thirty
years, and those not yet discovered or developed but which the Board antic­
ipates will be developed within an early period. The Board requires an
applicant for a permit to demonstrate the existence of both a contractable
surplus and a remaining and future surplus. The duration of permits
usually matches that of the gas purchase contracts, up to a maximum of
twenty-five years.

The effect of the Board's procedure in considering applications to

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222 Report, op.cit. note 218, 2-3. More precisely, the existence or
otherwise of a contractable surplus is determined by a comparison of the
contractable reserves and the contractable requirements. The former are
the proved reserves within economic reach less a portion of any reserves from
which production is deferred by reason of oil production or cycling oper­
ations. The Board is prepared to recognize a portion of a deferred reserve
as contractable if its time of initial production can be anticipated with
a reasonable degree of certainty. The amount of a reserve classified as
such depends upon expected production from the reserve during the thirty-
year period, or, if the reserve is under contract, the part of the reserve
actually covered by contract which is expected to be delivered during the
term of the permit. Contractable Alberta requirements are measured by the
greater of thirty times the requirement of the first year of the period
under consideration or the remaining reserves in those fields committed to
and supplying Alberta's needs. The existence or otherwise of a remaining
and future surplus is determined by a comparison of the remaining Alberta
requirements and the remaining and future reserves. The former are the
total requirements less the reserves classified as contractable. Two types
of requirements are distinguished: those which will actually be delivered
for use during the thirty-year period and those needed only to maintain peak
day demand in the final year. The remaining and future reserves are the
portion of reserves now beyond economic reach which the Board estimates will
be within economic reach within the thirty-year period, the portion of de­
ferred reserves not included in contractable reserves which will become
available within the thirty years, and the projected growth in reserves.
remove gas from the province is to require the maintenance of an inventory
of gas reserves at a specified level. Since the period of thirty years
during which Alberta's needs must be met is very much longer than the
lead time required for discovery, development and production of new reserves,
this inventory involves a cost to Alberta in the form of premature explor-
ation and development expenditures. Moreover, the dual requirement of
showing both a contractable surplus and a remaining and future surplus
makes this inventory larger than it would otherwise be if calculated simply
to meet Alberta's thirty-year needs. A contractable surplus is dependent
upon proved reserves, which provides an incentive to develop reserves in
order to bring them within this narrow category.

Furthermore, the precision implicit in the Board's determination of
an exportable surplus is rather deceptive, for the calculations ignore, in
one important respect, the influence of price. In a recent report upon an
application to remove gas from the province, the Board did recognize the
impact that recent price increases for gas have had upon reserves, and

223 It has been estimated by the Canadian Petroleum Association that
the average before tax cost to the gas producing industry of carrying an
unsold developed inventory of one trillion cubic feet of gas for one year
would be approximately 3.3 million dollars; ibid., 7. This is a measure of
private cost, however, and is quite different from the social cost of
early investment in exploration and development.

224 Reserves need not be fully developed to qualify as proved,
however. The definition of proved reserves adopted by the Board is "those
reserves specifically delineated by drilling, ditching, running audits,
testing or production, plus a judgment portion of those further contiguous
reserves which are generally delineated by geological seismic or similar
information and which can be reasonably counted upon". Reserves of Crude
Oil Gas, Natural Gas Liquids and Sulphur, Province of Alberta, Calgary
allowed an increase in recoverable reserves based upon a study of individual pools. However, price seems to have been overlooked in the Board's assessment of Alberta's future requirements. It must be conceded of course, that future gas prices are very difficult to estimate and even so, the relationship between price and demand is uncertain. Nevertheless, the failure to incorporate the possibility of price changes in the Board's assessment of future requirements makes the entire calculation of an exportable surplus little more than a mechanical exercise.

Finally, it must be remembered that the Board's duty under The Gas Resources Preservation Act is to decide whether or not it is in the public interest to allow removal of gas from Alberta. The Board has consistently taken a narrow view of what constitutes the public interest, relying upon the words in the Act which say that the public interest must be viewed having regard to "the present and future needs of persons within the Province" and "the established reserves and the trends in growth and discovery of reserves of gas or propane in the Province." Whether or not the Board is correct in interpreting this as meaning that the public interest is restricted to ensuring future availability of gas, it is clear that efficient

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226 Interim Report, op.cit. note 221.
228 Ibid., section 7(3).
229 Ibid.
management of Crown resources requires a broader approach. If controls are to be placed upon the removal of gas from Alberta, the Board should be charged with the duty of evaluating applications according to whether they produce a net social benefit to the province. This would require an assessment of all the social benefits and costs arising from the proposed export, including the costs of maintaining an inventory, the benefits attributable to security of supply for a number of years into the future, and the social opportunity costs of present export and sale.230

By way of comparison, it is noted that a recent amendment231 to The Oil and Gas Conservation Act gives the Board control over certain end uses of gas in Alberta. A permit, known as an industrial development permit, is required from the Board before any gas may be used as a raw material or fuel in the production of carbon black, ammonia, urea, ethanol, methanol or any petro-chemical product. The authorization of the Lieutenant Governor in Council must also be obtained. The Act states that the

230 These opportunity costs would usually be represented by the present value of deferral of exports to the most favourable time in the future. It is interesting to notice that Pan-Alberta Gas Ltd. urged the Board to take a broader view of "public interest" in its recent application for an export permit. Pan-Alberta referred to such factors as the right of the public to participate in the company, the proposal to fund a research institute in the province, the right to replace the gas to be removed from Alberta, and the like. The Board considered these items, and others, but reaffirmed its view that its "primary responsibility" was in relation to future supplies: In the Matter of an Application of Pan-Alberta Gas Ltd. under The Gas Resources Preservation Act, op.cit. note 207, section 11.

231 More recently, the British Columbia Energy Commission has suggested to the National Energy Board that the NEB adopt the broad approach to "public interest" in its consideration of gas exports from Canada to the United States.
Board shall not grant such a permit

unless it is in the public interest to do so having regard to, among other considerations,

(a) the efficient use without waste of gas or gas products, and

(b) the present and future availability of hydrocarbons in Alberta.

It remains to be seen whether this section will lead the Board into the area of calculation of net social benefits from industrial activity in the province.

G. PRICING.

Until recently, the wellhead price of Alberta oil has been set by reference to the prices of alternative sources of supply in North America. In general terms, the pricing system for oil in North America is a netback or basing-point system. Market prices are set by the location of a competitive "interface" where the delivered costs of oil transported from various sources of supply are equalized. The wellhead price is then fixed by deduction of transportation cost to that area. This method of pricing is bolstered when, as in Alberta, supply within a source area is controlled by regulation such as market demand prorationing, since competition between alternative supplies from the same area is eliminated.232

The expansion of markets for Alberta oil since the Leduc discovery in 1947 required frequent adjustments in wellhead prices to meet competition from sources of supply in the United States, which had previously served areas penetrated by Alberta oil. Up until March 1959, the Sarnia area tended to be the market equalization point for competing sources of supply, but subsequently this moved south to the Detroit-Toledo area of the United

States. Since 1961 the National Oil Policy has reserved the Canadian market west of the Ottawa Valley for domestic crude, lending stability to prices by removing the threat of foreign competition in the region.\textsuperscript{232A}

From 1962 to 1970 there was little change in either market conditions or price for Alberta oil.\textsuperscript{233}

After 1970, as United States domestic sources of supply found increasing difficulty in meeting the fast-rising demand for oil, Alberta suppliers increased their penetration as far as the Chicago market. At this time the major curb upon further expansion was the quota imposed under the United States oil import programme. Despite increased transportation costs to Chicago, Alberta wellhead prices increased steadily during these years in response to the stronger demand.

In September, 1973, this traditional pattern was broken. The price of oil in the Chicago market started to rise sharply, reflecting supply difficulties in the United States, higher prices in the international market and the Middle East conflict. Prime Minister Trudeau announced a voluntary price freeze on oil in Canada supported by an export tax on oil sold to the United States. The average wellhead price for Alberta oil at this time was approximately $3.80 per barrel and the export tax was set initially at 40¢ per barrel, the difference between Canadian and United States prices. The tax subsequently rose to a peak of $6.40 per barrel.

\textsuperscript{232A} This policy was adopted following the Second Report of the Royal Commission on Energy (July, 1959).

\textsuperscript{233} Watkins, op.cit. 115-116. The price of Redwater oil remained at $2.60 per barrel from May 1962 until 1970. The price of oil from other fields varied slightly according to transportation and quality differentials.
as United States prices continued to increase.\textsuperscript{234}

The Alberta government strenuously opposed both the domestic price freeze and the export tax. At a federal-provincial First Ministers Conference in January, 1974, an agreement was reached to continue the freeze until April 1, in exchange for the remittance of 50\% of the proceeds of the export tax to the oil producing provinces. At a further such meeting in April, a new arrangement was worked out whereby the wellhead price of oil would rise by $2.70 per barrel, the export tax would be reduced correspondingly, and the federal government would retain all the revenues raised by the tax. The increase in wellhead prices for oil took effect on April 1, 1974, and the revised royalty schedules for oil introduced by the Alberta government also took effect on that date.\textsuperscript{235} The new prices were to remain unchanged for a period of twelve to fifteen months when, it was anticipated, another series of federal-provincial discussions on oil prices would take place.

In December, 1973, the Alberta Legislature passed The Petroleum Marketing Act\textsuperscript{236} which established the Alberta Petroleum Marketing Commission, a Crown corporation consisting of three members appointed by the

\textsuperscript{234} The legislation imposing the tax was not passed by Parliament until January, 1974. It was then made retroactive to October 1, 1973: Oil Export Tax Act, 1974 c.52. Prior to the enactment of the legislation, the tax was effectively imposed by the National Energy Board which advised United States purchasers of oil that export permits for October (and following months) would not be granted unless the price rose by the amount of the announced tax, which was to be collected subsequently by the federal government.

\textsuperscript{235} Supra, 18.

\textsuperscript{236} S.A. 1973, c.96.
Lieutenant Governor in Council. The Commission has a number of broad powers relating to the pricing of oil produced from Crown leases in Alberta. First, the Commission may accept the Crown royalty share of production, in kind, whereupon it is charged with the duty of selling this oil within Alberta at a price that is "in the public interest of Alberta." Secondly, the Commission is appointed the exclusive agent to sell the lessee's share of production on behalf of the owner thereof, and is required to obtain the highest price that it may reasonably negotiate having regard to the market conditions prevailing at the time of the sale. The Commission has been in operation since March 1, 1974, but to date has confined its operations to publication of monthly bulletins listing wellhead prices for oil produced from all pools in which the Crown has mineral interests and requiring producers to report quantities of oil sold and prices received therefor on a monthly basis. The prices stipulated by the Commission are based directly upon the prices agreed upon at the federal-provincial conferences, subject to quality and transportation cost differentials. In fact, therefore, wellhead prices of oil in Alberta are currently fixed by reference to the most recent federal-provincial agreement, and the Commission amounts to no more than a mechanism which might be used in the future to control prices. However, there is some doubt as to the constitu-

237 The Act also provides that the Lieutenant Governor in Council may make regulations for the establishment of a scheme or plan for the marketing of all oil produced in Alberta, but these provisions have not been proclaimed: Ibid., section 24.

238 Ibid., section 15.

239 Ibid., section 21.
utional validity of The Petroleum Marketing Act in so far as it purports
to give the Commission power over the price of oil destined for the inter-
provincial and international markets. 240

Alberta gas is purchased on long term contract, the term of which is
usually between twenty and twenty-five years. The price paid for gas at
any time during this term depends upon a number of factors. The base price
is the price paid by the buyer during the early years of the term. The
majority of contracts provide for periodic escalation in price, intended
to cover increases in production costs and to recognize the purchaser's
ability to pay higher prices as pipeline systems become more fully loaded
and partially paid for. Frequently, also, contracts include a price re-
determination clause which provides for renegotiation of both the base price
and any escalation provision at specified times during the life of the con-
tract. Finally, some contracts contain a favoured nation clause which re-
quires the purchaser to meet more favourable terms if they are offered to
other sellers in a defined locality. 241

The number of purchasers of gas in Alberta has always been limited.
The Alberta utilities buy some of their requirements in the field, but also
acquire reserves directly from which they can service their needs as they
arise. From 1955 to 1957, Trans-Canada Pipe Lines Limited was the sole
major purchaser of gas for removal from the province. At this time the base
price was about 10 cents per thousand cubic feet (Mcf). This price increased
sharply by some 3.5 cents per Mcf in 1958 when Alberta and Southern Gas

240 For a discussion of the constitutional validity of this legislation,
see Part 1, "Jurisdiction over Onshore Oil and Gas in Canada", 81 et seq.
241 Field Pricing of Gas in Alberta, op.cit. note 6, section 4.
Co. Ltd. began contracting for gas. However, the practice developed whereby Trans-Canada bought gas in the plains region of the province and Alberta and Southern acquired supplies in the foothills region, so that the two extra-provincial buyers rarely competed in the same field. The result was that from 1958 to 1968, base prices remained nearly constant in the range of 13 to 14 cents per Mcf. During 1969 and 1970, an abrupt increase of 4 cents per Mcf coincided with the entry of a new buyer of gas for removal from the province, Consolidated Natural Gas Limited. By 1972, the base price offered by Trans-Canada had increased gradually to 19 cents per Mcf. However, in 1971 this new element of competition was effectively removed by the refusal of the National Energy Board to allow Consolidated to export its gas to the United States. Consolidated discontinued its purchasing activities and there was a clear indication that the price increases of the previous years would immediately level off.

In February, 1972, the Lieutenant Governor in Council requested the Energy Resources Conservation Board to make an inquiry and investigation into the field pricing of gas and to advise him on

(a) factors which influence field prices for natural gas and their suitability in the Alberta public interest,

(b) the pricing provisions of present contracts for the purchase of natural gas for marketing outside the Province and their suitability in the Alberta public interest,

(c) present and anticipated field prices of natural gas in Alberta and their suitability in the Alberta public interest,

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242 Ibid., section 7.1.

(d) possible modifications or alternatives to current practice affecting field price which would enhance the benefit to all residents of the Province. 244

The Board conducted a hearing on the matter and delivered its report in August, 1972. It found that it was in the Alberta public interest for field prices of gas to be increased to the field equivalent of the "commodity value" of the gas in its market areas. The most important factor influencing Alberta gas prices was the degree of competition in purchasing in the field. Essentially all gas under purchase contracts for removal from the province was subject to price escalation, but the average rate of escalation of one-quarter of a cent per Mcf per year was too low. Some 85% of the gas reserves under contract for removal from the province was subject to price redetermination, but only 30% was subject to favoured nation provisions. The average field price for gas in Alberta was about 16 cents per Mcf, which the Board considered to be at least 10 cents below the value determined by the Alberta public interest. It recommended that the government take steps to ensure adequate competition in purchasing of gas in the future, and that all contracts provide for a base price consistent with the "commodity value" of gas, a regular price escalation of some 3 to 4% in the base price per year, price redetermination as frequently as possible and at least every five years, and immediate price redetermination if action by the Canadian government or the exporter resulted in an increased export price for gas. It also suggested that when the price of gas fixed under existing contracts came up for redetermination, the new price would be fixed by reference to the "commodity value" of gas. Where contracts did not include a redetermination provision the Board did not feel

244 O.C. 204/72, February 16, 1972.
that direct government intervention was warranted, but purchasers of gas for extra-provincial markets should be required to file with the Board particulars of the pricing provisions of all new and amended contracts so that the Board would be in a position to assess whether they were in the Alberta public interest. 245

The Alberta government accepted the Board's findings and recommendations, with only minor variations. It stated that the government took a strong position in support of higher prices for gas leaving the province, that price redetermination should be on a two-year rather than a five-year basis, and that the Board would be required to provide the government with annual progress reports on the extent to which new and amended contracts reflected the pricing provisions endorsed by it. 246 The government also made it clear, indirectly, that purchasers of gas for removal from the province would not obtain permits for export of increased volumes unless all purchase contracts, both existing and future, conformed with government price requirements.

In July, 1972, a new element of competition entered into the purchasing of gas in Alberta. The Alberta Gas Trunk Line Company Limited incorporated a wholly-owned subsidiary, Pan-Alberta Gas Ltd., with the object of purchasing gas for a six-year term for export to the United States. It was intended that this gas would be replaced, beginning in 1980, with gas from Prudhoe Bay and the Mackenzie Delta so that no longer term shortages would result in Alberta. The price offered by Pan-Alberta

245 Field Pricing of Gas in Alberta, op.cit. note 6, section 11.
to producers was 40 cents per Mcf, double the price then offered by Trans-
Canada and Alberta and Southern. In a short space of time Pan Alberta
succeeded in obtaining contracts for more than a trillion cubic feet of
gas. In December 1973, the Alberta Energy Company, a provincial Crown
corporation established in September of that year to provide an opportunity
for direct public investment in Alberta energy resources on a partnership
basis with the Alberta government, acquired 50% of the shares in Pan-
Alberta.

In July, 1973, the Board reviewed the position in Alberta with re-
spect to the pricing of gas. It found that the field equivalent of the
commodity value of gas had increased to at least 27 to 38 cents per Mcf
due to inflation and inter-fuel competition, that new contracts had been
executed or were under negotiation for some 52% of the remaining gas under
contract for removal from the province, and that the 1973 average field
price for gas was 20 cents per Mcf, an increase of 3.5 cents over the aver­
age price for 1972 but still 7 to 18 cents per Mcf below the Board's estim­
ate of field value.

More recently, the Alberta government has taken direct action to

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247 Communication with R.S. Gibbs, Q.C., President of Pan-Alberta

248 Oilweek, December 17, 1973, 11. The Alberta Energy Company has
not yet offered shares for public subscription. In addition to its inter­
est in Pan-Alberta, it is intended that it should have an option to acquire
a 20% interest in the Syncrude oil sands project, control the oil sands
common carrier pipeline, and develop the Suffield gas reserves: Communic­
ation with Dr. G.B. Mellon, Deputy-Minister, Department of Mines and Min­

249 Review of Field Pricing of Gas in Alberta, Calgary, ERCB Report
achieve increases in gas prices. In January, 1974, Premier Lougheed announced that Alberta and Southern had agreed to offer producers an average price of 56 cents per Mcf for the 1.2 billion cubic feet a day of gas carried by it, representing 27% of all gas leaving the province. The Premier stated that Alberta and Southern's action was in response to a direct approach made by his government to the company. 250

In December, 1973, the Alberta Legislature amended The Arbitration Act 251 by addition of a new section governing the redetermination of the purchase price of gas by arbitration. 252 Wherever there is a submission to arbitration under a gas purchase contract of a price redetermination, the arbitrators are required to determine the field value of gas and to use that value in fixing the redetermined price of gas. The "field value" of gas is defined as:

the commodity value of gas less just and reasonable costs, charges and deductions that are or may be fixed, determined or allowed for the transportation and distribution of that gas from the point of sale under the gas purchase contract to the point of end use.

The "commodity value" of gas is defined as:

(i) the thermal value of gas determined by reference to the volume-weighted average prices of substitutable energy sources competing with gas for the various end uses of gas in the consuming markets served, directly or through exchange, by the buyer of gas under a gas purchase contract, and

(ii) the premium value of gas determined by reference to its inherent special qualities when compared with competing energy sources.

There are both Canadian citizenship and Alberta residency requirements for

250 Oilweek, January 21, 1974, 51.
arbitrators. Moreover, an arbitration may be commenced by one party to a gas purchase contract irrespective of a condition in the contract requiring the consent of both parties to such a proceeding.

In a recent arbitration between Gulf Oil Canada Limited and Trans-Canada Pipe Lines Limited, the arbitrators found that the field value of gas as of November 1, 1974, was 60 cents per Mcf, and accordingly named this as the redetermined price. The arbitrators also found that this price should continue for one year, and should then be increased to 73 cents per Mcf. Subsequently, the Alberta Supreme Court found that the arbitrators exceeded their jurisdiction under The Arbitration Act in awarding the increase of 13 cents per Mcf for 1975 and set this part of the decision aside.

There have been two applications made to the Energy Resources Conservation Board for permits to remove gas from Alberta since the Board's 1972 review of field pricing of gas. In each case the Board reported to the Lieutenant Governor in Council whether the price offered to purchasers conformed with the government's policy in this regard, and in one instance where the price was lower than the Board's estimate of field value of gas, the applicant subsequently raised the price before the approval of the Lieutenant Governor in Council was obtained.

While the government has been anxious to increase the price of gas

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253 Gulf Oil Canada Limited and Trans Canada Pipe Lines Limited, Award, 11 April 1974.

254 As yet unreported.

removed from the province, it has tried to prevent this from affecting the price paid for gas by Alberta consumers. In November 1972, Premier Lougheed announced a two-price policy for gas as part of his government's *Statement of New Natural Gas Policies for Albertans.*\(^{256}\) This has recently been implemented through a system of rebates paid to vendors of gas for consumption or use in Alberta.\(^{257}\) The Public Utilities Board is also empowered to fix the price of gas used or consumed in the province.\(^{258}\)

It is clear that the free market has had little to do with the determination of prices for both oil and gas during Alberta's production life. Government regulation has been significant. In the case of oil the price has been affected by the system of market demand prorationing, the exclusion of foreign oil from Canadian markets west of the Ottawa Valley, and the United States oil import programme. In the case of gas the Alberta government has intervened through its system of gas export permits, the National Energy Board has had an impact in its decisions on exports to the United States, and the Federal Power Commission was successful for many years in keeping the prices of both domestic and imported gas in the United States below market levels. Furthermore, the absence of competition in the purchasing of gas has undoubtedly been important. The question is not, therefore, whether government intervention is required in pricing


\(^{257}\) *The Natural Gas Rebates Act, 1974* Bill 54. In special circumstances, rebates may be paid instead to purchasers or eligible consumers of gas.

\(^{258}\) *The Gas Utilities Act, R.S.A. 1970, c.158, amended by S.A. 1973, c. 91; section 6.*
matters but which government can gain control of prices and how this control should be exercised.

The Alberta government has been successful in achieving substantial price increases for oil and gas during the last year. These have undoubtedly been of benefit to Alberta both in terms of additional government revenues and higher returns to private enterprise. In this respect it is interesting to note that in 1972, when reporting to the government on field prices of gas, the Energy Resources Conservation Board entered into a detailed calculation of social benefits and costs anticipated from an increase in gas prices, and found a considerable net social benefit for the province. This appears to be the first time that the Board has viewed the public interest in terms of net social benefits.

However, there has been an implicit assumption in Board reports and government action that price has no effect upon the quantities of oil and gas that may be sold in any time period. This may not have been unreasonable in the peculiar circumstances of late 1973 and early 1974, when energy shortages dominated the market in Canada and the United States. However, it is not generally the case. Perhaps the best example of this failure to consider the relationship between price and quantity is provided by the amendment to The Arbitration Act requiring arbitrators to fix gas prices according to commodity value. There is no single price at which gas becomes competitive with alternative sources of energy, but rather a schedule of prices at which different quantities of gas are displaced from various markets by such alternate sources. It thus seems impossible to assign a single figure

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259 Field Prices of Gas in Alberta, op.cit. note 6, section 6.
Moreover, both the present prices of oil and gas and consumers' predictions of future prices are important in the timing of development of oil and gas resources. If it is anticipated that the present value of future prices will increase, there is a tendency to delay production to the future, and vice versa. The Alberta government has demonstrated little concern for using prices to influence the rate of development of oil and gas resources in the province.

H. CONCLUSION

In the light of this review of the Alberta management system for Crown oil and gas resources, it is apparent that there are a number of problems to be faced in designing such a system. Firstly, a government is confronted with the highly inconvenient fact that information as to the location, extent and quality of its resources is not usually available and may be acquired only at a cost. Indeed, such information may not be fully obtained until the resources are actually produced. Secondly, there is an element of risk involved in exploration and development since the outcome of any investment is seldom certain. The risk factor is, in turn, a result of the information problem. Thirdly, it is clear that there are a number of market imperfections encountered at different stages of the management process which diminish the attractiveness of solutions based simply upon the competitive model. Such imperfections include a lack of competition in some activities, an absence of knowledge of future market conditions, especially regarding prices, and distortions produced by different taxation methods. Finally, there is the matter of political uncertainty, arising out of the established rule that an elected legislature can not
restrict the scope of its future legislative action, or that of a successor, by entrenchment of policies for specified periods. In the case of Crown oil and gas resources, therefore, the duration of an existing management system is always open to doubt.

Right at the beginning, a government must deal with the problem of information through the management system. A choice lies between using private enterprise and having the government acquire information on its own account. If private enterprise is used it must be remunerated. Traditionally, payment is in the form of an allocation of rights over some or all of the area explored. If rights are granted in exchange for information, it is difficult for the government to devise a system for collection of the economic rents in the absence of the very information which is to be generated. The cost to the public sector of this method of obtaining information is foregone economic rents. This system has always been employed in Alberta. The two-stage allocation process allows the acquisition of reservations by free entry, exploration by the holders of reservations and conversion to lease in respect of 50% of each reservation area. The Crown shares in the economic rents by sale of the surrendered areas and by imposition of production royalties and lease rentals. At the same time, though, the Crown loses the opportunity to collect a greater proportion of the economic rents from the retained leases. Private operators acquire such leases in exchange for the information that they have generated about the reservation area, and the Crown is precluded from obtaining further revenue by sale of these leases, as it does with Crown reserves.

Abandonment of the free-entry allocation system for reservations would have the effect of reducing the amount of Crown revenue given up in
exchange for information. The Alberta government could exercise direct control over the granting of reservations in order to derive a benefit for the public sector from information spillovers. In particular, the government could retain all unexplored areas so long as their expected value was rising faster than the social rate of time preference. It could also issue selected blocks in a region, on the basis of their ability to provide information on the region as a whole, and withhold the bulk of the available acreage until the results of exploration on the selected blocks were available. Any increase in the value of blocks in the region could then be collected by the government through the sale of further reservations. Of course, if the initial exploratory information was unfavourable, no increase in value of adjoining blocks could be expected, but this would not result in any loss to the government as compared with the present free-entry system.

However, the Alberta allocation system also suffers from the disadvantage of causing considerable fragmentation of private rights within any given area. This fragmentation affects the development of an oil or gas pool either by adding to the costs incurred in concluding a unitization agreement or by requiring the adoption of a system of production quotas to overcome the inefficient aspects of the rule of capture. In addition, the fragmentation of private rights contributes to information spillovers and thereby discourages private investment in exploration.

Whether the Alberta system for information-gathering should be retained depends finally upon a quantitative analysis of the following factors: the size of foregone economic rents, the extent of the disincentive caused by information spillovers, and the amount of additional production costs attrib-
utable to fragmentation of rights. The total loss in government revenue resulting from these factors should be compared with the cost to the public sector of government acquisition of information on its own account.

The case for government involvement in exploration rests upon the hypothesis that, up to a certain point at least, early access to information would allow the government to manage its resources better. For example, the argument runs, this information could be used to devise an allocation system for private production rights which was capable of collecting additional economic rents sufficient to offset the cost of exploration. Furthermore, government exploration in the early stages could remove the necessity for fragmentation of rights and could internalize the effects of information spillovers. An argument frequently made against this theory is that a government would be unable to conduct exploration as efficiently as private enterprise. However, it is not necessary that a government agency actually carry out the operations itself. A government may contract with private exploration companies to do the required work for cash payment instead of acquisition of oil and gas rights.

In practice, it seems that there is little dispute over the need for a government to collect information as this is a widespread and generally accepted practice. The difficult question is encountered in deciding how far a government should proceed with this activity at the public expense prior to issuing production rights to private operators. In general, the answer is that a government should continue up to the point where the marginal social benefits from further collection equal the marginal social costs of acquisition. Needless to say, this is a fairly elusive criterion for these benefits and costs will usually be difficult to estimate. However,
this does not amount to an adequate reason for failure to attempt to do so.

Irrespective of how information is generated, if a government chooses to issue oil and gas rights to private operators on a competitive basis, it seems likely that information should be made equally available to all participants in the competitive system. Otherwise, the system will probably be ineffective in obtaining the greatest potential revenue for the government. For example, the present Alberta method of selling Crown reserves often causes operators to bid with unequal access to information. This is so because private information acquired through exploration on a reservation is kept confidential for a year after selection of leases, even though the surrendered Crown reserves are frequently offered for sale within that period.\textsuperscript{260} Operators without access to all available information face greater risk in calculating bids and if it may be assumed, as suggested later, that private operators discount the value of bids in accordance with the degree of risk involved, they will usually offer less for a block than the expected value calculated by the operator in possession of all the information.\textsuperscript{261} That operator will, of course, be in a position to anticipate this result and will therefore have an incentive to bid less than the expected value. The loser, in terms of revenue, will be the government. Putting the position another way, unequal access to information seems likely to act as a bar to effective competition in bidding which, in the long run, will normally cause a reduction in sale prices for oil and gas rights.

\textsuperscript{260} Supra, 27.

\textsuperscript{261} In any particular sale, lack of information may cause an operator to bid more than the calculated expected value. This can not continue in the long run, though, or that operator would be forced out of business.
The obligation to share information equally would, however, act as a drastic disincentive to private enterprise in conducting exploration prior to the allocation of oil and gas rights. Thus the question about government involvement in exploration becomes more important. If the requirement for information sharing is accepted, the need for government exploration activity is more acute.

The second problem faced by a government in designing a management system for publicly-owned oil and gas rights, that of risk, also has particular relevance to the allocation process. Different methods of allocating oil and gas rights and obtaining government revenue therefrom cause the risk to be shared between private operators and the government in varying proportions. Cash bonus bidding places the risk squarely upon private operators because bids are usually calculated before the full potential of an area is known, and must be paid irrespective of success or failure in subsequent exploration. Gross royalties place some of the risk upon the government since payment of this part of the consideration is dependent upon the success or failure of exploratory operations. Net royalties place even more of the risk on the government because payment depends not only upon production but also upon profitable production. Direct government participation in operations goes a stage further if the government contributes to exploration and development expenses. Finally, of course, the government bears all of the risk if it conducts all operations itself and allocates no rights whatsoever to private enterprise.

It follows that, in designing an allocation process for oil and gas rights, a government must decide who should bear the risk involved in exploration and development. Such a decision has implications regarding
the exercise of control over publicly-owned resources. Allocation systems which place most of the risk upon private enterprise generally allow the parties taking the risk to exercise a substantial measure of control over these resources, subject to any discretionary powers retained by the government and, of course, subject to resort by the government to the legislature for amendment of the relevant legislation. However, quite apart from control, there are efficiency considerations involved in this matter of bearing risk. Two principles are clear. Firstly, if the candidates for bearing risk are in fact averse to risk, they will require a reward for doing so. Secondly, such candidates will not necessarily all demand the same reward for bearing risk.

Aversion to risk is regarded here as a preference for one set of possibilities with a given expected value and specified dispersion over another set of possibilities with a higher expected value and greater dispersion. In other words, a risk-averse person must be given the incentive of a larger expected return before he will be prepared to accept a situation where the likelihood is greater that the outcome will deviate more significantly from the mean. It is occasionally suggested that some private operators in the oil and gas industry are not risk-averse, but in fact welcome the chance to "strike-it-rich" even against unfavourable odds. However, it is difficult to apply this theory to the vast majority of private operators, since it appears to be inconsistent with the very common practice of reducing risk by pooling among a number of joint ventures. A more reasonable approach seems to be that the industry as a whole is risk-averse. An explanation for this may be that the managers of firms are more concerned with avoiding failure than with taking an opportunity to
make huge profits, regardless of the attitudes of the owners of the firms. This would be so if the consequences of failure were incommensurate with the rewards for success, or if managers found that uncertainty tended to complicate planning for the future. It seems likely that governments are risk-averse, too. Failure in a venture may suggest incompetence to the electing public and thereby carry substantial political penalties, whereas great success may not bring with it compensating political rewards.

If risk aversion may therefore be presumed in making policies for allocation of oil and gas rights, it becomes necessary to consider the remuneration demanded by private enterprise and by government for bearing risk. In both cases, it seems, the size of this remuneration will depend not only upon the intensity of risk aversion, a matter about which it is difficult to offer any suggestions, but also upon the extent of the risk borne. This latter factor is influenced by a number of things: the geological characteristics of the region, the state of the information available regarding these geological characteristics, and the opportunities for pooling risk. A government can do nothing to change the geological characteristics of a region. It can, however, acquire and distribute information, although at a cost to the public sector. The point to be made, though, is that a government should recognize the relationship that exists between risk and information. So far as reducing risk by pooling is concerned, this seems to be clearly possible among private operators. Large firms may pool risk internally by taking part in a number of operations while smaller firms may pool risk by entry into joint ventures. Either way, though, there seems to be a cost to both the government and society in reducing risk. Reliance upon large firms to pool risk in oil and gas operations will cause
a lessening of competition in the industry, precluding the use of a bidding system for allocating rights and requiring government intervention to regulate monopolistic or oligopolistic marketing practices. The effect of joint ventures on competition is difficult to ascertain. If small firms are otherwise unable to bid for rights owing to capital market imperfections or an inability to pool risk internally, joint ventures may add to competition. However, such ventures among firms which are capable of bidding independently cause a reduction in competition. In any event, joint ventures give rise to transactions costs in the negotiation, recording and enforcement of agreements, and these costs must be reflected in lower bids for oil and gas rights as well as representing social costs.

The question then becomes to what extent a government may be able to reduce risk by pooling within its boundaries. In general, this will depend upon the state of knowledge concerning oil and gas resources under its jurisdiction. If this knowledge is such that the government can not determine whether economic deposits of oil and gas exist within its boundaries, the government would seem to be in a worse position to pool risk than private operators who may range across a number of provinces or countries, assuming, of course, that the government is restricted in its activities to its own territory. However, if available information is such as to make it very likely that oil and gas deposits will be found in a province, without necessarily establishing the precise location or nature of these deposits, the government which owns the resources throughout the province will be in a good position to pool the risks encountered in searching for them, without cost to the public sector or to society.

The opportunity for government pooling of risk thus seems to be
closely related to the extent of the geological risk involved in the region as a whole. It is impossible to be precise with regard to Alberta, but one thing is clear. The risk of failure has diminished considerably since 1946. With the discovery of Leduc in 1947, it became obvious that oil and gas were there to be found. This factor may explain the declining influence of the major oil companies in Alberta in recent years. During the early history of Alberta's development as an oil and gas province, when the geological risks involved in the region as a whole were substantial, it seems likely that the majors, with the benefit of their international operations, were in the best position to pool risk and that this advantage contributed to their dominance. With the subsequent discoveries and general upgrading of the geological potential of the province, the overall risk was reduced and new opportunities were presented for independents who could pool risk among a number of ventures within the province. It is suggested that in these circumstances the government could also reduce risk by pooling, and in its case without incurring the transactions costs which are characteristic of joint ventures. The time appears to have come when the government should assume the bulk of the risk involved in oil and gas operations in the province.

This implies a preference for systems of raising government revenue other than cash bonus bidding. In fact, the logical extension of the argument is that a system of direct government involvement, through Crown corporations engaged in exploration and development or contracting with private operators for the performance of specific tasks, provides the solution. However, risk is only one element in the management of publicly-owned oil and gas resources. A system of direct government action will have
its own drawbacks. In an industry where innovation and technical development have always played an important part, a Crown corporation not subject to local competition may rapidly become inefficient. Moreover, the failure to reap the advantages of decentralized decision-making may well prove significant. These factors do not, however, necessarily mean that a Crown corporation could not function effectively in competition with private enterprise. In the final result this may depend more upon psychological attitudes, such as that of public enterprise towards risk, than upon strictly economic considerations.

The third problem encountered in designing a management system for oil and gas resources, the presence of market imperfections, prevents a choice being made on qualitative grounds among the different methods of allocating private rights over these resources and obtaining government revenue therefrom. The cash bonus bidding system relies upon the maintenance of adequate competition, requires no divergence between private and social discount rates, and assumes reasonable foresight of future market conditions, quite apart from the matter of risk. The imposition of gross royalties affects both the timing and the quantity of private investment in exploration and development. An acreage rental also has an impact on such investment.

The inefficient aspects of gross royalties could be overcome by government subsidy of exploration and development. Direct government participation in exploration and production, in partnership with private enterprise, would achieve the same result, perhaps at lower administrative cost and probably with advantages regarding the acquisition of information. Net royalties also avoid the inefficiency of gross royalties if all economic
costs, including an appropriate return on capital, are deducted. They are no different in principle to an income tax. However, net royalties have the same disadvantages as an income tax. The cost of administration is greater than in the case of gross royalties because allowable deductions must be specified, and an enforcement system maintained. Moreover, if net royalties are imposed at high percentages, a necessary requirement if a government is to collect a substantial proportion of the economic rents from production of its resources, they are likely to have a disincentive effect upon efficiency.

Finally, all of these mechanisms except competitive bidding suffer from one basic defect, in that if they are applied on a province-wide basis they are incapable of taking full account of the quality differences among pools. Yet if they are applied on a pool by pool basis, effective administration requires detailed information regarding the characteristics of each pool. This difficulty illustrates the advantage that cash bonus bidding has over other revenue mechanisms. It allows the private operator to calculate whether a lease has an expected positive net value, after payment of all required royalties or other participation shares, and to bid this sum in addition to such other consideration. Competitive bidding also provides a means for selection of the operator to acquire each lease, based upon that operator's assessment of the lease value. It thereby avoids the administrative problems inherent in the selection of an operator according to other, more contentious criteria. However, whether it results in selection of the most appropriate operator, on efficiency grounds, is open to question. In the absence of uncertainty there would be a tendency for the most efficient operator to submit the highest bid for each lease, since the benefits
of that operator's lower costs would be reflected in the size of his bid. But in a climate of uncertainty this factor may be outweighed by the different expectations of operators regarding the quality of the lease and future market conditions. Nevertheless, despite this qualification, the cash bonus bidding system has definite advantages in raising government revenue and in avoiding administrative difficulties in selecting operators for leases. Therefore, whatever mechanism is primarily used for raising government revenue from oil and gas production, it may well be combined with an allocation system of cash bonus bidding.

The fourth problem encountered in managing oil and gas resources, that of political uncertainty, can not be avoided entirely. Nevertheless, there is an advantage to be gained in reducing this uncertainty, for it represents a true cost to the private operator when investing in exploration and development, or when calculating a cash bonus bid. Perhaps the only way of effectively reducing this uncertainty is by adoption of a practice of restraint on the part of government. However, such restraint is feasible for limited periods only. The oil and gas industry must recognize that if a government fails to revise its tenure arrangements for long periods of time, or when generally unforeseen events occur, political pressures will become intolerable and change will inevitably follow, perhaps of an extreme nature. For this reason, the flexibility reserved to the government in the Alberta petroleum and natural gas lease is desirable, although it should be exercised with the objective of preventing rather than increasing political uncertainty.

For many years the Alberta government followed the practice of revising Crown royalties on oil and gas at ten year intervals. This tradition
was broken recently in response to the dramatic shifts in oil and gas prices. It is suggested that the practice was a good one, but, at the same time, the breach was necessary in the circumstances and should not lead to future political uncertainty provided that a new tradition is established to replace the old.

At the production stage of oil and gas operations, the problems of information, risk and political uncertainty are diminished. Government intervention is required, however, because of market failure. The likelihood of a divergence between private and social rates of time preference means that controls upon rates of production from pools are necessary. Still, the present method of calculating maximum efficient rates to allow the greatest production of oil from pools should be amended to take account of society's time preference. The system of government sharing in production through gross royalties requires that the rate of development of pools, and particularly the timing and size of investment in enhanced recovery schemes, be monitored and, if the inefficient aspects of gross royalties are to be avoided, that the government subsidize private investment in exploration and development. The most important cause of market failure is, however, the rule of capture, which makes private operators treat the user cost of present production as zero. The method chosen for dealing with this problem, the market demand prorationing scheme, is open to criticism on efficiency grounds.\textsuperscript{262} The fate of this scheme should depend upon a measure of its inefficiency, in terms of social costs, compared to a measure of the transactions costs that would be incurred under a system of compulsory unitization. If a procedure

\textsuperscript{262} Supra, 62 \textit{et seq.}
were established providing for a unitization hearing before the Energy Resources Conservation Board, and a determination by the Board on the evidence presented without the necessity of obtaining agreement from any specified number of owners, it seems unlikely that these transactions costs would be large. Moreover, such costs could be substantially reduced in future by adoption of an allocation system causing less fragmentation of private rights in a pool.

It is sometimes suggested that the inefficiency which results from the market demand prorationing scheme has produced a net social benefit for Alberta and that the scheme should therefore be retained. This is so, it is said, because the scheme has induced extra investment in drilling and production facilities, provided from outside the province. Such investment is tied to the oil and gas industry; if it is not used in oil and gas operations in Alberta it will be lost entirely to the province. It is better for Alberta to have the investment placed in excessive drilling and development in the province, with the secondary benefits that flow therefrom, than to let it go to another jurisdiction.

However, what this argument overlooks is that this additional investment is financed by dissipation of potential economic rents. The choice for the Alberta government is not necessarily between more and less investment in the oil and gas industry. Where the government is the owner of the resources and can devise a system for collecting a substantial proportion of the economic rents, the choice is between more investment and more government revenue from these resources. This being the case, the argument in favour of the inefficiency induced by the market demand prorationing scheme has merit only where the additional investment in oil and gas operations yields
a greater social benefit than any available form of government expenditure, including a reduction in provincial taxes. This is an unlikely situation.

Transportation does not appear to have given rise to the same possibilities of inefficiency or revenue loss to date as exploration and production. The example presented by the Alberta Gas Trunk Line Company Limited is interesting in that it shows how a Crown corporation could operate in this field. In this situation of near or natural monopoly, the choice for a government lies between regulation and ownership. It is not clear that one has significant economic advantages over the other.

In the areas of control over exports, and pricing, the government is faced with the necessity of estimating social benefits and costs. Apart from questions of government revenue and the level of investment in oil and gas operations, this calculation will be concerned with the effects upon consumers of different export and pricing policies. Any narrower approach which does not take overall benefits and costs in the province into account, such as the present export policy for gas aimed solely at security of supply, is difficult to justify. Here, the interrelationship of the different stages of the management system for oil and gas is vitally important. Price undoubtedly has an effect upon both exploration and production, as well as government revenue therefrom, although the degree of this impact is not known precisely. Therefore, price regulation may be used as an instrument for influencing rates of exploration and development. In the same way, the current policy for controlling gas exports affects exploration, development and government revenue. It may be asked whether the Alberta government should attempt to control exports directly or endeavour to achieve the same result through its allocation system for Crown oil and gas rights and the regulation of
wellhead pricing.\textsuperscript{263} The interrelationship of these effects gives the government considerable flexibility in the choice of its policy instruments, but at the same time requires that the effect of controls imposed at any stage of the system be considered throughout the entire system.

In fact, however, one characteristic of the Alberta management system for Crown oil and gas resources is the absence of unity of purpose. Different parts of the system apparently strive for different objectives. The allocation process, which is administered by the Department of Mines, includes a number of features with a tendency to accelerate investment in exploration and development. Among these are the free entry system for acquiring reservations in unexplored areas, government subsidies for exploratory drilling, work commitments attached to reservations, renewal conditions for leases encouraging development drilling, and the imposition of lease rentals. It would seem that the Department of Mines regards early exploration and development as a good thing. But this is achieved at the cost of government revenue either directly through payment of subsidies or indirectly through reduction in the size of the economic rents available for collection. At the same time, the Energy Resources Conservation Board continues to administer the market demand prorationing scheme to deal with the problems of overproduction, again at the cost of potential government revenue. Similarly, in the case of gas the Board requires the maintenance of a substantial inventory of proved reserves in Alberta before allowing the removal of gas

\textsuperscript{263} There would be considerable doubt about the validity of The Gas Resources Preservation Act if the federal government should try to control the interprovincial movement of gas: see Part I, "Jurisdiction over Onshore Oil and Gas in Canada," 56.
from the province, a procedure which has a definite impact on the timing of exploration and development. It may be asked whether the combined effects of these conflicting management policies have been adequately assessed. 264

Co-ordination among the different stages of the management system has been sought through the establishment of the Energy Committee. 265 Nevertheless, if co-ordination is to be achieved the onus lies upon the government to establish clear objectives applicable to the system as a whole. It is suggested that, since the resources in question are publicly-owned, the fundamental objective should be to obtain the maximum net social benefit from them subject to an acceptable distribution of this benefit. The criteria of efficiency and equity employed in the evaluation of the present Alberta management system contribute to the attainment of this objective. Efficiency is defined in terms of the best possible allocation of society's resources of labour and capital among alternative uses, both present and future, resulting in the largest possible net benefits to society. Equity refers to the distribution of net benefits from oil and

264 A rational explanation does exist. The government of Alberta may be using these different policies to encourage early discovery of reserves and at the same time, to maintain substantial inventories of proved reserves of oil and gas. If so, the cost of this method of doing so should be compared with the cost of the alternative means of achieving the same result, namely government exploration of retained acreage.

265 The Committee consists of the President of the Executive Council, the Deputy Minister of the Environment, the Deputy Minister of Industry and Commerce, the Deputy Minister of Lands and Forests, the Deputy Minister of Mines and Minerals, the Chairman of the Energy Resources Conservation Board and the Chairman of the Public Utilities Board; The Energy Resources Conservation Act, op. cit. note 105, section 19.
gas development, as between the government and the remainder of society. It is submitted that equity is fully achieved only when the government succeeds in capturing all of the economic rents from production of Crown oil and gas resources, these rents being the surplus value that the resources have over all necessary costs of production, including a return on capital.

It needs to be emphasized, though, that the problems of information, risk, market imperfections and political uncertainty which are encountered in devising a management scheme for oil and gas, give rise to considerable difficulty in the application of these efficiency and equity criteria. Since it is not possible to have a management system which is both completely efficient and entirely successful in obtaining all of the economic rents for the government, it becomes necessary to compare less than perfect alternative arrangements. In doing this, the interrelationship that may exist between the efficiency and equity criteria becomes apparent. For example, one method of allocating oil and gas rights may have substantial advantages in terms of efficiency but may be incapable of capturing a large share of the economic rents for the government. On the other hand, an allocation system which is clearly inefficient and thereby reduces the total size of the economic rents may succeed in capturing a high proportion of those reduced rents. It will not be possible to choose between the two systems on purely qualitative grounds. Faced with this difficulty, it seems that the best course that a government can follow, especially in the situation where it is dealing with an industry that is owned to a large degree by non-residents of the province, is to seek to obtain a balance between the size of government revenue and the extent of inefficiency. The more revenue that can be obtained without adding to inefficiency, the better the management
system, but when the point is reached where further revenue is available only at the expense of efficiency, a compromise must be struck.

In practice, quantitative analysis is required in the evaluation of a management system. The extent of distortions produced by different policies, and their impact upon the level of government revenue, should be measured. This, of course, amounts to a formidable task but in the absence of data obtained by such research it is impossible to be sure about which management system would produce the maximum net social benefit.

Nevertheless, in a world where decisions must frequently be made without the advantage of adequate empirical research, it may fall to a government to revise its management system for Crown oil and gas resources without full knowledge of the consequences or of the identity of beneficiaries and losers. It is on such a basis, and without wishing to detract from the importance of the necessary quantitative analysis, that the following suggestions are made regarding management of Crown oil and gas resources in Alberta.

The government should establish a Crown corporation to conduct basic exploration for oil and gas, in competition with private operators. The exploration programme of this agency, which need not perform the work itself where private companies are available to do so on a contract basis, should be directed towards improving the state of information upon tracts before they are offered for lease. The information acquired by the corporation should be used by the Department of Mines for estimating the best tracts to be made available to private operators for development, and the time at which such tracts should be offered. The two-stage allocation system for private rights should be abandoned in favour of a one-stage system of
issuing leases with the same production rights as are presently available under the Crown petroleum and natural gas lease. The allocation method for leases should be cash bonus bidding, as used at Crown reserve sales. The Department of Mines should use the information obtained from the Crown exploratory agency to calculate minimum acceptable bids for leases on the basis of the present social value of tracts. The Department should also monitor the level of competition in bidding and reject all offers where competition is deemed to be inadequate. The areas of tracts offered for lease should be determined by reference to the dimensions of pools likely to be discovered, bearing in mind the necessity of reconciling the problems of fragmentation of rights in a pool and the capital requirements for an effective exploration and development programme. All information available upon areas offered for bids should be released to private operators in time to allow interpretation, evaluation and calculation of bids, thereby avoiding the present situation where private operators bid for leases with unequal information. The present system of gross royalties should be discontinued in future leases, in favour of direct participation by a Crown corporation to a degree announced in each invitation for lease bids. Participation should include contribution to all exploration and development expenditures. The extent of the government interest should be subject to redetermination at regular intervals announced prior to the sale, and calculated to reduce political uncertainty in the calculation of bids without unduly restricting the scope of future government action. Production practices should be subject to review by the Energy Resources Conservation Board, as now and maximum efficient rates for oil and gas should be stipulated by the Board having regard to the geological characteristics of
individual pools and the social rate of time preference. Market demand prorationing should be phased out over a period of years. In its place, the Board should be empowered to require unitization of all pools or severable parts thereof, either by approval of an agreement reached between private operators or by order of the Board after an open hearing into the matter. Export controls on gas should be replaced by controls on the allocation of leases and production therefrom, and the position of the Alberta public as regards future supplies should be protected through the allocation system and the retention in the province of the Crown's share of production to the extent required. The regulation of pricing of oil and gas in Alberta should be preceded by a detailed study of the social benefits and costs flowing from price changes, including a public hearing on the issue before the Energy Resources Conservation Board.
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