INTRODUCTION.

Today New Zealand is witnessing the beginning of a new mining era which may well create a new dimension to the economy of the country. The early signs of this era showed themselves a few years ago and were acknowledged in the reports by the Minerals Committee to the 1969 Plenary Session of the National Development Conference. Section E of the report refers to legislation and paragraph 125 of that section states:

"The sense of purpose in the mineral industry is underlined by the request in this Section for the urgent introduction of the new Mining Bill which is expected to cover deficiencies in mining legislation. It deals also with other aspects of mining relevant to the task of facilitating prospecting and encouragement of exploitation of New Zealand's mineral resources and comes down with several recommendations."

The new Mining Bill has now been presented and submissions have been made to the Labour and Mining Committee of Parliament on it. The new Bill in many ways represents a dramatic change in the concept of the granting and administration of mining privileges in New Zealand, until the new Bill is made law, matters pertaining to mining are governed by the Mining Act of 1926 and its amendments.

In this paper I intend to touch upon the major aspects of change which would occur if the Bill is made law in its present form, and to comment generally upon these changes. In doing this, it is necessary to make comment on the present Mining Act 1926 as there are some areas of criticism of the new Bill that it is going to far.

Notwithstanding criticism that might fairly be levelled at the new Bill, I believe that the concept of the new Bill
Uses of Federal Land. Since federal lands are revenue-producing (oil and gas leasing, grazing fees, timber sales) and also extremely important for recreation and watershed protection, neither of which can be accurately reflected in dollar values, it is difficult, if not impossible, to arrive at anything but general ideas as to total value. But there are some tangible figures of interest. Clawson lumps together the revenues from public lands paid into the Bureau of Land Management in connection with sales and use of various types of land. These include the grazing lands, other public domain, acquired lands and submerged areas of the outer continental shelf. As of 1965, the submerged areas produced three-fourths as much oil and gas as the entire output from the public lands.

The dollar revenue collected by the Bureau of Land Management was, during the eight-year period 1957-64 inclusive somewhat over $2 billion, as compared to the gross receipts of one and a half billion realized during the period from 1785 to 1956. The 12 1/2% royalty payments from the submerged lands contributed mightily to this total.

The National Wilderness Preservation Act of 1964
The growing strength of the conservation movement has been demonstrated in various ways. One has been the vigorous opposition to the invasion by government agencies, of national parks and national forests for the purpose of building dams to generate power, to improve navigation, control floods, provide irrigation water and so on. Threatened areas included, in addition to national parks, wilderness areas in national forest. These were designated portions of the forest, frequently at higher levels, deemed especially worthy because of their scenic and wilderness values. As such the forest service, by administrative orders, set them aside and prohibited, within their boundaries, all motorized transport, including aircraft. These were lands to be reached by the trail-rider on horse-back or carrying his back pack. Some of them had a potential for national park status, but the concepts are somewhat different. The national park is open to motor-cars. It has hotels and motels. The wilderness area has none of these, but it must be understood that the ideas of park and wilderness are mutually exclusive. Yellowstone National Park, the nation's first and perhaps the world's as well, has roads, trails, boat ramps, cottages, hotels, gift shops, and ser-

is sound and that with some modifications to it, it is an infinitely superior piece of legislation to the present Mining Act of 1926.

It must not be forgotten, however, that the 1926 Act and its amendments represent the culmination of legislative experience of the needs of the mining industry over more than a century. The 1926 Mining Act was a successor to a number of prior mining acts and past wisdom should not lightly be discarded for the sake of a new look.

A LOOK AT THE MINING ACT 1926

New Zealand enjoyed a mining era for a period of almost fifty years up to approximately 1915 and in that period became a major gold producer, which greatly accelerated and assisted its early economic development. This era was not particularly noted for the finding or producing of minerals, other than gold and silver, and gold was undoubtedly the prime mineral that was sought.

The Mining Act of 1926 was drafted primarily with prospecting and mining for gold and silver in mind and, in this connection, it is relevant to point out that gold and silver, as the Royal metals, were and are by virtue of the prerogative right of the Crown, owned by the Crown. Today, however, mining exploration is orientated more towards the industrial minerals of copper, lead, zinc, and indeed silver, to name just a few. While the new Bill does not take away from the land owner such mineral rights as he has hitherto enjoyed, it does in clause 5 declare that gold and silver shall be the property of the Crown, displacing by statute the old prerogative right. It is also of interest to point out that various other natural resources have been taken by the Crown, namely:

1. All forms of geothermal energy under S. 3 of the Geothermal Act 1953.
6. All minerals lying on the continental shelf outside the three mile limit under the Continental Shelf Act 1964.
Under the Mining Act 1926, various mining districts are set up and the jurisdiction of these districts covers roughly half of the South Island and no more than about a twentieth of the North Island, the rest of the Country being what is referred to as outside a mining district. Within these districts, wardens courts are set up, to which application must be made for all mining privileges. The wardens are magistrates who preside over all such applications and, in some of the larger districts, more than one wardens court is set up. The concept behind this is to provide an office to which application might be made by the ordinary prospector within reasonable distance of where he is carrying out prospecting, so that he can, without journeying too far, lodge his application. The districts, as they at present stand, are closely linked to the areas of old gold mining days and bear no relation to areas of interest for other minerals. Nevertheless, the old gold mining areas are still regarded as the geologically more favourable for other forms of mineralization and the wardens courts in these areas have in consequence found themselves heavily deluged with applications for mining privileges.

Outside these mining districts, the district Commissioner of Crown Lands is declared to be the warden and applications are to be lodged in his office, in the same manner and following the same procedure as is laid down for applications affecting land within the mining districts. A considerable portion of the Mining Act 1926 is concerned therefore, with the procedures and functions to be adopted in filing and dealing with and providing objections to mining privileges. A complete code is included in the Act, which in many ways closely follows Magistrate's Court procedure.

Not all land, however, is open for mining and many of the rights and privileges existing in the Mining Act 1926 apply only in respect of land which falls within a mining district. The new Bill sensibly does away with mining districts and the distinctions that follow.

The Mining Act 1926 provides that before any person can carry out prospecting or make any application under the Act for any mining privileges, he must first take out at a cost of 50c what is known as a Miner's Right, which is not transferable and is effective for one year. This

field of grazing.

To compress a great deal of history into a fairly simple conclusion, the exploitative efforts in the late nineteenth and early twentieth centuries were met and opposed by a growing conservation pressure. Neither has been wholly successful, but one aspect of this competition is reflected in the fact that very large areas of federal lands remain undisposed of. They are national parks, national forests, national monuments, wildlife refugees, military reservations, including air training facilities, bombing ranges, ammunition depots, with everything else lumped into the Taylor Act lands, themselves divided into isolated tracts, generally leased to a single ranch-owner, or larger grazing districts which are used, for a small fee, by a number of ranchers. Thus a great resource is being preserved and maintained by the only authority capable of doing it on a national scale under a rational policy of wise use.

Intensive Management. Clawson picks the year 1950 as marking the transition between custodial and intensive management. He refers to the gradual changes that had been taking place, the realization that the federal government as landlord should make the best use of the lands compatible with their preservation. Indeed, in many instances, expenditures were necessary to rehabilitate the land, especially where overuse had resulted in erosion. Certain lands destroyed by the dust bowl era in the 30's were re-acquired and, by enlightened management brought back to productiveness.

Federal ownership is heaviest in the eleven western states, where approximately 54 percent of all land is federal. They range from Nevada, with 85% of its land in federal hands to Washington with 35%. Aside from these states, the only considerable area of federal land is South Dakota (18 percent). South Dakota has national forests, one national park, Mt. Rushmore National Monument, and the Indian reservations occupying the greater part of the central portion of the state. The two largest land-holding agencies are the Bureau of Land Management (Taylor Grazing and other lands) with 43% of all public lands, and the Forest Service with 41%. Defence has 6 percent and National Parks 3 percent.
The backers of Yellowstone, which was remote and in fact inaccessible to the traveler, were probably motivated as much as anything by the value of the mineral springs and geysers and their desire that this area not be turned over for exploitation or even destruction. For years, it was administered by the Army which maintained a cavalry detachment in the park. But pressures for conservation were building up, spurred by the destruction of the forests in such places as Wisconsin and Minnesota and the consequent very real danger that our timber resources vast as they were, would be decimated completely by the free enterprisers so intent on getting theirs and getting out. Of more significance to mining was the policy of national forest reservation beginning in 1891. Conservation forces, which had started their agitation in the 1880's gradually increased in effectiveness. Helped by President Roosevelt and Gifford Pinchot, first head of the Forest Service, the national forests had, by 1909, attained the acreage which it essentially retains to the present, 160 million acres.

While national forest land is open to location of claims under the mining laws, there is a slow trend towards converting some of the more attractive and scenic portions of the national forests into the national park system. The difference is important: national park lands are not open to mineral location, so that as this expansion takes place there is a reduction pro tanto in the land available for mineral exploration.

Custodial Management. This period began soon after the beginning of reservation eras beginning. The date of 1905 seems appropriate since the Forest Service was established then. Over a period of years, procedures and legislation were adopted for the use of the timber, grazing, watershed, and recreation potential of the forests. Also, beginning with the Weeks Act in 1911, the federal government has acquired by purchase about 50 million acres of land, about half of which has been purchased for national forests.

The mineral leasing act applies to such lands, i.e. reacquired lands, but the mining laws do not apply. Finally, the unreserved "public domain", meaning federal lands open to homesteading, were reserved in 1934 under the Taylor Grazing Act. As the name suggests, the primary aspect of administration of these lands has been in the entitlement the holder to prospect over unoccupied Crown lands and to apply for prospecting privileges over Crown and other lands in accordance with the provisions of the Act. To obtain exclusive prospecting rights over any area, the holder of a Mineral's Right had to apply for one or other of the various prospecting privileges and, until 1965, the normal prospecting privilege was an ordinary prospecting licence, which required the prior pegging of the area by an applicant. When granted the licence was good for twelve months with a right in priority, upon giving due notice, to obtain a fresh grant for a further term of twelve months, without limit to the number of such further terms. The maximum area that one could apply for this type of privilege was 1,000 acres and the privilege entitled the prospector to prospect for all minerals, including gold and silver.

Another form of prospecting privilege is a mineral prospecting warrant which entitles the applicant to apply for up to 10,000 acres in one block, does not require pegging and is for a term of five years, with a right in priority to apply for further warrants of similar term, again without limit to the number of times one might apply for the area again. Until the Mining Amendment Act of 1965, the minerals that could be applied for under this type of prospecting privilege were only those named in the application and could not include the Royal or precious metals, so that gold, silver and platinum were necessarily excluded. Under the 1965 amendment, however, provision was made for the holder of a mineral prospecting warrant to apply for extension of his privilege to such other minerals as he so chose, including the precious metals. This greatly enhanced the value of a mineral prospecting warrant as a prospecting tool, particularly in the hands of the larger prospecting companies who were financially able to mount an extensive geological prospecting programme over larger areas.

The Act also provides for application for mining privileges, and the areas for these privileges are more limited, the maximum area under a mineral licence being 1,000 acres.

Ancillary to the basic prospecting and mining rights, are various subsidiary privileges that might be applied for, such as resident site licences, special site licences, water
rights, business site licences, all of which were designed to give a form of title to those involved in the mining industry where a mill and township needed to be set up adjacent to the mining operations. While most of these ancillary privileges are included in the new Bill, it is significant to note that any privileges to do with water rights are excluded and are dealt with under the Water and Soil Conservation Amendment Bill. The use of water and the ability to get rid of water after usage is essential in mining operations and the Mining Bill therefore cannot be regarded as a complete code on mining.

The provisions for partnership under the Mining Act 1926 are not included in the Bill and represent a desirable aspect of legislation which should not be so lost. This particularly applies to a prospecting partnership, where the Act covers certain facets in such a way as to minimize problems that could otherwise exist or arise where more than one person owns a prospecting or mining privilege. In particular, it provides that a majority decision binds the partnership and that any partner may sell his share of the partnership without the consent of the other partners and the purchaser thereof is deemed to be a partner in the partnership. There is also provision to enforce payment of the share of the cost or performance of prospecting. It is submitted that this provision should be incorporated under the new Bill rather than relying on the provisions of the ordinary partnership Act or the preparation of partnership documents.

A large proportion of the Act covers the working and inspection of mines involving safety precautions. This necessary and desirable part of the Act is in part preserved under the Bill, but it is intended that some of the more detailed requirements are to be promulgated by regulation, which will ensure that the regulations accord with developments in modern mining practice.

It is interesting to observe, however, that the Bill is perhaps influenced by the recommendations to the Woodhouse Report; clause 205 of the Bill provides in the case of proceedings in respect of death or injury: 'that every accident occurring in a mine should be deemed to have occurred as a result of the negligence on the part of the owner of the mine in the absence of proof to the contrary'.

Efforts to provide for leasing of mineral lands proved unsuccessful. In 1866, the first mining law was adopted under which title could be obtained to mineral-bearing land. In 1872 a more comprehensive act was passed, one that has been the basic mining law since that date. Claims were of two kinds: lode and placer; the former consisting of minerals embedded in rock - gold, silver, lead, tin, copper and others. Placer mining claims are those in which minerals appear in the sand or gravel on and beneath the surface. In both kinds of claim, 20 acres was the maximum size of a single claim, and, if minerals were produced, title could be acquired in due time. Thus a claim would be converted into fee land with the result that mineral production has tended to be in the main from private lands. One feature of the act (1872) has caused much difficulty. A person staking a claim could keep the claim alive by doing a minimum amount of work each year. This work was valued at $100 in 1872 and has remained at this amount since. Many dubious claims have been thus perpetuated indefinitely, the claimant enjoying in effect a piece of public land for the insignificant annual rental of one hundred dollars. What a neat way to acquire a site for a summer cabin in the mountains!

In 1920 the Mineral Leasing Act was passed and signed into law. Under this law the government was permitted to enter into leases for oil, gas, coal and other non-metallic minerals. The lease gave no rights to the surface except for the purpose of access. In fact, the lease was simply a permit to extract, and the government is compensated in the form of a royalty. On oil and gas leases, its amounts to $2.5% of total production.

Reservation. This might be called the era of conservation. California took the first step by setting aside the Yosemite area as a state preserve. The first significant federal move was the creation, by Congress, of Yellowstone National
ceded to the United States.

Major purchases followed: in 1803, the Louisiana Territory, approximately doubling the area of the United States, including a vast area, spreading from what is now the state of Louisiana westward and northward, a country inhabited by Indians, a land of forests, mountains and plains. Florida was purchased in 1819 from Spain. Texas, an independent nation in 1836, was annexed in 1845. The Treaty with Mexico in 1848 brought in the vast southwest territory, out of which California, Nevada, Utah, and parts of Arizona and New Mexico were created. In 1846 the Pacific Northwest (all of Oregon, Washington, and Idaho, plus part of Montana) was annexed after long negotiations, not always friendly, with Britain. Alaska, purchased in 1867, was the last major acquisition.

Clawson remarks, perhaps somewhat smugly, that "never in history has so much valuable territory been acquired for so little money and so little blood." Certainly it was a bargain among bargains -- millions of acres of rich farm lands, mineral lands, Yellowstone Park (whose existence was then unknown to the white man) and mountains, rivers and scenery of the highest order. 

Disposal. This period began almost as soon as the first of the lands had been acquired. Soldiers, including George Washington were rewarded with generous slices of the public domain. Sales of land under the early policy did not turn into the bonanza the government had anticipated. Laws proliferated during this period, but pressure slowly began to develop for a more orderly system, one geared more to the needs and aspirations of the "common man". Thus the Homestead Act in 1862 culminated the "free soil" movement by making it possible for the settler to "prove up" on 160 acres of land through his own efforts. For 50 or more years the Homestead act and others covering Desert Land, Timber Land and so on, provided the discontented man with an escape mechanism. He could head for the frontier and file on a piece of land at the local land office.

Disposal of minerals. Bearing in mind that the land in the great hinterland west of the Mississippi was originally all part of the public domain, one can appreciate that the federal law was the dominant feature. On the way to be-

This may be compared to S 294 of the Mining Act 1926, which says: "Any accident occurring in a mine shall be prima facie evidence that such accident occurred through some negligence on the part of the owner."

An important facet of the Mining Act 1926 was enunciated in the decision of the Judicial Committee of the Privy Council in the Case of Miller v. the Minister of Mines, (1963), which held that a mining privilege takes priority over the rights of the registered proprietor of the land affected by it, notwithstanding the provisions of S 62 of the Land Transfer Act 1952. The result of this therefore, is that a purchaser for value without notice of a mining privilege is bound by the mining privilege. It also decided that a mining privilege is not a registrable interest under the Land Transfer Act 1952 and the right to lodge a caveat to protect the grantee's interest does not provide a method whereby the mining privilege can be registered. This decision is of course entirely satisfactory from the point of view of a privilege holder, but it is somewhat disconcerting to many lawyers and the new Bill endeavours to cover the situation by providing a system whereby prospecting and mining privileges can be registered against the title.
THE MINING BILL - ITS ADVANTAGES AND DISADVANTAGES.

ABOLITION OF MINING DISTRICTS.

With the abolition of mining districts the whole of New Zealand falls under the provisions of the Bill from a procedural point of view. All Crown land is declared to be open for mining, together with public reserves, national parks and state forest lands and private lands with the owner's consent. It must be borne in mind, however, that the consent of not only the Minister of Mines, but also the Minister in charge of other Crown lands is also required, together with such other bodies as the National Parks Authority and other administering bodies in the case of reserves. While generally widening the scope of prospecting and mining operations, therefore, there is clear and adequate provision for obtaining consents and, in doing so, having conditions imposed and included in prospecting and mining privileges to ensure that mining and prospecting do not cause unwarranted damage or undesirable results to such land.

The provisions as to Maori land are a step in the right direction, because at present applications have to be made direct to the Minister for mining privileges over Maori land, who then seeks the authority of the Governor-General and, upon that authority being obtained, the application is referred to the Maori Land Court, a long and devious procedure. The new Bill would appear to streamline and bring Maori land more into line with private land for purposes of mining.

This is probably the most contentious issue raised by the new Bill in that it appears to replace a judicial system of application and grant (which gives full opportunity to objectors to be heard) by the disposition of applications administratively.

To appreciate the real extent of the change, one must realize that a warden under the mining act 1926 is only authorized to recommend that application be granted by the Minister of Mines and in some instances the Minister of Lands. Generally speaking, the Minister's consent is given without question, but there doubt are occasions when the Minister's consent is not forthcoming for one or other reasons. In essence, therefore, the Mining Act itself provides that the grant of a mining privilege is

CONSERVATION AND MINING:
THE AMERICAN EXPERIENCE

by James Munro A. B., (Yale) J. D. (North-western), Professor of Law, University of South Dakota.

I propose to consider the mining laws and their administration in terms of federal lands and of course federal legislation. The reasons for this are:
(a) Federal lands, comprising the greater part of all lands in the eleven western states, are the primary source of minerals and mineral exploration; and
(b) Conservation, as a policy, has had its greatest battles and its greatest impact, in the field of federal legislation. This qualification should be added to the above: minerals such as gold, silver, copper, lead and many others are extracted from lands which, because of their mineral potential, can be patented. More of this later.

Federal land policy may be divided into five periods, according to Clawson; these would be the periods of "acquisition", "disposal", "reservation", "custodial management", and "intensive management".

Acquisition Starting with the Declaration of Independence (1776) and stretching into the immediate post-Civil War period, the great preoccupation of the infant country was to secure control of the continent. With Canada established to the north and itself expanding towards the Pacific, the major energies were directed westward. The seaboard states, former colonies like Virginia, New York, North Carolina, relinquished their claims to the hinterland adjacent to the Great Lakes and, in the Northwest Ordinance of 1787, provided for the eventual admission of states to be established out of that territory. There was a strong tide of history in all this. British forts stood at strategic points on the Great Lakes, which were in themselves vital links in the extremely lucrative fur trade. The colonists, though successful on the seaboard, could not dislodge the British from the interior and the forts were turned over as part of the peace settlement. Other states were carved out of existing colonies, or out of lands
and ensuring satisfaction in meeting the requirements of these statutory bodies is a major undertaking in itself in addition to the need to get the project underway.

(d) Parkinson's Third Law

Finally and with some misgivings Parkinson's third law is quoted which states "Perfection of planned layout is achieved only by institutions on the point of collapse". Like the two earlier laws of Prof. Parkinson this one is somewhat cynical but it does also have some considerable truth in it. During a period of exciting discovery or progress such as we have now in Australia and New Zealand it is difficult to reach perfection in planning. This is not meant to condone any incompetence or lack of efficiency (the misgivings mentioned above) and as an engineer this would be inexcusable, but perfection for its own sake will achieve nothing and could in fact prevent a project getting underway by the mere complexity involved in trying to meet this perfection.

5. CONCLUSION

In the planning stages if it is not always possible to make detailed provision for environmental conditions and it is suggested that monetary provision as a percentage of capital and operating costs be made, so that when the time comes to make any adjustment in the later planning stages this could be done without upsetting the assessment of profitability. It is only natural that those responsible for the development project would be against doing more than had been provided for when it is no longer possible to alter financing arrangements. But a method such as the above where the monetary provision was made as a normal percentage is usually all that is necessary. With acceptance of this at the time of initiation of the project there need no longer be a source of frustration to those carrying out the project and the goodwill of the community is assured.

only obtainable with ministerial approval. The real change therefore is that the Mines Department under the Bill is charged with administering the procedural side of applications as well as acting as the final arbiter. The Bill does, however, provide for the preservation of the following concepts:

1. The right of the earlier applicant to priority in the grant of the application.
2. The right of objection to a magistrate on questions of law.
3. The right of objection to the Minister on questions other than of law which may be remitted to a magistrate for hearing before decision by the Minister if he sees fit to do so.

The most valid arguments against the concept of centralisation contained in the Bill are the following:

1. The prospector cannot find out what the position is in the area of interest without personally going to Wellington.
2. The centralisation concept heavily favours the overseas mining company or large mining company with an office in Wellington.
3. Apart from those able to apply direct in Wellington, their applications would normally be mailed.
4. The most important aspect of mining privileges under the new Bill is the need to describe the land affected accurately, bearing in mind the provision for registration under the Land Transfer Act of the mining privilege after it is granted. This contemplates searching titles which can only be done in the various district land registries and not in Wellington. Decentralisation into districts, similar to those of the District Land Registry offices is therefore desirable.
5. The Mines Department itself will rely on the service of the District Commissioners of Crown Lands to obtain the necessary searches and details of description of land applied for. It follows, therefore that insofar as the District Commissioners of Crown Land, who at present act as wardens under the present Act in respect of land that is outside a mining district, could at least from the point of view of clearly defining land descriptions, best deal with applications for mining privileges. This would give
reasonable decentralisation and enable applicants for privileges to ascertain the position of competing applications in the area of interest to them, without the need to travel to Wellington. Most District Commissioners of Crown Lands are situated in the largest town of the area over which they have jurisdiction and are readily accessible within a reasonable distance by car.

6. Insofar as the Commissioner of Crown Lands is required to report on a mining application, e.g. where Crown land is affected, that department is in itself interested in mining applications.

7. The Mines Department should not be charged with the probedural side of the making of applications, but should be concerned with prospecting and mining and free from the burden of processing applications throughout New Zealand. The Mines Department should not only actively support and promote the mining industry in New Zealand, but should appear to do so and should not, therefore, be in a position of having to adjudicate on applications for mining privileges.

8. A useful distinction might be introduced into this concept by allowing all prospecting applications to be dealt with by District Commissioners of Crown Lands, but all mining applications to be applied for direct to the Minister of Mines in Wellington. The former are applied for in the hope of finding something worthwhile and the prime necessity is to ensure that they do not overlap other claims and are accurately described, whereas the latter are made with knowledge of the existence of an ore body and involve the more technical problems of setting up an actual mining operation which would normally relate to an area which fell within a prospecting privilege already held by the applicant. For these reasons the skills and advice of the Mines Department would be more pertinent to a mining application.

MINING PRIVILEGES UNDER THE BILL.

Mining privileges were varied and many under the 1926 Act, some of them relating back to the particular era of gold mining. The new Bill streamlines these privileges and simplifies them in a desirable way. Under the new Bill, the following privileges are provided for:

should be the betterment of mankind. The big challenge has been to achieve the betterment everyone wants at the price everyone can afford - and this is where the real excitement of development lies.

The Hon. Charles Court, even though himself an accountant and closely associated with economists has stressed the engineering content of administration as being the most important.

Too often the stress on administration is placed first on "money" which is only one of the three "M's" of management, the other two "M's" of management, "men" and "materials" are equally important. Many projects fall down because these two "M's" are made subservient. A great deal of our social and industrial problems result from too great an emphasis on money and on exclusion of the environmental considerations associated with men and materials which of themselves are the real creators of wealth.

Multiplicity of Government Departments in New Zealand.

In a recent statement by New Zealand's Ombudsman Sir Guy Powles, who has, in a different capacity had close association with administration difficulties such as we have encountered in furthering new projects in New Zealand, has been most forthright in pointing out the difficulties of dealing with a multiplicity of Government Departments. Sir Guy speaking on complaints which he has received as Ombudsman said:-

"The reasons for most complaints were faults in administration and departmental delays. Delays, however, were a major problem. The time factor rises in geometric proportion to the number of departments involved. If two departments are involved it takes four times as long. If two departments and one board are involved it takes nine times as long, and I've had this happen."

When a major development project such as New Zealand Steel was initiated it had dealings with 14 Government Departments and 10 Local Bodies. Co-ordination
Project Manager's notice the various obligations he has to honour as regards land tenure and in the use of all natural resources.

Western Australia's North West Planning & Co-Ordinating Authority.

At this stage some comments on the administration of Development Projects in Western Australia would be appropriate and the Minister for Industrial Development in Western Australia, the Hon. Charles Court, on his recent visit to New Zealand made many comments on administration. Although these were largely directed to engineers (he was present at the New Zealand Institution of Engineers Conference) they do indicate the need for a co-ordinating Government Department of Development.

In Western Australia a study was made of alternative ways and means of co-ordinating and activating development — especially in the remote and underdeveloped North, and the North West Planning and Co-ordinating Authority was constituted to cope with this.

This Authority has no statutory authority whatsoever, and it is something created by Cabinet direction and therefore has the maximum flexibility. Simply stated, it is a means of bringing together the senior people in all the various Government departments so as to cut a lot of the red tape and try to make sure that everyone knows what is going on as well as achieving the maximum co-ordination.

It is also a valuable means of consultation and cooperation with the big private projects in the North. This Authority has earned a reputation for speed of decision, commonsense in their study of projects, and appreciation of the practical problems of industrial firms as well as a general capacity to see the broader picture that is inseparable from these huge projects.

They must have recognised that the project itself is not the goal, but a means to an end. The ideal end

1. Prospectors right.
   This is similar to the old miner's right and is a necessary requirement to prospect over unoccupied Crown land and to apply for an exclusive prospecting licence.

2. Prospecting Licences.
   These are simplified into two classes, those of 100 acres or less and those for more than 100 acres up to 10,000 acres. With the smaller area, the applicant has to peg before applying, whereas with the larger one he does not, and with the small area the applicant is entitled to prospect for all minerals, whereas with the larger only those that he specifies with a right to apply for additional minerals. These distinctions tend to preserve the old Mining Act distinctions and do not appear entirely necessary. There appears to be no reason why the larger area should not be for all minerals and thereby avoiding the necessity to include a large list of minerals on application, as the right granted under such a prospecting privilege is exclusive to prospect over the areas specified. Again, I suggest that there is no need to peg on the smaller area if an adequate description such as complete title references based on existing surveys and deposited plans can be included in the application and the area is not part of a title.

   If this were done, applicants for the smaller prospecting areas of 100 acres or less would therefore tend to try and follow existing titles and this would assist in the concept of registration as later provided in the Bill. The problems of pegging and then relating it to titles and exact location are not easy.

   Under Clause 59 of the Bill it is provided that prospecting licences for the larger areas are granted subject to various conditions as determined by the Minister. It is submitted that other than the general conditions set out in Clause 57 to carry out prospecting operations vigorously and continuously and to conform with certain other terms therein laid out, no specific conditions should be attached to prospecting licences as this will tend to stultify exploration programmes to the level of that laid down by the Minister's advisors, who may or may not be as knowledgeable or as competent as those employed or engaged in the actual exploration for the particular area concerned. This appears to be an undesirable, unnatural condition, contrary
to the flexibility that exists under the present Act. It also contemplates that the applicant will negotiate with the Department before an application is granted as to the programme of work intended, methods of prospecting and expenditure of money, which may suit the large corporate mining enterprise but not suit the smaller company of prospector.

TERM OF PROSPECTING LICENCES.

The Mining Act of 1926 provides that mineral prospecting warrants shall be for a term of five years with rights of renewal in priority to the holder; no limit is expressed as to the number of terms that a holder may renew for. Under Clause 55 of the Bill, prospecting licences are to be for a period of only three years with a right of renewal for only one further period of three years and no provision for any further extension. This is consistent with the tenor of the Bill in endeavouring to enforce more intense exploration by the holder of a privilege, but is unrealistic and in many ways again greatly favours the large corporate mining company as against the local prospector. It is submitted that the term of a prospecting licence should initially be for a period of five years with further rights of renewal of three years and the minister should have the power to grant more than one right of renewal; in fact, no limit should be set as to the number of renewals for the following reasons:

1. Some areas are far more difficult to prospect than others by reason of various factors such as access, establishment of camps, the employment of sufficient geologists; also certain areas are snow bound and are totally unworkable for six months of the year. This particularly applies to areas of Westland and the southern part of the South Island, which under the present Mining Act are protected and do not need to be worked for the winter months of the year. This practical aspect of prospecting has been entirely lost in the new Bill.

2. Prospecting can be done by knowledgeable people who are not necessarily qualified as geologists and they, as individuals, should not be unduly penalised if they are carrying out satisfactory work and reporting progress to the Mines Department.

3. After prospecting reveals an economic ore body which vast areas quite uninhabited and without water except where it can be obtained from artesian sources. Consequently the very large mining operations in the West can be undertaken without upsetting the natural environment. Nevertheless the Western Australian Government has seen fit to ensure that any areas into which mining companies move are not only left in good condition but there is an improvement in the environment to ensure that these areas can be permanently inhabited if this is at all possible. In New Zealand, however, we do not have great isolation, natural resources are much more abundant, and we should take even greater steps to ensure conservation and provide adequately for financing this at the time capital and operating costs are being determined for the project. After all, developments in New Zealand even in our most isolated parts are relatively easy of access because of the compact nature of the country and its equitable climate, and these conditions also lower a project's cost.

4. ADMINISTRATION OF DEVELOPMENTAL PROJECTS

Mining in New Zealand and Australia comes in the category of a major developmental project and in addition to the technical requirements mentioned above it involves any project organisation in many administrative complexities and the following are some of the aspects which have been of concern to administrators in both these countries.

(a) Computer Checking of Law Statutes.

Amongst the many aspects of administration which are complex, one problem in the initial stages which is important, and no doubt has been considered by the Legal Profession, is the need for a readily available system of checking statutes which impinge on mining legislation both those in the Mining Bill but more particularly those throughout the statutes of a number of Government Departments. It would seem that to avoid overlooking any requirement such a computer programme on statutes should be readily available to those embarking on large developmental projects and in particular those concerning mining, so that for any particular project the programme will bring to the
as underground operations were usually undertaken it is now far more likely that open cast works which generally disrupt the countryside more, will be undertaken. This is to be regretted in some respects but the low cost of earthmoving has also the advantage that more effort can be economically spent on restoring land so that it can be made as workable as it was previously, and in some cases improved upon even to the extent of creating new facilities such as race tracks, and lakes for wildlife and recreation.

(b) Environmental Conditions

The heaps of gravel which were the result of alluvial dredgings particularly in the South Island of New Zealand have been commented on by prominent visitors and when visiting New Zealand Steel's iron sands at Waikato North Head they have pleaded that New Zealand Steel should not do likewise. However, it has been possible at Waikato North Head due largely to the type of material we are using and the ease with which earthmoving equipment can be used, that an area which previously grew forest can be reinstated with the planting of marram grass and lupin to grow forest again and generally speaking on land which is much more easily traversable than previously.

(c) Afforestation

New Zealand with its evenly spread rain fall can benefit greatly from the fact that our open cast areas can be planted readily. Particularly in areas where, due to mining operations tailings are of a sandy nature and poor from the point of view of growing normal pasture, they can nevertheless be afforested readily. There is no reason why this should not be done and by using New Zealand's natural advantage in growing trees make any mining operation a two-fold economic proposition.

(d) Comparison of Western Australia and New Zealand.

Many of the aspects of mining and environmental conditions mentioned above do not occur in Australia and particularly Western Australia. Here there are justifies mining, it can take many years before mining operations can effectively commence, during which time feasibility studies and the design of construction and processing mill may need to be carried out. It can be fairly said, therefore, that six years from the time of the original grant of a prospecting licence to the ultimate proof of an economic ore body and then to the completion of the establishment of an actual mining operation ready to commence mining would prove to be inadequate. This period should be covered by prospecting licences and only towards the latter stages when the holder is about to commence mining should it need to apply for the necessary mining licence, under which a minimum royalty and ground rent is payable. Furthermore, it is often desirable for the holder of a mining licence to protect his mining area by continuing to hold prospecting rights over surrounding ground even though prospecting over this area is entirely subservient in importance to actual mining operations. In order to preserve the possibility of future ore reserves extending beyond the area in mind, it is important that there be provisions for the holder of a mining licence to hold reasonable surrounding ground under prospecting licences for as long as the mining licence is current. The importance of this aspect can not be over-emphasized, but no provision is made in the Bill.

The right of renewal provided for in Clause 55 is unduly onerous in that it provides that the application must be made not later than seven days after the date of expiry of the licence and include a statutory declaration of work done and money expended during the term of the expired licence. The preparation of such a declaration, the completion of it before a J.P., or a solicitor and the transmission of it to Wellington by post, make it a practical impossibility to comply with. It is submitted that no such statutory declaration is either necessary or warranted as regular reports have to be put in to the Department of progress of work during the term of licence, and if further information is necessary from the date of the last report, then it seems preferable that on making application for a renewal, the Minister or the Secretary can request such further specified information as they may reasonably require.
EXPLORATION LICENCES.

This is a new concept which is quite foreign to the provisions of the Mining Act 1926 and envisages prospecting rights over very large areas of land up to a maximum of 200 square miles for a term of two years. The interesting aspect of this concept of exploration licence is that it does not require the owner's consent and can be likened to a blanket over the top of all existing mining privileges.

The Bill, I submit, creates a conflict between prospecting licences and exploration licences. Prospect ing licences are stated under Clause 61 (2) to entitle the holder to the exclusive right to prospect over the area granted. The conflict arises in that an exploration licence incorporates the authority of Clause 44 by virtue of which the holder of an exploration licence is entitled to enter any land. This would imply that the holder of an exploration licence, granted without the consent of the owners, would be entitled to prospect an area already granted to another under a prospecting licence. My view is confirmed, I submit, by Clause 72 of the Bill, which reads as follows:

"Every exploration licence shall be deemed to be granted subject to the condition that the licencee will not interfere in any way with any mining operations or prospecting being carried out under the mining privilege, other than a prospector's right."

If the Bill is not altered to remove exploration licences or to limit their overriding authority, it could cut across the rights and security of the holders of prospecting licences.

Worse than this, the favoured few who are granted exploration licences, could invoke the provisions of Clause 38 of the Bill, under which any person may apply in the prescribed manner to the Minister for the taking of any land under Clause 39 of the Bill. On such application being made, the Minister is obliged to call for a report and if from that report it appears that the land contains any mineral in payable quantities, or is of geological interest, he may take the same under the Public Works Act. I submit that this leads to a situation where the large overseas mining company gains a considerable advantage in that only those companies could mount a programme of exploration in the short period of two years to do justice to areas as large as 200 square miles. The point that I would wish to

3. COMMENTS ON PRESENT DAY TRENDS.

(a) Earthmoving Operations.

Whereas in the past mining was generally considered as an underground operation by far the largest proportion of mining these days is by open pit methods, where the materials being considered are of a sand or alluvial nature. The principle factor in bringing about this change has been the ease with which the earthmoving can be carried out using large modern equipment and the relatively low costs of this work. It is most interesting to note on costs, that whereas the construction costs over the period of 1950-1970 in New Zealand have risen at the rate of between 4-5% per annum, that for earthmoving alone, particularly over the first 10-15 years of this period, has remained practically constant. The same applied in most other parts of the world and only in recent years has there been a slow increase. This change in the cost structure naturally has been taken advantage of by mining engineers and has meant that where
sources but to delineate the plant sites to be established on or near these and it is also usually necessary to delineate boundaries of the land for the purposes of the Mining Act where a mining licence is required and to meet any requirements where Land Transfer titles are involved.

(d) Layout of Plant etc.

With completion of the above surveys and also having determined sufficient mineral resources to justify economic study, the next stage usually involves site surveys on plant buildings etc. This work is a normal function of any preliminary engineering design and is necessary to produce a reasonably accurate estimate of costs. Again the work involved at this stage should not cause any inconvenience and would generally be carried out during the term of either the prospecting licence or mining lease. However, usually the formalities for the latter which take a considerable time cannot reach finality before the feasibility of the project is established. In determining the layout of the plant there are various approaches which need to be made to local bodies and Government Departments to ensure that any such plant will meet the requirements of these Government and Local Bodies. The various items which come to mind are, in addition to those covered in the Mining Act, those associated with usage of water, polluting areas adjacent to waterways, also such matters as safeguarding areas which are of interest to the National Historic Places Trust and meeting requirements of soil conservation or afforestation. Whilst at this stage all of these matters may not have reached finality the requirements must at least be known so that these can be assessed in making financial studies on capital and operating costs.

(e) Estimate of Capital Cost.

This follows on from the preliminary design of the layout of the plant and accuracy will depend very largely on the accuracy of the designs and the amount of time which has been possible to spend on these. Normally because finance has not been arranged at this stage, the amount of money available for preliminary designs to bring out is whether or not New Zealanders wish the mining exploration scene in New Zealand to be totally taken over by large overseas companies, or whether they wish to preserve a reasonable opportunity of participation in exploration. I submit that, in view of the present considerable interest in exploration existing in New Zealand, that there is no justification to extend the maximum area to be prospected beyond 10,000 acres bearing in mind that any applicant can apply for as many prospecting licences as he so wishes.

Exploration and mining are risky, but considerable exploration can be done within the financial limits of New Zealand risk capital, as the rewards for success can be great. The opportunity should not be lost by New Zealanders through legislative action to participate effectively in exploration, in the hope of gaining those rewards, so that they can be later converted into a reasonable share in the equity of a large, viable mining operation. It appears to me clear that if a large scale economical ore body of any mineral is found in New Zealand, it is almost certain that the capital required to set up the mining operations that would follow would not be able to be found entirely in New Zealand and that, therefore, overseas capital will necessarily have to be brought into New Zealand at that stage. The exploration licence as set out in the Bill at present so favours overseas interest that I fear that, through these licences, New Zealanders will rapidly find themselves without any worthwhile stake in the future of mineral mining in New Zealand.

MINING LICENCES.

In this connection the Bill provides for one type of licence for mining activities, doing away with the multifarious types under the 1926 Act. Under Clause 90 of the Bill, returns are to be made by the licensees under mining licences before the 31st January in each and every year in respect of the year ending 31st December. Bearing in mind the New Zealand practise of Christmas holidays, it is suggested that the timing of these requirements be varied to coincide with the financial year commonly adopted, viz, the 31st March, so that reports might be provided by the 30th April as a more practical date. In other aspects, the same lack of appreciation is shown elsewhere in the Act, where dates are specified which are substantially impractic-
able and a review of the times within which certain things must be done and the dates upon which they must be made could be usefully done. The Bill incorporates all the necessary ancillary licences necessary in establishing a mining operation and improves certain aspects, particularly relating to the need to acquire easements to access, and otherwise.

There was one grave omission however which has been adverted to earlier and that is the complete omission to include in the Mining Bill provisions to water rights. There is presented to parliament a Water and Soil Conservation Amendment Bill which is intended to provide the procedure for the grant of these types of rights. However, this Bill has various provisions which could cripple an otherwise viable mining proposition. It is important to appreciate that water is an essential ingredient to the processing of minerals in connection with their extraction; the party charged with the granting of privileges relating to the use-usage of water for mining purposes must in the interests of mining, have some reasonable understanding and appreciation of this essential need. The body charged with the granting of the water rights under the Water and Soil Conservation Act 1967 is an ad hoc body which is basically charged with the duty of ensuring the purity and non-contamination of streams and other waterways. The Water and Soil Conservation Amendment Bill creates the situation where the Board to determine the grant or otherwise of water rights for mining purposes will be in a postition of being a judge of its own cause with no right of appeal to an impartial authority. As an instance of the attack against mining and its essential requirement for water, it is pertinent to point out that under S126 of the Mining Act 1926, it is provided:

"It shall not be lawful to pollute the water in any water race or in any water course of which such race is connected or by which it is fed, if such race is held by local authority for purposes of supplying water to the inhabitants of any city, town, or township."

This is entirely reasonable, and mining operations must respect the interests of others in the community; however, in the Water and Soil Conservation Amendment Bill, the following is provided:

Section 9 (a). It shall not be lawful to allow the water

formidable task for the mining industry but such a procedure cannot be avoided and the industry has to accept a responsibility for the protection of flora, fauna and unique features. Requirements in this respect must be incorporated in any plan for developing the project.

2. ENGINEERING DESIGN.

In order to present the engineer's problems relative to meeting the requirements of the Bill, and so that these can be appreciated, it has been thought desirable to devote some time to setting out and explaining the stages in engineering design. These, as far as possible, are listed in chronological order:

(a) Geological and Geophysical Exploration

Under a Prospecting Licence this is usually the first operation as it provides the greatest amount of mining information at the least cost. In such an exploration there would be a geological and/or geophysical survey which could include such modern methods as magnetometer and gravimeter surveys where appropriate.

(b) Drilling and Sub-Surface Surveys

With the modern methods of geophysical exploration whereby the measurement of vibrations produced in shallow drill holes by detonating charges produce a reasonably accurate idea of the sub-surface strata there is still, however, a need for drilling. This will inevitably start at a very early stage in the prospecting of a mining area. Such drilling, particularly in alluvial strata takes a great deal of time and it is usually essential for this work to be carried out before any major commitment is made. However, it can effect the operations of the land owners and disturb the countryside and the clauses on prospecting in the Mining Bill provide for compensation to be paid for all damage done and for the rehabilitation and restoration of the area as far as practicable.

(c) Land Surveys.

Most projects require a land survey which is necessary not only for locating of the project's mineral re-
ENGINEERING ASPECTS OF MINING DEVELOPMENTS

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SYNOPSIS

This paper, as part of the Legal Research Foundation's Symposium, is essentially concerned with the engineering of a mining project and its effect on the community. The paper also highlights the reasons for changes in mining techniques and compares mining operations in Western Australia and those in New Zealand. Finally, on the carrying out of large developmental projects such as are at present being undertaken in mining, a plea has been made for simplification in presenting and meeting all requirements in order that such projects are not subjected to too heavy an administrative load, and because of this become a less profitable enterprise or even fail to get underway.

1. MINING BILL.

The Mining Bill which was introduced by the New Zealand Parliament in 1969 is essentially a legal document and is not an Engineer's place to pass any critical comment on it but it does present engineering with some problems which must be taken into account in assessing the feasibility of a project.

The Mining Bill is under consideration by a Select Committee of the House and it will no doubt contain changes when it is reported back.

However because of the many classes of land now under the general administration of various Ministers e.g. National Parks, Scenic reserves, State Forests, Wildlife sanctuaries etc. consent to prospecting and mining have to be obtained from the appropriate Minister in Charge additional to any grant by the Minister of Mines. It may also be necessary to obtain special legislation or a specified departure from any Town Planning Scheme as was the case when New Zealand Steel was established in the Franklin County.

Co-ordination of these requirements can become a
seven days of the forfeiture order.

There appears no reason why this provision, which has, I believe, proved most useful in the past, should not be incorporated in the new Bill. Prospecting today is already beginning to encompass far greater areas than were ever prospected in the years gone by, and it would be an impossible task for the Mines Department to carry out adequate inspections to ensure that all privilege holders were carrying out reasonable work. It follows, therefore, that the intention of the Bill is to rely on written reports submitted by the holders themselves, as to the work they have done and to rely on the accuracy and authenticity of such reports. This is frankly unrealistic and the forfeiture provisions contained in the 1926 Act should be incorporated in the new Bill.

THE TRANSFER OR MORTGAGE OF A MINING PRIVILEGE.

Clause 145 of the Mining Bill provides that no mining privilege granted under this Act shall be transferred, leased, mortgaged, pledged or otherwise dealt with without the written consent of the Minister. Is this desirable? In considering this question, it is important to realize that many important mineral finds are found by individual prospectors, some of them prospecting part time as a hobby and unable, financially and otherwise, to adequately develop their find; as a result, in order to capitalize upon their finds and gain the reward that they so richly deserve, they can only sell their mining privilege to someone more able to carry out the further work necessary. At a further stage it is conceivable that a reasonably large company could carry out exploration to a point where it has established a promising anomaly but is unable to financially carry out an expensive diamond drilling programme and feasibility study, and its only alternative is to sell an interest in its mining privilege or to sell it outright. This type of transaction is often known as a farm-out deal and is common practice throughout the world. Unless the freedom to negotiate mining privileges is preserved, the whole basis of prospecting and mineral exploration is going to be undermined, particularly if the Minister, through his departmental officers, endeavours to attack the profit motive which is so essential in the mining industry. It

mining on the 'seabed' as distinct from the 'continental shelf'. The Continental Shelf Act only applies to the continental shelf as defined by international law. The Mining Bill, like the present Mining Act, does not apply to the continental shelf. It would not, therefore cover the seabed beyond the continental shelf, if it were constituted as an international trusteeship zone. Gold and silver of the seabed would not belong to the Crown in any case as section 5 of the Mining Bill would only apply within the territorial limits of New Zealand.

Nearly all existing Offshore Petroleum Concessions would be affected by the Nixon proposal. The Shell, B.P., Todd Licence No 682-A covers a large area deeper than 200 metres in proximity to the Maui discoveries. So does Tasman Licence No. 693-A. Licence No 800, taken out by Howe Offshore, adjoining the Maui area, covering 29,800 square miles, is entirely below the 200 metre mark. It may be recalled that the American Petroleum Institute predicts production at a depth of 1,500 feet in three to five years, and 6,000 feet within ten years.
different. We may need as wide a continental shelf, in the legal sense, as possible.

Our Continental Shelf Act, 1964, closely follows the Convention, and is therefore subject to many of the criticisms levelled at that treaty. Under section 3 of the Act of all rights exercisable by New Zealand with respect to the continental shelf and its natural resources for exploration and exploitation are vested in the Crown. No such rights are known to municipal law, and we must therefore turn to international law for a definition. In 1964 New Zealand had not yet ratified the Convention. The only rights then exercisable by the Crown were those under customary international law. The precise effect of the subsequent ratification of the Convention is not clear.

Section 5 (6) of the Continental Shelf Act provides that the Mining Act, 1926 and the Coal Mines Act, 1926 shall not apply to minerals in the seabed or subsoil of the continental shelf. There is one exception. The Minister of Mines may require that safety regulations or provisions of the Mining and Coal Mines Acts shall apply to continental shelf operations. It is already clear that there are vast mineral resources lying on the seabed. Manganese nodules are an example. However the interpretation section apparently refers to 'natural resources' not only in the seabed and subsoil, but also on it. The reference to living organisms as constituting part of the 'natural resources' on the seabed would imply that mineral resources on the seabed are also covered by the definition. However it does not appear that any provision has been made for mining, or dredging of such minerals. It is suggested that every reference to minerals in the Continental Shelf Act be amended to clarify this important question. A suggested amendment would read:

"2.

"Natural resources" means -

(a) The mineral and other natural non-living resources of, on, or under the seabed and subsoil, . . . ."

followed by similar amendments throughout the act.

Should the Nixon proposals be accepted, New Zealand's future seabed mineral prospects be would be seriously affected. No provision exists in New Zealand law for is also relevant to point out that the Bill imposes more onerous conditions and greater governmental control, in the manner and financing of prospecting operations; any sale or transfer of an interest in a mining privilege does not in any way detract from the obligations cast upon the holder of a privilege to carry out adequate work on the area.

Even more unreasonable is the provision of Clause 137 (4), which expressly provides that no person shall transfer, lease, mortgage, encumber, or otherwise dispose of or deal with any existing mining privilege. This pertains to the transition period after the passing of the Bill as law and totally prohibits the dealing with or transfer otherwise of a mining privilege granted under the 1926 Act after the new Bill becomes law. It is not even possible to deal with such a mining privilege with the consent of the Minister. This provision is harsh and unreasonable and contrary to the development and best interests of the mining industry.

RECORDING OF MINING PRIVILEGES.

The new Bill, as already stated, contemplates registration of mining privileges in the District Land Registries against the titles affected and for the reasons previously indicated, arising out of the decision of Miller. v The Minister of Mines, (1963) NZLR 560, these provisions are to be commended from the point of view of giving notice to the purchasers of land affected by mining privileges.

WORKING REGULATION AND INSPECTION OF MINES.

The provisions in the Bill very largely follow the provisions in the 1926 Act and provide for the supply of information and reports to the Mines Department and also cover qualifications of those working in mines and the granting of the necessary certificates of competence and other technical requirements.

SUMMARY.

The new Mining Bill is to be commended as a recognition of the growing awareness in Government circles of the re-
awakening of mining as an industry, which can and, I am sure will, prove of great economic significance to New Zealand as a whole. Insofar, however, as the 1926 Mining Act represents the accumulation of a wealth of legislative experience from past mining days, care should be taken not to reject it out of hand without a careful analysis into the reasons why the various provisions therein contained have evolved.

Mining is a risky and hazardous industry and makes immense demands for capital expenditure, but in those instances where exploration is successful, the rewards are great. In New Zealand, however, the industry is still very much in its infancy and requires encouragement at all levels of activity and not just to the large heavily capitalized corporate body. It is abundantly clear that large scale mining operations in New Zealand will demand considerable overseas capital and this will flow into New Zealand inevitably as economically viable mining prospects are proved. The area in which encouragement is most needed is at the early prospecting stages to those individuals and local companies, prepared to spend their capital on the risky business of exploration with the certain knowledge that if they do find an ore body of economic mineral significance, they must sell out their rights or take in overseas capital to develop a mining operation worthy of the size of their find. Any departmental restriction on this concept will stultify prospecting in New Zealand by New Zealanders, quicker than anything else and leave the field entirely open to overseas companies to take over our mineral mining industry without any reasonable opportunity for New Zealanders to participate in the rewards that will inevitably result. While the new Bill has much to commend it, it is, I submit, aligned too much toward bureaucratic centralisation and, at the same time, favours the large overseas mining corporations to the disadvantage of local interests. On the basis of this concept, therefore, I submit that the following aspects of the Bill might be usefully re-examined with a view to further amendment before the Bill becomes law:

1. That all applications for prospecting licences be made to the District Commissioners of Crown Lands, who may grant them without the need for ministerial consent, but after due regard has been given to reports or submissions from the Mines and other government departments, where applicable.

The reaction of the United States to the General Assembly resolutions and the Canadian Act was in the form of a proposal put forward by President Nixon in May. The proposal, put forward for discussion at the United Nations Seabed Committee in August attempts to solve the main seabed problem. Natural resources below 200 metres would be the 'common heritage of mankind'. In other words the continental shelf boundary would be 200 metres. An international regime would be established by treaty for exploitation beyond this depth, the royalties to be used for international community purposes, particularly assistance to developing countries. Until the signature of the treaty, coastal nations would act as trustees for the international community purposes, particularly assistance to developing countries. A further treaty would establish a 12 mile limit for territorial waters and provide for free transit in international straits.

Before considering briefly the impact of these developments on New Zealand, perhaps it is well to recall the words of the U.S. Secretary of the Interior in 1945 - 'the Continental Shelf cost only the forethought that was required to assert our sovereignty over it.' New Zealand is a small country- two islands in a vast ocean. The interest of large powers, with great navies may lie in the freedom of the seas and seabed. Such states have the resources to exploit minerals far from their own shores. New Zealand may well consider that her own interests are quite
National Jurisdiction to investigate all aspects of the question. It will be noted from the title of the Committee that the General Assembly assumed that there was a sea-bed area beyond national jurisdiction. In other words there is some limit to the legal concept of the continental shelf. To date the Committee has suggested the establishment of an international regime to exploit the ocean bed for the benefit of all nations, and the delimitation of the continental shelf boundary. The activities of the Committee have met with determined opposition from the petroleum industry, for obvious reasons. The debate has been acute and, at times, bitter. One oil executive referred to the United Nations proponents of a strong international regime as 'bleeding hearts' who would use the royalties to 'buy javelins for the people of Ghana.' It would appear that, at least in this field, international law and the United Nations are very powerful forces indeed.

The matter was brought to a head by two recent events. In December 1969 the General Assembly adopted four resolutions on the sea-bed, two of which are of particular interest. Resolution 2574 A requested the Secretary-General to canvass the views of members of the desirability of convening a further conference on the use of the sea to discuss all outstanding problems, including the seabed question. 12 members voted against and 30 abstained. Resolution 2574 D declared that, pending the establishment of an international regime no one should exploit the resources of the ocean floor and sea-bed beyond the limits of national jurisdiction. No claim to resources in that area would be recognised. 28 states voted against this resolution, and 28 abstained. Those voting against included New Zealand, the U.S.S.R., U.S.A., United Kingdom. Of the 62 voting in favour of the resolution only two were developed countries. Among the 62 were Bolivia, Burundi, the Central African Republic, Chad, Lesotho, Mali, Nepal, Niger, Paraguay, Rwanda, Uganda and Zambia - all land-locked countries. This resolution did not define the area beyond national jurisdiction. Its effect would be to prevent any further exploitation or indeed exploration of the seabed. No commercial enterprise could consider risking large amounts of capital without any guarantee of tenure.

The second catalyst was the passage by the Canadian