COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS

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ECONOMIC COMMISSION FOR ASIA AND THE FAR EAST
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TAXATION INCENTIVES IN THE DEVELOPMENT OF MINERAL RESOURCES

by

L.C. Noakes

ECONOMIC COMMISSION FOR ASIA AND THE FAR EAST
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By L. C. Noakes

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TAXATION INCENTIVES IN THE DEVELOPMENT OF MINERAL RESOURCES

By L. C. Noakes*

Methods by which Governments seek to develop natural resources can range from one extreme in which the National Government does everything itself, to the other extreme in which all phases of mineral search and exploitation are carried out by private enterprise.

In practice, at least in the non-Communist world, the methods adopted lie between these extremes, although the role and importance of private enterprise in the many national systems change with both time and country.

In any method of national development, beyond the extreme of exclusive Government involvement, the end results as well as the rate of development will be influenced by the economic climate which Government sets for private endeavour, be it indigenous or foreign in source. National interests need to be safeguarded in regard to conservation and optimum use of mineral resources, foreign exchange, price levels, foreign equity etc.; but on the other hand, private enterprise operates on a profit motive, so that Governments need to offer some practical economic encouragement if development by the private sector is to be worthwhile. Thus arises the problem of striking a balance between national and private interest appropriate to the stage of a country's development - a problem common to most non-Communist countries, including most countries of the E.C.A.F.E. region.

There are many ways in which private enterprise can be encouraged, ranging from the provision of fundamental scientific data to financial subsidies and taxation incentives; taxation incentives have been widely used as a form of encouragement, and these notes attempt a summary of the methods used which could be of interest to countries of this region.

Before listing the taxation fields in which incentives have been applied, it might be emphasised that the pattern of taxation incentives varies considerably between countries of the non-Communist world. An attempt at comparisons in search of an ideal and ready-made system would be fruitless because each national system, although by no means necessarily ideal for that country, largely reflects political philosophies, stages of development and peculiarities and problems in the nation's known mineral resources. It follows that each country needs to build into its own taxation system the types of incentive appropriate to the national economy and to

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* The writer gratefully acknowledges the assistance of Sir Harold Raggatt and of colleagues in the Australian Bureau of Mineral Resources.

the stage of development of its mineral industry.

By way of example, taxation in the United Kingdom provides little incentive to mining because Governments have continued to regard prospects for additional mineral deposits in U.K. as poor; on the other hand, the taxation systems of the Irish Republic, Canada and Australia feature fairly strong incentives which are regarded by most authorities as having been effective to some degree in encouraging exploration and development. However, it might be noted, as an example of the influence of the stage of development, that in Australia the burgeoning of the mining industry in recent years has inevitably induced an attempt by some sections of Government to review and erode some taxation incentives which were more readily accepted by them in the past.

In considering taxation incentives as encouragement to private enterprise in countries of the E.C.A.F.E. region, it might be useful to explore the following fields:-

Prospecting and Development

Some taxation incentives have special relevance to prospecting and development from which no taxable income accrues; it should be noted however, that other taxation incentives applicable to the production stage may well constitute greater encouragement to prospecting by providing attractive conditions for the exploitation of mineral discoveries.

Recoupment of Exploration Expenditure

A common provision allows expenditure on exploration to be recouped after the mining project has been developed to the stage of providing taxable income. In the Australian system such expenditure is normally deducted from taxable income in the year it is incurred, but where an exploration company has no income, or its income from mining is less than its exploration expenditure, the resulting deficit may be deducted from taxable income at any time in the following seven years, but no later; however, the deductibility of capital and exploration funds is governed in part by provisions mentioned below under Tax Exemptions for Investments.

Some systems limit the amount of annual allowable deductions for exploration, but such a policy seems short-sighted because companies would tend to keep expenditure in any one year at or below this limit.

Tax Exemptions for Investments in Exploration and Mining

Provisions for investment in mining to be wholly or partly deductible from taxable income are used to encourage nationals, or foreigners subject to local taxes, to support companies engaged in exploration and/or mining. In Australia,

one third of called money (though not money paid on application for shares) has long been deductible from the taxable income of shareholders of mining and exploration companies, without affecting the right of those companies also to recoup the money when expended. In 1968 the provision was changed to apply only to money raised for the purpose of exploration. In recent years two other provisions have enabled shareholders of mining and oil exploration companies to have all money raised for exploration treated as an allowable deduction from the shareholder's income, but in this case none of the money, when expended, is an allowable deduction from the company's income. The latter provisions have been extensively used by oil exploration companies but less so by mineral exploration companies, largely because of the element of double deduction (once by the company and one third by the shareholder) available to mining and mineral exploration companies.

Mining

Major incentives for the development of mineral resources relate to production; they encourage not only the actual winning of minerals but, indirectly, provide incentive for the search for new deposits.

Initial Tax Holiday for New Mines

The opening up of new mining enterprises, particularly of major projects, requires major capital outlay and acceptance of risk, from the act of faith which initiates a diamond drilling campaign to the securing of sufficient finances to erect mining and milling plant and the housing and transport facilities required.

In the first few years, operation of a new mining project is usually difficult because of low cash flow, high interest and loan repayment charges and the teething troubles which normally occur in newly commissioned plant.

The concept of an initial tax holiday has been introduced by some countries to assist new enterprises in early proving areas. The best examples of this practice come from Canada and the Republic of Ireland. Canada allows a 100% tax exemption for three years; Ireland allows a tax exemption of 100% for four years, plus 50% exemption for an additional four years. In both countries, these provisions have been responsible for significant increases in the rate of production of new mining projects.

When this provision was first introduced in Canada in 1936, critics expected difficulties in defining "new mines" for the purpose of the Act and suggested that companies might be tempted to go for quick profits by selective mining during the tax holiday, to the detriment of long-term development. However, it is a matter of history that neither objection proved valid; the Treasury and the Department of

of Mines had no difficulty in policing an agreed definition of "new mines", and no mining company of any consequence was so short-sighted as to act irresponsibly.

Deduction of Capital Expenditure

It is common practice to allow capital expenditure on necessary plant, housing and equipment on a mining property to be deductibel against income.

Under the Australian system, deductions (or amortization) can be applied over a number of years by a formula which arrives at an annual amount deductible by dividing the residual capital expenditure by the number of years of estimated life in the mine at the end of the year of income, or by 25, whichever is the less. However, in any one year, companies can elect that expenditure on specific units of plant or on specific development contracted that year can constitute allowable capital expenditure deductible for the year.

Income Taxation Acts need to specify in fair detail those mining operations for which capital expenditure is deductible from income. The Australian Act referred to expenditure on the "development of the mining property"; deduction was allowable on plant etc. erected on the mining leases but not on associated works or development such as railway lines, townships or port facilities erected entirely for the mining project, but not on the mining leases. Recent challenge in the Australian High Court has resulted in a ruling that the "development of the mining property" does include "the provision of a railway, road, jetty, or anything that by itself, or with other things, reaches out from the property so as to give its product the commercial significance it could not otherwise have".

An appeal from the Commonwealth Government against this ruling, and some eventual review of the current Act, are expected, but it seems very reasonable that, as an incentive to the development of major enterprises in isolated localities, deductions of capital expenditure should cover installations and facilities necessary to bring the mineral product to a logical point of sale.

Depletion Allowance

A depletion allowance for mining ventures is commonly provided in tax systems in recognition of the fact that mineral bodies are wasting assets; mining is a unique industry in that, in the process of earning income, it destroys or consumes the ore reserves which are its main asset. The depletion allowance recognises this and allows the company to retain a proportion of income without tax to replace the capital assets mined each year, or to provide funds for the search for additional reserves to replace those mined.

Depletion allowances fall into two classes :-

(i) Those which allow a flat rate for specified minerals, as in Australia, where the rate allowed is 20% (although not called "depletion allowance") or Canada where it is $33\frac{1}{3}\%$.

(ii) Those which allow a different rate of depletion for groups of minerals usually, as in the United States, on a descending scale, based very roughly on increasing abundance in the countries concerned or on ease of winning i.e. in the U.S.A., the allowance for base metals is 40% and for quarried metals, 5%. Zambia uses a graduated method which appears to be based on this principal - gold and silver 10%, coal 5%, all others (except copper) $2\frac{1}{2}\%$ - but it is not as generous as that used in the United States, Canada or Australia.

The deductions allowable in Australia are interesting in that they provide an example of how deductions are tailored to suit the domestic pattern of mineral resources. The allowable deduction of 20% of income was first brought in during World War II as an incentive for increased production of a number of strategic minerals which were in short supply. These deductions continued after the War, and the list of specific minerals was extended from time to time until in recent years these deductions have become a prominent part of the taxation system; although the taxation authorities insist that these are not depletion allowances, they serve the same purpose for the minerals specified. The current list includes 41 mineral commodities including bauxite, beach sand minerals, copper, tin and tungsten, but significantly excluding lead, zinc, silver, iron ore and coal - the traditional and firmly established sectors of the Australian mining industry; lead and zinc ores were particularly excluded to avoid providing unnecessary assistance to the rich lead and zinc mines at Broken Hill - a situation which carries disadvantages for any new producers of lead and zinc from lower grade deposits.

Tax-free Minerals

When special assistance or incentives are required, the mining of specific minerals may be listed as completely tax-free. Income derived from mining principally for gold in Australia is exempt from tax. The exemption also applies to income derived from mining principally for gold and copper, if the value of the gold obtained is not less than 40% of the value of total output. Income derived from uranium mining or from the treatment of uranium ore in Australia was also exempt from tax until this year.

The reasons for tax exemption were different in these cases. Gold mining has continued to be free of tax in recognition of increasing hardship caused by

a fixed gold price. Uranium mining was tax-free to encourage prospecting and production during the uranium boom in the 1950's; recent legislation recognises less urgency and transfers uranium from the tax-free bracket to the 20% deduction list mentioned above.

Royalties

Although royalties should be regarded more as part of the price paid for a mining lease, rather than a tax, some reference to royalties is appropriate because they need to be considered together with the tax structure in assessing the probable level of profitability of mining.

Most mining codes specify rates of royalty, commonly differing between minerals or groups of minerals; both the rates and the bases of assessment differ widely between the mining codes of countries and of Australian States, which should be consulted for details.

Of importance to these notes is the current practice, in Australia for example, by which Governments by-pass statutory regulations in dealing with new and major mining projects by negotiating special agreements with individual companies which are officially ratified by Act of Parliament. This provides a degree of flexibility so that items such as royalty rates can be tailored to suit the situation.

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RECENT DEVELOPMENTS IN THE AUSTRALIAN MINING INDUSTRY

by

Z. Kalix

ECONOMIC COMMISSION FOR ASIA AND THE FAR EAST
SUB-COMMITTEE ON MINERAL RESOURCES DEVELOPMENT
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Recent Developments in the Australian Mining Industry

By Z. Kalix

There is perhaps no country where mineral resources development has made more spectacular gains during the present decade than in Australia, where prospects for economic expansion have been transformed by the exploitation of vast deposits of iron ore, bauxite and coal, and the conclusion of substantial long-term export contracts with Japan. Impressive progress is also being made by the beach sands industry, which is the world's largest source of both rutile and zircon besides being an increasingly important exporter of ilmenite.

Interest in tin-bearing ores, which have long been known to exist in reasonable quantities has been stimulated by the high price of the metal and the tense international situation in the Far East. It is expected that in the near future Australia will become a net exporter of tin.

Other outstanding achievements include the discovery of rich nickel sulphides and the rapid progress to develop the mine and concentrating plant at Kambalda, near Kalgoorlie, W.A.; the discovery and expanded production capacity of the large manganese orebody on Groote Eylandt, N.T.; the deposits of phosphate rock discovered at Duchess in Queensland in 1966. These deposits are being evaluated and drilling has confirmed large tonnages of medium and low-grade material. A comprehensive study of the project and further drilling are in progress.

A significant development in the mineral industry during 1967 was the introduction by the Commonwealth and six State governments of uniform and legislation covering off-shore petroleum exploration and exploitation. The agreement provides for a common code to apply uniformly throughout off-shore areas, including both territorial waters and the outer continental shelf.

Drillers off the coast of Victoria have already struck oil and gas in Bass Strait. A pipeline is being built to deliver gas to Melbourne and negotiations are in progress for gas to be supplied to other areas of the State and to New South Wales. It was announced by the partnership which has struck oil in Bass Strait, that it will be able to supply one-third of Australia's crude oil in 1970. (In 1966, Australia imported more than 3,600 million gallons of crude oil).

Petroleum explorers have had their success on land. Two relatively small oil fields in Queensland and one at Barrow Island W.A. are supplying about five per cent of required refinery feedstock.

Natural gas has been found in large quantities, principally in Queensland, South Australia, Western Australia and Northern Territory.

The latest mining boom in Australia is seen in perspective when production in 1967 is compared with that of 1952, the first year in which an annual mining census was taken. The total value of mineral production in 1967 was provisionally estimated at $709 million which represents a two and a half-fold increase over production in 1952. In the last ten years to 1965, the value of output of the mineral industry has increased steadily at the rate of more than 5 per cent per annum. In 1966 the value of production was 15 per cent greater than in 1965 and in 1967 it was over 13 per cent greater than in 1966. Mineral exports have increased nearly three fold since 1952 and were valued at $435 million in 1967. Mineral imports, on the other hand, increased only about 70 per cent during those years and were recorded at $307 million in 1967. Even allowing for price rises during the period these figures represent very large increases in mineral production as well as in exports.

Table 1. outlines the growth in the value of mineral production over the last sixteen years. Table 2. sets out the projected value of mineral exports for the next five years; the estimates may be regarded as conservative because the values for many commodities in Table 2. are based on signed contracts.

Table 1. Australian Mineral Production

Ex-mine value of output ($'000,000)

Minerals	1952	1955	1960	1965	1967
Metallic	132.5	169.1	167.6	265.5	387.0
Fuel	113.3	116.2	124.1	167.5	202.5
Non-metallic	10.1	14.7	21.8	29.3	30.9
Construction materials	17.8	29.7	49.0	80.1	88.8
Total	273.7	329.7	262.5	542.4	709.2

Table 2. Projection of Mineral Exports

($'000,000)

(as at 31st May, 1968)

	1968-69	1969-70	1970-71	1971-72	1972-73
Aluminium (a)	65.0	101.0	125.0	132.0	139.0
Copper (b)	43.5	63.0	75.5	81.0	79.0
Iron Ore (c)	137.4	198.3	221.2	232.2	230.8
Lead (d)	81.5	85.0	87.5	91.0	91.0
Mineral Sands (f)	38.5	41.5	56.5	57.5	63.0
Silver (g)	11.0	12.0	13.0	14.0	14.0
Tin (h)	5.5	6.5	5.5	5.0	5.0
Tungsten	4.0	4.0	4.0	4.0	4.0
Zinc (k)	50.0	53.5	53.5	53.5	53.5
Manganese (l)	10.5	12.0	13.0	13.0	13.0
Salt	3.5	5.0	9.5	9.0	14.5
Other rocks, ores, metals etc.	33.0	38.0	52.0	52.0	52.0
Coal (m)	128.0	133.0	143.0	144.0	168.0
Mineral Oil	30.0	30.0	30.0	30.0	30.0
TOTAL	641.4	782.8	889.2	918.7	956.8

Explanatory Notes

(a) Includes bauxite, alumina and primary refined metal.

(b) Includes concentrates, blister, primary refined metal, matte and precipitate.

(c) Projected value refers to signed contracts only.

(d) Includes concentrates, bullion, primary refined metal and slag.

(f) Includes rutile zircon and ilmenite, and also synthetic rutile produced from ilmenite.

(g) The Treasury discontinued purchase of domestic silver at the close of 1966, thus making available about 5 million oz. per annum for export. Expanded mine production of lead could increase this availability to about 7 million oz. per annum.

(h) Includes tin concentrates only.

(l) Includes ore only.

(m) Projected value refers to signed contracts only.

Developments in iron ore, bauxite, alumina, aluminium, coal and nickel have been so spectacular in recent times that they warrant mention in some detail.

Only a few years ago iron ore deposits were believed sufficient only to sustain the local steel industry for some 50 years. Indeed, exports of iron ore were prohibited in July, 1938 after the Commonwealth Geological Adviser had reported that unless resources were conserved, Australia would become an importer of iron ore in less than a generation.

In 1959, the Bureau of Mineral Resources, part of the Department of National Development, completed a comprehensive review of iron ore reserves and found that demonstrated reserves were 369 million tons. The Commonwealth Government came to the conclusion that with greater encouragement of exploration for iron ore, discovery of additional reserves could be expected. As an incentive to explorers it was decided in 1960 to permit exports of a portion of newly discovered deposits.

Soon afterwards a series of discoveries in the Pilbara district, east of Onslow, Western Australia, focussed attention on an area hardly touched by modern large-scale mineral prospecting. In the space of little more than a year important deposits were reported from such localities as Deepdale, Robe River, Mt. Tom Price and Mt. Newman, all situated in the north-western part of the State.

These deposits have since been subjected to vigorous testing and extremely large tonnages of high-grade ore have been demonstrated. Though the full extent is not yet known, estimates have placed the reserves at around 15,000 million tons. The proving of new reserves exceeded the most optimistic expectations and led to a situation in which the development of an export trade in iron ore has become the paramount consideration and one which will play an increasing part in the national balance of payments. The first small-scale export began in March 1966 from Geraldton; and after extraordinarily vigorous construction schedules, large scale exports began from enlarged ports at Dampier and Port Hedland in the later part of 1966. Considerable emphasis has been placed on mineral processing where practicable; a 2 million ton-per-year pelletising plant went into production at Dampier in April, 1968, where it is contemplated that an iron and steel industry will be established in time. Agglomeratisation processes are also under consideration.

In the Savage River district of north-western Tasmania, work has recently been completed on a project to mine low grade iron ore, crush it and mix it into a slurry and pump this through a pipeline to a new pelletising plant and port at Brickmakers Bay, on the north coast of Tasmania. Production of pellets began in April, 1968.

The extent of the export market can be gauged from the fact that contracts written with Japanese steel mills total some 355 million tons of ore and pellets for delivery over the ensuing 21 years to 1990. Smaller contracts have been negotiated with British and European buyers and larger contracts are expected to follow.

One of the most rapidly expanding sectors of Australia's mineral industry is that of the production of aluminium, for which the raw material, bauxite, is processed to alumina for refining to the metal. Little more than two decades ago Australia appeared to have a serious deficiency in bauxite resources. A series of spectacular discoveries however, was to change this picture completely. It began in 1949 when the Bureau of Mineral Resources was mainly responsible for the discovery of relatively small deposits of bauxite at Marchinbar Island off the coast of Arnhem Land; this was followed by more substantial deposits on the mainland near Gove. Later, in 1956, very large deposits of bauxite were found at Weipa on the Cape York Peninsula by private enterprise; and in 1958, important new sources were identified at Jarrahdale, in the Darling Ranges close to Perth. Most recently, in 1965, an announcement was made of the discovery by private enterprise of further large deposits inland from Admiralty Gulf in the Kimberley district, Western Australia. Production of ore from Weipa and Jarrahdale has mounted rapidly since 1962 and in 1967 reached 4.17 million tons, 2.3 times greater than in 1966. Australian reserves are set conservatively at over 3,000 million tons and rank high in world bauxite resources.

Joint export income from bauxite, alumina and aluminium is estimated to rise from $24.7 million in 1966/67 to $139.0 million in 1972/73.

Australia has supplanted the United States as chief supplier of black coal to Japan, where the rapidly expanding steel industry demands an ever rising volume of raw material. Japan received most of the 9.25 million tons exported from Australia in 1967. Existing contracts provide for the export of a rising volume of coal between 1968 and 1975 and total 135 million tons, valued at over $1.036 million. The coal will come from open cut mines in Queensland and highly mechanised underground mines in New South Wales.

The principal coal deposits are in the eastern part of the continent, generally close to the coast. New South Wales and Queensland have very large deposits of black coal, Victoria has huge reserves of brown coal. Total

Australian measured and indicated reserves of black coal are set at over 4,900 million tons and inferred reserves at over 20,000 million tons.

Australia's nickel resources in the past have been small and no domestic production has been recorded since 1938. All Australia's requirements have been imported and due to increased demand for special steels and the greater use of nickel anodes for electroplating the level has been rising steadily in recent years.

Nevertheless, because of the tightening position of world supplies there has been intensive exploration in Australia, in recent years, concentrated in the Kalgoorlie goldfield, in the centre of the continent, near the Western Australian/South Australian border; in the northern part of Tasmania; in eastern Queensland and in the Territory of Papua and New Guinea.

The most interesting discovery of nickel ore was made at Kambalda, near Kalgoorlie, Western Australia, in April 1966 and production of nickel sulphide concentrates commenced in June 1967. It is planned to erect a nickel refinery at Kwinana by 1971. Intersections of nickel ore were made during drilling operations in the Paris - St. Ives district, south of Lake Lefroy by the same company in May, 1967. At the end of January 1968, reserves in the Kambalda - St. Ives area were 9.3 million tons averaging 3.8 per cent nickel.

Encouraging drilling results have been obtained at several other localities by different companies but further drilling is necessary to evaluate these prospects.

Early in 1967, an important discovery was announced of lateritic nickel ore at Wingellina near the Western Australian/South Australian border, estimated to contain some 60 million tons assaying 1.3 per cent nickel. The discovery of some 45 million tons of lateritic nickel ore which averaged 1.55 per cent nickel near Greenvale, Queensland was also recently announced.

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APPROACHES TO OFF-SHORE PETROLEUM LEGISLATION IN A FEDERAL SYSTEM OF GOVERNMENT

by

H.S. Taylor-Rogers, and M.C. Konecki

ECONOMIC COMMISSION FOR ASIA AND THE FAR EAST
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Approaches to Off-shore Petroleum Legislation in a Federal System of Government

by *H. S. Taylor-Rogers and +M. C. Konecki.

Countries with federal systems of government are particularly sensitive to constitutional issues and problems arising, not infrequently, out of the inadequately defined relationship between the central and provincial governments on the one hand, and between the provincial governments themselves on the other.

In particular, the control of the off-shore exploration and exploitation of petroleum has been the subject of constitutional controversy in the United States and Canada. The main source of difficulty and uncertainty has been the question who has the power to grant a valid and effective off-shore title - the central government or the government of the sea-board state, province or territory? Obviously, the granting of such a title could only be effected by a government having a full and paramount authority over the continental shelf, and such an authority is vested in the central, federal government. While there appears to exist a general acceptance of a central government's authority in respect of the sea-bed of the outer continental shelf, beyond the limits of what is referred to as the territorial waters, no such authority has been recognised by the sea-board provincial governments in relation to the continental shelf within these territorial limits.

In 1947 and 1950 the United States Supreme Court ruled that the Federal Government of that country had full and paramount authority over the whole continental shelf, including the part beneath territorial waters; the court ruled that the principle, in international law, of the territorial sea-bed forming part of the relevant coastal state, province or territory "...did not exist at the time of Federation (1789); that at the establishment of the Constitution the jurisdiction of the individual States extended only to low-water mark; that it was the Federal Government that had, as it were, effected acquisition of the marginal belt and that the Federal Government rather than the individual sea-board State had paramount rights in and full dominion and power over the lands, minerals and other things underlying the territorial sea". (1)

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Acting under a constitutional power to dispose of territory and other property of the United States, the Congress of that country subsequently transferred the territorial sea-bed to the several coastal States leaving the control of the "outer" continental shelf to the Federal Government. This however, did not stop the controversy and litigation about the limits of the territorial sea-bed, and there is also an associated inconvenience due to a dual system of administration over the continental shelf, one by the sea-board states in respect of the adjacent territorial areas and the other, federal, over the outer continental shelf.

In November 1967, the Supreme Court of Canada delivered a judgment in the legal argument between the Dominion Government and the Province of British Columbia. The judgment is in favour of the Dominion Government in respect of the lands of the sea-bed outside the ordinary low-water mark.

It was largely the fear of this constitutional controversy and of protracted litigation which lead the Federal Government of Australia to seek solutions other than those just described. Briefly, a proposition was put to the State Governments that both sides should put the constitutional issues aside and try and work out a joint or common legislative scheme in respect of the whole of the continental shelf, inclusive of the territorial sea-bed. This proposition was accepted. It was also of great importance to Australia that there should be as little delay as practicable in providing the exploration companies with a valid and secure legal title over the relevant continental shelf area, so that exploration activity would not be impeded.

In the ensuing negotiations between the Federal and the six State Governments which started in 1964 a common petroleum mining code applying to off-shore petroleum operations both within and beyond the territorial limits was agreed upon, and towards the end of 1967 the Petroleum (Submerged Lands) Act 1967 was enacted by the seven governments concerned.

Essentially, the legislation proceeds on the basis of the asserted constitutional powers by the Commonwealth and the States respectively to enact the off-shore legislation but leaving aside the question of the validity of those assertions. There are actually two sets of Acts - the Commonwealth Act and State Acts covering the same ground, the respective State Acts 'mirroring' the Commonwealth Act. By virtue of establishing, for the purposes of administration, a "Designated Authority" acting simultaneously but quite separately as a Commonwealth agent for the respective State, the controversial system of a divided legislation control has been avoided.

The "Designated Authority" for the purpose of this common code is in the case of a State, the Minister for Mines, and in the case of the Northern Territory and the Territory of Papua and New Guinea, it is the Federal Minister for the Interior and the Minister of External Territories respectively.

The arrangements for administration of the legislation are contained in the Agreement of 16th October, 1967 between the Commonwealth Government and the Governments of the six States.

As just mentioned, the administration of the Act is in the hands of the States concerned, but the Commonwealth interest will be safeguarded through consultation and agreement of the States that "...in appropriate areas of the Commonwealth's constitutional responsibility, effect will be given to any request or to any decisions by the Commonwealth". (2)

Admittedly, this joint legislation scheme is to some extent a political as well as legal compromise; it is thought to be workable, and its main advantage and superiority is seen in the avoidance of a possible inter-governmental litigation arising out of the constitutional issues involved.

The Petroleum (Submerged Lands) Act 1967 is sub-titled as "...An Act Relating to the Exploration for, and Exploitation of, the Petroleum Resources, and certain other Resources, of the Continental Shelf, of Australia and of certain Territories of the Commonwealth and of certain other Submerged Land". The authority for the enactment of this legislation and Australia's rights to explore and exploit the resources of the continental shelf are given in the Preamble to the Act as well as in the Agreement (under the Act) of 16th October, 1967, between the Commonwealth and the six States concerned. This authority is two-fold, namely, that of the general international law and Australia's ratification of the Convention on the Continental Shelf signed in Geneva in 1958. The terms of the Convention are included in the Act as the "First Schedule".

For the sake of convenience in the administration of the Act, and to retain control over titles and operations, the adjacent area* of each State or Territory has been divided into a system of blocks each of which is 5 minutes of arc of latitude by 5 minutes of arc of longitude. In the northern latitudes of Australia, this results in each block having in area of about 77.67 square kilometers

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* The "adjacent area" is described in Schedules included in the Act and is the area of territorial sea and the areas of superjacent waters of the continental shelf which are administered by the relevant Designated Authority.

(30 square miles) and in the southern latitudes, an area of about 59.5 square kilometers (23 square miles).

The legislation provides for a two-stage title system; a permit, which covers exclusive right to the area and which covers all types of exploration, and a licence under which exploitation and production may be carried out. A separate title (licence) is required for the construction and operation of a pipeline. A permit will allow the holder to conduct exploration including drilling, within the area of his permit to establish the presence or absence of petroleum. The maximum area which may be held under a permit is 400 blocks, which will give an average area of about 25,900 square kilometers per permit. However, there is no limit to the number of permits which may be held by any one person or company. There is a minimum number of blocks (16) which may be held as a permit, as it is considered that this is the smallest area which could be effectively explored.

Permits are issued initially for a period of 6 years subject to an approved works programme, with rights for renewal for further periods of 5 years. The right to renewal is conditional upon the holder having carried out the conditions of the permit, and to the surrender of half of the area of the permit at the end of each period. The purpose of this requirement is to ensure that large areas do not remain unexplored for long periods, as the relinquished areas will then be available to other operators, who will have an opportunity to bid for them in open competition after they have been advertised.

Should petroleum be discovered, the permittee will have a preferential right to a production licence. The maximum area which may be included in a production licence is 9 blocks, roughly 582.52 square kilometers, known as a location, of which the centre block, which must be the one in which the discovery was made, is known as the nominated block. Thus a location consists of a nominated block and the 8 blocks which immediately surround it. The situation could arise that the nominated block is so positioned that a full location of 9 blocks cannot be established because it would encroach on areas which are already in other locations or for other reasons. In this case, the location will be limited to that number of blocks which are not encumbered in any way.

Should the permittee himself fail within a reasonable time to nominate a block as the centre of a location, the Designated Authority may nominate the block so that the allocation of licenced areas may start.

After a declaration of a location has been made, the title holder has several courses of action open to him. He may choose to retain as a licence, 5 of the 9 blocks of the original location and pay a royalty of 10% of the production which may be obtained and relinquish the other blocks which then revert to the State. On the other hand, he may take out a licence covering 5 blocks as well as a separate licence covering one or more of the remaining 4 blocks. In this event, he would pay an additional override royalty on all production from both licence areas. The rate of the override royalty would be the subject of negotiation between the Designated Authority and the title holder and would range between 1% and 2½%. In other words, if a permittee wishes to take up more than 5 blocks in his location, he must pay a total royalty of between 11% and 12½% on all production from these licences.

Should the number of blocks in a location be less than 9, provision is made for a corresponding reduction in the number of blocks which may be included in a licence.

When a permittee has made a discovery and has established a location, he then has a period of two years in which to select those blocks over which he wishes to take out a licence; this period may be extended to four years at the discretion of the Designated Authority.

There is no limit to the number of licences which may be granted to a permittee, but there is a restriction in relation to the choice of the nominated block in respect of a second petroleum discovery. No block within a location may be used as the nominated block for a second location, unless the Designated Authority approves. This is to prevent assessment or step-out wells being used for the establishment of additional locations. However, should for instance, separate structures be discovered close together so that the discovery wells are in adjoining blocks, the Designated Authority may exercise his discretion and allow two locations to be established which could lead to two series of production licences.

Any blocks which are not taken up by a permittee in a location revert to the State and the Designated Authority has the choice of disposing of such blocks by calling for bids on a cash basis for additional royalty bids or for the payment of a cash reserve plus additional royalty. The permittee would be free to compete for such blocks.

The grant of a licence authorizes the holder to recover petroleum from within the licence area, to explore for petroleum and to carry on such operations and execute such works as are necessary for that purpose. Licencees will be allowed to transfer parts of their licence areas, provided they conform to the graticular system and to engage in farmout or similar deals, but although any licences so transferred will carry the same rights and obligations, they will only extend for the balance of the term of the original licence.

Production licences will be issued for an initial period of 21 years, but provided the licencee has complied with the conditions of his licence, he will be entitled, as of right, to an extension for another 21 years; and further extensions may be granted at the discretion of the Designated Authority. The royalty payable on production during the first 21-year term of a licence is at the rate specified in the legislation; however, with respect to renewals, provision is made for changes in royalty rates, should this become warranted.

The only condition imposed on a licencee is that he shall spend not less than $100,000 per annum per block on approved operations within the licence area. However, this does not mean the licencee has to spend this amount of money on each block; if he holds 5 blocks, the $500,000 may be spent in a single block if operations are required to be concentrated in a small area. Provision is also made, with the approval of the Designated Authority, for the value of petroleum produced to be set off against the expenditure requirement.

Should a petroleum field lie across a boundary between two adjacent licences, the Act makes provision for the unitization of the field to ensure proper development and maximum recovery of petroleum.

Special provision is made to assist a prospective permittee or licencee who is interested in tendering for any areas which have reverted to the State or Territory. He may apply for a Special Prospecting Authority which will allow him to carry out within those areas, the exploration operations specified in the application. The purpose of this provision is to enable a potential applicant to augment the information which has been already made available to him so that he may be the better enabled to assess the prospects of the area.

There is also an access authority for which application may be made by a permittee or licencee whose area may be isolated, to gain limited access to an area which is not included in his permit or licence. The purpose of this is to enable him, for example, to tie in his own geophysical work to some known control.

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