

MINERAL RESOURCES OF THE OCEANS IN INTERNATIONAL AND MUNICIPAL LAW

by F.M. Auburn LL.B (Hons.)
Lecturer in Law
University of Auckland.

This paper will outline some of the legal questions involved in the exploration for and exploitation of mineral resources of the oceans, beyond the territorial limits of New Zealand.

For several centuries isolated cases of the assertion of sovereignty or jurisdiction over areas beyond territorial waters have been noted. A well-known example is that of pearl-fishing in the Gulf of Mannar, Ceylon, extending twenty-one miles from the coast. But man's exploitation of the sea's mineral resources on a large scale has only taken place since the end of the Second World War. The first well beyond the three-mile limit was drilled off Louisiana in 17 feet of water, in 1947. New Zealand's deepest drilling so far took place in the Moa well in 521 feet of water. Today the American Petroleum Institute predicts that the industry will have the technological capacity to drill and produce in water depths of 1,500 feet in three to five years, and to depths of 6,000 feet within ten years. It is clear that New Zealand must immediately start planning for mineral exploitation at such depths. The urgent question today is who owns and who should own the ocean's resources. Before considering this question in detail, it is necessary to obtain an idea of the mineral resources of the oceans and the possibilities of their exploitation in the near future.

It is clear that the seas and the sea-floor contain vast mineral resources. The German chemist Haber investigated the extraction of gold from sea-water to pay Germany's First World War debt. The question was not whether the gold existed - it does, and in vast quantities. Although Haber was unable to find an economic extraction process, a contemporary authority states that the question is not yet settled. In 1962 the Marine Diamond Corporation of Capetown raised 51,000 carats of rough diamonds of gem

quality off the coast of South West Africa, and large quantities of diamonds have been located in this area.

For many years oceanographers have known the existence of large areas of manganese nodules on the ocean floor. One square mile can contain 70,000 tons of fist-sized nodules representing 30,000 tons of manganese worth 800,000 dollars, 3,600 tons of aluminium, 2,300 tons of cadmium, 17,000 tons of iron, 400 tons of cobalt, 1,200 tons of nickel and 650 tons of copper. Despite the technological and economic problems involved in recovering vast mineral deposits at great depths a United States company, Deep Sea Ventures, plans to dredge 25,000 tons of manganese nodules from a depth of 18,000 feet in 1974 at a site several hundred miles off the Californian coast.

The urgency of ocean mineral questions today arise not from their existence, which has been known for many years but in man's rapidly increasing capacity to enter and utilise the ocean depths. Dr. Piccard's deep-ocean research craft, 'Trieste' operated by the U.S. Navy reached the deepest ocean, 35,800 feet in the Mariana Trench a decade ago. 'Trieste' aptly called 'an underwater balloon' was not navigable and its uses were limited to static research. Since then two events have focussed attention on the rapid development of deep-ocean craft. In 1964 the remodelled 'Trieste' located a portion of the hull of the nuclear submarine 'Thresher' and took photographs of it at a depth of 8,400 feet. In 1966 a hydrogen bomb lost off Palomares, Spain was located by the deep submersible 'Alvin' and recovered by a cable-controlled recovery vehicle (CURV). It may be presumed that the U.S. Navy already has several operational rescue vehicles to operate at 3,000 feet, a prototype search vehicle capable of reaching 6,000 feet, and will soon have several craft capable of working at 20,000 feet. Such research has already been turned to non-military uses. The University of Pennsylvania possesses a vehicle used for archaeological research at 600 feet, the 'Asherah'. The Soviet fisheries research craft 'Severyanka' operates at the same depth. The large military expenditure on development of such craft will ensure rapid development and 'spin-off' civilian uses are already apparent.

It is against this background of vast mineral resources

of the oceans and a rapidly increasing capability of reaching and exploiting these minerals that the legal questions must be viewed.

As is well-known, England made wide claims to sovereignty over the seas in the seventeenth century, as evidenced by Selden's 'Mare Clausum'. Perhaps less well-known is that the doctrine that the King of England had sovereignty over all the seas adjoining the coast of England was widely held in the Eighteenth Century, and was maintained well into the nineteenth century. For instance Chitty's 'Treatise on the Law of the Prerogative of the Crown' (1820) contains a most sweeping assertion of dominion over the seas. Indeed the doctrine was not abandoned completely by English lawyers until the Franconia Case, R. v. Keyn 2 Ex. D. (1876) 63.

During this period English claims were contested in law, principally by the Dutch, and the modern doctrine of freedom of the high seas emerged from this dispute. For our purpose it is relevant to note that the oldest encroachment on the freedom of the seas is the doctrine of the territorial sea, the former 'three-mile zone.' The best-known formulation of this rule is that of Cornelius van Bynkershoek, in the work 'Quaestiones Juris Publici' (1737), 'terrae dominium finitur ubi finitur armorum vis'. Dominion ends where ends the force of arms; the cannon shot rule. It must be emphasised that the three-mile rule has never been part of international law. It is disappearing rapidly. Today thirty-two states claim a three-mile territorial sea, seventy-two claim more.

The most far-reaching threat to the doctrine of the freedom of the seas is the continental shelf concept. In 1945 President Truman proclaimed that the natural resources of the subsoil and sea bed of the continental shelf beneath the high seas but contiguous to the United States appertain to the United States, subject to its jurisdiction and control. (Pres. Proc. 2667, U.N. Leg. Ser., 'Laws and Regulations on the Regime of the High Seas', vol. 1 (1951)). The waters above the shelf remained high seas and open to navigation. The preamble referred to the world-wide need for new sources of petroleum and other minerals, and the progress of technology enabling exploitation of the shelf. An accompanying note stated that sub-

merged land contiguous to the continent covered by not more than 600 feet of water was generally considered as the continental shelf. In his Annual Report for 1945 the U.S. Secretary of the Interior stated that 760,000 square miles had been put under the jurisdiction of the United States, 'the Continental Shelf cost only the forethought that was required to assert our sovereignty over it.' This Report also mentioned the 600 feet limit.

It will be noted that in this case, as in many others, the assertion of jurisdiction over the continental shelf by domestic legislation was an essential prerequisite to prospecting. For instance the United Kingdom Continental Shelf Act passed in April 1964 must be closely correlated with the first allocation of 346 North Sea licences in September 1964. Dutch offshore drilling operations were held back for some time by unsuitable laws.

Following the Truman Proclamation many other states claimed jurisdiction over their continental shelves. For instance the Sultanate of Sharjah in the Persian Gulf issued such a Proclamation in 1949 which was similar to that of the United States. Another type of assertion is contained in the Argentine Decree No. 14,708 of 1946 according to which 'the Argentine epicontinental sea and continental shelf are subject to the sovereign power of the nation'. In other words Argentina has made a claim to complete sovereignty over the shelf and overlying seas.

At this time little attention was paid to the problem of the seaward boundary of the shelf. From the material accompanying the Truman Proclamation it would appear that the United States, at that time, regarded the continental shelf as a geological feature limited by the 600 feet mark.

After several years of preparation by the International Law Commission a further development was made in the framing of the Convention of the Continental Shelf, signed in Geneva in 1958. In view of the controversy over the intentions of the Commission and of the states taking part in the Conference at which the Convention was signed, the text must be taken at its face value. Attempts to explain the provisions of the Convention on the basis of the preparatory works have proved inconclusive.

It would appear that the first three articles of the Convention form part of customary international law, despite the fact that only forty states have ratified the convention. In other words these articles bind all states regardless of whether they have signed or ratified the Convention.

Article I defines 'continental shelf' for the purposes of the Convention as the seabed and subsoil of submarine areas adjacent to the coast of the mainland or of islands but outside the territorial sea, to a depth of 200 metres. So far the definition is reasonably clear. However there is a proviso that the continental shelf may extend beyond the 200 metres mark 'where the depth of the superjacent waters admits of the exploitation of the natural resources' of these areas.

This additional definition has provoked a flood of argument. A few of the difficulties may be briefly mentioned. Is the geological definition of 'continental shelf' relevant to the legal definition? How far offshore must a submarine area be before it ceases to be 'adjacent'? Does the exploitation test refer to the capability of the coastal states concerned, or of all coastal states? Does the convention enable huge claims to be based on small islands in the middle of the ocean? What is the status of the Antarctic continental shelf? As the Antarctic claims are not recognised by the U.S.A. and the U.S.S.R., these countries would deny the existence of a continental shelf appertaining to the Antarctic claim of any state. Does not the exploitation test given an undue advantage to developed countries with advanced undersea technological capacities? Should land-locked countries be denied any benefit from the ocean's mineral resources? What is the position of a country, like Norway, whose geological continental shelf is cut by a large and deep trench? Is the area beyond the trench which is closer to Norway than to the United Kingdom part of the Norwegian Shelf? This problem has been settled in the North Sea by agreement but the example is noteworthy. It has recently been announced that a huge oil field, Ekofisk, has been discovered in this area allocated to Norway by agreement. Due to the existence of the Norwegian Trench the oil will probably be delivered to the Teesside and not to Norway.

Article 2 of the Convention provides that the coastal state exercises sovereign rights for the purpose of exploring and exploiting the natural resources of the shelf. 'Natural

resources' means minerals and sedentary living organisms of the sea-bed and subsoil. This definition has already provoked a 'Lobster War' between Brazil and France and is of obvious interest to New Zealand. The coastal state's rights are exclusive. If they are not exercised no other state can exercise them without the express consent of the coastal state. By Article 3 the coastal state's rights do not affect the legal status of the overlying waters, as high seas, or that of the airspace above the waters.

Articles 2 and 3 are hardly more satisfactory than Article 1. No mention is made of any military use of the shelf. This omission has obvious advantages to larger states utilising submarines and other devices of underwater warfare. What are the limits of this sovereignty? What degree of regulation is permitted to the coastal state over oil rigs? Clearly there are some limits, for complete sovereignty is not conceded. As early as 1955 the United States Navy objected to the erection of permanent platforms off Long Beach, California, claiming they were a 'menace to navigation'. Are not the freedom of the high seas and the continental shelf concept irreconcilable? Is not the freedom to lay submarine cables, for instance, affected by the continental shelf concept?

In fact it is suggested that the freedom of the high seas which crystallised in the nineteenth century is already an outdated concept. The number of exceptions, apart from the continental shelf jurisdiction, is rapidly increasing. Assertion of jurisdiction against "pirate" stations is merely one of many recent examples.

The numerous drawbacks of the Continental Shelf Convention have led to widespread demands for its' revision. In the last few years this question has become urgent as man's capacity for exploration and exploitation increases rapidly. The Convention would, in fact, enable a division of the whole bed of the oceans.

In 1967 Ambassador Pardo of Malta raised the question of the status of the seabed in the General Assembly of the United Nations. The General Assembly passed Resolution 2340 establishing an ad hoc committee on the Peaceful Uses of the Seabed and the Ocean Floor beyond the Limits of

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 the desirability of convening a further conference on the of the sea to discuss all outstanding problems, including the sea-bed 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

House of Commons, in April this year, of the Arctic Waters Pollution Prevention Act. Nominally aimed at preventing pollution by the establishment of Control Zones extending a hundred miles offshore, this measure was in fact designed to solve the difficult question of sovereignty over waters in Canadian Arctic Archipelago. The matter had become urgent after the successful voyage of the 115,000 ton tanker 'Manhattan' through the Northwest Passage in 1969. Under the Act Canada reserves the right to prohibit free passage, if necessary, in the control zones. In passing it may be pointed out that there is a real need for pollution measures in the Canadian Arctic. Last year two oil barges were crushed by ice in the Canadian Arctic Archipelago. They were the property of Panarctic Oil, a Canadian company.

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 treaty for the seabed. Each coast would receive a share of the international revenue, and also impose taxes if necessary. 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

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

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.