

# **PETROLEUM RESOURCES UNDER THE OCEAN FLOOR**

**AN INTERIM REPORT OF  
THE NATIONAL PETROLEUM COUNCIL**

**July 9, 1968**

PETROLEUM RESOURCES  
UNDER THE  
OCEAN FLOOR

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An Interim Report by the  
National Petroleum Council's  
Committee on Petroleum Resources  
Under the Ocean Floor

E. D. Brockett, Chairman

## NOTE

The purpose of the National Petroleum Council is solely to advise, inform, and make recommendations to the Secretary of the Interior, at his request, with respect to matters relating to petroleum or the petroleum industry.

This report reflects solely the views of the National Petroleum Council. Association of representatives of the Department of the Interior and other Government Agencies with the deliberations of the Council does not connote endorsement of the advice and recommendations expressed by the Council herein.

Therefore, nothing contained in this report should be construed as representing U.S. policy. Formulation of policy and determinations of action to be taken with respect to matters upon which an advisory committee (such as the National Petroleum Council) advises or recommends are made solely by officers or employees of the Government.

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# PETROLEUM RESOURCES UNDER THE OCEAN FLOOR

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## I. INTRODUCTION

The National Petroleum Council, an industry advisory body to the Secretary of the Interior on oil and gas matters, was requested in January, 1968 to assist the Department of the Interior and other Government agencies in formulating their posture toward the development of petroleum resources of the deep sea (see Appendix A).

Assistant Secretary of the Interior, Hon. J. Cordell Moore, in his study request letter stated that:

*In the expanding search for new supplies of energy, it is clear that offshore areas are petroleum's brightest frontier, and in the next decade we should see unprecedented activity in this direction. Yet, as the search progresses into deeper waters, it gives rise to political, legal, and economic implications of international import.*

Mr. Moore indicated that the only major existing guideline, apart from territorial waters, is that contained in the 1958 Geneva Convention on the Continental Shelf, which provides for the exercise of sovereign rights over the continental shelf by the coastal state for the purpose of exploring and exploiting natural resources. In referring to the definition of the continental shelf contained in the Convention, he questioned the usefulness of the definition in view of current and developing technology. In addition he cited the 1967 proposal before the United Nations General Assembly embracing the concept that the ocean floor beyond the limit of present national jurisdiction should be reserved exclusively for peaceful purposes, and that jurisdiction over the deep ocean floor and its resources should be administered by an international agency, with the financial benefit from their exploitation accruing primarily to the developing countries.

An ad hoc committee of the U.N. to study questions relating to resources of the sea was established in December, 1967. It is now deliberating and a report is to be submitted at the next session of the General Assembly.

The Department of the Interior specifically requested the National Petroleum Council to undertake a study which would consider:

- a) whether the definition of the continental shelf is in keeping with technological advancements in offshore capability; and

- b) what type of regime would best assure the orderly development of the petroleum resources of the ocean floor beyond national jurisdiction.

In order to carry out this assignment, the Council promptly established the Committee on Petroleum Resources Under the Ocean Floor, under the Chairmanship of E. D. Brockett, Chairman of the Board, Gulf Oil Corporation. The Committee has one working group to assist it--the Technical Subcommittee, headed by Hollis D. Hedberg, Exploration Adviser, Gulf Oil Corporation.

The Committee and its Subcommittee commenced a thorough study of all aspects of the broad problem in March, 1968. In view of the many complexities involved in this important assignment, it has not been possible in the intervening period to complete a comprehensive report. Such a report will be forthcoming. However, because of the current U.N. deliberations on these matters, as well as studies now being conducted by official U.S. groups, such as the Marine Sciences Commission, it was believed appropriate and timely by the NPC Committee to submit an interim report on some of its major conclusions and recommendations to date.

## II. OUTLOOK FOR OCCURRENCE AND RECOVERY OF PETROLEUM RESOURCES FROM THE DEEP OCEANS

### A. GEOLOGICAL CONSIDERATIONS

The oceans cover an area of about 360 million square kilometers (approximately 140 million square miles), or 70% of the earth's surface. A fifth of this ocean cover overlies the continental margin (i.e., the shelf, slope, and rise); the remainder, an area approximately double the land surface of the globe, covers the deep ocean basins, abyssal plains, ridges, trenches, and other features of the ocean floor.

Review of geological information available on oceanic areas suggests that petroleum accumulations, comparable to those which are currently commercial on land and in shallow coastal waters (less-than-200-metres depth), may exist also under the deeper water parts of the ocean. Such additional areas of petroleum accumulation may occur not only under waters deeper than 200 metres on the continental shelf and continental borderland, but also under the even deeper waters covering the continental slope, the continental rise, and possibly certain parts of the deep ocean basins. The actual productive potential of such petroleum deposits as may exist under these deep waters is of course entirely conjectural.

The present state of knowledge concerning continental margins and ocean basins, although growing rapidly, is still rather limited. We have only a first approximation of the nature of the continental margin and still less knowledge of the ocean basins, trenches and other features.

Because of this limited knowledge, no definitive seaward limit on existence of petroleum deposits can be drawn at this time; the existing data do, however, suggest that the potential for petroleum accumulations is less favorable beyond the continental margin.

### B. TECHNOLOGICAL CONSIDERATIONS

The petroleum industry has the technical capacity for geophysical and geological exploration in these deeper parts of the ocean and is already carrying out exploration programs in these domains. In addition, exploration drilling, with shallow penetration into the bottom, can now be carried out in water depths of several thousand metres. On the other hand, exploitation drilling (i.e., for production) has been confined almost entirely to date to waters of less than 100 metres depth. However, progress in technology is such that serious and specific programs are being initiated this year for drilling and completing in waters of as much as 400 metres depth, and production techniques and facilities will probably be realizable from such depths within the next 3 to 5 years.



Beyond this depth range, the development of new technical concepts or systems now under consideration, or other completely new technical concepts, will be the controlling technological factor. With this "breakthrough", the "move out" of drilling and production operations will probably be less sensitive to further increases in water depth, and may be more influenced by the distance of these operations from shore. Without reference to economic considerations, capability to drill and produce in water depth of 1,500 to 2,000 metres might be considered reasonably attainable within the next 10 years.

### C. ECONOMIC CONSIDERATIONS

Once the technologic feasibility has been established, the extent and timing of U.S. petroleum production operations in the deep oceans will be largely dependent on commercial incentives. Among factors controlling these incentives are--overall demand for petroleum, competition from land and shallow water areas, competition from oil shale, tar sand, and coal sources, cost and effectiveness of deep marine operations, productivity of deep marine deposits, and the assurance of favorable lease conditions and security of investment. This last item--favorable lease conditions and security of investment--is of course closely tied to the matter of jurisdiction, or sovereign rights for exploration and exploitation of petroleum deposits under the ocean floor.

Because of the heavy increases in demand for domestic petroleum anticipated in the next 20 years, there will be a definite need to develop additional domestic petroleum reserves as rapidly as possible.

Offshore petroleum production offers the major new source of petroleum to satisfy the increasing domestic demand. The projected costs of producing petroleum from deep waters (e.g., beyond 200 metres), however, are believed to be approaching the estimated costs of production from the nonconventional sources, e.g., oil shale, tar sands, and perhaps coal hydrogenation. Therefore, over the long range, the portion of the supply which offshore petroleum reserves will satisfy depends on technological achievements and economic incentives.

The existing offshore ventures in the deeper portion of the continental shelf are expected to provide relatively low rates of return on investments, and costs will increase substantially as operations progress into still deeper and more exposed water. With the increasing risks encountered, and continued deterioration of the benefit-cost ratio expected as the deep oceans are entered, conditions necessary to attract large commitments of manpower and capital to exploration and/or research and development of deep sea systems must be brought into being. These prerequisites would include:

- (1) Exclusive rights to exploitation of a commercial discovery.
- (2) Clear and reasonable laws recognizing and protecting the rights to explore for, discover, produce and market petroleum, with such laws administered by an established and stable regime.
- (3) Incentives which can be provided through such means as: production allowables, royalties and taxes based on costs of exploration and exploitation; and leasing procedures whereby the size and cost of the acreage holdings would be economically attractive.

As was indicated in the discussion of geological considerations, the actual productive potential of such petroleum deposits as may exist under the deeper water parts of the ocean is entirely conjectural at this time. Estimates of the current value of the natural resources underlying the ocean floor are premature in light of the paucity of scientific knowledge concerning the ocean floor and its potential for natural resources, and too often do not realistically reflect the economics of recovery operations in this adverse environment.



### III. JURISDICTION OVER PETROLEUM RESOURCES UNDER THE OCEANS

#### A. CONTINENTAL MARGIN (DOMAIN OF EXCLUSIVE JURISDICTION OF COASTAL NATIONS OVER SEABED RESOURCES)

##### 1. Major Conclusion

Under the concepts of exploitability and adjacency contained in the Geneva Convention on the Continental Shelf, coastal nations, including the United States, have exclusive jurisdiction over the natural resources of the continental land mass seaward generally to where the submerged portion of that land mass meets the abyssal ocean floor. This exclusive jurisdiction extends to the continental shelf, continental borderlands, continental slopes, and at least the landward portion of the continental rises. The provisions of the Geneva Convention encompass the principles on which the Truman Proclamation of 1945 was based.

##### 2. Major Recommendations

(a) The United States should declare its full rights of exclusive jurisdiction, as above described, under the Geneva Convention on the Continental Shelf. It should continue to exercise, and not renounce or constrict, those rights. In exercising such rights, the United States implicitly recognizes corresponding rights of other coastal nations.

(b) The United States, in consultation with other nations, should be prepared to participate in activities leading toward a practicable means of delineating the line between the exclusive natural resource jurisdiction of the coastal nations, and the deep ocean areas.

(c) Rather than for the United States or other nations to reopen the Geneva Convention in the near future, a preferable course would be for the coastal nations to declare the scope of their claims of exclusive jurisdiction with respect to natural resources of the seabed and subsoil, and limitations on those claims under the Geneva Convention. Possible future steps can be developed, in due course, in the light of such declarations.

(d) The United States and other coastal nations bordering enclosed seas and small ocean basins adjacent to and closely related to the continents should reserve to

themselves full options with respect to the establishment of exclusive jurisdiction over seabed resources.

### 3. Comment

In this discussion we are concerned with two questions: (1) what character of jurisdiction, U.S. or international, over the submarine resources adjacent to the coasts of the United States accords with our national interests? (2) what constraints, if any, does the Geneva Convention on the Continental Shelf, or other international commitments, impose upon the effectuation of the policy best adapted to the protection of U.S. national interests?

In simplest terms, the question is whether it is better for the United States to exercise exclusive jurisdiction over natural resource development in a wide belt or a narrow belt of the seabed adjacent to this Nation's coasts, and to what extent prior international commitments may now limit that choice.

In considering these two basic questions it must be recognized that whatever exclusive jurisdiction over natural resources is claimed for the United States, similar jurisdictions must be conceded to the other coastal nations of the world.

### 4. Policy Objectives

U.S. national interests with respect to development of seabed natural resources would best be served by the exercise of exclusive jurisdiction with respect to seabed natural resources of the entire continental margin adjacent to the Nation's coast. Some reasons supporting this conclusion are the following:

(a) Revenues accrue to the Federal Treasury from bonuses and royalties derived from offshore mineral leases. These revenues could be substantial and should inure to all citizens by flowing directly into the U.S. Treasury, and thereby benefit the entire economy. The minerals so produced also are available to supplement the onshore production and for national security considerations. In ratifying the Convention on the Continental Shelf, the United States did not intend to give away the resources within its jurisdiction or the potential revenues therefrom.

If the U.S. should now decide to increase aid to underdeveloped nations, or contributions to international organizations, this should be done through regular constitutional and budgetary procedures which require Congressional appropriations.

(b) Insofar as the petroleum industries are concerned, the opportunity to operate under a stable national regime is of major importance in attracting the capital necessary for this highly risky business. The Geneva Convention provides the legal foundation for such a national regime encompassing the continental margin. It is unlikely that a substituted international regime could: 1) insure such stability, or 2) harmonize political and economic views of a large number of sovereign states with widely conflicting objectives and with great disparities in technological and economic development.

It is thus all important that the United States neither lead the way nor participate in any movement which could lessen its already secured rights over the continental margin under the Truman Proclamation and the Geneva Convention.

5. Pertinent Considerations with Respect to the Geneva Convention on the Continental Shelf

The Geneva Convention on the Continental Shelf is controlling among those nations which have ratified the Convention (including the U.S.) in determining their jurisdiction or claims over the natural resources of the submarine areas adjacent to their coasts but outside the area of the territorial sea.

(a) With respect to the various "rights" recognized by the Convention, Article 2 provides as follows:

- (1) limits the jurisdiction of the coastal nation to something less than full territorial sovereignty, calling it "sovereign rights for the purpose of exploring it (the 'continental shelf') and exploiting its natural resources"; but
- (2) characterizes these rights as exclusive "in the sense that if the coastal state does not explore the continental shelf or exploit its natural resources, no one may undertake these activities, or make a claim to the continental shelf, without the express consent of the coastal state"; and moreover
- (3) "the rights of the coastal state over the continental shelf do not depend upon occupation or on any express proclamation"; and
- (4) the natural resources to which these exclusive sovereign rights relate consist of the "mineral and other nonliving resources of the seabed and subsoil" together with sedentary living organisms.

Article 3 of the Convention stipulates that "the rights of the coastal state over the continental shelf do not affect the legal status of the superjacent waters as high seas, or that of the airspace above those waters."

(b) With respect to the extent of coastal nation jurisdiction, Article 1 of the Convention applies the "sovereign rights" referred to above to the "continental shelf." This term is used not in the geological sense but as referring:

- (1) to the seabed and subsoil of the submarine areas "adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas"; and
- (2) to the seabed and subsoil of similar submarine areas adjacent to the coasts of islands.

(c) This Committee has reviewed the history of the background and the negotiations leading up to the execution of the Convention on the Continental Shelf. (This is summarized in Appendix B.) From this review, it is concluded that the intended scope of the Convention, with regard to the coastal nations' exclusive jurisdiction over the natural resources of the seabed and subsoil encompasses:

- (1) in general, the continental land mass seaward to where the submerged portion of that land mass meets the abyssal ocean floor; and
- (2) in particular instances, (i.e., where the continent drops off sharply from near the present coastline to the abyssal ocean floor) an area of that floor contiguous to the continent.

Proposals have been voiced that the United States should cease to assert any jurisdiction over the natural resources of the seabed beyond the 200 metre isobath, or that, if it granted leases at greater depths of the submerged continent, it should take that action subject to the disposition of these areas, or royalties therefrom, by subsequent international agreement. Proposals have also been made to declare a moratorium on development of minerals beyond a water depth of 200 metres. Such proposals are directly counter to the existing firm international understanding that the coastal nations have "sovereign rights" for the purpose of exploring the continental shelf and exploiting its natural resources that go far beyond the 200 metre point.

The title of the United States should be asserted, not constricted or renounced, seaward to the full limit of the continental land mass; specifically, to where the submerged portion of that land mass meets the abyssal ocean floor. The title of the lessees of the United States under the Outer Continental Shelf Lands Act (which contains no limitation as to depth of water) should not be clouded by Executive pronouncements inconsistent with that act of Congress.

This Committee is cognizant of the fact that it is not possible, at this time, to draw the line of demarcation between the continental land mass and the abyssal ocean floor, with any great degree of precision, but there is no urgent necessity for such a demarcation, once the United States' position is clarified and declared as to the principle involved: the extent of the remaining areas beyond the 200 metre isobath encompassed by the concepts of exploitability and adjacency in the Continental Shelf Convention. In the interim, pending the acquisition of information necessary for accurate demarcation, discussions with other coastal nations may proceed with respect to approximate equivalents of a more precise line.

B. OCEANIC FLOOR BEYOND CONTINENTAL MARGINS (DOMAIN SEAWARD OF COASTAL NATIONS' EXCLUSIVE JURISDICTION OVER SEABED RESOURCES)

1. Major Conclusions

(a) There is no urgency which compels precipitate decisions or actions regarding a regime to govern development of the natural resources of the oceanic floor seaward of the area of exclusive jurisdiction of the coastal nations. The reason is that capital and developmental competence will be primarily occupied with the natural resources of the continental land mass landward of the deep ocean floor for the near-term future.

(b) When the International Decade of Ocean Exploration, which is now in formulation, produces more factual information about the deep ocean floor, it should then be possible in due course to formulate international agreements which will (1) establish more definite lines of demarcation between the continental land mass and the deep oceanic floor, and (2) establish standards which will control activities of nations in the development of the natural resources of the deep ocean floor.



## 2. Major Recommendations

(a) Any elaborate international regime to govern development of petroleum resources of the deep ocean floor seaward of the area of exclusive jurisdiction of the coastal nations will not be required for many years. Such explorations of the deep ocean floor as may be practicable for the foreseeable future may be carried out under the protection and control of the nations under whose authority these enterprises are undertaken, governed by existing principles of international law. The absence of more elaborate arrangements is not presently a deterrent to such explorations.

(b) The objective toward which discussions of deep ocean arrangements should aim should not be the creation of an international licensing authority with power to grant or deny mineral concessions, but, instead, (1) international agreement on standards of conduct of individual nations (including reciprocal respect for the security of their investments); (2) international agreement on standards of scope, area, and duration pertaining to development projects; and (3) establishment of procedures for the international recording and publication of their respective claims and activities.

## 3. Comment

The Committee recognizes President Johnson's pronouncement of July 13, 1966, which says: *Under no circumstances, we believe, must we ever allow the prospects of rich harvest and mineral wealth to create a new form of colonial competition among the maritime nations. We must be careful to avoid a race to grab and to hold the lands under the high seas. We must ensure that the deep seas and the ocean bottoms are, and remain, the legacy of all human beings.*

The Committee, therefore, fully endorses the idea of the International Decade of Ocean Exploration, cooperative international research on the resources of the deep ocean bottoms, and cooperative international study leading towards an eventual decision on the most appropriate and most effective arrangements for the vast area, constituting three-fourths of the total area of the oceans lying seaward of the submerged portion of the continental land masses and thus seaward of the general limits of national jurisdiction.

The wide range of the natural resources over which jurisdiction is vested in the coastal nations under the Geneva Convention, and the readier availability of those resources in comparison with those of most of the deep ocean, make it most improbable that within the foreseeable future there will be any rapid movement to exploit the natural resources lying beyond the jurisdiction of the coastal nations. This fact,

coupled with the inadequate state of current knowledge regarding the natural resources and environment of the deep ocean floor, make it highly undesirable for the United States to commit itself prematurely to any course of action with regard to the exploitation of these natural resources. Instead, it would seem definitely preferable to reserve full flexibility of action pending better knowledge of these deep areas, resolving on an ad hoc basis any individual problems that may arise in the interim.





UNITED STATES  
DEPARTMENT OF THE INTERIOR  
OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

January 24, 1968

Dear Mr. Donnell:

In the expanding search for new supplies of energy, it is clear that offshore areas are among petroleum's brightest frontiers, and in the next decade we should see unprecedented activity in this direction. Yet, as the search progresses into deeper waters, it gives rise to political, legal, and economic implications of international import. Guidelines are quite limited; indeed, the only major guideline, apart from territorial waters, is that contained in the 1958 Geneva Convention on the Continental Shelf which in Article 2 provides that, for the purpose of exploration and exploitation of natural resources, the coastal state shall have sovereign rights over the Continental Shelf.

The Continental Shelf is defined in Article 1 as the seabed and sub-soil of the marine areas adjacent to the coast but outside the area of the territorial sea "to a depth of 200 meters or, beyond that limit, to where the depth of the superjacent waters admits of exploitation of the natural resources of the said areas." Current and developing technology make the usefulness of this definition questionable.

There was a proposal before the last meeting of the United Nations General Assembly, put forward by Malta, embracing the concept that the ocean floor beyond the limit of present national jurisdiction should be reserved exclusively for peaceful purposes, and that jurisdiction over such areas and its resources should be administered by an international agency, with the financial benefit from their exploitation accruing primarily to the developing countries. This resulted in the establishment of an ad hoc committee to study questions relating to resources of the sea bottom and its report is to be submitted at the next session of the General Assembly.

In order to assist the Department of the Interior and other Government agencies in formulating their posture toward development of petroleum resources of the ocean floor, the National Petroleum Council is requested to prepare a study which should consider (a) whether the definition of the Continental Shelf is in keeping with technological advancements in offshore capability, (b) what type of regime would best assure the orderly development of the petroleum resources of the ocean floor and the

time frame within which it might be implemented, (c) what type of regime is best designed to assure conservation of the resources and protection of the environment, and (d) any other points or comments deemed appropriate. We request the appointment of a committee for meetings to begin in February.

Sincerely yours,

  
Assistant Secretary of the Interior

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REVIEW OF BACKGROUND AND NEGOTIATIONS LEADING TO EXECUTION  
OF 1958 GENEVA CONVENTION ON THE CONTINENTAL SHELF

The 1958 Geneva Convention on the Continental Shelf encompasses the "continental margin".\*

The Convention, in article 1, defines the term "continental shelf" as follows:

"For the purpose of these articles, the term 'continental shelf' is used as referring (a) to the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas; (b) to the seabed and subsoil of similar submarine areas adjacent to the coasts of islands."\*\*

The definition, read in light of its history, may reasonably be interpreted as encompassing the "continental margin".\*\*\*

1. The history of the Convention's definition of the term "continental shelf".

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\* The term "continental margin" is used herein as it is defined in the report to which this appendix is a part.

\*\* The text of the definition and the preparatory work leading to its adoption indicate clearly that the exploitability test was not intended to extend the shelf regime to mid-ocean, but rather was intended to have some limitation to submerged areas reasonably "adjacent" to the coast. Evidence of this is revealed in the International Law Commission's (ILC) Report of its 8th Sess. (U.N. A/3159) pages 76-77, 81-82, hereafter cited as ILC Report; and in Fourth Comm. (Cont. Shelf), Off. Records, Vol. VI, U.N. A/Conf. 13/42, pages 3-4, 8-12, 15, 21, 24, 27, 33-35, 40, 42, 53, 55, and 88-92, hereafter cited as Fourth Comm. Report.

\*\*\* Since the exploitability criterion and the adjacency test potentially permit extension of the shelf regime to the outer edge of the "continental margin", that fact precludes all nations other than the littoral nation from asserting rights to shelf natural resources in this area.

In the International Law Commission's (ILC) first draft of the definition (1951) the "continental shelf" was defined as covering:

"the seabed and subsoil of the submarine areas contiguous to the coast, but outside the area of territorial waters, where the depth of the superjacent waters admits of the exploitation of the natural resources of the seabed and subsoil."

At its 1953 session, however, ILC changed the definition and defined the shelf solely in terms of water depth, using 200 meters as the outer limit.

At its final session in 1956, the ILC again changed the definition of "continental shelf". This time the shelf was defined in substance as it appears in Article 1 of the Convention, embodying the alternate criteria of water depth (200 meters) and exploitability. The ILC explained its final definition as having been prompted by action taken by the Inter-American Specialized Conference on Conservation of Natural Resources: Continental Shelf and Oceanic Waters, held at Ciudad Trujillo (Dominican Republic) in March 1956. That conference had concluded that "the right of the coastal State should be extended beyond the limit of 200 metres, 'to where the depth of the superjacent waters admits of the exploitation of the natural resources of the seabed and subsoil'." (ILC Report, p. 41).

In its final report on the definition, ILC makes clear that its definition departs from the strict geological concept of the shelf, stating (ILC Report, pp. 41-42):

". . . the Commission therefore in no way holds that the existence of a continental shelf, in the geographical sense as generally understood, is essential for the exercise of the rights of the coastal State as defined in these articles."

And (id):

"Again, exploitation of a submarine area at a depth exceeding 200 metres is not contrary to the present rules, merely because the area is not a continental shelf in the geological sense."

Further light is shed on the definition of the shelf, particularly the phrase "the submarine area adjacent to the coast", by ILC's commentary on its draft Article 68, which provides that the coastal State exercises over the shelf "sovereign rights for the purpose of exploring and exploiting its natural resources." The ILC points out that once the seabed and the subsoil become an object of active interest to coastal States with a view to exploitation of their resources, "they cannot be considered as res nullius, i.e., capable of being appropriated by the first occupier. It is natural that coastal States should resist any such solution." (ILC Report, p. 43.) And then the commentary proceeds (id.):

"Neither is it possible to disregard the geographical phenomenon whatever the term - propinquity, contiguity, geographical continuity, appurtenance or identity - used to define the relationship between the submarine areas in question and the adjacent nonsubmerged land. All these considerations of general utility provide a sufficient basis for the principle of the sovereign rights of the coastal State as now formulated by the Commission. As already stated, that principle, which is based on general principles corresponding to the present needs of the international community, is in no way incompatible with the principle of the freedom of the seas." (Underscoring added.)



Thus, the ILC left no doubt that the "adjacent" areas to which the Convention relates include the submarine areas having "propinquity, contiguity, geographical continuity, appurtenance or identity" with the continental land mass. The "continental margin" meets all of these criteria, although any one would suffice. It is, therefore, clearly encompassed by the Convention.

Additionally, the Ciudad Trujillo Conference of 1956 is of particular significance in construing the Convention's definition because it was the outcome of this Conference which prompted ILC to incorporate the exploitability test in its final (1956) draft of the definition. The Trujillo Conference (Committee I Report) reported:

1. "The continental shelf is from the point of view of geology structure and mineralogical characteristics, an integral, although submerged, part of the continents and islands."
2. "There is no uniformity as regards the width, depth, and geological composition of the shelf, even in a single sea."
3. "The shelf is and constitutes a valuable source of natural resources, which should be exploited for the benefit of the coastal state."
4. "The extent of these resources is not known exactly, but it is believed that they bear a relation to the extent of the American shelf. . ."

5. "Scientifically the term 'continental slope', or 'inclination' refers to the slope from the edge of the shelf to the greatest depths."
6. "Technical progress has been made [in exploiting the resources of the shelf] and there are exploitations at depths of nearly 1000 meters."
7. "The term 'continental terrace' is understood to be that part of the submerged land mass that forms the shelf and the slope."

From the foregoing points the Committee concluded:

"The American States are especially interested in utilizing and conserving the existing natural resources on the American terrace (shelf and slope)." (Words in parenthesis appear that way in original.)

And:

"The utilization of the resources of the shelf cannot be technically limited, and for this reason the exploitation of the continental terrace should be included as a possibility in the declaration of rights of the American States."

The Conference\* unanimously adopted a Resolution (Document 95) which reads:

"1. The sea-bed and subsoil of the continental shelf, continental and insular terrace, or other submarine areas, adjacent to the coastal state, outside the area of the territorial sea, and to a depth of 200 metres or, beyond that limit, to

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\* Twenty nations including the United States participated in this Conference.

where the depth of the superjacent waters admits of the exploitation of the natural resources of the sea-bed and subsoil, appertain exclusively to that state and are subject to its jurisdiction and control."

At the 1958 Geneva Conference on the Law of the Sea, the fourth Committee considered the draft articles on the Continental Shelf. In commenting on the definition, particularly the exploitation test, the spokesman for the United States delegation (Miss Whiteman) observed that (p. 40):

"The definition of the rights of the coastal State to the continental shelf and continental slope adjacent to the mainland proposed by the International Law Commission would benefit individual States and the whole of mankind."  
(Emphasis added.)

This expression of understanding of the definition by the United States made during the course of the debates, together with the fact that the United States had shortly prior thereto joined in the Ciudad Trujillo resolution of March 28, 1956 proclaiming that "the continental shelf, continental and insular terrace" appertain to the coastal nation, places it in a uniquely strong position to announce its interpretation that the shelf regime encompasses the "continental margin".

Dr. Garcia-Amador, a delegate to the Ciudad Trujillo Conference served thereafter as Chairman of ILC during its eighth session at which the definition of "continental shelf" was revised to include the exploitability test along with the 200 meters

criterion. His views undoubtedly were significant in bringing about this change. He writes (Garcia-Amador, The Exploitation and Conservation of the Resources of the Sea (2nd ed., 1959, at p. 108):

"As we have indicated, the geographical configuration of the bed of the sea contiguous to the coast of continents and islands is sometimes so irregular that it cannot be defined in terms of the shelf or terrace concepts. When this is so, as in the case of some countries in the American continent and elsewhere, the coastal State may exercise the same exclusive rights now enjoyed by those which have a continental or insular shelf and terrace, provided the depth of the superjacent waters admit of the exploitation of the natural resources of the seabed and subsoil and that the submarine areas be adjacent to the territory of the coastal State." (Emphasis added.)

And continuing (id., p. 130):

". . . States enjoy present legal powers when the submarine area adjacent to their territory has the configuration of a shelf, defined by the limit of the 100-fathom line. Potential or future powers would be enjoyed by them, for example, according to the system adopted by the International Law Commission, with respect to the slope and the corresponding part of the terrace, and by all coastal States with regard to the other submarine areas adjacent to their territories. . . ."

At ILC's eighth session (1956) at which consideration was being given to changing the definition of the continental shelf as it appeared in the 1953 draft (out to the 200-meter water depth line), Dr. Garcia-Amador proposed a definition substantially the same as that in the Ciudad Trujillo resolution of March 28, 1956. McDougal and Burke comment on this proposal as follows (The Public Order of the Oceans, by McDougal & Burke, p. 683):

"Some controversy attended the suggested elimination of the continental shelf term and the references to the 'continental and insular terrace', but this became muted when it was realized that a criterion embracing both a 200-meter depth and the depth admitting exploitation would embrace such areas if they were in fact exploitable or came to be."

A somewhat similar proposal by Panama was rejected by the Fourth Committee, no doubt for the same reason and also because the Panama proposal would not have automatically vested Convention rights to the 200-meter water depth contour (Report of Fourth Comm., pp. 32-33, 127).

Within the Fourth Committee the United Kingdom proposed an amendment to the definition to confer sovereign rights in the coastal nation for exploring and exploiting the natural resources "over the submarine areas adjacent to its coast but outside the territorial sea, up to a depth of 550 metres" (Report of Fourth Comm., p. 132). It was stated that "the continental slope ended in most places at that depth [550 meters]" (Id., at 36). The reasons underlying the rejection of this proposal are not specified, but it would appear that the delegates did not want to restrict the Convention's exploitability coverage to the specified depth limit.

## 2. Subsequent action by nations.

Since the Convention went into effect in 1964, the United States by action taken by the Interior Department, has clearly

evidenced its construction that the definition extends far beyond the 200 meter water-depth line. In 1961, the Associate Solicitor of the United States Department of Interior issued a memorandum concluding that the Secretary's leasing power under the Outer Continental Shelf Lands Act, read in light of the Convention on the Continental Shelf, extends to an area lying about 40 miles off of California in water-depths ranging up to 4,020 feet with the greater part being in excess of 600 feet. The Secretary has also issued oil and gas leases in water-depths up to 1,500 feet.

Moreover, the Secretary of Interior announced in June, 1965, that he had authorized approval of plans of a company to conduct a core drilling project on the Continental Slope in the Gulf of Mexico off the coasts of Texas, Louisiana and Florida in waters ranging in depth from 600 to 3,500 feet. This "permit" or authorization is not to be confused with the grant of an oil and gas or other mineral lease. It appears that this permit was issued pursuant to §11 of the Outer Shelf Act and the Secretary made clear in the permit that "No rights to any mineral leases will be obtained from these core drilling programs." Also, on May 26, 1967, the U. S. Geological Survey announced approval of plans for another company or group of companies to conduct a core drilling program on the Continental Slope beyond the continental shelf "off Florida and northward to points seaward of Cape Cod and Georges Bank". The release

states that "No rights to any mineral leases will be obtained from these core drilling programs." The release indicates that about 21 core holes will be drilled beneath the floor of the Atlantic Ocean in water ranging in depths from 650 feet to 5,000 feet. The depth of penetration in each core test is limited to a maximum of 1,000 feet.

In a letter opinion of February 1, 1967 from the Deputy Solicitor of the Department of Interior to the Corps of Engineers, it is made clear that the Department is of the view that Cortez Bank is an area under United States jurisdiction under the Outer Continental Shelf Lands Act and the Convention on the Continental Shelf. Cortez Bank is located about 100 miles from the California mainland and is separated from the mainland by ocean floor trenches as much as 4,000 to 5,000 feet deep, although the Bank itself is covered by shallow water.\*

At the March 11, 1968 meeting of the United Nations Ad Hoc Committee to Study the Sea-Bed and Ocean Floor Beyond the Limits of National Jurisdiction, the spokesman for Canada said (A/Ac. 135/1, p.33):

"In view of the Canadian authorities, the present legal position regarding the sovereign rights of the coastal States over the resources of submarine areas extending at least to the abyssal depths is not in dispute." (Underscoring added.)

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\* Barry, "Administration of Laws for the Exploitation of Off-shore Minerals in the United States and Abroad", ABA National Institute on Marine Resources, 6/9/67, p. 12.

And, according to the U. N. press release of the March 21, 1968 meeting of the Ad Hoc Committee (U. N. Press Release GA/3585), the Canadian spokesman's views are reported thus (p. 2):

"The [Ad Hoc] Committee should define the limits of the area covered by the resolution [Gen. Ass. Res. 2340 (XXII)]. In his view, the areas over which coastal States had sovereign rights included, without doubt, the continental shelf and its slope." (Emphasis added.)

In view of the foregoing, the United States would be fully justified in asserting that the Convention on the Continental Shelf encompasses the continental margin.





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