The Coastal Boundary of Naval Petroleum Reserve No. 4

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by

George Wayne Skladel

George W. Skladel is a part-time lecturer in the Division of Business, Economics, and Public Administration at the Senior College of the University of Alaska, Anchorage. He has taught and done research in natural resource administration at the graduate level, and holds a master's degree in petroleum management from the University of Kansas and a master's degree in public administration from the University of Alaska. This paper, which examines the coastal boundaries of Navel Petroleum Reserve No. 4, was written for a course in the law of the sea sponsored by the University of Alaska Sea Grant Program.

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I. Introduction

The Judge Advocate General of the U. S. Navy published a notice in the *Federal Register* on May 19, 1972, that corrected and redefined the boundaries of Naval Petroleum Reserve No. 4. The purposes of these boundary changes were to reflect more precise cadastral and geodesic surveys of the Reserve, and to carry out the mandate of Executive Order No. 3797-A, February 27, 1923, in regard to the charting of the boundary of the Reserve along the Arctic Ocean.[1] This paper will examine the implications of the Navy's changes to the coastal boundary of the Reserve.

Naval Petroleum Reserve No. 4 encompasses approximately 24 million acres of federal land on the petroleum-rich North Slope of Alaska. Based on data gathered during explorations from 1944 to 1953, the Navy estimates that the Reserve contains 100 million barrels of recoverable oil. The U. S. Geological Survey estimates that the Reserve could contain as much as 10 to 33 billion barrels of oil, considering the adjacent Prudhoe Bay discoveries. At a price of $2 a barrel, the value of the Reserve's oil resources could range from $200 million to $66 billion.[2] Because of the value of the petroleum lands on the Slope, it is important for landowners—federal and others—to fix the boundaries of the Reserve.

The coastal boundary of the Reserve borders the Arctic Ocean and extends from a point east of the mouth of the Colville River west to Icy Cape. President Warren G. Harding established this boundary on February 27, 1923, when he set apart as a Naval Petroleum Reserve all the public lands not then covered by valid entry, lease, or application as described in Executive Order No. 3797-A (see Appendix II):

> The coast line to be followed shall be that of the ocean side of the sandspits and islands forming the barrier reefs and extending across small lagoons from point to point, where such barrier reefs are not over three miles off shore, except in the case of Plover Islands, from Point Tangent to Point Barrow . . . where it shall be the *highest highwater mark* on the outer shore of the islands forming the groups and extending between the most adjacent point of these islands and the sandspits at either end. In cases where the barrier reef is over three miles off shore the boundary shall be the *highest highwater mark* of the coast of the mainland. (Emphasis added).

This coastal boundary line remained the same for over 49 years until the Navy announced its changes in 1972.

The changes gave the Navy more territory. The coastline boundary was moved seaward from the highest highwater mark to the *mean* highwater mark of the tide. This change assimilated certain inland waters within various bays and lagoons into the Reserve. The change concerning the tidemark may not be significant from a practical standpoint since the vertical distance between the two tidemarks is approximately six inches, but it is significant in principle. Assimilation of the inland waters is very important, because the Navy claimed title to potentially oil-rich, submerged lands. This took the lands away from the State of Alaska which had received title to them by the Submerged Lands Act of 1953.

The Navy maintains it has the right to change the coastal boundary because under the provisions of Sections 7421 through 7438, Title 10 of the United States Code, the Secretary of the Navy has the authority and responsibility to administer Naval Petroleum Reserves. The Office of the Judge Advocate General of the Navy states that the new coastal boundary will be the official boundary unless either the U. S. Attorney General decides the Navy action was illegal or the Congress enacts legislation to change the boundary.[3]

The Navy's actions demand attention. These boundary changes have shifted ownership of four critical areas of submerged lands (Harrison Bay, Smith Bay, Peard Bay, and Kasegaluk Lagoon) from the State of Alaska to the Navy. An analysis of the criteria for coastal boundary determinations and their application to the Pet 4 situation seems necessary.

1. See Appendix I.
2. U. S. Comptroller General, *Capability of the Naval Petroleum and Oil Shale Reserves to Meet Emergency Oil Needs*, Comptroller General Report No. B-66927, October 5, 1972, pp. 17-18.
3. *Ibid.*, p. 30.

II. The Coastline as Defined by the Submerged Lands Act of 1953

The fundamental domestic law that determines the coastline of the various states is The Submerged Lands Act of 1953. Section 2(c) of the Act defines the term, "coastline," as a composite line consisting of both "the line of ordinary low water along that portion of the coast which is in direct contact with the open sea" and "the line marking the seaward limit of inland waters."

This definition is very general and subject to interpretation. Both elements of the definition must be considered. The first is the "line of ordinary low water," which can represent different heights of low water in contact with the shore depending upon the type of tides that predominantly exist along a coast. The differences in height of the low water are caused by gravitational forces exerted by the sun and the moon upon the waters of the earth. As the earth and the moon change position in relation to the sun and to each other, the varying gravitational strength of the three bodies causes changes in water height at different locations on the surface of the earth. For example, along the coast of the Gulf of Mexico, the tides mainly consist of one height of low water every day. Along the Atlantic Coast, the tides mainly consist of two *slightly* different heights of low water daily. Along the Pacific Coast, which also includes the coast of Alaska, the tides mainly consist of two *greatly* different heights of low water each day.

The forces of the sun and the moon also cause other variations in water height from day to day during the lunar month of approximately 29.5 days. Other long-term, physical phenomena affecting water height dictate that the low water heights be averaged over a 19 year period to determine the coastal boundary line. The term, "line of ordinary low water," is unworkably vague, because it does not specify which low water height to use in calculating the mean low water line.

The other element of the definition which is subject to interpretation is "the line marking the seaward limit of inland waters."

The determination of inland waters requires judgment because they are a function of both the physical characteristics of a coast and the nature of national control over water areas adjacent to the coast, and the reaction of other nations to that control. The physical characteristics of the coast include both islands lying off the mainland and indentations of the mainland itself. Islands can be situated at varying distances from the mainland. If each island is considered to have its own coastline, the water between the mainland and the island is territorial sea and may also include the high sea. If the coastline is considered to extend from the mainland around the outer shores of the islands and back to the mainland, the water between the mainland and the islands is inland water. The Submerged Lands Act does not designate which rule to follow.

Indentations of the mainland vary in size and shape. These characteristics have a bearing upon the inland quality of the contained waters. If the waters are associated more with the land than with the sea, they are inland; otherwise, they are territorial seas. Both quantitative and qualitative considerations determine inland waters. The quantitative aspects include comparing the width of the mouth of the indentation with the extent of inland pentratation. The qualitative aspects include analysis of the nature of the control exerted by the coastal nation over the waters of the indentation, and the reaction of the community of nations to that exercise of control. The Submerged Lands Act does not provide any criteria for analysis of either consideration.

The determination of inland waters is important to both the state and federal government. Beyond the seaward limits of inland waters lie the submerged lands of the states. Beyond the seaward limits of the state lands lie the federal submerged lands to the edge of the outer continental shelf. The existence of inland waters causes a seaward shift of state land. Since the edge of the outer continental shelf may be fixed, the area of federal land may be decreased. Since title to lands submerged beneath inland waters

adjacent to coasts usually rests with the state, the state gains the submerged lands. This win-lose situation becomes critical when the submerged lands contain valuable natural resources.

When Congress passed the Submerged Lands Act, they declined to define the term, "inland waters." An examination of the legislative history indicates that Congress did not define inland waters because the Departments of State and Justice advised against it. These departments felt that a legislative definition would create difficult diplomatic and legal problems. Congress therefore decided that the courts had defined the term adequately through a summation of many previous legal decisions, and left the definition to the judiciary.

The Supreme Court of the United States assumed the task of developing the criteria for inland waters and the line of ordinary low water along the coast. The Court noted, contrary to Congressional assumptions, that the judiciary had never actually defined inland waters as they pertained to coastal boundaries. The summation of previous inland water decisions was based upon landlocked waters located further inland. The Court recognized the mandate from Congress to define the term, "inland waters," from its analysis of legislative history. It chose as its criteria of definition the applicable elements of international law as they existed at the time of the *United States vs. California* decision, May 17, 1965.

III. The Coastline as Defined by the 1958 United Nations Convention on the Territorial Sea and the Contiguous Zone

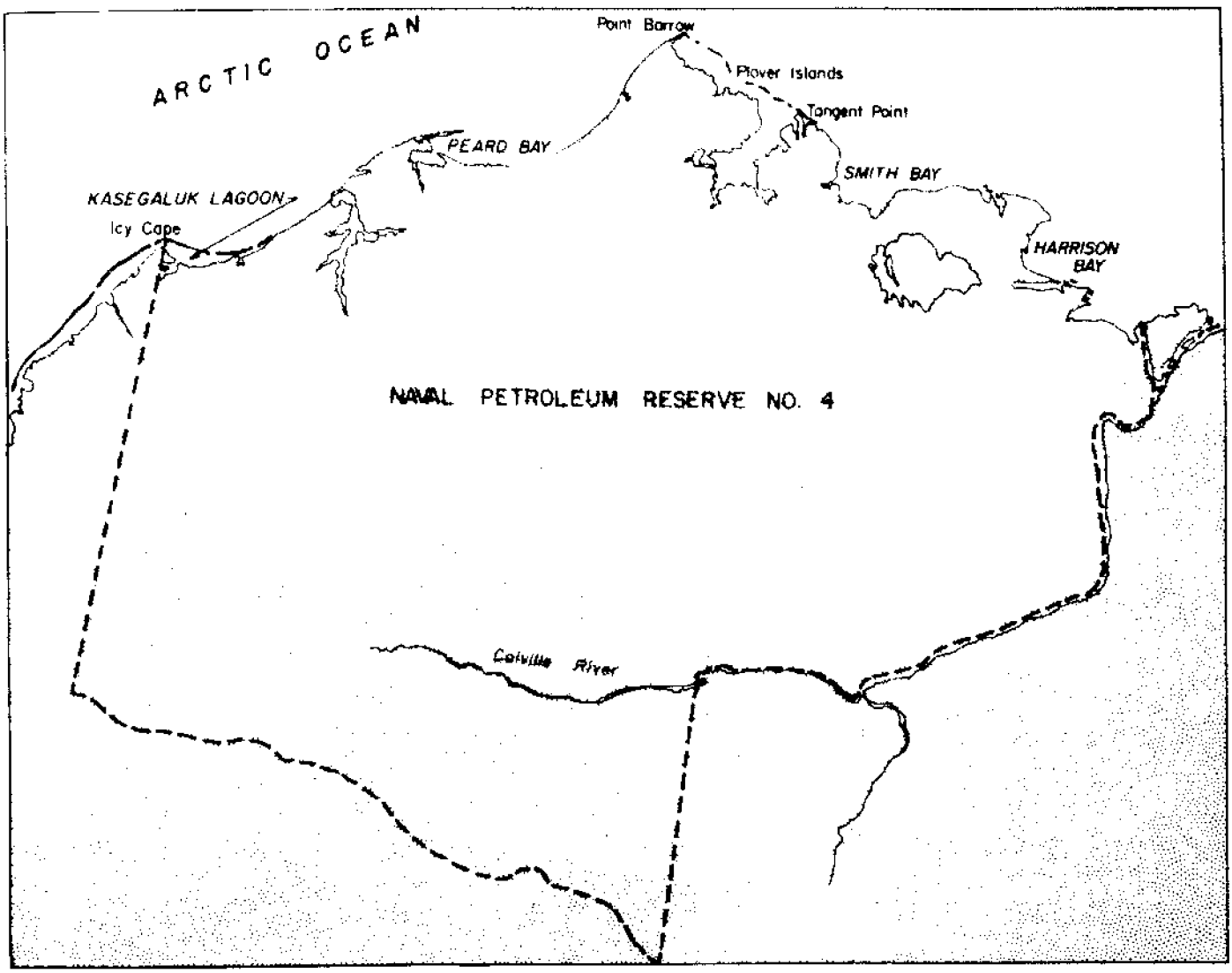
The Court felt that the best definitions available were embodied in the United Nations' Convention on the Territorial Sea and the Contiguous Zone. The Convention addresses specific criteria regarding coastlines, low-water lines, and inland waters which are compatible with the definition of coastline found in The Submerged Lands Act. The Convention was acceptable international law at the time of the *California* decision, since the required number of 22 nations had ratified the Convention by Fall, 1964. The United States was among the signatories of the Convention having ratified it in 1961.

The Court applied Article 3 of the Convention to define the "line of ordinary low water" which is used in The Submerged Lands Act to define the coastline. The Convention indicates that the breadth of the territorial sea is measured from a baseline (or coastline) which is the low water line along the coast marked on large-scale charts officially recognized by the coastal states, in this instance, the United States. Since the U.S. Coast and Geodetic Survey (now known as the National Ocean Survey) used the mean of the lower of the two daily low waters as the datum for its official nautical charts of the Pacific Coast, the Court decided that for the Pacific Coast, the line of ordinary low water meant the line of the mean of the lower low waters. The interpretation of the vague term, "ordinary," to signify the more specific term, "mean," was in consonance with previous Court decisions. The National Ocean Survey also uses the mean of lower low waters for their nautical charts along the coast of Alaska.

Articles 4 and 10 of the Convention address the situation of islands fringing a coast at various distances from the mainland. If the islands are close to the mainland and follow the general direction of the coast, the baseline or coastline can encompass the seaward edge of the islands. The waters between the islands and the mainland are considered inland waters. The drawing of these baselines around the seaward edge of the island is at the discretion of the coastal nation.

Historically, the United States has refrained from drawing such baselines unless the islands are extremely close to the mainland and can be considered almost a part of the land formation. One reason for this position is that the United States has wished to preserve the right of innocent passage of ships through the maximum amount of water area. Innocent passage is permitted in territorial but not inland waters. If former territorial or high seas become inland waters through the application of straight baselines, however, the right of innocent passage is not terminated. With islands away from the coast of the mainland the United States has maintained that the islands have their own coastline. If islands are within six miles of the mainland, the waters between the mainland and the islands are territorial waters. Beyond six miles, an area of high seas will be created between the bands of territorial waters measured from the seaward coast of the mainland and the landward coast of the islands.

Article 7 of the Convention discusses the criteria for differentiating mainland indentations that contain inland waters (legal or true bays) from those that do not. Historic bays which are



SCALE 1: 2,500,000
1 INCH EQUALS APPROXIMATELY 40 MILES

FIGURE 1: AERIAL EXTENT OF NAVAL PETROLEUM RESERVE NO.4

SOURCE: U.S. GEOLOGICAL SURVEY ALASKA MAP E, 1954

developed by the nature of control a coastal nation exerts over a nonlegal bay and the reaction of other nations to that control, are not mentioned in this Convention. Concepts of historic bays are developed in other United Nations' documents as well as in other legal sources.

Legal bays are determined quantitatively. The North Atlantic Fisheries Tribunal in 1910 recommended that mouths of bays not exceed 10 nautical miles except for specifically named bays.[4] At the Hague Conference for the Codification of International Law in 1930, the United States delegation proposed a geometric method to assist in determining a legal bay. Their proposal was to inscribe a semicircle in the bay area using the line joining the entrance of the bay as the diameter of the semicircle. If the water area of the bay was either as large as or larger than the area of the semicircle, the bay would be a legal bay and would contain inland waters.[5] The Hague Conference adjourned without taking action on the proposal.

Article 7 of the Convention continues the concept of quantitative determination. The 10 nautical mile criteria for the width of the mouth of a bay was increased to 24 nautical miles. This distance between natural entrance points was established as the first criterion of a legal bay. If this criterion were satisfied, then the semicircle rule would be applied. Similar to the United States' proposal of 1930, the bay that contained an area of water either equal to or greater than the area of the semicircle was conclusively considered a legal bay.

The Convention article on legal bays also specifies the method of determining the water area of the bay. The perimeter of the area is composed of the line joining the natural entrance points of the bay as well as the water line along the sinuosities of the indentation. The sinuosities of the indentation include estuaries, coves, smaller bays, and channels that open into the main indentation under consideration. It is important to note that the perimeter of the water area must be the line of mean low water.

Figure 2 is a schematic of a hypothetical bay along the Arctic Coast of Alaska. The two tests of a legal bay will be demonstrated in their proper sequence. In the first test, the length of the line joining the natural entrance points of the bay at their mean *lower* low water mark is measured and found to be 23 nautical miles. Since this line is 24 nautical miles or less in length the first test is passed, and the bay is possibly a legal bay.

In the second test, the semicircle rule is applied. The shaded area bounded by the sinuous line of mean *lower* low water on the mainland coast represents the water area of the bay. A semicircle is drawn using the line which joins the natural entrance points of the bay as a diameter. It is apparent that the water area of the bay is larger than the area of the semicircle. This second test conclusively proves that the hypothetical bay is a legal bay. The waters within the bay landward of the line joining the natural entrance points of the bay are therefore inland waters belonging to the State of Alaska. This same line also becomes a segment of Alaska's coastline.

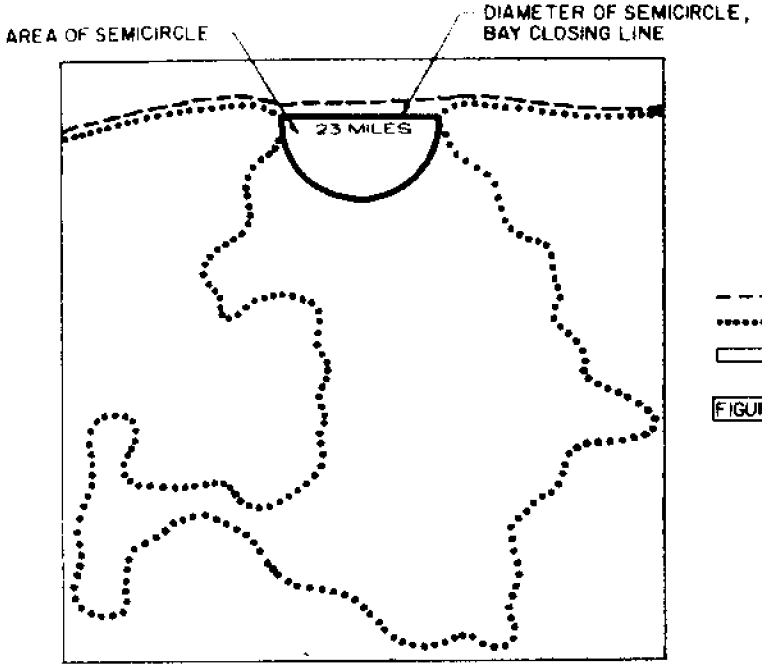
Another situation exists where islands lie across the mouth of a bay. The water areas between the islands form many natural entrances to the bay. Article 7 provides that the width of a bay in this case will be the sum of the widths of the water entrances. If the sum of these individual widths is 24 miles or less, the bay is possibly a legal bay. The diameter of the inscribed semicircle is also the sum of these individual widths, and if the area of the semicircle is less than the water area of the bay, the bay is conclusively a legal bay.

The islands do not have to lie in a straight line between the natural entrance points of the bay itself. They may lie either landward or seaward of that line at a distance apparently subject to the provisions of Article 4. In computing the water area of the bay it is not clear how to treat the land area of the islands. If the islands are located within the indentation, their land area would be treated as water according to Article 7. However, the islands involved in determining the closing lines of a bay are normally either wholly or partly seaward of the indentation. Since in that case, the coastline would follow the seaward edge of the islands, it is consistent with Article 7 to consider the land area of those islands to be water area in computing the total water area of the bay.

Figure 3 is a schematic of a hypothetical bay along the Arctic Coast of Alaska with islands lying across its mouth. The line across the water

4. Aaron L. Shalowitz, *Shore and Sea Boundaries*, Vol. I (Washington, D. C.: U. S. Government Printing Office, 1962), p. 32.

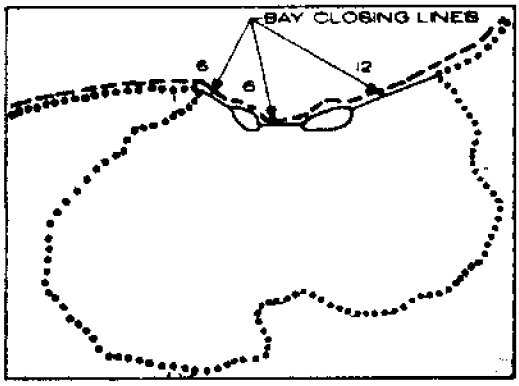
5. *Ibid.*, pp. 34-36.



LEGEND

- - - - COASTLINE OF ALASKA
..... LINE OF MEAN LOWER LOW WATER
▭ WATER AREA OF BAY

FIGURE 2: HYPOTHETICAL BAY



LEGEND

- - - - COASTLINE OF ALASKA
▭ WATER AREA OF BAY
..... LINE OF MEAN LOWER LOW WATER

FIGURE 3: HYPOTHETICAL LEGAL BAY WITH ISLANDS ACROSS ITS MOUTH

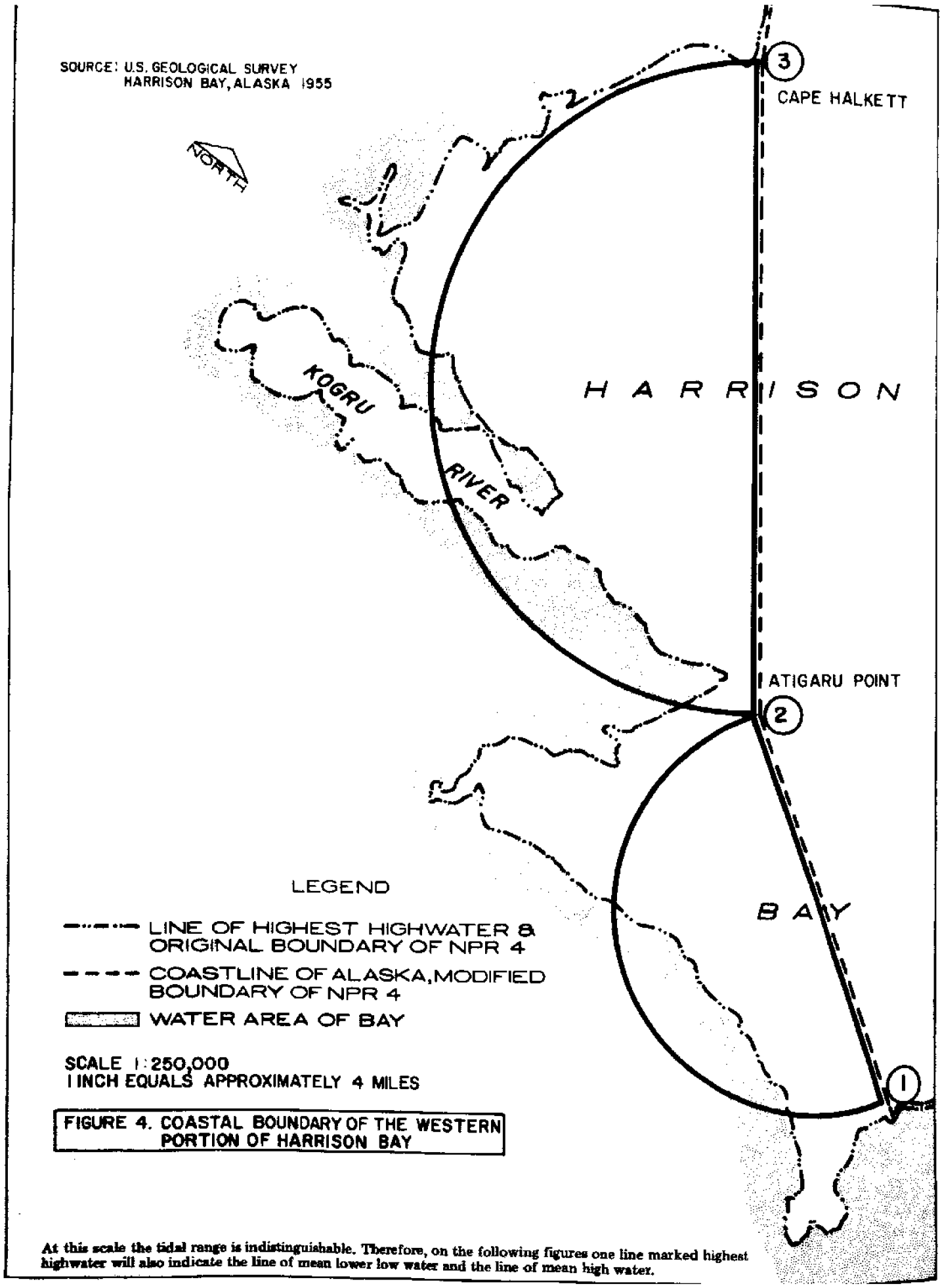


FIGURE 4. COASTAL BOUNDARY OF THE WESTERN PORTION OF HARRISON BAY

At this scale the tidal range is indistinguishable. Therefore, on the following figures one line marked highest highwater will also indicate the line of mean lower low water and the line of mean high water.

areas between the natural entrance points of the bay and adjacent islands are measured and found to be 24 nautical miles. This measurement satisfies the first test for a legal bay. A semicircle with a diameter of this measured distance is constructed, and its area is compared with the water area of the bay. Since the area of the semicircle is less than the water area of the bay, the bay is conclusively a legal bay. The waters within this bay landward of the closing line would be inland waters belonging to the State of Alaska. The closing line also becomes a segment of Alaska's coastline.

An issue was raised in *United States vs. Louisiana* about natural entrance points of a bay. The United States felt that the natural entrance points had to be a part of the mainland. Louisiana felt that islands off the mainland could also form natural entrance points. The Convention does not resolve this matter. The Supreme Court decided that islands could form natural entrance points if they are so related to the mainland that they could be considered a part of the coastline under Article 4.

IV. Applications of the 1953 Act and the 1958 Convention in Determining the Coastline of Alaska along Naval Petroleum Reserve No. 4 and Its Comparison with the New Reserve Boundaries

The Submerged Lands Act of 1953 and its interpretation by the U.S. Supreme Court using the 1958 United Nations' Convention on the Territorial Seas and the Contiguous Zone applies to the determination of the coastline of Alaska. These two legal instruments will be used to analyze the following areas along the Alaska coast where Naval Petroleum Reserve No. 4 is situated: 1) the western portion of Harrison Bay, 2) Smith Bay, 3) Peard Bay, and 4) Kasegaluk Lagoon.

Harrison Bay is much too wide at its mouth to be considered a legal bay. If islands off the mainland at the eastern edge of its mouth are considered to be natural entrance points, the width of the mouth is at least 56 miles. In this instance, the Convention allows baselines, not exceeding 24 miles in length, to be drawn within the bay to define inland waters. The U.S. Supreme Court has interpreted this rule as proper, *provided the smaller indentations have obvious natural entrance points of their own.* Harrison Bay has two such indentations along its western border, which adjoins the reserve.

Figure 4 depicts these two indentations. The lower indentation has one natural entrance point on the Arctic Coast near the mouth of the Colville River. This point is marked by the number 1. The other natural entrance point, marked by the number 2, is the eastern edge of the easternmost small, unnamed island lying off Atigaru Point. The distance across the mouth of the indentation between these two points is, at their mean lower low water mark, approximately 11.65 miles. This distance satisfies the first test of a legal bay.

The shaded water area of the bay within the perimeter of mean lower low water was measured by a planimeter and found to be approximately 66.91 square nautical miles. The area of the semicircle with a diameter of 11.65 nautical miles is approximately 53.30 square nautical miles. Since the water area of the bay is larger than the area of the semicircle, the lower indentation is conclusively a legal bay.

The upper indentation also has the small island off Atigaru Point marked by the number 2 as one of its natural entrance points. The other natural entrance point is at Cape Halkett which is marked by the number 3. The distance across the mouth of this indentation between these two points at their mean lower low water mark is approximately 18.94 nautical miles. This distance satisfies the first test of a legal bay.

The water area of the bay within the perimeter of mean lower low water was measured by a planimeter and found to be approximately 140.88 square nautical miles. The area of the semicircle with a diameter of 18.94 nautical miles is approximately 140.87 square nautical miles. The water area of the bay is almost identical to the area of the semicircle; but, since it is larger, the bay is a legal bay. This bay has many smaller bodies of water opening into it, which add more water area. The Kogru River, which is actually an estuary, contributes significantly to the total water area.

The closing line for each of these two bays is a straight line, which connects the two respective natural entrance points at the *mean lower low water mark*. Each closing line forms a portion of the coastline of the State of Alaska.

The Navy claims these closing lines as the seaward boundary of the Reserve.

Executive Order No. 3797-A of 1923 does not specify the coastal boundary of the Reserve where there are no barrier reefs off the coast of the mainland. It does specify that "where the barrier reef is over three miles offshore, the boundary shall be the highest highwater mark of the coast of the mainland." Therefore, it would appear consistent with this description that the coastal boundary of the Reserve, where barrier reefs do not exist, would be the *highest highwater mark* of the coast of the mainland. The Reserve boundary would, then, follow the sinuous line of the mainland, rather than the point-to-point coastal boundary of the State.

The tidal mark of highest high water is subject to interpretation. It is not clear under what conditions, nor over what period of time, the highest highwater mark is to be measured. Measured under storm conditions, the highest mark would result in an erratic method of boundary measurement. Even measurement under calm conditions would vary over different periods of time.

Since the line of mean high water or tide can be established with a degree of accuracy over a period of 19 years, the Navy substituted "mean highwater" for "highest highwater" in 1972 to facilitate boundary measurement of the Reserve. Although the Navy made this substitution of terms unilaterally, its authority to do so may be open to question.

A case could be made for shifting the boundary landward to the line of higher highwater in keeping with the line of lower low water which constitutes the coastline for Alaska. Even though The Submerged Lands Act specifies that the shoreward boundary of the tidelands is the line of mean high water, it also specifies that the coastline is the line of ordinary low water. Since the Supreme Court interpreted the adjective, "low," to mean "lower low" for a particular tide, the court could also interpret the adjective, "high," to mean "higher high" for the same tide.

Even if the Navy's new boundary line of mean high water is accepted, it is difficult to understand how the Navy can claim the lands beneath the inland waters of the two indentations in Harrison Bay. The Convention on the Territorial Sea and the Contiguous Zone, as applied to the Arctic Coast of Alaska, indicates that legal bays are determined by mean lower low water and not by mean high water. Thus, the Navy cannot use mean high water to determine legal bays. If a legal bay is beyond the jurisdiction of its boundary line, then the submerged lands beneath the inland waters within that bay are also beyond its jurisdiction.

The significance of using mean high water rather than mean lower low water to determine legal bays may be demonstrated with an example. If the closing line of a bay, measured between its natural entrance points at their mean lower low water mark, was exactly 24 miles in length, the bay would be a legal bay if it also passed the semicircle test. The same bay could not be a legal bay if the closing line was measured between its natural entrance points at the mean high water mark. The mark or the line of mean high water is landward of the mark or line of mean lower low water. Thus, the latter distance between the entrance points would be greater than 24 miles and the bay could not be a legal bay. If two rules conflict, the accepted rule should prevail.

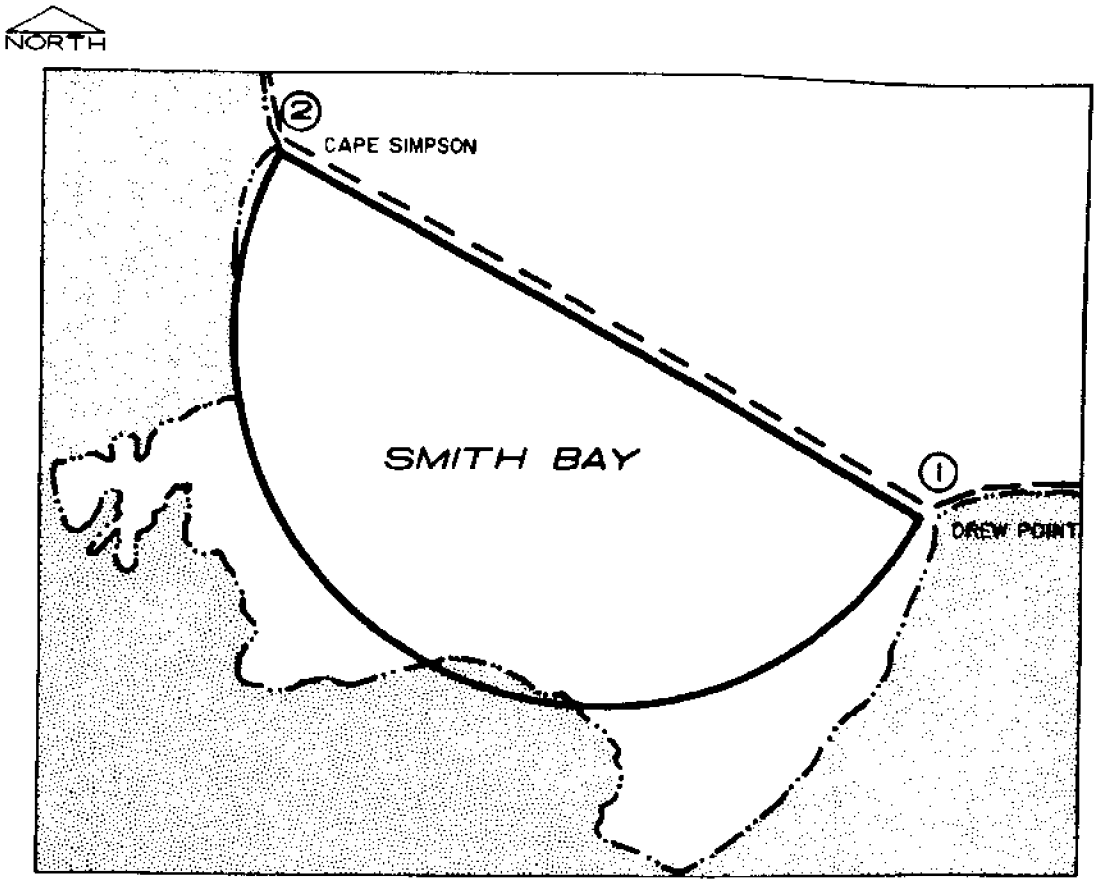
Another reason why the Navy cannot claim jurisdiction over the submerged lands in the two indentations deals with the ownership of tidelands. The tidelands along the Arctic Coast of Alaska are the lands between the line of mean lower low water and the line of mean high water. The Submerged Lands Act emphasizes that these tidelands belong to the coastal state, in this instance, Alaska. In his Executive Order of 1923, President Harding ended the boundary of the Reserve at the highest high water mark, which was later interpreted to mean the mean high water mark. Since the boundary of the Reserve ends where the tidelands begin, the State of Alaska owns the tidelands. Logically, the state also owns the submerged lands seaward of the tidelands beneath the inland waters. If the state owns these lands, then the Navy cannot.

In view of the previous discussion, the coastal boundaries of Alaska do not coincide with the coastal boundaries of the Reserve with respect to these two indentations in Harrison Bay. The coastline of Alaska should follow the two bay closure lines which join the marks of mean lower low water as provided by the laws of the United States. The boundary of the Reserve should follow the sinuosities of the two indentations along the line of mean high water as provided by the Navy's own interpretation of Executive Order No. 3797-A.

The next area to be examined along the coastal boundary of the Reserve is Smith Bay, as shown in Figure 5. Smith Bay has an eastern natural entrance point at Drew Point, which is marked with a number 1. The western natural entrance point is Cape Simpson, which is marked with a number 2. The distance across the mouth of this bay between these two points at their mean lower low water mark is approximately 14.09 nautical miles. This distance satisfies the first test of a legal bay.

The shaded water area of the bay can be compared visually with the area of the semicircle drawn with a diameter of 14.09 nautical miles. The water area of the bay is obviously larger than the water area of the semicircle, therefore the bay is a legal bay.

The same arguments about measuring legal bays with mean high water versus mean lower low water, and the ownership of tidelands and their adjacent submerged lands beneath inland waters, apply to Smith Bay. The lands seaward of mean high water and landward of the bay closing line belong to the State of Alaska and not to the Navy. Therefore, the coastal boundary of the Reserve follows the sinuosities of Smith Bay along the mean high water mark, whereas the coastal boundary of Alaska across Smith Bay coincides with the bay closing line joining the marks of mean lower low water.



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LINE OF HIGHEST HIGHWATER & ORIGINAL BOUNDARY OF NPR 4

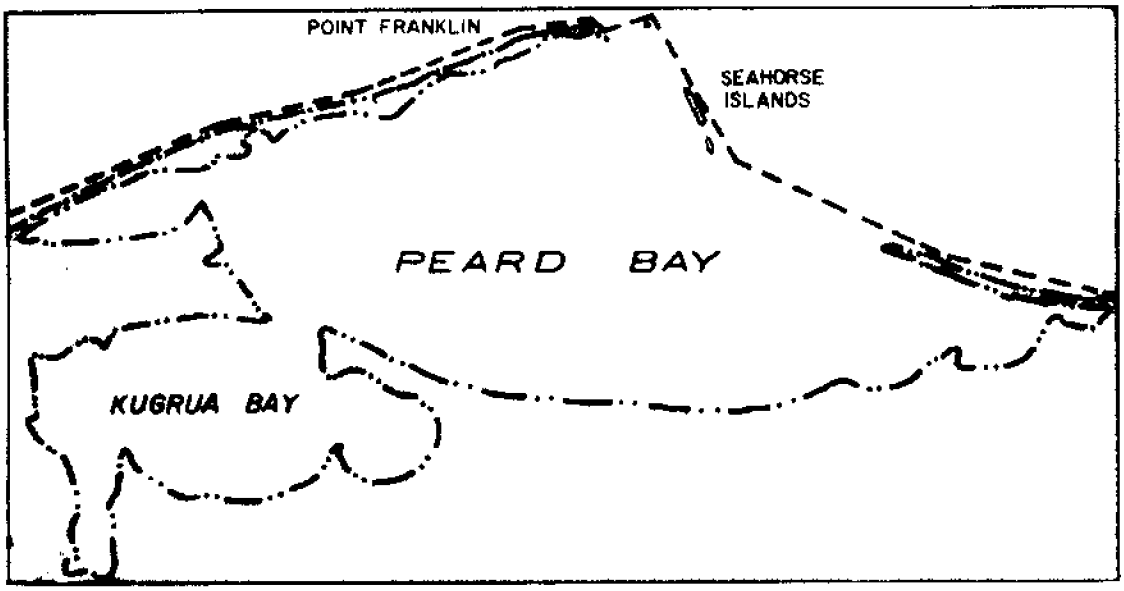
COASTLINE OF ALASKA, MODIFIED BOUNDARY OF NPR 4

WATER AREA OF BAY

SCALE 1:250,000
1 INCH EQUALS APPROXIMATELY 4 MILES

FIGURE 5: COASTAL BOUNDARY OF SMITH BAY

SOURCE: U.S. GEOLOGICAL SURVEY, TESHEKPUK, ALASKA, 1955.



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6.2 NAUTICAL MILES

LINE OF HIGHEST HIGHWATER & ORIGINAL BOUNDARY OF NPR 4

COASTLINE OF ALASKA, MODIFIED BOUNDARY OF NPR 4

WATER AREA OF BAY

SCALE 1: 250,000
1 INCH EQUALS APPROXIMATELY 4 MILES

FIGURE 6: COASTAL BOUNDARY OF PEARD BAY

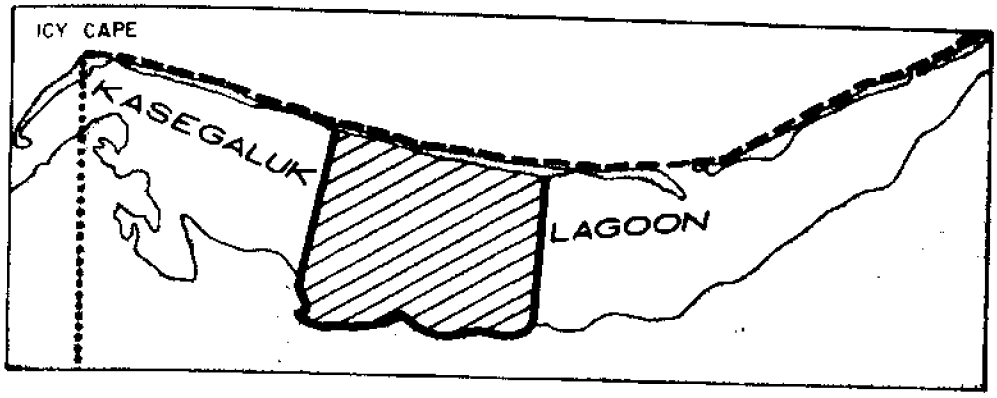
NORTH

SOURCE: U.S. GEOLOGICAL SURVEY, MEADE RIVER, ALASKA, 1955 & WAINWRIGHT, ALASKA, 1955

The third area to be examined is Peard Bay, shown in Figure 6. This bay is different from the previous two since it has islands lying across its mouth. The summation of the widths of the water entrances between the Seahorse Islands is approximately 6.2 nautical miles. This distance satisfies the first test of a legal bay.

The shaded water area of the bay can be compared visually with the area of the semicircle drawn with a diameter of 6.2 nautical miles. Clearly, the area of the bay is larger than that of the semicircle, and the bay is conclusively a legal bay.

The State of Alaska owns the land within the bay seaward of the line of mean high water. The boundary of the Reserve is the line of mean high water around the sinuosities of the bay. The coastal boundary of the state coincides with the bay closing line which includes the seaward edge of the Seahorse Islands.



SOURCE: U S GEOLOGICAL SURVEY, WAINWRIGHT, ALASKA, 1955

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POSSIBLE BOUNDARY OF NPR 4

COASTLINE OF ALASKA AND PRESENT BOUNDARY OF NPR 4

INTERIOR BOUNDARY OF NPR 4

SUBMERGED LANDS POSSIBLY BELONGING TO ALASKA

WATER AREA OF LAGOON

NORTH

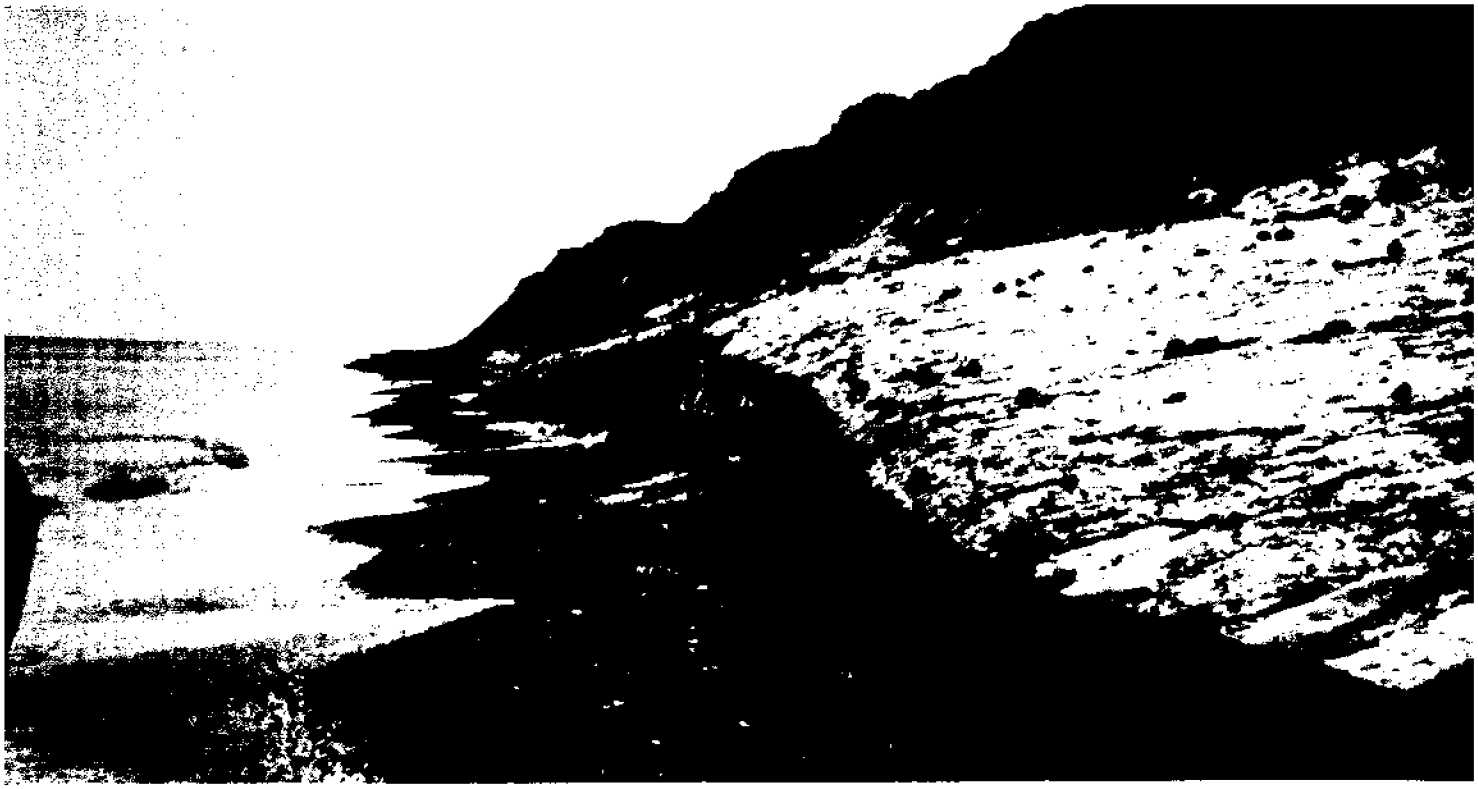
SCALE 1 250,000
1 INCH EQUALS APPROXIMATELY 4 MILES

FIGURE 7: COASTAL BOUNDARY OF KASEGALUK LAGOON

The final area to be examined is Kasegaluk Lagoon, shown in Figure 7. The coastline of Alaska unquestionably follows the line of mean lower low water along the ocean side of the barrier reef seaward of the lagoon.

The Navy also claims this line as the boundary of its Reserve. A careful examination of Executive Order No. 3797-A indicates this claim may not be entirely valid. The Order indicates that where the barrier reef is not over three miles from shore, the boundary shall be the highest high water mark on the outer shore of the reef, and adds that where the barrier reef is over three miles offshore, the boundary shall be the highest high water mark of the coast of the mainland.

In the case of Kasegaluk Lagoon, the distance between the mainland and the landward edge of the barrier reef varies from less than three nautical miles at either end to more than three nautical miles toward the center. Therefore, the Reserve boundary should follow the highest high water line, or the mean high water line, along the coast of the mainland between the two points where the landward edge of the barrier reef is over three nautical miles from the mainland. The Reserve boundary lines should then connect the seaward edge of the island to the mainland at their mean high water marks as shown on the map. The submerged lands under the lagoon within the hatchered area would belong to the State of Alaska rather than the Navy. This interpretation of the Executive Order draws a fine line, but if valuable natural resources were discovered in Kasegaluk Lagoon, the distinction may become important.



V. Summary

Four selected areas of the Arctic Coast of Alaska adjacent to the coastal boundaries of Naval Petroleum Reserve No. 4 have been examined. The Navy has interpreted the Reserve boundary line of highest high water of Executive Order No. 3797-A to indicate the line of mean high water of the Submerged Lands Act. As a result of this interpretation, the Navy has moved its boundary seaward and increased its territory. This unilateral decision to move the boundary may be beyond the administrative authority of the Secretary of the Navy.

The Submerged Lands Act of 1953 and the Supreme Court's application of the 1958 United Nations' Convention on the Territorial Sea and the Contiguous Zone have been used to evaluate the legality of four bays in three general areas along the coast. All four bays were found to be legal bays and their waters to be inland waters. It was demonstrated that title to the submerged lands within those bays seaward of the alleged Reserve boundary of mean high water may belong to the State of Alaska and not to the Navy.

As a corollary to this demonstration, it was shown that the coastal boundary of the State of Alaska and the Reserve may not coincide at these bay areas. The coastal boundary of the State of Alaska follows the bay closing lines between the natural entrance points of the bays at their mean lower low water mark. Assuming that the coastal boundary of the Reserve is the line of mean high water, the Reserve's boundaries should follow the sinuosities of the bays along the line of mean high water.

Finally, a lagoon area was examined using a technical interpretation of Executive Order 3797-A. In this case the Reserve boundary should follow the mainland in places where the barrier reef is over three nautical miles from the mainland.

It is important to establish precise boundaries between areas that potentially have valuable natural resources. The Department of the Navy unilaterally changed its boundaries almost half a century after its Reserve was established, when it became known that beneath some of the bay areas were portions of vast oil reservoirs. The State of Alaska should challenge this action and have the courts decide ownership of these important submerged lands. These lands may belong to the state and its citizens and should not be forfeited. The Navy action took place on May 19, 1972. The longer the state remains silent, the harder it may be to reverse the action.

APPENDIX I

EXECUTIVE ORDER

WHEREAS there are large seepages of petroleum along the Arctic Coast of Alaska and conditions favorable to the occurrence of valuable petroleum fields on the Arctic Coast and,

WHEREAS the present laws designed to promote development seem imperfectly applicable in the region because of its distance, difficulties, and large expense of development and,

WHEREAS the future supply of oil for the Navy is at all times a matter of national concern,

NOW, THEREFORE, I, WARREN G. HARDING, President of the United States of America, by virtue of the power in me vested by the laws of the United States, do hereby set apart as a Naval Petroleum Reserve all of the public lands within the following described area not now covered by valid entry, lease or application:

Commencing at the most northwestern extremity of the point of land shown on the maps of Alaska as Icy Cape, approximately lat. 70° 21', long. 161° 46'; thence extending in a true south course to the crest of the range of mountains forming the watershed between the Noatak River and its northern tributaries and the streams flowing into the Arctic Ocean; thence eastward along the crest of this range of mountains to a peak at the head of the northernmost of the two eastern forks of Midas Creek (Pl. I, U.S.G.S., Bull. 536), at approximately lat. 67° 50', long. 156° 08'; thence in a true north course to a point at the highest high water on the western or right bank of the Colville River; thence following said highest highwater mark downstream along said Colville River and the western bank of the most western slough at its mouth to the highest highwater mark on the Arctic coast. From here, following the highest highwater mark westward to the point of beginning.

The coast line to be followed shall be that of the ocean side of the sandspits and islands forming the barrier reefs and extending across small lagoons from point to point, where such barrier reefs are not over three miles off shore, except in the case of Plover Islands, from Point Tangent to Point Barrow (Pl. 3, U.S.G.S., P.P. 109), long. approximately 154° 50', where it shall be the highest highwater mark on the outer shore of the islands forming the groups and extending between the most adjacent points of these islands and the sandspits at either end. In cases where the barrier reef is over three miles off shore the boundary shall be the highest highwater mark of the coast of the mainland.

Said lands to be so reserved for six years for classification, examination, and preparation of plans for development and until otherwise ordered by the Congress or the President.

The reservation hereby established shall be for oil and gas only and shall not interfere with the use of the lands or waters within the area indicated for any legal purpose not inconsistent therewith.

WARREN G. HARDING

The White House
February 27, 1923

APPENDIX II

DEPARTMENT OF DEFENSE
Department of the Navy

NAVAL PETROLEUM AND OIL SHALE RESERVES

Notice of Boundary Description of Naval Petroleum Reserve No. 4

FEDERAL REGISTER, VOL. 37, NO. 98
FRIDAY, MAY 19, 1972

The Secretary of the Navy by Acts of Congress codified as 10 U.S.C. sections 7421-38 is charged directly with responsibility for administering the Naval Petroleum and Oil Shale Reserves. Notice is hereby given that, in execution of this authority and responsibility, the boundaries of the Naval Petroleum Reserve in Alaska known as Naval Petroleum Reserve No. 4 as designated originally by Executive Order No. 3797-A, February 27, 1923, have been corrected and redefined to reflect more precise cadastral and geodesic surveys of the area and the specific application of the mandate of the Executive order to charting of the boundary along the Arctic Ocean.

The following described points, courses, and descriptions locate the boundaries of Naval Petroleum Reserve No. 4 as created by Executive Order No. 3797-A of February 27, 1923, and Acts of Congress related thereto:

Commencing at the northwestern extremity of the point of land shown on the maps of Alaska as Icy Cape, approximate[1] latitude 70°19'52" N., longitude 161°52'41" W.; thence extending in a true south course to the crest of the range of mountains forming the watershed between the Noatak River and its northern tributaries and the streams flowing into the Arctic Ocean, approximate latitude 68°31'07" N., longitude 161° 52'41" W.; thence eastward along the crest of this range of mountains to a peak at the head of the northernmost of the two eastern forks of Midas Creek (Pl. 1, USGS Bull. 536)[2] at approximate latitude 67°57'54" N., longitude 155°36'51" W.; thence in a true north course to a point at the highest highwater mark on the right bank[3] of the Colville River, approximate latitude 68°57'55" N., longitude 155°36'51" W.; thence following the highest highwater mark downstream along the right bank of the Colville River to a point on the said right bank at approximate latitude 70°13'52" N., longitude 150°49'22" W.; thence crossing the Colville River along the latitude 70°13'52" N. to a point at approximate latitude 70°13'52" N., longitude 150°50'11" W., on the left bank of the most western slough of the Colville River, now identified as the Nechelik Channel[4]; thence along the left bank of said slough to the mean[5] highwater mark on the Arctic Coast to a point approximate latitude 70° 25'52" N., longitude 151°11'00" W.; thence in a northwestly direction in a straight line bearing approximately N. 53°20' W. for approximately 11.65 nautical miles to the eastern side at mean highwater of the easternmost island east of Atigaru Point at approximate latitude 70°32'46" N., longitude 151°39'00" W.;

Thence in a northwesterly direction in a straight line bearing approximately N. 34°50' W. for approximately 18.94 nautical miles to the mean highwater mark on the coast at or near Cape Halkett at approximate latitude 70°48'12" N., longitude 152°11'00" W.; thence along the mean highwater mark of the coast to a point at approximate latitude 70°53'05" N., longitude 152°46'30" W.; thence in a arcuate, point-to-point, continuous line connecting and including the ocean sides at the mean highwater mark of the outer islands opposite Pogik Bay and including Pogik Point to a point at the mean highwater mark on the coast at approximate latitude 70°54'36" N.,

1. The latitude and longitude coordinates used in this description differ slightly from those in the original order because of more precise and accurate surveys of the area by the U.S. Geological Survey (USGS) and the Coast and Geodetic Survey.
2. The peak described by these coordinates and identified on the official map has been identified by actual onsite inspection from the air and by corrected USGS data as the peak located on the plate of the greatly reduced map in the referenced Bulletin.
3. The description of the Colville River boundary in Executive Order 3797-A as the "western or right bank" presents a conflict in terms. As the banks of a river are described as "right" or "left" from the viewpoint of a person facing downstream, the "right" bank of the river, which flows in a general direction from south to north, cannot be the "western bank. This error was recognized and corrected erroneously by a unilateral order of the Secretary of the Interior, Public Land Order 1621, Apr. 18, 1958, published in 23 F.R. 2637. Public

longitude 152°53'51" W.; thence along the mean high-water mark on the coast to Drew Point at approximate latitude 70°52'30" N., longitude 153°56'00" W.; thence in a northwesterly direction in a straight line bearing approximately N. 61°15' W. for approximately 14.09 nautical miles to the mean highwater mark of the coast at or near Cape Simpson at approximate latitude 70°59'26" N., longitude 154°34'00" W.; thence continuing along the mean highwater mark of the coast and continuing in a point-to-point line connecting and including the ocean sides at the mean highwater mark of the islands off the estuary of the Sinclair River, McKay Inlet, Fatigue Bay, and Point Tangent to the western tip of Kulgurak Island at approximate latitude 70°09'32" N., longitude 155° 05'53" W.; thence in the same manner in a line along the mean highwater mark of the outer shore of the group of islands between Point Tangent and Point Barrow, known as the Plover Islands, to the northernmost point of Point Barrow at approximate latitude 71°23'29" W.; longitude 156°28'30" W.;

Thence in a southwesterly direction along the mean highwater mark on the coast and continuing along the ocean side of the point, sandspits, and reefs enclosing the eastern side of Peard Bay to a point at approximate latitude 70°50'28" N., longitude 158°31'54" W.; thence in a northwesterly direction in a straight line bearing approximately N. 60°50' W. to a point on the Seahorse Islands at approximate latitude 70°52'04" N., longitude 158°40'42" W.; thence in a continuous line connecting and including the ocean side at the mean highwater mark of the Seahorse Islands to a point at the western end of the Seahorse Islands at approximate latitude 70°54'43" N., longitude 158°44'50" W.; thence in a straight line bearing approximately S. 67°40' W. to Point Franklin at approximate latitude 70°54'24" N., longitude 158° 47'16" W.; thence in a continuous line along the ocean side at the mean highwater mark of the reefs and islands enclosing Wainwright Inlet, Kasegaluk Lagoon, and other lesser lagoons, inlets, and estuaries to the point of beginning.[6]

MERLIN H. STARING,
Rear Admiral, JAGC, U. S. Navy,
Judge Advocate General of the Navy.

May 5, 1972.

[FR Doc.72—7096 Filed 5-18-72;8:45 am]

Land Order 1621 substituted the description of "left" bank. This order was referenced and reaffirmed in Public Land Order 2215, Dec. 6, 1960, 25 F.R. 12599. Both Public Land Order 1621 and Public Land Order 2215 invoked Executive Order 10355 of May 26, 1952, as the basis for their promulgation. No prior approval or concurrence of the Secretary of the Navy as required by Executive Order 10355 was obtained as to the effect of either Public Land Order 1621 or Public Land Order 2215 on Naval Petroleum Reserve No. 4 (NPR-4), "land under the administrative jurisdiction" of the Secretary of the Navy, 10 U.S.C. secs. 7421-22. While Public Land Order 1621 further confuses and complicates the issue, it does not, therefore, authoritatively resolve the conflict in the terms. Exchange of correspondence between the Director of the Naval Petroleum and Oil Shale Reserves and the Director of the Bureau of Land Management, Department of the Interior, discloses that the Solicitor of the Department of the Interior has concluded that the Public Land Order 1621 interpretation of the Colville River boundary as the "left" rather than the "right" bank is not supportable as a valid legal resolution of the conflict in Executive Order 3797-A. Memos, Solicitor of the Department of the Interior, dated Dec. 2, 1969, and Mar. 3, 1970.

For the following reasons the corrected description is "right" bank and this reference is now promulgated as the correct delineation of the boundary. Particularly in the case of a meandering river, such as the Colville, use of compass-point directions in describing the river's banks is unreliable and not recognized as legally definitive. The survey leading to the location of NPR-4 in Executive Order 3797-A was presumably conducted in compliance with the Manual of Instructions for the Survey of Public Lands of the United States, 1930, the relevant chapters of which were promulgated June 16, 1919, and in effect at that time. The instructions in this Manual require its use by every surveyor engaged in the execution of public-land surveys. The Manual requires "left-right" terminology in the description of river banks and states:

"Proceeding downstream, the bank on the left hand is termed the left bank and that on the right the right bank. These terms will universally be used to distinguish the two banks of a river or stream."

Recognizing the term "right bank," therefore, as controlling as the officially prescribed term, the addition of the word "western" is surplusage and, being inconsistent, is to be disregarded.

As a practical consideration it is more probable that the intent of Executive Order 3797-A in locating NPR-4 was to continue the bed of the Colville River within the reserve where it had its origin and for the boundary to cross the river at the beginning of the sloughs at its mouth to exclude those channels through which the river flows into the ocean, rather than to jump the boundary across the river at an arbitrary point upstream.

4. The point described as "the western bank of the most western slough" is actually the southern bank at this point since the channel meanders from its origin in a westerly direction for 3 to 4 miles before turning to a northerly course to the Arctic Ocean.
5. "Mean highwater mark" is substituted for "highest highwater mark" with respect to the ocean boundary to reflect the legislative determination of the definitions of "coast line" in the Submerged Lands Act (Public Law 83-31, 67 Stat. 29) as interpreted by the United States Supreme Court in United States v. California, 381 U.S. 139 (1965), and The Louisiana Boundary case, 394 U.S. 11 (1969), and made applicable by the Alaska Statehood Act (Public Law 85-508, 72 Stat. 339) which retained title to the United States in NPR-4 but otherwise granted to the State of Alaska title to submerged lands. The difference along the Arctic coast between "highest highwater" and "mean highwater" is slight since the total vertical tidal difference is recorded as no more than 6 inches. It is a fair inference of the intent of Congress in reserving title to NPR-4 in the United States at the time title to adjacent submerged lands was granted to the State that no hiatus or "no man's land" was intended but that the boundary between NPR-4 and State lands described by reference to mean high-water should control. In all other respects the ocean boundary is located as in application of the general description in Executive Order 3797-A:

"From here, following the highest highwater mark westward to the point of beginning.

"The coastline to be followed shall be that of the ocean side of the sandspits and islands forming the barrier reefs and extending across small lagoons from point to point, where such barrier reefs are not over 3 miles offshore, except in the case of Plover Islands, from Point Tangent to Point Barrow (Pl. 3, USGS, P.P. 109), longitude approximately 154°50', where it shall be the highest highwater mark on the outer shore of the islands forming the groups and extending between the most adjacent points of these islands and the sandspits at either end. In cases where the barrier reef is over 3 miles offshore the boundary shall be the highest highwater mark of the coast of the mainland."

6. The boundary as herein defined is illustrated on a map entitled, "Boundaries of Petroleum Reserve No. 4, Alaska (April 1972)," on file and available for public inspection in the office of the Director, Naval Petroleum and Oil Shale Reserves, Room 1024, Crystal Plaza No. 6, Arlington, VA, Post Office Washington, D. C. 20360.

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