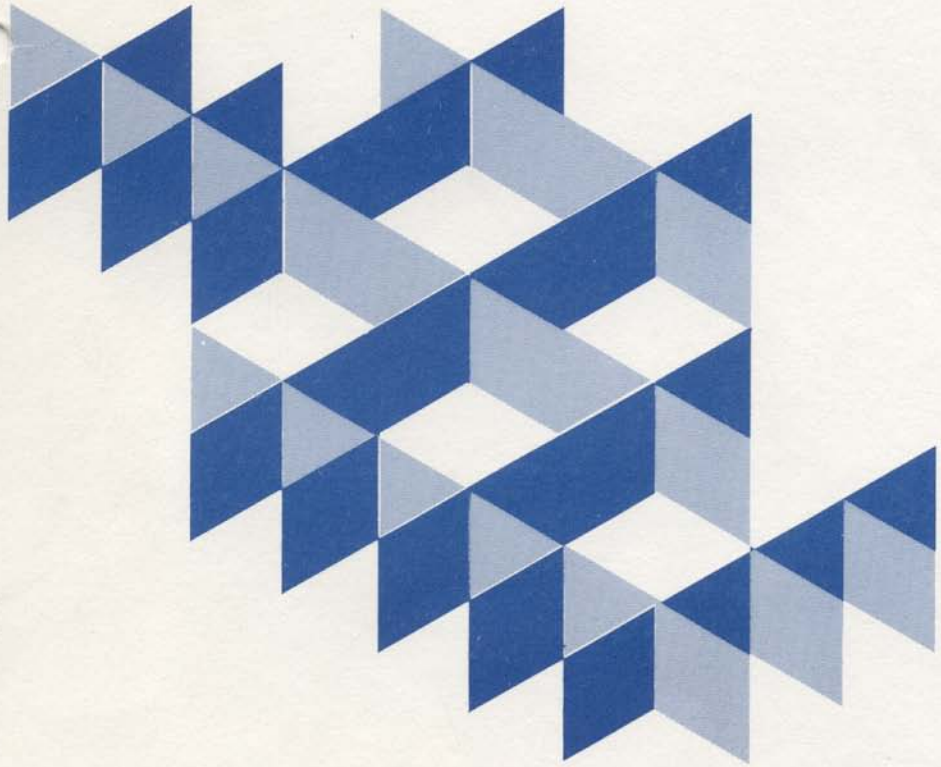
United States Department of State
*Bureau of Intelligence and Research*

# Limits in the Seas

No. 94

## CONTINENTAL SHELF BOUNDARIES:

## THE PERSIAN GULF



*This paper is one of a series issued by The Geographer, Bureau of Intelligence and Research of the Department of State. The aim of the series is to set forth the basis for national arrangements for the measurement of the territorial sea or the division of the maritime areas of coastal nations.*

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September 11, 1981

Office of The Geographer
Bureau of Intelligence and Research

## Introduction

The Persian Gulf with an area of approximately 90,000 square miles is underlain in its entirety by continental shelf. The average water depth is generally less than 40 fathoms (240 feet). The Gulf is virtually an enclosed sea with the only opening being in the east through the Strait of Hormuz. Eight states border the Persian Gulf: Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates. Potentially, at least 16 continental shelf boundaries will be required in this region (for the purpose of this study internal United Arab Emirates boundaries are not considered). Seven boundaries have been negotiated of which the following six have entered into force:

Bahrain-Iran
Bahrain-Saudi Arabia
Iran-Oman
Iran-Qatar
Iran-Saudi Arabia
Qatar-United Arab Emirates (Abu Dhabi)

The Iran-United Arab Emirates (Dubai) agreement has been signed but the exchange of ratifications has not yet occurred.

At least nine boundaries remain to be negotiated:

Bahrain-Qatar
Iran-Iraq
Iran-Kuwait
Iran-United Arab Emirates (2 boundaries)
Iraq-Kuwait
Kuwait-Saudi Arabia
Oman-United Arab Emirates
Qatar-Saudi Arabia

## The Map

The attached map has been made specifically for this study and should be used for illustrative purposes only. The map is based on DMAHTC Chart No. 62032. The depiction of 12 nautical mile arcs on the map is for general reference and does not necessarily reflect an acceptance of this limit for any maritime jurisdiction by the United States Government or by the countries in this region. Straight lines are rhumb lines which do not necessarily reflect official treaty lines.

## Analysis of the Negotiated Boundaries

The complete texts of the existing continental shelf boundary agreements accompanied by analyses and maps have been published in earlier Limits in the Seas studies. The

purpose of this study is to present on one map all the negotiated boundaries in the Persian Gulf along with a brief summary of each agreement.

The methods employed by these countries to delimit their offshore boundaries vary. The equidistance method has been used but not without modification due to special circumstances. In certain circumstances islands have been given special consideration. In some areas they have been completely disregarded, in some situations they have been given partial effect in the delimitation process. Outstanding sovereignty disputes will complicate many of the remaining boundary negotiations.

## **Bahrain-Iran**

Bahrain and Iran, which face each other across the central portion of the Persian Gulf, signed a continental shelf agreement on June 17, 1971. It entered into force on May 14, 1972. Article 1 specifies the course of the boundary:

The line dividing the continental shelf lying between the territory of Iran on the one side and the territory of Bahrain on the other side shall consist of geodetic lines between the following points in the sequence hereinafter set out: -

Point (1) is the Eastern-most point on the Eastern-most part of the Northern boundary line of the continental shelf appertaining to Bahrain as formed by the intersection of a line starting from the point having the latitude of 27 degrees, 00 minutes, 35 seconds North and longitude 51 degrees, 23 minutes, 00 seconds East, and having a geodetic azimuth of 278 degrees, 14 minutes, 27 seconds, with a boundary line dividing the continental shelf appertaining to Bahrain and Qatar, thence:

| | Lat. North | Long. East |
|---|---|---|
| Point (2) | 27° 02' 46" | 51° 05' 54" |
| Point (3) | 27° 06' 30" | 50° 57' 00" |
| Point (4) | 27° 10' 00" | 50° 54' 00" |

* * * * * *

The boundary extends for a distance of 28.3 nautical miles and consists of two turning and two terminal points. The western terminal point is coincidental with the tripoint with Saudi Arabia. In the east the precise terminal will depend on Bahrain-Qatar negotiations. No specific boundary delimitation methodology is cited in the agreement, only that the boundary is to be established "in a just, equitable and precise manner …." The turning points are close to being equidistant to each coast, but calculate to be

slightly nearer to Iran. The terminal points are between 5 and 10 nautical miles closer to Iran than to Bahrain. Refer to Limits in the Seas No. 58 for further details.

## Bahrain-Saudi Arabia

The Bahrain-Saudi Arabia boundary agreement was signed February 22, 1958, and entered into force on February 26, 1958. The boundary extends for approximately 98.5 nautical miles.

Although Article 1 of the agreement states that the boundary is based on "the median line," this treaty represents a negotiated agreement and should not be characterized as a true equidistant line. The boundary is characterized as a true equidistant line. The boundary is determined as a series of midpoints between preselected and agreed-upon coastal points. Small islands and low-tide elevations were ignored in this selection process. Geographical landmarks of both states are cited in Article 1 of the agreement, but precise coordinate values are not given for the turning or terminal points (refer to Limits in the Seas No. 12). While the turning/terminal points are equidistant between the two selected coastal points, other coastal features may be closer to the boundary.

North of Bahrain a hexagon has been delimited within which Saudi Arabian jurisdiction is identified where revenue gain from hydrocarbon exploitation is to be shared with Bahrain (this hexagon is shown not on the attached map but on the map in study No. 12).

## Iran-Oman

These two states signed their Persian Gulf continental shelf boundary agreement on July 25, 1974. Upon the exchange of instruments of ratification, it entered into force on May 28, 1975. A boundary segment in the Gulf of Oman remains to be negotiated.

Iran and Oman have opposing coasts in the Strait of Hormuz area. The northern Oman coast, that part which constitutes the elbow of the strait, consists largely of offshore islands. Iran's coastline is also fringed with islands.

The boundary agreement does not specify any method of delimitation. Article 1 of the agreement defines the turning and terminal points:

The line dividing the continental shelf lying between the territory of Iran on the one side and the territory of Oman on the other side shall consist of geodetic lines between the following points in the sequence hereinafter set out: -

> Point (1) is the most western point which is the intersection of the geodetic line drawn between point (0) having the coordinates of 55°42'15"E 26°14'45"N and

point (2) having the coordinates of 55°47'45"E 26°16'35"N with the lateral offshore boundary line between Oman and Ras Al Khaimal.

| | Long. E. | Lat. N. | |
|---|---|---|---|
| Point (2) | 55 47 45 | 26 16 35 | |
| Point (3) | 55 52 15 | 26 18 50 | |
| Point (4) | 56 06 45 | 26 28 40 | |
| Point (5) | 56 08 35 | 26 31 05 | |
| Point (6) | 56 10 25 | 26 32 50 | |
| Point (7) | 56 14 30 | 26 35 25 | |
| Point (8) | 56 16 30 | 26 35 35 | |
| Point (9) | 56 19 40 | 26 37 00 | W. Intersect of Larak 12m. |
| Point (10) | 56 33 00 | 26 42 15 | E. Intersect of Larak 12 m. |
| Point (11) | 56 41 00 | 26 44 15 | |
| Point (12) | 56 44 00 | 26 41 35 | |
| Point (13) | 56 45 15 | 26 39 40 | |
| Point (14) | 56 47 45 | 26 35 15 | |
| Point (15) | 56 47 30 | 26 25 15 | |
| Point (16) | 56 48 05 | 26 22 00 | |
| Point (17) | 56 47 50 | 26 16 30 | |
| Point (18) | 56 48 00 | 26 11 35 | |
| Point (19) | 56 50 15 | 26 03 05 | |
| Point (20) | 56 49 50 | 25 58 05 | |
| Point (21) | 56 51 30 | 25 45 20 | |

Point (22) is the most southern point located at the intersection of the geodetic demarcation line drawn from point (21) (specified above) at an azimuth angle of 190° 00 0' and of the lateral offshore boundary line between Oman and Sharjah.

* * * * * *

The boundary runs for approximately 124.8 nautical miles and has 21 turning points. The terminal points, both in the Persian Gulf and in the Gulf of Oman, are not defined pending Oman's negotiations with the United Arab Emirates. The boundary is essentially an equidistant line except for one area which follows the 12-nautical mile arcs drawn from the Iranian island of Larak (refer to Limits in the Seas No. 67)

The present IMCO (Intergovernmental Maritime Consultative Organization) Strait of Hormuz traffic separation lanes are situated entirely on Oman's side of the boundary. The water depths in the boundary region range from 30-55 fathoms (180-330 feet).

## Iran-Qatar

Iran and Qatar signed a boundary agreement on September 20, 1969, and it entered into force on May 10, 1970. The boundary, at least 131 nautical miles in length, generally runs in a northwesterly-southeasterly direction in the central portion of the

Persian Gulf. The precise location of the terminal point in the northwest will not be known until a Bahrain-Qatar boundary, which is complicated by a sovereignty dispute over Hawar Island, is negotiated. In the southeast the terminal point coincides with the Qatar-United Arab Emirates (Abu Dhabi) northern terminus. The course of the boundary is described in Article I of the treaty which states:

> The demarcation line separating the territory of Iran on the one hand and that of Qatar on the other merges with the geodesic line linking the following points:
>
> Point (1) is the one located at the extreme western part of the most western zone of the demarcation line north of the continental shelf belonging to Qatar and which is linked to point (2) below at an angle of 278° 14' 27" by a geodesic demarcation line.

| | Latitude | Longitude |
|---|---|---|
| Point (2) | 27° 0' 35" | 51° 23' 00" |
| " (3) | 26° 56' 20" | 51° 44' 50" |
| " (4) | 26° 33' 25" | 52° 12' 10" |
| " (5) | 26° 06' 20" | 52° 42' 30" |
| " (6) | 25° 31' 50" | 53° 02' 05" |

The line is based on the equidistant method in which basepoints from the respective mainlands were used. Islands were disregarded in the calculation of the boundary turning points (refer to Limits in the Seas No. 25).

**Iran-Saudi Arabia**

This continental shelf boundary agreement was signed October 24, 1968, and entered into force January 29, 1969. Article 1 of the treaty recognizes Saudi Arabia sovereignty over the islands of Al'Arabiyah and Iranian sovereignty over the island of Farsi. Article 3 cites the coordinates of the turning and terminal points:

> (a) Except in the vicinity of Al-'Arabiyah and Farsi, the said line is determined by straight lines between the following points whose latitude and longitude are specified herein below:

| Point | North Latitude | East Longitude |
|---|---|---|
| 1 | 27°10.0' | 50°54.0' |
| 2 | 27°18.5' | 50°45.5' |
| 3 | 27°26.5' | 50°37.0' |
| 4 | 27°56.5' | 50.17.5' |
| 5 | 28°08.5' | 50°06.5' |
| 6 | 28°17.6' | 49°56.2' |

| | | |
|---|---|---|
| 7 | 28°21.0' | 49°50.9' |
| 8 | 28°24.7' | 49°47.8' |
| 9 | 28°24.4' | 49°47.4' |
| 10 | 28°27.9' | 49°42.0' |
| 11 | 28°34.8' | 49°39.7' |
| 12 | 28°37.2' | 49°36.2' |
| 13 | 28°40.9' | 49°33.5' |
| 14 | 28°41.3' | 49°34.3' |

(b) In the vicinity of Al-'Arabiyah and Farsi, a line laid down as follows:

At the point where the line described in paragraph (a) intersects the limit of the belt of Farsi, the boundary shall follow the limit of that belt on the side facing Saudi Arabia until it meets the boundary line set forth in Article 1 which divides the territorial seas of Farsi and Al-'Arabiyah; thence it shall follow that line easterly until it meets the limit of the belt of the territorial sea around Al-'Arabiyah; thence it shall follow the limit of that belt on the side facing Iran until it intersects again the line described in paragraph (a).

* * * * * *

The boundary line is 138.7 nautical miles in length and has 16 turning or terminal points. In the south this boundary joins the Iran-Qatar continental shelf boundary. Islands have been recognized as presenting a special circumstance. In the area of Farsi and Al'Arabiyah each set of islands has been given a 12-nautical mile territorial sea. Where their territorial sea limits overlap, an equidistant line, which runs in an east-west direction, has been determined using these islands in the calculation. Otherwise, these islands have been disregarded in the boundary delimitation. Other small Saudi Arabian islands have not been given effect in the calculation of the equidistant line. For the northern 25 percent of the boundary, the Iranian island of Khark has been given "half-effect" on the determination of the equidstant line. Khark is situated approximately 17 nautical miles from the Iranian mainland and has an area of about 12 square nautical miles. In principle, this segment of the boundary generally has been determined by calculating equidistant lines giving full weight to Khark basepoints and then disregarding completely the effect of the island and then splitting the areal difference. From the agreement it is not known for certain if this was the exact method utilized (refer to Limits in the Seas No. 24).

## Iran-United Arab Emirates (Dubai)

This continental shelf boundary agreement was signed August 31, 1974. Iran ratified the treaty on March 15, 1975, but the United Arab Emirates has not. The boundary needs to be continued to the east and to the west. An eastward extension will be complicated by the current sovereignty dispute between Iran and the United Arab Emirates over the islands of Abu Musa, Tunb as Sughra and Tunb al Kurba.

The 1974 agreement establishes a boundary, 39.2 nautical miles in length, that appears to be equidistant from the respective mainlands and ignores the influence of islands. One section of the boundary follows the 12-nautical mile arcs drawn from the Iranian island of Sirri. Using all territories the boundary is situated nearer to either the disputed island of Abu Musa or Sharjah's island of Sir Abu Nu'ayr than to any other Dubai territory (refer to Limits in the Seas No. 63).

**Qatar-United Arab Emirates (Abu Dhabi)**

Qatar and Abu Dhabi signed a continental shelf boundary agreement on March 20, 1969; it entered into force on the same date. In the agreement the two states recognize the United Arab Emirates' sovereignty over Dayyinah island and Qatar's sovereignty over the islands of Al Ashat and Shara'iwah. The course of the boundary is described in Articles 3 and 4:

> 3. Neither country now has any territorial claim upon the other with respect to the islands or offshore areas falling outside its agreed offshore boundary.
>
> 4. The agreed offshore boundary referred to in paragraph (3) above shall be as follows:
>
> (i) A straight line from point "A" with geographic coordinates
>
| | | | |
|---|---|---|---|
| Latitude North | 25° | 31' | 50" |
| Longitude East | 53° | 02' | 05" |

> to the point "B" which coincides with the location of al-Bunduq well No. 1 with geographic coordinates
>
| | | | |
|---|---|---|---|
| Latitude North | 24° | 05' | 54.79" |
| Longitude East | 52° | 36' | 50.98" |

> (ii) A straight line from point "B", as defined above, to point "C" with geographic coordinates
>
| | | | |
|---|---|---|---|
| Latitude North | 24° | 48' | 40" |
| Longitude East | 52° | 16' | 20" |

> (iii) A straight line from point "C" as defined above, to point "D" at the mouth of the Khaur al-'Adid (Khawr al 'Udayd) on the territorial waters boundary, with geographic coordinates.
>
| | | | |
|---|---|---|---|
| Latitude North | 24° | 38' | 20" |
| Longitude East | 51° | 28' | 05" |

* * * * * *

The boundary has 4 turning or terminal points and is 115 nautical miles in length. The northeastern terminus, point "A," is a tripoint situated approximately equidistant from the Iran, Qatar, and Abu Dhabi mainlands. Turning point "B" coincides with the location of

an Abu Dhabi oil well, the profits from which, in accordance with the treaty, will be shared equally between the two states. Between points "B" and "C" the boundary most likely curves around Dayyinah Island. Although not specifically stated in the treaty, the inference from Article 3 is that this Abu Dhabi island would receive a 3-nautical mile territorial sea. The line as drawn on the attached map should be viewed as one interpretation of the agreement. Point "C" is purely a negotiated turning point with no apparent basis. The landward most point, point "D," is situated at the intersection of their 3-nautical mile territorial sea limits (refer to Limits in the Seas No. 18).

# CONTINENTAL SHELF BOUNDARIES in the PERSIAN GULF

*BOUNDARY INFORMATION AS OF JULY 1981*
*For Illustrative Purposes Only*
*NOT TO BE USED FOR NAVIGATION*

Base: DMAHTC chart No. 62032

SOUNDINGS IN FATHOMS
(Under Eleven in Fathoms and Feet)

HEIGHTS IN METERS
Value of heights in feet shown thus: (100 ft)

For Symbols and Abbreviations, see Chart No. 1

MERCATOR PROJECTION
SCALE 1:1,000,000 AT LAT. 27°

GLOSSARY

| | |
|---|---|
| Bahr | bay |
| Bandar | harbor, anchorage |
| Dawhat | inlet, bay |
| Fasht | rock, shoal, reef, island |
| Jabal | hill, mountain |
| Jazīrat, Jazīreh | island |
| Khalīj | bay |
| Khawr | channel, inlet, bay |
| Khowr | channel, inlet, stream, bay |
| Kūh | hill, mountain, peak |
| Ra's | cape, headland, point |
| Rūd | stream |

CONVERSION TABLE
FATHOMS AND FEET TO METERS

| FATHOMS | Feet | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| | | 0.0 | 0.3 | 0.6 | 0.9 | 1.2 | 1.5 |
| 1 | 6 | 1.8 | 2.1 | 2.4 | 2.7 | 3.0 | 3.3 |
| 2 | 12 | 3.6 | 3.9 | 4.2 | 4.5 | 4.9 | 5.2 |
| 3 | 18 | 5.5 | 5.8 | 6.1 | 6.4 | 6.7 | 7.0 |
| 4 | 24 | 7.3 | 7.6 | 7.9 | 8.2 | 8.5 | 8.8 |
| 5 | 30 | 9.1 | 9.4 | 9.7 | 10.0 | 10.3 | 10.6 |
| 6 | 36 | 10.9 | 11.3 | 11.6 | 11.9 | 12.2 | 12.5 |
| 7 | 42 | 12.8 | 13.1 | 13.4 | 13.7 | 14.0 | 14.3 |
| 8 | 48 | 14.6 | 14.9 | 15.2 | 15.5 | 15.8 | 16.1 |
| 9 | 54 | 16.4 | 16.7 | 17.0 | 17.3 | 17.7 | 18.0 |
| 10 | 60 | 18.3 | 18.6 | 18.9 | 19.2 | 19.5 | 19.8 |