

# **The Definition of the Israeli International Boundaries in the Vicinity of Eilat**

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**Key words:** International Boundary, Maritime Boundary, Gulf of Aqaba/Eilat, Israel-Egypt Boundary delimitation, Israel-Jordan Boundary Delimitation

## **ABSTRACT**

The Gulf of Eilat, and especially the head of the gulf, is populated and flourishing today more than ever, at least since the harmony between King Solomon and the Queen of Sheba.

Until 60 years ago, the area was deserted with few hundreds people. Today the population is over 160 thousand people and with the tourists and vacationers around 200 thousand people. Three special boundaries were defined at the head of the Gulf of Eilat/Aqaba. Two of them are land boundaries – between Israel and Egypt and between Israel and Jordan. The third is the maritime boundary between Israel and Jordan.

The two land boundaries are originated historically in the process of coming a part of the Ottoman Empire, that reigned around 400 years between 1416 and WWI. The maritime boundary was the first maritime boundary in the Territorial Sea in this corner of the world. This article analyzes the process of delimiting these three boundaries which are at the vicinity of FIG conference venue. Two of them are only hundreds of meters from the conference site.

Dr. Haim Srebro was responsible for the demarcation and documentation of the international boundary between Israel and Egypt. He was responsible for the delimitation, demarcation and documentation of the land and maritime boundaries between Israel and Jordan, and signed the boundary delimitation documents in the Peace Agreement between the two states. Dr. Srebro serves today as the Director General of the Survey of Israel and is the Conference Director of FIGWW2009.

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## **SUMMARY**

The Gulf of Eilat, and especially the head of the gulf (Figure 1), is populated and flourishing today more than ever, at least since the harmony between King Solomon and the Queen of Sheba.

Until 60 years ago, the area was deserted with few hundreds people. Today the population is over 160 thousand people.

Three special boundaries were defined at the head of the Gulf of Eilat/Aqaba. Two of them are land boundaries – between Israel and Egypt and between Israel and Jordan. The third is the maritime boundary between Israel and Jordan.

The two land boundaries are originated historically in the process of coming a part of the Ottoman Empire that reigned around 400 years between 1416 and WWI. The maritime boundary was the first maritime boundary in the territorial sea in this corner of the world.

The boundary between Israel and Egypt at Taba was defined originally in 1906 between the Egyptian Khedivate (under British control) and Turkey ruling the Ottoman Empire. This boundary was defined after a violent conflict. In December 1981, during the demarcation of the international boundary between Israel and Egypt, in accordance with the 1979 Peace Treaty, a dispute broke up with regard to the boundary at Taba. The dispute was brought up to arbitration of an International Tribunal in 1986 and an award was given in 1988. At the beginning of 1989 the boundary was demarcated at the shore of Taba. The boundary was jointly surveyed in 1992 using GPS and a common datum was defined. Since then the area flourishes, especially due to tourism.

The boundary between Israel and Jordan was defined originally in 1922, in a verbal way, by the British High Commissioner, as part of the British Mandate over Palestine and Trans-Jordan. This boundary was not demarcated through the period of the Mandate. The appearances of the boundary line on maps were mistaken and inconsistent. In May 1946, on the eve of the Jordanian independence, the British survey departments of Palestine and Trans-Jordan demarcated jointly the boundary at the vicinity of the Gulf of Aqaba. This demarcation and documentation was the reference for the boundary delimitation in the 1994 Peace Agreement between Israel and Jordan. The new boundary was jointly demarcated and surveyed in 1995 using GPS, and was documented on the basis of a joint boundary datum.

Article 15 of the 1982 UN Convention on the Law of the Sea (UNCLOS), defines the delimitation of maritime boundaries in the territorial sea between two states that have adjacent or opposite coasts. Israel and Jordan have on the head of the Gulf of Eilat/Aqaba both adjacent and opposite coasts. The coastal point of the land boundary between Israel and Jordan is not on the middle of the northern shore of the gulf. In October 1995 Israel and Jordan agreed on a method of defining a maritime boundary in the head of a gulf. This is an international innovation. This method includes a definition of a point of transition between the zones of adjacent and opposite coasts. On the base of this agreement a Maritime Boundary

Agreement was signed in January 1996 delimiting the boundary by coordinates and a map. Until today this is the only maritime boundary in territorial sea in this corner of the world. This article analyzes the process of delimiting these three boundaries which are at the vicinity of the FIG conference. Two of them are only hundreds of meters from the conference site.

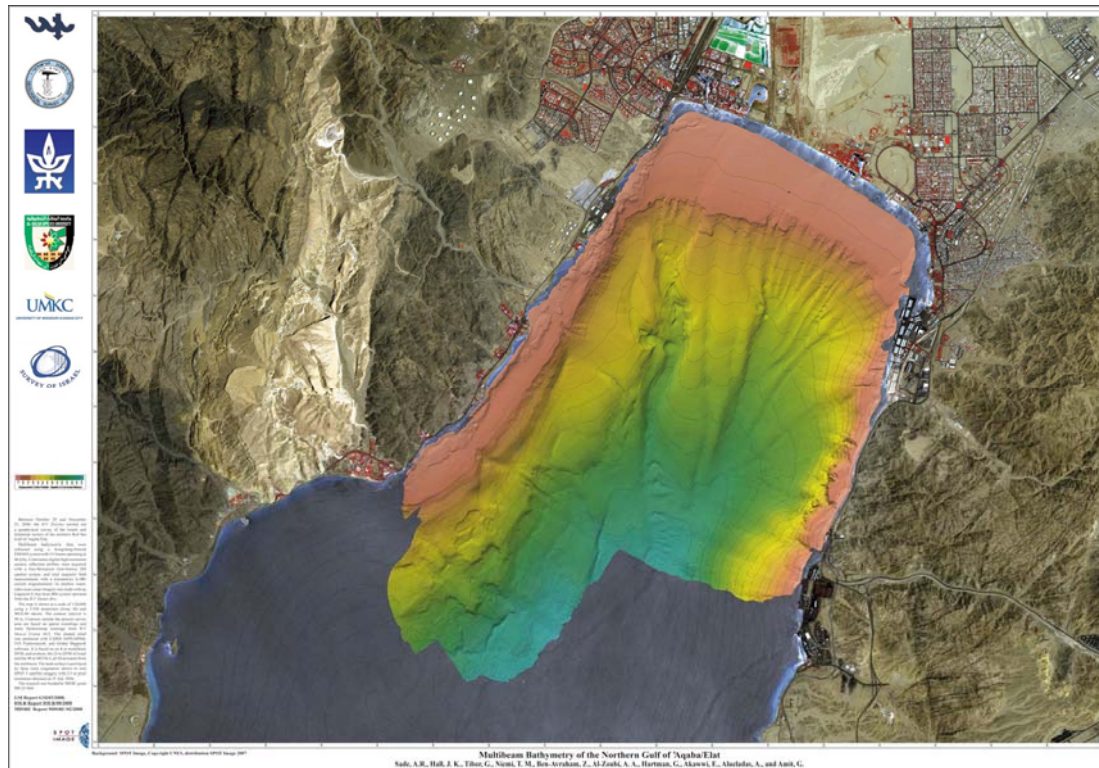


Fig 1: The Head of the Gulf of Eilat/Aqaba (Sade A. R. et al, 2008)

## 1. THE BOUNDARY BETWEEN ISRAEL AND EGYPT AT TABA

The head of the Gulf of Eilat/Aqaba used to be an abandoned area during long periods of history, except the time of king Solomon and a few additional periods. This was the situation at the beginning of the 20<sup>th</sup> century.

Since 1416 the Ottoman Empire reigned over the Middle East. The final disintegration of this empire, during WWI was the engine of the process of creation of modern states all over the Middle East, the final expressions of which had not settled yet.

A preliminary sign of the weakening of the Ottoman Empire, and its influence on the creation of the boundary near Eilat, was practiced in 1841. In this year, the Sultan at Istanbul published a Firman (Order) with an attached map (Biger G., 1978), following the victories of the Egyptian Mohammed Ali, granting him kingdom over Egypt and northern part of Sinai (until a line between El Arish and Suez). In addition Mohammed Ali and his successors were granted protection over South Sinai and over the pilgrimage roads to Mecca. This included the area of Aqaba and the controlling posts at Aqaba and along the eastern coast of the Red Sea on the way to Mecca.

In 1892, ten years after Great Britain took over Egypt, the Turkish Sultan tried to restore his government over Sinai, but the Egyptians, with the British Support, succeeded to stop this intention. In addition, the Egyptian authority over the pilgrimage along the eastern coast of the Red Sea, from the Fort of Aqaba southwards, was taken from them.

At the beginning of 1906 the Turks tried to push their authority westwards to the Sinai, especially in order to rule water sources at Taba, Qseima and other places, and to rule the pilgrimage road from Gaza to Aqaba (Darb el Gaza) for the use of their military forces.

The Turkish commander in charge of Aqaba, Rushdi Pasha, constructed a military post at Marashash (Eilat today).

In spite of the British threats, the Turks sent a military unit to stay at the mouth of Wadi Taba. A British war ship with Egyptian soldiers was sent to the vicinity of Taba. In addition, the British Government sent a requirement to the Sultan to settle, by a joint boundary commission, the boundary line between Rafah and the Gulf of Aqaba. This requirement was supported by British military measures at the Aegean Sea. These violent British measures in May 1906, the major intention of which was to push the Turks eastwards in order to prevent them from an attack westwards in order to gain control over the Suez Canal, succeeded. In May 1906 the two sides signed an agreement to demarcate an administrative line between the Egyptian Khedivate and the Ottoman Empire (Brawer M., 1988, p. 60-74)

A preliminary field demarcation followed this agreement, defining Ras Taba as the most southern boundary point. On 1 October 1906 a final boundary agreement was signed (The Turco-Egyptian Agreement, 1906) including a small scale map (Figure 2).

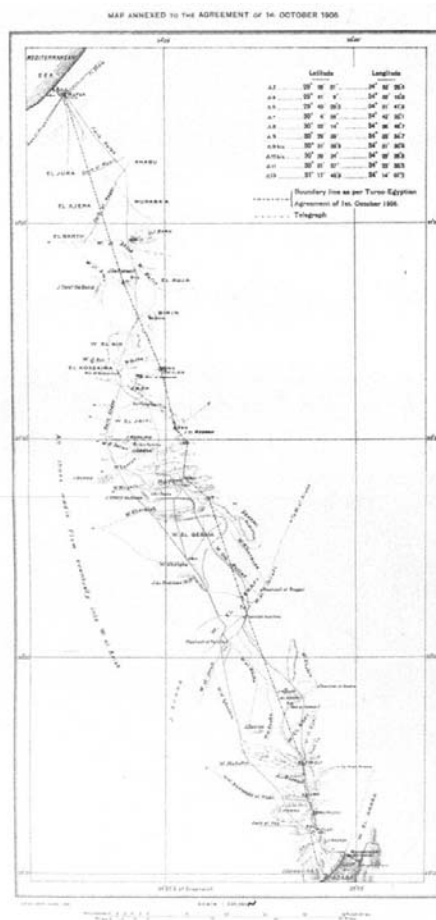


Fig 2: The Map attached to the 1906 Agreement

Article 1 of the Agreement says: "The Administrative separating line as shown on the map attached to this agreement begins at the point of Ras Taba on the western shore of the Gulf of Akaba, and follows along the eastern ridge overlooking Wadi Taba..."

Article 3 of the Agreement says that "Boundary Pillars will be erected, in the presence of the Joint Commission, at inter-visible points along the separating line, from the point on the Mediterranean shore to the point on the shore of the Gulf of Akaba".

Following this agreement a joint boundary commission demarcated the boundary provisionally by 5m long telegraph poles.

This process was documented by two British officials, Officer Owen and Surveyor Wade. Both reported that a line of sight was preserved between the boundary posts, and that the task was finished on 17 or 18 of October (there is a difference between the reports) at sunset when the last post at Taba, where the east cliffs strike the gulf, was demarcated.

On the 31 of December 1906 the first permanent masonry boundary pillar was constructed at Ras Taba by the Public Works Department of Egypt in the presence of Turkish officers and that of the British Colonel Parker, the Governor of Sinai (Figure 3). The erection of the permanent masonry pillars, two meters high topped by one meter iron, replacing the telegraph poles, was finished on 7 February 1907.



Fig 3: The Construction of the (Parker) Pillar at Taba on 31 December 1906

In December 1914, following the declaration of a war with Turkey, Great Britain declared a protectorate over Egypt. On 28 February 1922 Great Britain terminated the protectorate and recognized Egypt as a sovereign state. In 29 September 1923 the Mandate of Great Britain for Palestine entered into force. The 1906 boundary was not surveyed and documented by Egypt and Great Britain. The change of the status of the line, from an administrative separating line between districts of the Ottoman Empire to an international boundary, was not declared formally by the two sides. On the other hand, the change of status of the states, on the two sides of the line, did not change its occurrence.

On 15 May 1948 Israel became an independent State.

The Armistice Demarcation line of 24 February 1949 between Egypt and Israel near Taba followed the line of the Mandate, but the Armistice Agreement stated that its position was without prejudice to the ultimate settlement (Egyptian-Israeli General Armistice Agreement, 1949).

Since the 1949 Armistice Agreement, an Israeli settlement began at Eilat, growing to be a town and a city, while on the Egyptian side of Taba only scattered Bedouin population existed.

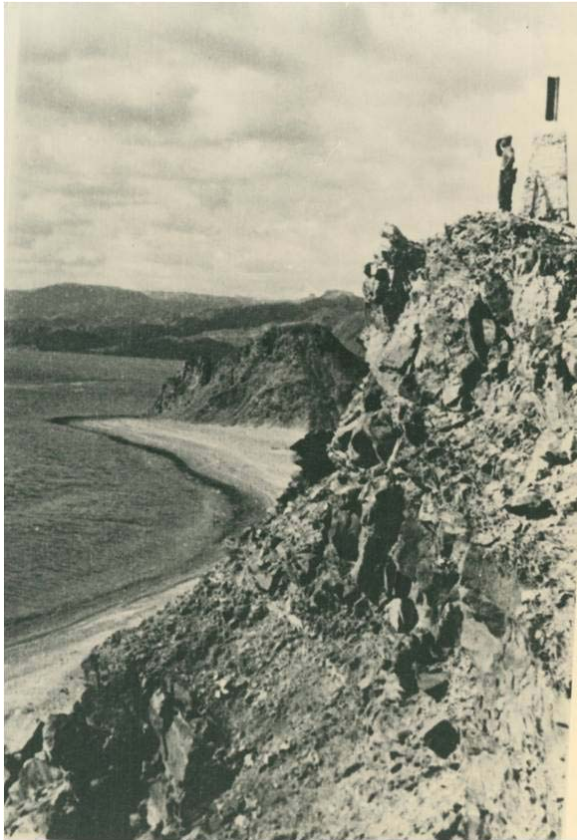


Fig 4: The Boundary Pillar at Taba in 1949

On 26 March 1979 a Treaty of Peace was signed between Israel and Egypt, defining the boundary in the time of the British Mandate to be come the International Boundary between the two states (Treaty of Peace, 1979). Both states agreed that the last point on the Gulf of Aqaba should be at Ras Taba, but they did not agree on the exact point. The disagreement had a practical issue, because an Israeli hotel was built up at the disputed area. The dispute rose up during the boundary demarcation on the eve of the Israeli final withdrawal, which supposed to happen in April 1982.

The two states did not agree to compromise until September 1986, when an agreed Arbitration Tribunal was established with regard to the definition of the location of the boundary pillar at Taba and additional 13 disputed locations.

Egypt claimed at Taba a point which used to be a triangulation point and a boundary pillar during the time of the British Mandate, and submitted supporting documents, as well as photographs taken on 31 December 1906, by Parker, claiming that they were showing the construction of the pillar at the location of the Egyptian claim. Further on, these photographs, which were taken in 1906 by Parker, were proven to be at another location, south west of the Egyptian claimed location.

Israel claimed two alternative locations, both of them fulfilling the condition which was stated in the 1906 Agreement article 3, that there is intervisibility between all the boundary pillars. One Israeli location was at the granite knob and the alternative was at Bir Taba. Israel introduced many documents, stating that either the boundary began at the granite knob or at

Bir Taba. Israel claimed that these points are the correct interpretation of the original wording of the 1906 Agreement, and that the old pillars at the Egyptian claim and at the Parker location were located by mistake.

The Tribunal came to the conclusion that the Parker pillar was in fact the ultimate pillar during the Mandate. The Tribunal decided by majority that even if the demarcation was mistaken, and intervisibility between the pillars was not preserved, the fact that pillar was accepted during the relevant period under the Mandate justifies it as the legitimate location in accordance with the Peace Treaty. But the Tribunal could not approve the Parker pillar, because it was not claimed by Egypt or by Israel. Therefore, the Tribunal decided to accept the Egyptian claim, since this used to be the location of the pen-ultimate pillar, during the Mandate.

Following the Arbitration, a new pillar was erected at the pen-ultimate location. Before the Israeli final withdrawal from Taba, the two states agreed to continue the line from the new pillar 91 to the sea, following the exact line of 1906 and during the Mandate, towards the location of the Parker pillar, which used to be the ultimate pillar during the Mandate. Since the old cliffs at that location were removed around 1970 for the construction of a road along the shore from Eilat to Sharm el Sheikh, two boundary markers A and B were erected on 27 February 1989 near the shore. These boundary markers were jointly surveyed and documented as part of the entire boundary documentation which was concluded on 26 March 1996 (Figure 5).



Fig 5: The Demarcation and Documentation of the Boundary Markers A and B at Taba



## 2. THE LAND BOUNDARY BETWEEN ISRAEL AND JORDAN NEAR THE GULF OF AQABA/EILAT

The allocation of the 1994 International Boundary between Israel and Jordan, as defined in the Common Agenda, was 'with reference to the boundary under the Mandate'. Since the section of the boundary near Aqaba was demarcated in 1946 during the Mandate, the tracing of this demarcated section could serve for the reconstruction of the required reference.

Background:

The issue of land boundary between Israel and Jordan near the Gulf of Aqaba was raised during the peace negotiation in 1994 as a potential area of dispute.

The original verbal definition of the international boundary between Israel and Jordan under the British Mandate was defined by the High Commissioner Herbert Sammel, after an exchange of messages between him and the Secretary for the Colonies Winston Churchill. On 1 September 1922 he published the definition of the boundary in the Order in Council by the following: "from a point two miles west of the Town of Aqaba in the Gulf of Aqaba up the centre of the Wady Arabah" (The Palestine Order in Council, 1922).

This line had not been demarcated until the recent days of the British Mandate over Jordan in May 1946. Until 1946, interpretations of the undemarcated boundary line were shown on maps, (only small scale maps, 1:250,000 and smaller, were published during that period) beginning at the north western corner of the head of the gulf.

During the 1946 demarcation, the line was demarcated from the gulf northwards to a distance less than 4km, beginning at a point on the gulf close to the center of the northern shore of the gulf.

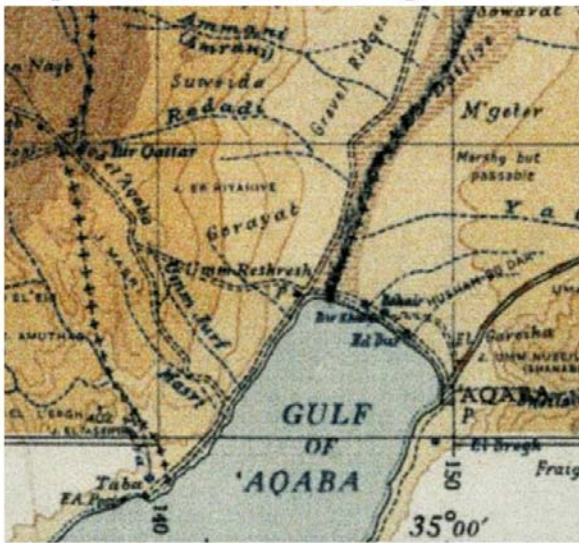
During 1946, the Survey of Palestine published two versions of a 1:250,000 map including the relevant area: One, showing the line beginning at the north western corner of the gulf before the demarcation. The other, showing the 1946 demarcated line beginning near the center of the gulf (two miles from Aqaba).

The 1949 Armistice Agreement between Israel and Jordan included an attachment of the 1946 edition of the 1:250,000 pre-demarcation map, showing the line beginning in the northwestern corner of the gulf in favor of Jordan. This map was signed by the representatives of both states, Dayan for Israel and Jundi for Jordan.

The Armistice Agreement said that: "The Armistice Demarcation Lines... are agreed upon by the parties without prejudice to future territorial settlements or boundary lines..." (Hashemite Jordan Kingdom-Israel, General Armistice Agreement, 1949, Article VI, paragraph 9).

The Armistice line is marked on the map along the international boundary, with a written indication "not demarcated", though it was already demarcated at that area three years before the agreement was signed (Figure 6).

Map attached to the Armistice Agreement



Map Including 1946 Demarcation

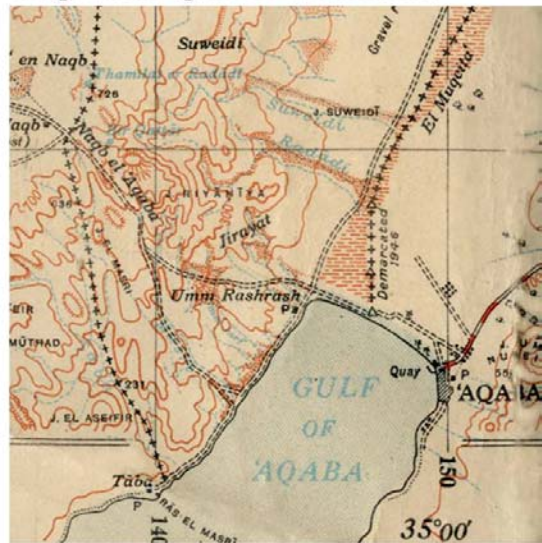


Fig 6: 1946 Maps showing the Boundary between Palestine and Trans-Jordan

Since the Armistice Agreement in 1949, Israel continued to occupy the area according to the 1946 demarcation and to show it on maps accordingly. The line following the 1946 demarcation was shown also on Jordanian large scale maps.

Until the peace negotiations in 1994, and during the peace talks, the Jordanians claimed this small, but very important area (from the point of view of the city of Eilat), according to the Armistice map.

The following are the components of the 1946 joint demarcation and documentation. This achievement meets our methodological model regarding boundary definitions (Srebro H. and Shoshany M., 2007).

Precise Detailed Documentation:

Following the 1946 demarcation, a documentation report was prepared. The documentation was signed by authorized representatives of both sides, the director of Survey of Palestine Mr. Mitchel and the director of Lands and Surveys of Trans-Jordan Mr. Walpole (Figure 7).

This documentation contains the following components: The description of the process of demarcation (including the costs), the field surveys, the computations, a list of coordinates of the boundary pillars and a large scale 1:25,000 chart. This chart shows the boundary pillars, the boundary line and all the relevant geographic features which had been mentioned in the 1922 definition: the last house in Aqaba in 1922 (to show the 1922 reference of the 1946 interpretation for the definition of the first point of the boundary line), the northern relevant shore of the Gulf of Aqaba and the Wadi Araba as interpreted in 1946, in the relevant sector, to define the end of the line in this sector.

Since the historical mandatory line was chosen as the reference line for the new international boundary, this official mandatory documentation signed by the authorized representatives of both governments, is actually sufficient from any point of view.

### Existing Boundary Pillars:

A photograph which was taken in 1946 of the first pillar which was demarcated in 1946, still exists and was presented during the peace negotiations in 1994 (Figure 7). This pillar was hardly observed from the Israeli side in 1994, because of bushes and inaccessibility due to minefields, but a photograph of it as observed from the Jordanian side was published in 1994 in the Jordanian Newspaper Al Rai.

The photographs of 1946 and of 1994 of pillar no.1, near the center of the northern shore of the gulf, were very strong evidence, and would be first in order of precedence in the absence of the above-mentioned documentation. Figure 7 shows part of the 1946 documentation: coordinates, a pillar and a chart.

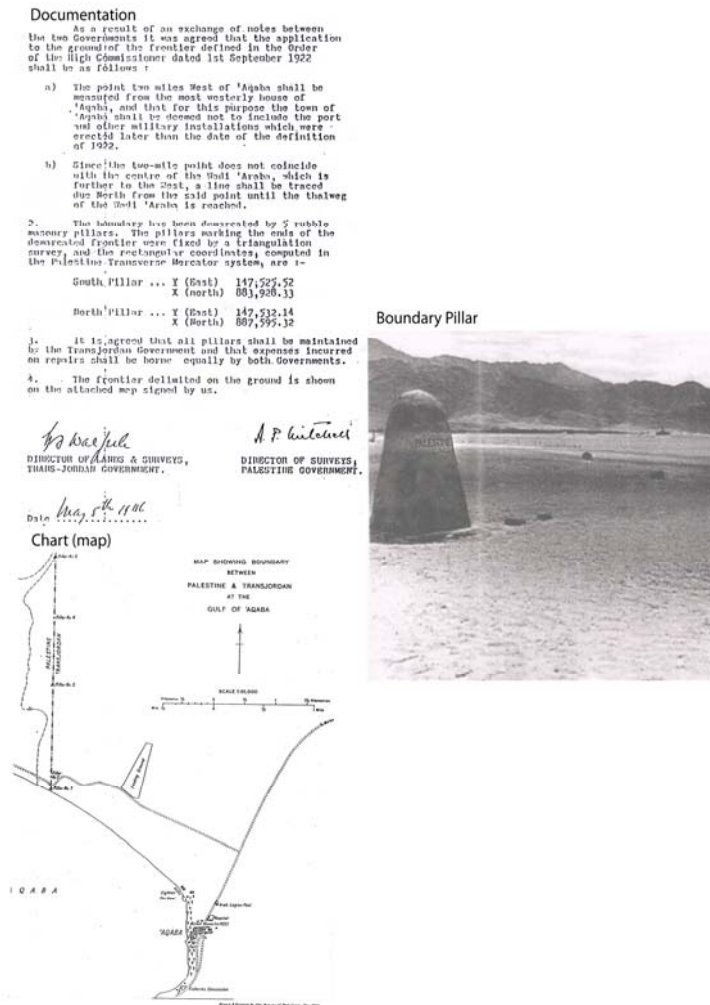


Figure 7: The 1946 Boundary Demarcation and Documentation, Including Coordinates, a Pillar and a Chart

In fact, a strip of land, near the 1946 demarcated line, was closed by fences on both sides, contained minefields and was not accessible to both sides, so 1946 mandatory demarcated sector was also a de facto boundary barrier from 1949 until 1994.

#### Maps:

The chart, which was produced in 1946 after the demarcation, shows the only known attempt, of large scale graphic interpretation, of the definition of the 1922 Order in Council line.

In spite of the 1949 Armistice Map, which was signed by two authorized representatives of both sides, showing the Armistice Line beginning at the northwestern corner of the gulf, almost all the maps, drawn since 1949 by the two states, show the international boundary line according to the 1946 demarcation, beginning at a point near the center of the northern shore.

All the Israeli maps, at any scale, show this line, calling it an international boundary, as well as Armistice Line between 1949 and 1967 and Cease Fire Line between 1967 and 1994.

Most of the Jordanian maps published until 1994 either at medium scale, like 1:100,000, or at small scales, including part of the tourist maps, show the 1946 demarcated line.

Even a large scale map of about 1:5,000, which the Jordanian team brought to the negotiations, showed the 1946 demarcated line.

The conclusion of the analysis of the maps of both sides shows that both states accepted de facto the 1946 demarcation (The Palestine Order In Council, 1922) of the mandatory international boundary.

#### The Verbal Definition:

According to the 1922 verbal definition the boundary should begin at a point two miles west of the town of Aqaba. According to maps, drawings and photographs there was no actual town at Aqaba in 1922 but a fort and a few huts, and many trees on the north eastern corner of the gulf and southwards. The interpretation in 1946, to refer to a suspicious single hut to the west of Aqaba, as representing the town of Aqaba for the interpretation of the 1922 boundary verbal definition, was much in favor of Trans-Jordan.

In any case, the point two miles west of that hut is near the center of the northern shore, while the north western corner of the head of the gulf is about 3.5 miles west of this house.

#### Conclusion:

The analysis of the example of tracing the mandatory boundary near the Gulf of Aqaba shows that all the evidences - the precise documentation, the existing boundary pillars, the map and the verbal definition - show the same results, which confirm with the tracing of the old demarcated boundary.

This joint achievement, of both departments of Surveys of Palestine and Transjordan in May 1946, contributed to the easy adoption of its results by Israel and Jordan, and this was implemented in the 1994 Treaty of Peace between the two states regarding the boundary near the gulf.

This boundary line was marked on an orthophoto map and attached to the Peace Agreement (Figure 8). Following the agreement the Joint Team of Experts demarcated the line on the ground. A new boundary pillar, BPO, was erected on the shore line and jointly documented (Figure 9). This boundary pillar was defined, also, as the starting point of the maritime boundary between Israel and Jordan, and received an additional name: MBO.



Figure 8: The Israeli-Jordanian Treaty – The 1<sup>st</sup> Orthophoto sheet.



Figure 9: GPS Measurement at BPO

### 3. THE MARITIME BOUNDARY BETWEEN ISRAEL AND JORDAN IN THE GULF OF AQABA/ EILAT

Geographical Description (Srebro H., 2005):

The Gulf of Aqaba is the eastern extension of the northern part of the Red Sea (the western is the Gulf of Suez). It is located along the Great Afro-Arabian Rift, as the southern continuation of the Wadi Araba/Aravah Valley.

From the head of the gulf to the Straits of Tiran, the length is approximately 180 Km; at the head of the gulf, the width is about 5km. It commences to widen near the undefined meeting point between the maritime boundaries of Israel, Jordan and Egypt, near Taba, where it is about 8 km wide. From there it varies in width up to 27 km along its length, until near the exit of the Gulf, into the Red Sea, where it narrows again, towards the Straits of Tiran (Figure 10).

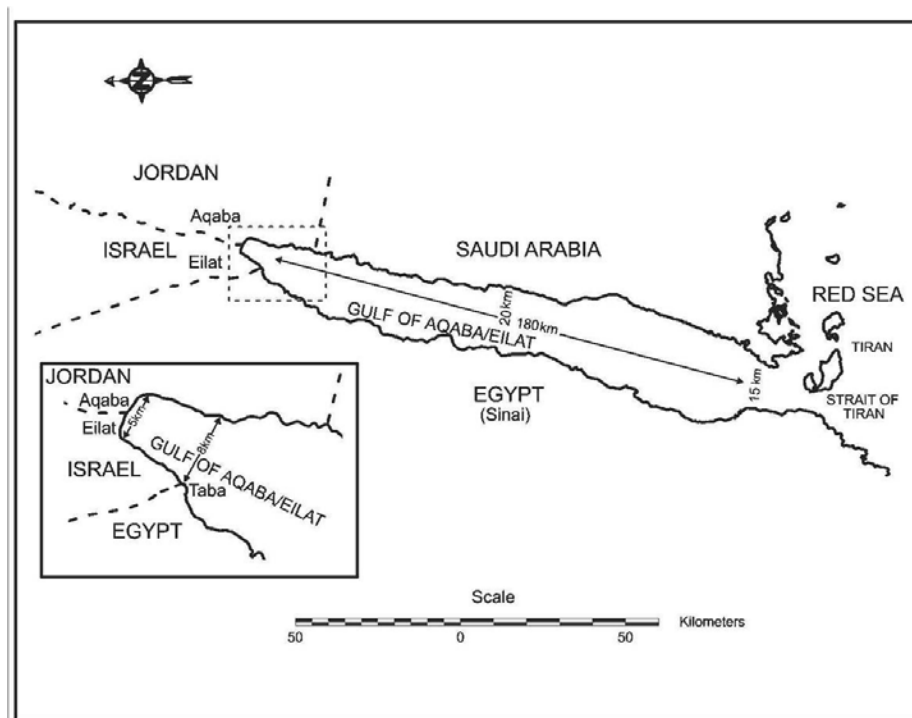


Figure 10: The Gulf of Aqaba/Eilat

According to Muwaled (Al-Muwaled, 1993), the depth of the main trough of the gulf descends abruptly from 500m to 1000m, to form two depressions; the northern is 1100m deep and the southern 1420m. The deepest point, discovered in 1935, which is 1829m deep, is near the east coast. According to Lapidoth-Eshelbacher (Lapidoth-Eshelbacher R. 1982), the maximum depth of the gulf is 1850. The shores are narrow, steep granite mountains rising abruptly.

A few islands are located at the Red Sea entrance to the gulf, the largest of which are Tiran and Sanafir, which narrow the entrance of the Straits of Tiran. There is an underwater sill (submarine ridge) at the entrance, which disturbs the circulation of water between the gulf and the main part of the Red Sea. The fluctuation between high and low tide is not high.

No water enters the gulf through rivers, except for seasonal wadi floods. Annual rainfall in the desert climate is scarcely 30mm; the annual evaporation loss, which may be over 1000mm in these latitudes, can only be made up by an inflow of hot and salty seawater through the Straits of Tiran. Thus, like the rest of the Red Sea, the waters of the gulf are some of the world's hottest and saltiest seawater in the open sea. In addition there is a very low circulation of water due to the long shape of the gulf and the sill at the entrance from the Red Sea.

Coral reefs stretch along both coasts of the gulf and have contributed to the promotion of tourism for Jordan, Israel and Egypt, during recent decades.

One medium-sized port, Eilat, is located on the Israeli side. A series of ports of the city of Aqaba, are located along the Jordanian coast. The extent of small bays and water areas beyond piers on the Jordanian side is much greater than on the Israeli side. Population in the area is relatively scarce, with the exception of the rapidly expanding cities of Eilat and Aqaba at the head of the gulf. The lack of natural potable water in the area has encouraged the development of seawater desalination.

The head of the gulf is Jordan's only connection with the sea and is therefore of considerable economic importance for Jordan, developing some major industries along its coast. The main Israeli maritime connection with East Africa and South and East Asia, too, is through the gulf. Though fishery at the head of the gulf is poor, industry and industrial ports, maritime commerce, maritime agriculture and tourism all develop rapidly along its coasts. Rapid development, population growth and urbanization influence the social situation and present a threat to the gulf's ecology through potential pollution of the environment both on land and at sea. Hence, the need for precise territorial and maritime boundary delimitation is paramount, to enable the adjacent States to supervise human activities in that respect.

#### Geopolitical and Legal Remarks Concerning Maritime Boundaries in the Gulf of Aqaba:

The four states along the coasts of the gulf-Jordan, Israel, Egypt and Saudi-Arabia, had had no agreed maritime boundaries between them in the gulf, until the Peace Agreement between Jordan and Israel was signed (See Figure 10). The total length of the coasts along the gulf is over 400km, divided approximately as follows: Egypt-over 200km, Israel-nearly 12km, Jordan-around 23km (Until 1965 the length was around 6.5km but was lengthened as part of an exchange of territories with Saudi-Arabia) and Saudi-Arabia -around 190km.

Saudi-Arabia claimed 12 nautical miles of territorial waters by A Royal Decree on 16 February 1958, simultaneously establishing its base lines. It signed the *UNCLOS* on 7 December 1984.

Egypt declared its base lines along its coasts, including the Gulf of Aqaba, by Presidential Decree, on 9 January 1990. U.S reacted by protest, supporting freedom of navigation in the Straits of Tiran and the Gulf of Aqaba.

Egypt also claimed 12 nautical miles of territorial waters by Presidential Decree on 17 February 1958, which it reaffirmed, when ratifying the Law of the Sea, on August 26th 1983.

On 5 February 1990 Israel approved a law in which it claimed 12 nautical miles of Territorial Sea, replacing a preceding law from 23 October 1956, in which the Territorial Sea of Israel was already expanded from 3 nautical miles to 6 nautical miles.

Jordan's claim for three nautical miles of territorial sea followed the British Mandatory Act of 12 February 1943.

According to Article 14 of the Peace Agreement between Israel and Jordan, and Article 5(2) of the Peace Treaty between Israel and Egypt, freedom of passage is assured along the mid of the gulf from the Straits of Tiran to the head of the gulf. Necessarily, this passage secants through the territorial waters of all countries, since the sum of the Saudi Arabian and Egyptian claims alone (24 nautical miles) exceeds the width of the gulf.

The sum of the Israeli and the Jordanian claims concerning territorial waters was 15 nautical miles, which exceeded the width of the head of the gulf. These overlapping claims, therefore, obliged the two states to seek an agreed solution to the problem.

Israel and Jordan are adjacent coastal states at the head of the gulf and opposite coastal states along the gulf to the south of it.

The common southern point between Israel and Jordan along the maritime boundary in the gulf is common to Egypt as well; thus, a bilateral agreement on the subject was not suffice, and Egyptian involvement was required.

The first boundary point on the coast is located slightly west of the middle of the head of the gulf, 2650m from the north-eastern corner of the gulf in Jordan and 2400m from the north-western corner in Israel.

The lengths of the coasts of the two states along the gulf are not identical, requiring attention to the issue of proportionality. This will be considered in the evaluation of equitability.

#### The Definition of the Maritime Boundary:

Following the 26 October 1994 Peace Agreement between Israel and Jordan the JTE (Joint Team of Experts) of the two states began negotiations to delimit the maritime boundary.

Article 15 of UNCLOS (UN Convention on the Law of the Sea, 1982) says, that in the case of opposite or adjacent coasts between two states neither of the two states is entitled to extend its territorial sea beyond the median line between the two states.

This became a directive and customary law since 1993. But in addition to the fact that neither Jordan nor Israel were parties to UNCLOS, the configuration of the coast lines of Israel and Jordan at the head of the Gulf of Aqaba/Eilat is of both opposite and adjacent coasts. Thus, not fitting the conditions of Article 15, which refer to the case of either opposite or adjacent coasts.

The JTE looked for a single criterion method, checking theoretical options of prolongation of the land boundary, delimitation within the context of over lapping claims, the thalweg of the lower points to serve as the navigation course, equal water areas to represent equitability and proportionality between relevant water areas and the relevant lengths of the coasts of the states. Even the natural line of geological structure had been checked.

The last option of one criterion was to check the Equidistance line which corresponds to the guidelines set out in Article 15 of UNCLOS and with ICJ decisions, being compatible with common practice. This looked to be the most adequate solution except that in some cases this method may not always be equitable in the case of adjacent coasts.

The parties could not come to an agreement about one method which will solve the problems and support one comprehensive solution.

Therefore, the parties decided to adopt a composite criteria method which will implement one method for the adjacent zone and one for the opposite zone.



Since the configuration of the coasts between the two states includes both adjacent and opposite coasts these conditions require a specific solution to define the transition of boundary between the zone of adjacent coasts and the zone of opposite coasts.

The parties defined the transition line between the two zones based on the definition of a TRI-Equidistance point, which is equidistant from the three coasts at the head of the Gulf (Srebro H., 2005).

In the adjacent coast area the parties decided to simplify the equidistance line and to connect by a straight line the beginning coastal point of the maritime boundary with the Tri-Equidistance point. The Tri-Equidistance point became the transition point from which and on the maritime boundary line was defined by the median line in the opposite coasts zone. This was achieved by connecting the centers of the circles tangencing the opposite coasts.

For the simplicity of the navigation this line was simplified to 3 straight legs compensated for the generalization (Figure 11).

The solution was incorporated in the maritime boundary agreement which was signed by the two parties on 18 January 1996 (Maritime Agreement, 1996).

The JTE prepared a list of coordinates of the turning points and 1:25,000 chart of the maritime boundary line (Figure 11).

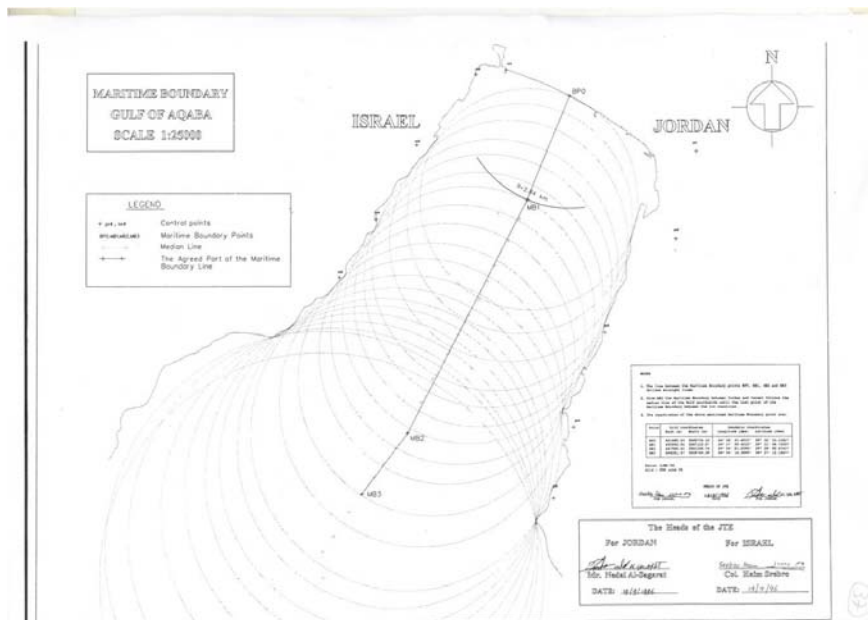


Figure 11: The Maritime Boundary between Israel and Jordan.

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## **BIOGRAPHICAL NOTES**

**Dr. Haim Srebro** serves as the Director General of the Survey of Israel. He is a co-chairman of the Israeli-Jordanian Joint Team of Experts, since 1994 responsible for the delimitation, demarcation, documentation and maintenance of the International Boundary. He was involved as a leading figure in all the boundary negotiations and demarcations between Israel and its neighbors since 1974, including the demarcation of the Israeli-Egyptian international boundary, following the 1979 Peace Treaty. He was responsible for the boundary line annex of the 1994 Peace Treaty between Israel and Jordan and signed it, as well as the official documentation of the land and maritime boundaries between the two states.

Dr. Srebro is the Conference Director of FIG Working Week 2009 at Eilat and will guide a technical tour to the international boundaries in the vicinity of Eilat.

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