

[ENGLISH TEXT — TEXTE ANGLAIS]

TREATY OF PEACE BETWEEN THE STATE OF ISRAEL AND THE
HASHEMITE KINGDOM OF JORDAN

PREAMBLE

The Government of the State of Israel and the Government of the Hashemite Kingdom of Jordan,

Bearing in mind the Washington Declaration, signed by them on 25th July, 1994, and which they are both committed to honour;

Aiming at the achievement of a just, lasting and comprehensive peace in the Middle East based on Security Council resolutions 242 and 338 in all their aspects;

Bearing in mind the importance of maintaining and strengthening peace based on freedom, equality, justice and respect for fundamental human rights, thereby overcoming psychological barriers and promoting human dignity;

Reaffirming their faith in the purposes and principles of the Charter of the United Nations and recognising their right and obligation to live in peace with each other as well as with all states, within secure and recognised boundaries;

Desiring to develop friendly relations and co-operation between them in accordance with the principles of international law governing international relations in time of peace;

Desiring as well to ensure lasting security for both their States and in particular to avoid threats and the use of force between them;

Bearing in mind that in their Washington Declaration of 25th July, 1994, they declared the termination of the state of belligerency between them;

Deciding to establish peace between them in accordance with this Treaty of Peace;

Have agreed as follows:

Article 1. Establishment of Peace

Peace is hereby established between the State of Israel and the Hashemite Kingdom of Jordan (the "Parties") effective from the exchange of the instruments of ratification of this Treaty.

Article 2. General Principles

The Parties will apply between them the provisions of the Charter of the United Nations and the principles of international law governing relations among states in time of peace. In particular:

1. They recognise and will respect each other's sovereignty, territorial integrity and political independence;

2. They recognise and will respect each other's right to live in peace within secure and recognised boundaries;

3. They will develop good neighbourly relations of co-operation between them to ensure lasting security, will refrain from the threat or use of force against each other and will settle all disputes between them by peaceful means;

4. They respect and recognise the sovereignty, territorial integrity and political independence of every state in the region;

5. They respect and recognise the pivotal role of human development and dignity in regional and bilateral relationships;

6. They further believe that within their control, involuntary movements of persons in such a way as to adversely prejudice the security of either Party should not be permitted.

Article 3. International Boundary

1. The international boundary between Israel and Jordan is delimited with reference to the boundary definition under the Mandate as is shown in Annex I (a), on the mapping materials attached thereto and coordinates specified therein.

2. The boundary, as set out in Annex I (a), is the permanent, secure and recognised international boundary between Israel and Jordan, without prejudice to the status of any territories that came under Israeli military government control in 1967.

3. The Parties recognise the international boundary, as well as each other's territory, territorial waters and airspace, as inviolable, and will respect and comply with them.

4. The demarcation of the boundary will take place as set forth in Appendix (I) to Annex I and will be concluded not later than 9 months after the signing of the Treaty.

5. It is agreed that where the boundary follows a river, in the event of natural changes in the course of the flow of the river as described in Annex I (a), the boundary shall follow the new course of the flow. In the event of any other changes the boundary shall not be affected unless otherwise agreed.

6. Immediately upon the exchange of the instruments of ratification of this Treaty, each Party will deploy on its side of the international boundary as defined in Annex I (a).

7. The Parties shall, upon the signature of the Treaty, enter into negotiations to conclude, within 9 months, an agreement on the delimitation of their maritime boundary in the Gulf of Aqaba.

8. Taking into account the special circumstances of the Naharayim/Baqura area, which is under Jordanian sovereignty, with Israeli private ownership rights, the Parties agree to apply the provisions set out in Annex I (b).

9. With respect to the Zofar/Al-Ghamr area, the provisions set out in Annex I (c) will apply.

Article 4. Security

1.a. Both Parties, acknowledging that mutual understanding and co-operation in security-related matters will form a significant part of their relations and will further enhance the security of the region, take upon themselves to base their security relations on mutual trust, advancement of joint interests and co-operation, and to aim towards a regional framework of partnership in peace.

b. Towards that goal, the Parties recognise the achievements of the European Community and European Union in the development of the Conference on Security and Co-operation in Europe (CSCE) and commit themselves to the creation, in the Middle East, of a Conference on Security and Co-operation in the Middle East (CSCME).

This commitment entails the adoption of regional models of security successfully implemented in the post World War era (along the lines of the Helsinki Process) culminating in a regional zone of security and stability.

2. The obligations referred to in this Article are without prejudice to the inherent right of self-defence in accordance with the United Nations Charter.

3. The Parties undertake, in accordance with the provisions of this Article, the following:

a. To refrain from the threat or use of force or weapons, conventional, non-conventional or of any other kind, against each other, or of other actions or activities that adversely affect the security of the other Party;

b. To refrain from organising, instigating, inciting, assisting or participating in acts or threats of belligerency, hostility, subversion or violence against the other Party;

c. To take necessary and effective measures to ensure that acts or threats of belligerency, hostility, subversion or violence against the other Party do not originate from, and are not committed within, through or over their territory (hereinafter the term "territory" includes the airspace and territorial waters).

4. Consistent with the era of peace and with the efforts to build regional security and to avoid and prevent aggression and violence, the Parties further agree to refrain from the following:

a. Joining or in any way assisting, promoting or co-operating with any coalition, organisation or alliance with a military or security character with a third party, the objectives or activities of which include launching aggression or other acts of military hostility against the other Party, in contravention of the provisions of the present Treaty;

b. Allowing the entry, stationing and operating on their territory, or through it, of military forces, personnel or materiel of a third party, in circumstances which may adversely prejudice the security of the other Party.

5. Both Parties will take necessary and effective measures, and will co-operate in combating terrorism of all kinds. The Parties undertake:

a. To take necessary and effective measures to prevent acts of terrorism, subversion or violence from being carried out from their territory or through it and to take necessary and effective measures to combat such activities and all their perpetrators;

b. Without prejudice to the basic rights of freedom of expression and association, to take necessary and effective measures to prevent the entry, presence and operation in their territory of any group or organisation, and their infrastructure, which threatens the security of the other Party by the use of, or incitement to the use of, violent means;

c. To co-operate in preventing and combating cross-boundary infiltrations.

6. Any question as to the implementation of this Article will be dealt with through a mechanism of consultations which will include a liaison system, verification, supervision, and where necessary, other mechanisms, and higher level consultations. The details of the mechanism of consultations will be contained in an agreement to be concluded by the Parties within 3 months of the exchange of the instruments of ratification of this Treaty.

7. The Parties undertake to work as a matter of priority, and as soon as possible in the context of the Multilateral Working Group on Arms Control and Regional Security, and jointly, towards the following:

a. The creation in the Middle East of a region free from hostile alliances and coalitions;

b. The creation of a Middle East free from weapons of mass destruction, both conventional and non-conventional, in the context of a comprehensive, lasting and stable peace, characterised by the renunciation of the use of force, and by reconciliation and goodwill.

Article 5. Diplomatic and Other Bilateral Relations

1. The Parties agree to establish full diplomatic and consular relations and to exchange resident ambassadors within one month of the exchange of the instruments of ratification of this Treaty.

2. The Parties agree that the normal relationship between them will further include economic and cultural relations.

Article 6. Water

With the view to achieving a comprehensive and lasting settlement of all the water problems between them:

1. The Parties agree mutually to recognise the rightful allocations of both of them in Jordan River and Yarmouk River waters and Araba/Arava ground water in accordance with the agreed acceptable principles, quantities and quality as set out in Annex II, which shall be fully respected and complied with.

2. The Parties, recognising the necessity to find a practical, just and agreed solution to their water problems and with the view that the subject of water can form the basis for the advancement of co-operation between them, jointly undertake to ensure that the management and development of their water resources do not, in any way, harm the water resources of the other Party.

3. The Parties recognise that their water resources are not sufficient to meet their needs. More water should be supplied for their use through various methods, including projects of regional and international co-operation.

4. In light of paragraph 3 of this Article, with the understanding that co-operation in water-related subjects would be to the benefit of both Parties, and will help alleviate their water shortages, and that water issues along their entire boundary must be dealt with in their totality, including the possibility of trans-boundary water transfers, the Parties agree to search for ways to alleviate water shortages and to co-operate in the following fields:

a. Development of existing and new water resources, increasing the water availability, including co-operation on a regional basis as appropriate, and minimising wastage of water resources through the chain of their uses;

b. Prevention of contamination of water resources;

c. Mutual assistance in the alleviation of water shortages;

d. Transfer of information and joint research and development in water-related subjects, and review of the potentials for enhancement of water resources development and use.

5. The implementation of both Parties' undertakings under this Article is detailed in Annex II.

Article 7. Economic Relations

1. Viewing economic development and prosperity as pillars of peace, security and harmonious relations between states, peoples and individual human beings, the Parties, taking note of understandings reached between them, affirm their mutual desire to promote economic co-operation between them, as well as within the framework of wider regional economic co-operation.

2. In order to accomplish this goal, the Parties agree to the following:

a. To remove all discriminatory barriers to normal economic relations, to terminate economic boycotts directed at the other Party, and to co-operate in terminating boycotts against either Party by third parties;

b. Recognising that the principle of free and unimpeded flow of goods and services should guide their relations, the Parties will enter into negotiations with a view to concluding agreements on economic co-operation, including trade and the establishment of a free trade area or areas, investment, banking, industrial co-operation and labour, for the purpose of promoting beneficial economic relations, based on principles to be agreed upon, as well as on human development considerations on a regional basis. These negotiations will be concluded no later than 6 months from the exchange of the instruments of ratification of this Treaty;

c. To co-operate bilaterally, as well as in multilateral forums, towards the promotion of their respective economies and of their neighbourly economic relations with other regional parties.

Article 8. Refugees and Displaced Persons

1. Recognising the massive human problems caused to both Parties by the conflict in the Middle East, as well as the contribution made by them towards the alleviation of human

suffering, the Parties will seek to further alleviate those problems arising on a bilateral level.

2. Recognising that the above human problems caused by the conflict in the Middle East cannot be fully resolved on the bilateral level, the Parties will seek to resolve them in appropriate forums, in accordance with international law, including the following:

a. In the case of displaced persons, in a quadripartite committee together with Egypt and the Palestinians;

b. In the case of refugees,

i. In the framework of the Multilateral Working Group on Refugees.

ii. In negotiations, in a framework to be agreed, bilateral or otherwise, in conjunction with and at the same time as the permanent status negotiations pertaining to the Territories referred to in Article 3 of this Treaty;

c. Through the implementation of agreed United Nations programmes and other agreed international economic programmes concerning refugees and displaced persons, including assistance to their settlement.

Article 9. Places of Historical and Religious Significance and Interfaith Relations

1. Each Party will provide freedom of access to places of religious and historical significance.

2. In this regard, in accordance with the Washington Declaration, Israel respects the present special role of the Hashemite Kingdom of Jordan in Muslim Holy shrines in Jerusalem. When negotiations on the permanent status will take place, Israel will give high priority to the Jordanian historic role in these shrines.

3. The Parties will act together to promote interfaith relations among the three monotheistic religions, with the aim of working towards religious understanding, moral commitment, freedom of religious worship, and tolerance and peace.

Article 10. Cultural and Scientific Exchanges

The Parties, wishing to remove biases developed through periods of conflict, recognise the desirability of cultural and scientific exchanges in all fields, and agree to establish normal cultural relations between them. Thus, they shall, as soon as possible and not later than 9 months from the exchange of the instruments of ratification of this Treaty, conclude the negotiations on cultural and scientific agreements.

Article 11. Mutual Understanding and Good Neighbourly Relations

1. The Parties will seek to foster mutual understanding and tolerance based on shared historic values, and accordingly undertake:

a. To abstain from hostile or discriminatory propaganda against each other, and to take all possible legal and administrative measures to prevent the dissemination of such propaganda by any organisation or individual present in the territory of either Party;

b. As soon as possible, and not later than 3 months from the exchange of the instruments of ratification of this Treaty, to repeal all adverse or discriminatory references and expressions of hostility in their respective legislation;

c. To refrain in all government publications from any such references or expressions;

d. To ensure mutual enjoyment by each other's citizens of due process of law within their respective legal systems and before their courts.

2. Paragraph 1 (a) of this Article is without prejudice to the right to freedom of expression as contained in the International Covenant on Civil and Political Rights.

3. A joint committee shall be formed to examine incidents where one Party claims there has been a violation of this Article.

Article 12. Combating Crime and Drugs

The Parties will co-operate in combating crime, with an emphasis on smuggling, and will take all necessary measures to combat and prevent such activities as the production of, as well as the trafficking in illicit drugs, and will bring to trial perpetrators of such acts. In this regard, they take note of the understandings reached between them in the above spheres, in accordance with Annex III and undertake to conclude all relevant agreements not later than 9 months from the date of exchange of the instruments of ratification of this Treaty.

Article 13. Transportation and Roads

Taking note of the progress already made in the area of transportation, the Parties recognise the mutuality of interest in good neighbourly relations in the area of transportation and agree to the following means to promote relations between them in this sphere:

1. Each party will permit the free movement of nationals and vehicles of the other into and within its territory according to the general rules applicable to nationals and vehicles of other states. Neither Party will impose discriminatory taxes or restrictions on the free movement of persons and vehicles from its territory to the territory of the other.

2. The Parties will open and maintain roads and border-crossings between their countries and will consider further road and rail links between them.

3. The Parties will continue their negotiations concerning mutual transportation agreements in the above and other areas, such as joint projects, traffic safety, transport standards and norms, licensing of vehicles, land passages, shipment of goods and cargo, and meteorology, to be concluded not later than 6 months from the exchange of the instruments of ratification of this Treaty.

4. The Parties agree to continue their negotiations for a highway to be constructed and maintained between Egypt, Israel and Jordan near Eilat.

Article 14. Freedom of Navigation and Access to Ports

1. Without prejudice to the provisions of paragraph 3, each Party recognises the right of the vessels of the other Party to innocent passage through its territorial waters in accordance with the rules of international law.

2. Each Party will grant normal access to its ports for vessels and cargoes of the other, as well as vessels and cargoes destined for or coming from the other Party. Such access will be granted on the same conditions as generally applicable to vessels and cargoes of other nations.

3. The Parties consider the Strait of Tiran and the Gulf of Aqaba to be international waterways open to all nations for unimpeded and non-suspendable freedom of navigation and overflight. The Parties will respect each other's right to navigation and overflight for access to either Party through the Strait of Tiran and the Gulf of Aqaba.

Article 15. Civil Aviation

1. The Parties recognise as applicable to each other the rights, privileges and obligations provided for by the multilateral aviation agreements to which they are both party, particularly by the 1944 Convention on International Civil Aviation (the Chicago Convention) and the 1944 International Air Services Transit Agreement.

2. Any declaration of national emergency by a Party under Article 89 of the Chicago Convention will not be applied to the other Party on a discriminatory basis.

3. The Parties take note of the negotiations on the international air corridor to be opened between them in accordance with the Washington Declaration. In addition, the Parties shall, upon ratification of this Treaty, enter into negotiations for the purpose of concluding a Civil Aviation Agreement. All the above negotiations are to be concluded not later than 6 months from the exchange of the instruments of ratification of this Treaty.

Article 16. Posts and Telecommunications

The Parties take note of the opening between them, in accordance with the Washington Declaration, of direct telephone and facsimile lines. Postal links, the negotiations on which having been concluded, will be activated upon the signature of this Treaty. The Parties further agree that normal wireless and cable communications and television relay services by cable, radio and satellite, will be established between them, in accordance with all relevant international conventions and regulations. The negotiations on these subjects will be concluded not later than 9 months from the exchange of the instruments of ratification of this Treaty.

Article 17. Tourism

The Parties affirm their mutual desire to promote co-operation between them in the field of tourism. In order to accomplish this goal, the Parties-- taking note of the understandings reached between them concerning tourism-- agree to negotiate, as soon as possi-

ble, and to conclude not later than 3 months from the exchange of the instruments of ratification of this Treaty, an agreement to facilitate and encourage mutual tourism and tourism from third countries.

Article 18. Environment

The Parties will co-operate in matters relating to the environment, a sphere to which they attach great importance, including conservation of nature and prevention of pollution, as set forth in Annex IV. They will negotiate an agreement on the above, to be concluded not later than 6 months from the exchange of the instruments of ratification of this Treaty.

Article 19. Energy

1. The Parties will co-operate in the development of energy resources, including the development of energy related projects such as the utilisation of solar energy.

2. The Parties, having concluded their negotiations on the interconnecting of their electric grids in the Eilat-Aqaba area, will implement the interconnecting upon the signature of this Treaty. The Parties view this step as a part of a wider binational and regional concept. They agree to continue their negotiations as soon as possible to widen the scope of their interconnected grids.

3. The Parties will conclude the relevant agreements in the field of energy within 6 months from the date of exchange of the instruments of ratification of this Treaty.

Article 20. Rift Valley Development

The Parties attach great importance to the integrated development of the Jordan Rift Valley area, including joint projects in the economic, environmental, energy-related and tourism fields. Taking note of the Terms of Reference developed in the framework of the Trilateral Israel-Jordan-US Economic Committee towards the Jordan Rift Valley Development Master Plan, they will vigorously continue their efforts towards the completion of planning and towards implementation.

Article 21. Health

The Parties will co-operate in the area of health and shall negotiate with a view to the conclusion of an agreement within 9 months of the exchange of the instruments of ratification of this Treaty.

Article 22. Agriculture

The Parties will co-operate in the areas of agriculture, including veterinary services, plant protection, biotechnology and marketing, and shall negotiate with a view to the conclusion of an agreement within 6 months from the date of the exchange of instruments of ratification of this Treaty.

Article 23. Aqaba and Eilat

The Parties agree to enter into negotiations, as soon as possible, and not later than one month from the exchange of the instruments of ratification of this Treaty, on arrangements that would enable the joint development of the towns of Aqaba and Eilat with regard to such matters, inter alia, as joint tourism development, joint customs posts, free trade zone, co-operation in aviation, prevention of pollution, maritime matters, police, customs and health co-operation. The Parties will conclude all relevant agreements within 9 months from the exchange of instruments of ratification of the Treaty.

Article 24. Claims

The Parties agree to establish a claims commission for the mutual settlement of all financial claims.

Article 25. Rights and Obligations

1. This Treaty does not affect and shall not be interpreted as affecting, in any way, the rights and obligations of the Parties under the Charter of the United Nations.

2. The Parties undertake to fulfil in good faith their obligations under this Treaty, without regard to action or inaction of any other party and independently of any instrument inconsistent with this Treaty. For the purposes of this paragraph, each Party represents to the other that in its opinion and interpretation there is no inconsistency between their existing treaty obligations and this Treaty.

3. They further undertake to take all the necessary measures for the application in their relations of the provisions of the multilateral conventions to which they are parties, including the submission of appropriate notification to the Secretary General of the United Nations and other depositories of such conventions.

4. Both Parties will also take all the necessary steps to abolish all pejorative references to the other Party, in multilateral conventions to which they are parties, to the extent that such references exist.

5. The Parties undertake not to enter into any obligation in conflict with this Treaty.

6. Subject to Article 103 of the United Nations Charter, in the event of a conflict between the obligations of the Parties under the present Treaty and any of their other obligations, the obligations under this Treaty will be binding and implemented.

Article 26. Legislation

Within 3 months of the exchange of the instruments of ratification of this Treaty, the Parties undertake to enact any legislation necessary in order to implement the Treaty, and to terminate any international commitments and to repeal any legislation that is inconsistent with the Treaty.

Article 27. Ratification and Annexes

1. This Treaty shall be ratified by both Parties in conformity with their respective national procedures. It shall enter into force on the exchange of the instruments of ratification.
2. The Annexes, Appendices, and other attachments to this Treaty shall be considered integral parts thereof.

Article 28. Interim Measures

The Parties will apply, in certain spheres, to be agreed upon, interim measures pending the conclusion of the relevant agreements in accordance with this Treaty, as stipulated in Annex V.

Article 29. Settlement of Disputes

1. Disputes arising out of the application or interpretation of this Treaty shall be resolved by negotiations.
2. Any such disputes which cannot be settled by negotiations shall be resolved by conciliation or submitted to arbitration.

Article 30. Registration

This Treaty shall be transmitted to the Secretary General of the United Nations for registration in accordance with the provisions of Article 102 of the Charter of the United Nations.

Done at the Arava/Araba Crossing Point this day Heshvan 21st, 5755, Jumada Al-Ula, 21st, 1415 which corresponds to 26th October, 1994 in the Hebrew, Arabic and English languages, all texts being equally authentic. In case of divergence of interpretation the English text shall prevail.

For the State of Israel:

YITZHAK RABIN
Prime Minister

For the Hashemite Kingdom of Jordan:

ABDUL SALAM MAJALI
Prime Minister

Witnessed by:

WILLIAM. J. CLINTON
President of the United States of America

LIST OF ANNEXES, APPENDICES AND OTHER ATTACHMENTS

Annex I

(a) International Boundary

(b) Naharayim/Baqura Area

(c) Zofar/Al-Ghamr Area

Appendices (27 sheets):¹

I. Emek Ha'arava (10 sheets), 1:20,000 orthophoto maps

II. Dead Sea (2 sheets), 1:50,000 orthoimages

III. Jordan and Yarmouk Rivers (12 sheets), 1:10,000 orthophoto maps

IV. Naharayim Area (1 sheet), 1: 10,000 orthophoto map

V. Zofar Area (1 sheet), 1:20,000 orthophoto map

VI. Gulf of Eilat (1 sheet), 1:50,000 orthoimage

Annex II. Water

Annex III. Crime and Drugs

Annex IV. Environment

Annex V. Interim Measures

Attachments: Agreed Minutes A to D

1. See insert in a pocket at the end of this volume

ANNEX I (A). ISRAEL-JORDAN INTERNATIONAL BOUNDARY DELIMITATION
AND DEMARCATION

1. It is agreed that, in accordance with Article 3 of the Treaty, the international boundary between the two states consists of the following sectors:

- A. The Jordan and Yarmouk Rivers.
- B. The Dead Sea.
- C. The Emek Ha'arava/Wadi Araba.
- D. The Gulf of Aqaba.

2. The boundary is delimited as follows:

A. Jordan and Yarmouk Rivers:

1. The boundary line shall follow the middle of the main course of the flow of the Jordan and Yarmouk Rivers.

2. The boundary line shall follow natural changes (accretion or erosion) in the course of the rivers unless otherwise agreed. Artificial changes in or of the course of the rivers shall not affect the location of the boundary unless otherwise agreed. No artificial changes may be made except by agreement between both Parties.

3. In the event of a future sudden natural change in or of the course of the rivers (avulsion or cutting of new bed) the Joint Boundary Commission (Article 3 below) shall meet as soon as possible, to decide on necessary measures, which may include physical restoration of the prior location of the river course.

4. The boundary line in the two rivers is shown on the 1:10,000 orthophoto maps dated 1994 (Appendix III attached to this Annex).

5. Adjustment to the boundary line in any of the rivers due to natural changes (accretion or erosion) shall be carried out whenever it is deemed necessary by the Boundary Commission or once every five years.

6. The lines defining the special Naharayim/Baqura area are shown on the 1:10,000 orthophoto map (Appendix IV attached to this Annex).

7. The orthophoto maps and image maps showing the line separating Jordan from the territory that came under Israeli Military government control in 1967 shall have that line indicated in a different presentation and the legend shall carry on it the following disclaimer:

"This line is the administrative boundary between Jordan and the territory which came under Israeli Military government control in 1967. Any treatment of this line shall be without prejudice to the status of that territory."

B. Dead Sea and Salt Pans

The boundary line is shown on the 1:50,000 image maps (2 sheets, Appendix II attached to this Annex). The list of geographic and Universal Transverse Mercator (UTM) coordinates of this boundary line shall be based on Israel Jordan Boundary Datum (IJBD 1994) and, when completed and agreed upon by both parties, this list of coordinates shall be binding and take precedence over the maps as to the location of the boundary line in the Dead Sea and the salt pans.

C. Emek Ha'arava/Wadi Araba

1. The boundary line is shown on the 1:20,000 orthophoto maps (10 sheets, Appendix I attached to this Annex).

2. The land boundary shall be demarcated, under a joint boundary demarcation procedure, by boundary pillars which will be jointly located, erected, measured and documented on the basis of the boundary shown in the 1:20,000 orthophoto maps referred to in Article 2.C.(1) above. Between each two adjacent boundary pillars the boundary line shall follow a straight line.

3. The boundary pillars shall be defined in a list of geographic and UTM coordinates based on a joint boundary datum (IJBD 94) to be agreed upon by the Joint Team of Experts appointed by the two parties (hereinafter the JTE) using joint Global Positioning System (GPS) Measurements. The list of coordinates shall be prepared, signed and approved by both Parties as soon as possible and not later than 9 months after this Treaty enters into force and shall become part of this Annex. This list of geographic and UTM coordinates when completed and agreed upon by both Parties shall be binding and shall take precedence over the maps as to the location of the boundary line of this sector.

4. The boundary pillars shall be maintained by both Parties in accordance with a procedure to be agreed upon. The coordinates in Article 2.C.(3) above shall be used to reconstruct boundary pillars in case they are damaged, destroyed or displaced.

5. The line defining the Zofar/Al-Ghamr area is shown on the 1:20,000 Emek Ha'arava/Wadi Araba orthophoto map (Appendix V attached to the Annex).

D. The Gulf of Aqaba

The Parties shall act in accordance with Article 3.7 of the Treaty.

3. Joint Boundary Commission

A. For the purpose of the implementation of this Annex, the Parties will establish a Joint Boundary Commission comprised of three members from each country.

B. The Commission will, with the approval of the respective governments, specify its work procedures, the frequency of its meetings, and the details of its scope of work. The Commission may invite experts and/or advisors as may be required.

C. The Commission may form, as it deems necessary, specialized teams or committees and assign to them technical tasks.

JORDAN ISRAEL BOUNDARY COMMISSION
FORMAL APPROVAL AND ADOPTION OF THE COORDINATES
OF THE INTERNATIONAL BOUNDARY LINE

The Government of the Hashemite Kingdom of Jordan and the Government of the State of Israel hereby agree:

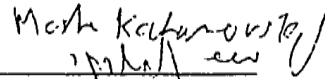
1. In conformity with Article 3 and in accordance with Article 2.C.3 and Article 2.B respectively of Annex I(a) of the Treaty of Peace between Israel and Jordan of 26 October 1994, the Jordan Israel Joint Boundary Commission hereby approves and adopts the Jordan Israel International Boundary Line Documentation including:
 - a. the list of coordinates of the boundary pillars of the Wadi Araba/Emek Ha'arava sector, agreed to by the Joint Team of Experts on 19 September 1996, a copy of which is appended hereto; and
 - b. the list of coordinates of the Southern part of the Dead Sea and Salt Pans sector, agreed to by the Joint Team of Experts on 10 March 1998, a copy of which is appended hereto.
2. By this act the coordinates of these parts of the international boundary are formally approved by the Parties as required by the Peace Treaty and become part of Annex I(a) of the Peace Treaty.
3. The approved coordinates are henceforth binding and take precedence over the maps, orthophotos and orthoimages as to the location of the boundary line of these parts of the international boundary, as envisaged and specified in Article 2.C.3 and Article 2.B respectively.

Done at Bet She'an on this twenty-ninth day of December, 1998, which corresponds to the eleventh day of Ramadan, 1419 and to the tenth day of Tevet, 5759.

Signed by:



Lt. Gen. Tahsin Shurdum
For the Government of the
Hashemite Kingdom of Jordan



Moshe Kochanovsky
For the Government of the
State of Israel

APPENDIX A

A SCALED ILLUSTRATION OF THE
INTERNATIONAL BOUNDARY LINE IN THE
DEAD SEA AND THE SALT PANS SECTOR.

JORDAN - ISRAEL BOUNDARY LINE DOCUMENTATION

Dead Sea and the Salt Pans Sector

This document is a geodetic appendix following the coordinates of the boundary line in the dead sea and the salt pans and fulfilling the task of Annex I(a) para. 2.B of the Treaty of Peace between Israel and Jordan of october 26th. 1994 The documentation was achieved by the JTE as part of the tasks of the Joint Boundary Commission.

The Hashemite Kingdom of Jordan

The State of Israel

Signatures

For Jordan

For Israel

..... Technical Experts *32* *Shlomo Givon*
..... Head of JTE *Seeb'co Ham* *2020 211*

Date: 10/3/1998

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 - 3.2.2 LIST OF THE GRID COORDINATES (UTM) OF THE INTERNATIONAL BOUNDARY LINE IN THE DEAD SEA AND THE SALT PANS
4. APPENDICES
 - APPENDIX A: A SCALED ILLUSTRATION OF THE INTERNATIONAL BOUNDARY LINE IN THE DEAD SEA AND THE SALT PANS SECTOR

GLOSSARY

BP:	BOUNDARY PILLAR
IJBD'94:	ISRAEL JORDAN BOUNDARY DATUM 1994
WGS'84:	WORLD GEODETIC SYSTEM 1984
GPS:	GLOBAL POSITIONING SYSTEM
UTM:	UNIVERSAL TRANSVERSE MERCATOR
JTE:	JOINT TEAM OF EXPERTS (JORDAN-ISRAEL PROFESSIONAL TEAM. JTE WAS THE SUB-COMMITTEE OF THE BOUNDARY COMMITTEE)
GM:	THE EARTH'S GRAVITATIONAL CONSTANT (MASS OF EARTH'S ATMOSPHERE INCLUDED)

1. INTRODUCTION

THE PURPOSE OF THIS DOCUMENT IS TO DESCRIBE AND SUMMARIZE THE PROFESSIONAL WORK CARRIED OUT BY THE JOINT TEAM OF EXPERTS (JTE) DURING THE DEFINITION OF THE BOUNDARY. THE FRUITFUL WORK DURING THE JTE MEETINGS AND THE FIELD WORK BUILT UP THE PROFESSIONAL FRAME OF DEFINING THE INTERNATIONAL BOUNDARY WHICH WAS SUCCESSFULLY IMPLEMENTED IN THE PEACE AGREEMENT.

1.1 BACKGROUND

THE JOINT TEAM OF EXPERTS (THE SUB COMMITTEE OF THE BOUNDARY COMMITTEE), STARTED TO DEAL WITH ALL TECHNICAL ASPECTS OF THE BOUNDARY ISSUES, DURING THE FORMAL START OF THE PEACE NEGOTIATION BETWEEN JORDAN AND ISRAEL IN WADI ARABA (JULY 1994). THE AGREED MEMORANDUM WAS SIGNED AFTER THE FIRST MEETING ON JULY 19, 1994. THE JTE HEADED BY MR. ENG. NEDAL AL-SAGARAT FROM JORDAN AND COL. HAIM SREBRO FROM ISRAEL AND MOST OF JTE MEMBERS ARE GEODETIC EXPERTS.

THIS DOCUMENT REFLECTS A REMARKABLE COOPERATION AND COORDINATION BETWEEN THE TWO PARTIES. DURING THE DIFFERENT STAGES OF THE WORK, SUCH AS DELIMITATION, MONUMENTATION, GPS OBSERVATIONS (AND MORE), THE BOUNDARY COMMITTEE AND THE JTE WERE ABLE TO OVERCOME ALL THE TECHNICAL AND MANAGERIAL DIFFICULTIES THAT AROSE FROM TIME TO TIME DURING THE DELIMITATION AND THE FIELD WORK.

2. DETERMINATION OF THE REFERENCE FRAME

THE BASIC PRACTICAL STEP OF THE JTE WORK FROM THE GEODETIC ASPECT WAS THE DETERMINATION OF THE REFERENCE FRAME (SYSTEM). DETERMINATION OF THE REFERENCE FRAME WAS AN ESSENTIAL STEP TO ENABLE THE PROFESSIONALS TO "SPEAK THE SAME LANGUAGE". AFTER THIS STAGE, THE JTE COULD KEEP ON GOING IN ITS PROFESSIONAL ACTIVITIES WHICH WERE CONTROLLED BY THE EXISTENCE OF THE (COMMON) REFERENCE FRAME.

THE REFERENCE FRAME DETERMINATION WAS INVOLVED WITH THE DEFINITION OF THE 3D SYSTEM (THE GEODETIC DATUM) AND THE 2D SYSTEM (THE GRID). THE JTE DECISION WAS TO DETERMINE A UNIQUE AND LOCAL GEODETIC DATUM (IJD'94) BASED ON THE WGS'84 ELLIPSOID, AND TO USE THE WELL KNOWN UTM PROJECTION AS THE GRID SYSTEM.

TECHNICALLY, 12 CONTROL POINTS (DATUM POINTS) WERE ESTABLISHED, 6 IN ISRAEL AND 6 IN JORDAN. THE LOCATION OF THE POINTS WAS MUTUALLY DECIDED BY THE JTE AFTER A JOINT TOUR OF TWO DAYS (11-12.09.1994). THE NEXT STEP WAS TO MEASURE THE 12 POINTS NETWORK WITH GPS AND TO DETERMINE THE REFERENCE FRAME.

ON OCTOBER 4, 1994, THE 12 DATUM POINTS WERE OBSERVED WITH 12 DUAL FREQUENCY GPS RECEIVERS. THE PLAN WAS TO MEASURE 2 SESSIONS OF 4 HOURS EACH, SO EACH POINT WAS OBSERVED FOR 8 HOURS. THE OPERATION ENDED SUCCESSFULLY.

IN PRINCIPLE, THE DECISION ABOUT THE AGREED RESULTS WAS TAKEN AFTER COMPARING THE RESULTS OF EACH SIDE (BASED ON THE SAME DATA). FOR THE DATUM POINTS, AS WELL AS FOR THE NEXT COMMON SURVEY MISSIONS, THE COMPARISON OF RESULTS SHOWED A VERY GOOD AGREEMENT.

2.1 IJBD'94 DEFINITION

THE GEODETIC DATUM IJBD'94 WAS DETERMINED BY FIXING THE COORDINATES OF POINT IJBD09 (ONE OF THE 12 DATUM POINTS), ADOPTING THE WGS'84 ELLIPSOID, AND FIXING THE REFERENCE ELLIPSOID IN THE GEOCENTER ACCORDING TO THE PRECISE GPS VECTORS WHICH WERE MEASURED BETWEEN THE 12 DATUM POINTS.

CONCERNING THE VERTICAL DATUM, THE JTE AGREED TO ADOPT THE ELLIPSOIDAL HEIGHTS (FOR ALL THE BOUNDARY COORDINATES) WITH REFERENCE TO THE IJBD'94 DATUM AND TO THE WGS'84 REFERENCE ELLIPSOID. THE DECISION SIMPLIFIED AND FACILITATED THE COMPUTATION SINCE ONLY ONE 3 DIMENSIONAL DATUM HAD TO BE DETERMINED. SO, NO ATTEMPT WAS MADE TO DETERMINE THE GEOID, OR, THE SEA LEVEL SURFACE AS THE DATUM OF THE VERTICAL COMPONENT OF THE COORDINATES.

THE COORDINATES OF POINT IJBD09 WERE COMPUTED BY AN AVERAGE BETWEEN THE RESULTS OF THE ABSOLUTE POSITIONING WHICH WAS CALCULATED BY EACH SIDE USING BROADCAST EPHEMERIS.

THE FOLLOWING ARE THE AGREED COORDINATES:

POINT : IJBD09
LATITUDE : 31°45'04".37499
LONGITUDE : 35°36'13".70799
HEIGHT : -272.150 M (ELLIPSOIDAL HEIGHT)

THE REFERENCE ELLIPSOID PARAMETERS ARE:

ELLIPSOID : WGS'84
SEMI MAJOR AXIS : 6,378,137.000 M
1/FLATTENING : 298.257223563
GM : $3986005 \cdot 10^8 \text{ M}^3 \text{ S}^{-2}$

2.2 GRID SYSTEM DEFINITION

GRID COORDINATES WERE CALCULATED BY USING THE UTM EQUATIONS. IN MORE DETAILS, THE GRID SYSTEM PARAMETERS ARE:

DATUM : IJBD'94
ELLIPSOID : WGS'84
SEMI MAJOR AXIS : 6,378,137.000 M
1/FLATTENING : 298.257223563

MAP PROJECTION : UTM ZONE 36
LATITUDE OF ORIGIN : 0°
CENTRAL MERIDIAN : 33° EAST
FALSE NORTHING : 0 M
FALSE EASTING : 500,000 M
GRID SCALE FACTOR : 0.99960

2.3 DATUM POINTS LOCATION

THE LOCATION OF THE 12 DATUM POINTS WAS MUTUALLY DECIDED BY THE JTE DURING A TWO DAYS TOUR. THE FOLLOWING TABLE SUMMARIZES THE POINTS LOCATION:

NO.	POINT NAME	LOCATION
1	IJBD01	AQABA
2	IJBD02	EILAT
3	IJBD03	QETURA/GEROFIT
4	IJBD04	WADI MATHLA
5	IJBD05	HAZEVA
6	IJBD06	SAFI
7	IJBD07	MUGIB
8	IJBD08	EIN-GEDI
9	IJBD09	SWEIMA
10	IJBD10	DIR-ALLA
11	IJBD11	TEL-REHOV
12	IJBD12	HAMAT GADER / EL-HAMA

2.4 LISTS OF COORDINATES

2.4.1 LIST OF IJBD'94 GEODETIC COORDINATES

NAME	LAT[DMS]	LONG[DMS]	ELLIPSOIDAL HEIGHT[M]
IJBD01	N 29°29'43".43754	E 34°59'40".14182	199.147
IJBD02	N 29°34'37".72718	E 34°53'12".71363	518.055
IJBD03	N 30°00'54".49787	E 35°05'13".49950	251.168
IJBD04	N 30°22'27".65952	E 35°15'37".15283	209.763
IJBD05	N 30°47'02".26206	E 35°14'23".06845	-111.133
IJBD06	N 31°01'03".36348	E 35°28'48".78992	-262.660
IJBD07	N 31°26'03".39328	E 35°34'19".82257	-154.977
IJBD08	N 31°28'05".70188	E 35°23'41".88187	-327.186
IJBD09	N 31°45'04".37499	E 35°36'13".70799	-272.150
IJBD10	N 32°08'15".22922	E 35°36'50".42214	-115.149
IJBD11	N 32°27'22".89172	E 35°29'49".30278	-95.002
IJBD12	N 32°41'19".23567	E 35°40'12".72467	-130.1

DATUM: IJBD'94

2.4.2 LIST OF IJBD'94 GEOCENTRIC COORDINATES

NAME	X [M]	Y [M]	Z [M]
IJBD01	4551665.750	3186457.649	3121908.928
IJBD02	4554206.080	3175506.261	3129950.255
IJBD03	4523149.339	3177399.461	3171952.560
IJBD04	4497138.693	3179478.174	3206350.760
IJBD05	4479186.520	3164373.645	3245282.857
IJBD06	4454927.734	3175349.124	3267430.700
IJBD07	4430421.138	3168616.506	3306990.546
IJBD08	4438477.954	3153675.363	3310114.148
IJBD09	4413621.706	3160286.475	3336861.959
IJBD10	4394740.881	3147950.683	3373296.727
IJBD11	4385794.656	3128013.758	3403189.519
IJBD12	4365028.651	3133150.170	3424881.203

DATUM: IJBD'94

2.4.3 LIST OF GRID COORDINATES

NAME	EAST (M)	NORTH (M)
IJBD01	693349.333	3264530.977
IJBD02	682767.378	3273417.044
IJBD03	701286.187	3322297.188
IJBD04	717207.529	3362434.648
IJBD05	714325.975	3407804.534
IJBD06	736768.211	3434194.314
IJBD07	744473.091	3480595.298
IJBD08	727543.627	3483981.221
IJBD09	746643.489	3515810.772
IJBD10	746574.909	3558677.135
IJBD11	734713.745	3593767.286
IJBD12	750349.462	3619926.438

GRID: UTM ZONE 36

DATUM: IJBD'94

3. DEFINITION OF THE INTERNATIONAL BOUNDARY LINE IN THE DEAD SEA AND THE SALT PANS
 - A. THE INTERNATIONAL BOUNDARY LINE IN THE DEAD SEA AND THE SALT PANS SECTOR WAS DELIMITED ACCORDING TO THE PEACE TREATY OF 26TH OF OCTOBER 1994, ANNEX I(A), PARA. 2.B. AND APPENDIX II (1:50,000 ORTHOIMAGE 2 SHEETS).
 - B. IN ORDER TO MEASURE THE COORDINATES OF THE INTERNATIONAL BOUNDARY LINE DRAWN ON THOSE ORTHOIMAGES THERE WAS A NEED TO FIX A REFERENCE GRID ON THESE ORTHOIMAGES.
 - C. ALSO IN ORDER TO FIX A LIST OF COORDINATES THERE WAS A NEED TO FIX THE POINTS ALONG THE BOUNDARY LINE.
 - D. THE PROCESS TO DO THESE TASKS WAS CONDUCTED IN PHASES:
 1. COPIES OF THE ORTHOIMAGES WERE PREPARED.
 2. DURING A JTE MEETING 36 CONTROL POINTS (18 EACH SIDE) WERE MARKED ON THE COPIES OF THE ORTHOIMAGES.
 3. PRELIMINARY RECONNAISSANCE WAS CARRIED OUT (EACH SIDE BY ITSELF) AT THE SITE OF EACH CONTROL POINT IN ORDER TO LOCATE AND IDENTIFY THESE POINTS.
 4. A JOINT VENTURE OF GPS MEASUREMENT WAS MADE IN ORDER TO FIX THE COORDINATES OF THE CONTROL POINTS WHILE THE REFERENCE POINTS WERE SOME OF THE IJBD 94 POINTS.
 5. THE DATA OF THESE MEASUREMENTS WAS EXCHANGED, CALCULATED AND COMPARED. THUS THE VALUES OF THE 36 CONTROL POINTS WERE FIXED.
 6. USING THE PRICKED POINTS ALONG THE BOUNDARY LINE, EVERY SIDE DIGITIZED THESE POINTS WHERE THE REFERENCE GRID WAS TAKEN FROM THE CONTROL POINTS. THE RESULTS WERE COMPARED DURING JTE MEETINGS AND THE FINAL LIST OF COORDINATES OF THE INTERNATIONAL BOUNDARY LINE WAS FIXED.

3.1 THE RESULTS OF THE CONTROL POINTS IN THE DEAD SEA AREA

3.1.1 LIST OF THE GEODETIC COORDINATES OF THE CONTROL POINTS

POINT NAME	LONGITUDE (DMS)	LATITUDE (DMS)	ELLIPSOIDAL HEIGHT (M)
I1	35°22'02.9364"	30°57'51.0273"	-356.59
I2	35°24'55.7820"	30°58'11.6495"	-358.58
I3	35°22'34.8029"	31°02'49.8496"	-361.92
I4	35°25'20.1421"	31°02'48.7484"	-372.56
I5	35°26'52.1196"	31°05'20.9626"	-375.24
I6	35°27'13.1549"	31°06'27.4962"	-375.33
I7	35°22'20.7314"	31°09'01.3336"	-372.61
I8	35°21'38.0939"	31°12'18.6080"	-365.79
I9	35°22'47.8377"	31°17'11.0619"	-368.91
I10	35°23'01.8492"	31°18'47.8497"	-371.57
I11	35°23'00.5733"	31°22'14.4570"	-369.02
I12	35°22'40.0634"	31°24'57.9949"	-371.42
I13	35°23'21.3761"	31°26'50.8304"	-367.57
I14	35°23'47.1358"	31°27'57.4886"	-369.94
I15	35°24'05.4056"	31°33'44.0134"	-318.31
I16	35°25'54.0166"	31°39'54.5732"	-352.72
I17	35°27'48.0711"	31°44'29.6244"	-352.74
I18	35°30'21.3614"	31°46'24.6685"	-368.89
J1	35°27'44.1747"	31°00'23.7973"	-360.63
J2	35°27'38.2423"	31°01'52.6255"	-350.43
J3	35°28'14.5360"	31°01'54.4969"	-338.36
J4	35°30'58.1723"	31°07'48.8703"	-360.96
J5	35°30'00.5269"	31°08'43.6976"	-375.52
J6	35°27'17.7009"	31°09'42.7578"	-375.73
J7	35°30'16.7919"	31°16'30.1338"	-360.31
J8	35°29'38.5981"	31°17'21.2271"	-377.36
J9	35°31'41.0411"	31°17'11.3207"	-360.05
J10	35°33'00.3498"	31°23'43.1229"	-358.08
J11	35°34'21.9363"	31°28'49.7365"	-385.16
J12	35°33'34.3144"	31°31'10.8808"	-257.04
J13	35°33'23.4495"	31°34'07.1267"	-304.49
J14	35°34'17.9811"	31°37'30.1510"	-372.13
J15	35°34'32.5866"	31°40'05.3440"	-363.79
J16	35°35'25.7397"	31°43'02.4867"	-346.78
J17	35°35'42.9670"	31°44'41.4009"	-340.19
J18	35°35'27.5329"	31°45'32.3405"	-362.52

3.1.2 LIST OF THE GRID COORDINATES OF THE CONTROL POINTS

POINT	EASTING (M)	NORTHING (M)	ELLIPSOIDAL HEIGHT (M)
I1	726129.17	3428036.09	-356.59
I2	730702.58	3428769.77	-358.58
I3	726778.15	3437257.04	-361.92
I4	731163.06	3437317.86	-372.56
I5	733498.58	3442059.29	-375.24
I6	734010.77	3444120.75	-375.33
I7	726160.20	3448689.88	-372.61
I8	724901.19	3454741.36	-365.79
I9	726553.26	3463788.03	-368.91
I10	726859.39	3466776.96	-371.57
I11	726687.88	3473139.47	-369.02
I12	726036.94	3478164.52	-371.42
I13	727052.52	3481663.43	-367.57
I14	727687.85	3483731.28	-369.94
I15	727936.19	3494414.65	-318.31
I16	730546.43	3505891.27	-352.72
I17	733359.48	3514430.53	-352.74
I18	737312.77	3518066.19	-368.89
J1	735081.28	3432937.63	-360.63
J2	734863.32	3435669.89	-350.43
J3	735824.60	3435748.90	-338.36
J4	739916.86	3446760.71	-360.96
J5	738351.46	3448414.75	-375.52
J6	733997.92	3450137.21	-375.73
J7	738456.69	3462790.49	-360.31
J8	737410.74	3464341.25	-377.36
J9	740656.32	3464109.89	-360.05
J10	742474.55	3476225.90	-358.08
J11	744408.77	3485720.17	-385.16
J12	743050.17	3490038.17	-257.04
J13	742636.69	3495460.08	-304.49
J14	743927.62	3501747.29	-372.13
J15	744199.73	3506536.61	-363.79
J16	745470.29	3512026.18	-346.78
J17	745851.25	3515083.78	-340.19
J18	745407.63	3516643.16	-362.52

3.2 THE INTERNATIONAL BOUNDARY COORDINATES IN THE DEAD SEA AND THE SALT PANS

3.2.1 LIST OF THE GEODETIC COORDINATES OF THE INTERNATIONAL BOUNDARY LINE IN THE DEAD SEA AND THE SALT PANS

GEODETIC COORDINATES OF THE INTERNATIONAL BOUNDARY LINE (THE BLUE LINE IN ANNEX I OF THE TREATY OF PEACE, APPENDIX II SHEETS NO. 1&2)



POINT NO.	LONGITUDE (DMS)	LATITUDE (DMS)
DS1	35°24'59.9339"	30°58'14.2742"
DS2	35°25'01.0444"	30°58'49.3536"
DS3	35°24' 59.9727"	30°59'36.5201"
DS4	35°25' 00.6180"	31°00'11.0560"
DS5	35°25' 07.4373"	31°00'33.3000"
DS6	35°25' 13.6645"	31°00'55.9446"
DS7	35°25' 18.9269"	31°01'20.6528"
DS8	35°25'22.2580"	31°01'42.0203"
DS9	35°25'24.9531"	31°02'05.0557"
DS10	35°25'27.4479"	31°02'27.6077"
DS11	35°25'28.6229"	31°02'35.2810"
DS12	35°25'30.7160"	31°02'44.9500"
DS13	35°25'44.9506"	31°03'06.4043"
DS14	35°26'02.9695"	31°03'32.7220"
DS15	35°26'19.1409"	31°03'57.4828"
DS16	35°26'33.0303"	31°04'16.9936"
DS17	35°26'43.4486"	31°04'34.9465"
DS18	35°26'55.3387"	31°04'57.2868"
DS19	35°27'03.7294"	31°05'18.4596"
DS20	35°27'16.0506"	31°05'51.5709"
DS21	35°27'24.6871"	31°06'26.5702"
DS22	35°27'28.8178"	31°06'55.0642"
DS23	35°27'30.6327"	31°07'15.6798"
DS24	35°27'30.8969"	31°07'34.7016"
DS25	35°27'28.8301"	31°08'10.1646"
DS26	35°27'25.9409"	31°08'34.2468"
DS27	35°27'21.5698"	31°08' 56.5065"
DS28	35°27'17.1407"	31°09' 12.1436"
DS29	35°27'10.6605"	31°09' 33.1771"
DS30	35 27' 03.2966"	31°09' 52.1818"
DS31	35°26' 53.9789"	31°10' 08.6586"
DS32	35°26' 47.1051"	31°10' 20.3483"
DS33	35°26' 37.6741"	31°10' 32.4761"
DS34	35°26' 21.1446"	31°10' 53.5050"
DS35	35°25' 23.7927"	31°12' 03.6831"
DS36	35°24' 29.6000"	31°13' 18.6660"
DS37	35°24' 23.1478"	31°13' 29.4367"
DS38	35°24' 16.4276"	31°13' 40.0824"
DS39	35°24' 09.0445"	31°13' 54.4095"

J.T.E DOCUMENT AUTHENTICATION

[Signature] FOR JORDAN 10/31/998 DATE *[Signature]* FOR ISRAEL

POINT NO.	LONGITUDE (DMS)	LATITUDE (DMS)
DS40	35°24'04.7990"	31°14'07.3142"
DS41	35°24'02.6938"	31°14'22.6789"
DS42	35°24'00.1951"	31°14'34.4470"
DS43	35°23'59.0200"	31°14'49.2424"
DS44	35°23'58.9560"	31°15'04.6339"
DS45	35°24'00.8335"	31°15'23.5608"
DS46	35°24'03.7551"	31°15'40.4226"
DS47	35°24'07.8918"	31°15'55.9953"
DS48	35°24'13.0219"	31°16'11.9715"
DS49	35°24'19.1696"	31°16'29.2922"
DS50	35°24'25.7837"	31°16'45.5975"
DS51	35°24'38.3663"	31°17'12.0834"
DS52	35°24'49.0538"	31°17'32.3704"
DS53	35°25'01.3888"	31°17'54.9313"
DS54	35°25'13.8646"	31°18'18.4958"
DS55	35°25'24.2993"	31°18'36.1241"
DS56	35°25'43.0431"	31°19'00.6407"
DS57	35°26'07.2011"	31°19'34.0799"
DS58	35°26'27.7173"	31°19'59.5997"
DS59	35°26'42.1955"	31°20'21.1751"
DS60	35°26'56.4261"	31°20'44.8002"
DS61	35°27'06.5011"	31°21'01.2963"
DS62	35°27'17.7272"	31°21'21.2767"
DS63	35°27'27.7613"	31°21'41.9290"
DS64	35°27'39.1670"	31°22'04.3403"
DS65	35°27'49.7215"	31°22'28.8782"
DS66	35°27'59.6865"	31°22'55.4075"
DS67	35°28'06.9064"	31°23'24.0025"
DS68	35°28'13.9721"	31°23'49.5483"
DS69	35°28'20.3534"	31°24'19.2630"
DS70	35°28'24.9333"	31°24'39.4344"
DS71	35°28'25.4468"	31°24'53.2232"
DS72	35°28'26.1342"	31°25'20.8399"
DS73	35°28'28.5549"	31°25'56.7671"
DS74	35°28'28.8257"	31°26'37.3138"
DS75	35°28'31.8383"	31°27'11.2165"
DS76	35°28'33.4250"	31°27'28.3286"
DS77	35°28'32.4360"	31°27'43.9970"
DS78	35°28'31.8513"	31°28'19.3328"
DS79	35°28'32.6121"	31°28'52.5321"
DS80	35°28'33.5971"	31°29'31.3439"
DS81	35°28'33.7040"	31°29'35.4002"

J.T.E DOCUMENT AUTHENTICATION


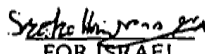
 FOR JORDAN	10/31/98 DATE	 FOR ISRAEL
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3.2.2 LIST OF THE GRID COORDINATES (UTM) OF THE INTERNATIONAL BOUNDARY LINE IN THE DEAD SEA AND THE SALT PANS

GRID COORDINATES OF THE INTERNATIONAL BOUNDARY LINE (THE BLUE LINE IN ANNEX I OF THE TREATY OF PEACE, APPENDIX II SHEETS NO. 1&2)

POINT NO.	EASTING (M)	NORTHING (M)
DS1	730811	3428853
DS2	730817	3429934
DS3	730757	3431386
DS4	730751	3432450
DS5	730917	3433139
DS6	731067	3433840
DS7	731190	3434604
DS8	731264	3435264
DS9	731320	3435975
DS10	731371	3436671
DS11	731397	3436908
DS12	731446	3437207
DS13	731809	3437876
DS14	732269	3438697
DS15	732681	3439469
DS16	733036	3440078
DS17	733300	3440637
DS18	733600	3441332
DS19	733808	3441989
DS20	734112	3443016
DS21	734317	3444099
DS22	734407	3444979
DS23	734441	3445615
DS24	734435	3446201
DS25	734356	3447292
DS26	734263	3448032
DS27	734132	3448715
DS28	734004	3449194
DS29	733818	3449838
DS30	733610	3450419
DS31	733352	3450921
DS32	733162	3451277
DS33	732904	3451645
DS34	732452	3452283
DS35	730886	3454411
DS36	729401	3456689
DS37	729223	3457017
DS38	729038	3457341
DS39	728833	3457778

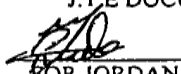

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POINT NO.	EASTING (M)	NORTHING (M)
DS40	728712	3458173
DS41	728646	3458645
DS42	728572	3459006
DS43	728531	3459461
DS44	728519	3459935
DS45	728556	3460519
DS46	728622	3461040
DS47	728721	3461522
DS48	728846	3462017
DS49	728997	3462554
DS50	729161	3463060
DS51	729476	3463883
DS52	729745	3464514
DS53	730056	3465216
DS54	730370	3465949
DS55	730634	3466498
DS56	731113	3467264
DS57	731729	3468308
DS58	732254	3469106
DS59	732622	3469779
DS60	732982	3470515
DS61	733237	3471029
DS62	733520	3471651
DS63	733771	3472293
DS64	734057	3472990
DS65	734319	3473752
DS66	734564	3474575
DS67	734735	3475460
DS68	734904	3476251
DS69	735052	3477170
DS70	735159	3477794
DS71	735163	3478219
DS72	735162	3479070
DS73	735201	3480178
DS74	735180	3481427
DS75	735236	3482473
DS76	735266	3483001
DS77	735229	3483483
DS78	735189	3484571
DS79	735186	3485594
DS80	735185	3486790
DS81	735185	3486915

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JORDAN - ISRAEL BOUNDARY LINE DOCUMENTATION

Wadi Arabā /Emeq Ha'arava sector

This document is a geodetic appendix following the demarcation of the boundary pillars in Wadi Araba / Emeq Ha'arava and fulfilling the task of Annex I(a) para. 2.C.3 of the Treaty of Peace between Israel and Jordan of October 26th 1994. The documentation was achieved by the JTE as part of the tasks of the Joint Boundary Commission.

The State of Israel

The Hashemite Kingdom of Jordan

Signatures

For Israel

For Jordan

Sh. Tz. U. K. A. Technical Experts *Mudjallah*

Seebro Haim Head of JTE *Abu-Sagarat*

Date: 19/9/96

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GLOSSARY

BP:	Boundary Pillar
IJBD'94:	Israel Jordan Boundary Datum 1994
WGS'84:	World Geodetic System 1984
GPS:	Global Positioning System
UTM:	Universal Transverse Mercator
JTE:	Joint Team of Experts (Jordan-Israel Professional team. JTE was the sub-committee of the Boundary committee)
GM:	The Earth's Gravitational Constant (Mass of Earth's Atmosphere Included)

1. INTRODUCTION

The purpose of this document is to express and summarize the professional work carried out by the Joint Team of Experts (JTE) during the definition of the Boundary. The fruitful work during the JTE meetings built up the professional frame of defining the international boundary which was successfully implemented in the peace agreement.

Later on, the field work of demarcation, as well as the documentation of the boundary continued and was controlled by the JTE. The field work was characterized by good cooperation and professional understanding which helped to solve and overcome all the inevitable problems that appeared from time to time.

The documentation is expressed by professional material which will enable maintenance, and if needed, accurate restoration of the Boundary Pillars in the future.

There are 124 Boundary Pillars which define the land boundary in Wadi Araba/Emeq Ha'arava. Between each two adjacent boundary pillars the boundary line follows a straight line.

1.1 BACKGROUND

The Joint Team of Experts (the sub committee of the boundary committee), started to deal with all technical aspects of the boundary issues, during the formal start of the peace negotiation between Jordan and Israel in Wadi Araba (July 1994). The agreed memorandum was signed after the first meeting on July 19, 1994. The JTE headed by Mr. Eng. Nedal Al-Sagarat from Jordan and Col. Haim Srebro from Israel and most of JTE members are geodetic experts.

This document reflects a perfect cooperation and coordination between the two parties. During the different stages of the work, such as delimitation, monumentation, GPS observations (and more), The boundary committee and the JTE were able to overcome all the Technical and managerial difficulties that arose from time to time during the delimitation and the field work.

2. DETERMINATION OF THE REFERENCE FRAME

The basic practical step of the JTE work from the geodetic aspect was the determination of the reference frame (system). Determination of the reference frame was an essential step to enable the professionals to "speak the same language". After this stage, the JTE could keep on going in its professional activities which were controlled by the existence of the (common) reference frame.

The reference frame determination was involved with the definition of the 3D system (the geodetic datum) and the 2D system (the grid). The JTE decision was to determine a unique and local geodetic datum (IJBD'94) based on the WGS'84 ellipsoid, and to use the well known UTM convention as the grid system.

Technically, 12 control points (datum points) were established, 6 in Israel, 6 in Jordan. The location of the points was mutually decided by the JTE after a joint tour of two days (11-12.09.1994). The next step was to measure the 12 points network with GPS and to determine the reference frame.

Prior to the official GPS survey of the IJBD'94 points, both sides exchanged GPS data which was collected in Jordan and Israel. The purpose was to examine the possibility of GPS data processing by both sides with different types of software. The "pilot-project" ended successfully.

On October 4, 1994, the 12 datum points were observed with 12 dual frequency GPS receivers. The Israeli side supplied 8 Trimble 4000SST/SSE receivers and the Jordanian side supplied 4 Leica 200 receivers. The plan was to measure 2 sessions of 4 hours each, so each point was observed for 8 hours. The operation ended successfully.

In principle, the decision about the agreed results was taken after comparing the results of each side (based on the same data). For the datum points, as well as for the next common survey missions, the comparison of results showed a very good agreement.

2.1 IJBD'94 DEFINITION

The geodetic datum IJBD'94 was determined by fixing the coordinates of point IJ09 (one of the 12 datum points), adopting the WGS'84 ellipsoid, and fixing the reference ellipsoid in the geocenter according to the precise GPS vectors which were measured between the 12 datum points.

Concerning the vertical datum, the JTE agreed to adopt the ellipsoidal heights (for all the boundary coordinates) with reference to the IJBD'94 datum and to the WGS'84 reference ellipsoid. The decision simplified and facilitated the computation since only one 3 dimensional datum had to be determined. So, no attempt was made to determine the geoid, or, the sea level surface as the datum of the vertical component of the coordinates.

The coordinates of point IJ09 were computed by an average between the results of the absolute positioning which was calculated by each side using broadcast ephemeris.

The following are the agreed coordinates:

Point: IJBD09
 Latitude: 31°45'04".37499
 Longitude: 35°26'13".70799
 Height: -272.150 m (ellipsoidal height)

The reference ellipsoid parameters are:

Ellipsoid: WGS'84
 Semi Major Axis: 6,378,137.000 m
 1/flattening: 298.257223563
 GM: 3986005 * 10⁸ m³ s⁻²

2.2 GRID SYSTEM DEFINITION

Grid coordinates were calculated by using the UTM equations. In more details, The grid system parameters are:

Datum: IJBD'94
 Ellipsoid: WGS'84
 Semi Major Axis: 6,378,137.000 m
 1/flattening: 298.257223563

Map equation: UTM zone 36
 Latitude of origin: 0°
 Central meridian: 33° East
 False northing : 0 m
 False easting : 500,000 m
 Grid scale factor: 0.99960

2.3 DATUM POINTS LOCATION AND DESCRIPTION

The location of the 12 datum points was mutually decided by the JTE during a two days tour. The following table summarizes the points location:

No.	Point Name	Location
1	IJBD01	Aqaba
2	IJBD02	Eilat
3	IJBD03	Qetura/Gerofit
4	IJBD04	Wadi Mathla
5	IJBD05	Hazeva
6	IJBD06	Safi
7	IJBD07	Mugib
8	IJBD08	Ein-Gedi
9	IJBD09	Sweima
10	IJBD10	Dir-Alla
11	IJBD11	Tel-Rehov
12	IJBD12	Mevo-Hama/EI-Hama

2.4 GPS NETWORK DESIGN AND FIELD OBSERVATIONS

On the 04/10/1994 a GPS survey of two sessions was carried out by a Joint Israeli - Jordanian team. The 12 datum points were observed with 12 GPS dual frequency receivers (8 Israeli Trimble 4000's and 4 Jordanian Leica 200). The session duration was 4 hours. The second session was needed to verify the results of the first one and to supply repeatability for the GPS vectors. The combination of different types of receivers was possible after transferring the raw data to RINEX v.2 format. After a careful preparation of both sides (mainly logistic), the operation was concluded successfully.

2.5 DATA PROCESSING AND OUTPUT RESULTS

Data processing was carried out by both sides with different types of software. After comparing both parties results, it was decided to adopt one full result since the differences were within the GPS specifications of $\pm(5\text{mm}+1\text{ppm})$ for the survey conditions.

The following, is a list of the coordinates of the 12 datum points. All are of the same accuracy and importance.

2.5.1 LIST OF IJBD'94 GEODETIC COORDINATES

Name	Lat[dms]	Long[dms]	Ellipsoidal Height[m]
IJBD01	N 29° 29' 43".43754	E 34° 59' 40".14182	199.147
IJBD02	N 29° 34' 37".72718	E 34° 53' 12".71363	518.055
IJBD03	N 30° 0' 54".49787	E 35° 5' 13".49950	251.168
IJBD04	N 30° 22' 27".65952	E 35° 15' 37".15283	209.763
IJBD05	N 30° 47' 2".26206	E 35° 14' 23".06845	-111.133
IJBD06	N 31° 1' 3".36348	E 35° 28' 48".78992	-262.660
IJBD07	N 31° 26' 3".39328	E 35° 34' 19".82257	-154.977
IJBD08	N 31° 28' 5".70188	E 35° 23' 41".88187	-327.186
IJBD09	N 31° 45' 4".37499	E 35° 36' 13".70799	-272.150
IJBD10	N 32° 8' 15".22922	E 35° 36' 50".42214	-115.149
IJBD11	N 32° 27' 22".89172	E 35° 29' 49".30278	-95.002
IJBD12	N 32° 41' 19".23567	E 35° 40' 12".72467	-130.178

Datum: IJBD'94

2.5.2 LIST OF IJBD'94 GEOCENTRIC COORDINATES

Name	X [m]	Y [m]	Z [m]
IJBD01	4551665.750	3186457.649	3121908.928
IJBD02	4554206.080	3175506.261	3129950.255
IJBD03	4523149.339	3177399.461	3171952.560
IJBD04	4497138.693	3179478.174	3206350.760
IJBD05	4479186.520	3164373.645	3245282.857
IJBD06	4454927.734	3175349.124	3267430.700
IJBD07	4430421.138	3168616.506	3306990.546
IJBD08	4438477.954	3153675.363	3310114.148
IJBD09	4413621.706	3160286.475	3336861.959
IJBD10	4394740.881	3147950.683	3373296.727
IJBD11	4385794.656	3128013.758	3403189.519
IJBD12	4365028.651	3133150.170	3424881.203

Datum: IJBD'94

2.5.3 LIST OF GRID COORDINATES

Name	East (m)	North (m)
IJBD01	693349.333	3264530.977
IJBD02	682767.378	3273417.044
IJBD03	701286.187	3322297.188
IJBD04	717207.529	3362434.648
IJBD05	714325.975	3407804.534
IJBD06	736768.211	3434194.314
IJBD07	744473.091	3480595.298
IJBD08	727543.627	3483981.221
IJBD09	746643.489	3515810.772
IJBD10	746574.909	3558677.135
IJBD11	734713.745	3593767.286
IJBD12	750349.462	3619926.438

Grid: UTM zone 36

Datum: IJBD'94

3. DEMARCATION OF THE LAND BOUNDARY LINE ALONG THE WADI ARABA / EMEQ HA'ARAVA
- a. The demarcation of the land boundary in Wadi Araba / Emeq Ha'arava was carried out by the JTE according to the Treaty of Peace (signed on the 26th of October 1994) Article 3 para. 4, and ANNEX I(a), Para. 2.C. and ANNEX I, appendix I (10 orthophoto sheets, 1:20,000).
 - b. The methodology of the demarcation was set during JTE meetings in Israel and Jordan. There were two phases to complete the task :
Phase I : Demarcation by temporary markers.
Phase II: Demarcation by permanent markers (boundary pillars).
 - c. Phase I was carried out by three field teams, working in parallel. Each team had members from Jordan and Israel. The aids used in this phase were:
 1. Copies of the 1:20,000 orthophoto maps attached to the Treaty of Peace.
 2. Enlargements of the orthophoto and aerial photographs up to 1:10,000, 1:5,000 and even larger in some cases. The photographic aids were prepared by each side from its own copy of the agreement.
 3. Measuring equipment.
 4. Anti mine sandals (when needed) and logistical support.
 5. Temporary markers.
 - d. Every point was located according to it's identification on the orthophoto map, and it's relative position to identified close objects on the ground. Then the temporary marker was inserted in the ground, a color ribbon was tied around it and distances from close and fixed objects including iron angles were taken to witness the demarcations.
 - e. During the first phase the joint teams had to overcome some difficulties such as :
 1. Working in land mine areas or suspicious areas (some points), mainly in the Wadis.
 2. Access to some boundary points.
 - f. To overcome these difficulties some measures had to be taken:
 1. Using sandals to work in the mine fields.
 2. Using helicopters to put a few markers in place.
 - g. Remarks About phase I:
 1. All the points were demarcated in a continuous process except those that are south of the Araba/Arava crossing (finally marked as points no. 0,1 and 2).
 2. The points got initial numbers that were changed during the final demarcation.
 3. Points no. 0 and 2 were finally demarcated after a sum up of a mutual implementation agreement on the 18th of october 95. This implementation agreement was followed by preparation of large scale (1:5,000 and even larger) orthophotos.

- h. Phase II was the monumentation of boundary pillars.
The pillars were produced by Jordan.
The work was carried out by both sides, Israel erecting 62 B.P.'s and Jordan 62. The actual work was carried out by the Military Engineering Organizations and construction Centers of the two countries, with participation of civilian contractors.
This phase of work demanded the inspection of the JTE members, to make certain that the permanent pillars were erected on the exact same spot of the temporary markers.
- i. Before removing the temporary markers and erecting the B.P.'s, measures were taken from close object used as "witness points". After erecting the B.P., final measurements were made to ensure that the B.P. is in the right place. JTE members attended and inspected the work.
- j. Remarks about Phase II
1. Points no. 108 and 110 were placed by a helicopter because of access difficulties to the sites.
 2. Points no. 107 and 123 were not monumented by standard Boundary Pillars because the ground on site was not suitable for a heavy concrete monument.
 3. Point no. 0 was monumented with the intention to stabilize it later on.
 4. B.P. no. I was agreed to be the old Boundary Pillar that exists in the area since 1946. Therefore this pillar is not a standard one.
 5. In some points the location was suspected to be mined. To overcome this problem a small area around the point was cleared from mines.
- k. General Remark
- The overall task was a great success and an example of an efficient professional low cost boundary demarcation. The success was due to perfect joint activities, cooperation and coordination of all the concerning members to include the heads of the boundary commission, the members of the JTE, the liaison officers, the Engineering forces including the construction centers, the local forces of the southern commands, the contractors and other people who contributed to the operation.
- Nevertheless a major factor of the success of the implementation process was the inspiration of the leaders of the two countries, and the sacred task of contribution to peace between the two nations.

4. DOCUMENTATION OF THE BOUNOARY PILLARS

Precise coordinates are of utmost importance in describing the boundary location. As a result, the JTE decision was to use GPS technology for precise and rapid coordinate determination of the boundary pillars along Wadi Araba / Emeq Ha'Arava. So, after installing the boundary pillars in the agreed locations, a joint project was carried out for precise determination of the 124 boundary pillars. The JTE is convinced that precise coordinates (IJBD'94 datum), is the best material for the boundary line definition and for long term maintenance. Any doubt concerning a boundary pillar location, will be easily solved by using GPS or other similar future technology, based on the agreed coordinate lists.

4.1 GPS FIELD OBSERVATIONS

The JTE treated the plan of measuring the boundary pillars from a pure professional view point. Technically, the JTE adopted the philosophy of the traditional geodesy, of hierarchy classification of geodetic control points. Therefore, the datum points (six of them) were regarded as the higher class. Fifteen boundary pillars were considered as the frame of the boundary line, or the second class. The rest of the boundary pillars were considered as the third class.

GPS field observations were carried out by ten joint teams using five Ashtech Z12 GPS receivers (for Jordan), and, five Trimble 4000 SSE GPS receivers (for Israel). The network which connected all boundary pillars to the IJBD points, was built upon several sessions. In each session, ten GPS receivers were in operation, so the work was carried out step by step from 10.12.95 till 18.12.95. Actually, all boundary pillars were measured twice by the Ashtech and the Trimble receivers.

4.2 DATA PROCESSING AND OUTPUT RESULTS

Data processing followed the survey plan. The first step was to calculate the fifteen B.P. coordinates ("the frame"), while keeping the coordinates of the datum points fixed. The second step was to calculate the rest of the BP coordinates while keeping the frame coordinate values fixed. The approach simplified data processing and minimized the use of unnecessary data and finally enabled to reach the same level of accuracy (centimeters level) for all boundary pillars coordinates.

The coordinates which are summarized in the following lists, reflect a perfect agreement between the results which were obtained by the Jordanian and the Israeli computation teams.

4.2.1 LIST OF THE LAND BOUNDARY GEODETIC COORDINATES.

NAME	LATITUDE (DMS)	LONGITUDE (DMS)	HEIGHT 1 TOP OF THE PIPE (m)	HEIGHT 2 TOP OF THE PILLAR (m)
0001J	29° 32' 33".3161	34° 58' 41".4910	22.15	-----
0011J	29° 32' 34".3959	34° 58' 41".0294	-----	19.70
0021J	29° 33' 21".7918	34° 58' 42".2516	27.74	24.74
0031J	29° 34' 36".8440	34° 58' 43".2316	31.83	28.83
0041J	29° 35' 8".8614	34° 58' 56".3297	34.90	31.90
0051J	29° 35' 35".1188	34° 59' 13".3802	38.09	35.05
0061J	29° 36' 7".2166	34° 59' 26".1847	37.91	34.84
0071J	29° 36' 43".3550	34° 59' 45".6958	39.29	36.28
0081J	29° 37' 19".1464	35° 0' 1".8772	39.87	36.87
0091J	29° 38' 19".9837	35° 0' 50".4196	42.57	39.55
0101J	29° 39' 19".6866	35° 1' 9".0478	43.03	40.02
0111J	29° 40' 20".0824	35° 1' 14".2684	49.06	46.05
0121J	29° 41' 47".2667	35° 0' 41".2354	71.92	68.91
0131J	29° 42' 40".2468	35° 0' 46".8454	91.07	88.06
0141J	29° 43' 23".5388	35° 0' 59".3592	98.45	95.43
0151J	29° 45' 10".5438	35° 1' 29".0810	94.71	91.70
0161J	29° 46' 33".8454	35° 1' 52".3279	88.59	85.58
0171J	29° 47' 17".5595	35° 2' 38".3522	82.10	79.10
0181J	29° 48' 8".5385	35° 2' 43".9547	78.19	75.19
0191J	29° 48' 39".9584	35° 3' 2".6014	78.62	75.61
0201J	29° 49' 8".9781	35° 2' 59".4018	77.34	74.34
0211J	29° 50' 55".7895	35° 3' 42".5253	78.41	75.40
0221J	29° 51' 21".9604	35° 3' 59".6689	79.13	76.11
0231J	29° 51' 50".1852	35° 4' 9".7075	81.46	78.42
0241J	29° 52' 19".1324	35° 4' 43".4311	83.25	80.24
0251J	29° 52' 40".3207	35° 4' 43".6169	85.22	82.22
0261J	29° 53' 8".6578	35° 5' 3".3914	89.86	86.85
0271J	29° 53' 21".2588	35° 5' 4".2990	91.99	88.98
0281J	29° 54' 37".6410	35° 4' 58".1083	99.53	96.56
0291J	29° 55' 21".3741	35° 4' 53".9280	103.37	100.37
0301J	29° 55' 30".4590	35° 4' 38".3678	104.68	101.69
0311J	29° 55' 49".4447	35° 4' 41".1082	106.48	103.49
0321J	29° 56' 24".7123	35° 5' 3".9429	112.01	109.01
0331J	29° 56' 50".1235	35° 5' 1".0014	115.20	112.21
0341J	29° 57' 1".3670	35° 4' 31".3294	116.57	113.58
0351J	29° 57' 25".2885	35° 4' 41".0131	123.19	120.21
0361J	29° 57' 49".1878	35° 5' 19".5085	128.86	125.86
0371J	29° 58' 11".6776	35° 5' 31".3477	129.30	126.31
0381J	29° 58' 20".8052	35° 5' 18".8549	130.75	127.72
0391J	29° 58' 55".1358	35° 5' 40".3705	136.17	133.18

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Szefto Haim 19770 P/A
 FOR ISRAEL

19/9/96
 DATE

Abdul AL SAGARAT
 FOR JORDAN

NAME	LATITUDE (DMS)	LONGITUDE (DMS)	HEIGHT 1 TOP OF THE PIPE (m)	HEIGHT 2 TOP OF THE PILLAR (m)
040IJ	29° 59' 29".9957	35° 5' 55".4553	140.87	137.87
041IJ	29° 59' 43".2907	35° 6' 55".8167	154.28	151.28
042IJ	30° 0' 5".0603	35° 6' 59".5212	160.93	157.94
043IJ	30° 0' 12".3336	35° 6' 36".2485	155.65	152.66
044IJ	30° 0' 34".9156	35° 6' 35".4794	159.02	156.01
045IJ	30° 0' 44".6094	35° 6' 1".3715	153.32	150.38
046IJ	30° 2' 23".0871	35° 6' 45".3475	174.94	171.93
047IJ	30° 3' 43".2947	35° 7' 50".1766	188.37	185.36
048IJ	30° 3' 47".8523	35° 8' 46".1929	201.34	198.32
049IJ	30° 5' 3".9518	35° 9' 5".5673	203.78	200.77
050IJ	30° 5' 13".7210	35° 8' 53".6751	199.02	196.01
051IJ	30° 5' 38".6038	35° 9' 11".1236	198.13	195.12
052IJ	30° 6' 53".2969	35° 9' 27".0609	202.38	199.37
053IJ	30° 7' 21".6213	35° 9' 42".7257	204.76	201.74
054IJ	30° 7' 43".3261	35° 9' 27".1683	214.42	211.41
055IJ	30° 8' 4".9520	35° 9' 39".0613	213.20	210.19
056IJ	30° 8' 37".2585	35° 9' 2".3961	226.45	223.43
057IJ	30° 9' 18".0069	35° 9' 17".3180	254.63	251.61
058IJ	30° 9' 45".5985	35° 8' 39".6981	246.87	243.87
059IJ	30° 11' 2".7880	35° 8' 47".4581	238.30	235.31
060IJ	30° 12' 13".6092	35° 9' 4".1112	224.30	221.29
061IJ	30° 12' 52".2198	35° 9' 3".6790	219.97	216.95
062IJ	30° 14' 30".1043	35° 8' 41".2544	206.90	203.90
063IJ	30° 15' 13".0433	35° 8' 58".9150	199.51	196.52
064IJ	30° 16' 14".3209	35° 8' 53".9414	205.09	202.09
065IJ	30° 16' 55".8395	35° 8' 45".0224	200.64	197.64
066IJ	30° 17' 24".2751	35° 8' 55".0823	223.36	220.36
067IJ	30° 18' 24".2290	35° 9' 16".9917	181.42	178.42
068IJ	30° 18' 47".1614	35° 9' 48".3798	165.49	162.48
069IJ	30° 19' 39".2444	35° 10' 33".3531	158.14	155.12
070IJ	30° 20' 45".1529	35° 11' 30".3096	176.86	173.87
071IJ	30° 21' 26".4294	35° 11' 16".9711	136.51	133.50
072IJ	30° 22' 11".4805	35° 10' 54".1061	126.32	123.30
073IJ	30° 22' 59".8000	35° 10' 29".2462	114.90	111.90
074IJ	30° 24' 10".4104	35° 9' 53".5425	97.42	94.43
075IJ	30° 25' 7".0252	35° 9' 42".9544	86.51	83.51
076IJ	30° 26' 27".0576	35° 9' 42".8943	72.88	69.89
077IJ	30° 27' 22".8199	35° 10' 18".8867	60.58	57.59
078IJ	30° 28' 16".8377	35° 10' 53".1937	51.27	48.29
079IJ	30° 28' 48".4649	35° 11' 3".9818	44.00	41.00
080IJ	30° 29' 54".5589	35° 11' 34".2974	36.80	33.81

J.T.E. DOCUMENT AUTHENTICATION

Seebzo Haim
FOR ISRAEL

19/9/96
DATE

Abdullah Al-Sagarat
FOR JORDAN

NAME	LATITUDE (DMS)	LONGITUDE (DMS)	HEIGHT 1 TOP OF THE PIPE (m)	HEIGHT 2 TOP OF THE PILLAR (m)
081IJ	30° 30' 57".5990	35° 11' 37".5413	20.59	17.59
082IJ	30° 32' 0".3357	35° 11' 40".5897	9.90	6.92
083IJ	30° 32' 52".9317	35° 12' 12".9672	0.84	-2.16
084IJ	30° 33' 56".6690	35° 12' 13".0686	-11.43	-14.44
085IJ	30° 34' 55".0986	35° 12' 13".0708	-21.96	-24.96
086IJ	30° 36' 16".9616	35° 13' 4".1420	-38.80	-41.80
087IJ	30° 37' 7".6110	35° 13' 17".7923	-47.62	-50.62
088IJ	30° 38' 17".9466	35° 14' 26".7835	-62.58	-65.60
089IJ	30° 38' 59".3150	35° 15' 11".2439	-70.14	-73.18
090IJ	30° 39' 32".9033	35° 15' 47".1115	-72.73	-75.75
091IJ	30° 40' 5".1526	35° 15' 58".2041	-73.20	-76.22
092IJ	30° 40' 21".3506	35° 15' 46".3557	-84.96	-87.98
093IJ	30° 40' 48".3441	35° 16' 14".4454	-95.61	-98.64
094IJ	30° 41' 3".9984	35° 16' 4".8761	-100.58	-103.60
095IJ	30° 41' 24".5801	35° 16' 26".3447	-101.27	-104.29
096IJ	30° 41' 57".3603	35° 16' 32".0131	-113.20	-116.21
097IJ	30° 42' 37".9260	35° 16' 54".8576	-122.65	-125.66
098IJ	30° 42' 34".0127	35° 17' 27".0572	-119.67	-122.68
099IJ	30° 42' 46".9371	35° 17' 37".3389	-124.25	-127.30
100IJ	30° 43' 4".8798	35° 17' 38".3368	-127.44	-130.46
101IJ	30° 43' 22".2042	35° 17' 10".6122	-131.22	-134.23
102IJ	30° 44' 3".6443	35° 17' 39".3580	-141.46	-144.44
103IJ	30° 45' 44".1954	35° 17' 40".5877	-161.90	-164.93
104IJ	30° 45' 46".3741	35° 18' 30".1151	-146.07	-149.06
105IJ	30° 46' 8".6695	35° 18' 44".3148	-143.96	-146.97
106IJ	30° 46' 38".8952	35° 18' 50".2199	-157.14	-160.16
107IJ	30° 47' 25".3836	35° 18' 53".6469	-166.02	-169.05
108IJ	30° 47' 49".3914	35° 19' 19".5771	-168.12	-171.16
109IJ	30° 47' 57".3943	35° 20' 9".0261	-162.42	-165.44
110IJ	30° 48' 56".3803	35° 20' 25".3729	-171.51	-174.55
111IJ	30° 49' 9".2412	35° 20' 12".4350	-217.85	-220.86
112IJ	30° 50' 29".3160	35° 19' 45".1681	-235.99	-239.00
113IJ	30° 51' 43".3195	35° 19' 51".7320	-253.41	-256.41
114IJ	30° 52' 23".4490	35° 20' 5".2687	-264.07	-267.10
115IJ	30° 53' 23".9916	35° 20' 37".4909	-279.58	-282.59
116IJ	30° 54' 32".4087	35° 21' 14".2621	-298.76	-301.80
117IJ	30° 55' 36".0786	35° 22' 12".5896	-317.84	-320.86
118IJ	30° 55' 39".4133	35° 22' 52".2179	-325.22	-328.25
119IJ	30° 55' 35".9251	35° 23' 34".7222	-331.46	-334.50
120IJ	30° 55' 52".9074	35° 23' 48".8231	-334.58	-337.60
121IJ	30° 56' 1".9340	35° 24' 6".7612	-338.89	-341.92
122IJ	30° 56' 59".2973	35° 24' 54".9919	-350.33	-353.31
123IJ	30° 58' 6".0297	35° 25' 2".5620	-358.49	-361.88

J.T.E. DOCUMENT AUTHENTICATION

Saebo Haim *1990* *cm*
FOR ISRAEL

19/9/96
DATE

Abdullah AL-SACARRAT
FOR JORDAN

4.2.2 LIST OF GRID COORDINATES FOR THE LAND BOUNDARY.

NAME	EAST (m)	NORTH (m)	HEIGHT 1 TOP OF THE PIPE (m)	HEIGHT 2 TOP OF THE PILLAR (m)
000IJ	691680.63	3269734.10	22.15	-----
001IJ	691667.64	3269767.13	-----	19.70
002IJ	691675.68	3271226.90	27.74	24.74
003IJ	691662.67	3273538.01	31.83	28.83
004IJ	691998.33	3274529.77	34.90	31.90
005IJ	692443.30	3275346.02	38.09	35.05
006IJ	692770.88	3276340.15	37.91	34.84
007IJ	693276.68	3277461.80	39.29	36.28
008IJ	693692.99	3278571.25	39.87	36.87
009IJ	694966.24	3280466.93	42.57	39.55
010IJ	695435.21	3282313.80	43.03	40.02
011IJ	695543.13	3284175.73	49.06	46.05
012IJ	694608.28	3286844.51	71.92	68.91
013IJ	694730.67	3288478.31	91.07	88.06
014IJ	695043.74	3289817.07	98.45	95.43
015IJ	695784.69	3293125.58	94.71	91.70
016IJ	696364.08	3295701.31	88.59	85.58
017IJ	697576.42	3297069.07	82.10	79.10
018IJ	697699.03	3298641.33	78.19	75.19
019IJ	698182.52	3299617.62	78.62	75.61
020IJ	698080.71	3300509.59	77.34	74.34
021IJ	699179.60	3303818.91	78.41	75.40
022IJ	699625.27	3304632.96	79.13	76.11
023IJ	699879.06	3305506.83	81.46	78.42
024IJ	700767.97	3305414.42	83.25	80.24
025IJ	700761.16	3307066.90	85.22	82.22
026IJ	701275.94	3307949.00	89.86	86.85
027IJ	701293.26	3308337.42	91.99	88.98
028IJ	701084.53	3310686.21	99.53	96.56
029IJ	700947.98	3312030.71	103.37	100.37
030IJ	700525.59	3312302.88	104.68	101.69
031IJ	700588.50	3312888.78	106.48	103.49
032IJ	701181.18	3313985.77	112.01	109.01
033IJ	701088.09	3314766.75	115.20	112.21
034IJ	700286.20	3315098.52	116.57	113.58
035IJ	700532.50	3315839.76	123.19	120.21
036IJ	701551.22	3316594.37	128.86	125.86
037IJ	701855.99	3317292.63	129.30	126.31
038IJ	701515.96	3317567.56	130.75	127.72
039IJ	702073.42	3318635.13	136.17	133.18

J. T. E DOCUMENT AUTHENTICATION		
<i>Said al-Haim</i> FOR ISRAEL	19/9/96 DATE	<i>Abd al-Samad</i> FOR JORDAN

NAME	EAST (m)	NORTH (m)	HEIGHT 1 TOP OF THE PIPE (m)	HEIGHT 2 TOP OF THE PILLAR (m)
040IJ	702458.11	3319715.88	140.87	137.87
041IJ	704068.38	3320154.99	154.28	151.28
042IJ	704155.28	3320827.13	160.93	157.94
043IJ	703527.45	3321039.57	155.65	152.66
044IJ	703494.03	3321734.50	159.02	156.01
045IJ	702574.55	3322016.18	153.32	150.38
046IJ	703696.99	3325070.05	174.94	171.93
047IJ	705387.73	3327571.93	188.37	185.36
048IJ	706885.42	3327740.33	201.34	198.32
049IJ	707360.21	3330093.28	203.78	200.77
050IJ	707036.11	3330388.09	199.02	196.01
051IJ	707488.89	3331163.06	198.13	195.12
052IJ	707872.15	3333471.02	202.38	199.37
053IJ	708274.98	3334351.11	204.76	201.74
054IJ	707845.90	3335011.55	214.42	211.41
055IJ	708151.62	3335683.47	213.20	210.19
056IJ	707151.54	3336659.69	226.43	223.43
057IJ	707527.17	3337921.94	254.63	251.61
058IJ	706504.53	3338752.54	246.87	243.87
059IJ	706667.38	3341133.24	238.30	235.31
060IJ	707071.67	3343322.35	224.30	221.29
061IJ	707037.64	3344511.03	219.97	216.95
062IJ	706381.12	3347513.75	206.90	203.90
063IJ	706828.28	3348844.84	199.51	196.52
064IJ	706659.66	3350729.18	205.09	202.09
065IJ	706397.12	3352003.12	200.64	197.64
066IJ	706649.40	3352883.80	223.36	220.36
067IJ	707199.82	3354741.00	181.42	178.42
068IJ	708024.98	3355463.10	165.49	162.48
069IJ	709195.72	3357089.84	158.14	155.12
070IJ	710677.92	3359148.64	176.86	173.87
071IJ	710297.14	3360412.77	136.51	133.50
072IJ	709659.84	3361788.25	126.32	123.30
073IJ	708967.49	3363263.37	114.90	111.90
074IJ	707972.73	3365419.39	97.42	94.43
075IJ	707656.81	3367157.31	86.51	83.51
076IJ	707608.08	3369621.70	72.88	69.89
077IJ	708535.40	3371357.20	60.58	57.59
078IJ	709418.49	3373038.21	51.27	48.29
079IJ	709687.40	3374017.67	44.00	41.00
080IJ	710456.39	3376068.60	36.80	33.81

J.T.E DOCUMENT AUTHENTICATION

NAME	EAST (m)	NORTH (m)	HEIGHT 1 TOP OF THE PIPE (m)	HEIGHT 2 TOP OF THE PILLAR (m)
081IJ	710505.14	3378011.50	20.59	17.59
082IJ	710548.81	3379944.97	9.90	6.92
083IJ	711380.20	3381581.43	0.84	-2.16
084IJ	711344.51	3383544.19	-11.43	-14.44
085IJ	711309.35	3385343.46	-21.96	-24.96
086IJ	712620.35	3387891.07	-38.80	-41.80
087IJ	712953.14	3389457.96	-47.62	-50.62
088IJ	714747.41	3391660.36	-62.58	-65.60
089IJ	715905.74	3392957.96	-70.14	-73.18
090IJ	716839.87	3394011.50	-72.73	-75.75
091IJ	717115.14	3395010.56	-73.20	-76.22
092IJ	716789.68	3395503.01	-84.96	-87.98
093IJ	717520.57	3396349.37	-95.61	-98.64
094IJ	717256.13	3396826.29	-100.58	-103.60
095IJ	717814.68	3397471.67	-101.27	-104.29
096IJ	717945.06	3398484.20	-113.20	-116.21
097IJ	718527.56	3399745.77	-122.65	-125.66
098IJ	719386.80	3399642.73	-119.67	-122.68
099IJ	719652.24	3400046.33	-124.25	-127.30
100IJ	719667.49	3400599.43	-127.44	-130.46
101IJ	718918.96	3401117.87	-131.22	-134.23
102IJ	719657.61	3402409.66	-141.46	-144.44
103IJ	719626.89	3405506.84	-161.90	-164.93
104IJ	720942.65	3405601.01	-146.07	-149.06
105IJ	721306.09	3406295.41	-143.96	-146.97
106IJ	721443.88	3407229.47	-157.14	-160.16
107IJ	721505.39	3408663.00	-166.02	-169.05
108IJ	722179.43	3409416.63	-168.12	-171.16
109IJ	723488.88	3409690.46	-162.42	-165.44
110IJ	723885.43	3411516.09	-171.51	-174.55
111IJ	723533.26	3411904.96	-217.85	-220.86
112IJ	722757.13	3414355.83	-235.99	-239.00
113IJ	722883.98	3416638.50	-253.41	-256.41
114IJ	723217.75	3417881.85	-264.07	-267.10
115IJ	724034.53	3419764.29	-279.58	-282.59
116IJ	724966.67	3421891.88	-298.76	-301.80
117IJ	726473.81	3423885.53	-317.84	-320.86
118IJ	727523.73	3424010.66	-325.22	-328.25
119IJ	728654.50	3423927.41	-331.46	-334.50
120IJ	729017.62	3424458.47	-334.58	-337.60
121IJ	729487.85	3424746.72	-338.89	-341.92
122IJ	730729.95	3426541.05	-350.33	-353.31
123IJ	730886.26	3428600.60	-358.49	-361.88

J.T.E DOCUMENT AUTHENTICATION

Seebro Haim 12770 277
FOR ISRAEL

19/9/96
DATE

Abu Nidal Al-Sawar
FOR JORDAN

Appendix A

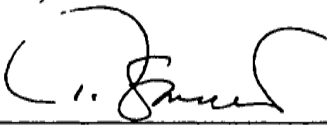
A scaled illustration
of the boundary line

**JORDAN ISRAEL BOUNDARY COMMISSION
FORMAL APPROVAL AND ADOPTION OF THE
COORDINATES OF THE INTERNATIONAL MARITIME
BOUNDARY LINE IN THE GULF OF AQABA**

The Government of the Hashemite Kingdom of Jordan and the Government of the State of Israel hereby agree:

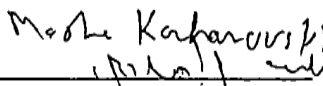
1. In fulfilment of Article 3.7 and Article 2.D of Annex I(a) of the Treaty of Peace between Jordan and Israel of 26 October 1994, and of Article 1 of the Maritime Boundary Agreement between Jordan and Israel of 18 January 1996, the Jordan Israel Joint Boundary Commission hereby approves and adopts the international maritime boundary line, including its coordinates, agreed to by the Joint Team of Experts on the 19 September 1996 and the 26 January 1998, a copy of which is appended hereto.
2. The approved coordinates (Points BPO, MB1, MB2, MB3) are henceforth binding and take precedence over the maps, charts and orthoimages with regard to the location of the international maritime boundary as envisaged and specified in Article 1.3 of the Maritime Boundary Agreement.
3. Without derogating from Article 2 of the Maritime Boundary Agreement, from MB3 the Maritime Boundary between Jordan and Israel follows the median line of the Gulf southwards until the last point of the Maritime Boundary between the two countries.

Done at Bet She'an on this twenty-ninth day of December, 1998, which corresponds to the eleventh day of Ramadan, 1419 and to the tenth day of Tevet, 5759.



Lt. Gen. Tahsin Shurdom
For the Government of the
Hashemite Kingdom of Jordan

Signed by:



Moshe Kochanovsky
For the Government of the
State of Israel

JORDAN - ISRAEL
MARITIME BOUNDARY LINE
DOCUMENTATION


Gulf of Aqaba

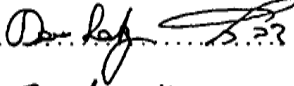
This document is a geodetic appendix following the delimitation of the maritime boundary in the Gulf of Aqaba and fulfilling the task of Article 3.7 and Annex I(a) Article. 2.D of the Treaty of Peace between Israel and Jordan of October 26th 1994, and Article 1 of the Maritime Boundary Agreement between Israel and Jordan of 18 January 1996. The documentation was achieved by the JTE as part of the tasks of the Joint Boundary Commission.

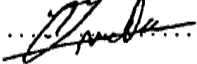
The Hashemite Kingdom of Jordan


The State of Israel

Signatures

For Jordan

..... Technical Experts

For Israel

.....


..... Head of JTE


.....

Date 26/1/98

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GLOSSARY

BP:	BOUNDARY PILLAR
IJBD'94:	ISRAEL JORDAN BOUNDARY DATUM 1994
WGS'84:	WORLD GEODETIC SYSTEM 1984
GPS:	GLOBAL POSITIONING SYSTEM
UTM:	UNIVERSAL TRANSVERSE MERCATOR
JTE:	JOINT TEAM OF EXPERTS (JORDAN-ISRAEL PROFESSIONAL TEAM. JTE WAS THE SUB-COMMITTEE OF THE BOUNDARY COMMITTEE)
GM:	THE EARTH'S GRAVITATIONAL CONSTANT (MASS OF EARTH'S ATMOSPHERE INCLUDED)
MEDIAN LINE:	THE LINE EVERY POINT OF WHICH IS EQUIDISTANT FROM THE NEAREST POINTS ON THE TERRITORIAL SEA BASELINES OF TWO STATES

1. INTRODUCTION

THE PURPOSE OF THIS DOCUMENT IS TO DESCRIBE AND SUMMARIZE THE PROFESSIONAL WORK CARRIED OUT BY THE JOINT TEAM OF EXPERTS (JTE) DURING THE DEFINITION OF THE BOUNDARY. THE FRUITFUL WORK DURING THE JTE MEETINGS AND THE FIELD WORK BUILT UP THE PROFESSIONAL FRAME OF DEFINING THE INTERNATIONAL BOUNDARY WHICH WAS SUCCESSFULLY IMPLEMENTED IN THE PEACE AGREEMENT.

1.1 BACKGROUND

THE JOINT TEAM OF EXPERTS (THE SUB COMMITTEE OF THE BOUNDARY COMMITTEE), STARTED TO DEAL WITH ALL TECHNICAL ASPECTS OF THE BOUNDARY ISSUES, DURING THE FORMAL START OF THE PEACE NEGOTIATION BETWEEN JORDAN AND ISRAEL IN WADI ARABA (JULY 1994). THE AGREED MEMORANDUM WAS SIGNED AFTER THE FIRST MEETING ON JULY 19, 1994. THE JTE HEADED BY MR. ENG. NEDAL AL-SAGARAT FROM JORDAN AND COL. HAIM SREBRO FROM ISRAEL AND MOST OF JTE MEMBERS ARE GEODETIC EXPERTS.

THIS DOCUMENT REFLECTS A REMARKABLE COOPERATION AND COORDINATION BETWEEN THE TWO PARTIES. DURING THE DIFFERENT STAGES OF THE WORK, SUCH AS DELIMITATION, MONUMENTATION, GPS OBSERVATIONS (AND MORE), THE BOUNDARY COMMITTEE AND THE JTE WERE ABLE TO OVERCOME ALL THE TECHNICAL AND MANAGERIAL DIFFICULTIES THAT AROSE FROM TIME TO TIME DURING THE DELIMITATION AND THE FIELD WORK.

2. DETERMINATION OF THE REFERENCE FRAME

THE BASIC PRACTICAL STEP OF THE JTE WORK FROM THE GEODETIC ASPECT WAS THE DETERMINATION OF THE REFERENCE FRAME (SYSTEM). DETERMINATION OF THE REFERENCE FRAME WAS AN ESSENTIAL STEP TO ENABLE THE PROFESSIONALS TO "SPEAK THE SAME LANGUAGE". AFTER THIS STAGE, THE JTE COULD KEEP ON GOING IN ITS PROFESSIONAL ACTIVITIES WHICH WERE CONTROLLED BY THE EXISTENCE OF THE (COMMON) REFERENCE FRAME.

THE REFERENCE FRAME DETERMINATION WAS INVOLVED WITH THE DEFINITION OF THE 3D SYSTEM (THE GEODETIC DATUM) AND THE 2D SYSTEM (THE GRID). THE JTE DECISION WAS TO DETERMINE A UNIQUE AND LOCAL GEODETIC DATUM (JBD'94) BASED ON THE WGS'84 ELLIPSOID, AND TO USE THE WELL KNOWN UTM PROJECTION AS THE GRID SYSTEM.

TECHNICALLY, 12 CONTROL POINTS (DATUM POINTS) WERE ESTABLISHED, 6 IN ISRAEL, 6 IN JORDAN. THE LOCATION OF THE POINTS WAS MUTUALLY DECIDED BY THE JTE AFTER A JOINT TOUR OF TWO DAYS (11-12.09.1994). THE NEXT STEP WAS TO MEASURE THE 12 POINTS NETWORK WITH GPS AND TO DETERMINE THE REFERENCE FRAME.

ON OCTOBER 4, 1994, THE 12 DATUM POINTS WERE OBSERVED WITH 12 DUAL FREQUENCY GPS RECEIVERS. THE PLAN WAS TO MEASURE 2 SESSIONS OF 4 HOURS EACH, SO EACH POINT WAS OBSERVED FOR 8 HOURS. THE OPERATION ENDED SUCCESSFULLY.

IN PRINCIPLE, THE DECISION ABOUT THE AGREED RESULTS WAS TAKEN AFTER COMPARING THE RESULTS OF EACH SIDE (BASED ON THE SAME DATA). FOR THE DATUM POINTS, AS WELL AS FOR THE NEXT COMMON SURVEY MISSIONS, THE COMPARISON OF RESULTS SHOWED A VERY GOOD AGREEMENT.

2.1 IJBD'94 DEFINITION

THE GEODETIC DATUM IJBD'94 WAS DETERMINED BY FIXING THE COORDINATES OF POINT IJBD09 (ONE OF THE 12 DATUM POINTS), ADOPTING THE WGS'84 ELLIPSOID, AND FIXING THE REFERENCE ELLIPSOID IN THE GEOCENTER ACCORDING TO THE PRECISE GPS VECTORS WHICH WERE MEASURED BETWEEN THE 12 DATUM POINTS.

CONCERNING THE VERTICAL DATUM, THE JTE AGREED TO ADOPT THE ELLIPSOIDAL HEIGHTS (FOR ALL THE BOUNDARY COORDINATES) WITH REFERENCE TO THE IJBD'94 DATUM AND TO THE WGS'84 REFERENCE ELLIPSOID. THE DECISION SIMPLIFIED AND FACILITATED THE COMPUTATION SINCE ONLY ONE 3 DIMENSIONAL DATUM HAD TO BE DETERMINED. SO, NO ATTEMPT WAS MADE TO DETERMINE THE GEOID, OR, THE SEA LEVEL SURFACE AS THE DATUM OF THE VERTICAL COMPONENT OF THE COORDINATES.

THE COORDINATES OF POINT IJBD09 WERE COMPUTED BY AN AVERAGE BETWEEN THE RESULTS OF THE ABSOLUTE POSITIONING WHICH WAS CALCULATED BY EACH SIDE USING BROADCAST EPHEMERIS.

THE FOLLOWING ARE THE AGREED COORDINATES:

POINT : IJBD09
LATITUDE : 31°45'04".37499
LONGITUDE : 35°36'13".70799
HEIGHT : -272.150 M (ELLIPSOIDAL HEIGHT)

THE REFERENCE ELLIPSOID PARAMETERS ARE:

ELLIPSOID : WGS'84
SEMI MAJOR AXIS : 6,378,137.000 M
1/FLATTENING : 298.257223563
GM : $3986005 * 10^6 \text{ M}^2 \text{ S}^{-2}$

2.2 GRID SYSTEM DEFINITION

GRID COORDINATES WERE CALCULATED BY USING THE UTM EQUATIONS. IN MORE DETAILS, THE GRID SYSTEM PARAMETERS ARE:

DATUM : IJBD'94
ELLIPSOID : WGS'84
SEMI MAJOR AXIS : 6,378,137.000 M
1/FLATTENING : 298.257223563

MAP PROJECTION : UTM ZONE 36
LATITUDE OF ORIGIN : 0°
CENTRAL MERIDIAN : 33° EAST
FALSE NORTHING : 0 M
FALSE EASTING : 500,000 M
GRID SCALE FACTOR : 0.99960

2.3 DATUM POINTS LOCATION

THE LOCATION OF THE 12 DATUM POINTS WAS MUTUALLY DECIDED BY THE JTE DURING A TWO DAYS TOUR. THE FOLLOWING TABLE SUMMARIZES THE POINTS LOCATION:

NO.	POINT NAME	LOCATION
1	IJBD01	AQABA
2	IJBD02	EILAT
3	IJBD03	QETURA/GEROFIT
4	IJBD04	WADI MATHLA
5	IJBD05	HAZEVA
6	IJBD06	SAFI
7	IJBD07	MUGIB
8	IJBD08	EIN-GEDI
9	IJBD09	SWEIMA
10	IJBD10	DIR-ALLA
11	IJBD11	TEL-REHOV
12	IJBD12	HAMAT GADER / EL-HAMA

2.4 LISTS OF COORDINATES

2.4.1 LIST OF IJBD'94 GEODETIC COORDINATES

NAME	LAT[DMS]	LONG[DMS]	ELLIPSOIDAL HEIGHT[M]
IJBD01	N 29°29'43".43754	E 34°59'40".14182	199.147
IJBD02	N 29°34'37".72718	E 34°53'12".71363	518.055
IJBD03	N 30°00'54".49787	E 35°05'13".49950	251.168
IJBD04	N 30°22'27".65952	E 35°15'37".15283	209.763
IJBD05	N 30°47'02".26206	E 35°14'23".06845	-111.133
IJBD06	N 31°01'03".36348	E 35°28'48".78992	-262.660
IJBD07	N 31°26'03".39328	E 35°34'19".82257	-154.977
IJBD08	N 31°28'05".70188	E 35°23'41".88187	-327.186
IJBD09	N 31°45'04".37499	E 35°36'13".70799	-272.150
IJBD10	N 32°08'15".22922	E 35°36'50".42214	-115.149
IJBD11	N 32°27'22".89172	E 35°29'49".30278	-95.002
IJBD12	N 32°41'19".23567	E 35°40'12".72467	-130.178

DATUM: IJBD'94

2.4.2 LIST OF IJBD'94 GEOCENTRIC COORDINATES

NAME	X [M]	Y [M]	Z [M]
IJBD01	4551665.750	3186457.649	3121908.928
IJBD02	4554206.080	3175506.261	3129950.255
IJBD03	4523149.339	3177399.461	3171952.560
IJBD04	4497138.693	3179478.174	3206350.760
IJBD05	4479186.520	3164373.645	3245282.857
IJBD06	4454927.734	3175349.124	3267430.700
IJBD07	4430421.138	3168616.506	3306990.546
IJBD08	4438477.954	3153675.363	3310114.148
IJBD09	4413621.706	3160286.475	3336861.959
IJBD10	4394740.881	3147950.683	3373296.727
IJBD11	4385794.656	3128013.758	3403189.519
IJBD12	4365028.651	3133150.170	3424881.203

DATUM: IJBD'94

2.4.3 LIST OF GRID COORDINATES

NAME	EAST (M)	NORTH (M)
IJBD01	693349.333	3264530.977
IJBD02	682767.378	3273417.044
IJBD03	701286.187	3322297.188
IJBD04	717207.529	3362434.648
IJBD05	714325.975	3407804.534
IJBD06	736768.211	3434194.314
IJBD07	744473.091	3480595.298
IJBD08	727543.627	3483981.221
IJBD09	746643.489	3515810.772
IJBD10	746574.909	3558677.135
IJBD11	734713.745	3593767.286
IJBD12	750349.462	3619926.438

GRID: UTM ZONE 36

DATUM: IJBD'94

3. DELIMITATION OF THE MARITIME BOUNDARY IN THE GULF OF AQABA

3.1 REFERENCE DOCUMENTS

THE DELIMITATION OF THE MARITIME BOUNDARY IN THE GULF OF AQABA WAS CARRIED OUT BY THE JTE ACCORDING TO THE FOLLOWING REFERENCE DOCUMENTS:

- THE TREATY OF PEACE (SIGNED ON THE 26TH OF OCTOBER 1994) : ARTICLE 3 PARA. 7 AND ANNEX I (A) PARA 2.D. AND ANNEX I APPENDIX VI (ORTHOMAGE SHEET 1:50,000) GULF OF AQABA / EILAT.
- THE AD-REFERENDUM AGREEMENT SIGNED ON THE 18TH OCTOBER 1995.
- THE MARITIME BOUNDARY AGREEMENT SIGNED ON THE 18TH JANUARY 1996.
- THE COORDINATES AGREED AND SIGNED BY THE JTE ON THE 19TH OF SEPTEMBER 1996, AND THE 1:25,000 AGREED MARITIME BOUNDARY GULF OF AQABA CHART.

3.2 THE GEOGRAPHIC DEFINITION OF THE MARITIME BOUNDARY LINE IN THE GULF OF AQABA :

THE MARITIME BOUNDARY LINE IS DEFINED BY A LIST OF FOUR GEODETIC COORDINATES AND LIST OF FOUR GRID COORDINATES (BP0, MB1, MB2, MB3) IN UTM ZONE 36 WITH THE COMMON SPECIAL DATUM UBD'94, AND A LINE FROM POINT MB3 SOUTHWARDS WHICH FOLLOWS THE MEDIAN LINE OF THE GULF OF AQABA.

3.3 THE CHARACTERISTICS AND COMPONENTS OF THE MARITIME BOUNDARY LINE

THE MARITIME BOUNDARY LINE BETWEEN JORDAN AND ISRAEL IN THE GULF OF AQABA AS ILLUSTRATED IN APPENDIX A OF THIS DOCUMENTATION, IS DEFINED BY THE FOLLOWING COMPONENTS :

- A NORTHERN STARTING POINT ON THE COAST (BP0).
- THREE STRAIGHT LINES.
- A LINE WHICH ITS NORTHERN EDGE STARTS FROM POINT MB3 AND CONTINUES SOUTHWARDS FOLLOWING THE MEDIAN LINE OF THE GULF OF AQABA UNTIL THE LAST POINT OF THE MARITIME BOUNDARY BETWEEN THE TWO COUNTRIES.

3.4 THE REASONING OF THE VARIOUS PARTS OF THE MARITIME BOUNDARY IN THE GULF OF AQABA.

3.4.1 THE NORTHERN STARTING POINT (BP0) WAS DEFINED BY THE INTERSECTION OF THE SHORE LINE AND THE LAND BOUNDARY LINE MARKED IN THE PEACE TREATY (ANNEX I, APPENDIX I, SHEET 1 OF THE TREATY OF PEACE).

3.4.2 THE FIRST STRAIGHT LINE FROM THE NORTH CONNECTS THE POINT ON THE SHORE (BP0) AND A POINT ON THE MEDIAN LINE OF THE GULF (MB1) WHICH IS AT THE SAME DISTANCE FROM THE THREE SHORES (THE WESTERN, THE EASTERN AND THE NORTHERN ON THE HEAD OF THE GULF). THIS POINT (MB1) WAS DEFINED IN THE AD-REFERENDUM AGREEMENT OF THE 18TH OCTOBER 1995, AND THE MARITIME BOUNDARY AGREEMENT OF THE 18TH JANUARY 1996 (BY THE DISTANCE OF THE STRAIGHT LINE).

3.4.3 THE TWO ADDITIONAL STRAIGHT LINES MB1-MB2 AND MB2-MB3 WERE DEFINED IN ORDER TO SIMPLIFY MOST OF THE MEDIAN LINE. THEY WERE DEFINED IN SUCH A WAY TO BALANCE THE AREAS BETWEEN THE TWO STRAIGHT LINES AND THE MEDIAN LINE EQUALLY BETWEEN THE TWO COUNTRIES.

3.4.4 THE SOUTHERN LINE

THIS LINE STARTS FROM POINT MB3 AND FOLLOWS THE MEDIAN LINE OF THE GULF OF AQABA SOUTHWARDS UNTIL THE LAST POINT OF THE MARITIME BOUNDARY BETWEEN THE TWO COUNTRIES.

THE DEFINITION OF BOUNDARY COORDINATES IN THE GULF OF AQABA

3.5 THE DEFINITION OF THE MEDIAN LINE

3.5.1 THE COAST LINE WAS DIGITIZED FROM THE ORTHOIMAGE (STANDARD WORKSTATION AND SPECIAL SOFTWARE WERE USED FOR THE COMPUTATIONS).

3.5.2 A SERIE OF CIRCLES WAS SET ALONG THE GULF OF AQABA WHERE EACH CIRCLE IS TANGENT TO BOTH OPPOSITE COASTS OF THE GULF OF AQABA FOR AT LEAST ONE POINT AT EACH SIDE. THE LINE CONNECTING THE CENTERS OF THE CIRCLES REPRESENTS THE MEDIAN LINE OF THE GULF OF AQABA. THE NORTHERN CIRCLE WAS SET IN A WAY THAT IT WAS TANGENT TO THE THREE COASTS: THE TWO OPPOSITE SIDES OF THE GULF IN THE WEST AND EAST AND THE NORTHERN COAST ON THE HEAD OF THE GULF. THE CENTER OF THE NORTHERN CIRCLE DETERMINED THE MARITIME BOUNDARY POINT MB1.

3.5.3 A POINT DENOTED MB3 WAS CHOSEN TO MARK THE SOUTHERN POINT OF THE MARITIME BOUNDARY LINE WHICH WAS DETERMINED BY COORDINATES AND TO FIX THE STARTING POINT OF THE CONTINUATION OF THE LINE SOUTHWARDS FOLLOWING THE MEDIAN LINE UNTIL THE LAST POINT OF THE MARITIME BOUNDARY BETWEEN THE TWO COUNTRIES TO AVOID DETERMINATION OF THE BOUNDARY BY MANY POINTS (AS A RESULT OF CENTERS OF MANY CIRCLES) IT WAS DECIDED TO CHOOSE ONE POINT DENOTED MB2 IN A LOCATION THAT EQUALIZES THE AREAS BETWEEN THE STRAIGHT LINES OF MB1 - MB2 - MB3 AND THE MEDIAN LINE BETWEEN MB1 AND MB3. THE COORDINATES OF THE POINTS CONSTITUTING THE BOUNDARY LINE WERE COMPUTED AS A RESULT OF THE FIELD WORK (BP0 ON THE SHORE) AND BY THE USE OF THE ABOVE MENTIONED SOFTWARE (MB1, MB2 & MB3).

3.6 DEFINITION OF THE GEODETIC CONTROL POINTS IN THE GULF OF AQABA

THE CONTROL POINTS USED IN THE GULF OF AQABA WERE BASED ON THE IJBD'94 DATUM POINTS.

TEN CONTROL POINTS WERE CHOSEN ALONG THE SEA SHORE OF THE GULF, IN ORDER TO SATISFY THE PHOTOGRAMMETRIC NEEDS. FIVE OF THEM ON THE JORDANIAN SIDE AND FIVE ON THE ISRAELI SIDE. THE CONTROL POINTS THAT HAD BEEN CHOSEN WERE LANDSCAPE FEATURES, SUCH AS BUILDING CORNERS, WHARF EDGES AND ROAD INTERSECTIONS. THE POINTS WERE IDENTIFIED ON 1:25,000 ENLARGEMENTS OF THE ORTHOIMAGE OF ANNEX I, APPENDIX VI OF THE PEACE TREATY (ORIGINALLY 1:50,000 SCALE ORTHOIMAGE GULF OF AQABA). THE PURPOSE OF USING THOSE POINTS WAS TO INCREASE THE ACCURACY OF ESTABLISHING THE GRID ONTO THE ORTHOIMAGE. THE PURPOSE OF ENLARGING THE ORTHOIMAGE WAS TO IMPROVE THE RESOLUTION AND TO INCREASE THE ACCURACY OF IDENTIFYING THOSE POINTS. THE IDENTIFICATION OF THE POINTS WAS DONE JOINTLY BY JORDANIAN AND ISRAELI EXPERTS, MEMBERS OF THE JOINT TEAMS. THE MEASUREMENT OF THOSE POINTS WAS DONE USING GPS METHODS BASED ON DATUM POINTS IJBD01 AND IJBD02 AND POINT NO 1 FROM WADI ARABA / EMEK HA'ARAVA BOUNDARY POINTS.

3.6.1 LIST OF THE GEODETIC COORDINATES OF THE CONTROL POINTS

NAME	LAT[DMS]	LONG[DMS]	ELLIPSOIDAL HEIGHT [M]
J01	N 29°31'44.3"	E 35°00'41.6"	69.05
J02	N 29°30'33.8"	E 35°00'20.5"	91.65
J03	N 29°29'18.4"	E 34°59'10.7"	20.70
J04EX	N 29°28'01.8"	E 34°58'39.0"	29.22
J04	N 29°28'01.8"	E 34°58'39.0"	----
J05	N 29°27'04.7"	E 34°58'18.4"	21.71
I01	N 29°32'55.0"	E 34°57'42.3"	16.54
I02	N 29°32'51.7"	E 34°57'13.2"	17.13
I03	N 29°31'54.4"	E 34°56'15.4"	28.65
I04	N 29°30'55.5"	E 34°55'35.6"	18.92
I05EX	N 29°30'08.2"	E 34°54'59.6"	18.00
I05	N 29°30'07.9"	E 34°54'59.8"	----

DATUM: IJBD'94

POINTS NO I05, J04 ARE PHOTO POINTS.

POINTS NO I05EX, J04EX ARE G.P.S. POINTS.

THE PHOTO POINTS WERE CONNECTED TO THE G.P.S. POINTS (EXCENTRIC) BY DIRECT OBSERVATIONS.

3.6.2 LIST OF THE GRID COORDINATES OF THE CONTROL POINTS

NAME	NORTH[M]	EAST[M]	ELLIPSOIDAL HEIGHT [M]
J01	3268279	694941	69.05
J02	3266099	694408	91.65
J03	3263745	692570	20.70
J04EX	3261373	691756	29.22
J04	3261375	691755	----
J05	3259607	691231	21.71
I01	3270373	690075	16.54
I02	3270261	689295	17.13
I03	3268468	687766	28.65
I04	3266638	686727	18.92
I05EX	3265163	685780	18.00
I05	3265157	685785	----

DATUM: IJBD'94

GRID: UTM ZONE 36

POINTS NO I05, J04 ARE PHOTO POINTS.

POINTS NO I05EX, J04EX ARE G.P.S. POINTS.

THE PHOTO POINTS WERE CONNECTED TO THE G.P.S. POINTS (EXCENTRIC) BY DIRECT OBSERVATIONS.

3.7 LIST OF THE MARITIME BOUNDARY GEODETIC COORDINATES IN THE GULF OF AQABA

NAME	LAT [DMS]	LONG [DMS]
BP0	29°32'33.3161"	34°58'41.4910"
MB1	29°31'08.7253"	34°57'59.4512"
MB2	29°28'00.6141"	34°56'01.0296"
MB3	29°27'12.1667"	34°55'16.3595"

DATUM: IJBD'94

3.8 LIST OF THE GRID COORDINATES OF THE MARITIME BOUNDARY IN THE GULF OF AQABA

NAME	NORTH[M]	EAST[M]
BP0	3269734.10	691680.63
MB1	3267110.57	690592.94
MB2	3261265.74	687500.42
MB3	3259754.29	686321.57

DATUM: IJBD'94

GRID: UTM ZONE 36

Appendix A

A1 : Notes signed by the heads of JTE on 19/9/1996 including a list of the agreed coordinates of the maritime boundary.

A2 : An agreed chart "Maritime boundary, Gulf of Aqaba, scale 1:25,000"

NOTES

1. The line between the Maritime Boundary points BPO, MB1, MB2 and MB3 follows straight lines.
2. From MB3 the Maritime Boundary between Jordan and Israel follows the median line of the Gulf southwards until the last point of the Maritime Boundary between the two countries.
3. The coordinates of the above mentioned Maritime Boundary point are:

Point	Grid coordinates		Geodetic coordinates	
	East (m)	North (m)	Longitude (dms)	Latitude (dms)
BPO	691680.63	3269734.10	34° 58' 41.4910"	29° 32' 33.3161"
MB1	690592.94	3267110.57	34° 57' 59.4512"	29° 31' 08.7253"
MB2	687500.42	3261265.74	34° 56' 01.0296"	29° 28' 00.6141"
MB3	686321.57	3259754.29	34° 55' 16.3595"	29° 27' 12.1667"

Datum: IJBD'94
Grid : UTM zone 36

Sreezo Haim
FOR ISRAEL

HEADS OF JTE

19/9/96
DATE

Abdel Nidal ALSAGARA
FOR JORDAN

ANNEX I (B). THE NAHARAYIM/BAQURA AREA

1. The two Parties agree that a special regime will apply to the Naharayim/Baqura area ("the area") on a temporary basis, as set out in this Annex. For the purpose of this Annex the area is detailed in Appendix IV.

2. Recognising that in the area which is under Jordan's sovereignty with Israeli private land ownership rights and property interests ("land owners") in the land comprising the area ("the land") Jordan undertakes:

a. To grant without charge unimpeded freedom of entry to, exit from land usage and movement within the area to the land-owners and to their invitees or employees and to allow the land-

owners freely to dispose of their land in accordance with applicable Jordanian law;

b. Not to apply its customs or immigration legislation to land-owners, their invitees or employees crossing from Israel directly to the area for the purpose of gaining access to the land for agricultural, touristic or any agreed purpose;

c. Not to impose discriminatory taxes or charges with regard to the land or activities within the area;

d. To take all necessary measures to protect and prevent harassment of or harm to any person entering the area under this Annex;

e. To permit with the minimum of formality, uniformed officers of the Israeli police force, access to the area for the purpose of investigating crime or dealing with other incidents solely involving the land-owners, their invitees or employees.

3. Recognising Jordanian sovereignty over the area, Israel undertakes:

a. Not to carry out or allow to be carried out in the area activities prejudicial to the peace or security of Jordan;

b. Not to allow any person entering the area under this Annex (other than the uniformed officers referred to in paragraph 2 (e) of this Annex) to carry weapons of any kind in the area; unless authorized by the licensing authorities in Jordan after being processed by the liaison committee referred to in Article 8 of this Annex;

c. Not to allow the dumping of wastes from outside the area into the area.

4. a. Subject to this Annex, Jordanian law will apply to this area.

b. Israeli law applying to the extra territorial activities of Israelis may be applied to Israelis and their activities in the area, and Israel may take measures in the area to enforce such laws.

c. Having regard to this Annex, Jordan will not apply its criminal laws to activities in the area which involve only Israeli nationals.

5. In the event of any joint projects to be agreed and developed by the parties in the area the terms of this Annex may be altered for the purpose of the joint project by agreement between the Parties at any time. One of the options to be discussed in the context of the joint projects would be the establishment of a Free-Trade Zone.

6. Without prejudice to private rights of ownership of land within the area, this Annex will remain in force for 25 years, and shall be renewed automatically for the same periods, unless one year prior notice of termination is given by either Party, in which case, at the request of either Party, consultations shall be entered into.

7. In addition to the requirement referred to in Article 4 (a) of this Annex, the acquisition of the land in the area by persons who are not Israeli citizens shall take place only with the prior approval of Jordan.

8. An Israeli-Jordanian Liaison Committee is hereby established in order to deal with all matters arising under this Annex.

ANNEX I (C). THE ZOFAR/AL-GHAMR AREA

1. The two Parties agree that a special regime will apply to the Zofar/Al-Ghamr area ("the area") on a temporary basis, as set out in this Annex. For the purpose of this Annex the area is detailed in Appendix V.

2. Recognising that in the area which is under Jordan's sovereignty with Israeli private land use rights ("land users") in the land comprising the area ("the land") Jordan undertakes:

a. To grant without charge unimpeded freedom of entry to, exit from land usage and movement within the area to the land users and to their invitees or employees and to allow the land users freely to dispose of their rights in the usage of the land in accordance with applicable Jordanian law;

b. Not to apply its customs or immigration legislation to land users, their invitees or employees crossing from Israel directly to the area for the purpose of gaining access to the land for agricultural or any agreed purpose;

c. Not to impose discriminatory taxes or charges with regard to the land or activities within the area;

d. To take all necessary measures to protect and prevent harassment of or harm to any person entering the area under this Annex;

e. To permit with the minimum of formality, uniformed officers of the Israeli police force, access to the area for the purpose of investigating crime or dealing with other incidents solely involving the land users, their invitees or employees.

3. Recognizing Jordanian sovereignty over the area, Israel undertakes:

a. Not to carry out or allow to be carried out in the area activities prejudicial to the peace or security of Jordan;

b. Not to allow any person entering the area under this Annex (other than the uniformed officers referred to in paragraph 2(e) of this Annex) to carry weapons of any kind in the area; unless authorized by the licensing authorities in Jordan after being processed by the liaison committee referred to in Article 8 of this Annex.

c. Not to allow the dumping of wastes from outside the area into the area.

4. a. Subject to this Annex, Jordanian law will apply to this area.

b. Israeli law applying to the extra territorial activities of Israelis may be applied to Israelis and their activities in the area, and Israel may take measures in the area to enforce such laws.

c. Having regard to this Annex, Jordan will not apply its criminal laws to activities in the area which involve only Israeli nationals.

5. In the event of any joint projects to be agreed and developed by the parties in the area the terms of this Annex may be altered for the purpose of the joint project by agreement between the Parties at any time.

6. Without prejudice to private rights of use of land within the area, this Annex will remain in force for 25 years, and shall be renewed automatically for the same periods, un-

less one year prior notice of termination is given by either Party, in which case, at the request of either Party, consultations shall be entered into.

7. In addition to the requirement referred to in Article 4 (a) of this Annex, the acquisition of the land in the area by persons who are not Israeli citizens shall take place only with the prior approval of Jordan.

8. An Israeli-Jordanian Liaison Committee is hereby established in order to deal with all matters arising under this Annex.

ANNEX II. WATER RELATED MATTERS

Pursuant to Article 6 of the Treaty, Israel and Jordan agreed on the following Articles on water related matters:

Article I. Allocation

1. Water from the Yarmouk River

a. Summer period-- 15th May to 15th October of each year.

Israel pumps (12) MCM and Jordan gets the rest of the flow.

b. Winter period-- 16th October to 14th May of each year.

Israel pumps (13) MCM and Jordan is entitled to the rest of the flow subject to provisions outlined hereinbelow: Jordan concedes to Israel pumping an additional (20) MCM from the Yarmouk in winter in return for Israel conceding to transferring to Jordan during the summer period the quantity specified in paragraph (2 a) below from the Jordan River.

c. In order that waste of water will be minimized, Israel and Jordan may use, downstream of point I21/Adassiya Diversion, excess flood water that is not usable and will evidently go to waste unused.

2. Water from the Jordan River

a. Summer period-- 15th May to 15th October of each year.

In return for the additional water that Jordan concedes to Israel in winter in accordance with paragraph(1b) above, Israel concedes to transfer to Jordan in the summer period (20) MCM from the Jordan River directly upstream from Deganya gates on the river. Jordan shall pay the operation and maintenance cost of such transfer through existing systems (not including capital cost) and shall bear the total cost of any new transmission system. A separate protocol shall regulate this transfer.

b. Winter period-- 16th October to 14th May of each year.

Jordan is entitled to store for its use a minimum average of (20) MCM of the floods in the Jordan River south of its confluence with the Yarmouk (as outlined in Article II below). Excess floods that are not usable and that will otherwise be wasted can be utilised for the benefit of the two Parties including pumped storage off the course of the river.

c. In addition to the above, Israel is entitled to maintain its current uses of the Jordan River waters between its confluence with the Yarmouk and its confluence with Tirat Zvi/ Wadi Yabis. Jordan is entitled to an annual quantity equivalent to that of Israel, provided however, that Jordan's use will not harm the quantity or quality of the above Israeli uses. The Joint Water Committee (outlined in Article VII below) will survey existing uses for documentation and prevention of appreciable harm.

d. Jordan is entitled to an annual quantity of (10) MCM of desalinated water from the desalination of about (20) MCM of saline springs now diverted to the Jordan River. Israel

will explore the possibility of financing the operation and maintenance cost of the supply to Jordan of this desalinated water (not including capital cost). Until the desalination facilities are operational, and upon the entry into force of the Treaty, Israel will supply Jordan (10) MCM of Jordan River water from the same location as in (2 a) above, outside the summer period and during dates Jordan selects, subject to the maximum capacity of transmission.

3. Additional Water

Israel and Jordan shall cooperate in finding sources for the supply to Jordan of an additional quantity of (50) MCM/year of water of drinkable standards. To this end, the Joint Water Committee will develop, within one year from the entry into force of the Treaty, a plan for the supply to Jordan of the abovementioned additional water. This plan will be forwarded to the respective governments for discussion and decision.

4. Operation and Maintenance

a. Operation and maintenance of the systems on Israeli territory that supply Jordan with water, and their electricity supply, shall be Israel's responsibility. The operation and maintenance of the new systems that serve only Jordan will be contracted at Jordan's expense to authorities or companies selected by Jordan.

b. Israel will guarantee easy unhindered access of personnel and equipment to such new systems for operation and maintenance. This subject will be further detailed in the agreements to be signed between Israel and the authorities or companies selected by Jordan.

Article II. Storage

1. Israel and Jordan shall cooperate to build a diversion/storage dam on the Yarmouk River directly downstream of the point 121/Adassiya Diversion. The purpose is to improve the diversion efficiency into the King Abdullah Canal of the water allocation of the Hashemite Kingdom of Jordan, and possibly for the diversion of Israel's allocation. of the river water. Other purposes can be mutually agreed.

2. Israel and Jordan shall cooperate to build a system of water storage on the Jordan River, along their common boundary, between its confluence with the Yarmouk River and its confluence with Tirat Zvi/Wadi Yabis, in order to implement the provision of paragraph(2b) of Article I above. The storage system can also be made to accommodate more floods; Israel may use up to (3) MCM/year of added storage capacity.

3. Other storage reservoirs can be discussed and agreed upon mutually.

Article III. Water Quality and Protection

1. Israel and Jordan each undertake to protect, within their own jurisdiction, the shared waters of the Jordan and Yarmouk Rivers, and Arava/Araba groundwater, against any pollution, contamination, harm or unauthorized withdrawals of each other's allocations.

2. For this purpose, Israel and Jordan will jointly monitor the quality of water along their boundary, by use of jointly established monitoring stations to be operated under the guidances of the Joint Water Committee.

3. Israel and Jordan will each prohibit the disposal of municipal and industrial wastewater into the courses of the Yarmouk and the Jordan Rivers before they are treated to standards allowing their unrestricted agricultural use. Implementation of this prohibition shall be completed within three years from the entry into force of the Treaty.

4. The quality of water supplied from one country to the other at any given location shall be equivalent to the quality of the water used from the same location by the supplying country.

5. Saline springs currently diverted to the Jordan River are earmarked for desalination within four years. Both countries shall cooperate to ensure that the resulting brine will not be disposed of in the Jordan River or in any of its tributaries.

6. Israel and Jordan will protect water systems each in its own territory, supplying water to the other, against any pollution, contamination, harm or unauthorised withdrawal of each other's allocations.

Article IV. Groundwater in Emek Ha'arava/Wadi Araba

1. In accordance with the provisions of this Treaty, some wells drilled and used by Israel along with their associated systems fall on the Jordanian side of the borders. These wells and systems are under Jordan's sovereignty. Israel shall retain the use of these wells and systems in the quantity and quality detailed in an Appendix to this Annex, that shall be jointly prepared by 31st December, 1994. Neither country shall take, nor cause to be taken, any measure that may appreciably reduce the yields or quality of these wells and systems.

2. Throughout the period of Israel's use of these wells and systems, replacement of any well that may fail among them shall be licensed by Jordan in accordance with the laws and regulations then in effect. For this purpose, the failed well shall be treated as though it was drilled under license from the competent Jordanian authority at the time of its drilling. Israel shall supply Jordan with the log of each of the wells and the technical information about it to be kept on record. The replacement well shall be connected to the Israeli electricity and water systems.

3. Israel may increase the abstraction rate from wells and systems in Jordan by up to (10) MCM/year above the yields referred to in paragraph 1 above, subject to a determination by the Joint Water Committee that this undertaking is hydrogeologically feasible and does not harm existing Jordanian uses. Such increase is to be carried out within five years from the entry into force of the Treaty.

4. Operation and Maintenance

a. Operation and maintenance of the wells and systems on Jordanian territory that supply Israel with water, and their electricity supply shall be Jordan's responsibility. The operation and maintenance of these wells and systems will be contracted at Israel's expense to authorities or companies selected by Israel.

b. Jordan will guarantee easy unhindered access of personnel and equipment to such wells and systems for operation and maintenance. This subject will be further detailed in the agreements to be signed between Jordan and the authorities or companies selected by Israel.

Article V. Notification and Agreement

1. Artificial changes in or of the course of the Jordan and Yarmouk Rivers can only be made by mutual agreement.

2. Each country undertakes to notify the other, six months ahead of time, of any intended projects which are likely to change the flow of either of the above rivers along their common boundary, or the quality of such flow. The subject will be discussed in the Joint Water Committee with the aim of preventing harm and mitigating adverse impacts such projects may cause.

Article VI. Co-operation

1. Israel and Jordan undertake to exchange relevant data on water resources through the Joint Water Committee.

2. Israel and Jordan shall co-operate in developing plans for purposes of increasing water supplies and improving water use efficiency, within the context of bilateral, regional or international cooperation.

Article VII. Joint Water Committee

1. For the purpose of the implementation of this Annex, the Parties will establish a Joint Water Committee comprised of three members from each country.

2. The Joint Water Committee will, with the approval of the respective governments, specify its work procedures, the frequency of its meetings, and the details of its scope of work. The Committee may invite experts and/or advisors as may be required.

3. The Committee may form, as it deems necessary, a number of specialized sub-committees and assign them technical tasks. In this context, it is agreed that these sub-committees will include a northern sub-committee and a southern sub-committee, for the management on the ground of the mutual water resources in these sectors.

ANNEX III. COMBATTING CRIME AND DRUGS

Pursuant to Article 12 of the Treaty of Peace, Israel and Jordan have decided to cooperate in the following fields:

A. Cooperation on Combatting Dangerous Drugs

1. The two Parties shall cooperate in fighting illicit drugs according to the legal system of their countries.
2. The two Parties shall take all necessary measures to prevent drug smuggling between the two countries.
3. The two Parties shall exchange information regarding drug trafficking and dealers' activities concerning the two countries.
4. Information given by one of the Parties may not be shared with a third party without the consent of the Party which provided the information.
5. The two Parties shall exchange and share the experience of fighting against drugs including anti-drug education, prevention, treatment, rehabilitation programmes, technical means and methods of concealment.
6. In order to identify the persons involved in drug activities, the two Parties shall facilitate controlled deliveries of drugs between the two countries according to their laws.
7. Drug law enforcement officers from both sides shall meet periodically to coordinate efforts pertaining to drug problems concerning the two countries.
8. The two Parties shall maintain open channels of communication such as fax, telephone and telex for liaison purposes in drug matters concerning the two countries.
9. The two Parties shall cooperate with the multilateral forums which deal with drug issues in the area.
10. The two Parties shall cooperate in investigating procedures necessary for collecting evidence and indictment in cases against drug dealers which concern either or both countries.
11. The two Parties shall exchange information regarding statistics on the type and number of drug crimes committed in each country including detailed information regarding suspected and convicted persons involved in these cases.
12. The two Parties shall exchange all relevant information regarding the narcotic drug producing laboratories if revealed in either of the two countries, including structure, working methods and technical features of the laboratory as well as the type and trademark of the product.
13. The cooperation described in this document will be carried out in accordance with the legal systems of the two countries.

B. Crime

The Parties have agreed that the Agreements to be negotiated pursuant to Article 12 of the Treaty shall cover the following issues:

Crime

Exchange of information concerning all aspects of smuggling, theft (including art objects, vehicles, national treasures, antiquities and documents), etc.

Apprehension of criminals and exchange of information including transmission of evidence in order to carry out judicial procedures in each of the two countries, subject to the relevant treaties and regulations.

General Cooperation

Exchange of information regarding technical matters.

Exchange of information regarding training and research.

Joint police research projects on topics of mutual interest to both countries.

Additional Issues

Rescue

Unintentional border crossing, fugitives from justice.

Notification of detention of nationals of the other country.

Establishment of a liaison mechanism between the sides.

C. Cooperation on Forensic Science

1. The two Parties shall cooperate on the subjects of criminal identification and forensic science.

2. The two Parties shall share and exchange professional experience and training programmes, inter alia:

- a. Use of field kits for preliminary examinations.
- b. Analysis of illicit drugs.
- c. Analysis of poisons and toxic materials.
- d. Forensic biology and DNA examinations.
- e. Toolmarks and materials examinations.
- f. Questionable documents examinations.
- g. Analysis of voice prints.
- h. Analysis of fire arms.
- i. Detection of latent fingerprints.
- j. Analysis of explosive traces.
- k. Examination for arson in laboratories.
- l. Identification of victims in mass disasters.
- m. Research and development in forensic science.

Annex IV. Environment

Israel and Jordan acknowledge the importance of the ecology of the region, its high environmental sensitivity and the need to protect the environment and prevent danger and risks for the health and well-being of the region's population. They both recognise the need for conservation of natural resources, protection of bio-diversity and the imperative of attaining economic growth based on sustainable development principles.

In light of the above, both Parties agree to cooperate in matters relating to environmental protection in general and to those that may mutually affect them. Areas of such co-operation are detailed as follows:

A. Taking the necessary steps both jointly and individually to prevent damage and risks to the environment in general, and in particular those that may affect people, natural resources and environmental assets in the two countries respectively.

B. Taking the necessary steps by both countries to co-operate in the following areas: Environmental planning and management, including conducting Environmental Impact Assessment (EIA) and exchanging of data on projects possessing potential impact on their respective environments.

Environmental legislation, regulations, standards and enforcement thereof

Research and applied technology.

Emergency response, monitoring, related notification procedures and control of damages.

Code of conduct through regional charters.

This may be achieved through the establishment of joint modalities and mechanisms of cooperation to ensure that exchange of information, communication and coordination regarding matters and activities of mutual environmental concern between their environmental administrations and experts.

C. Environmental subjects to be addressed:

1. Protection of nature, natural resources and biodiversity, including cooperation in planning and management of adjacent protected areas along the common border, and protection of endangered species and migratory birds.

2. Air quality control, including general standards, criteria and all types of man-made hazardous radiations, fumes and gases.

3. Marine environment and coastal resources management.

4. Waste management including hazardous wastes.

5. Pest control including house flies and mosquitoes, and prevention of diseases transferred by pests, such as malaria and leishmaniosis.

6. Abatement and control of pollution, contamination and other man-made hazards to the environment.

7. Desertification: combatting desertification, exchange of information and research knowledge, and the implementation of suitable technologies.

8. Public awareness and environmental education, encouraging the exchange of knowledge, information, study materials, education programmes and training through public actions and awareness campaigns.

9. Noise: reducing noise pollution through regulation, licensing and enforcement, based on agreed standards.

10. Potential co-operation in case of natural disasters.

D. In accordance with the above, the two Parties agree to co-operate in activities and projects in the following geographical areas:

I. The Gulf of Aqaba

I.1. The Marine Environment:

Natural resources.

Coastal reef protection.

Marine pollution:

Marine sources: such as oil spills, littering and waste disposal and others.

Land-based sources: such as liquid waste, solid waste and littering.

Abatement, including monitoring and emergency response actions.

I.2. Coastal Zone Management-- The Littoral

Nature reserves and protected areas.

Environmental protection of water resources.

Liquid waste.

Solid waste.

Tourism and recreational activities.

Ports.

Transport.

Industry and power generation.

Air quality.

Hazardous materials.

Environmental assessments.

II. The Rift Valley

II.1. The Jordan River

Israel and Jordan agree to cooperate along the common boundaries in the following aspects:

Ecological rehabilitation of the Jordan River.

Environmental protection of water resources to ensure optimal water quality, at reasonably usable standards.

Agricultural pollution control.

Liquid waste.

Pest control.

Nature reserves and protected areas.

Tourism and historical heritage.

II.2. The Dead Sea

Nature reserves and protected areas.

Pest control

Environmental protection of water resources.

Industrial pollution control.

Tourism and historical heritage.

II.3. Emek Ha'arava/Wadi Araba

Environmental protection of water resources.

Nature reserves and protected areas.

Pest control.

Tourism and historical heritage.

Agricultural pollution control.

ANNEX V. INTERIM MEASURES

BORDER CROSSING POINTS PROCEDURES BETWEEN ISRAEL AND JORDAN

In pursuance of Article 28 of the Treaty of Peace, the Parties have agreed as follows:

1. The Crossing Points between Israel and Jordan shall be opened in both directions for Israelis, Jordanians and third country nationals.

2. Procedures of crossing shall be in accordance with the regulations in both countries.

3. Each Party shall recognise passports of the other, and the stamps and visas affixed by the other Party on such passports. The stamps on the passports will be in English and Hebrew/Arabic, and will include the date of the crossing, the name of the country which stamps the document, and the name of the crossing point.

4. The Crossing Points shall be open 5 days a week from Sunday to Thursday, during all the year, except for Yom Kippur and the first day of AI Hijrah calendar. The dates of these two holy days shall be communicated to the other side beforehand.

5. The Crossing Points shall be open from 08:00 to 18:30 hours.

6. Each Party has the right to refuse entry to a person, in accordance with its regulations. In this case, each Party undertakes to accept this person back into the country, without delay, according to international practices.

7. Each Party shall apply its customs regulations.

8. Each Party shall provide the passengers with the A.17 international immigration form of the other Party, before crossing.

9. Direct links, both telephonic and fax, shall be established between the authorities of both sides of the Crossing Points, in order to provide solutions to any problem.

10. The passenger's passport should be valid for at least six months after the date of the crossing, in accordance with the international practices.

11. Each Party shall provide the other with a list of the countries whose citizens are exempted from its visa requirements.

12. These arrangements shall go into effect as from the day following the exchange of the instruments of ratification of this Treaty.

13. Within a period of up to 3 months from the date stated in paragraph 12 above, interim arrangements regulating passage of persons through the Crossing Points, and visa procedures shall be applied. Both Parties may shorten this period by mutual agreement.

14. During the interim period mentioned in paragraph 13 above, visas to Israeli and Jordanian citizens shall be granted as agreed between the Parties.

15. Pending the mutual opening of the Embassies in the two countries, Israeli and Jordanian nationals shall be granted the necessary visas through the following procedures:

a. The tourist should apply for the visa through a travel agent in his country, who shall convey the application to his counterpart travel agent in the other country. This correspon-

dent travel agent shall apply for the visa to the Ministry of Interior in his country. The visa shall then be collected at the Crossing Point with a copy to be sent to the travel agent, and another one shall be delivered to the terminals on each side.

Upon the opening of the Embassies in both countries, the Parties will adjust the above procedures as necessary.

b. Visitors such as businessmen, scientists, officials and journalists, shall contact the respective counterpart who in turn shall apply on their behalf to the Ministry of Interior as above. The visa shall then be collected at the Crossing Point and a copy shall be delivered to the terminals on each side.

Upon the opening of the Embassies in both countries, these persons will apply for visas through the respective Embassies.

16. a. Visa fees shall be collected on a reciprocal basis.

b. Terminal fees shall be collected in accordance with applicable regulations in both countries.

17. This system shall be revised after two months and a half from the date mentioned in paragraph 12 above, in accordance with any relevant bilateral agreements to be signed as an outcome of this Treaty.

18. The existing arrangements for Muslim Israeli nationals who cross into Jordan in transit to Saudi Arabia for Muslim Pilgrimage, shall continue to be applicable.

19. Transportation for Israeli and Jordanian tourists between terminals of each of the crossing points shall be by shuttle bus, and the tourist vehicles provided by travel agents of the visited country shall carry them from its terminal to their final destinations.

20. The Parties agree that matters relating to persons entering one of the two countries by one Crossing Point, Harbors or Airports, and wishing to exit that country also through other border Crossing Points, Harbors or Airports shall be discussed during the interim period mentioned in paragraph 13 above.

21. The Parties agree that matters relating to the passage of vehicles through the Crossing Points shall be discussed during the interim period mentioned in paragraph 13 above, taking into account the transportation, tourism and any other relevant bilateral agreements, to be concluded by the Parties.

22. Teams of the two Parties shall monitor the implementation of this Annex.

AGREED MINUTES

A. Concerning Article 3 (1) stating that:

"Immediately upon the exchange of the instruments of ratification of this Treaty, each Party will deploy on its side of the international boundary as defined in Annex I (a)".

The Parties recognise the practical questions connected with the deployment (such as demarcation, minefields, fences), and therefore would interpret the language to mean that the deployment would start immediately, continue uninterrupted and expeditiously, and conclude no later than 3 months after the exchange of the instruments of ratification.

B. With regard to economic and monetary matters pertaining specifically to the territories under Israeli Military control, the two governments shall consult with each other with the aim of:

1. Eliminating or mitigating adverse effects on their economies;
2. Giving each other enough time to make the necessary adjustments.

The above is without prejudice to activities which are the result of relations with other states or to former obligations with regard to the territories referred to above, except to the extent that the implementation of such obligations may have adverse effects and to the extent that the implementation is within their control.

C. In the spirit of peace, the two Parties attach high priority to the planned recreation joint venture project in the Naharayim/Baqura area, they favourably consider the partnership in peace to be created there, and will endeavour together to promote its implementation as soon as possible.

D. The Parties will, upon the signature of the Treaty, establish a joint committee headed by senior officials to monitor the implementation of this Treaty and the conclusion of relevant agreements, in accordance with the Treaty provisions.