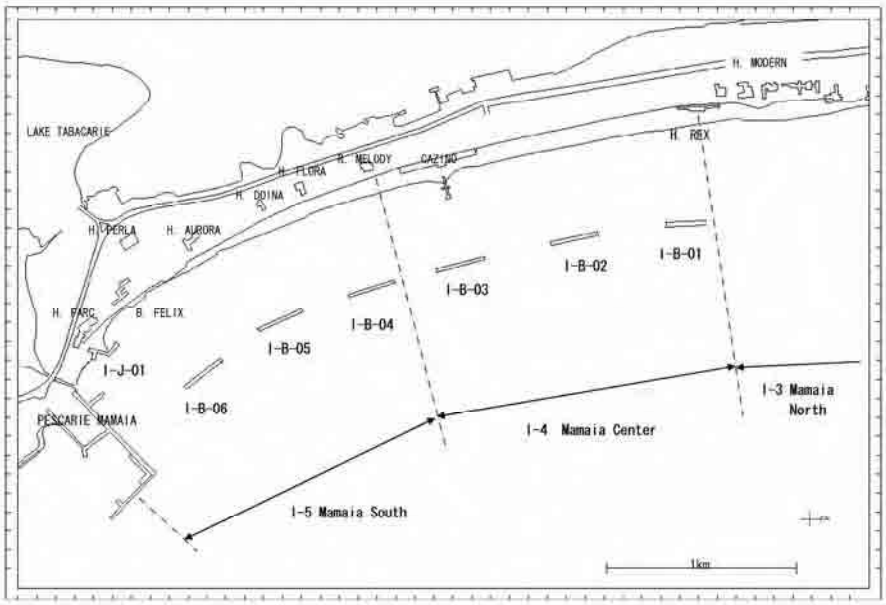
ANNEX K:

VIEWS OF EXISTING SHORE PROTECTION FACILITIES

Annex K: Views of Existing Shore Protection Facilities

This Annex presents the photographs of the existing shore protection facilities from Mamaia to 2 Mai, which were taken in June 2005. They are arranged from the north to the south in the order of the section numbers designated in Table 5.4.1 of Volume 1 .



Locatin Map **I -4&5**
Sector: **I** -4 & **I -5**
Mamaia Center,
Mamaia South

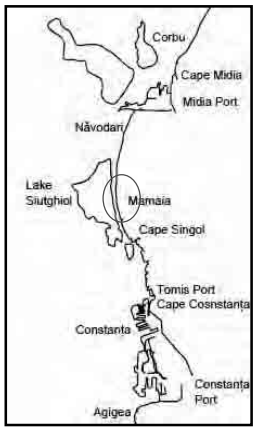


Photo **I** -1
Sector: **I** -4 & **I -5**
Mamaia Center,
Mamaia South

Photo **I** -2
Sector: **I** -4 & **I -5**
Mamaia Center,
Mamaia South

Photo Ⅰ-3
Detached
Breakwater

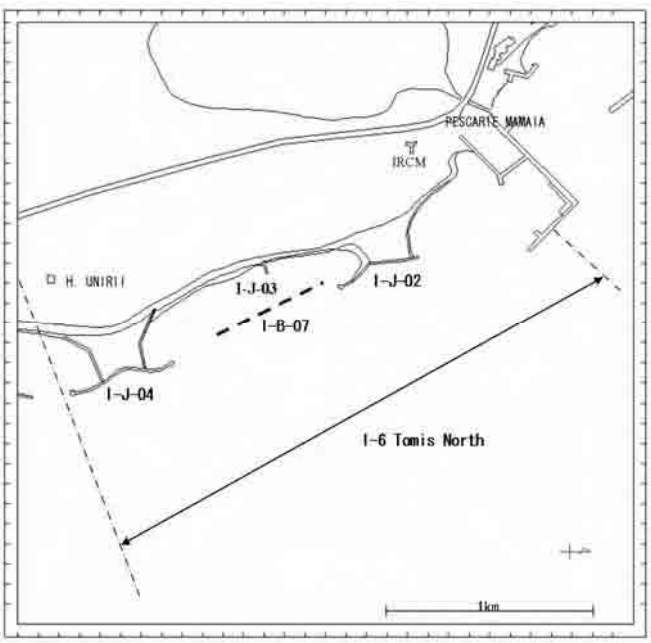
Photo Ⅰ-4
Top of Detached
Breakwater
with Stabiro Pod

Photo Ⅰ-5
Top of Detached
Breakwater
with Concrete Cube
and Stabiro Pod

Photo I -6
Berthing Facility offshore of Detached Breakwater I -B-3

Photo I -7
Berthing Facility in front of Cazino

Photo I -8
Jetty I -J-01



Locatin Map Ⅰ-6
Sector: Ⅰ-6
Tomis North

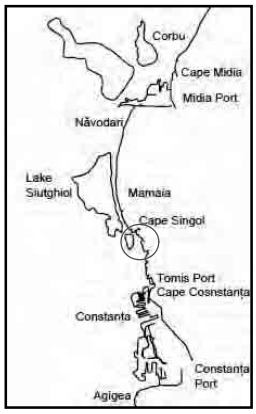


Photo Ⅰ-9
Fishing Port Facility

Photo Ⅰ-10
Pai Shaped Jetty
Ⅰ-J-2

Photo I-11
South Wing
I-J-2

Photo I-12
Land Side of Wing
I-J-2

Photo I-13
Front Side of
Retaining Wall
I-J-2

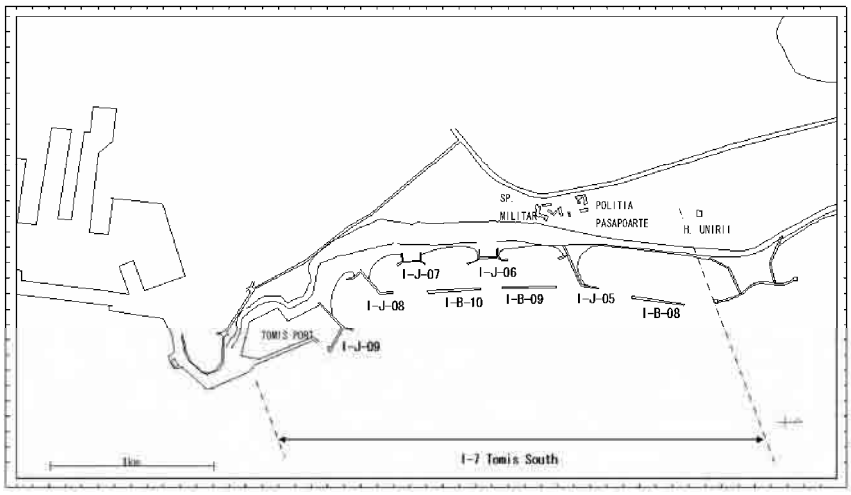
Photo I -14
Jettyl
I -J-3

Photo I -15
Retaining Wall
between Jetty I I-J-3
and I -J-4

Photo I -16
Pai Shaped Jetty
I -J-4

Photo Ⅰ-17
Pai Shaped Jetty
Ⅰ-J-4
Super-structure with
4.5t Stabilo Pod

Photo Ⅰ-18
Pai Shaped Jetty
Ⅰ-J-4
Scour beneath
Concrete Pavement



Locatin Map Ⅰ-7
Sector: Ⅰ-7
Tomis South

Photo Ⅰ-19
Sector: Ⅰ-7
L Shaped Jetty
Ⅰ-J-5

Photo Ⅰ-20
Sector: Ⅰ-7
L Shaped Jetty
Ⅰ-J-5
Maintained nery good

Photo Ⅰ-21
Sector: Ⅰ-7
Pai Shaped Jetty
Ⅰ-J-6
Maintained nery good

Photo Ⅰ-22
Sector: Ⅰ-7
Pai Shaped Jetty
Ⅰ-J-6
Front area protected by armour stone

Photo Ⅰ-23
Sector: Ⅰ-7
Pai Shaped Jetty
Ⅰ-J-7
The tip of south wing has been washed out.

Photo Ⅰ-24
Sector: Ⅰ-7
Pai Shaped Jetty
Ⅰ-J-7
Front area protected by concrete cube.

Photo Ⅰ-25
Sector: Ⅰ-7
Z Shaped Jetty
Ⅰ-J-8

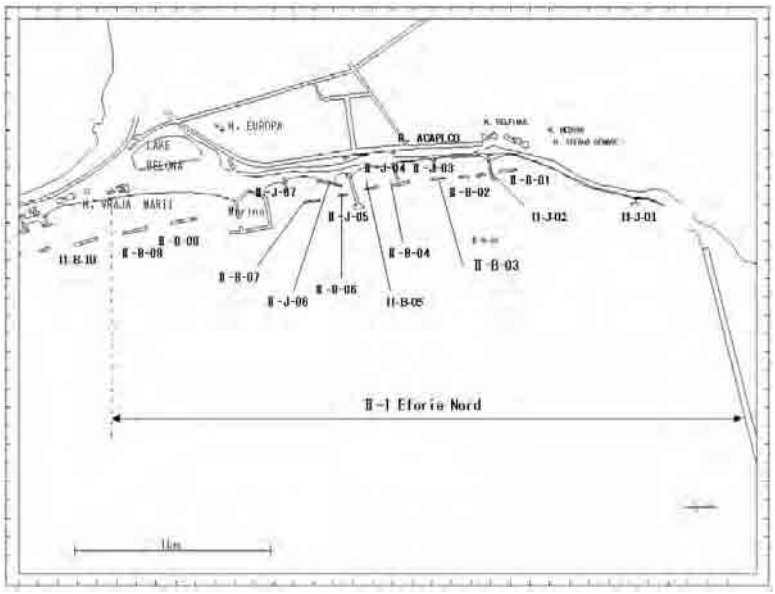
Photo Ⅰ-26
Sector: Ⅰ-7
Z Shaped Jetty
Ⅰ-J-8

Photo Ⅰ-27
Sector: Ⅰ-7
Z Shaped Jetty
Ⅰ-J-8
Damage of tip of the jetty

Photo I-28
Sector: I-7
Jetty
I-J-9
Jetty extended from Tomis Port breakwater

Photo I-29
Sector: I-7
Jetty
I-J-9
Superstructure of the Jetty

Photo I-30
Sector: I-7
Jetty
I-J-9
North wing of the Jetty



Locatin Map II-1
Sector: II-1
Eforie Nord

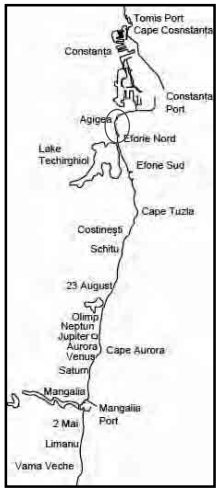


Photo II-1
Sector: II-1
Eforie Nord
II-J-1
Y Shaped Jetty

Photo II-2
Sector: II-1
Eforie Nord
II-J-2
I Shaped Jetty

Photo II-3
Sector: II-1
Eforie Nord
II-J-2
Tip of the Jetty

Photo II-4
Sector: II-1
Eforie Nord
Retaining Wall
between Jetty II-J-2
and II-J-3

Photo II-5
Sector: II-1
Eforie Nord
II-J-3

Photo II-6
Sector: II-1
Eforie Nord
Retaining Wall
between Jetty II-J-3
and II-J-4

Photo II-7
Sector: II-1
Eforie Nord
II-J-4

Photo II-8
Sector: II-1
Eforie Nord
II-J-4
Super Structure of
the Jetty

Photo II-9
Sector: II-1
Eforie Nord
II-J-5
T Shaped Jetty

Photo II-10
Sector: II-1
Eforie Nord
II-J-5
Super Structure of the Jetty

Photo II-11
Sector: II-1
Eforie Nord
II-J-6
T Shaped Jetty

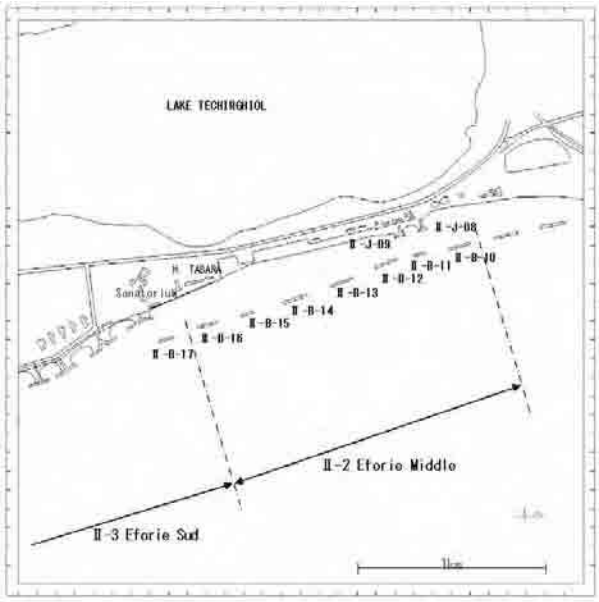
Photo II-12
Sector: II-1
Eforie Nord
II-J-6
Tip of the Jetty

Photo II-13
Sector: II-1
Eforie Nord
II-J-7

Photo II-14
Sector: II-1
Eforie Nord
II-J-7
Tip of the Jetty

Photo II-15
Sector: II-1
Eforie Nord
Marina

Photo II-16
Sector: II-1
Eforie Nord
Marina



Locatin Map II-2
Sector: II-2
Eforie Middle

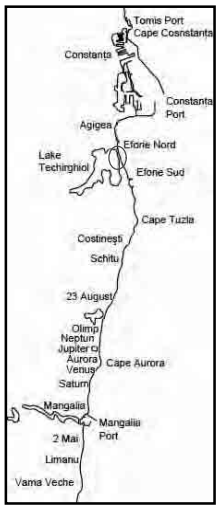


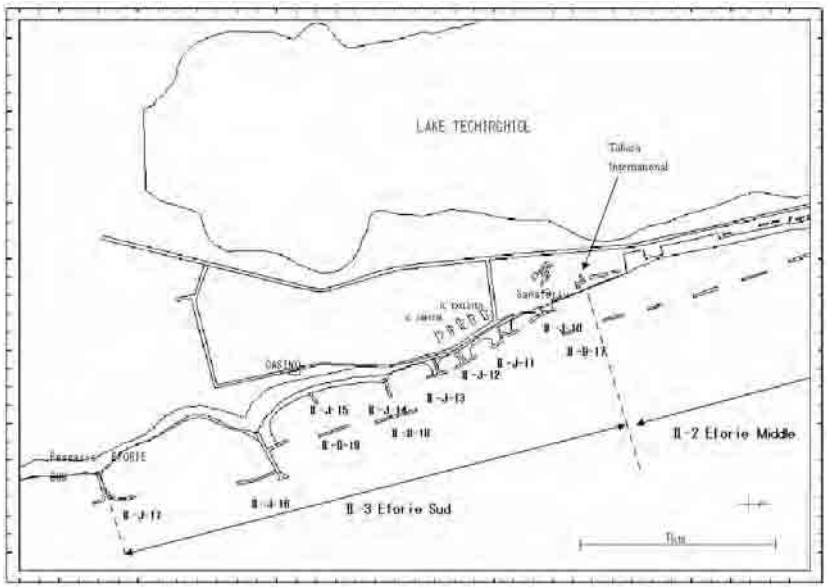
Photo II-17
Sector: II-2
Eforie Middle
Jetty II-J-8 &
II-J-9

Photo II-18
Sector: II-2
Eforie Middle
II-J-8

Photo II-19
Sector: II-2
Eforie Middle
II-J-9

Photo II-20
Sector: II-2
Eforie Middle
II-J-9
North wing of the jetty

Photo **II**-21
Sector: **II**-2
Eforie **Middle**
Shore Protection



Locatin Map **II-3**
Sector: **II**-3
Eforie Sud

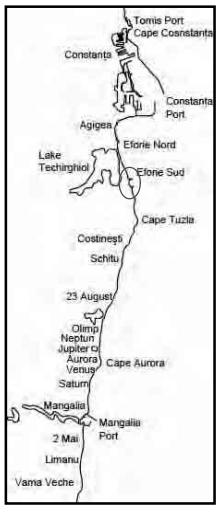


Photo **II**-22
Sector: **II**-3
Eforie Sud
Retaining Wall of Promnade

Photo II-23
Sector: II-3
Eforie Sud
Damage of Retaining Wall of Promnade

Photo II-24
Sector: II-3
Eforie Sud
II-J-10 & II-J-11

Photo II-25
Sector: II-3
Eforie Sud
Damage of the Jetty
II-J-10

Photo Ⅱ-26
Sector: Ⅱ-3
Eforie Sud
Ⅱ-J-11
Y Shaped Jetty

Photo Ⅱ-27
Sector: Ⅱ-3
Eforie Sud
Damage of the Tip of Wing
Ⅱ-J-11

Photo Ⅱ-28
Sector: Ⅱ-3
Eforie Sud
Ⅱ-J-12
T Shaped Jetty

Photo II-29
Sector: II-3
Eforie Sud
Front of the Jetty
II-J-12

Photo II-30
Sector: II-3
Eforie Sud
II-J-13
T Shaped Jetty

Photo II-31
Sector: II-3
Eforie Sud
II-J-13
North Wing of the Jetty

Photo II-32
Sector: II-3
Eforie Sud
Promnade on the Retaining Wall between Jetty II-J-13 & II-J-14

Photo II-33
Sector: II-3
Eforie Sud
II-J-14
I Shaped Jetty

Photo II-34
Sector: II-3
Eforie Sud
II-J-14
Tip of the Jetty

Photo Ⅱ-35
Sector: Ⅱ-3
Eforie Sud
Ⅱ-J-15
I Shaped Jetty

Photo Ⅱ-36
Sector: Ⅱ-3
Eforie Sud
Ⅱ-J-15

Photo Ⅱ-37
Sector: Ⅱ-3
Eforie Sud
Ⅱ-J-16
I Shaped Jetty with Two Wings

Photo II-38
Sector: II-3
Eforie Sud
II-J-16
Norht Wing of
the Jetty

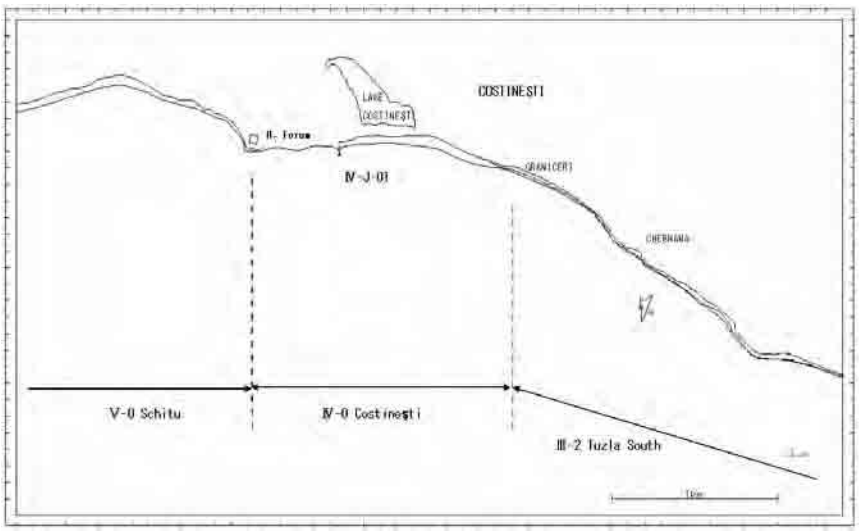
Photo II-39
Sector: II-3
Eforie Sud
II-J-16
South Wing of
the Jetty

Photo II-40
Sector: II-3
Eforie Sud
II-J-16
Tip of the Jetty

Photo II-41
Sector: II-3
Eforie Sud
II-J-17
Y Shaped Jetty

Photo II-42
Sector: II-3
Eforie Sud
II-J-17
South Wing of the Jetty

Photo II-43
Sector: II-3
Eforie Sud
II-J-17
North Wing of the Jetty



Locatin Map **IV**-0
Sector: **IV**-0
Costineşti

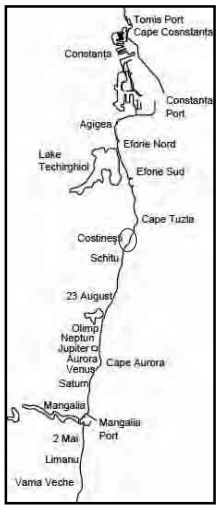
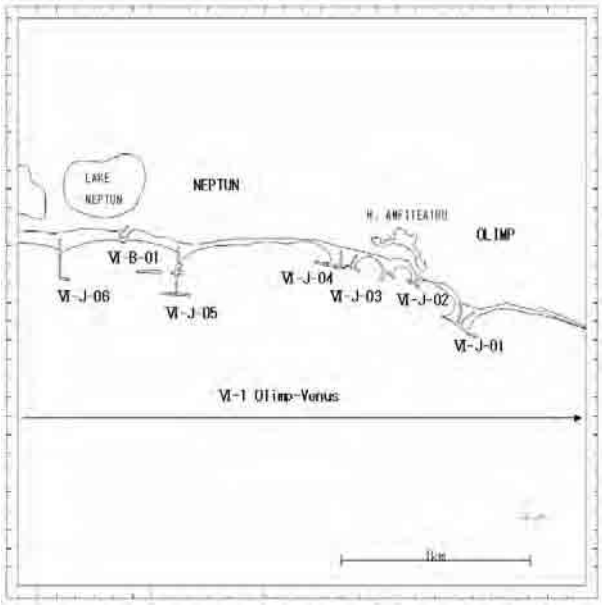


Photo **IV**-1
Sector: **IV**-0
Costineşti
Berthing Facility

Photo **IV**-2
Sector: **IV**-0
Costineşti
Berthing Facility

Photo **IV**-3
Sector: **IV**-0
Costineşti
Retaining Wall



Locatin Map **VI**-1
Sector: **VI**-1
Olimp-Venus

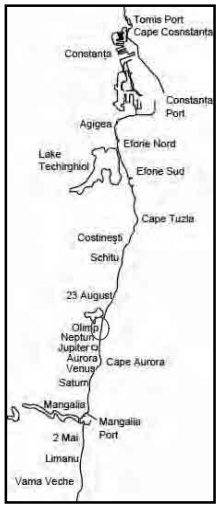


Photo **VI**-1
Sector: **VI**-1
Olimp-Venus
VI-J-1
Pai Shaped Jetty

Olimp

Photo **VI**-2
Sector: **VI**-1
Olimp-Venus
VI-J-1
North Wing of the Jetty

Olimp

Photo **VI**-3
Sector: **VI**-1
Olimp-Venus
VI-J-1
Stabilo Pod Placement

Olimp

Photo **VI**-4
Sector: **VI**-1
Olimp-Venus
VI-J-1
South Wing of the Jetty

Olimp

Photo **VI**-5
Sector: **VI**-1
Olimp-Venus
VI-J-2,
VI-J-3 &
VI-J-4

Olimp

Photo **VI**-6
Sector: **VI**-1
Olimp-Venus
VI-J-2
T Shaped Jetty

Olimp

Photo **VI**-7
Sector: **VI**-1
Olimp-Venus
Retaining Wall
between **VI**-J-2 &
VI-J-3

Olimp

Photo **VI**-8
Sector: **VI**-1
Olimp-Venus
VI-J-2
North Wing of the Jetty

Olimp

Photo **VI**-9
Sector: **VI**-1
Olimp-Venus
VI-J-3
T Shaped Jetty

Olimp

Photo **VI**-10
Sector: **VI**-1
Olimp-Venus
VI-J-3
Super Structure of the Jetty

Olimp

Photo **VI**-11
Sector: **VI**-1
Olimp-Venus
VI-J-4
Pai Shaped Jetty

Olimp

Photo **VI**-12
Sector: **VI**-1
Olimp-Venus
VI-J-4
North Wing of the Jetty

Olimp

Photo **VI**-13
Sector: **VI**-1
Olimp-Venus
VI-J-5
T shaped Jetty with Berthing Facility

Neptun

Photo **VI**-14
Sector: **VI**-1
Olimp-Venus
VI-J-5
T shaped Jetty with
Berthing Facility

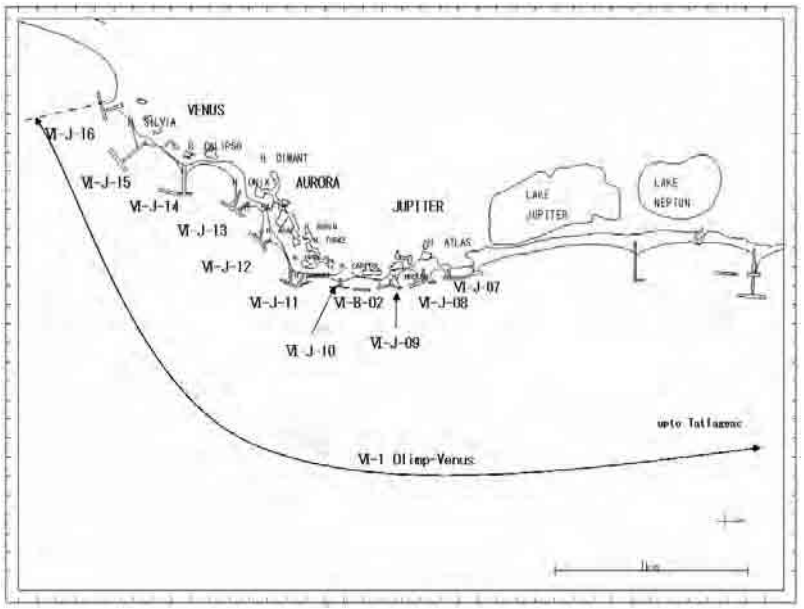
Neptun

Photo **VI**-15
Sector: **VI**-1
Olimp-Venus
VI-J-6
L shaped Jetty with
Berthing Facility

Neptun

Photo **VI**-16
Sector: **VI**-1
Olimp-Venus
VI-J-6
Tip of the Jetty

Neptun



Locatin Map **VI**-1
Sector: **VI**-1
Olimp-Venus

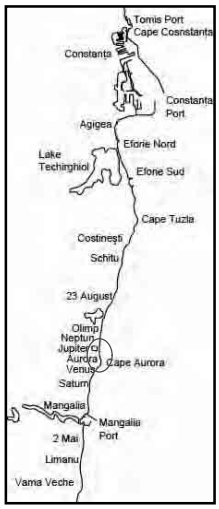


Photo **VI**-17
Sector: **VI**-1
Olimp-Venus
VI-J-7 &
VI-J-8

Jupiter

Photo **VI**-18
Sector: **VI**-1
Olimp-Venus
VI-J-7
North Wing of the Jetty

Jupiter

Photo **VI**-19
Sector: **VI**-1
Olimp-Venus
VI-J-7
Front Area of the Jetty

Jupiter

Photo **VI**-20
Sector: **VI**-1
Olimp-Venus
Entrance between **VI**-J-7 & **VI**-J-8

Jupiter

Photo **VI**-21
Sector: **VI**-1
Olimp-Venus
VI-J-8
North Wing of the Jetty

Jupiter

Photo **VI**-22
Sector: **VI**-1
Olimp-Venus
VI-J-8
South Wing of the Jetty

Jupiter

Photo **VI**-23
Sector: **VI**-1
Olimp-Venus
VI-J-9

Jupiter

Photo **VI**-24
Sector: **VI**-1
Olimp-Venus
VI-J-9
North Wing of the Jetty

Jupiter

Photo **VI**-25
Sector: **VI**-1
Olimp-Venus
VI-J-9
Center of the Jetty

Jupiter

Photo **VI**-26
Sector: **VI**-1
Olimp-Venus
VI-J-9
South Wing of the Jetty

Jupiter

Photo **VI**-27
Sector: **VI**-1
Olimp-Venus
VI-B-2
Detached Breakwater

Jupiter

Photo **VI**-28
Sector: **VI**-1
Olimp-Venus
VI-B-2
Trunk of the Breakwater

Jupiter

Photo **VI**-29
Sector: **VI**-1
Olimp-Venus
VI-J-10
T Shaped Jetty

Jupiter

Photo **VI**-30
Sector: **VI**-1
Olimp-Venus
VI-J-10
North Wing of the Jetty

Jupiter

Photo **VI**-31
Sector: **VI**-1
Olimp-Venus
VI-J-10
Center of the Jetty

Jupiter

Photo **VI**-32
Sector: **VI**-1
Olimp-Venus
VI-J-11
Pai Shaped Jetty

Aurora

Photo **VI**-33
Sector: **VI**-1
Olimp-Venus
VI-J-11
North Wing of the
Pai Shaped Jetty

Aurora

Photo **VI**-34
Sector: **VI**-1
Olimp-Venus
VI-J-11
Center of the Pai Shaped Jetty

Aurora

Photo **VI**-35
Sector: **VI**-1
Olimp-Venus
VI-J-12
Pai Shaped Jetty

Aurora

Photo **VI**-36
Sector: **VI**-1
Olimp-Venus
VI-J-12
North Wing of Pai Shaped Jetty

Aurora

Photo **VI**-37
Sector: **VI**-1
Olimp-Venus
VI-J-12
South Wing of Pai Shaped Jetty

Aurora

Photo **VI**-38
Sector: **VI**-1
Olimp-Venus
VI-J-13
Pai Shaped Jetty

Aurora

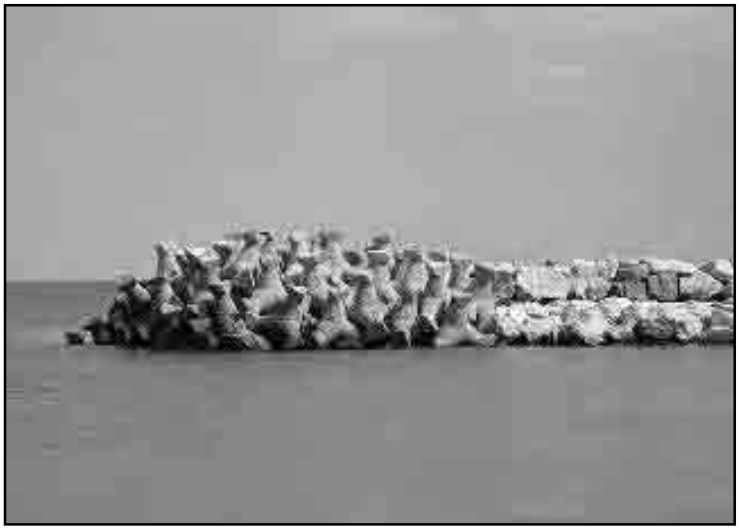


Photo **VI**-39
Sector: **VI**-1
Olimp-Venus
VI-J-13
North Wing of Pai Shaped Jetty

Aurora

Photo **VI**-40
Sector: **VI**-1
Olimp-Venus
VI-J-13
Center of Pai
Shaped Jetty

Aurora

Photo **VI**-41
Sector: **VI**-1
Olimp-Venus
VI-J-13
South Wing of Pai
Shaped Jetty

Aurora

Photo **VI**-42
Sector: **VI**-1
Olimp-Venus
New Retaining Wall
between **VI**-J-13 &
VI-J-14

Venus

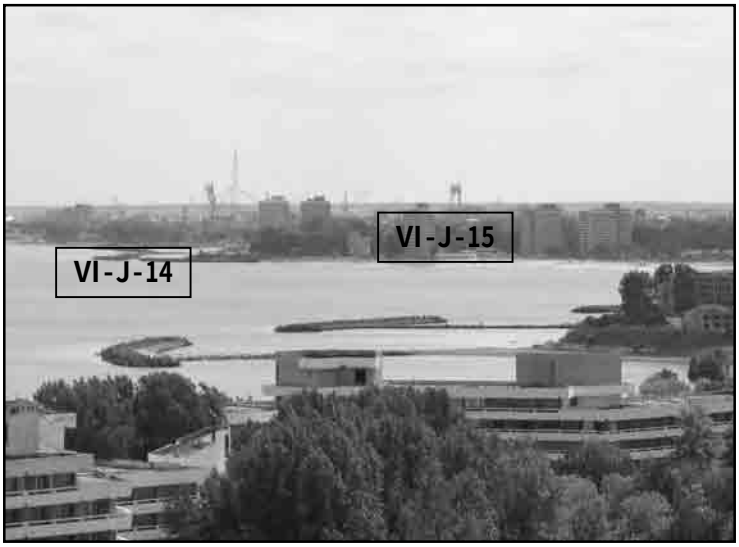


Photo **VI**-43
Sector: **VI**-1
Olimp-Venus
VI-J-14 &
VI-J-15
T Shaped Jetty

Venus

Photo **VI**-44
Sector: **VI**-1
Olimp-Venus
VI-J-14
North Wing of T
Shaped Jetty

Venus

Photo **VI**-45
Sector: **VI**-1
Olimp-Venus
VI-J-14
South Wing of T
Shaped Jetty

Venus

Photo **VI**-46
Sector: **VI**-1
Olimp-Venus
VI-J-14
South Wing of
T Shaped Jetty

Venus

Photo **VI**-47
Sector: **VI**-1
Olimp-Venus
VI-J-14
Access Portion of
T Shaped Jetty

Venus

Photo **VI**-48
Sector: **VI**-1
Olimp-Venus
Retaining Wall
between **VI**-J-14 &
VI-J-15

Venus

Photo **VI**-49
Sector: **VI**-1
Olimp-Venus
VI-J-15
T Shaped Jetty

Venus

Photo **VI**-50
Sector: **VI**-1
Olimp-Venus
VI-J-15
North Wing of T Shaped Jetty

Venus

Photo **VI**-51
Sector: **VI**-1
Olimp-Venus
VI-J-15
South Wing of T Shaped Jetty

Venus

Photo **VI**-52
Sector: **VI**-1
Olimp-Venus
VI-J-15
Access Portion of
T Shaped Jetty

Venus

Photo **VI**-53
Sector: **VI**-1
Olimp-Venus
Retaining Wall
between **VI**-J-15 &
VI-J-16

Venus

Photo **VI**-54
Sector: **VI**-1
Olimp-Venus
VI-J-16
Pai Shaped Jetty

Venus

Photo **VI**-55
Sector: **VI**-1
Olimp-Venus
VI-J-16
North Wing of Pai Shaped Jetty

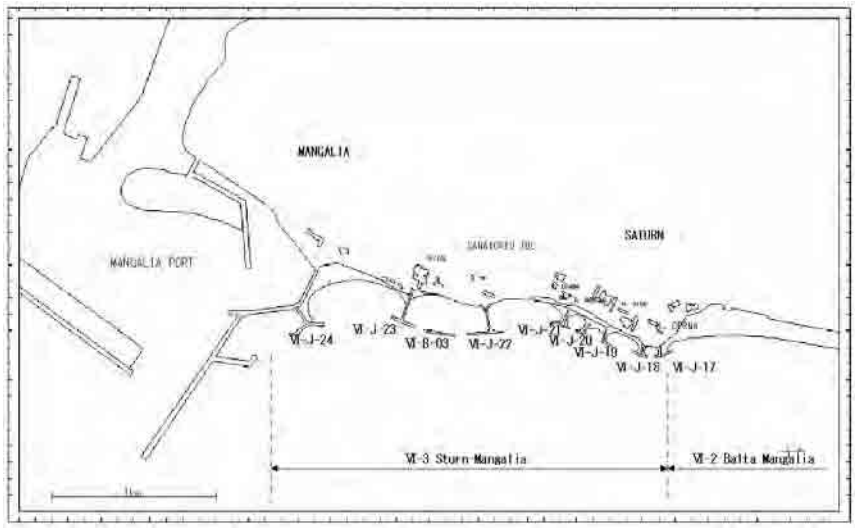
Venus

Photo **VI**-56
Sector: **VI**-1
Olimp-Venus
VI-J-16
South Wing of Pai Shaped Jetty

Venus

Photo **VI**-57
Sector: **VI**-1
Olimp-Venus
VI-J-16
Front of Pai Shaped Jetty

Venus



Locatin Map **VI**-3
Sector: **VI**-3
Saturn-Mangalia

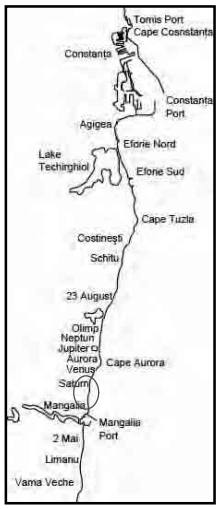


Photo **VI**-58
Sector: **VI**-3
Saturn-Mangalia
VI-J-17 &
VI-J-18
Arrow Shaped Jetties

Saturn

Photo **VI**-59
Sector: **VI**-3
Saturn-Mangalia
VI-J-17
Center of Arrow Shaped Jetty

Saturn

Photo **VI**-60
Sector: **VI**-3
Saturn-Mangalia
VI-J-17
Front of Arrow
Shaped Jetty

Saturn

Photo **VI**-61
Sector: **VI**-3
Saturn-Mangalia
VI-J-17
North Wing of Arrow
Shaped Jetty

Saturn

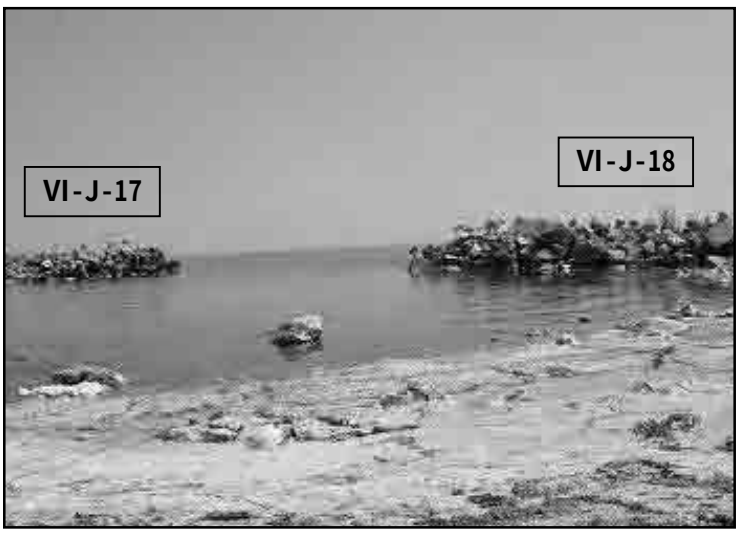


Photo **VI**-62
Sector: **VI**-3
Saturn-Mangalia
Gap between
VI-J-17 &
VI-J-18

Saturn

Photo **VI**-63
Sector: **VI**-3
Saturn-Mangalia
VI-J-18
Front of Arrow
Shaped Jetty

Saturn

Photo **VI**-64
Sector: **VI**-3
Saturn-Mangalia
VI-J-18
South Wing of Arrow
Shaped Jetty

Saturn

Photo **VI**-65
Sector: **VI**-3
Saturn-Mangalia
VI-J-19 &
VI-J-20
L Shaped Jetties

Saturn

Photo **VI**-66
Sector: **VI**-3
Saturn-Mangalia
VI-J-19
North Wing of L Shaped Jetty

Saturn

Photo **VI**-67
Sector: **VI**-3
Saturn-Mangalia
VI-J-19
Corner of L Shaped Jetty

Saturn

Photo **VI**-68
Sector: **VI**-3
Saturn-Mangalia
VI-J-20
South Wing Front of L Shaped Jetty

Saturn

Photo **VI**-69
Sector: **VI**-3
Saturn-Mangalia
VI-J-20
South Wing of L
Shaped Jetty

Saturn

Photo **VI**-70
Sector: **VI**-3
Saturn-Mangalia
VI-J-21
T Shaped Jetty

Saturn

Photo **VI**-71
Sector: **VI**-3
Saturn-Mangalia
VI-J-21
North Wing of T
Shaped Jetty

Saturn

Photo **VI**-72
Sector: **VI**-3
Saturn-Mangalia
VI-J-21
South Wing of T Shaped Jetty

Saturn

Photo **VI**-73
Sector: **VI**-3
Saturn-Mangalia
VI-J-21
Center of T Shaped Jetty

Saturn

Photo **VI**-74
Sector: **VI**-3
Saturn-Mangalia
VI-J-21
North Wing of T Shaped Jetty

Saturn

Photo **VI**-75
Sector: **VI**-3
Saturn-Mangalia
VI-J-21
Scouring below
Pavement

Saturn

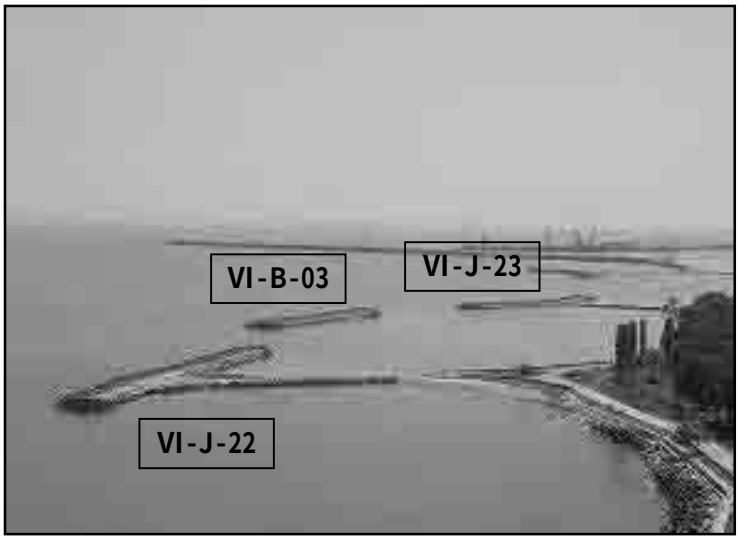


Photo **VI**-76
Sector: **VI**-3
Saturn-Mangalia
VI-J-17
North Wing of Arrow
Shaped Jetty

Mangalia

Photo **VI**-77
Sector: **VI**-3
Saturn-Mangalia
VI-J-22
North Wing of
T Shaped Jetty

Mangalia

Photo **VI**-78
Sector: **VI**-3
Saturn-Mangalia
VI-J-22
Access Portion of
T Shaped Jetty

Mangalia

Photo **VI**-79
Sector: **VI**-3
Saturn-Mangalia
VI-J-22
South Wing of
T Shaped Jetty

Mangalia

Photo **VI**-80
Sector: **VI**-3
Saturn-Mangalia
VI-J-22
Scouring below
Pavement

Mangalia

Photo **VI**-81
Sector: **VI**-3
Saturn-Mangalia
VI-J-22
Access Portion of
T Shaped Jetty

Mangalia

Photo **VI**-82
Sector: **VI**-3
Saturn-Mangalia
VI-J-22
Toe of T Shaped
Jetty

Mangalia

Photo **VI**-83
Sector: **VI**-3
Saturn-Mangalia
VI-B-03
Detached
Breakwater

Mangalia

Photo **VI**-84
Sector: **VI**-3
Saturn-Mangalia
VI-B-03
South End of
Detached Breakwater

Mangalia

Photo **VI**-85
Sector: **VI**-3
Saturn-Mangalia
Promnade and
Retaining Wall
between VI-J-22 and
VI-J-23

Mangalia

Photo **VI**-86
Sector: **VI**-3
Saturn-Mangalia
VI-J-23
North Wing of
T Shaped Jetty

Mangalia

Photo **VI**-87
Sector: **VI**-3
Saturn-Mangalia
VI-J-23
North Wing of
T Shaped Jetty

Mangalia

Photo **VI**-88
Sector: **VI**-3
Saturn-Mangalia
VI-J-23
South Wing of
T Shaped Jetty

Mangalia

Photo **VI**-89
Sector: **VI**-3
Saturn-Mangalia
VI-J-23
Access Portion of
T Shaped Jetty

Mangalia

Photo **VI**-90
Sector: **VI**-3
Saturn-Mangalia
Promnade and
Retaining Wall
between **VI**-J-23 and
VI-J-24

Mangalia

Photo **VI**-91
Sector: **VI**-3
Saturn-Mangalia
VI-J-24
Y Shaped Jetty

Mangalia

Photo **VI**-92
Sector: **VI**-3
Saturn-Mangalia
VI-J-24
North Wing of
Y Shaped Jetty

Mangalia

Photo **VI**-93
Sector: **VI**-3
Saturn-Mangalia
VI-J-24
North Wing of
Y Shaped Jetty

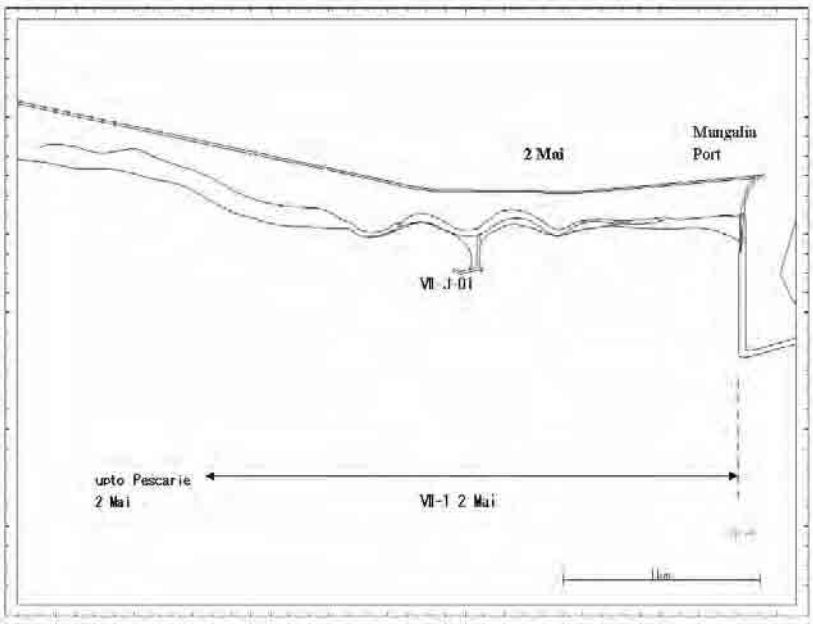
Mangalia

Photo **VI**-94
Sector: **VI**-3
Saturn-Mangalia
VI-J-24
South Wing of
Y Shaped Jetty

Mangalia

Photo **VI**-95
Sector: **VI**-3
Saturn-Mangalia
VI-J-24
Access Portion of
Y Shaped Jetty

Mangalia



Locatin Map **VII**-1
Sector: **VII**-1
2 Mai

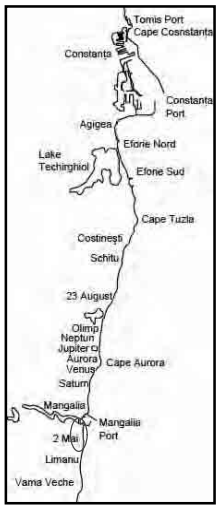


Photo **VII**-1
Sector: **VII**-1
2 Mai
VII-J-1
L Shaped Jetty
(Fishing Port Facility)

Photo **VII**-2
Sector: **VII**-1
2 Mai
VII-J-1
Wing Seaside of
L Shaped Jetty

Photo **VII**-3
Sector: **VII**-1
2 Mai
VII-J-1
Wing Landside of
L Shaped Jetty

Photo **VII**-4
Sector: **VII**-1
2 Mai
VII-J-1
Superstructure of
Wing,
L Shaped Jetty

Photo **VII**-5
Sector: **VII**-1
2 Mai
VII-J-1
Access Portion of
L Shaped Jetty

Photo **VII**-6
Sector: **VII**-1
2 Mai
VII-J-1
Scouring of Access Portion,
L Shaped Jetty

ANNEX L:

DATABASE IN CD-ROM

Annex L: Database in CD-ROM

L.0 Table of Contents of Database

During the execution of the Study on Protection and Rehabilitation of the Southern Romanian Black Sea Shore, the JICA team has collected various documents, reports, numerical data, drawings, and other information. The JICA team also carried out various calculations and design works, which produced a large volume of computed results.

These information and data are too voluminous and it is found unfeasible to print them on paper. Therefore, they are stored in a form of digital data in the CD-ROM attached to the main report. It is hoped that the respective readers would make best use of these information and data as needed.

The contents of the CD-ROM include the following items.

L. 0 Table of Contents of Database in CD-ROM

L. 1 Meteorological Data from National Meteorological Administration

L. 2 Wave Climate Data from European Center for Medium Range Forecasting "ECMWF"

L. 3 Water Level Data from National Institute for Marine Research and Development "Grigore Antipa"

L. 4 Report on Shoreline Change Study by National Institute for Marine Research and Development "Grigore Antipa"

L. 5 Report on Beach Morphology Analysis by National Institute of Marine Geology and Geo-ecology "GeoEcoMar"

L. 6 Database on Shore Protection Facilities by IPTANA

L. 7 Basic Design of Priority Projects

L. 8 Bathymetric and Topographic Survey of Priority Project Sites

L. 0	**Table of Contents of Database in CD-ROM**
File Name	[Table_of_Contents_of_Database.word]
Contents	Table of Contents of Data base included in CD-ROM

L. 1	**Meteorological Data from National Meteorological Administration**
File Name	[MeteolrogicalConstanta.pdf]
Contents	Monthly Minimum Pressure and Direction-wise frequency distribution of wind speeds at Constanța from 1995 to 2004

L. 2	**Wave Climate Data from European Center for Medium Range Forecasting "ECMWF"**
File Name	[WAM data from ECMWF.pdf]
Contents	Wind and Wave Data off Constanța from ECMWF from Nov. 1991 to June 2002

L. 3	**Water Level Data from National Institute for Marine Research and Development "Grigore Antipa"**
File Name	[Constanta_1993.pdf, Constanta_1994.pdf, …, Constanta_2004.pdf] [Mangalia_1993.pdf, Mangalia_1994.pdf, …, Mangalia_2002.pdf]
Contents	Sea Level Observation Data of Constanta Port and Mangalia Port from 1993 to 2004

L. 4	**Report on Shoreline Change Study by National Institute for Marine Research and Development "Grigore Antipa"**
File Name	[ReportShorelineChange.pdf]
Contents	Ⅰ. Introduction Ⅱ. Methodology of Analysis Ⅲ. Basic Information on Shoreline Position Measurements Ⅳ. Tables of Shoreline Positions and Cross-shore Profiles Ⅴ. Diagrams of Shoreline Changes Ⅵ. Tables of Beach Volume Ⅶ. Annexes Ⅷ. References

L. 5	**Report on Beach Morphology Analysis by National Institute of Marine Geology and Geo-ecology "GeoEcoMar"**
File Name	[ReportOfGeoEcoMarStudy.pdf]
Contents	1. General Presentation 2. General Geological Setting 3. Characteristics of Superficial Beach Sediments Between Cape Midia and Vama Veche 4. Evolution of Shoreline, as Obtained from Existing Studies 5. Quantitative Evaluation of Historical Changes of Shoreline 6. Conclusions Appendix 1 : Short-time Variation of Geomorphological Parameters on the "PetroMar" Beach .Eforie, Black Sea Appendix 2 : Grain Size Characteristics for Samples Collected North of Midia Harbor

L. 6	**Database on Shore Protection Facilities by IPTANA**
File Name	[ShoreFacilityDataBaseVol 1.pdf]
Contents	Summary Chapter 1- Midia Chapter 2- Mamaia Chapter 3- Constanta Chapter 4- Agigea
File Name	[ShoreFacilityDataBaseVol 2.pdf]
Contents	Chapter 5-Eforie Nord Chapter 6-Eforie Sud
File Name	[ShoreFacilityDataBaseVol 3.pdf]
Contents	Chapter 7-Costinesti Chapter 8-Olimp Chapter 9-Neptun Chapter 10-Jupiter Chapter 11-Cap Aurora Chapter 12-Venus Chapter 13-Saturn Chapter 14-Mangalia Chapter 15-2 Mai

L. 7	**Basic Design of Priority Projects**
File Name	[Basic Design Study on Mamaia Sud and Eforie Nord.pdf]
Contents	General Natural Conditions Description of Works Mamaia Sud Eforie Nord Execution Schedule - Mamaia - River Sand Equipments Calculation Payment Schedule - Mamaia Sud Transportation Route
File Name	[Report_on_Traffic_Survey.pdf]
Contents	1.1. Executive Summary 1.2. Technical Specifications for Traffic Survey Concerning Coastal Protection and Rehabilitation Project at Mamaia Sud and Eforie Nord 1.3. The Methodology and the Survey Form 1.4. Description of Survey “Location1” 1.5. Count data recoded on Location 1 (Blvd. Aurel Vlaicu at the northern limits of the City of Constantza, close to Mamaia resort) 1.6. Description of Survey “Location2” 19 1.7. Count data recoded on Location 2 (The National Road DN39 (Constantza - Mangalia - B/C Bulgaria), km 13+800, at the northern incidence to the Town of Eforie Nord) 1.8. Description of Survey “Location3” 1.9. Count data recoded on Location 3 (Blv Aurel Vlaicu at the western limits of the City of Constantza, between Blv Bratianu and the intersection with the Boulevard Baba Novac, also as the National Road DN3C, km 1+800rd)

L. 8	**Bathymetric and Topographic Survey of Priority Project Sites**
Folder Name File Name Content File Name Content	< Overall Area > [EFORIE.pdf] Bathymetry and Topography of Eforie Nord [MAMAIA.pdf] Bathymetry and Topography of Mamaia Sud
Folder Name File Name Content File Name Content	< Detail Plan_A 1> [Eforie-A1-E1.pdf] Topographic and Bathymetric Charts of Eforie Nord, A-1 Paper Size [Mamaia-A1-M1.pdf, Mamaia-A1-M2.pdf, Mamaia-A1-M3.pdf and Mamaia-A1-M4.pdf] Topographic and Bathymetric Charts of Mamaia Sud, A-1 Paper Size
Folder Name File Name Content File Name Content	< Detail Plan_A3 > [Eforie-A3-E1.pdf] Topographic and Bathymetric Charts of Eforie Nord, A-3 Paper Size [Mamaia-A3-M1.pdf, Mamaia-A3-M2.pdf, Mamaia-A3-M3.pdf and Mamaia-A3-M4.pdf] Topographic and Bathymetric Charts Mamaia Sud, A-3 Paper Size
Folder Name File Name Content File Name Content	< Cross Section> [STR-Eforie-SECT.pdf] Beach Cross Section of Eforie Nord [STR-Mamaia-SECT.pdf] Beach Cross Section of Mamaia Sud