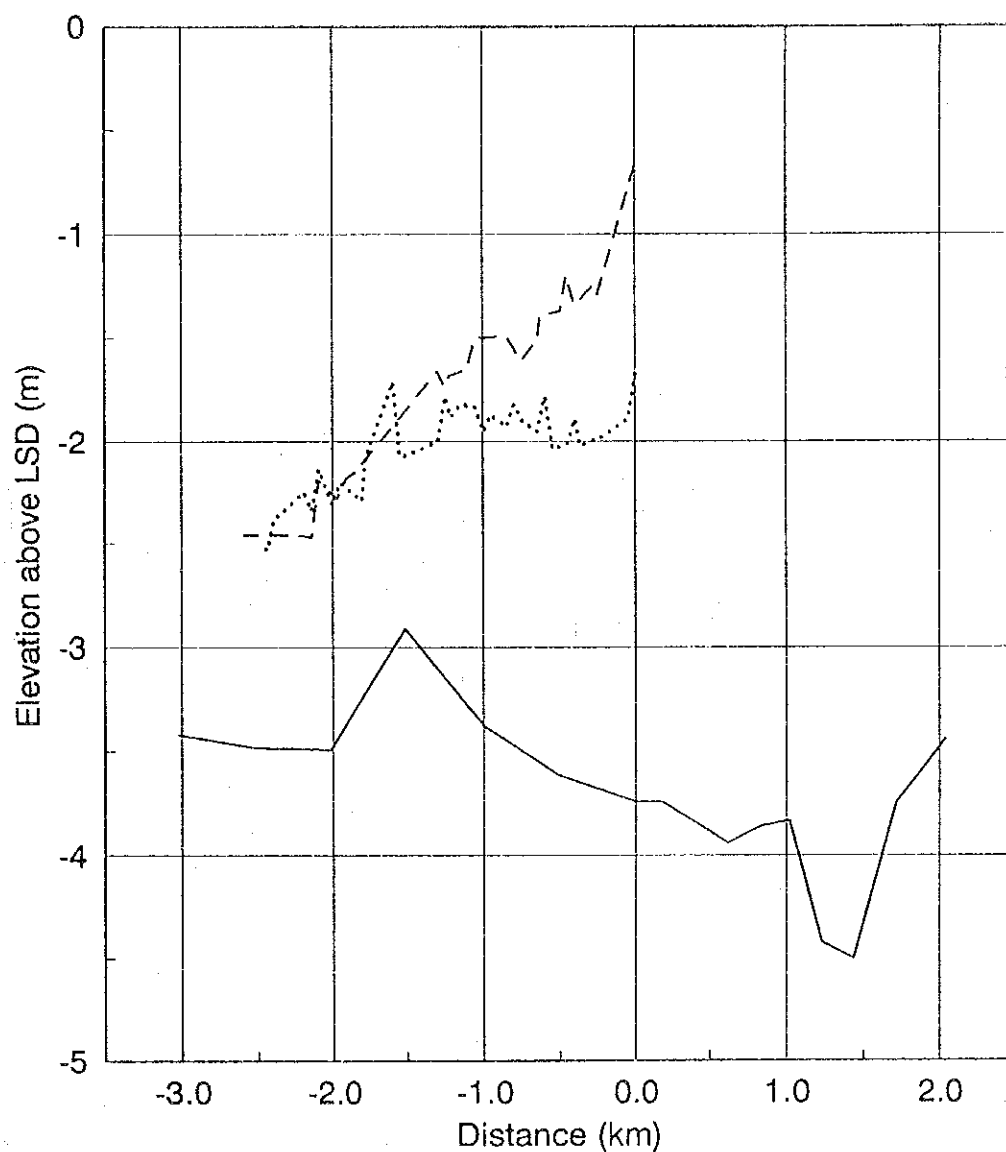


THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

DEPTH CHART OF KEDAH RIVER
MOUTH SURVEYED IN 1992

Fig.7.2-2



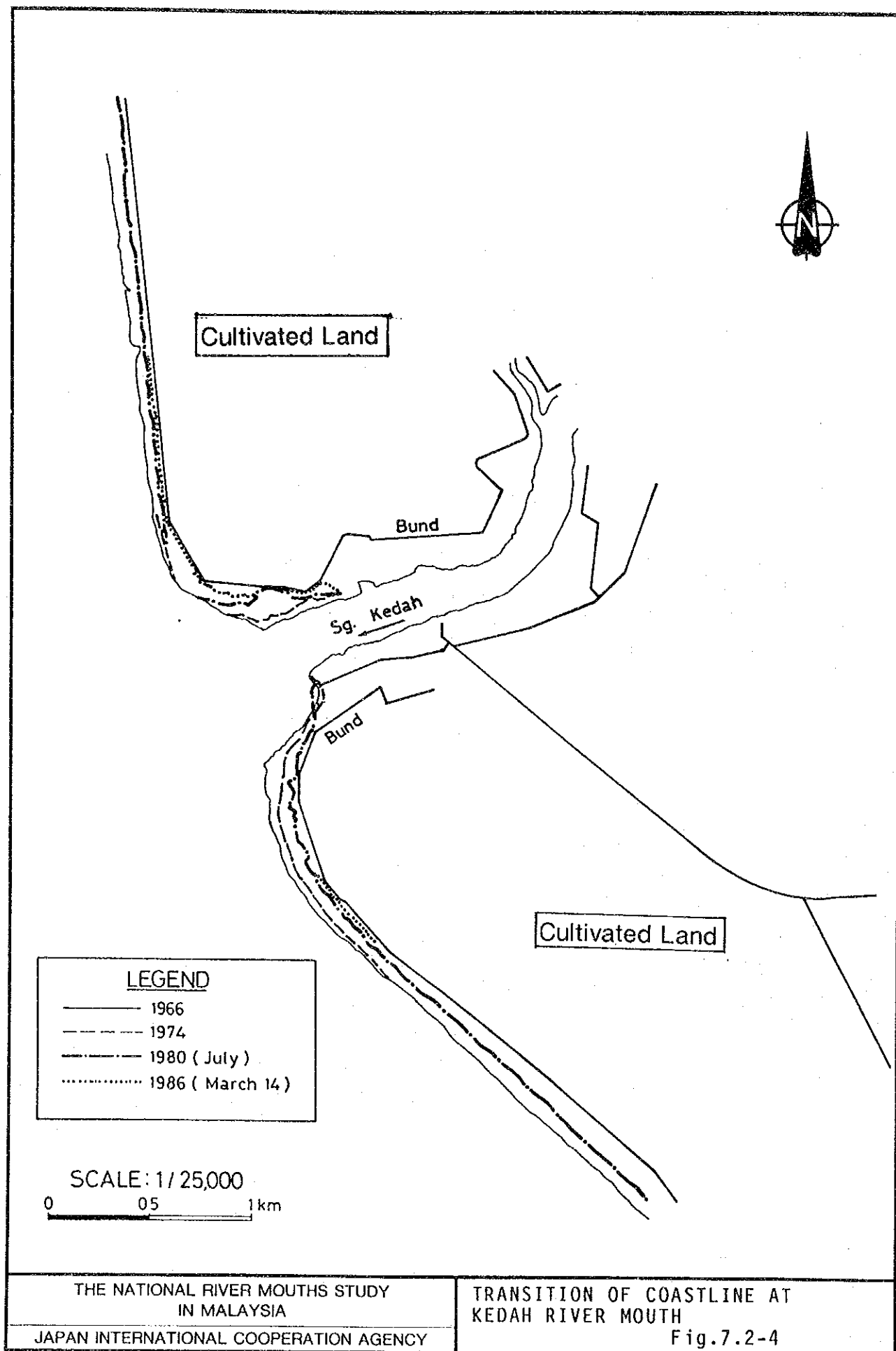
No. 0	No. 1000R	No. 1000L
November, '92	November, '92	November, '92
—————	- - - -

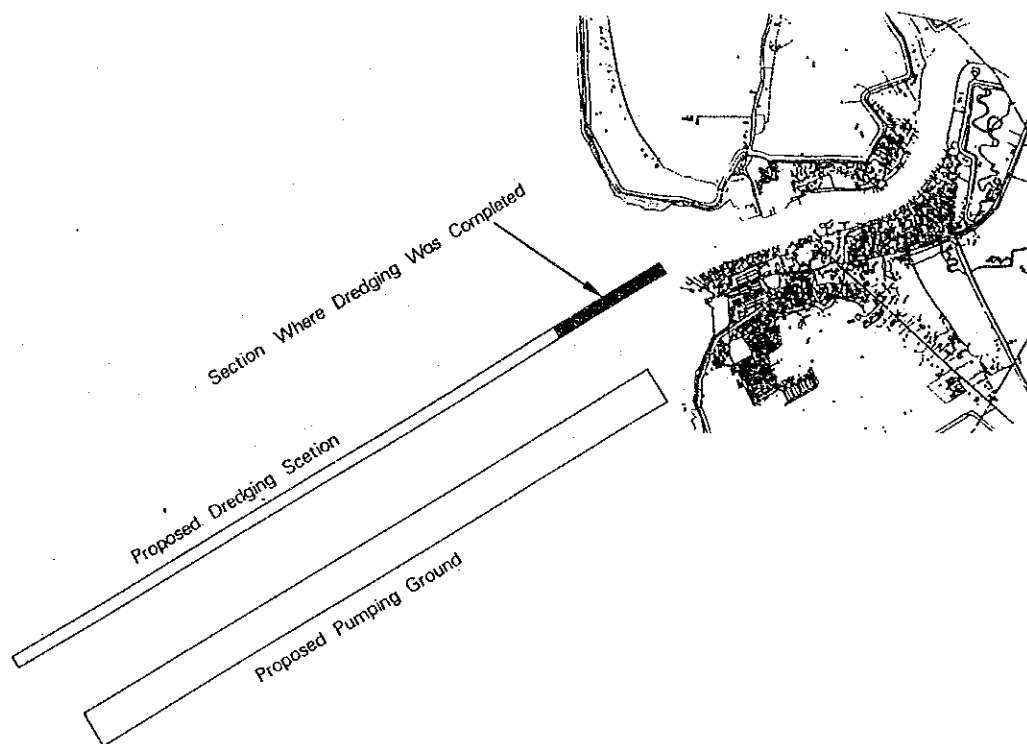
THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

INNER AND OUTER CHANNEL PROFILE
OF KEDAH RIVER MOUTH

Fig.7.2-3

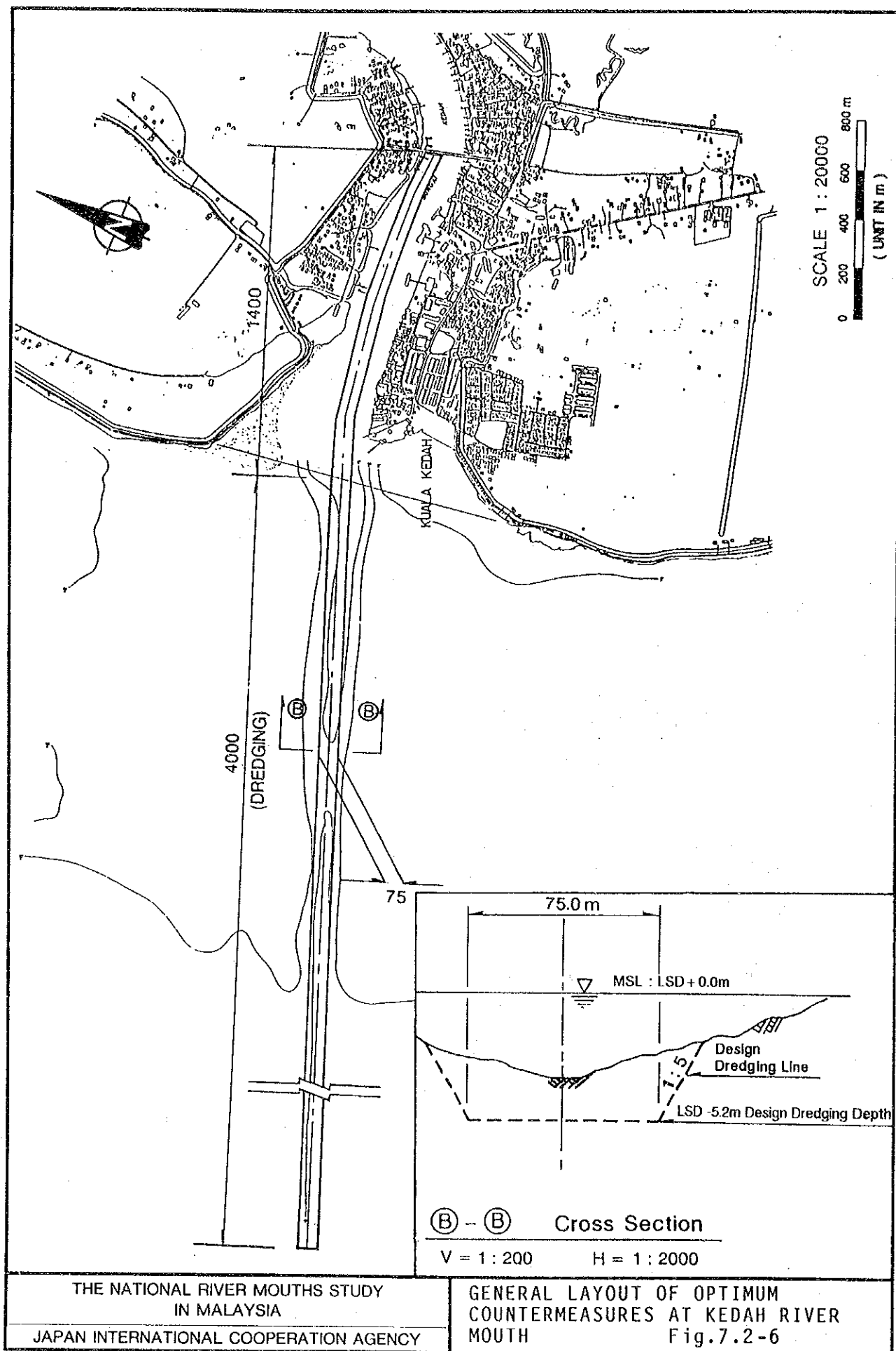


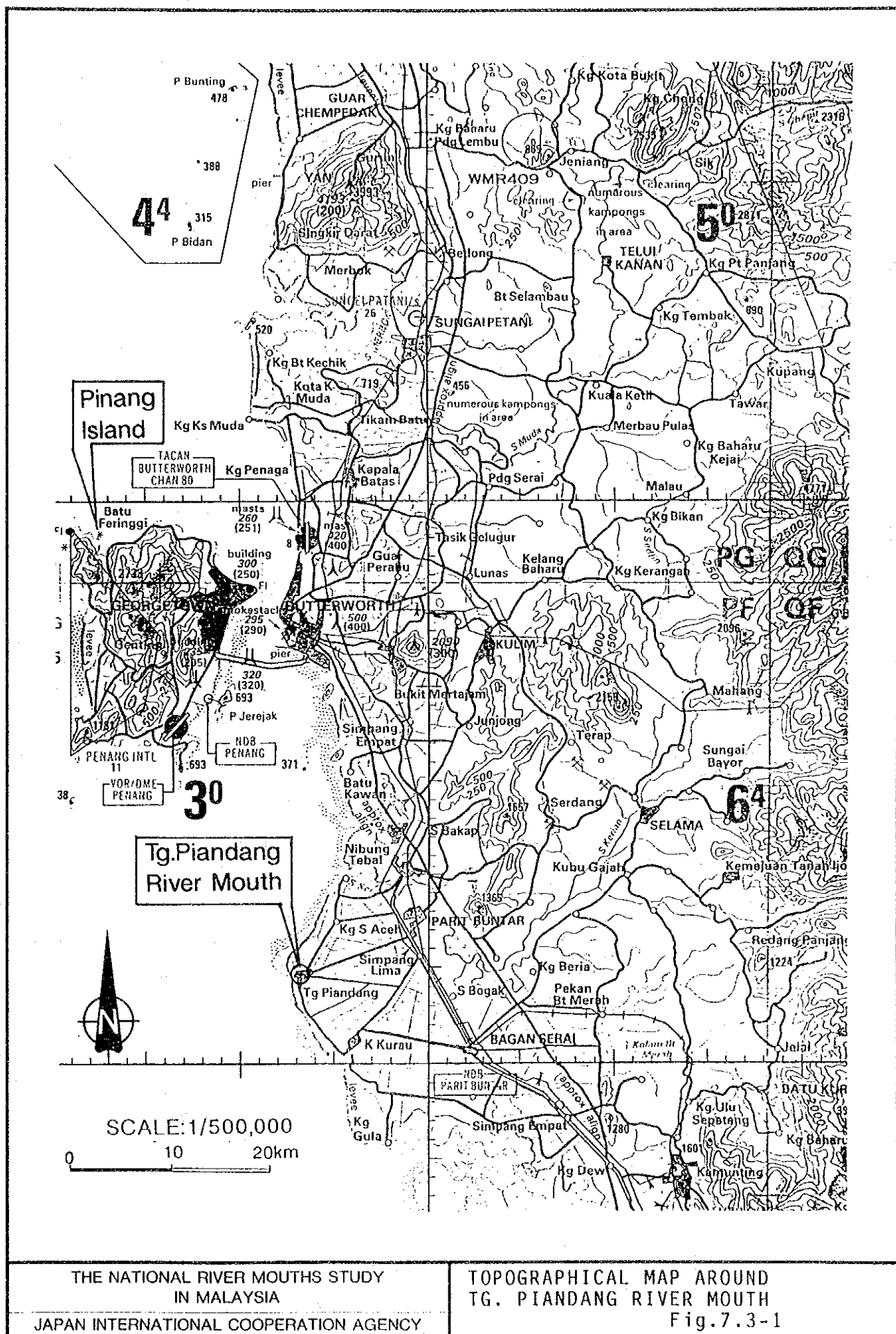


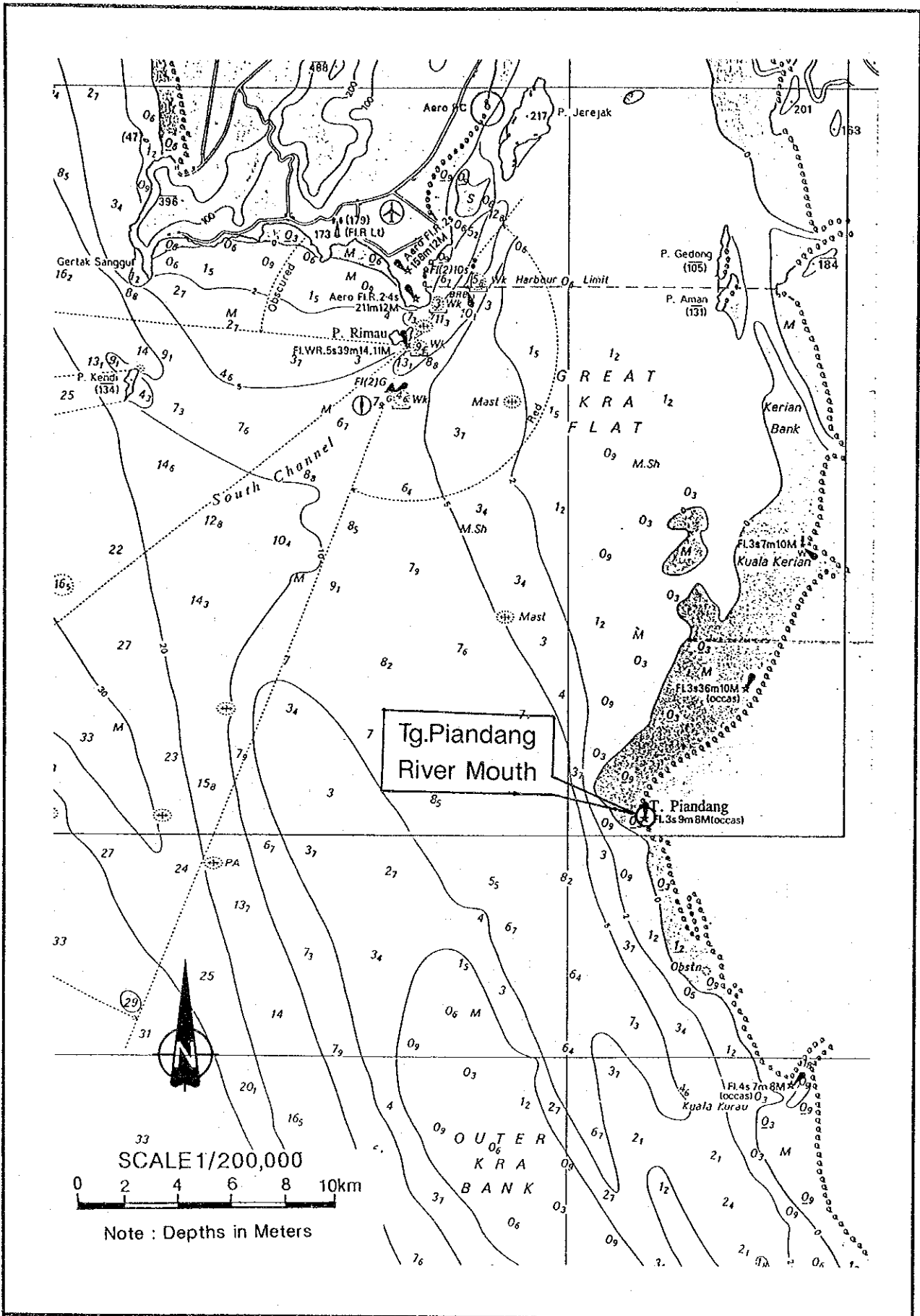
SCALE
0 200 400 600 800M

THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA
JAPAN INTERNATIONAL COOPERATION AGENCY

ALIGNMENT OF OUTER CHANNEL
DREDGING AT KEDAH RIVER MOUTH
Fig.7.2-5





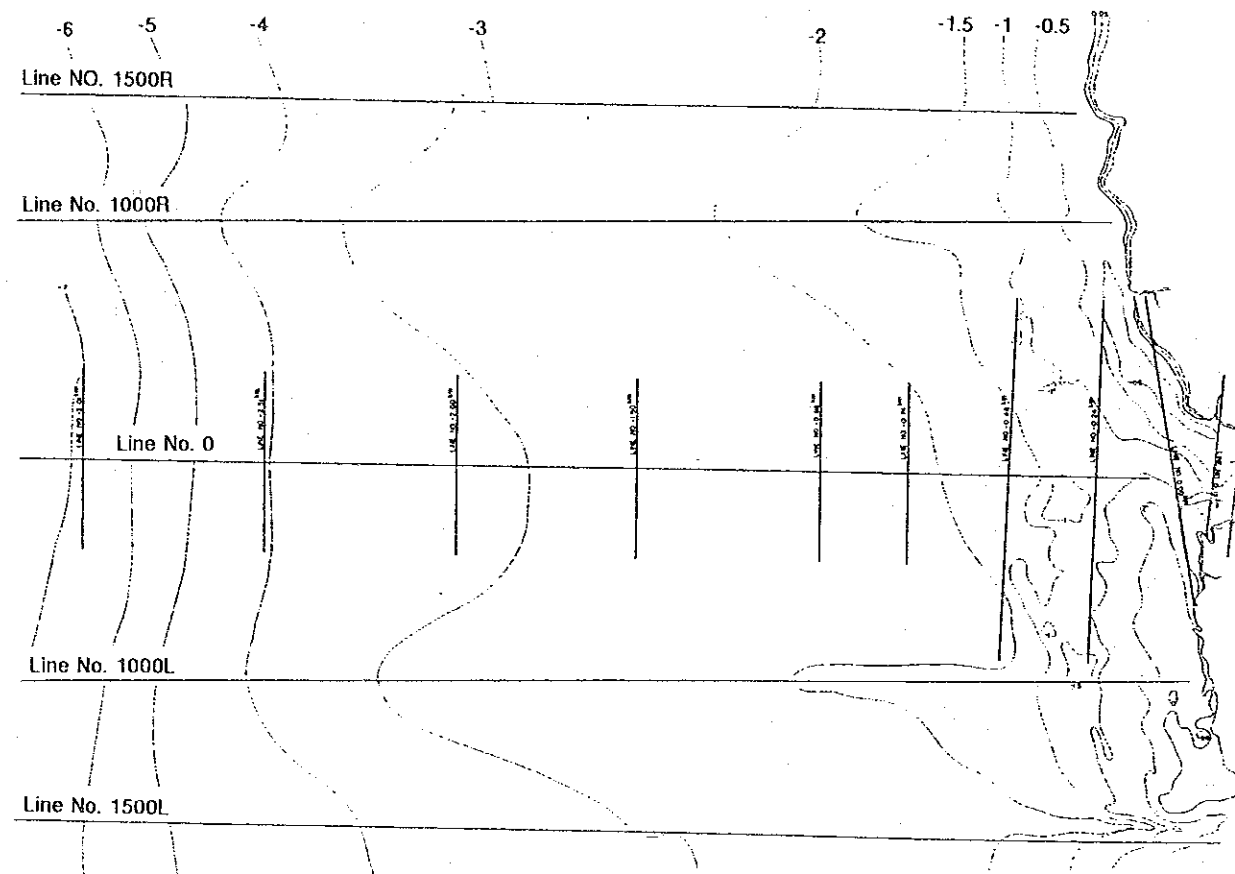


THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

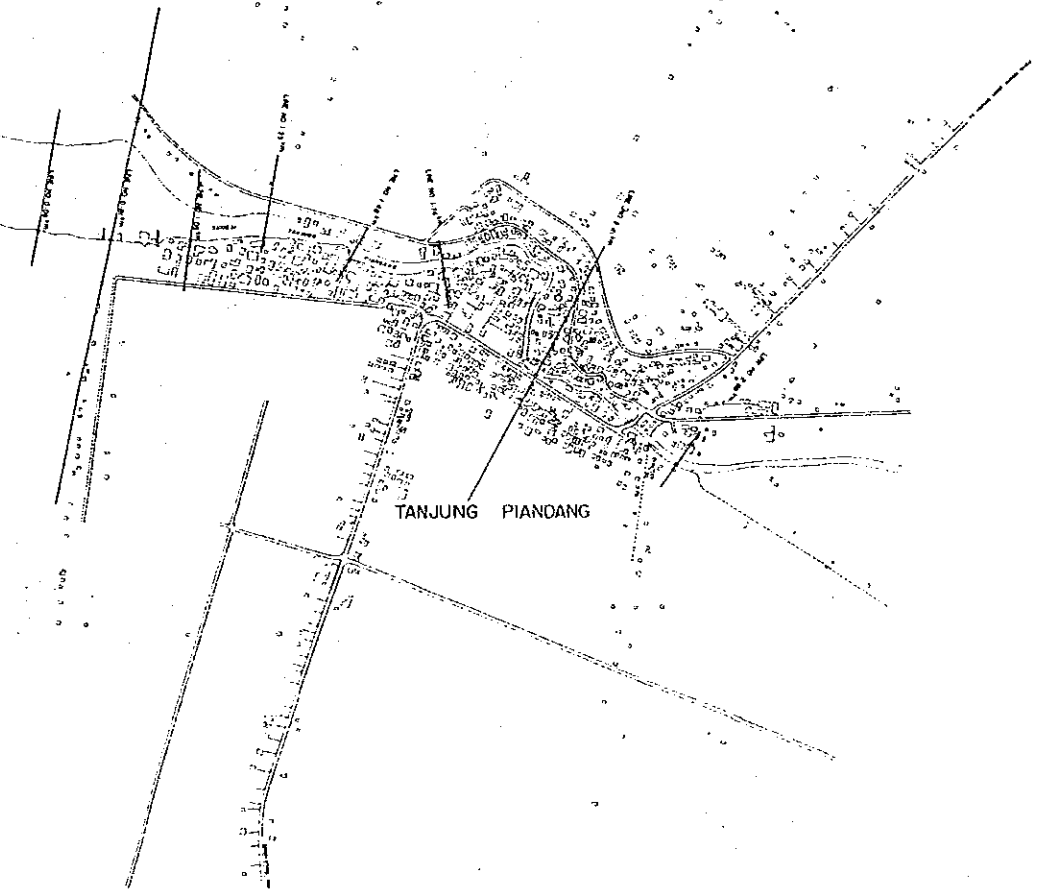
JAPAN INTERNATIONAL COOPERATION AGENCY

NAVIGATION CHART IN TG. PIANDANG
RIVER MOUTH AREA

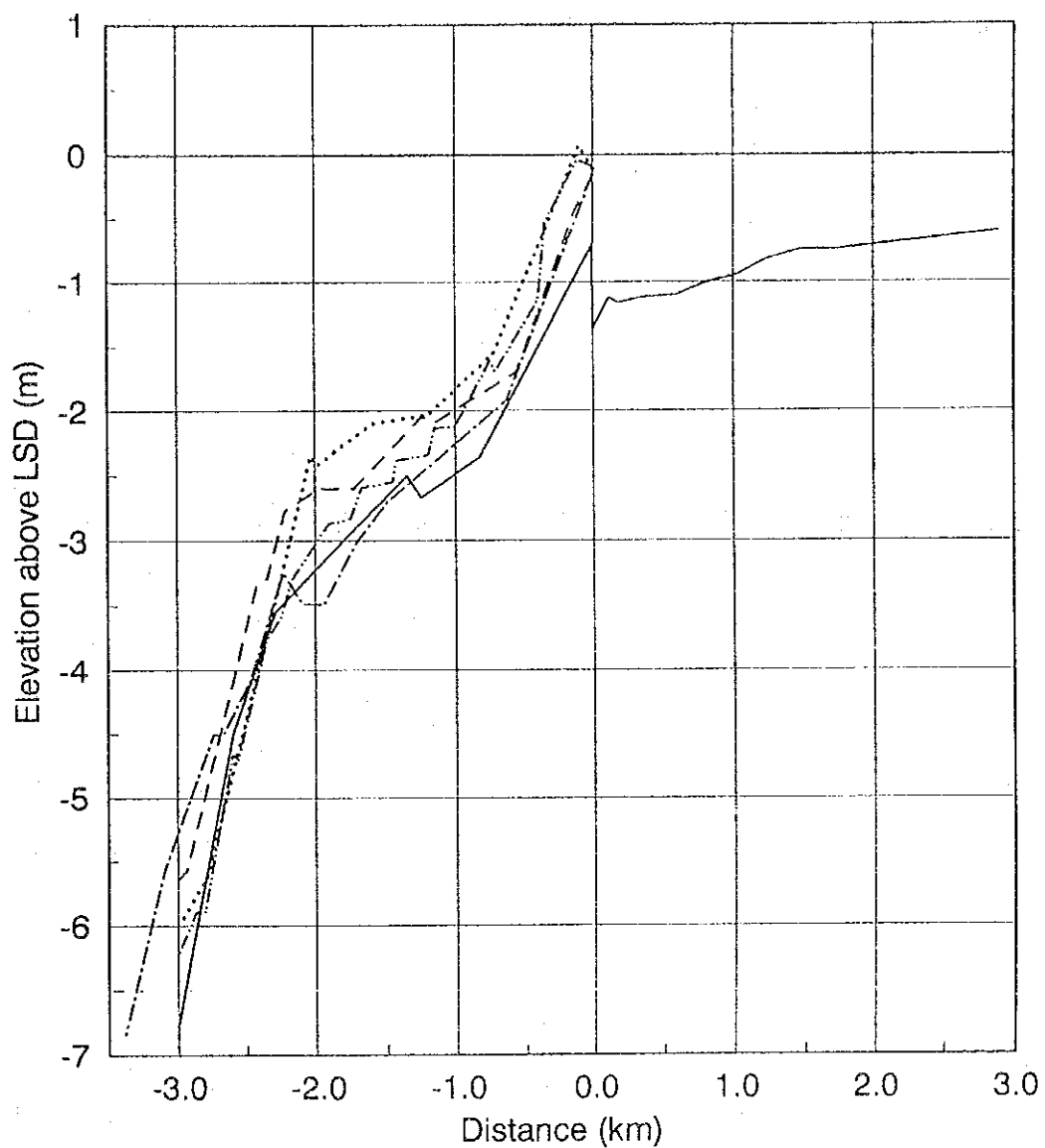
Fig.7.3-2



SCALE: 1/20,000 (approx.)
 0 200 400 600 800 1000m



THE NATIONAL RIVER MOUTHS STUDY IN MALAYSIA	DEPTH CHART OF TG. PIANDANG RIVER MOUTH SURVEYED IN 1992
JAPAN INTERNATIONAL COOPERATION AGENCY	Fig.7.3-3

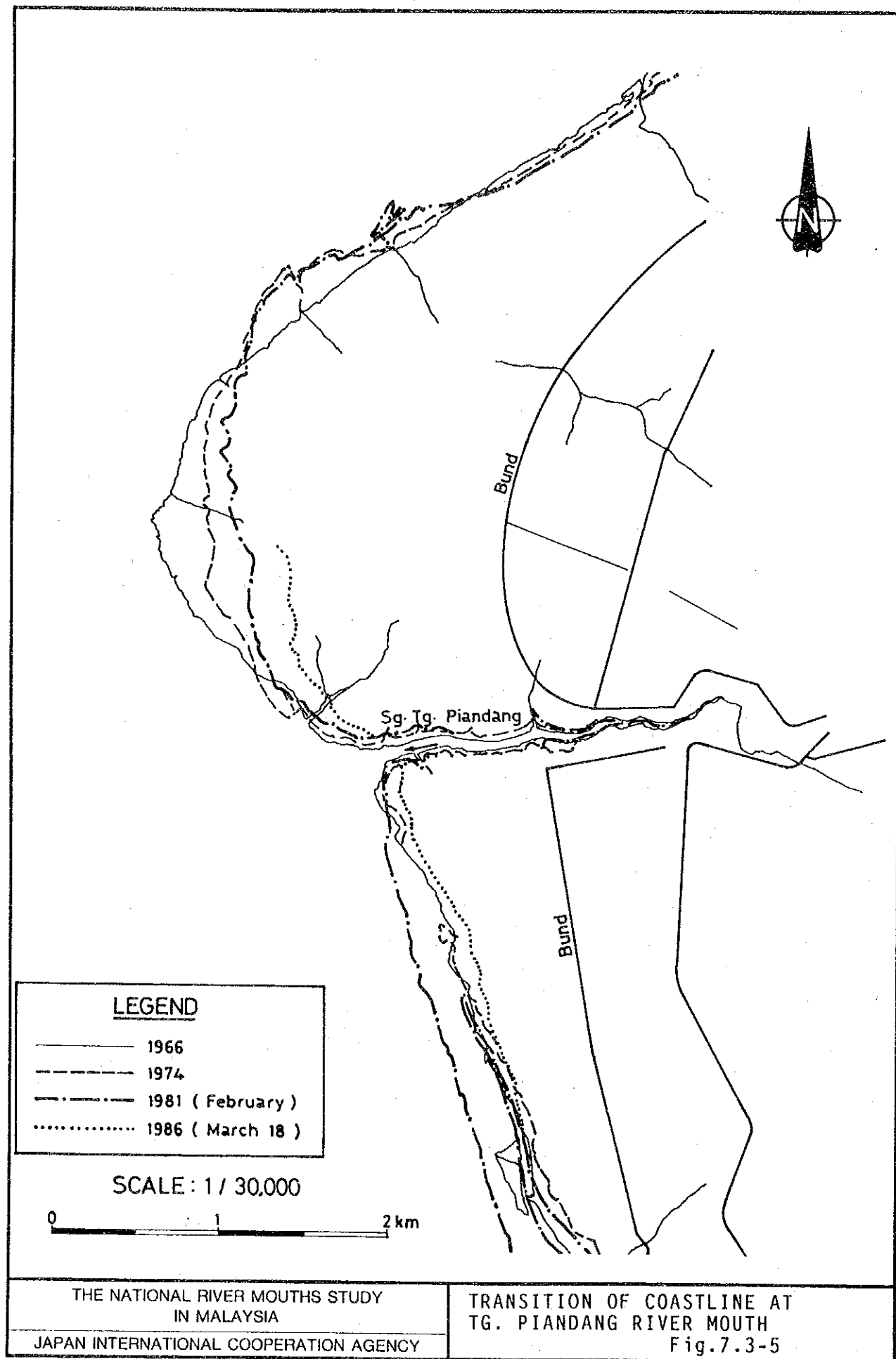


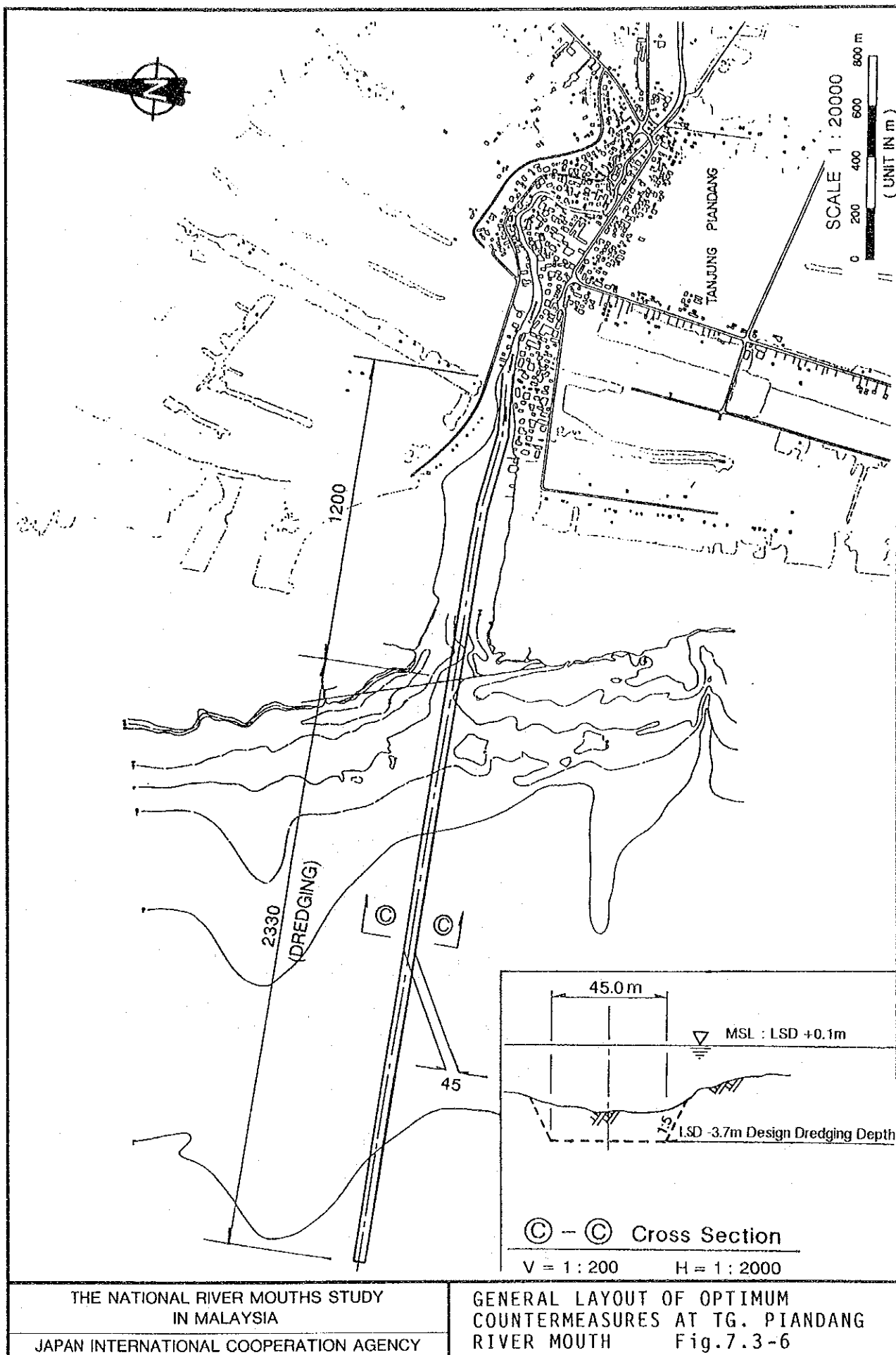
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October, '92	October, '92	October, '92	October, '92	October, '92
————	----	- - - -	- . - .

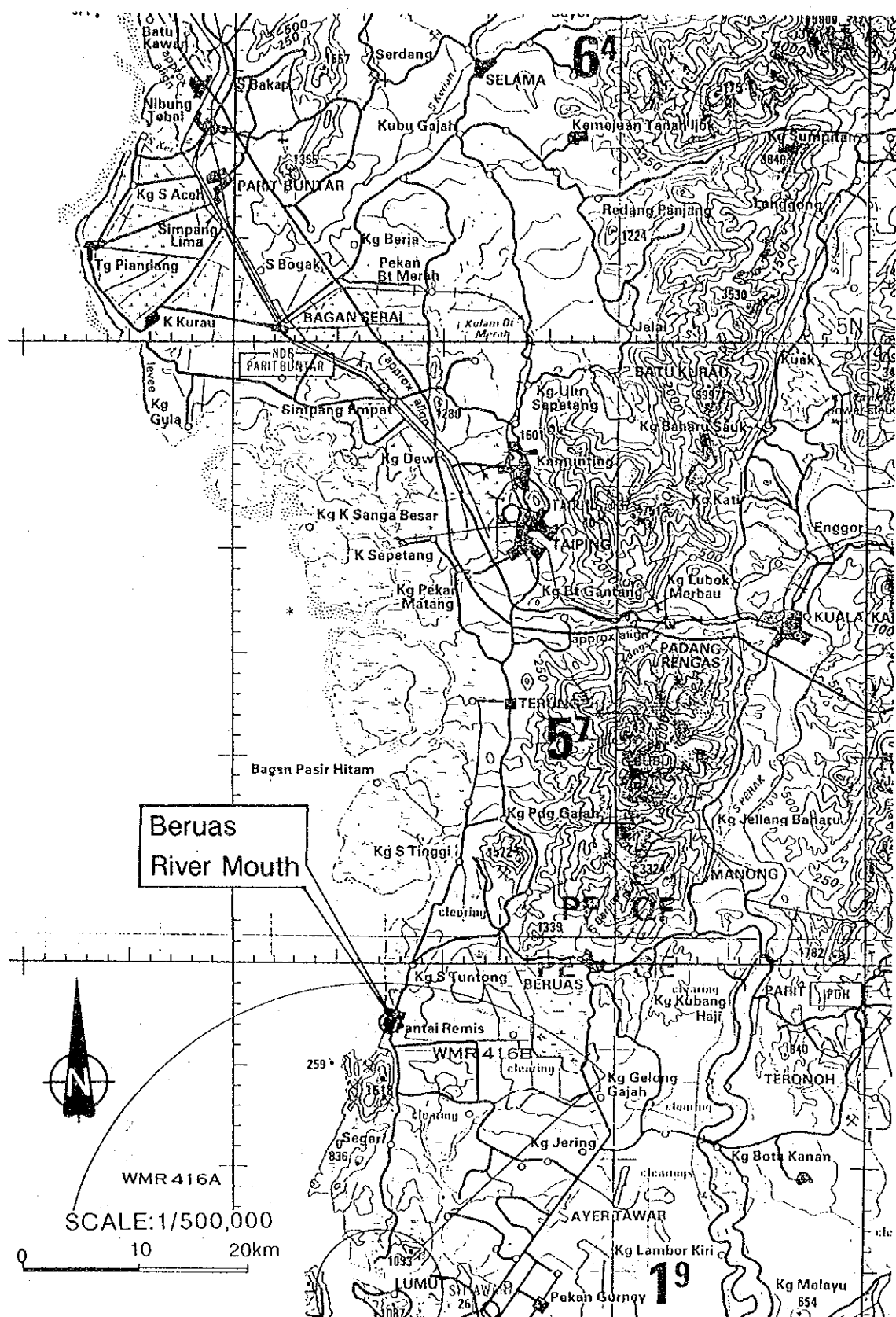
THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

INNER AND OUTER CHANNEL PROFILE
OF TG. PIANDANG RIVER MOUTH
Fig.7.3-4





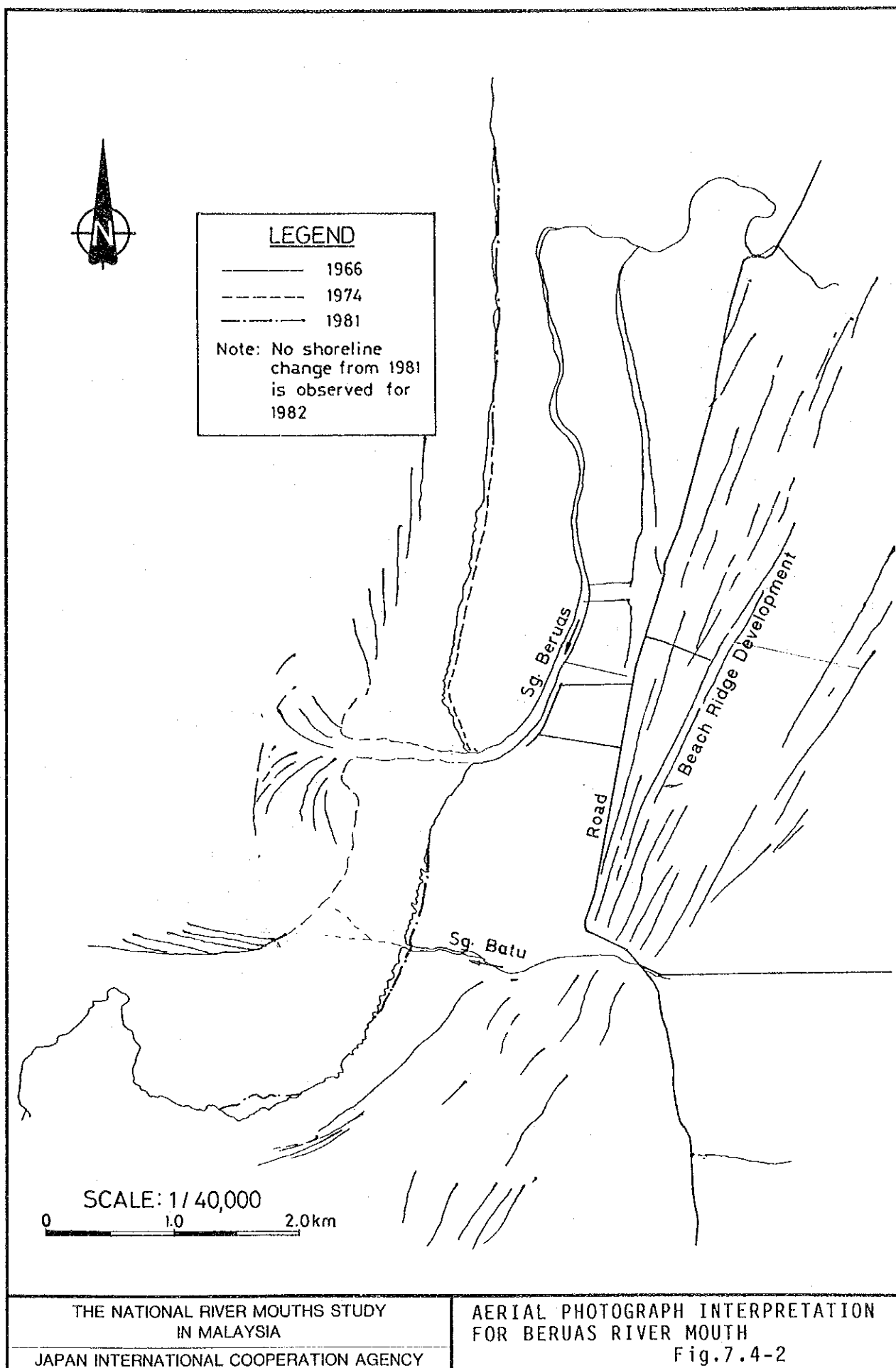


THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

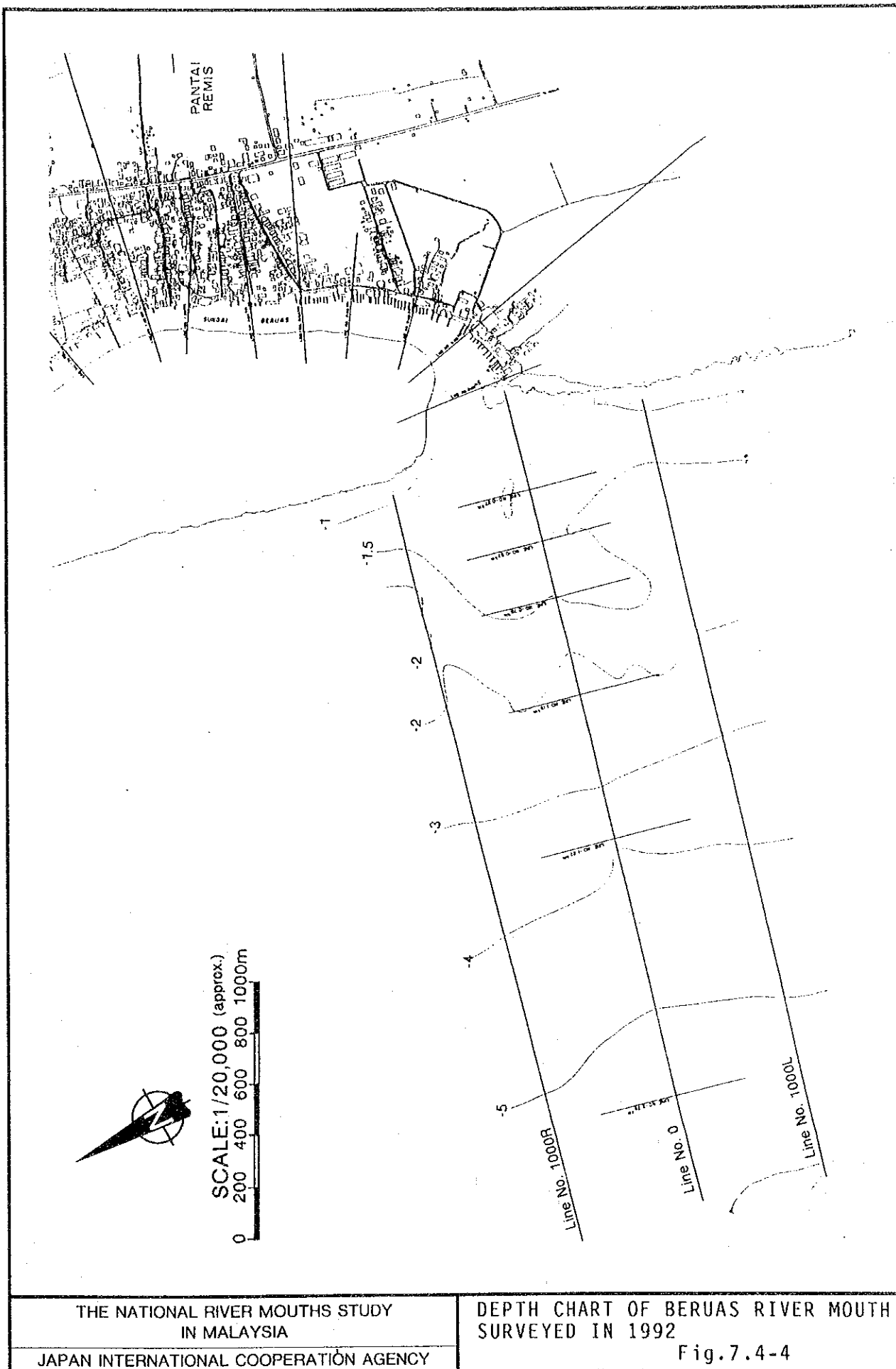
JAPAN INTERNATIONAL COOPERATION AGENCY

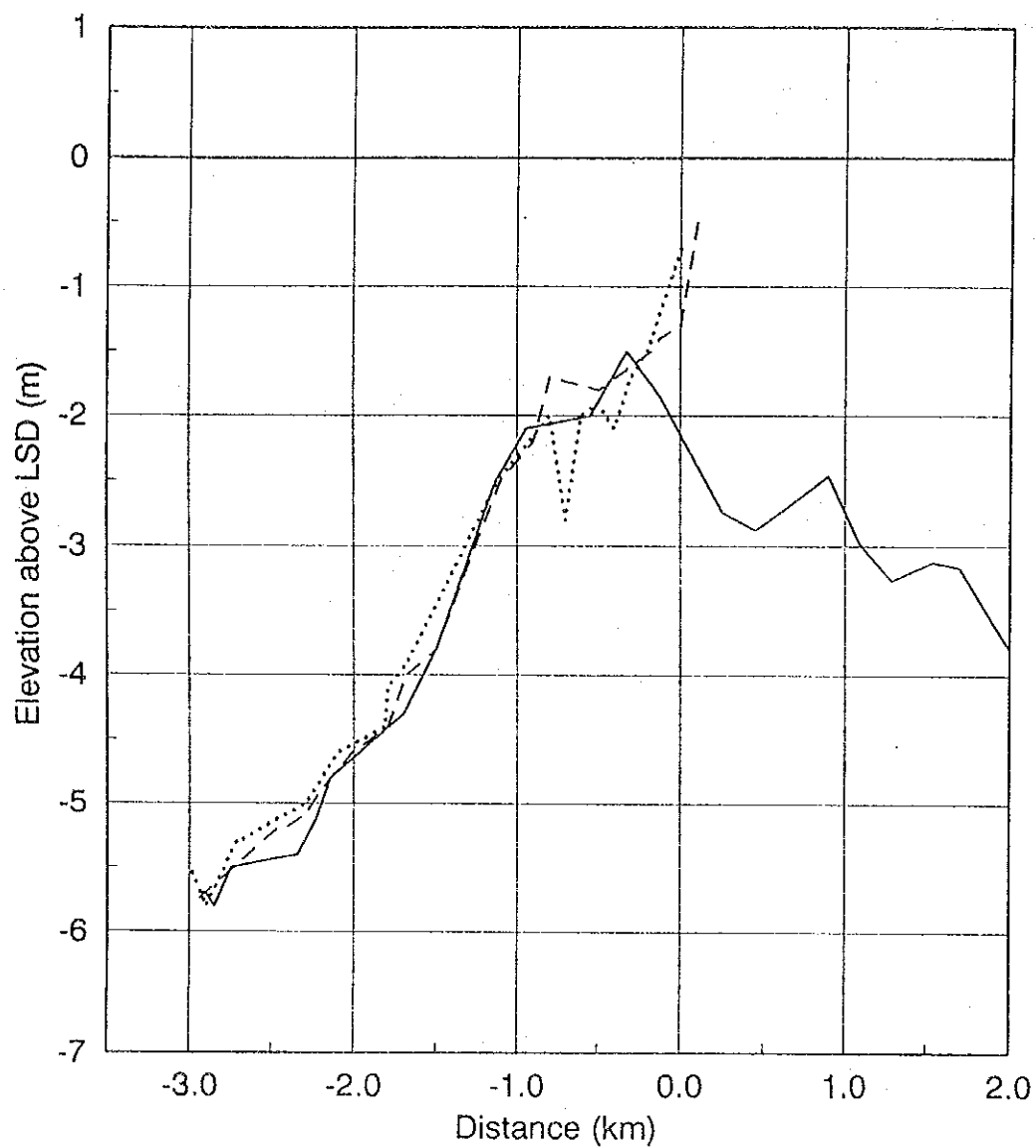
TOPOGRAPHICAL MAP AROUND BERUAS
RIVER MOUTH

Fig.7.4-1









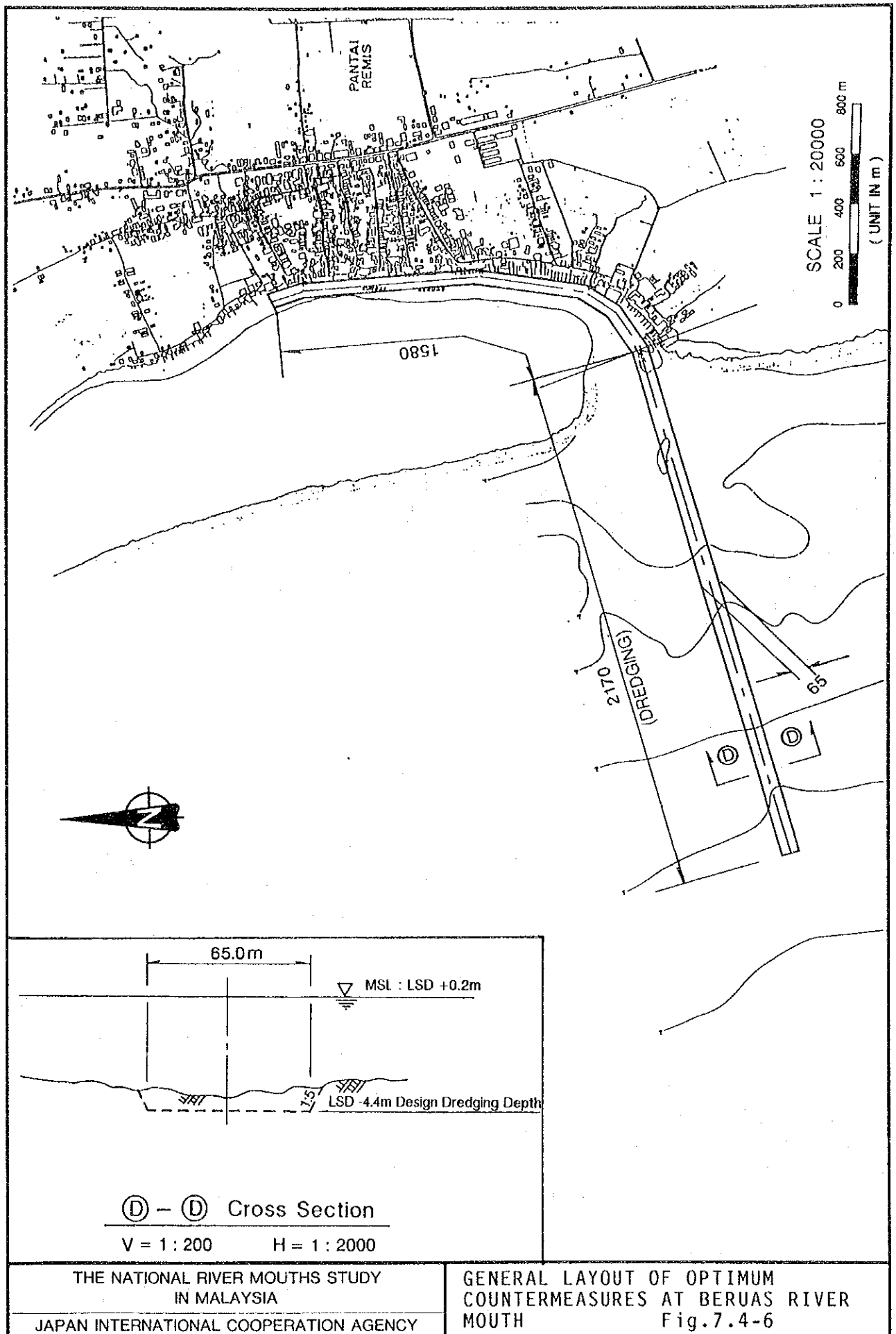
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October, '92	October, '92	October, '92	
————	-----	-----

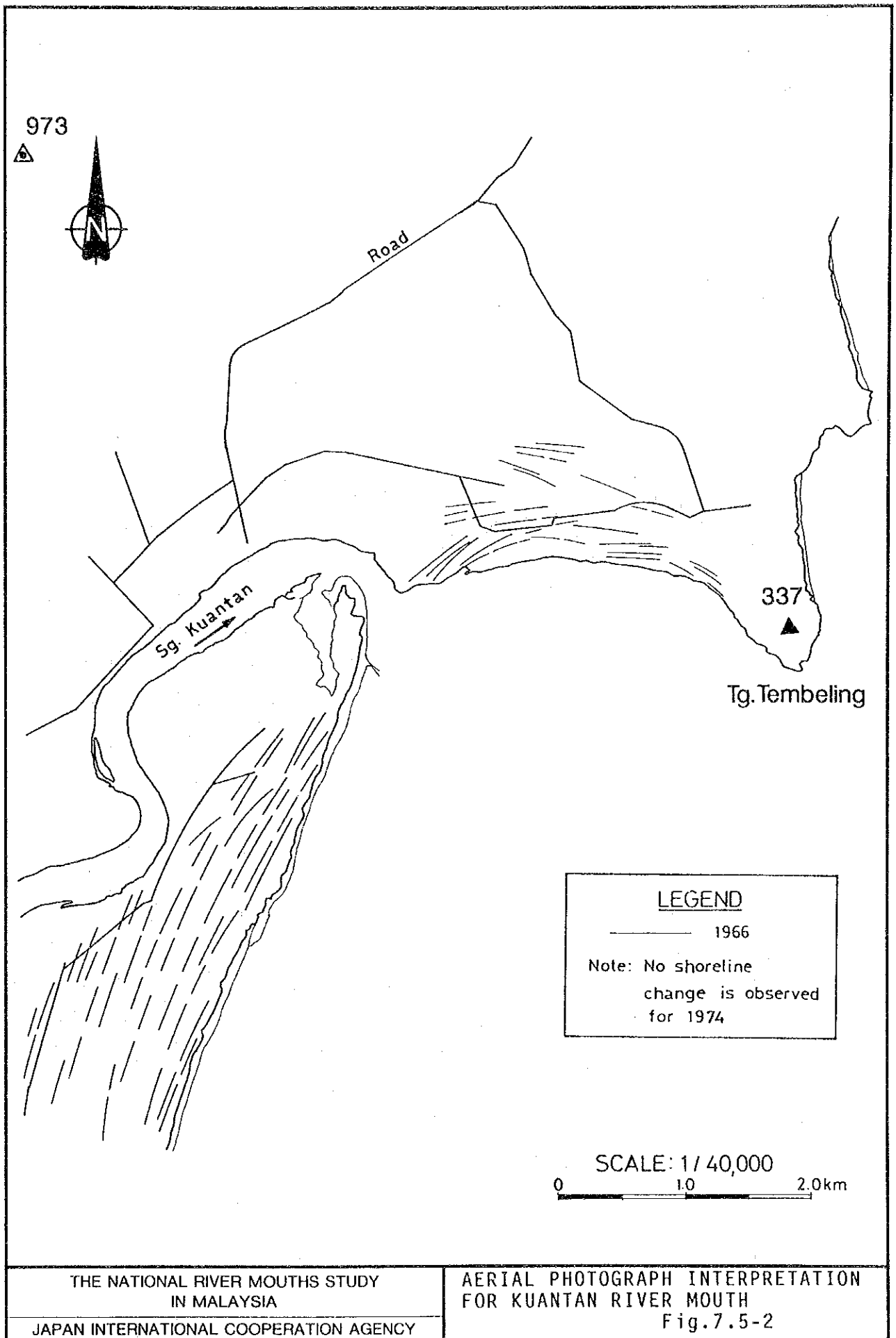
THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

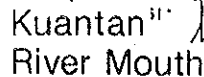
JAPAN INTERNATIONAL COOPERATION AGENCY

INNER AND OUTER CHANNEL PROFILE
OF BERUAS RIVER MOUTH

Fig.7.4-5








K9 Kernpadang

SCALE 1/200,000

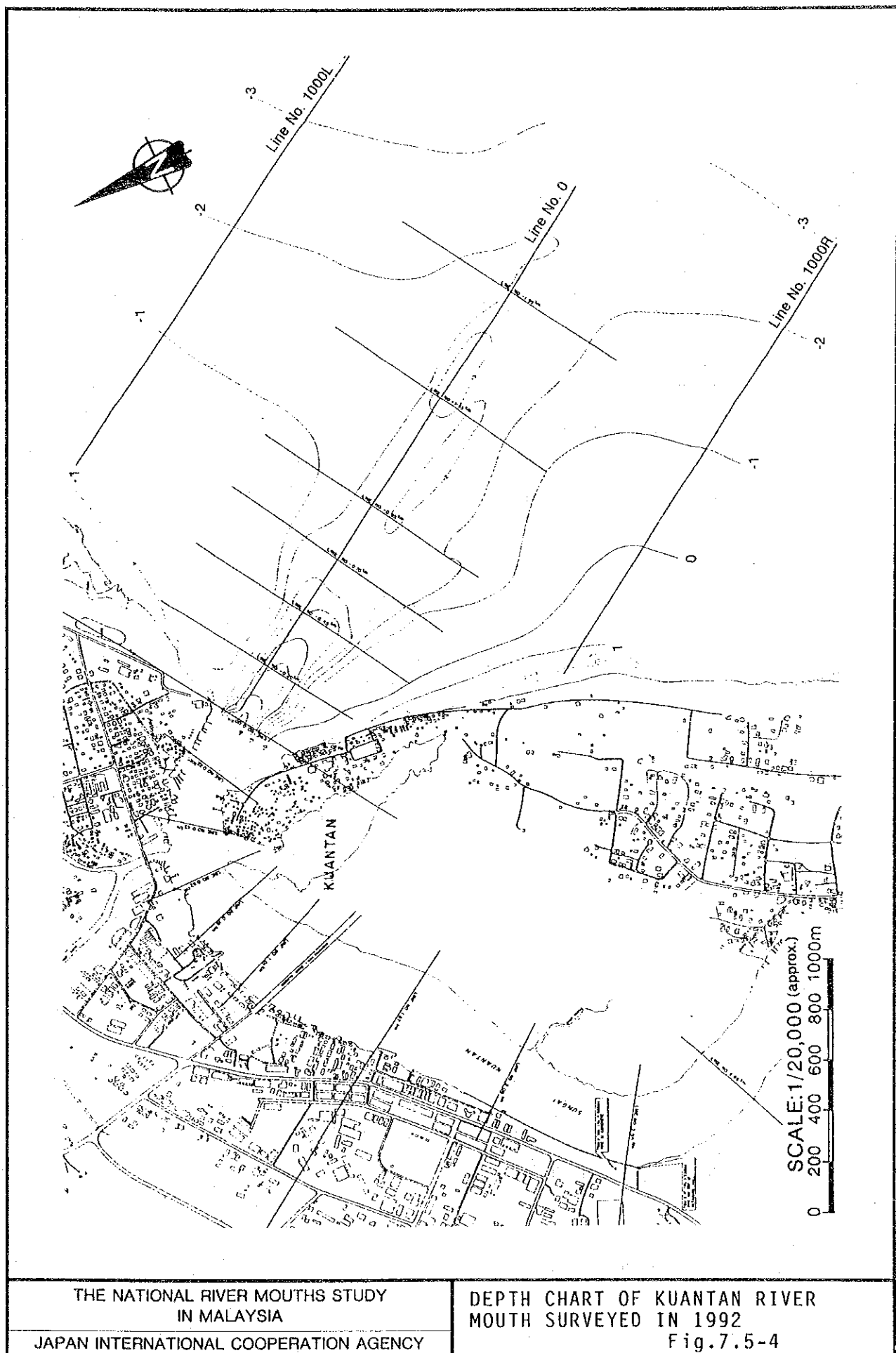


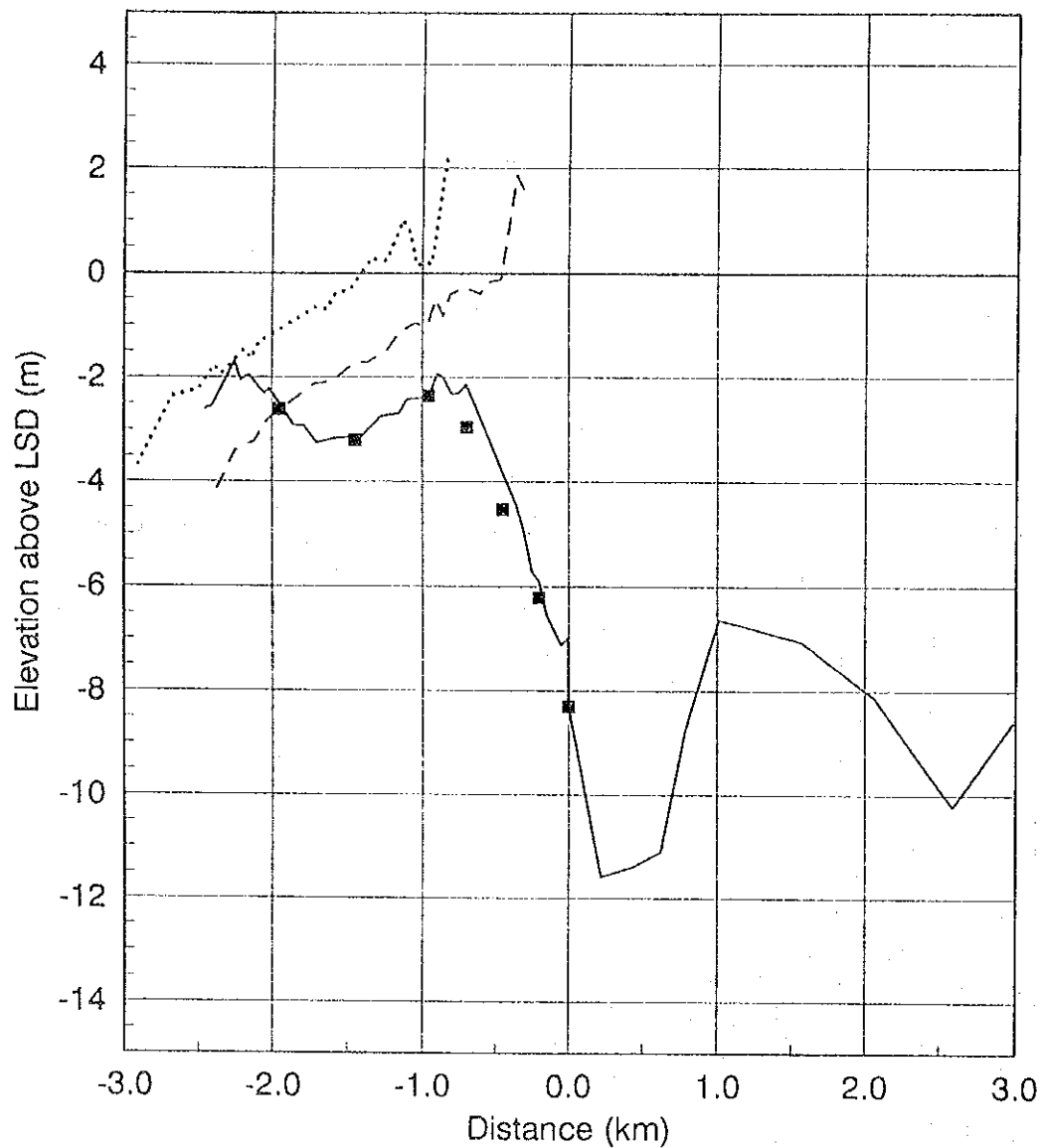
0 2 4 6 8 10km

Depths in Fathoms
(Under Eleven in Fathoms and Feet).

JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 7.5-3





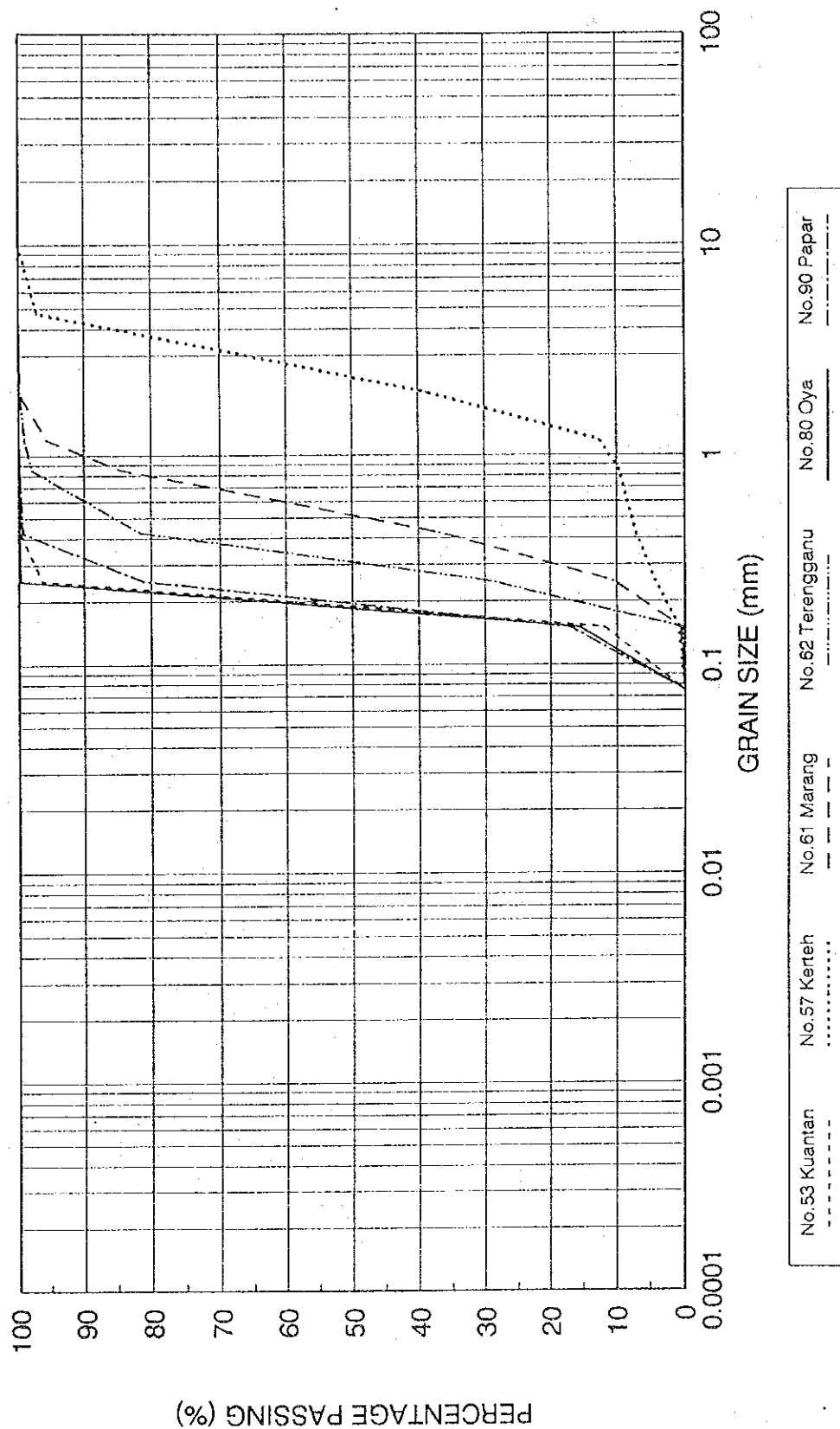
No. 0 October, '92	No. 0 (Bottom of Section) October, '92	No. 1000R October, '92	No. 1000L October, '92
————	■	- - - -

THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

INNER AND OUTER CHANNEL PROFILE
OF Kuantan River Mouth

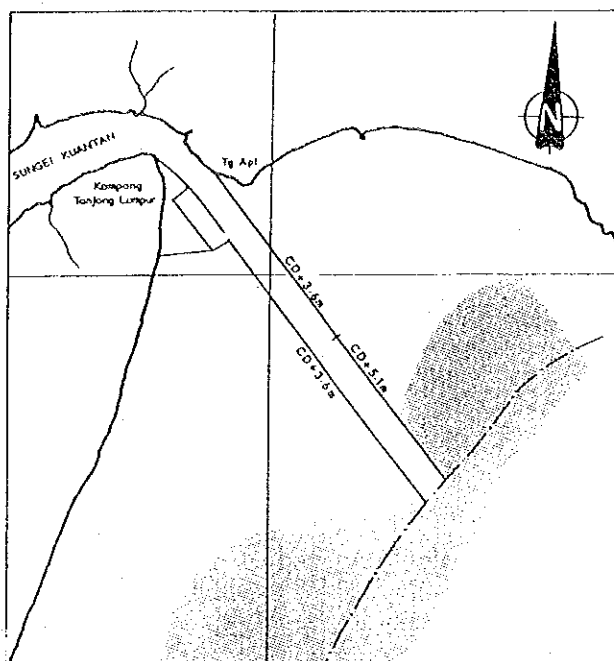
Fig. 7.5-5



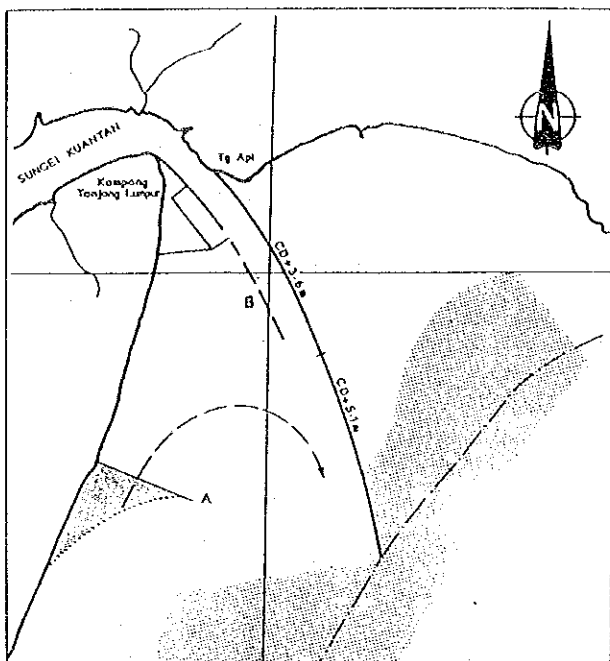
THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

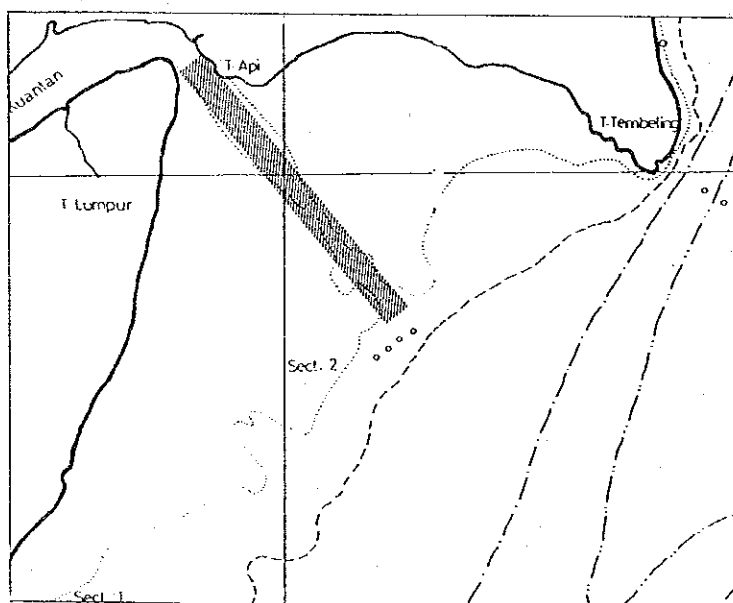
GRADATION CURVE OF BED MATERIAL
FOR REPRESENTATIVE RIVER MOUTH
IN SANDY COAST Fig.7.5-6



CASE-1 CONSTRUCTION OF TWO TRAINING DIKE



CASE-2 CONSTRUCTION OF ONE TRAINING DIKE
AND ONE BREAKWATER



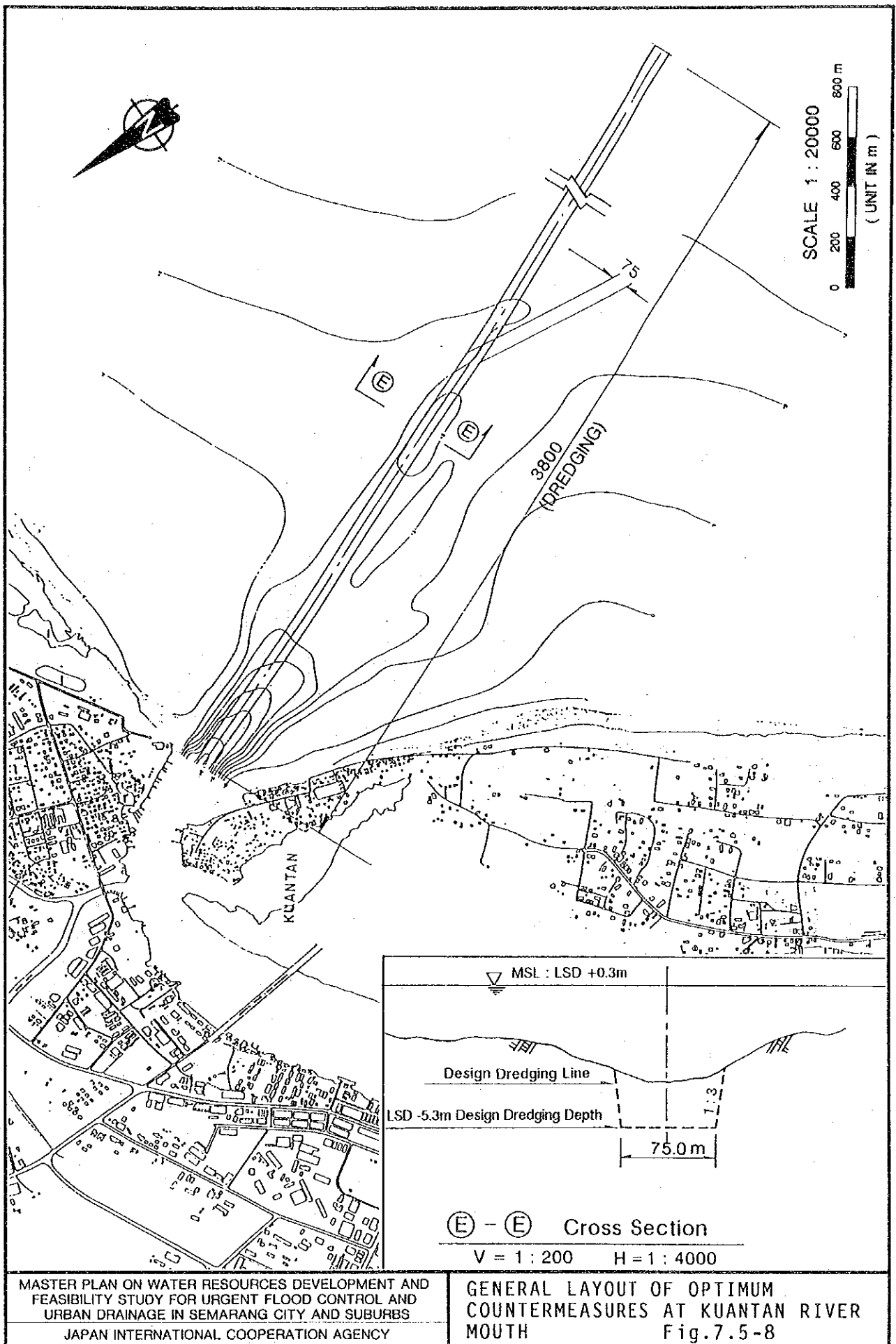
CASE-3 DREDGING

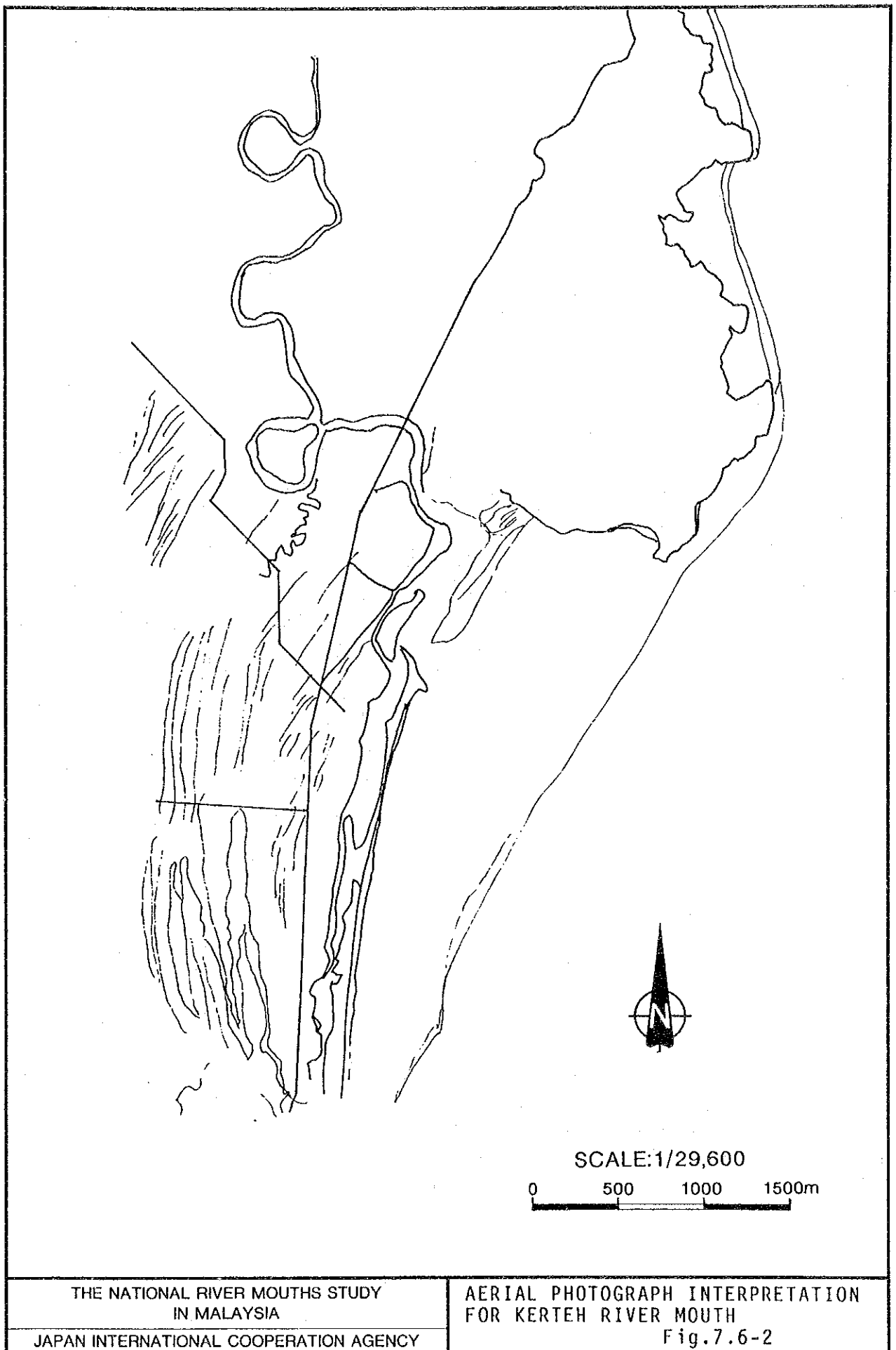
■ : DREDGING SECTION

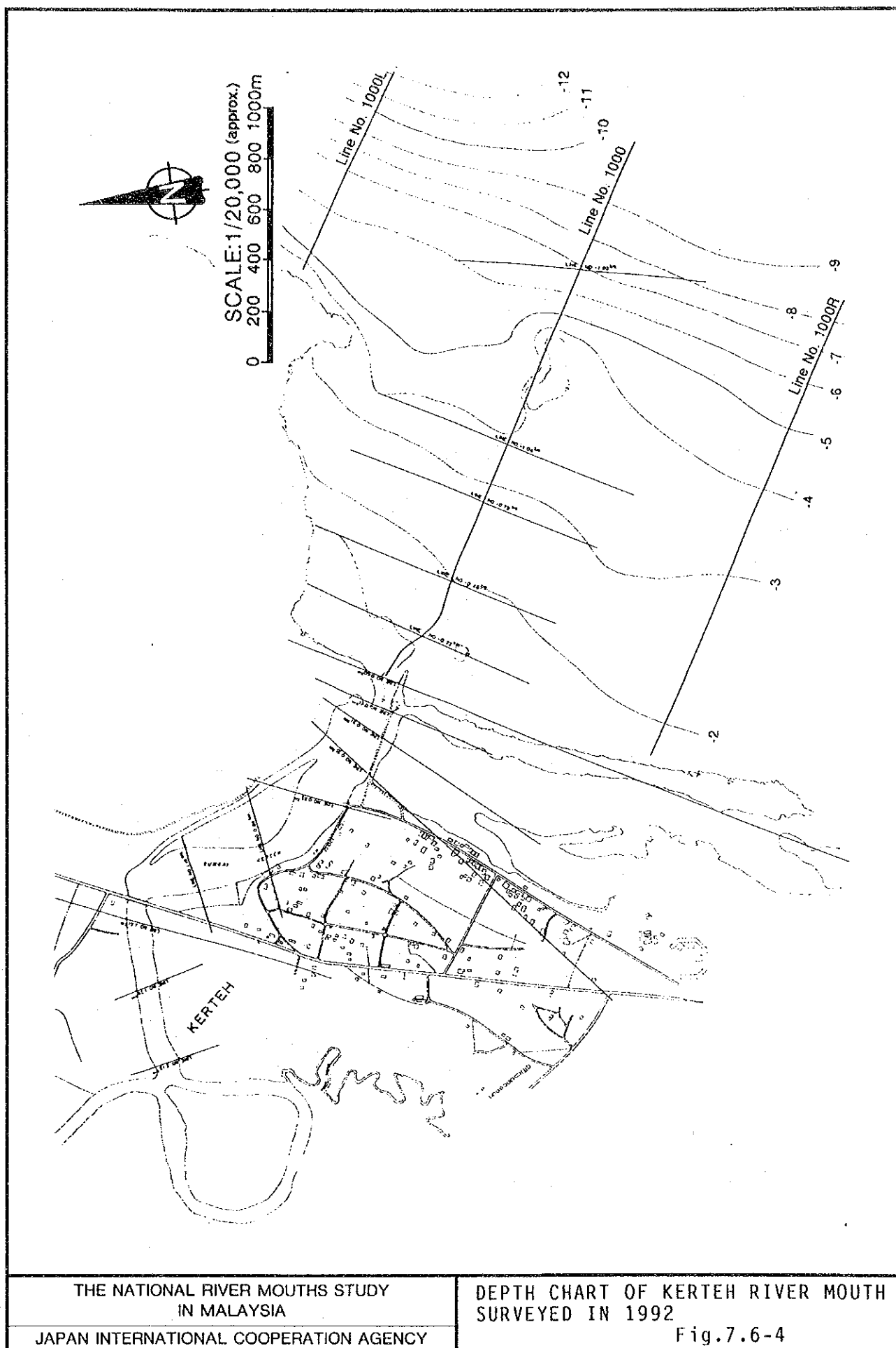
THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

ALTERNATIVES FOR NAVIGATION
CHANNEL IMPROVEMENT AT KUANTAN
RIVER MOUTH Fig.7.5-7





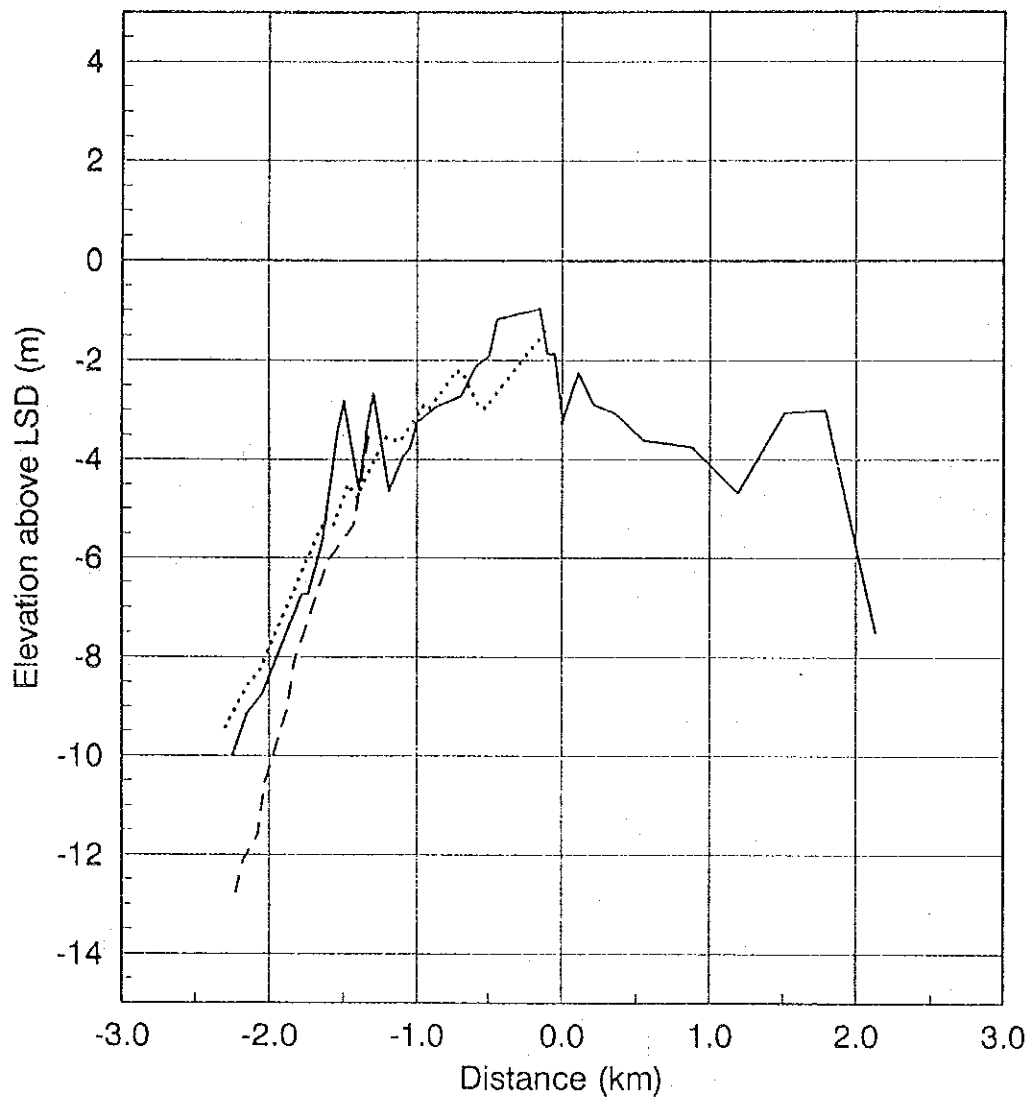


THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

DEPTH CHART OF KERTEH RIVER MOUTH
SURVEYED IN 1992

Fig.7.6-4



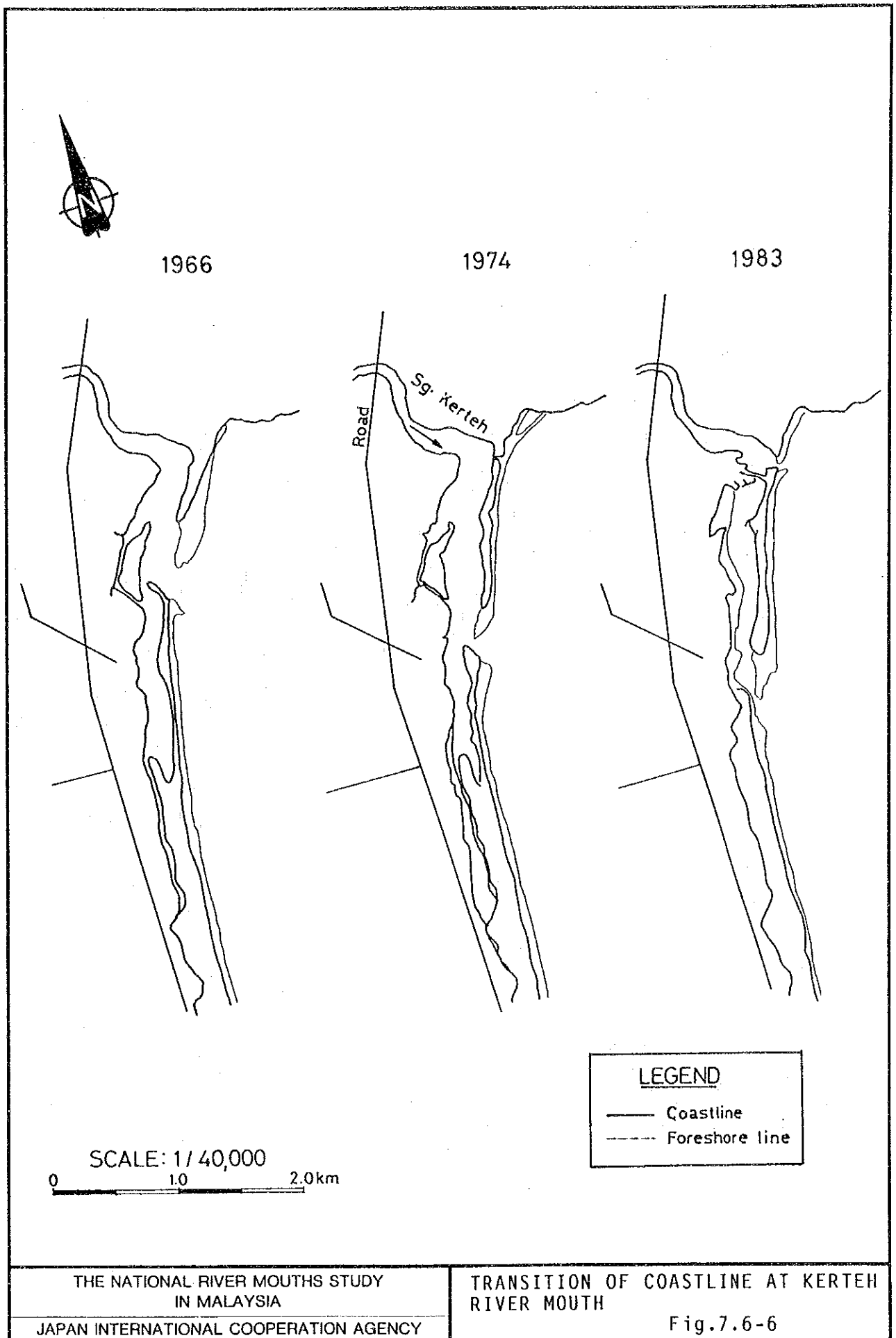
No. 0	No. 1000R	No. 1000L
November, '92	November, '92	November, '92

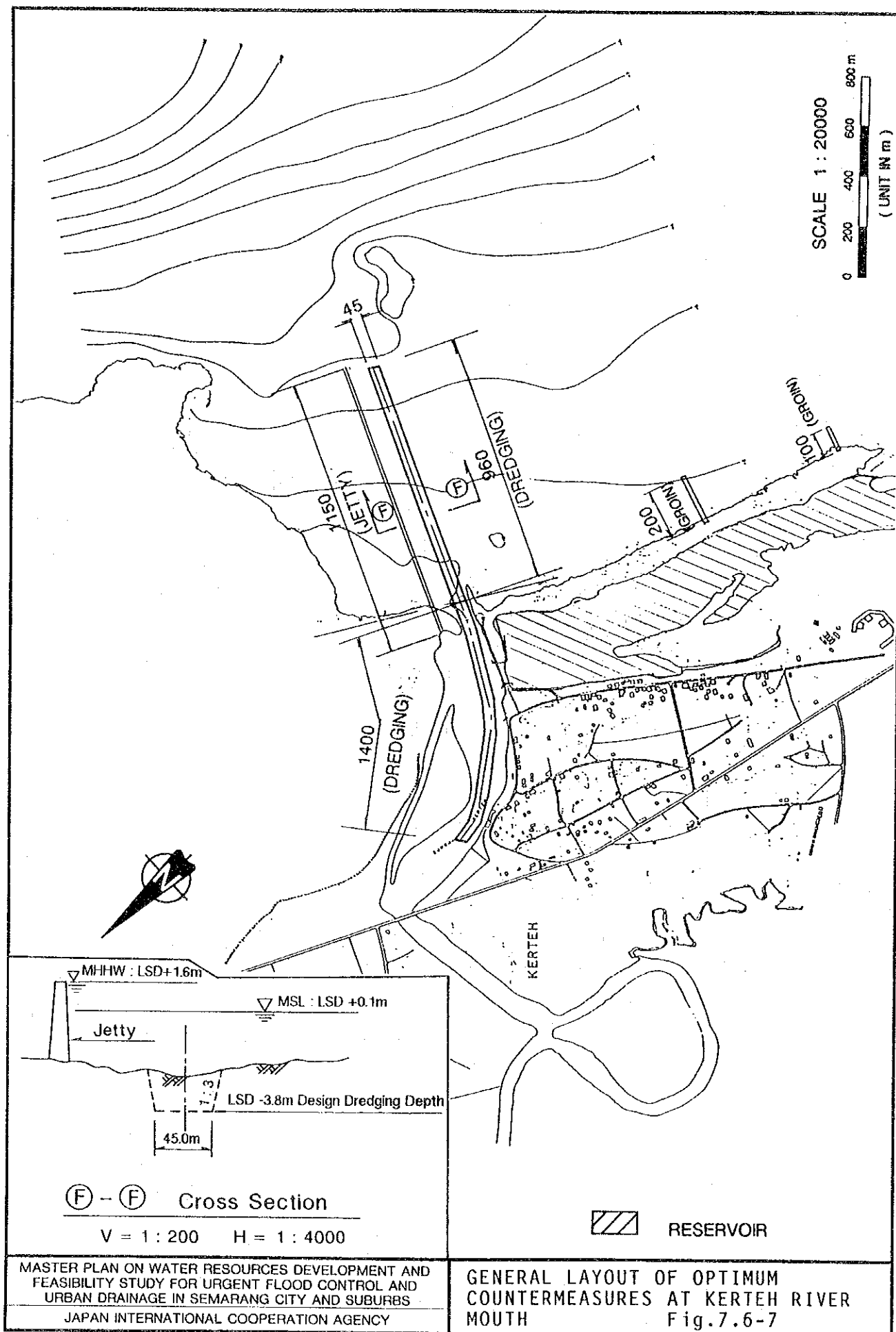
THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

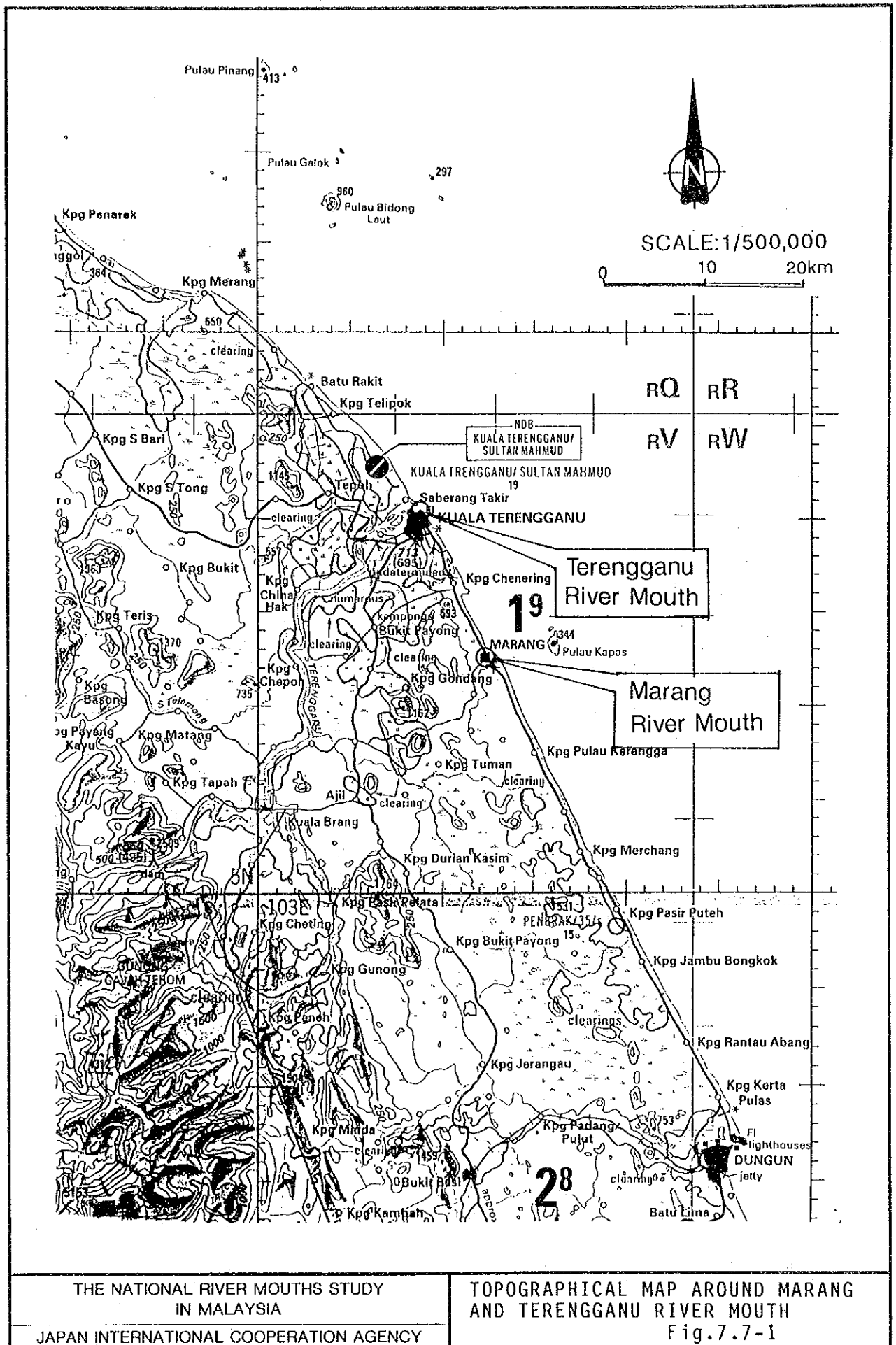
JAPAN INTERNATIONAL COOPERATION AGENCY

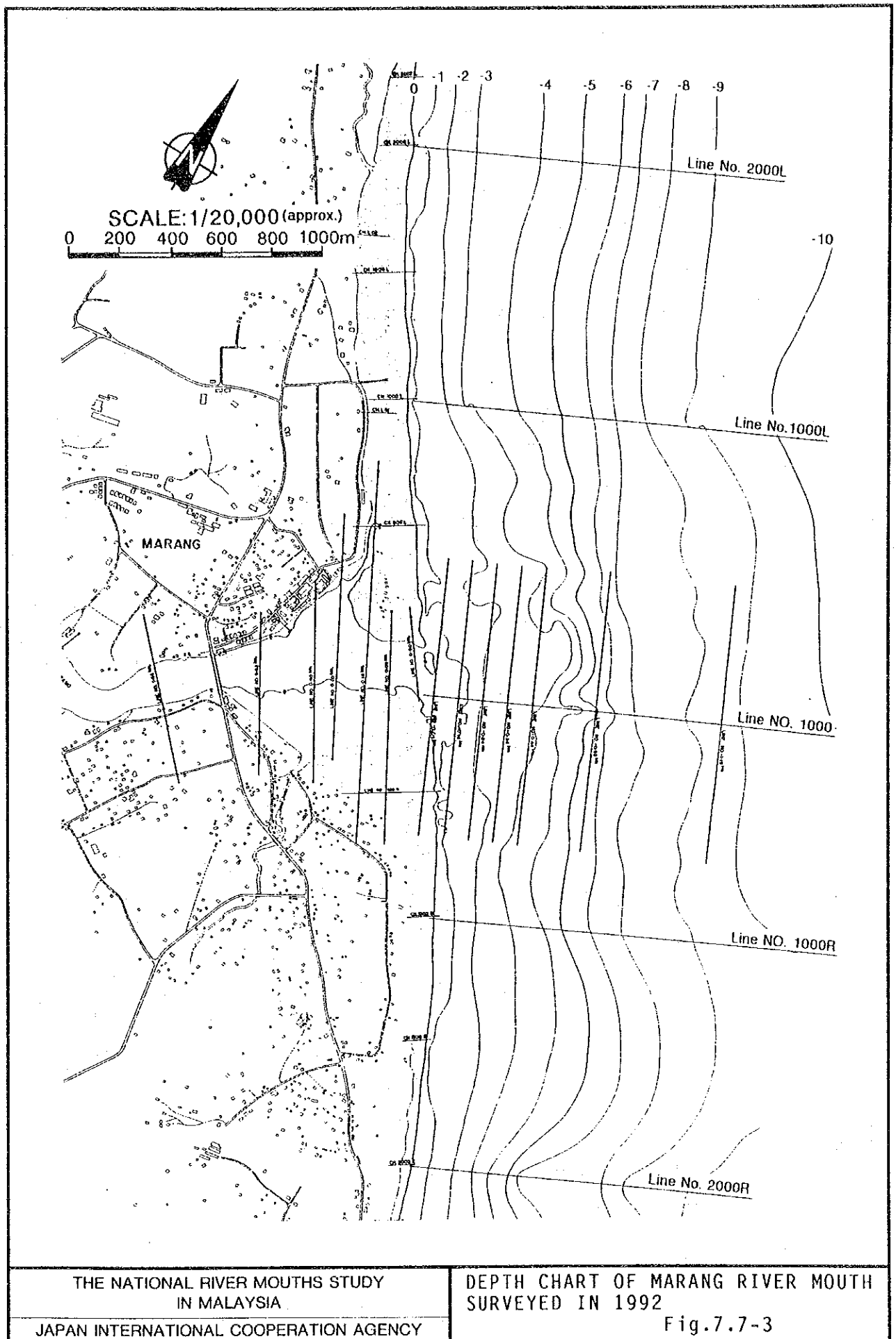
INNER AND OUTER CHANNEL PROFILE
OF KERTEH RIVER MOUTH

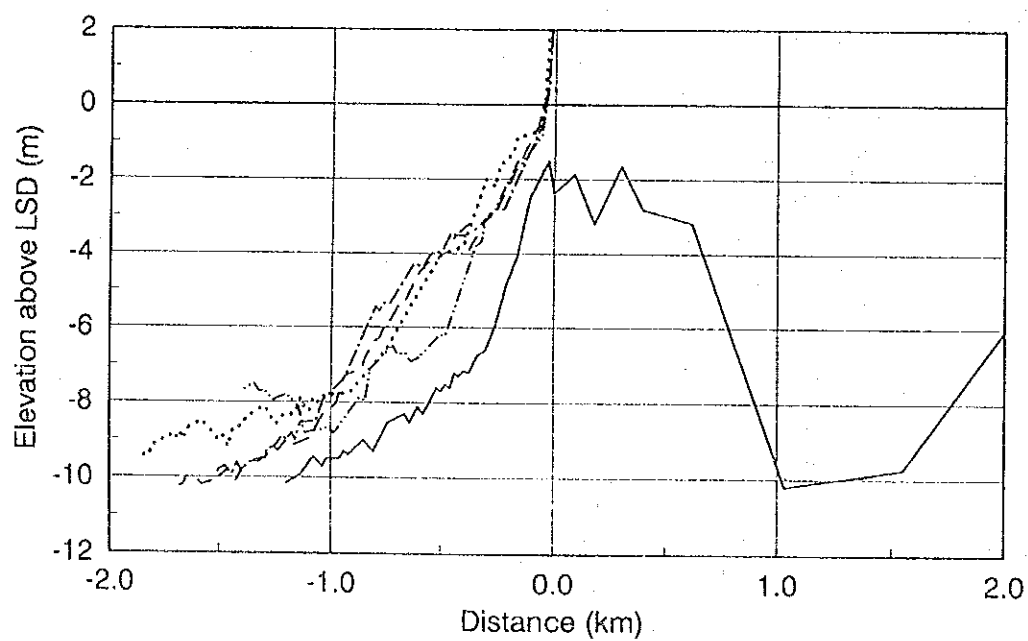
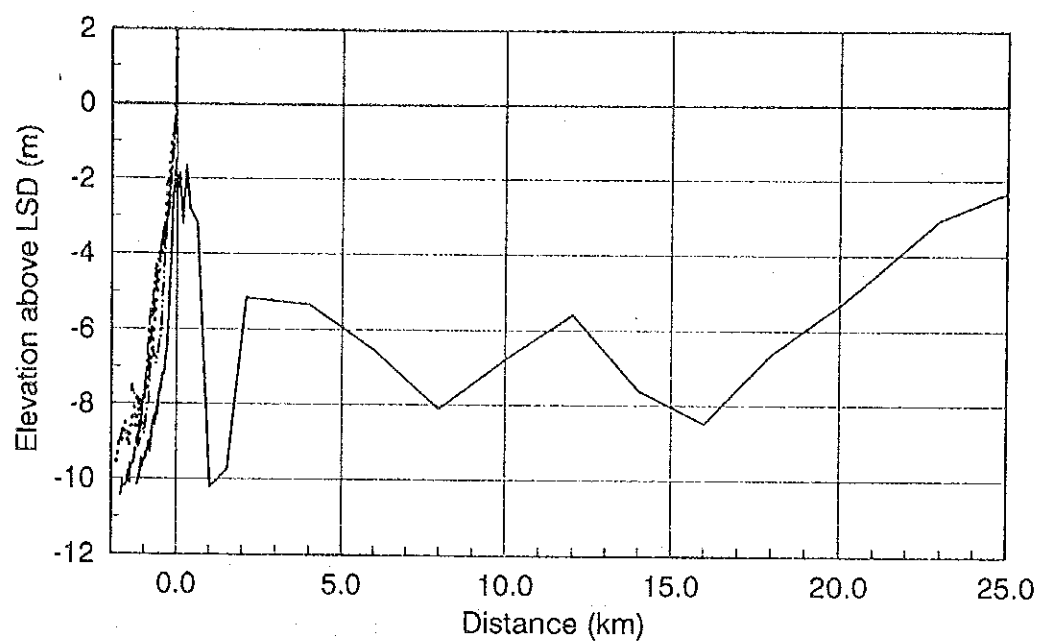
Fig.7.6-5











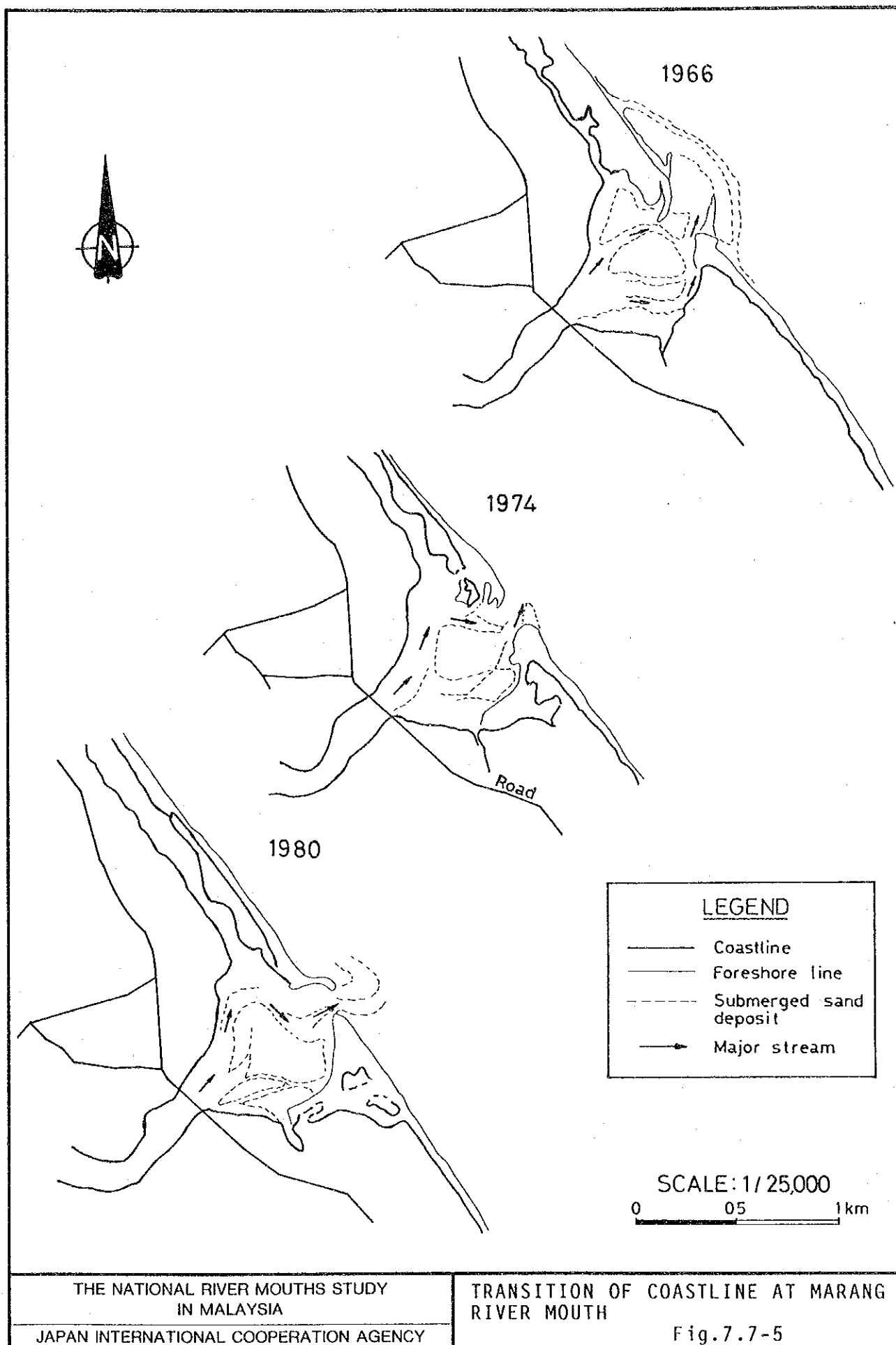
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October, '92	October, '92	October, '92	October, '92	October, '92
————	- - - -

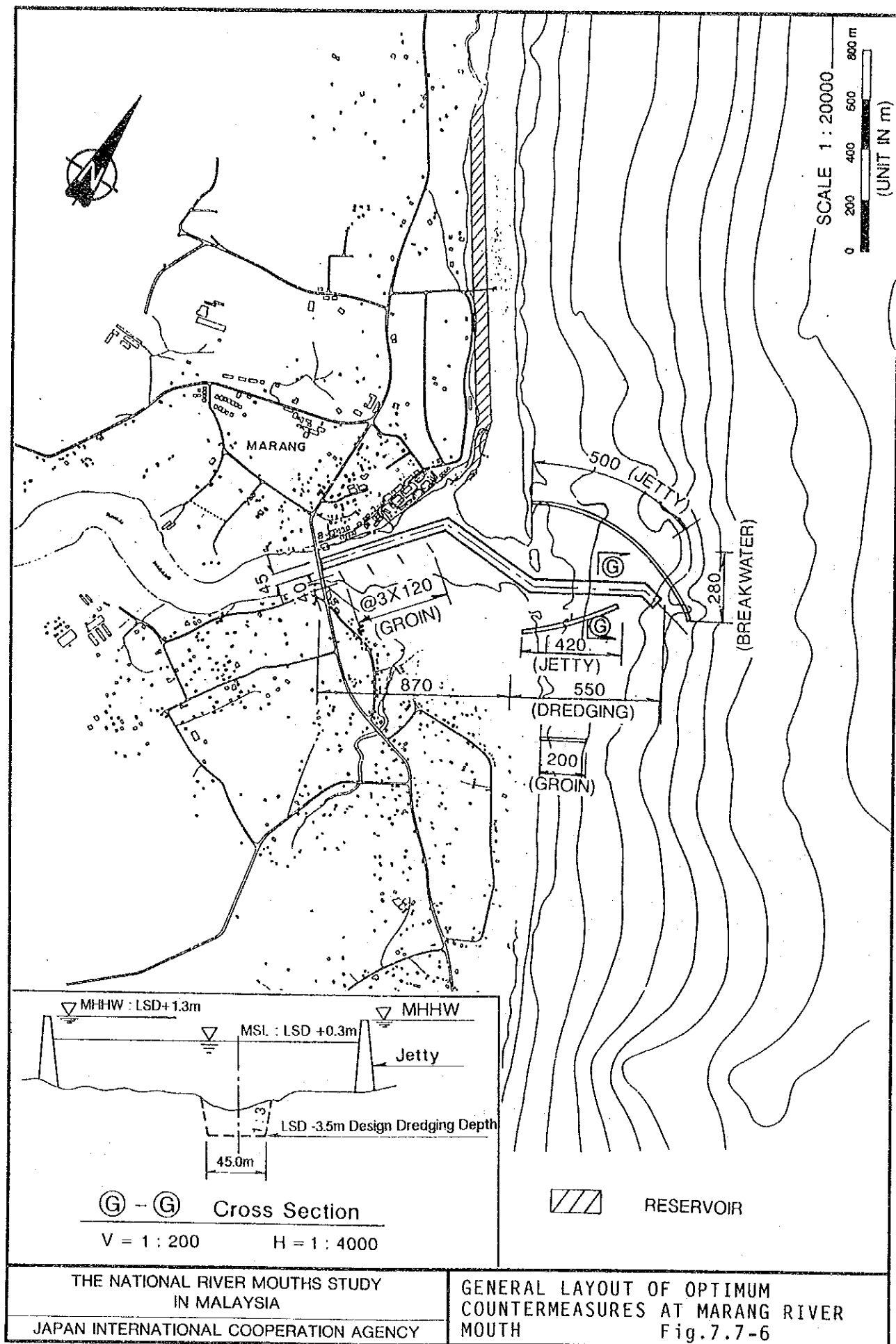
THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

INNER AND OUTER CHANNEL PROFILE
OF MARANG RIVER MOUTH

Fig.7.7-4

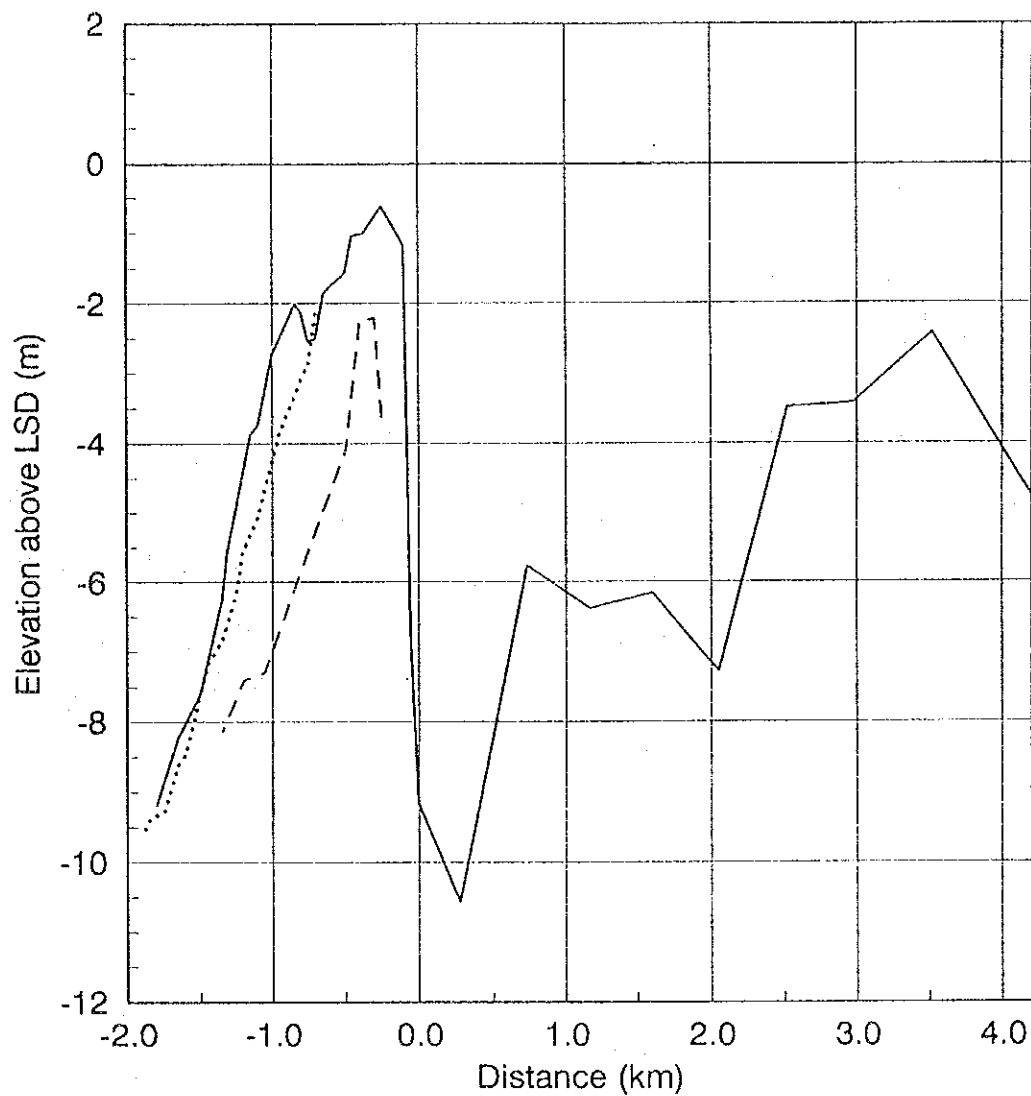






SCALE: 1/20,000 (approx.)
 0 200 400 600 800 1000m

THE NATIONAL RIVER MOUTHS STUDY IN MALAYSIA	DEPTH CHART OF TERENGGANU RIVER MOUTH SURVEYED IN 1992 Fig. 7.8-2
JAPAN INTERNATIONAL COOPERATION AGENCY	

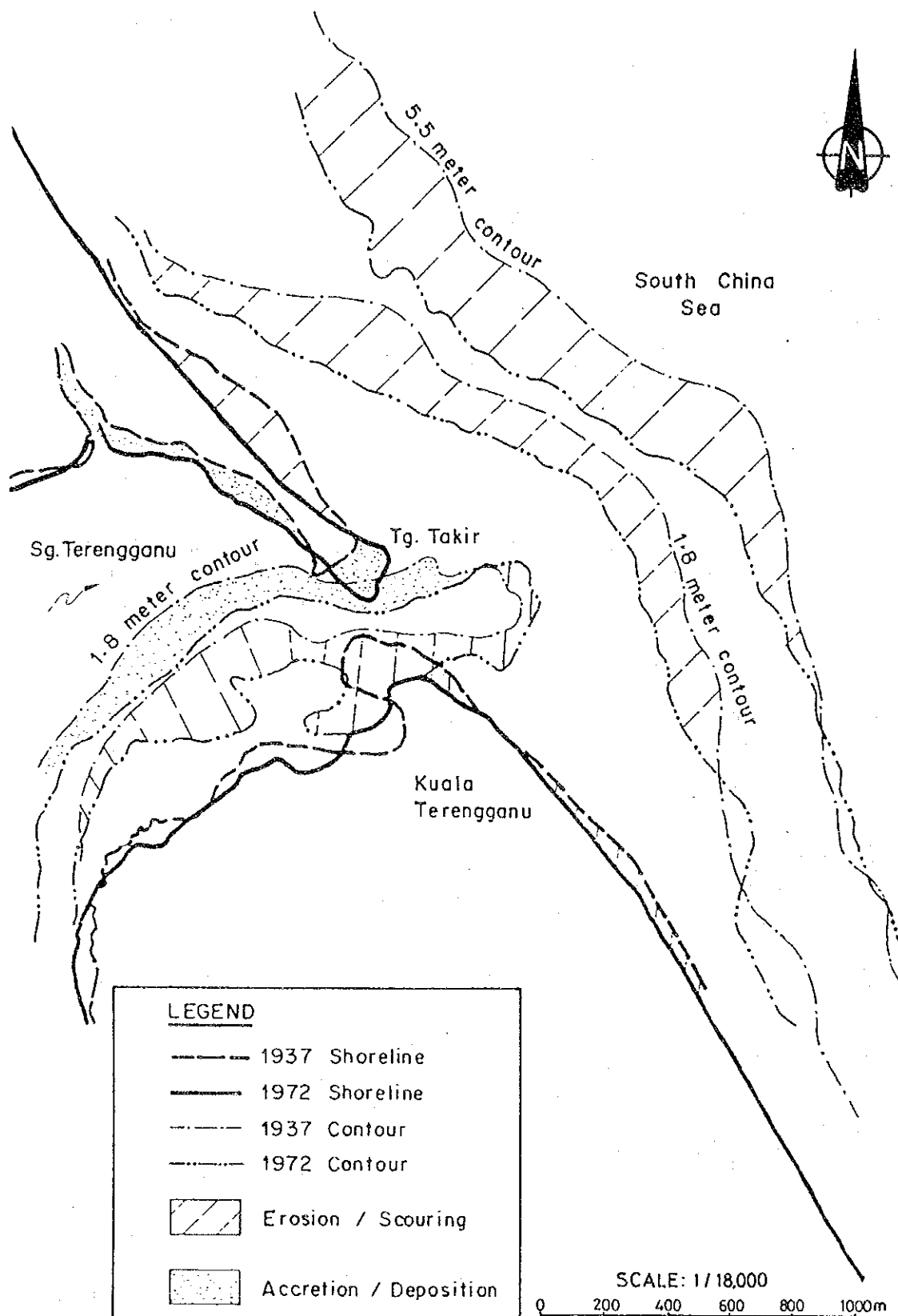


No. 0	No. 1000R	No. 1000L
November, '92	November, '92	November, '92
————	- - - -

THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

INNER AND OUTER CHANNEL PROFILE
OF TERENGGANU RIVER MOUTH
Fig.7.8-3

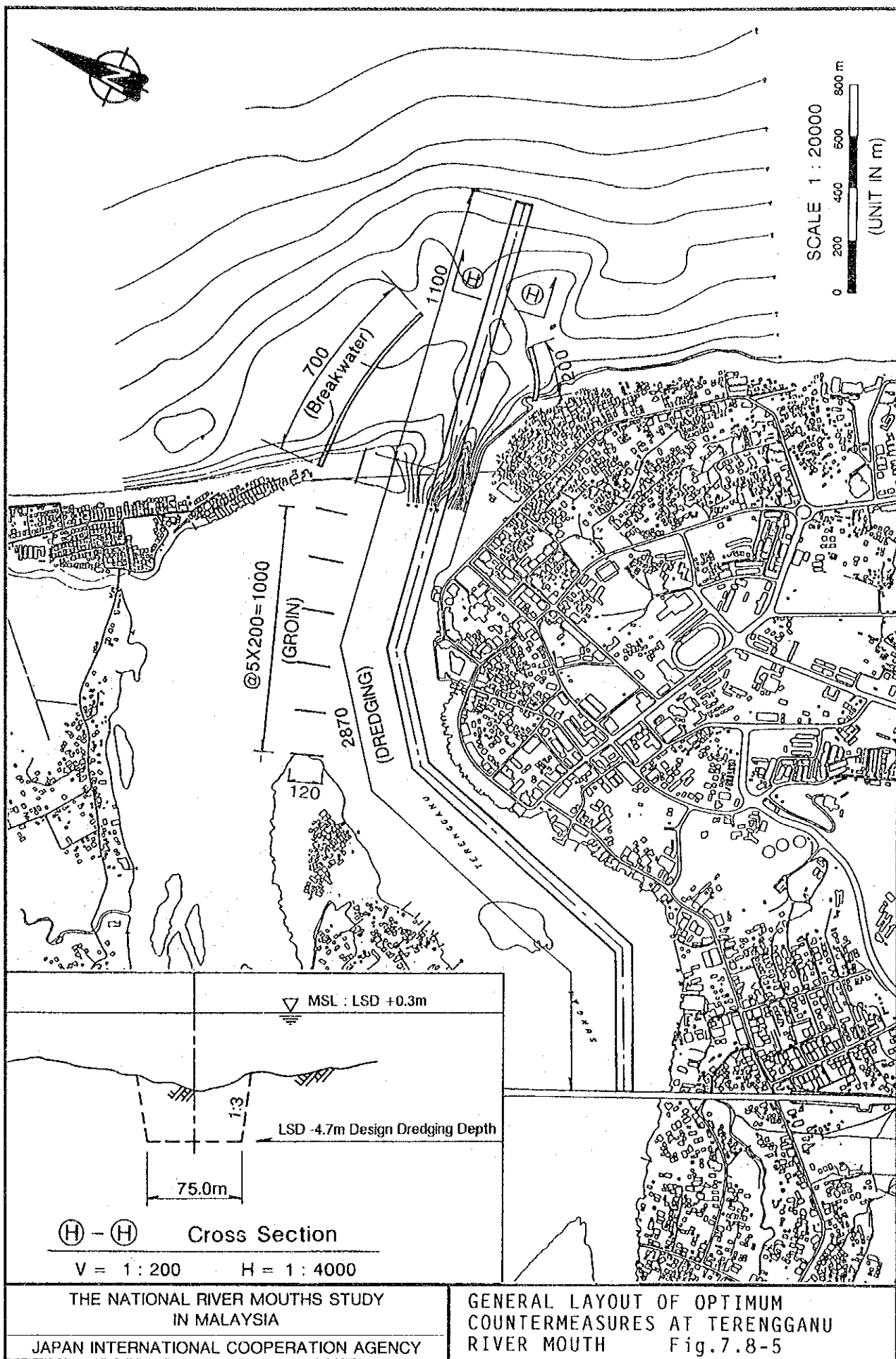


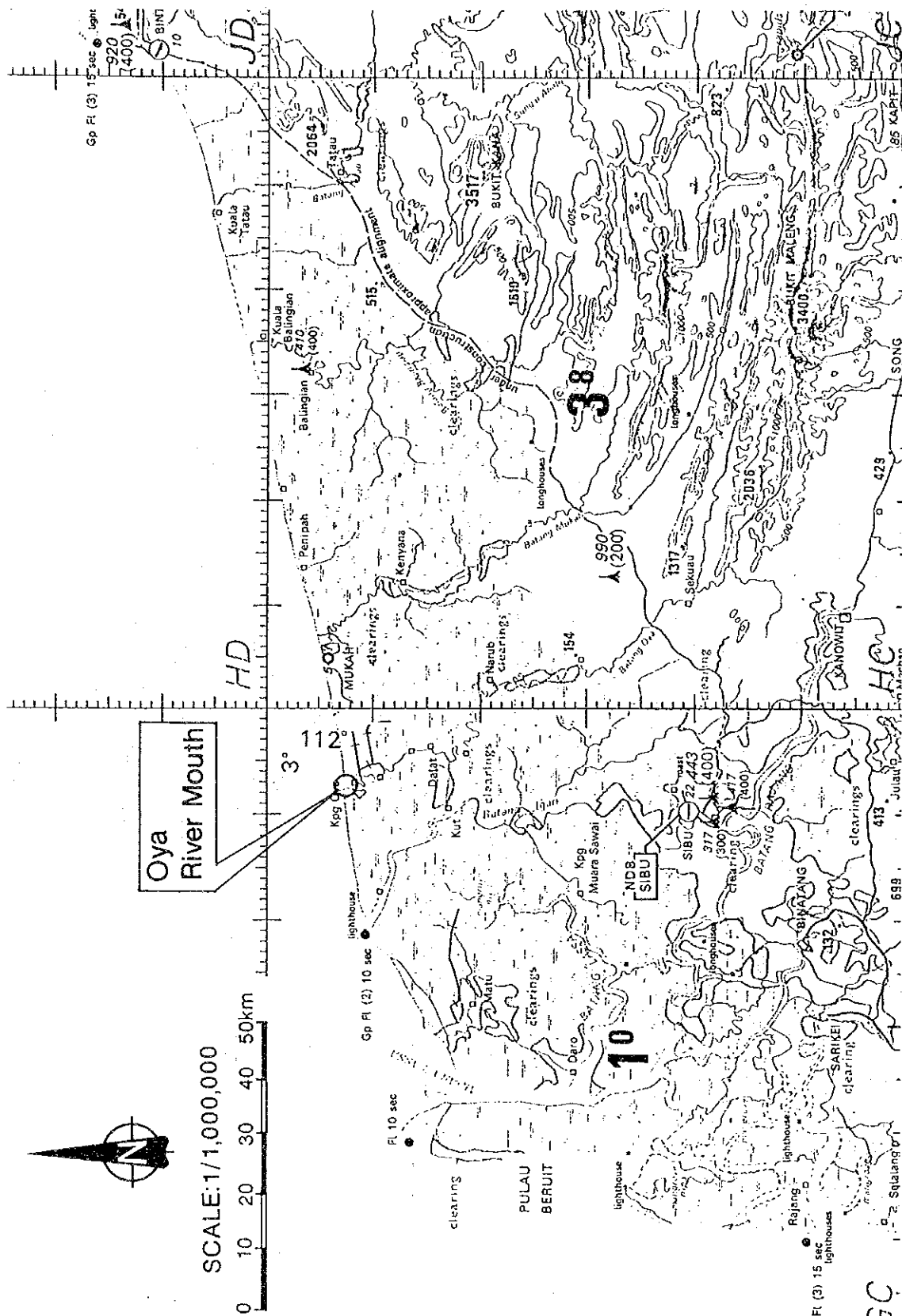
Source: Coastal Protection Works at Seberang Takir (Terengganu)

THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

TRANSITION OF COASTLINE AT
TERENGGANU RIVER MOUTH
Fig.7.8-4



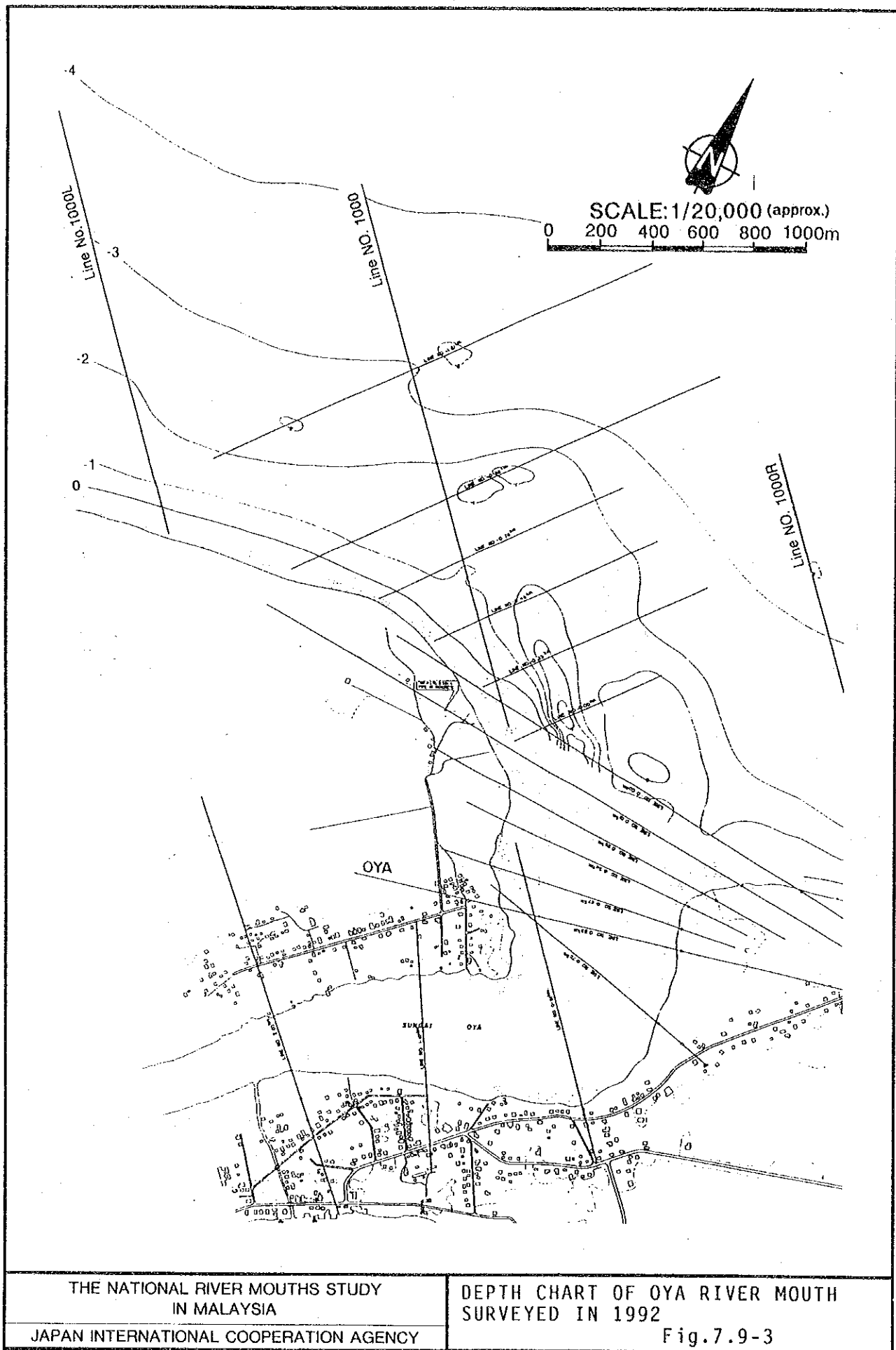


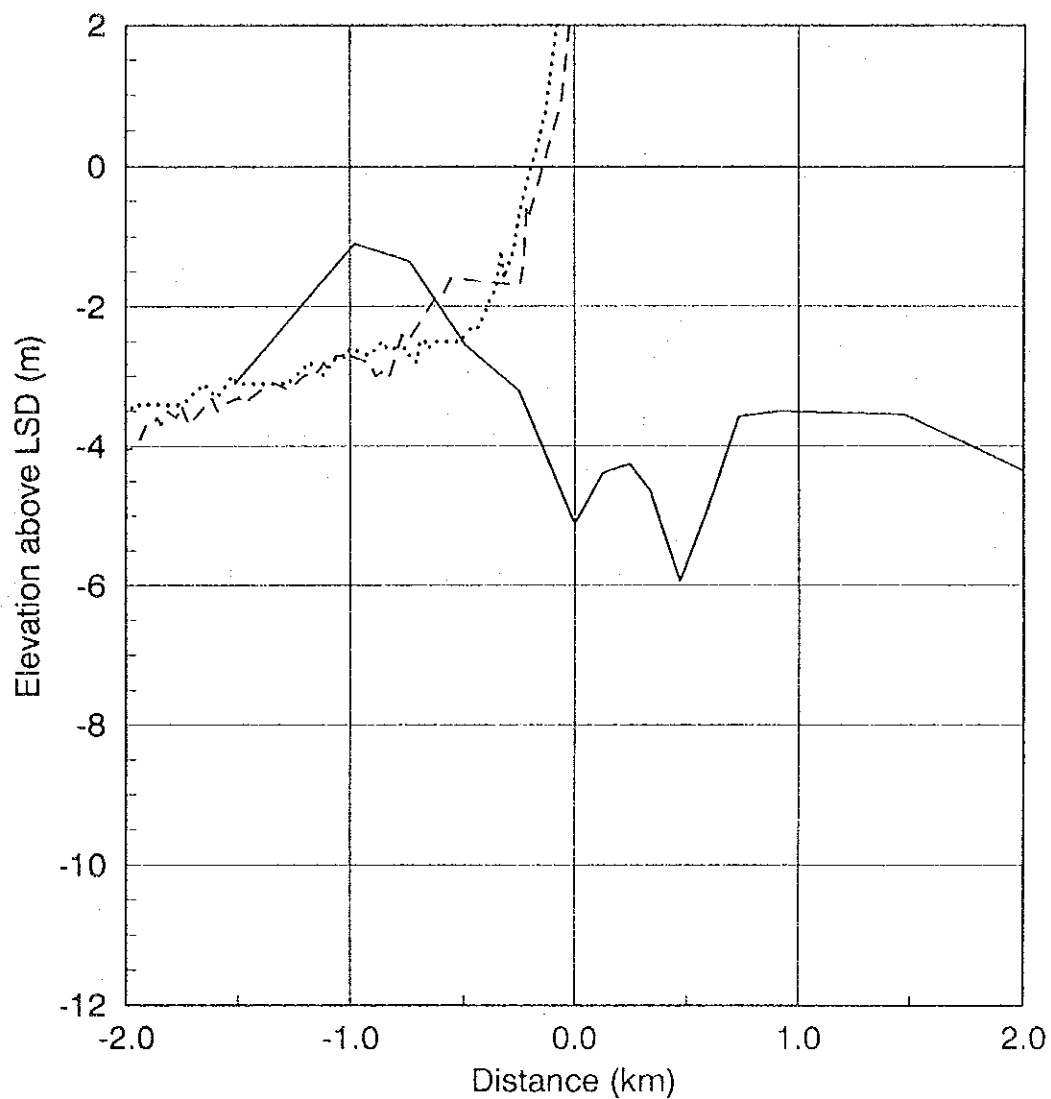
THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

TOPOGRAPHICAL MAP AROUND OYA
RIVER MOUTH

Fig.7.9-1





No. 0	No. 1000R	No. 1000L
October, '92	October, '92	October, '92
—	- - -

THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

INNER AND OUTER CHANNEL PROFILE
OF OYA RIVER MOUTH

Fig.7.9-4



LEGEND

- 1972 (August 15)
- - - 1978 (August 19)
- 1984 (June 18)

SCALE: 1/25000

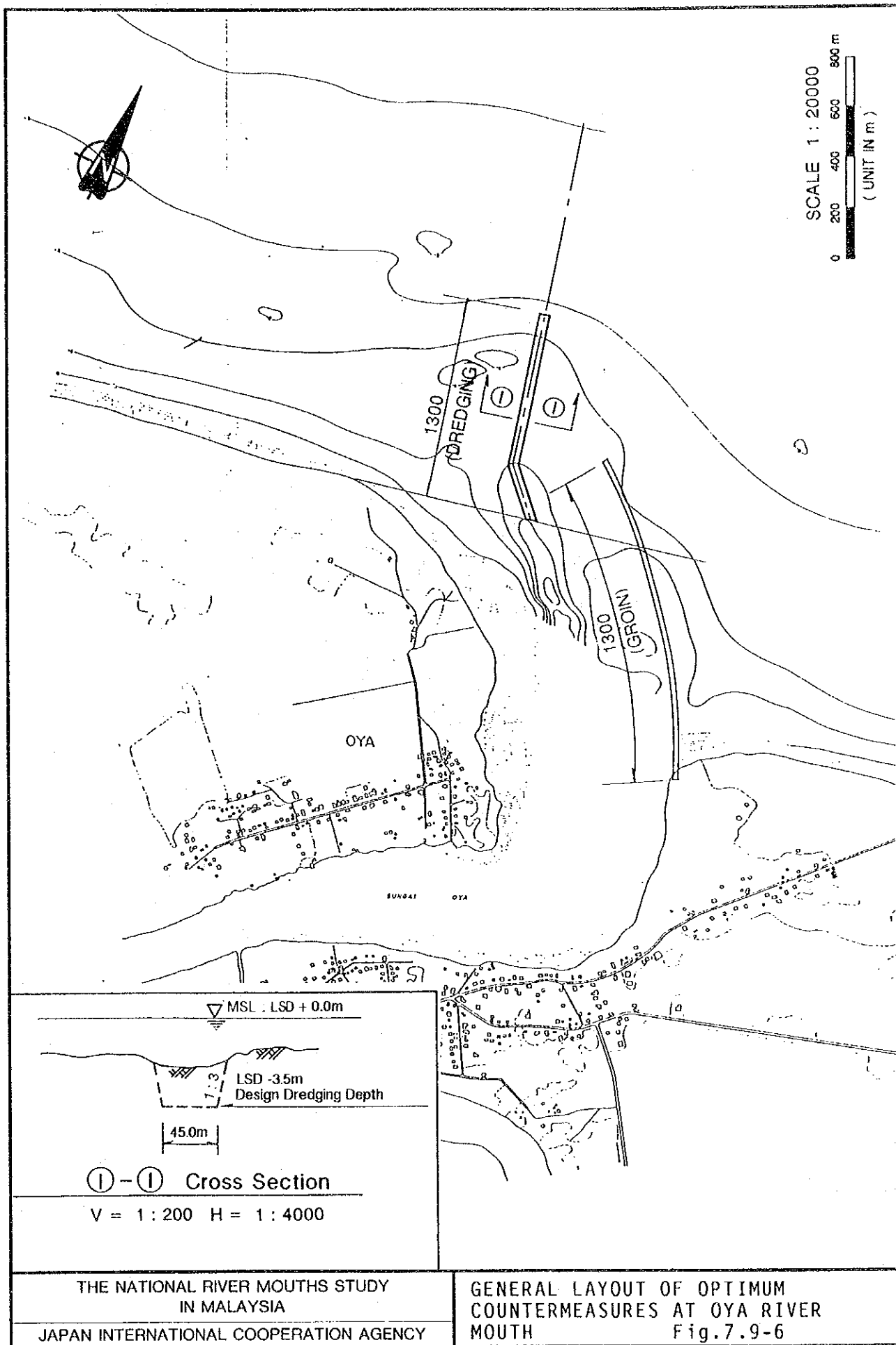
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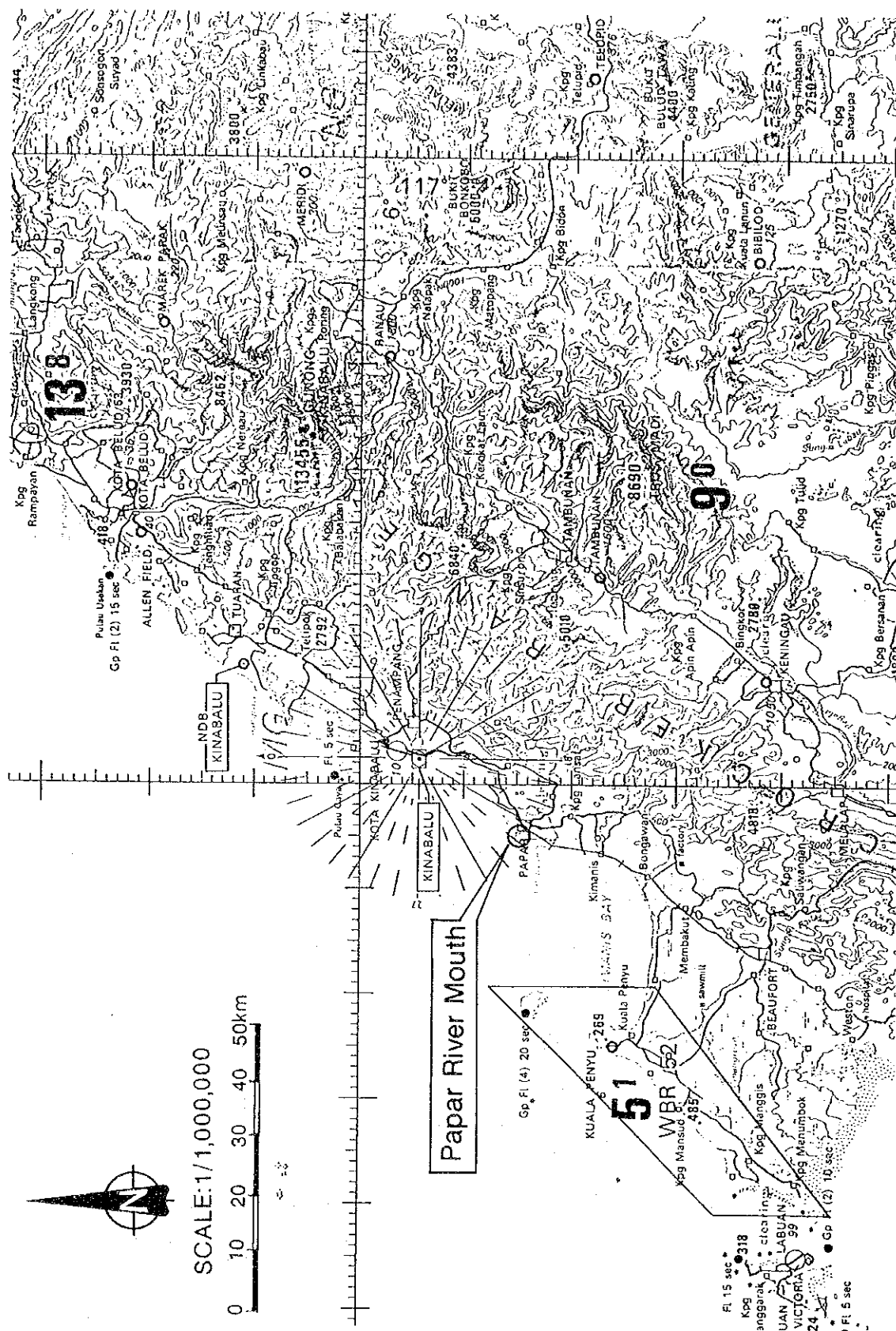
THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

TRANSITION OF COASTLINE AT OYA
RIVER MOUTH

Fig.7.9-5



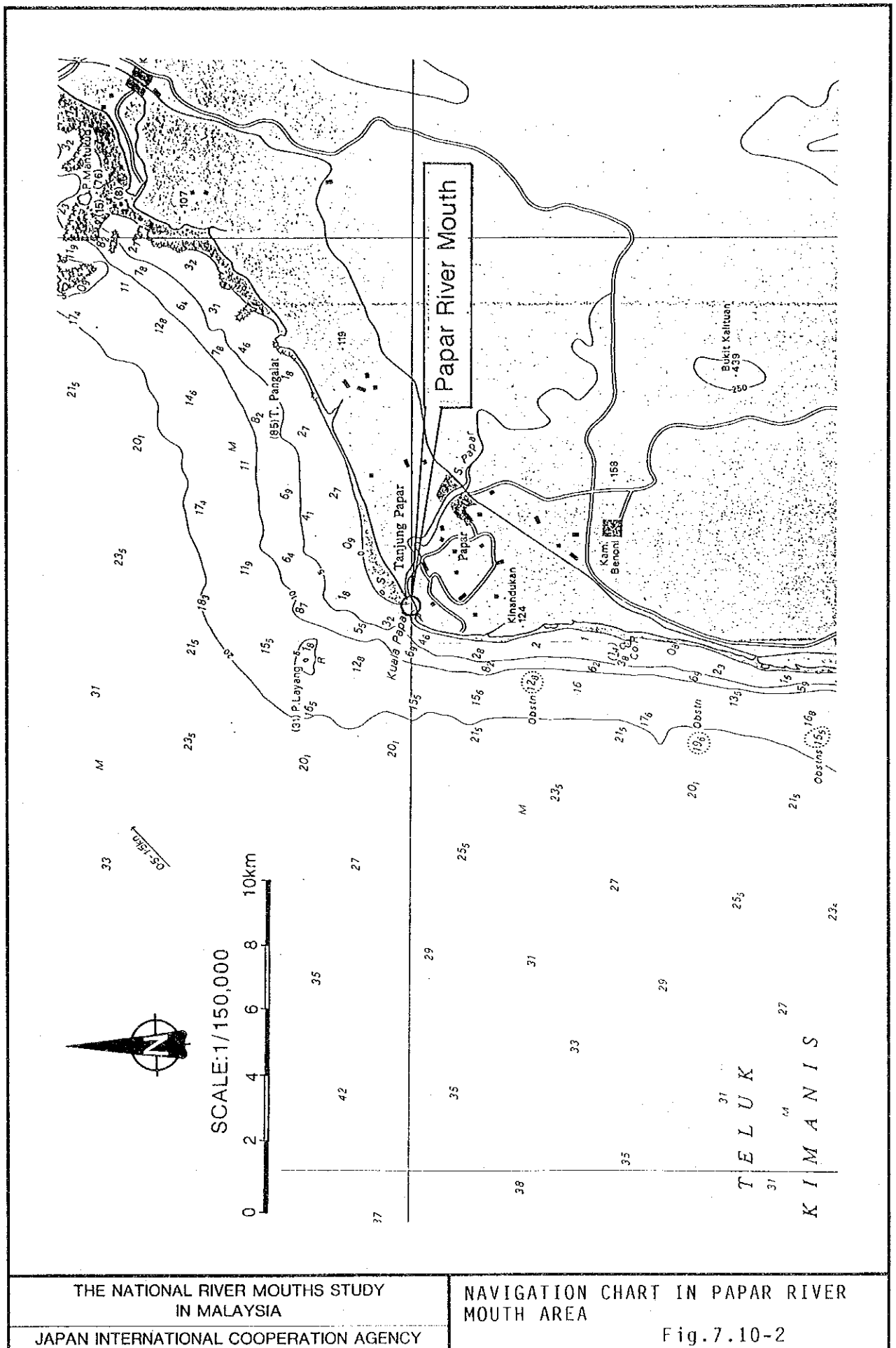


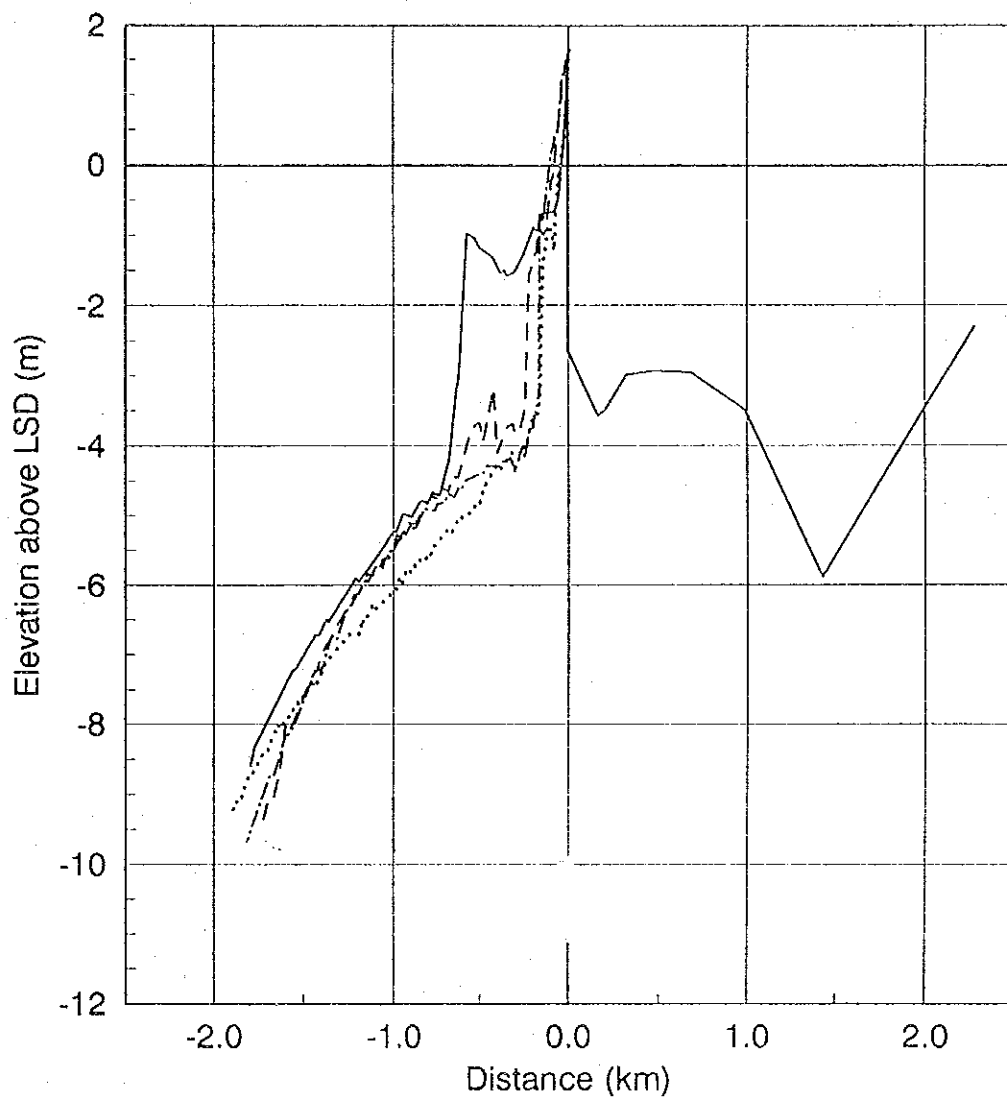
THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

TOPOGRAPHICAL MAP AROUND PAPAR
RIVER MOUTH

Fig.7.10-1





No. 0	No. 500R	No. 500L	No. 980L
November, '92	November, '92	November, '92	November, '92
————	-----	- - - - -

THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

INNER AND OUTER CHANNEL PROFILE
OF PAPAR RIVER MOUTH

Fig.7.10-4



LEGEND

- 1972 Coastline
- 1972 Foreshore line
- - - - 1986 Coastline
- - - - 1986 Foreshore line

Note: 1972 data is from 1/50,000
map of Land & Survey Dept.



SCALE: 1/ 50,000

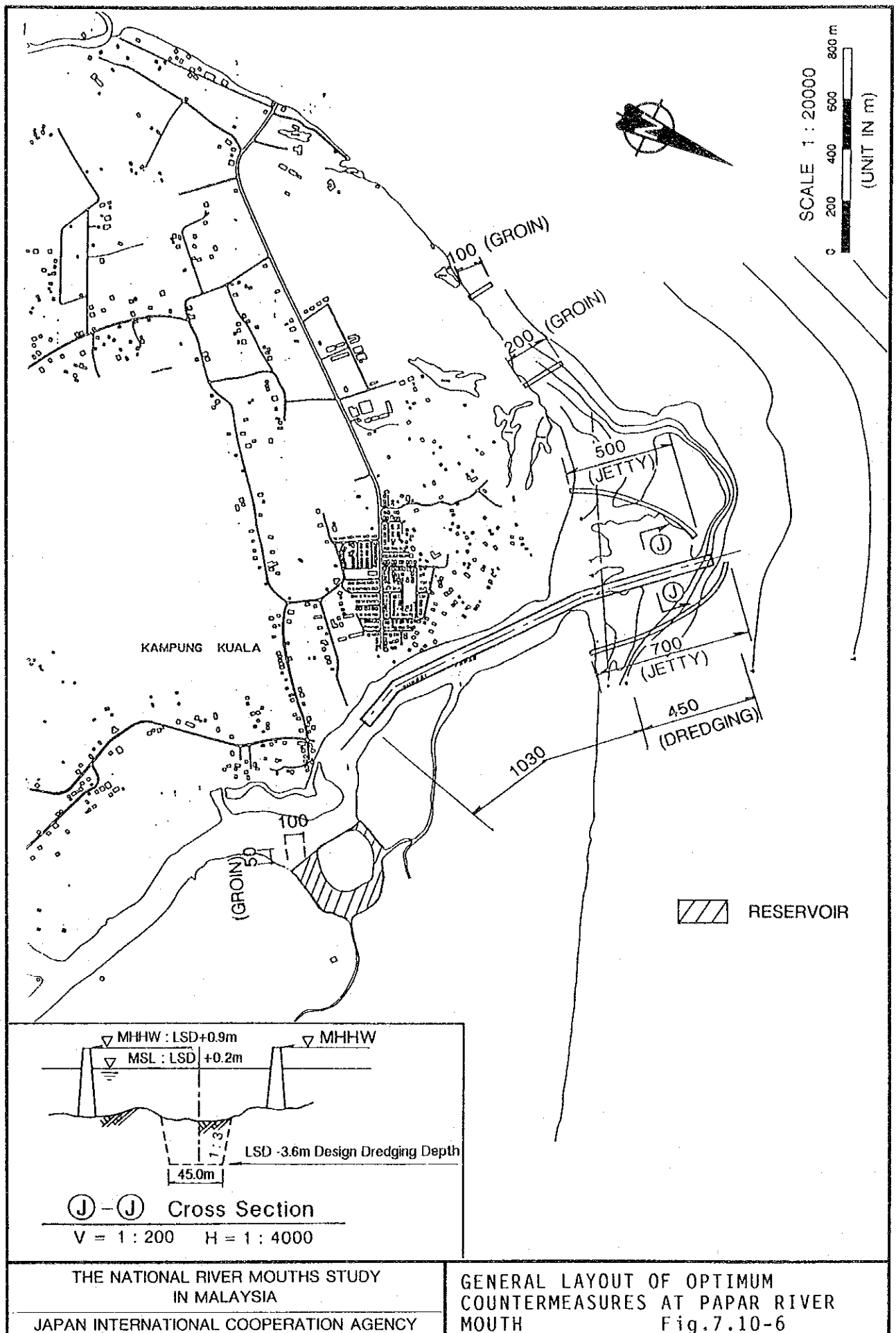
0 1 2 km

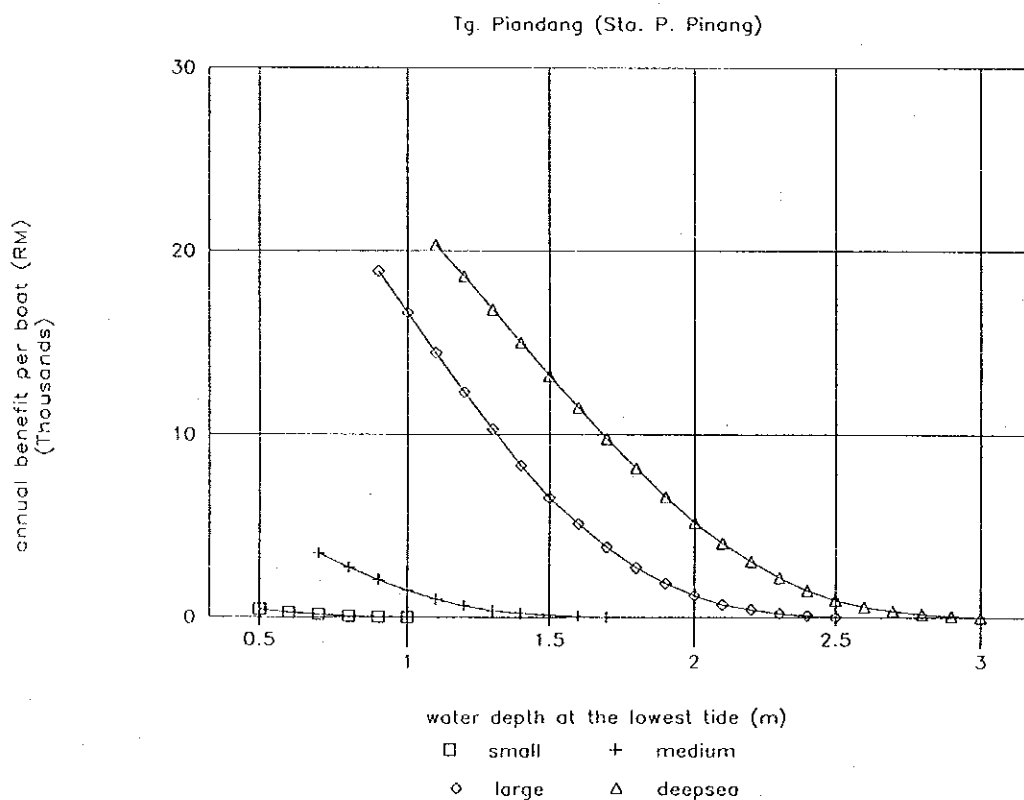
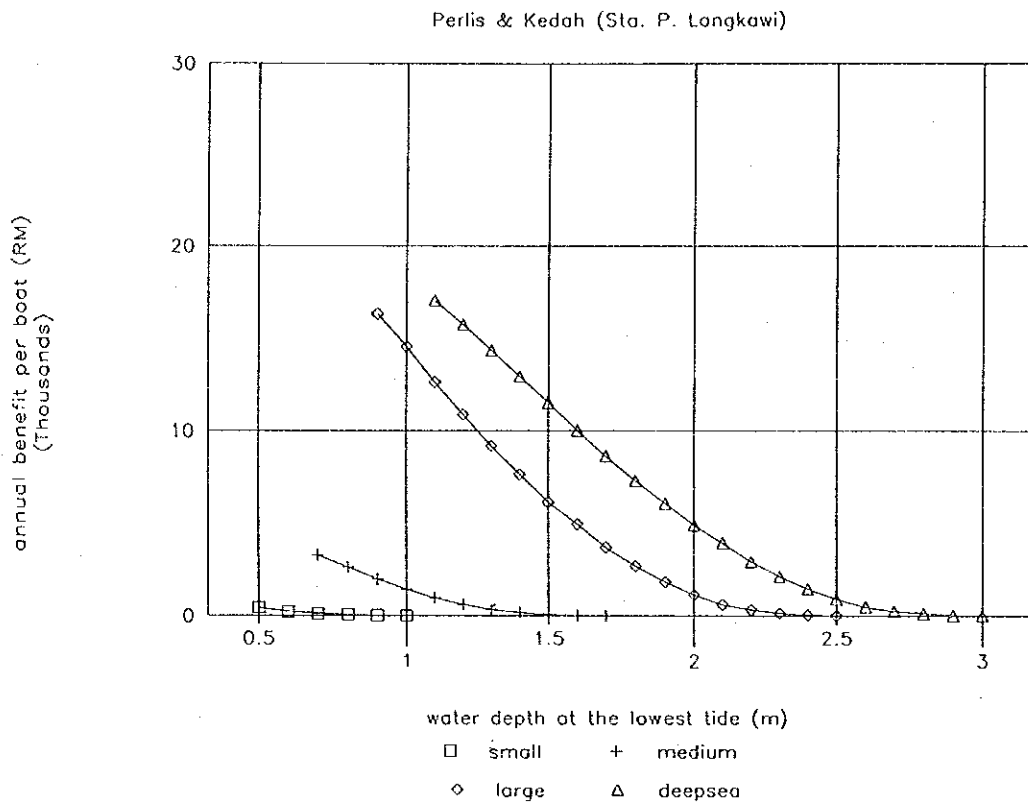
THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

TRANSITION OF COASTLINE AT PAPAR
RIVER MOUTH

Fig.7.10-5



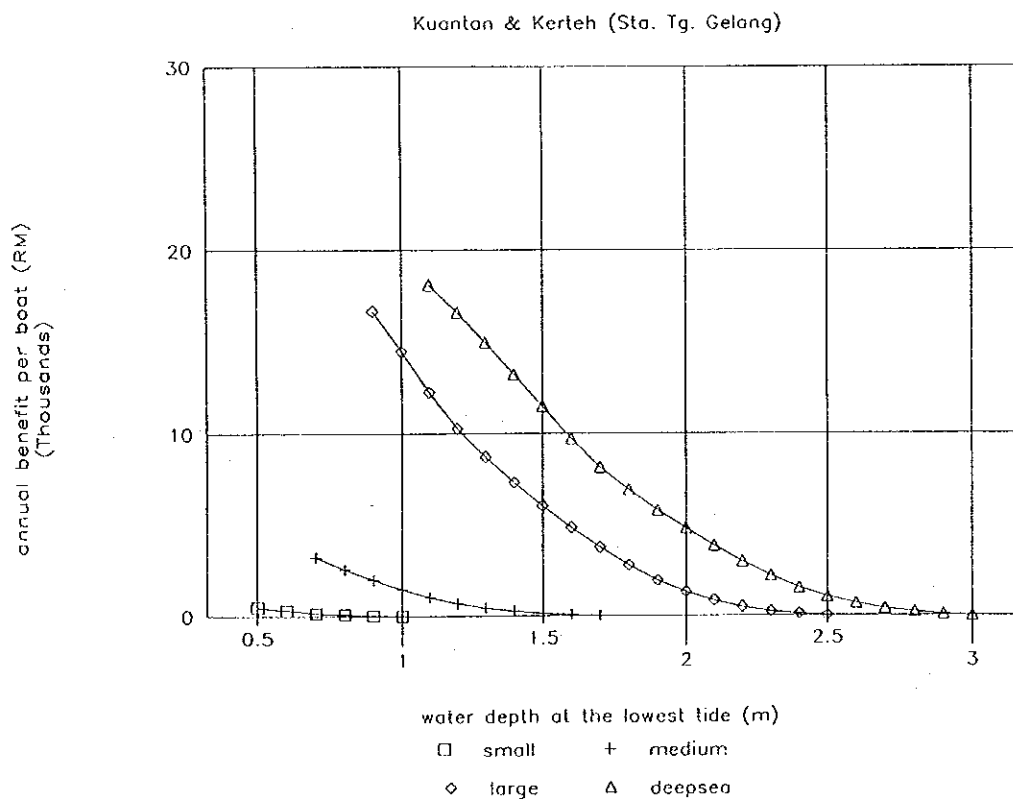
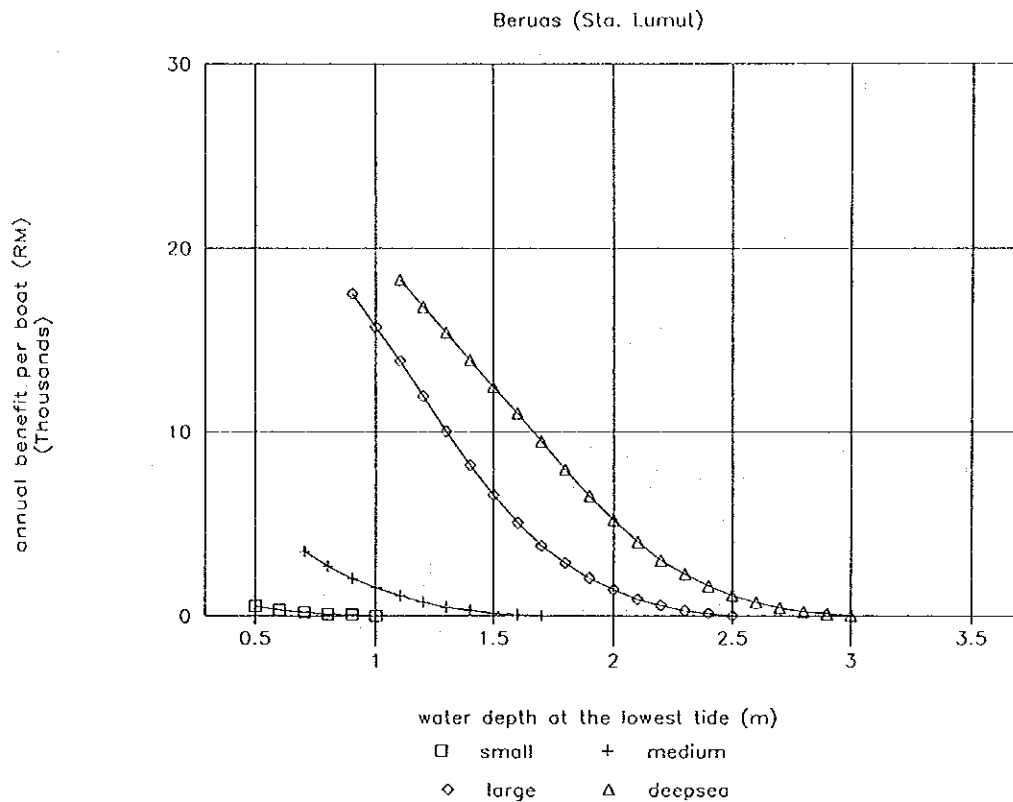


THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

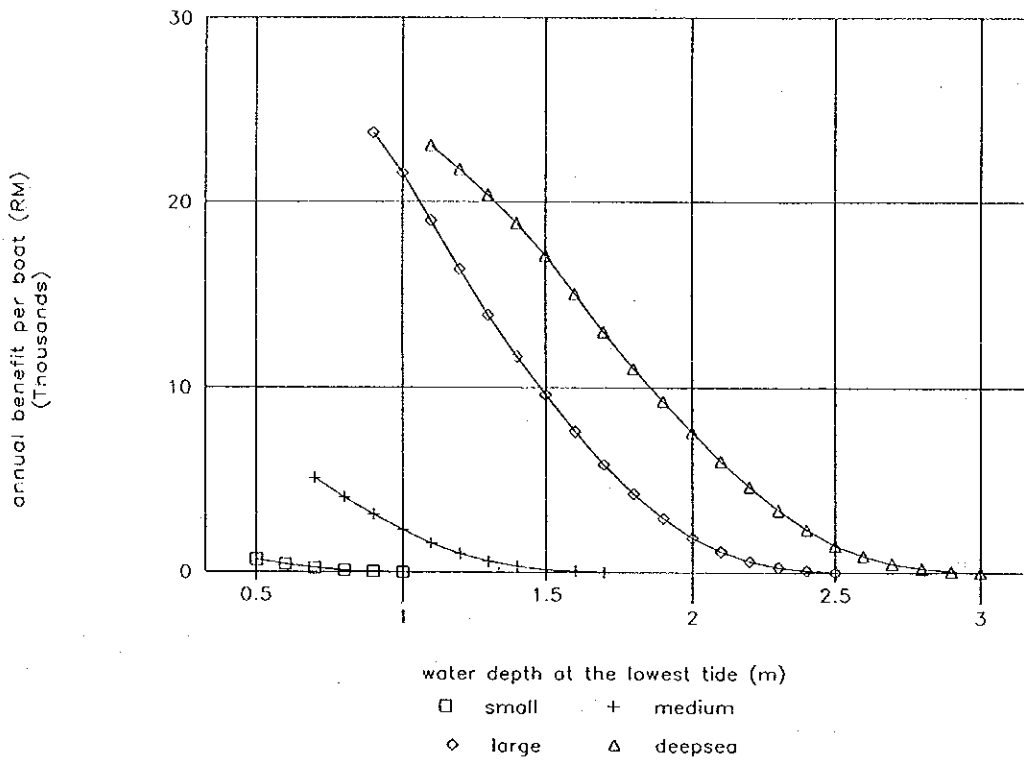
JAPAN INTERNATIONAL COOPERATION AGENCY

RELATION BETWEEN MINIMUM WATER
DEPTH AND ANNUAL BENEFIT PER
BOAT

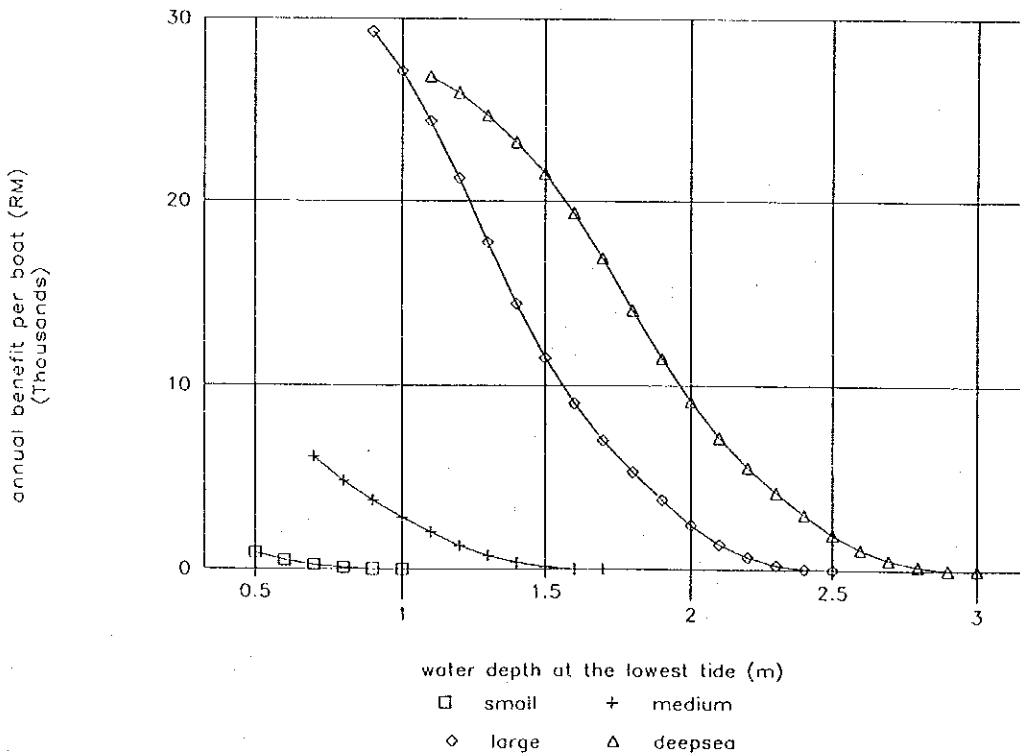
Fig.8.1-1(1/3)



Morang & Terengganu (Sta. Cendering)



Oya & Papar (Sta. Kota Kinabolu)



THE NATIONAL RIVER MOUTHS STUDY
IN MALAYSIA

JAPAN INTERNATIONAL COOPERATION AGENCY

RELATION BETWEEN MINIMUM WATER
DEPTH AND ANNUAL BENEFIT PER
BOAT

Fig.8.1-1(3/3)

JICA