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28990 Investigation of Environmental
Change Pattern in Japan
(Classification of Shorelines)

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Quarterly Report

Original photography may be purchased from:
EROS Data Center
10th and Dakota Avenue
Sioux Falls, SD 57198

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Classification of Shorelines

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1. Introduction

In the previous report it was described that the LANDSAT MSS data were very well showing the situation of reclaimed lands in the Ise Bay.

In this report, more detailed considerations are given to the correspondence between the situation of reclaimed lands and MSS data.

2. Techniques

Aerial photographs of reclaimed lands in the Ise Bay were taken by the Hydrographic Department of Maritime Safety Agency several times in the past. A comparative study was made between those photographs and MSS data.

3. Accomplishments

The states of progress of reclamation works in the Ise Bay according to the aerial photographs are as shown in Fig. 1 (Northern part of Yokkaichi Harbour), Fig. 2 (Southern part of Nagoya Harbour) and Fig. 3 (Western part of Nagoya Harbour). They were compared with the MSS data band 7 (Fig. 4) and band 4 (Fig. 5).

Since Fig. 4 and Fig. 5 are reproductions of the pictures of Fig. 4 and Fig. 5, respectively, of the previous report, it is requested to refer to the previous report for detailed information.

(1) Northern Part of Yokkaichi Harbour

As for the reclaimed land on the north side, it seems that there is no difference of images between the area reclaimed before May 1970 and that reclaimed between May 1970 and April 1974. In regard to the central reclaimed land, the area reclaimed after April 1974 is clearly identified on the picture of band 4. Further, from comparison of it with the image on band 7, the distinction can be made whether the reclamation work is still underway or already completed. For the area reclaimed between May 1970 and April 1974, it is difficult to find any difference in the images of Fig. 4 and Fig. 5.

(2) Southern Part of Nagoya Harbour

As regards the reclaimed area on the north side, it seems that there is no correlation between the photographic density and the progress of reclamation work.

As for the reclaimed area on the south side, difference at certain degree can be recognized on Fig. 4 for the area which was reclaimed between May 1972 and April 1974.

(3) Western Part of Nagoya Harbour

Although the figure of the reclaimed area on the east side is peculiar, the difference of the image between Fig. 4 and Fig. 5 derived from the reclaimed area before October 1968 and that between October 1968 and April 1974, is considerably well coincided with the ground truth.

As for the central part, the area which was reclaimed between May 1965 and April 1974 can well be distinguished, particularly in band 4 (Fig. 5), from the other areas which had been previously reclaimed.

In the reclaimed area on the west side, the reclamation work was not advanced in April 1974 as there were seen a number of water pools inside. According to Fig. 4 and Fig. 5, however, it is likely that the reclamation work has yet not made a good progress as there are still seen a number of water pools in the MSS data which were taken in September 1975.

Although it is difficult to make a distinction between the reclaimed area of October 1968 and that of April 1974, the discrimination between them and the shoreline can be made considerably well on Fig. 4 and Fig. 5.

4. Significant Results

No significant results have been obtained as the analysis by CCT has been delayed and not available by the time of preparing this report.

5. Publications

No.

6. Problems

Relationship between the photographic density and the year date of reclamation.

7. Data Quality and Delivery

No.

8. Recommendations

No.

9. Conclusions

Analysis by CCT is in progress at present, and the results will be reported next time.

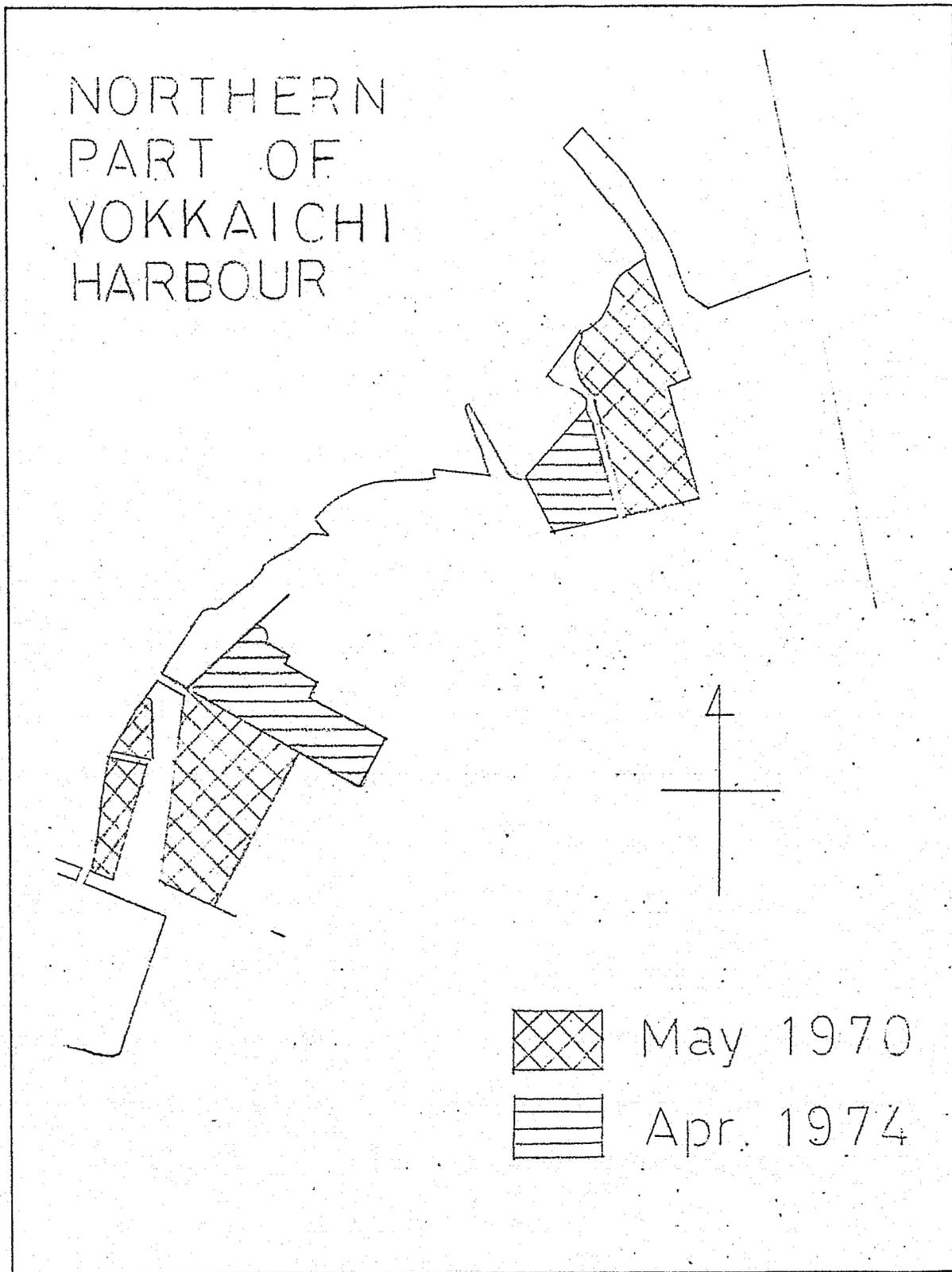


Fig. 1

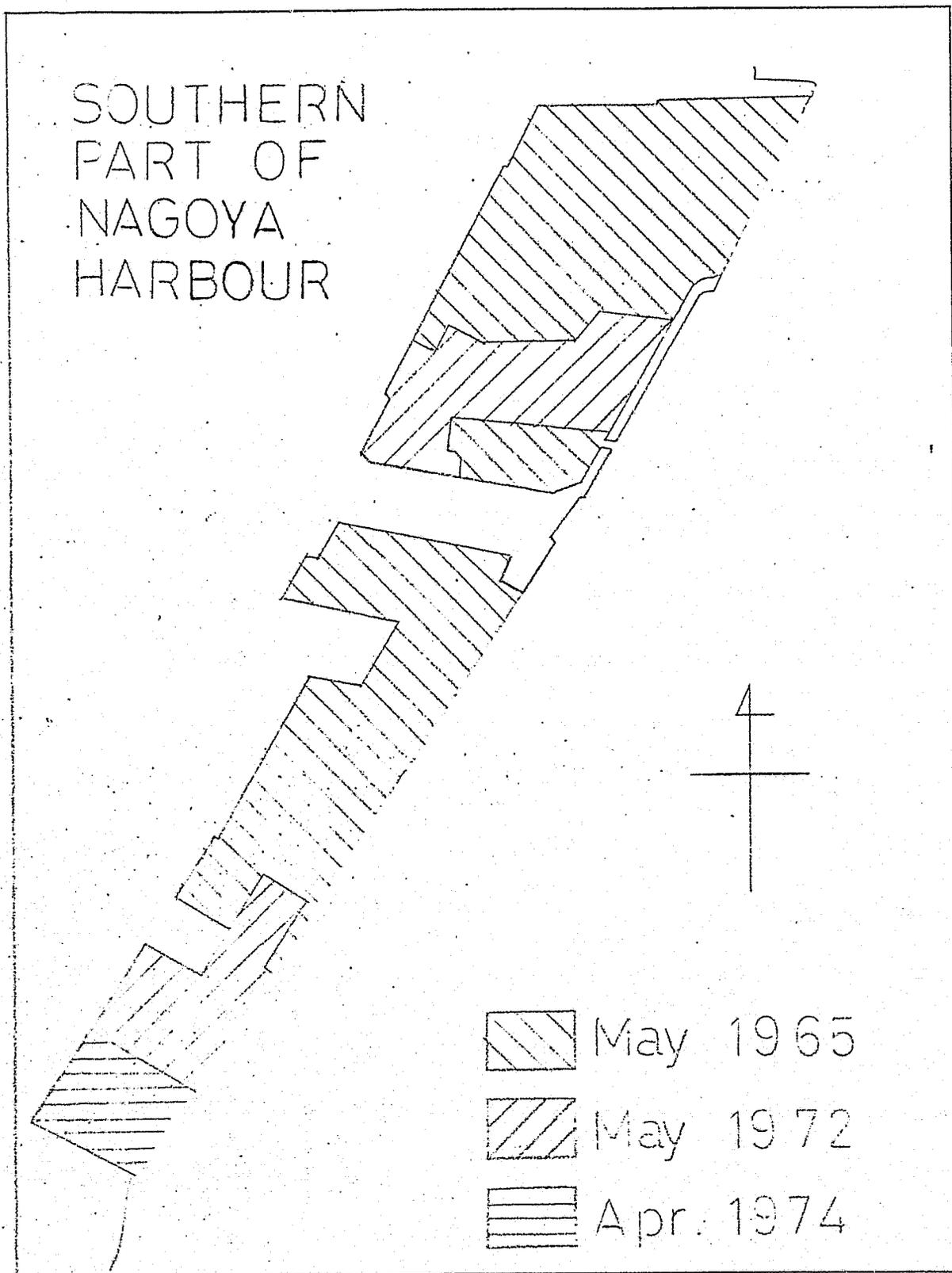


Fig. 2

WESTERN
PART OF
NAGOYA
HARBOUR

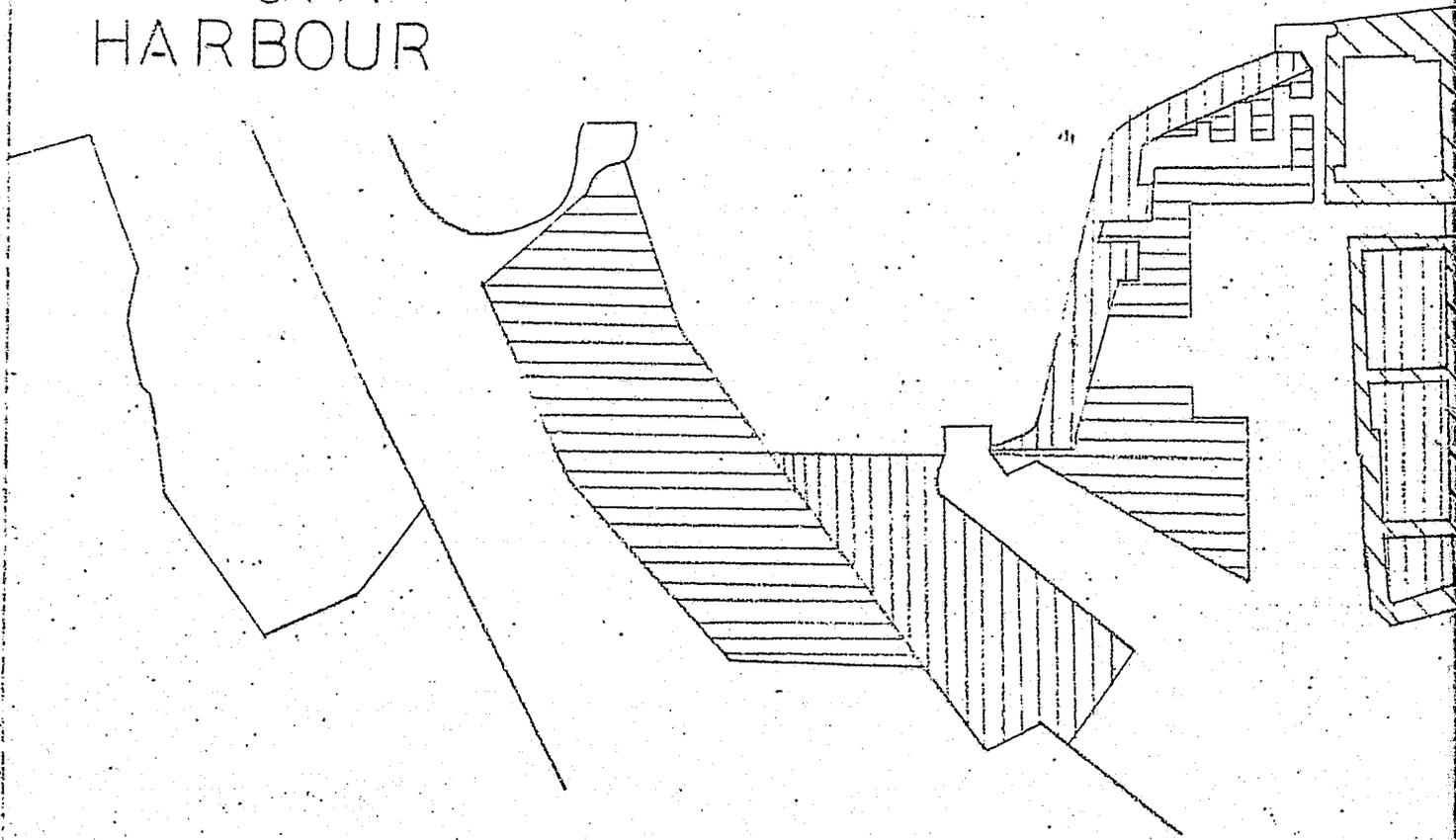
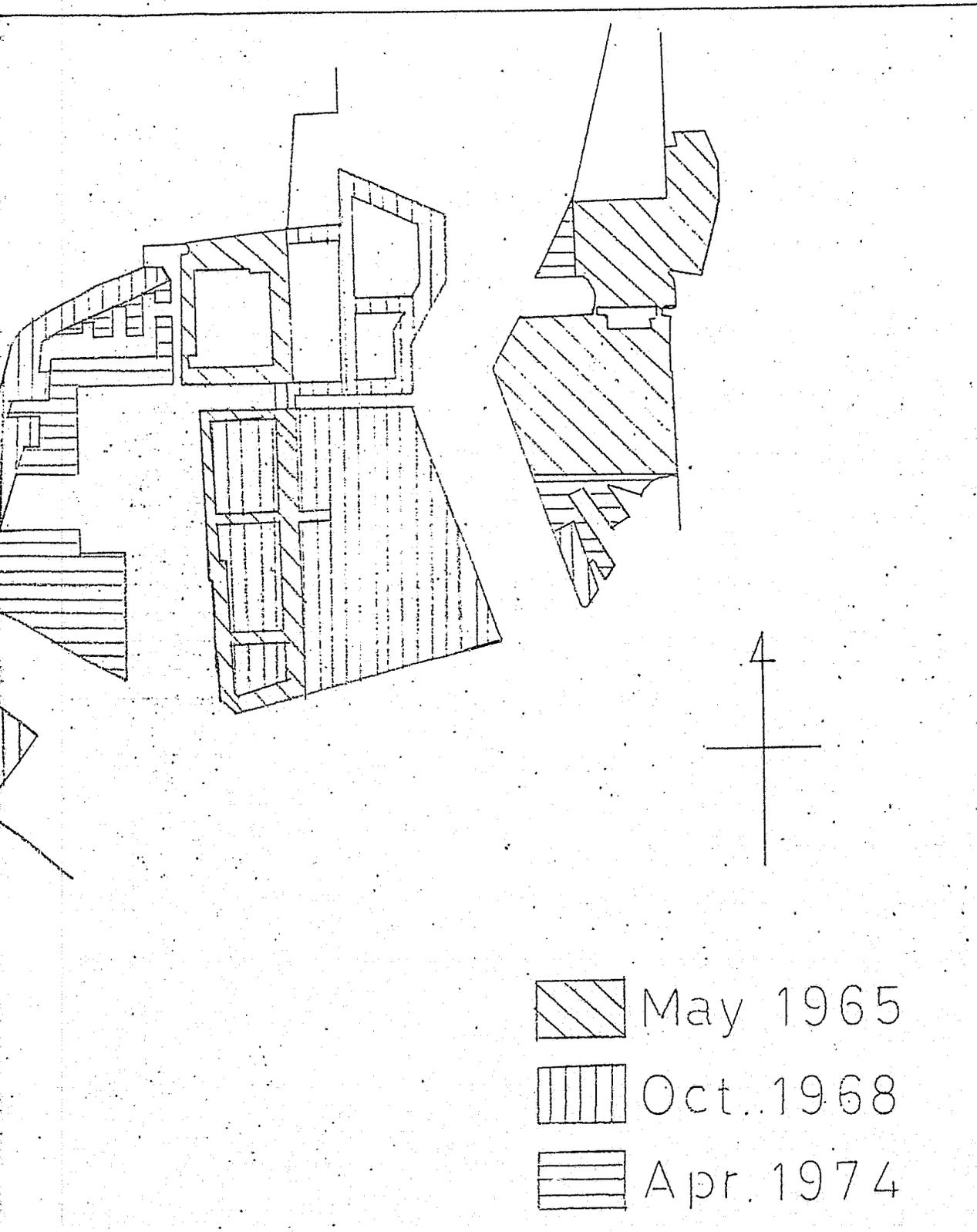
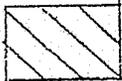
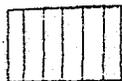


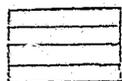
Fig. 3

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OF POOR QUALITY



 May 1965

 Oct. 1968

 Apr. 1974

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OF POOR QUALITY

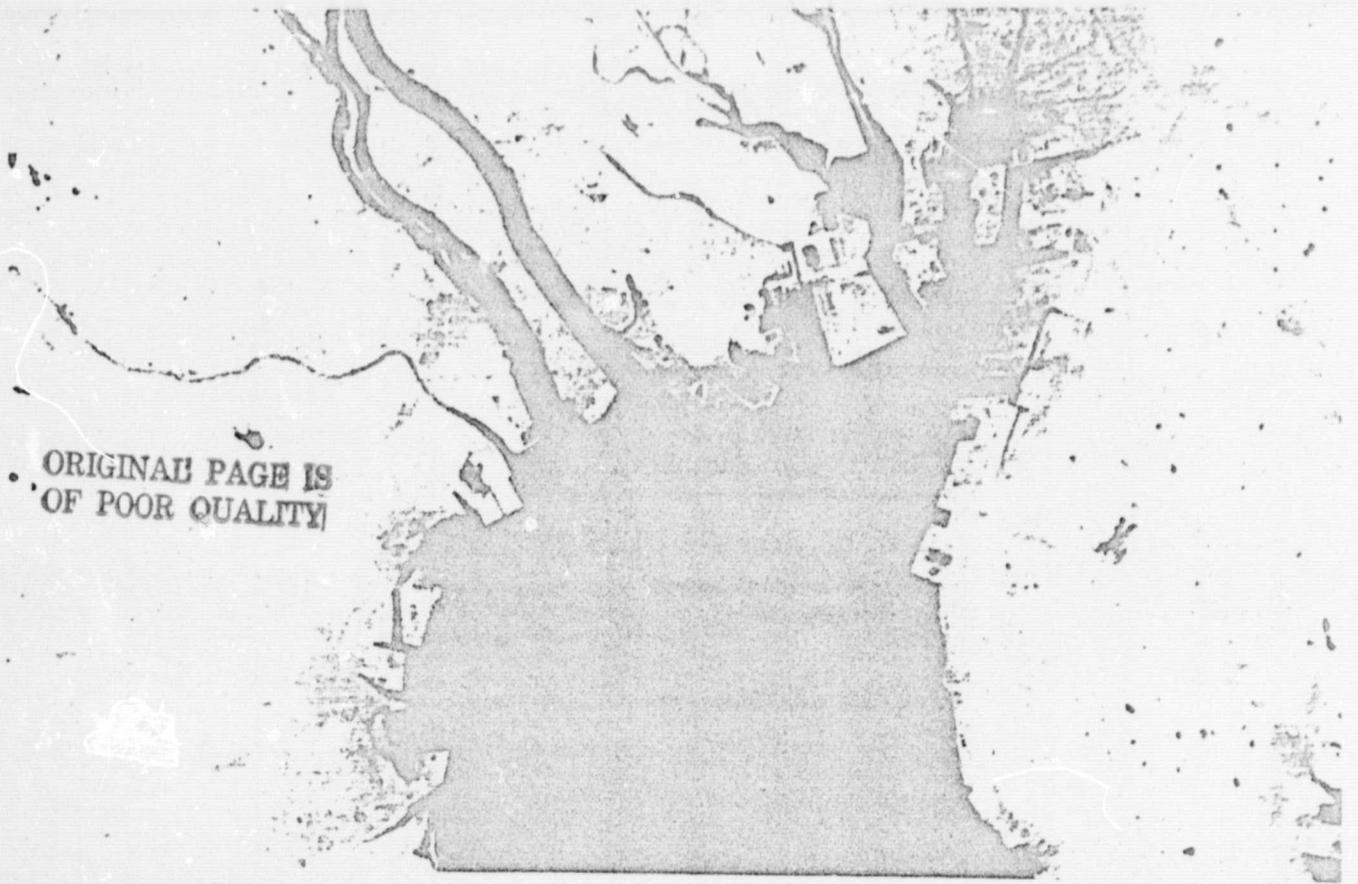


Fig. 4 Reclaimed lands at the head of Ise Bay (band 7)



Fig. 5 Reclaimed lands at the head of Ise Bay (band 4)