

Geology of Ma On Shan



Geotechnical Engineering Office
Civil Engineering Department
HONG KONG

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1: 5 000 Sheet 7-NE-C/D

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Cover: Oblique aerial view of the Ma On Shan
reclamation from the northeast in March 1989.

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Foreword

This report and the associated 1:5 000-scale map specifically relates to the development area at Ma On Shan which encompasses the new urban town development and transport links with Sha Tin. The report covers part of the Ma On Shan reclamation, part of the Ma On Shan Country Park, and new developments at Wu Kai Sha.

The report forms part of the published results of a programme of systematic geological mapping of Hong Kong that began in 1982, and it complements geological information contained in Hong Kong Geological Survey Memoir No.1 - Geology of Sha Tin. This work has greatly enhanced our understanding of the stratigraphy, structure and geological history of Hong Kong's rocks. At the same time, it has allowed a geological database, necessary for the continuing economic development of the Territory, to be established and developed.

The mapping programme is being undertaken by the Hong Kong Geological Survey, which is a section of the Planning Division of the Geotechnical Engineering Office. The section was previously led by Mr P. J. Strange and then by Dr I. R. Basham, and is now led by Dr C. J. N. Fletcher. The Division was under the direction of Dr R. P. Martin during the mapping project reported here.

The 1:5 000-scale geological survey of Ma On Shan was conducted by Dr R. J. Sewell. Much helpful advice and review comments were given by Dr S. D. G. Campbell, Dr R. L. Langford, Mr K. W. Lai and Mr P. A. Kirk.

The Survey benefitted from the co-operation of many organizations and individuals. In particular, the co-operation of Acer Consultants (Asia) Ltd, Binnie Consultants Ltd, Maunsell Consultants (Asia) Ltd, and Electronic and Geophysical Services Ltd is gratefully acknowledged.

This report and the accompanying map sheets will be of interest and value to earth scientists, engineers, planners, developers, teachers and students.

A. W. Malone

Principal Government Geotechnical Engineer
January 1996

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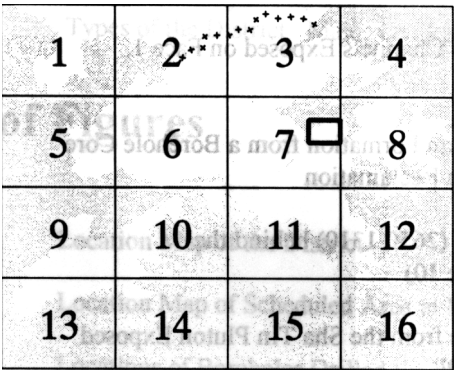
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Map and Report Series Notes

- This report describes the geology of Ma On Shan and should be read in conjunction with the 1:5 000-scale Geological Maps 7-NE-D and part 7-NE-C. The 1:20 000 Geological Map Sheet 7 (Sha Tin), and Memoir 1, Geology of Sha Tin, also include relevant information on the geology of the area.
- This report is one of a series that records the findings of the Hong Kong Geological Survey. An index of the 1:5 000-scale Geological Maps to which this report relates is shown below. The report specifically relates to the Ma On Shan Designated Area, which is an area defined by the Hong Kong Geological Survey where the presence of marble containing cavities is possible at depth. The boundaries of the Designated Area were based upon the geological information available on 31 August 1990, comprising borehole data from ground investigations. On completion of the survey the envelope of marble subcrop was redefined, and following amendment of the Buildings Ordinance and Regulations is known as Scheduled Area No.4 (Figure 2).



1:20 000 Maps



1:5 000 Maps

- Grid references are based on the Hong Kong 1980 Metric Grid as shown on the 1:5 000-scale Geological Maps. Eight-figure references indicate positions to the nearest 10 m, with Eastings followed by Northings, e.g. 2200 2230. Six-figure references indicate positions to the nearest 100 m.
- All onshore and offshore levels and depths are reduced to Hong Kong Principal Datum (PD), which is 1.2 m below Mean Sea Level and 0.15 m above Admiralty Chart Datum.
- Samples in the Territory-wide rock collection archived by the Hong Kong Geological Survey are prefixed HK followed by the serial number, e.g. HK 9872.
- Boreholes are generally referred to by the drilling contractor's number followed by the Geotechnical Information Unit (GIU) accession number for the relevant ground investigation report, e.g. 5SW32/13464. The GIU is located in the Civil Engineering Library of the Civil Engineering Department and is maintained by the Geotechnical Engineering Office.
- The system used in this report for grain-size description and classification is summarized in Table 1

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Superficial Deposits		Grain Size mm	Solid Rocks												
			Sedimentary Rocks		Pyroclastic Rocks	Igneous Rocks							Metamorphic Rocks		
						Acid		Acid-Intermediate		Intermediate	Basic	Other	Foliated	Other	
Boulders		200	Sedimentary Breccia, Conglomerate	Pyroclastic Breccia, Agglomerate	Very Coarse	Pegmatite		Quartz Syenite	Syenite	Quartz Monzonite	Gabbro	Lamprophyre	Schist	Quartzite, Marble, Hornfels, Fault gouge, Fault breccia	
Cobbles															Lapilli-Tuff
Gravel	Coarse	Medium													
	Medium														
Sand	Fine	Sandstone		Coarse Ash Tuff	Fine	Aplite, Microgranite granodiorite									Quartz
	Coarse														
	Medium														
	Fine														
Mud	Silt	0.002	Siltstone	Mudstone	Fine Ash Tuff	Very Fine, Aphanitic	Rhyolite	Dacite	Quartz Trachyte	Trachyte	Quartz Latite	Andesite	Basalt	Mylonite, Phyllite	
	Clay		Claystone												

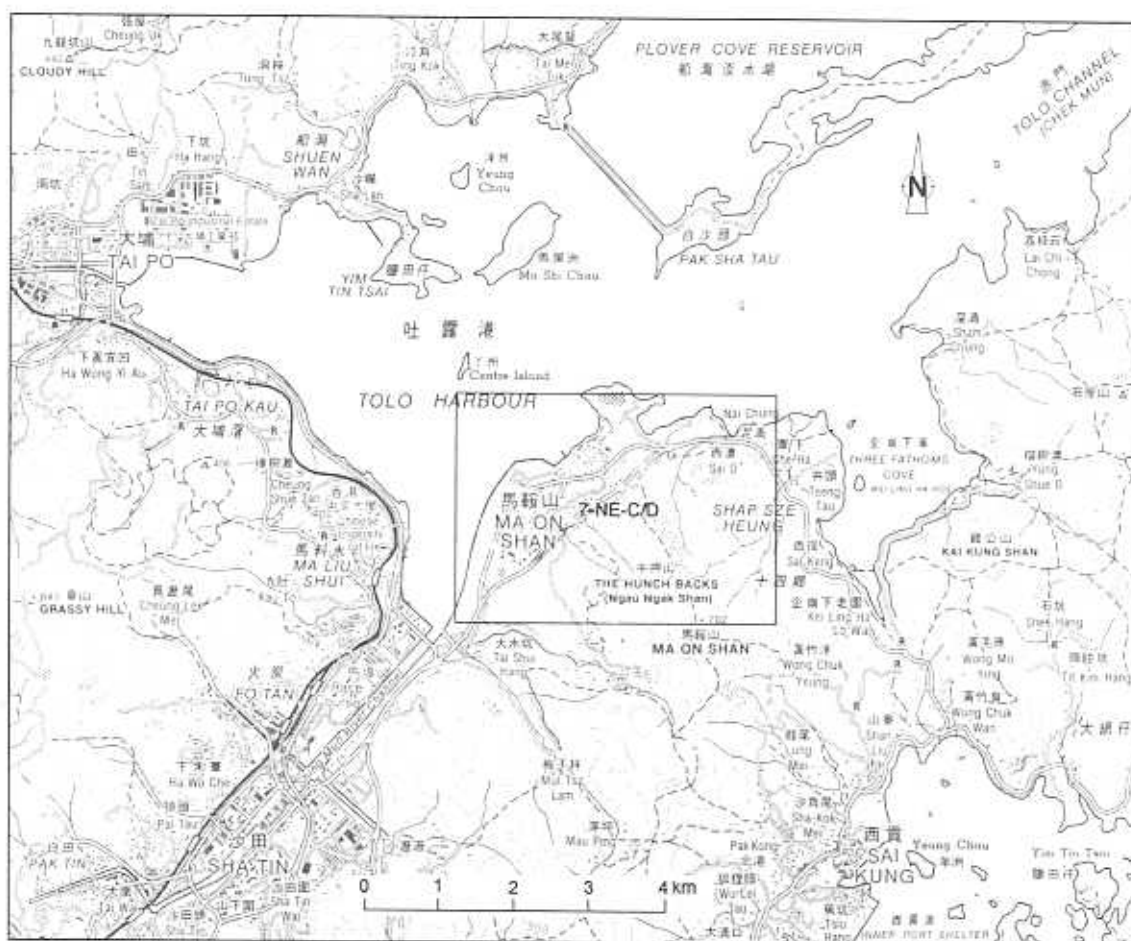


Figure 1 - Location Map of the District

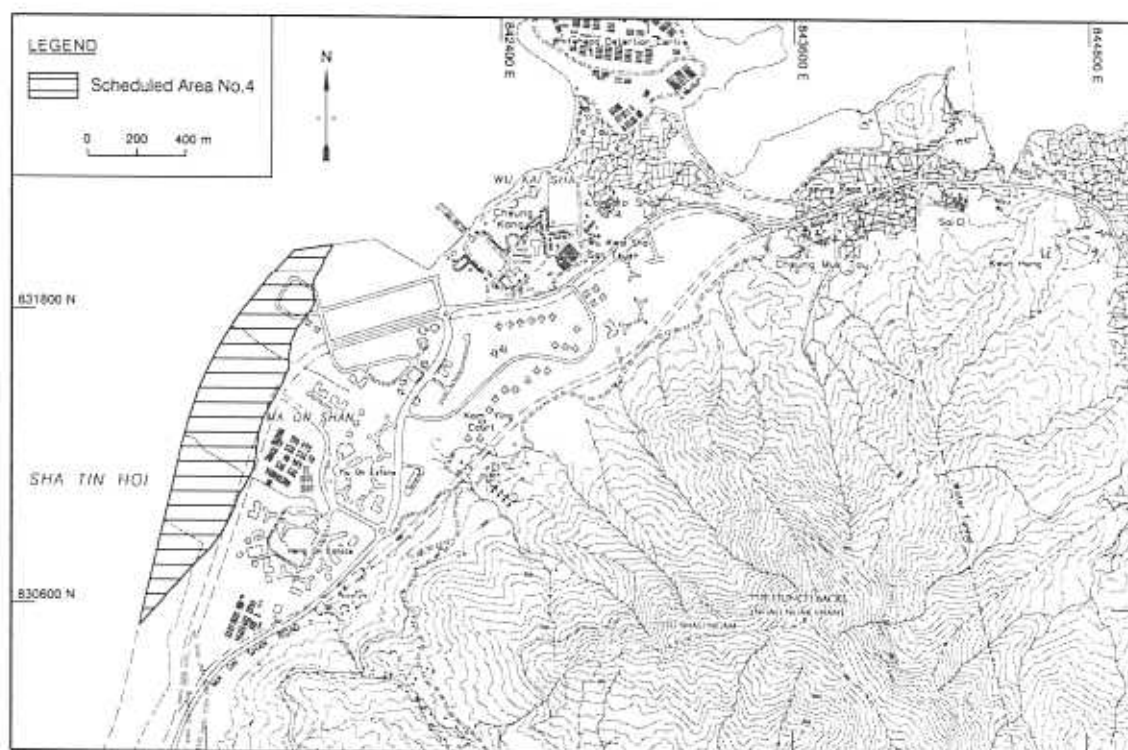


Figure 2 - Location Map of Scheduled Area at Ma On Shan (Scheduled Area No. 4)