

Guidance Note on Incidents Involving Explosive Ordnance During Marine Dredging

Introduction

1. The purpose of this note is to recommend to dredging contractors the actions that should be taken to minimise risks associated with explosive ordnance during dredging operations in Hong Kong waters.

Background

2. As a result of activities during World War II, the seabed in Hong Kong is littered with ordnance. Although the majority of the items which were deliberately dumped into the sea were made safe before they were dumped into the sea, there is also a proportion of items which were not made safe prior to dumping and hence are potentially dangerous. However, the more dangerous items are those which have been fired (e.g. shells), dropped (e.g. bombs) or laid (e.g. mines) but which have failed to explode. In the case of mines, although most are thought to have been later removed, records are incomplete. Any mines which were not removed could have broken loose and drifted away, or could have lost their buoyancy and sunk into the soft seabed.
3. The official ordnance dumping ground, used prior to May 1950, is off southwest Tsing Yi, as shown in the Admiralty chart. In addition, sufficient ordnance have been recovered at the Tathong Channel, off southwest Stonecutters Island and south of Junk Bay to suggest that these areas might also have been used as unofficial ordnance dumping grounds in the past.
4. As explained above, most dumped ordnance will have been made safe prior to dumping, however, there is lack of information on where the more dangerous items lie because these were not "dumped". However, based on experience gained in past years, greater attention is required when carrying out dredging operations in the waters west and south of Tsing Yi, towards Stonecutters Island. Although old military plans indicate that mines were laid from Lantau to the mainland around the Brothers Islands and across the East and West Lamma Channels, this is not sufficient to conclude that it is only in these areas that there might be a risk from mines which were not removed after the war. As explained above, mines can break loose, drift and sink.
5. It is known that there have been several explosions on suction dredgers. Normally, these occurred in the suction pipe or pump, although one has occurred during load discharge. In February 1993, an explosion occurred to the west of Tsing Yi, at the draghead of a trailer suction dredger, 25m below the keel and resulted in extensive damage to the vessel.

Recommendations to all contractors removing material from the seabed

6. The following actions are recommended to dredging contractors to reduce the chances of explosion caused by ordnance in the seabed, and to reduce the casualties in the unfortunate event of an explosion.

6.1 General

- (a) Masters of all dredgers currently operating in Hong Kong waters should receive a copy of this guidance note.
- (b) The vessel Master should ensure that there is an emergency plan to deal with ordnance/explosion. The plan should include evacuation of injured personnel. Drills should be carried out regularly to test this plan.
- (c) In the event that ordnance is found or suspected to be present, the dredger Master must inform the Police Duty Officer, Headquarters Command & Control Centre (HQCCC) at 2860 2400 immediately and ask for the Explosive Ordnance Disposal Bureau (EOD Bureau). The dredger Master should provide the following information when making his initial report:
 - location of dredger at the time of the report
 - intended route of the dredger if it will be under way after the report (i.e. will the dredger be passing to the south of Hong Kong Island, or through Victoria Harbour)
 - estimated speed of dredger if under way and estimated time of arrival at destination
 - description of ordnance, including diameter and length if possible
 - location of ordnance on board dredger, i.e. is it jammed in the draghead/cutter, protruding from the grab/buckets or loose on deck
 - hull colour of dredger and any readily identifiable distinguishing features, such as funnel markings (these details will make it easier to locate dredgers at sea)
 - a contact telephone number
- (d) The dredger Master must also inform the Vessel Traffic Centre of Marine Department at 2858 2163 or through VHF radio.
- (e) Follow the instructions of the EOD Bureau of the Hong Kong Police Force until such time that the ordnance is made safe and removed from the dredger.

6.2 Trailer or cutter suction dredgers

- (a) Bars should be welded across the draghead or suction mouth of the dredger so as to prevent ordnance larger than 150mm from entering the suction pipe and pump.

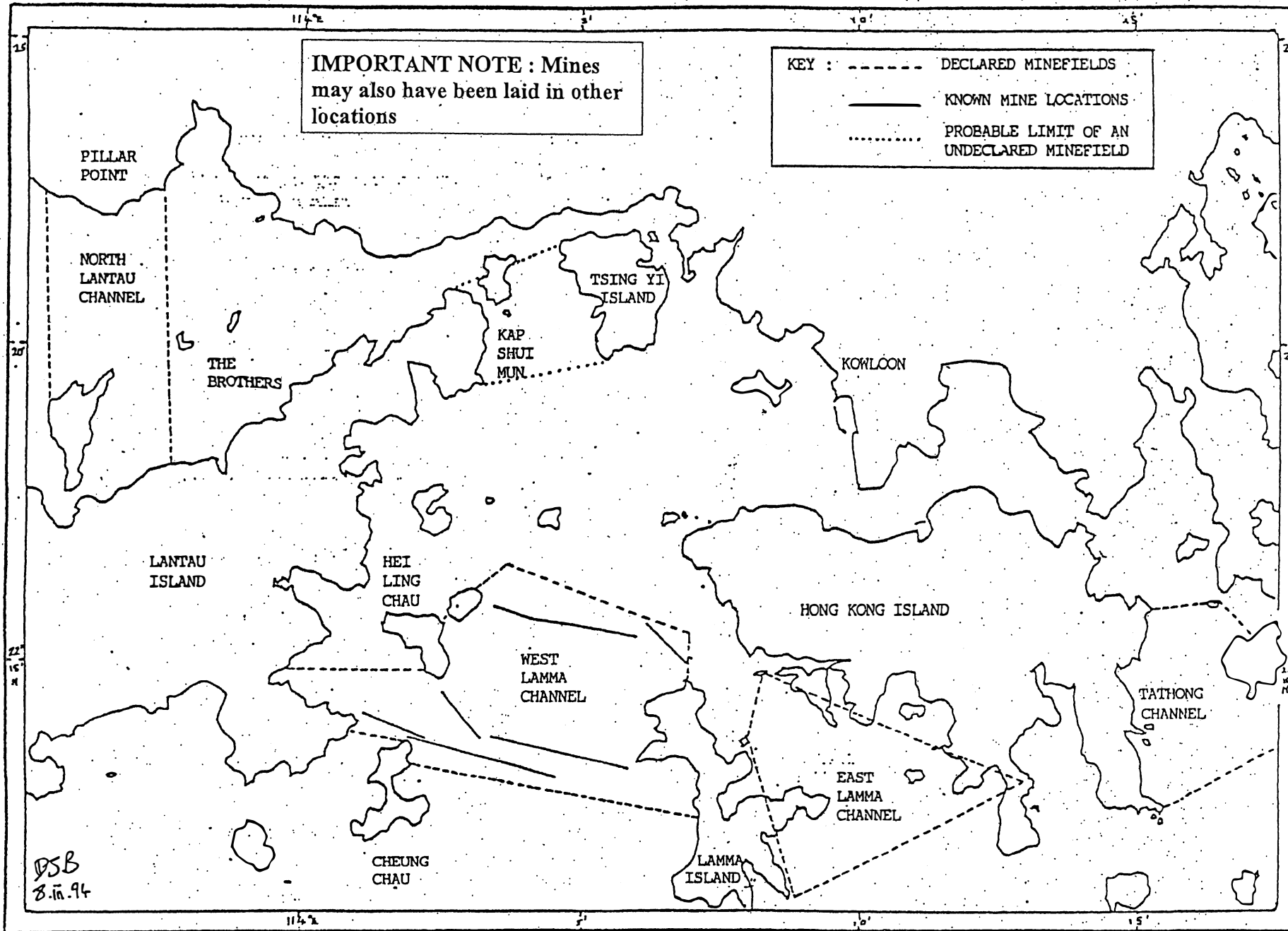
- (b) During dredging operations, the following precautionary measures should be followed to avoid/reduce casualties:
- deck of dredger should be kept clear of all non-essential personnel
 - crew members should not stay in the pump room
 - only essential staff should stay in the engine room
 - crew members should not be allowed to work or stay near the draghead/cutter and suction pipes
 - all watertight doors should be closed
- (c) Repair or maintenance work should not be carried out at potentially dangerous areas in the dredger during dredging. If repairs become necessary, dredging operations should cease until the repairs have been completed.
- (d) When the suction pipes are lifted onto the deck upon completion of dredging, the draghead/cutter must be checked to ensure that no explosive ordnance are jammed in the draghead/cutter, before any work is carried out on the draghead/cutter or suction pipes.
- (e) If an ordnance is found or suspected to be present, the dredger master should take the actions recommended in paragraphs 6.1(c), (d) and (e).
- (f) If ordnance is jammed in the draghead/cutter, place a net, car tyres or mattress under the draghead/cutter to catch the ordnance should it inadvertently fall from the draghead/cutter. Do not try to remove it so that dredging can continue.

6.3 Grab dredgers or chain bucket dredgers

- (a) If ordnance is seen protruding from the grab or buckets, the grab or buckets should be stopped. The dredger Master should then ensure that no work takes place near the suspect ordnance.
- (b) The dredger Master should then take the actions recommended in paragraphs 6.1(c), (d) and (e).

Further assistance

7. The EOD Bureau may be approached through the Duty Police Officer at HQCCC (Telephone no. 2860 2400) if the dredging contractors require further advice on this subject. The EOD bureau is also willing to conduct briefing sessions on this subject to dredger Masters and their crews.



DEFENSIVE MINEFIELDS, HONG KONG, SEPTEMBER 1939 TO DECEMBER 1941