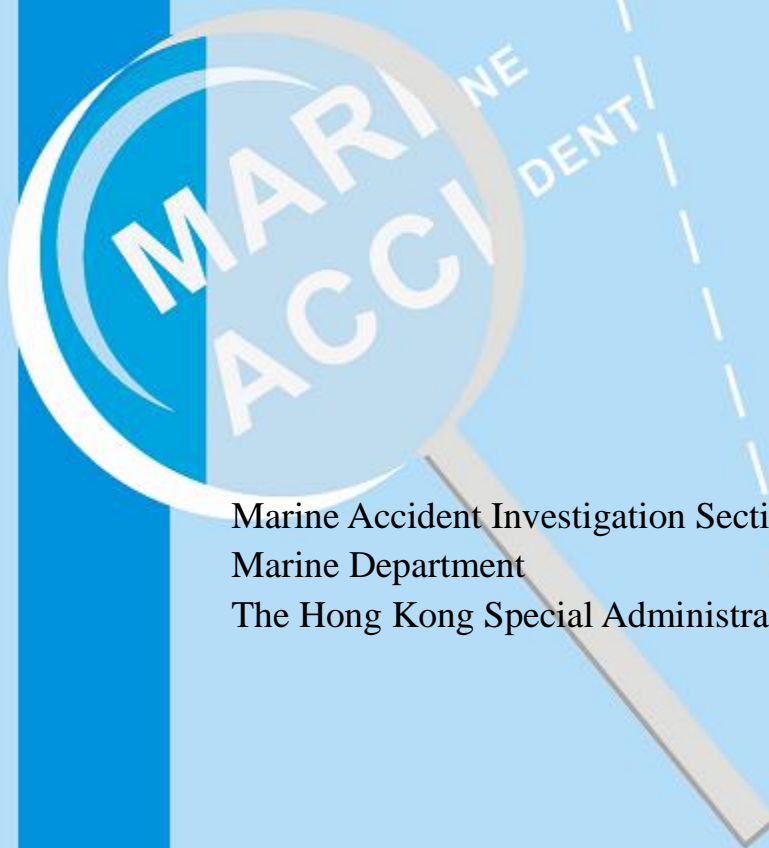




**Report of investigation into the fatal
accident of a sailor fell overboard a
local dumb lighter “*Kwong Fei 38*”
and drowned in the waters east of
Round Island on 13 January 2017**



Marine Accident Investigation Section
Marine Department
The Hong Kong Special Administrative Region

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Purpose of Investigation

The purpose of this investigation conducted by the Marine Accident Investigation and Shipping Security Policy Branch (MAISSPB) of the Marine Department (MD) and the conclusions drawn in this report are to determine the circumstances and the causes of the incident with the aim of improving the safety of life at sea and avoiding similar incidents in future.

We do not intend to apportion blame or liability towards any particular organisation or individual except so far as necessary to achieve the said purpose.

The MAISSPB has no involvement in any prosecution or disciplinary action that may be taken by the MD resulting from this incident.

Table of Contents	Page
1. Summary	1
2. Vessels Involved	2
3. Sources of Information.....	4
4. Outline of Events.....	5
5. Analysis	8
6. Conclusions	12
7. Recommendations	13
8. Submissions.....	14

1. Summary

- 1.1 On 13 January 2017, a locally licensed tug “**Dong Yiu**” towed a locally licensed dumb lighter “**Kwong Fei 38**” from Stonecutters Island to Yantian, passing through Mirs Bay. “**Kwong Fei 38**” was carrying one **Sailor** and one **Crane Operator** on board.
- 1.2 The tug-and-tow was navigating in the waters east of Round Island, Mirs Bay at dusk on the day of accident. It was raining constantly. To prepare for entering Yantian, the **Sailor** and **Crane Operator** on board “**Kwong Fei 38**” retrieved the towing rope at bow and disengaged a pair of chain hooks connected to the towing rope. Having finished his work, the **Sailor** went back to the accommodation located at the stern of the vessel. The **Crane Operator** returned to the accommodation later and found the **Sailor** missing. After searching, a black object which looked like the **Sailor** was found floating on the sea behind the portside of “**Kwong Fei 38**”. The **Crane Operator** immediately requested “**Dong Yiu**” to assist in the search and rescue operations.
- 1.3 After being notified, “**Dong Yiu**” cast off the tow immediately and returned for rescue. About 50 minutes later, the **Sailor** was found floating with his face down on the sea about 800 feet to 1 000 feet behind the portside of “**Kwong Fei 38**”. The crew of “**Dong Yiu**” pulled him back on board and he was later sent to the hospital by the Marine Police. He was certified dead due to drowning on arrival at the hospital.
- 1.4 Investigation into the accident revealed the following major contributing factors:
 - (i) the deck was wet and slippery due to the rain, but the **Sailor** was not wearing slip resistant safety shoes. After he finished adjusting the towing rope at bow, he might have slipped or tripped over the steel cables, chains or manhole cover on the deck on his way back to the accommodation via shipside, and then fell overboard into the sea; and
 - (ii) the **Sailor** drowned after falling into the sea as he was not donning a lifejacket.

2. Vessels Involved

2.1 “Dong Yiu”

2.1.1 Detailed Description

Name of Vessel	:	DONG YIU
Certificate of Ownership Number	:	B2784
Class of Vessel	:	Class II Category A
Type of Vessel	:	Tug
Length Overall	:	23.67 m
Extreme Breadth	:	6.82 m
Gross Tonnage	:	135.18
Net Tonnage	:	90.32
Main Engine and its Power	:	CATERPILLAR Diesel Engine, 637.83 kW
Auxiliary Engine and its Power	:	NANCHANG Diesel Engine, 16.20 kW
Total Number of Persons Permitted to Carry	:	6

2.2 “Kwong Fei 38” (Figure 1)

2.2.1 Detailed Description

Name of Vessel	: KWONG FEI 38
Certificate of Ownership Number	: B22576Y
Class of Vessel	: Class II Category B
Type of Vessel	: Dumb Lighter
Length Overall	: 46.35 m
Extreme Breadth	: 19.19 m
Gross Tonnage	: 1,877.23
Net Tonnage	: 1,314.06
Total Number of Persons Permitted to Carry	: 6



Figure 1: “Kwong Fei 38”

3. Sources of Information

- 3.1 Statement provided by the **Crane Operator** of “Kwong Fei 38”;
- 3.2 Statement provided by the coxswain of “Dong Yiu”;
- 3.3 A weather report provided by the Hong Kong Observatory; and
- 3.4 An autopsy report.

4. Outline of Events

- 4.1 At around 0900 hours on 13 January 2017, “Dong Yiu” towed “Kwong Fei 38” in an easterly direction from the mooring buoy off the Stonecutters Island Public Cargo Working Area to Yantian.
- 4.2 The tug-and-tow reached the waters off Junk Bay at around 1100 hours. The **Crane Operator** and the **Sailor** of “Kwong Fei 38” released the towing rope from about 200 to 300 feet to about 1 100 to 1 300 feet as a preventive measure against any possible rope breakage due to heavy swells when entering the open waters in the east. They returned to the accommodation for rest and lunch upon completion.
- 4.3 During the towage, the two vessels had been using walkie-talkies to communicate. When the tug-and-tow was underway in the waters near the east of Round Island at around 1600 hours, “Dong Yiu” instructed the crew of “Kwong Fei 38” to retrieve the towing rope and prepare for entering Yantian via the walkie-talkie. The **Crane Operator** and the **Sailor** of “Kwong Fei 38” went from the accommodation at the stern to the bow to retrieve the towing rope to about 200 to 300 feet long and disengage the pair of chain hooks that was connected to the towing rope.
- 4.4 At around 1630 hours, the **Crane Operator** saw the **Sailor** leave the bow after finishing his work. The **Crane Operator** assumed that the **Sailor** had returned to the accommodation through the port side deck at that time (Figure 2).
- 4.5 About ten minutes later, the **Crane Operator** also returned to the accommodation after securing the towing rope but could not find the **Sailor**. He called out the **Sailor’s** name several times loudly at once but with no response. He then went from the accommodation to the stern and looked out to the sea.
- 4.6 The **Crane Operator** saw a black floating object at sea about 300 to 400 feet off the stern of “Kwong Fei 38” and suspected that it was the **Sailor**. The **Crane Operator** immediately asked “Dong Yiu” to cast off the towing rope and turn around for searching via the walkie-talkie. The towing speed was about 3 to 4 nautical miles per hour at that time.

- 4.7 After being notified by “Kwong Fei 38”, “Dong Yiu” cast off the towing rope, turned to the port side and looked out along the towing route. At around 1730 hours, “Dong Yiu” spotted the **Sailor** in the water about 800 to 1 000 feet behind the port side of “Kwong Fei 38”. The **Sailor**, wearing a black windbreaker, blue shirt, beige trousers and white cloth shoes without donning a lifejacket, was found lying face down.
- 4.8 Later, the **Sailor** was pulled by the crew of “Dong Yiu” back on board. He was found unconscious and showed no external injuries, except having white foams and vomitus at his mouth and nose. They covered the **Sailor** with a blanket to keep him warm and applied first-aid treatment. They also reported the incident to the company, which called the police for assistance.
- 4.9 At around 1810 hours, the **Sailor**, accompanied by a crew member of “Dong Yiu”, was sent to Ma Liu Shui Marine Police Base by a Marine Police small boat that arrived at the scene and then transferred to the Prince of Wales Hospital for treatment. He was finally confirmed death by drowning.

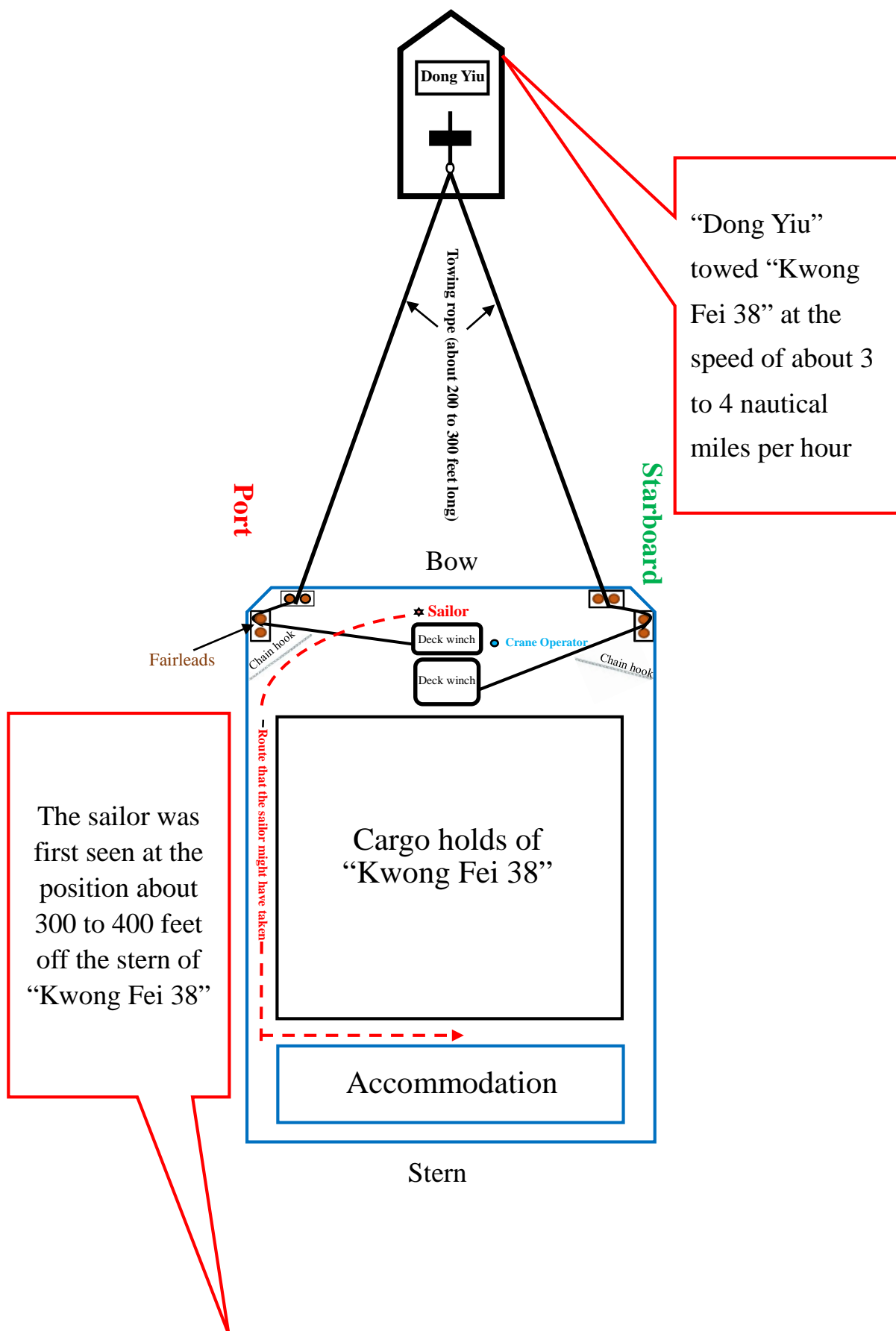


Figure 2 Vessels involved in the incident

5. Analysis

Experience and Training

- 5.1 The **Crane Operator** has worked on “Kwong Fei 38” for more than three years. His routine duties involve operating shipboard machinery and cranes. He held a valid certificate of training in respect of the Shipboard Crane Operator Safety Training Course.
- 5.2 The **Sailor** had many years of experience in relevant shipboard work. At the time of the accident, he was on duty on “Kwong Fei 38”, responsible for duties such as preparing meals and assisting in disengaging the chain hooks of towing ropes. He held a certificate of training in respect of the Basic Safety Training for Local Vessels’ Crew.
- 5.3 Both the **Crane Operator** and the **Sailor** held valid certificates of training in respect of the Shipboard Cargo Handling Basic Safety Training Course and the Works Supervisor Safety Training Course (Shipboard Cargo Handling).

Fatigue at Work

- 5.4 On the day of the accident, “Kwong Fei 38” was under tow and the length of the towing rope was adjusted twice during the towing voyage. For most of the time, the crew were resting or having meals in the accommodation. There was no evidence suggesting that the accident was the result of fatigue at work.

Physical Conditions of the Person Involved in the Accident

- 5.5 The post-accident investigation found no evidence indicating that the **Sailor** had felt unwell, taken drugs or behaved abnormally under the influence of alcohol before the accident.

Autopsy Report

- 5.6 The autopsy report pointed out that the direct cause of the death of the **Sailor** was drowning. No internal or external injuries contributory to his death were found and the toxicological analysis was negative for common drugs and poisons.

Weather and Sea Conditions

- 5.7 The accident happened around dusk. According to the weather report provided by the Hong Kong Observatory, it had been raining around the area with a moderate northerly wind and moderate visibility. The average temperature and humidity were about 15°C and 80% respectively.
- 5.8 According to the description of the weather and sea conditions at the scene given by the crew of “Dong Yiu”, it was getting dark at the material time with a northerly wind of force 3 to 4. It was cold with occasional swells and there was no vessel sailing in the vicinity.

Environmental Factors and Possible Causes of Falling Overboard and Drowning

- 5.9 The starboard deck of “Kwong Fei 38” was clear and free from obstruction. However, there were two steel cables on the port deck. One of which, extending from bow to stern, was for berthing at piers and a considerable length of it laid in the middle of the access area of the port deck. There was also a slightly raised void space manhole cover at the midship section in the access area of the port deck, and further back stacked a small pile of chains which extended to the middle of the access area. Hence, the personnel were more prone to trip when walking in the access area of the port deck (Figure 3).



Figure 3 The access areas of the port and starboard decks of “Kwong Fei 38”

- 5.10 “Kwong Fei 38” is a dumb lighter. It is not required to have bulwarks or guardrails installed along its deck. Since the accident took place on 13 January 2017, the lighter did not have any suitable warning plate displayed to alert the personnel on board to the absence of bulwarks and guardrails along the deck for the purpose of enhancing their awareness. However, according to the Code of Practice – Safety Standards for Class II Vessels which came into effect on 3 March 2017, any non-mechanically propelled vessel on which bulwarks or guardrails are not fitted at main deck ship side, there shall be displayed in a conspicuous location on board a suitable warning plate indicating that no bulwarks or guardrails have been fitted at the position.
- 5.11 Since the **Sailor** returned to the accommodation by himself, no one witnessed how he fell overboard and drowned.
- 5.12 It kept raining during the material time of the accident. The paint on the deck surface of the access area, which had not undergone special anti-slip treatment, was wet and slippery, and the **Sailor** was wearing white cloth shoes without any anti-slip property. Based on the information available, it is deduced that the most possible causes of the accident are as follows:
- (i) the **Sailor**, who walked on the wet and slippery deck surface of the

- access area wearing white cloth shoes without any anti-slip property, was very likely to have fallen overboard because he slipped or tripped over the steel cables, chains or manhole cover on the deck and lost his footing; and
- (ii) the **Sailor** drowned after falling overboard as he was not donning a lifejacket.

6. Conclusions

- 6.1 On 13 January 2017, “Dong Yiu” towed “Kwong Fei 38” from Stonecutters Island to Yantian, passing through Mirs Bay. At dusk, when the vessels were navigating in the waters east of Round Island, a **Sailor** on board “Kwong Fei 38” fell overboard and drowned.
- 6.2 Investigation into the accident revealed the following major contributing factors:
- (i) the deck was wet and slippery due to the rain, but the Sailor was not wearing slip resistant safety shoes. After he finished adjusting the towing rope at bow, he might have slipped or tripped over the steel cables, chains or manhole cover on the deck on his way back to the accommodation via shipside, and then fell overboard into the sea; and
 - (ii) the **Sailor** drowned after falling into the sea as he was not donning a lifejacket.

7. Recommendations

- 7.1 A copy of the report was sent to the shipowners of “Dong Yiu” and “Kwong Fei 38” to inform them of the investigation results of this accident. The shipowner of “Kwong Fei 38” should:
- (i) comply with the requirements of the Code of Practice on Safety Standards for Class II Vessels by displaying in a conspicuous location on board a suitable warning plate indicating that no bulwarks or guardrails have been fitted at the position, and reminding all workers of the dumb lighter under tow that they are allowed to walk or work near the ship sides without any guardrails only if necessary and when appropriate safety or protective measures (wearing suitable working dress, slip resistant safety shoes¹, life jackets and fastening seat belts, etc.) have been adopted. Extreme care should be exercised during rainy days in particular to avoid falling overboard due to slippery deck; and
 - (ii) keep good housekeeping of the material on deck, such as the steel cables and chains, to eliminate any potential tripping hazard on board.
- 7.2 A Marine Department Notice should be issued to report on lessons learned from this accident.

¹ For details, please refer to Appendix A2.2.2 on Standards for Protective Shoes to the **Code of Practice on Using Protective Clothing and Equipment for Works on Local Vessels** (2nd edition - January 2016) issued under section 45A of the Merchant Shipping (Local Vessels) Ordinance, Cap. 548.

8. Submissions

8.1 A copy of the draft report was sent to the following parties for their comments:

- (i) coxswain of “Dong Yiu”;
- (ii) shipowner/Company and **Crane Operator** of “Kwong Fei 38”; and
- (iii) Local Vessel Safety Section (LVSS) of the Marine Department.

8.2 By the end of the consultation period, comments were received from the LVSS of the Marine Department and adopted as appropriate. There had been no response from other relevant parties.