



Report of Investigation
into the Collision between
the Hong Kong registered
high-speed passenger ferry
COTAI STRIP COTAIGOLD
and the local open sampan
P40707C in Adamasta Channel
off Cheung Chau
on 20 March 2009



Purpose of Investigation

This incident is investigated and published in accordance with the IMO Code for the Investigation of Marine Casualties and Incidents promulgated under IMO Assembly Resolution A.849 (20). The purpose of this investigation conducted by the Marine Accident Investigation and Shipping Security Policy Branch (MAISSPB) of Marine Department is to determine the circumstances and the causes of the incident with the aim of improving the safety of life at sea and avoiding similar incident in future.

The conclusions drawn in this report aim to identify the different factors contributing to the incident. They are not intended to apportion blame or liability towards any particular organization 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 Marine Department resulting from this incident.

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1. Summary

- 1.1 At about 0344 on 20 March 2009, the Hong Kong registered high-speed passenger ferry *COTAI STRIP COTAIGOLD* collided with the local open sampan *P40707C* in Adamasta Channel off Cheung Chau in position 22°12.88'N 114°00.97'E. The weather was foggy and the visibility was poor about 10 metres to 0.1 nautical mile (i.e. 185 metres). *COTAI STRIP COTAIGOLD* sustained minor damage i.e. scratches to the bow of its port hull while *P40707C* was cut by the port hull of the former vessel into two pieces after the collision. The woman who sat in the front of the sampan fell overboard and was rescued by her husband. She was seriously injured and was sent to the hospital for medical treatment. However, she later died in the hospital. The Master and officers of *COTAI STRIP COTAIGOLD* claimed that they were not aware of the collision and the vessel continued her voyage to Hong Kong Macau Ferry Terminal.
- 1.2 The investigation has established that the main cause of the accident was the failure of the Master and the Chief Officer of *COTAI STRIP COTAIGOLD* to observe Rule 5 and Rule 19(d) of the COLREGS¹. They had failed to maintain a proper lookout to make a full appraisal of the situation and of the risk of collision with *P40707C*. They had also failed to determine if a close-quarters situation is developing and/or risk of collision exists when *P40707C* was detected by the radar and to take avoiding action in ample time. The above failures had led to the collision of the two vessels.
- 1.3 *P40707C* had failed to comply with Rule 10(j) of the COLREGS by impeding the safe passage of *COTAI STRIP COTAIGOLD* following the traffic lane of the Adamasta Channel Traffic Separation Scheme.

¹ COLREGS - International Regulations for Preventing Collisions at Sea, 1972, as amended.

2. Description of the vessels

2.1 *COTAI STRIP COTAIGOLD* (金光籃球)

Call Sign	:	VREB6
Port of Registry	:	Hong Kong
IMO No.	:	9429704
Type	:	High Speed Passenger Catamaran
Length	:	41.93 metres
Breadth	:	11.80 metres
Moulded Depth	:	3.80 metres
Gross Tonnage	:	700
Net Tonnage	:	231
Year of Built	:	2008
License to carry	:	417 passengers & 8 crew
Engine	:	4 x MTU-16V 4000 M70 Marine Diesel Engine
Total Engine Power	:	4 x 2320 kW i.e. 9,280 kW
Service speed	:	42 knots

2.1.1 *COTAI STRIP COTAIGOLD* is an aluminum alloy high speed passenger catamaran. It was built with 4 sets of water jet propulsion unit cruising at a maximum speed of 42 knots.

2.1.2 The vessel is equipped with navigational equipment consisting of two X-band radars, two sets of VHF DSC radiotelephone and three sets of two-way VHF radiotelephone, one set of Global Positioning System (GPS), Automatic Identification System (AIS), gyro compass and magnetic compass, Voyage Data Recorder (VDR), echo sounder and Electronic Chart Display and Information System (ECDIS).



Figure 1- Photograph of *COTAI STRIP COTAIGOLD*

2.2 *P40707C*

Licence No.	:	P40707C
Type	:	GRP Open Sampan
Length Overall	:	5.1 metres
Extreme Breadth	:	1.8 metres
Gross Tonnage	:	2.01
Net Tonnage	:	1.40
Date of First Licensed	:	8 March 1999
Engine/Engine Power	:	1 x Mercury Petrol Outboard / 11.19 kW
Total no. of person permitted to carry	:	4



Figure 2- Photograph of *P40707C* which was broken into 2 pieces

3. Sources of evidence

- 3.1 The statements from the Master, the Chief Engineer, the Chief Officer & the Night Vision Officer of the high-speed passenger ferry *COTAI STRIP COTAIGOLD*, and the Coxswain of the local open sampan *P40707C*;
- 3.2 The Marine Police, Hong Kong Police Force; and
- 3.3 The Hong Kong Observatory.

4. Outline of events

4.1 Account of *COTAI STRIP COTAIGOLD*

- 4.1.1 At about 0300 on 20 March 2009, the Hong Kong registered high-speed passenger ferry *COTAI STRIP COTAIGOLD* departed from Macau to Hong Kong with 204 passengers and 13 crew members on board. Pre-flight check and pre-departure check had been carried out according to procedures laid down by the management company i.e. Cotai Chu Kong Shipping Management Services Co., Ltd. All equipment was found in normal condition and the tape recorder was switched on before departure. The voyage would take about one hour at a normal cruising speed of 42 knots. The weather was cloudy and the sea was slight. The visibility was good with a range between two to three nautical miles.
- 4.1.2 Five crew members consisted of the Master, Chief Officer, Night Vision Officer, Chief Engineer and Night Vision Officer Trainee were on the bridge. The Master who was in command was steering the vessel. The Chief Officer was seated on the port side of the Master keeping a visual lookout and radar watch as well as to report targets to the Master and monitor vessel's position. The Chief Engineer was seated behind the Chief Officer monitoring the machinery console. The Night Vision Officer was seated on the starboard side of the Chief Engineer controlling the Night Vision Equipment while the Night Vision Officer Trainee was seated on the starboard side of the Night Vision Officer under training for Night Vision Equipment.
- 4.1.3 After leaving Taipa pier in Macau, *COTAI STRIP COTAIGOLD* followed the designated route to Hong Kong. After the vessel had passed Shek Kwu Chau at about 0340, the visibility deteriorated and reduced to between 400 metres and 800 metres. Prior to passing the SE Lantau Buoy, the Master instructed two sailors to go to the bridge to keep a lookout and he sounded the fog signals. Before course alteration to port to 050°T, the Chief Officer reported to him that there was a target on the port bow at a range of 2.5 cables making same way. At about 0343 the Chief Officer reported to the Master that there was a small target on the starboard side of the channel crossing to the port side at a range of 2.7 cables².

² Cable - measurement unit used in navigation equals to 0.1 nautical mile.

4.1.4 The Master reduced the speed of the vessel to 30 knots. *COTAI STRIP COTAIGOLD* passed on the starboard side of the target which was a mainland cargo ship making same way and the Master observed that the echo of the small target which was crossing to the port side disappeared from the radar display. The Master reduced the speed of the vessel further to 15 knots and increased the speed after overtaking a fishing vessel on the port side near Adamasta Rock. When the vessel passed Hei Ling Chau, the visibility improved to more than two nautical miles. The vessel arrived at and berthed alongside Macau Ferry Terminal in Hong Kong at 0407. As the Master and officers on board *COTAI STRIP COTAIGOLD* were not aware of the collision with *P40707C* at 0344 off Cheung Chau, they did not report the collision to Marine Department or the management company.

4.2 Account of *P40707C*

4.2.1 At about 0330 on 20 March 2009, the Coxswain and his wife boarded the local open sampan *P40707C*. The sampan then departed from Cheung Chau to Ha Kang on Chi Ma Wan Peninsula to catch fish. The weather was fine with a northeasterly light breeze. At about 0344 when *P40707C* was at Admasta Channel, it was hit by an unknown high-speed catamaran which was approaching from a southwesterly direction.

4.2.2 After the collision, *P40707C* was cut into two pieces. The spouse of the Coxswain who sat in the front of the vessel fell overboard. The Coxswain who was steering the sampan sat at the starboard quarter and the sampan remained afloat. He found his spouse on the sea surface and recovered her on board. At about 0350 the Coxswain used his mobile phone to call the Police for assistance.

4.2.3 At about 0400, a Marine Police launch arrived at the scene and took the couple on board. The spouse of the Coxswain was delivered to Cheung Chau Hospital for medical treatment. She was later transferred to Queen Mary Hospital for medical treatment and died in the hospital on 1 April 2009 i.e. twelve days after the collision.

5. Analysis of evidence

5.1 Certification and Experience of Personnel

5.1.1 The Master of *COTAI STRIP COTAIGOLD* held river-trade Certificate of Competency as Master and a type-rating certificate as a Master on Austal 47.5-metre Catamaran. All the above certificates were valid and issued by the Marine Department of the Hong Kong Special Administrative Region. He had been working as Master on board Austal 47.5-metre catamarans plying between Hong Kong and Macau on day service and night service for about 9 months and 8 months respectively. Also he worked for about 10 years as Chief Officer on high-speed craft plying between Hong Kong and Macau. He attended an 18-hour course in Radar Simulator (High Speed Craft) conducted by the Hong Kong Polytechnic University in January 1996.

5.1.2 The Chief Officer of *COTAI STRIP COTAIGOLD* held river-trade Certificate of Competency as Master and a type-rating certificate as a Chief Officer on Austal 47.5-metre Catamaran. All the above certificates were valid and issued by the Marine Department of the Hong Kong Special Administrative Region. He had been working on board Austal 47.5-metre Catamaran for night service plying between Hong Kong and Macau as Chief Officer for about 5 years. He attended an 18-hour course in Radar Simulator (High Speed Craft) conducted by the Hong Kong Polytechnic University in June 2004.

5.1.3 The Coxswain of *P40707C* held a valid Hong Kong Local Certificate of Competency as Master to take charge of a powered fishing vessel which enabled him to take charge of a local open sampan. He was engaged in fishing for more than 50 years.

5.1.4 It was considered that the operating personnel of both vessels were properly certificated.

5.2 Certification of the vessels in collision

5.2.1 The statutory trading certificates of both vessels were issued by the Marine Department of the Hong Kong Special Administrative Region and those certificates were valid and in order.

5.2.2 There was no indication that there were equipment and/or engine failures.

5.3 Weather and Visibility

5.3.1 The Hong Kong Observatory did not have information regarding the visibility at the collision position. However, according to the statements of the Master and the Chief Officer of *COTAI STRIP COTAIGOLD*, the weather at the time of the collision was foggy with a visibility of about 0.1 nautical mile (i.e. 185 metres) while the Coxswain of *P40707C* claimed that the visibility was only about 10 metres.

5.4 Evidence of Contact between *COTAI STRIP COTAIGOLD* and *P40707C*

5.4.1 Although the identity of the target of *P40707C* was not indicated on the radar as the vessel had not been installed with the AIS, the Government Chemists had conducted a paint transfer examination on the fragments and control samples retrieved from the above two vessels, and by virtue of the findings, commented that there was likely a contact between the two vessels.

5.5 Actions taken by *COTAI STRIP COTAIGOLD*

5.5.1 According to the VDR information, at about 0300 *COTAI STRIP COTAIGOLD* departed from Macau to Hong Kong. The vessel followed various courses with a speed of about 41 knots. When passing the Lautau SE buoy at about 0343, the vessel altered course to port to 048°T. At 034446, the vessel collided with *P40707C* at the position 22°12.88'N 114°00.97'E.

5.5.2 Just before the collision, *COTAI STRIP COTAIGOLD* commenced reducing speed. At the time of the collision, the vessel was on a course of 042°T with a speed of about 32 knots. After the collision, the speed was further reduced to 12 knots and the speed was increased at 0348. Although the Chief Officer of *COTAI STRIP COTAIGOLD* claimed that before the collision, he had observed the target of *P40707C* on the radar and reported to and acknowledged by the Master, they did not keep a proper lookout on the target by closely monitoring the movement of the target. The audio recording of VDR confirmed that the Chief Officer had reported to the Master about the crossing of a target i.e. *P40707C* from the starboard side to the port side at 034412. When the two vessels collided at 034446, a bang was also recorded by the VDR. All the officers including the Master of *COTAI STRIP COTAIGOLD* declared that they were not aware of the collision and the vessel continued her voyage to Hong Kong as usual. However, it was doubtful whether they were really not aware of the collision as the Chief Officer had already

reported to the Master about the movement of the target i.e. *P40707C* from the starboard side to the port side, and the collision between the two vessels was evidenced by the bang so caused. The Master and the Chief Officer have contravened Rule 19(d) of the COLREGS which states that a vessel which detects by radar alone the presence of another vessel shall determine if a close-quarters situation is developing and/or risk of collision exists. If so, she shall take avoiding action in ample time. In this case, both the Master and the Chief Officer had not taken any assessment of the risk of collision. Both of them had failed to maintain a proper radar lookout as required by Rule 5 of COLREGS.

5.6 Actions taken by *P40707C*

- 5.6.1 According to the radar plot of VTC, after leaving the Cheung Chau Typhoon Shelter, *P40707C* followed a course of 303°T with a speed of about 9 knots until the vessel collided with *COTAI STRIP COTAIGOLD* at about 0344 on 20 March 2009.
- 5.6.2 *P40707C* was not equipped with a radar or any sound signal appliances. Therefore, under the prevailing weather and poor visibility condition, *P40707C* should not navigate outside the Cheung Chau Typhoon Shelter and cross the traffic separation scheme where a lot of high-speed craft traffic would be expected. *P40707C* had failed to comply with Rule 10(j) of the COLREGS by impeding the safe passage of *COTAI STRIP COTAIGOLD* following the traffic lane of the Adamasta Channel Traffic Separation Scheme.

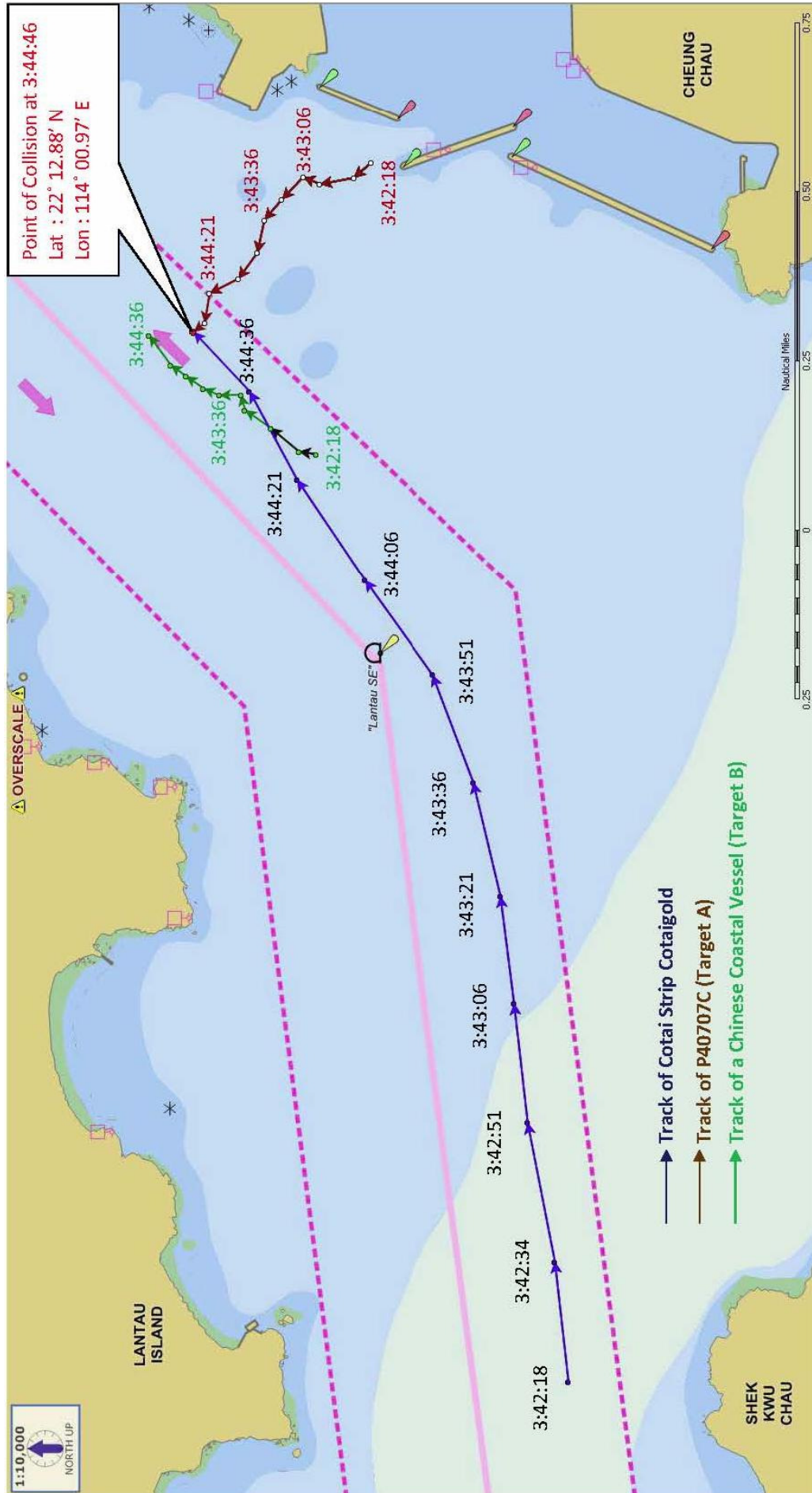


Figure 3 – Plot showing the collision tracks of Cotai Strip Cotaigold and P40707C and the track of an unknown Chinese coastal vessel

5.7 Fatigue and alcohol impairment

- 5.7.1 There was no evidence to suggest that alcohol or drugs were taken by any of the crew members of both vessels involved in the collision.
- 5.7.2 The Master and the Chief Officer on board *COTAI STRIP COTAIGOLD* were off duty for two days prior to reporting duty at 2230 in Hong Kong on 19 March 2009 while the Coxswain on board *P40707C* had taken at least 7 hours of sleep every day for the previous two days. All the above officers claimed that they had sufficient rest prior to reporting duty. In this connection, it appears that fatigue was not an issue in this accident.

5.8 Damage to vessels

- 5.8.1 According to the statement of the Coxswain of *P40707C*, the port hull of *COTAI STRIP COTAIGOLD* struck the port side of his vessel which was cut into two pieces (Figure 2). Some scratches on the port hull of *COTAI STRIP COTAIGOLD* could be observed after the collision (Figure 4). Due to the sharp edge of the port stem of *COTAI STRIP COTAIGOLD*, *P40707C* could easily be cut into two pieces when meeting broadside to *COTAI STRIP COTAIGOLD*.



Figure 4 – Scratch marks on the forward port hull of *COTAI STRIP COTAIGOLD* after collision

6. Conclusions

- 6.1 At about 0344 on 20 March 2009, the Hong Kong registered high speed passenger ferry *COTAI STRIP COTAIGOLD* collided with the local open sampan *P40707C* in Adamasta Channel off Cheung Chau in position 22°12.88'N 114°00.97'E.
- 6.2 At the time of the accident, the weather was foggy and the visibility was poor about 10 metres to 0.1 nautical mile (i.e. 185 metres).
- 6.3 *COTAI STRIP COTAIGOLD* sustained minor damage i.e. scratches at the bow of its port hull while *P40707C* was cut into two pieces after the collision. As a result of the collision, the woman on board *P40707C* fell overboard and was seriously injured. She later died in the hospital.
- 6.4 The investigation has established that the main causes of the accident were:
- (i) The failure of the Master and the Chief Officer of *COTAI STRIP COTAIGOLD* to observe Rule 5 of COLREGS in maintaining a proper lookout to make a full appraisal of the situation and of the risk of collision with *P40707C*;
 - (ii) The failure of the Master and the Chief Officer of *COTAI STRIP COTAIGOLD* to observe Rule 19(d) of the COLREGS to determine if a close-quarters situation is developing and/or risk of collision exists when *P40707C* was detected by the radars and to take avoiding action in ample time; and
 - (iii) *P40707C* had failed to comply with Rule 10(j) of the COLREGS by impeding the safe passage of *COTAI STRIP COTAIGOLD* following the traffic lane of the Adamasta Channel Traffic Separation Scheme.

7. Recommendations

- 7.1 A copy of the investigation report should be sent to the owner/management company, the Master and the Chief Officer of *COTAI STRIP COTAIGOLD*, and the Coxswain of *P40707C*.
- 7.2 The owner/management company of *COTAI STRIP COTAIGOLD* should be advised to issue a notice to draw the attention of their Masters and officers to the findings of this report and remind them to comply with the COLREGS at all times especially in poor visibility. Their attention should also be drawn to MDN No. 3 of 2012 issued by Hong Kong Marine Department regarding safe navigation in poor visibility.
- 7.3 The Coxswain of *P40707C* should be reminded to comply with the COLREGS at all times especially in poor visibility, and his attention should also be drawn to MDN No. 3 of 2012 issued by Hong Kong Marine Department regarding safe navigation in poor visibility.

8. Submissions

- 8.1 In the event that the conduct of any person or organization is commented in an accident investigation report, it is the policy of the Marine Department to send a copy of the draft report to that person or organization for their comments.
- 8.2 The drafts of the report were sent to the following parties:
- The owner/management company, the Master and the Chief Officer of *COTAI STRIP COTAIGOLD*;
 - The Coxswain of *P40707C*.
- 8.3 No submission was received from the parties in 8.2.