

MA2013-10

**MARINE ACCIDENT
INVESTIGATION REPORT**

October 25, 2013



The objective of the investigation conducted by the Japan Transport Safety Board in accordance with the Act for Establishment of the Japan Transport Safety Board is to determine the causes of an accident and damage incidental to such an accident, thereby preventing future accidents and reducing damage. It is not the purpose of the investigation to apportion blame or liability.

Norihiro Goto
Chairman
Japan Transport Safety Board

Note:

This report is a translation of the Japanese original investigation report. The text in Japanese shall prevail in the interpretation of the report.

MARINE ACCIDENT INVESTIGATION REPORT

September 19, 2013

Adopted by the Japan Transport Safety Board

Member Tetsuo Yokoyama

Member Kuniaki Shoji

Member Mina Nemoto

Accident type	Collision
Date and time	Around 0440 on September 11, 2011 (local time, UTC+9 hours)
Location	Southwest off Sada Misaki, Ikata-cho, Ehime Prefecture 214° true, 1.8 nautical miles (M) from the Sada Misaki Lighthouse (approximately 33° 19.1'N, 131° 59.7'E)
Process and Progress of the Investigation	<p>(1) Setup of the Investigation</p> <p>The Japan Transport Safety Board appointed an investigator-in-charge from Hiroshima Office and one other investigator to investigate this accident on September 12, 2011.</p> <p>(2) Comments from Parties Relevant to the Cause</p> <p>Comments on the draft report were invited from parties relevant to the cause of the accident.</p> <p>(3) Comments from Flag State</p> <p>Comments on the draft report were invited from the Hong Kong Special Administrative Region of the People's Republic of China, the flag State of the tanker "SONG LIN WAN" and Antigua and Barbuda, the flag State of the cargo ship "BBC TEXAS."</p>
Factual Information Vessel type and name, Gross tonnage, Vessel number, Owner, etc. L×B×D, Hull material Engine, Output, Date of launch, etc.	<p>Vessel A</p> <p>Oil Tanker "SONG LIN WAN" (registered in the Hong Kong Special Administrative Region of the People's Republic of China), 56,358 tons, 9264570 (IMO number), AMBER OCEAN SHIPPING S.A. 241.0 m×42.0 m×21.2 m, Steel Diesel engine, 11,770 kW, November 27, 2002 (Completion)</p> <p>Vessel B</p> <p>Cargo ship "BBC TEXAS" (registered in Antigua and Barbuda) 9,611 tons, 9388883 (IMO number), KG Schifffahrtsgesellschaft MS "Heino" mbH & Co., 138.16 m×21.00 m×11.00 m, Steel Diesel engine, 5,400 kW, June 15, 2007</p>
Crew Information	<p>Vessel A</p> <p>Master A (Nationality: People's Republic of China), male, age 37 Certificate of Master (issued by People's Republic of China) Date of issue: March 1, 2007</p>

	<p>(valid until March 1, 2012)</p> <p>Vessel B</p> <p>Officer B (Nationality: Ukraine), male, age 27</p> <p>Certificate of Chief Officer (issued by Ukraine)</p> <p>Date of issue: September 22, 2009</p> <p>(valid until August 11, 2014)</p>
Injuries to Persons	None
Damage to Vessel	<p>Vessel A A rupture and abrasions on the port bow</p> <p>Vessel B Collapse of a bulwark and abrasions on the starboard bow</p>
Events Leading to the Accident	<p>Vessel A, with Master A and 23 crew members on board, was loaded with about 49,511 tons of naphtha. While Master A was conning the vessel with Officer of the Watch A assigned as an assistant and Able Seaman A assigned to manual steering, Vessel A was proceeding north-northwestward on manual steering, south off Sada Misaki toward eastern Hayasui Seto, with the engine at harbour full ahead and the navigation lights turned on as prescribed.</p> <p>At about 0424 on September 11, 2011, Master A started to gradually alter the course to port in order to enter Oita Port, Oita City, Oita Prefecture, and at about 0426 when the vessel reached the position of 177° (true bearing; the same shall apply hereinafter) and 3.0 M from the Sada Misaki Lighthouse, the vessel was navigating on a course of about 328° and at about 9.8 kn (speed over the ground; the same shall apply hereinafter).</p> <p>Master A continued to turn Vessel A to port and at about 0435, he confirmed on a radar display with ARPA that Vessel B, which had been confirmed to be 5-6 M off on the starboard quarter of Vessel A, was approaching the port quarter of Vessel A. Since he believed that the overtaking Vessel B would keep out of the way of Vessel A, he did not visually confirm the position of Vessel B and further continued to turn to port at about 7.5 kn.</p> <p>At about 0438, as Master A saw Vessel B approaching the port side of Vessel A, he set the engine to half ahead after putting the engine in neutral, and put the helm hard to starboard in order to stop turning to port. At about 0440, the port bow of Vessel A and the starboard bow of Vessel B collided with each other southwest off Sada Misaki.</p> <p>Vessel B, with Master B and 14 crew members on board, was loaded with 3,724 tons of steel pipes and others. At about 0400, Officer B and Able Seaman B took over the bridge watch duty, and Officer B assigned Able Seaman B to manual steering, and Vessel B, with the navigation lights turned on as prescribed, was proceeding north-northwestward in the waters of south off Sada Misaki toward the center of Hayasui Seto on a course of about 322° and at 14.1 kn.</p>

	<p>At about 0410, Vessel B was proceeding on a course of about 340° to keep out of the way of a forward fishing boat and a crossing ferry boat. At about 0412, Officer B confirmed with AIS and others that Vessel A was proceeding about 2.7 M off the port bow, on a course of about 343° and at a speed of about 7.2 kn. Since the course ahead seemed to be narrow, and the course for overtaking Vessel A on the starboard side seemed much narrower; consequently, Officer B was navigating Vessel B with the intention of overtaking Vessel A on the port side.</p> <p>At about 0423, when Officer B eased the course to about 322° after keeping out of the way of the boats, he observed doubtfully Vessel A increasing speed to 10 kn, and saw Vessel A about 1.5 M off the starboard bow. At about 0430, he observed the bow of Vessel A slightly turn from starboard to port, anticipated that the courses of the both vessels would intersect, and confirmed that the CPA with Vessel A was 0.7 M.</p> <p>At about 0437 when Vessel A continued to turn to port and approached Vessel B, Officer B ordered Able Seaman B to put the helm hard to port. Subsequently, Vessel B collided with Vessel A.</p> <p>Officer B immediately contacted Master B; accordingly, at about 0441, Master B came up to the bridge.</p> <p>(See Figure: Navigation Route, Table 1: AIS Records of Vessel A (Excerpt), and Table 2: AIS Records of Vessel B (Excerpt))</p>
<p>Weather and Sea Conditions</p>	<p>Weather: Weather - Cloudy, Wind - southwest, Wind force - 5, Visibility - good</p> <p>Sea conditions: Current - Northward at about 2.4 kn, Condition - Calm, Tide - Middle stage of rising.</p> <p>Time of sunrise: Around 0552</p>
<p>Other Matters</p>	<p>Master A had had experience of navigating the vicinity of the accident site four times before the accident occurred.</p> <p>Vessel A was equipped with two radars with ARPA, which were both used at that time of the accident.</p> <p>According to Master A, he asked Vessel B, on VHF radio channel 16, not to approach Vessel A, and Vessel B replied “roger.” However, Officer B acknowledged that he had received the communication via VHF radiotelephone but he did not remember replying “roger.”</p> <p>According to Officer B, at about 0437, he called Vessel A several times, saying “Vessel B will overtake Vessel A on the port side,” but received no reply. However, Master A did not remember receiving the calls from Officer B.</p> <p>Officer B had had experience of navigating the vicinity of the accident site once before the accident occurred.</p>

	Vessel B was equipped with two radars with ARPA and AIS overlaid on a display, which were both used at that time of the accident.
Analysis Involvement of Crew Involvement of Hull and Engine, etc. Involvement of Weather and Sea Condition Analysis of the Findings	Vessel A: Applicable; Vessel B: Applicable Vessel A: Not applicable; Vessel B: Not applicable Vessel A: Not applicable; Vessel B: Not applicable <p>When Vessel A was proceeding north-northwestward, southwest off Sada Misaki, Master A observed Vessel B approaching the port quarter of Vessel A. However, he believed that the overtaking Vessel B would keep out of the way of Vessel A, and continued to turn to port without seeing the position of Vessel B. It is probable that, in the above situation, Vessel A collided with the approaching Vessel B which was overtaking Vessel A on the port side.</p> <p>When Vessel B was proceeding north-northwestward, southwest off Sada Misaki, Officer B saw Vessel A about 1.5 M off the starboard bow, and observed the bow of Vessel A turn from starboard to port, anticipated that the courses of both vessels would intersect, and confirmed that the CPA with Vessel A was about 0.7 M. It is probable that Vessel B collided with Vessel A because Vessel B approached Vessel A, overtaking Vessel A on the port side in the above situation.</p> <p>It is somewhat likely that Officer B did not confirm the destination of Vessel A with AIS or did not know the position of the destination, in spite of the fact that he confirmed the navigation situation of Vessel A with AIS to have doubts about her course.</p>
Probable Causes	It is probable that the accident occurred due to the collision between Vessel A and Vessel B: both vessels were proceeding north-northwestward in the waters of southwest off Sada Misaki in the night, when Master A believed that the overtaking Vessel B would keep out of the way of Vessel A, and continued to turn Vessel A to port without seeing the position of Vessel B, while Officer B proceeded Vessel B to approach Vessel A with the intention of overtaking Vessel A on the port side.
Safety Actions	<p>After the accident occurred, the management company of Vessel A gave a seminar on COLREGs to Master A and all the deck officers, focusing on proper look-out and obtaining early warning of the risk of collision. In addition, to prevent similar accidents, the company introduced Bridge Team Management training to all the masters and deck officers of all vessels that it manages, and began to conduct regular internal safety audits and on-board guidance by marine superintendents.</p> <p>The following will help prevent recurrence of similar accidents:</p> <ul style="list-style-type: none"> • An overtaking vessel should keep out of the way of the vessel being overtaken, so as not to generate a new hazardous situation, even if the

	<p>vessel being overtaken alters course for any reason.</p> <ul style="list-style-type: none">▪ It is necessary to make sure to confirm the other vessel's intention of maneuvering when communicating with the vessel via VHF radiotelephone.
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Figure: Navigation Route

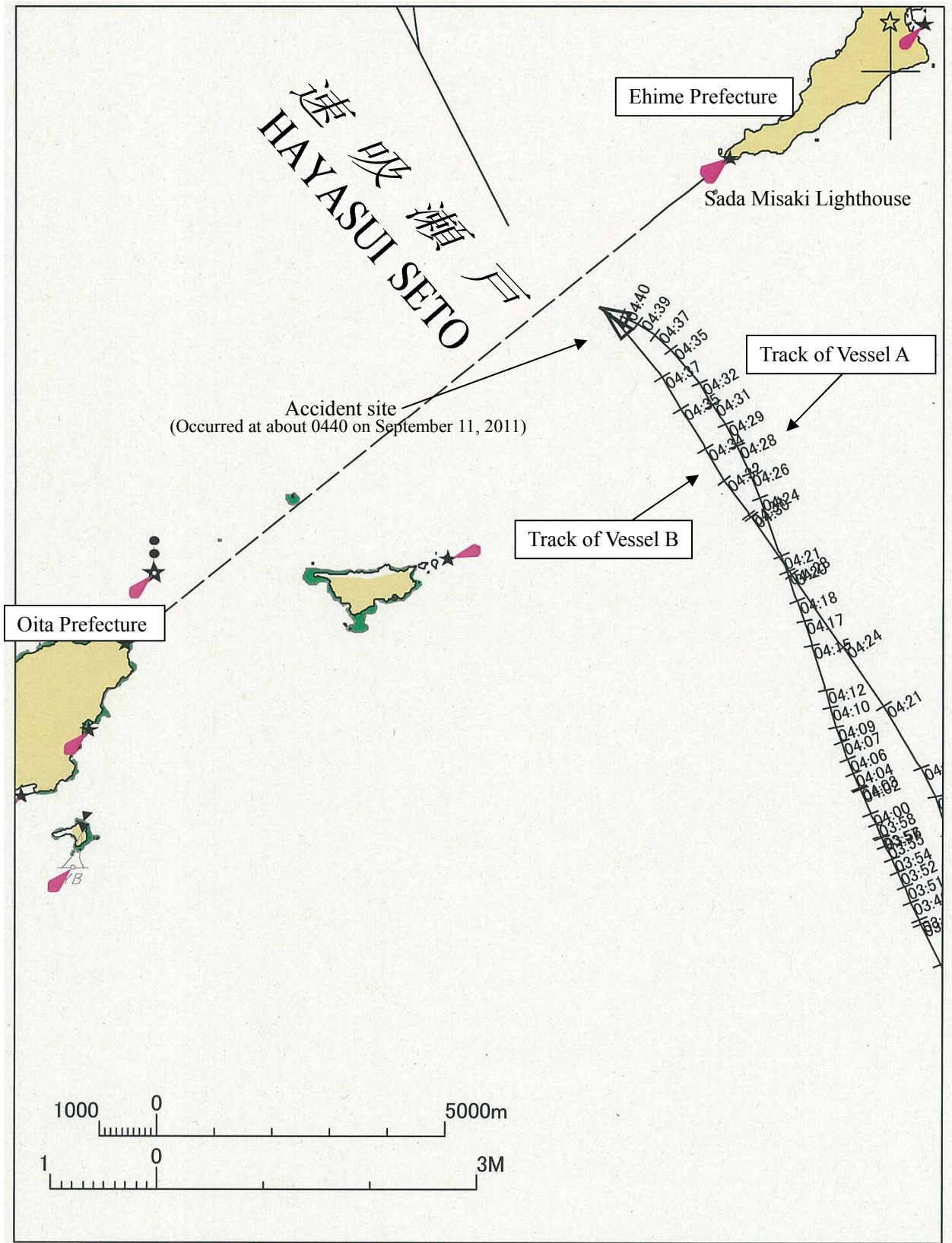


Table 1: AIS Records of Vessel A (Excerpt)

Time (h:m:s)	N. Latitude (° - ' - ")	E. Longitude (° - ' - ")	Bow Bearing (°)	COG (°)	SOC (kn)
04:00:05	33-14-25.7	132-02-29.0	337	337	5.0
04:03:04	33-14-40.3	132-02-21.6	338	336	5.4
04:04:36	33-14-48.2	132-02-17.8	337	336	5.6
04:06:04	33-14-56.2	132-02-13.9	337	338	5.7
04:07:54	33-15-06.2	132-02-09.2	338	340	5.9
04:09:14	33-15-14.0	132-02-06.3	338	341	6.4
04:10:54	33-15-25.0	132-02-02.2	337	343	7.2
04:12:16	33-15-34.9	132-01-58.8	337	343	7.8
04:15:24	33-16-00.1	132-01-49.7	338	343	8.6
04:17:05	33-16-14.5	132-01-44.6	332	341	8.8
04:18:25	33-16-25.7	132-01-39.5	333	339	9.0
04:20:15	33-16-41.6	132-01-32.6	334	339	9.3
04:21:15	33-16-50.7	132-01-28.7	334	340	9.5
04:24:45	33-17-22.7	132-01-14.8	330	338	9.9
04:26:16	33-17-36.7	132-01-08.0	328	336	9.8
04:28:04	33-17-52.4	132-00-59.2	323	335	9.4
04:29:34	33-18-04.1	132-00-51.4	319	327	8.8
04:31:04	33-18-15.4	132-00-42.7	320	327	8.6
04:32:45	33-18-27.7	132-00-34.1	311	327	8.4
04:35:55	33-18-47.0	132-00-14.6	299	310	7.5
04:37:25	33-18-54.5	132-00-04.4	293	312	7.5
04:39:05	33-19-01.4	131-59-52.7	278	297	6.9
04:40:31	33-19-05.3	131-59-41.8	293	291	6.8

Table 2: AIS Records of Vessel B (Excerpt)

Time (h:m:s)	N. Latitude (° - ' - ")	E. Longitude (° - ' - ")	Bow Bearing (°)	COG (°)	SOC (kn)
04:01:53	33-11-30.2	132-05-11.3	323	321.1	14.2
04:03:06	33-11-43.4	132-04-58.6	323	321.1	14.2
04:04:41	33-12-00.8	132-04-41.6	325	321.9	14.3
04:06:05	33-12-16.8	132-04-26.6	325	321.4	14.2
04:07:54	33-12-36.7	132-04-07.7	328	321.9	14.1
04:09:06	33-12-50.6	132-03-56.2	335	325.0	14.1
04:10:53	33-13-13.2	132-03-44.0	346	340.3	13.7
04:12:17	33-13-31.6	132-03-36.8	346	341.9	13.8
04:15:25	33-14-13.5	132-03-21.5	345	342.4	13.9
04:17:05	33-14-35.0	132-03-12.6	335	336.0	13.7
04:18:25	33-14-51.1	132-03-02.9	332	331.6	13.7
04:21:26	33-15-26.2	132-02-37.7	325	326.4	13.4
04:24:26	33-15-59.2	132-02-10.4	322	325.1	13.5
04:28:05	33-16-39.9	132-01-36.1	323	325.4	13.8
04:31:05	33-17-13.7	132-01-07.2	320	321.5	14.0
04:32:45	33-17-32.8	132-00-50.4	328	326.5	14.3
04:34:09	33-17-50.4	132-00-38.2	328	330.7	14.7
04:35:58	33-18-13.7	132-00-21.8	325	327.2	15.0
04:37:21	33-18-31.0	132-00-08.6	325	328.5	15.0
04:40:33	33-19-07.0	131-59-34.0	284	303.2	13.4