

MARINE OCCURRENCE REPORT

STRIKING

BULK CARRIER

“JIN SHUN”

CAMPBELL RIVER, BRITISH COLUMBIA

08 APRIL 1997

REPORT NUMBER M97W0056

The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

Marine Occurrence Report

Striking

Bulk Carrier

“JIN SHUN”

Campbell River, B.C.

8 April 1997

Report Number M97W0056

Summary

As the vessel was departing the Campbell River ore berth and heaving up her port anchor, the stern of the loaded “JIN SHUN” swung back towards the shore. The stern struck the wharf structure, indenting shell plating and fracturing internals in way of the steering flat and rope locker. A pilot had the conduct of the vessel during the unberthing manoeuvre which was carried out with the assistance of two tugs during daylight hours. The wharf was extensively damaged and a catwalk connecting the jetty to a dolphin collapsed.

Other Factual Information

JIN SHUN	
Official Number	14640 - 85 - CH
Port of Registry	Panama
Type	Bulk Carrier
Length Overall	189.95 metres
Gross Tonnage	23, 625
Deadweight	39, 728
Built	1984 - Inabari Shipyards, Japan
Propulsion	Single Screw Direct Drive Sulzer 9780 B.H.P.
Crew	27
Owners	Jin Shun Shipping, Hong Kong

The "JIN SHUN" is a geared bulk carrier with accommodation and machinery space aft. The vessel is strengthened for carrying heavy cargo and her 5 holds are serviced by four 25 tonne cranes. At the time of the occurrence, the vessel's master had a Panamanian certificate of competency and the vessel was operated out of Hong Kong with a crew from mainland China.

The vessel completed loading concentrates at Discovery Terminals, Campbell River on the morning of 8 April, 1997 to a draft of 9.85 metres even keel, her full load summer draft being 11 metres. The vessel was berthed starboard side to the outside face of the "T" shaped wharf, ship's head towards the south. The port anchor and just over one shackle of chain had been dropped when coming alongside. The berth has concrete dolphins at either end which are connected to the wharf by steel walkways.

The pilot boarded at 1140 PDST on 8 April but there was a minor delay in departure, the first engine movement not being until 1250, as the vessel obtained a Certificate of Fitness to Proceed to Sea from the Transport Canada Marine Safety Port Warden, a requirement for concentrate laden vessels. In the meantime, the pilot familiarized himself with the bridge and sighted the pilot (vessel information) card.

The weather at the time of the "JIN SHUN" unberthing was fine and clear with the master reporting light airs and the pilot and dock personnel reporting a north to northwesterly breeze of about 10 knots. The tide at the time of the occurrence was close to low water with the predicted slack water at Seymour Narrows, which lies to the north of the jetty, at 1245, and that at Campbell River, to the south of the jetty, at 1340. The pilot's experience was that currents are unpredictable in the area, with frequent back eddies, and he estimated there was a southerly current of about 4 knots at the time that the ship was casting off. The tug estimated a southerly current of maximum 3 knots, but the master reported no significant tide or current. The first engine movement recorded was slow astern at 1250, with a half astern at 1252, which is consistent with the pilot counteracting a current, using stern power to hold the ship over the anchor.

The main engines and other equipment on the ship functioned and were in order but the pilot had been warned about the slow working of the ship's crew and equipment by entries made in the Pilotage Authority computer by other pilots who had handled the vessel previously.

The vessel's deck log records 1215 as the time when 'singling up' of the vessel's mooring lines began. Heaving up the anchor began at 1248 and the anchor was aweigh at 1254. There is no record of the time when all lines had been let go but the master indicated that they started weighing anchor only after all lines were cast off, which suggests that letting go the lines was not completed until 1248. Witnesses from the shore, and the pilot, record that the process of letting go from the dock was slow. Ideally the pilot would have preferred that the anchor was heaved up while the ship was still at the dock or when the lines were in the process of being cast off. However, with in excess of one shackle of chain out and the windlass reportedly low powered, his approach was to bring the forepart of the vessel directly over the anchor and hold it there by manoeuvring the main engine while the anchor was heaved up.

After the lines had been let go and the vessel had been manoeuvred such that there was enough room between the wharf and the ship, the tug "WESTVIEW CHINOOK" (940 BHP) was ordered by the pilot to push on the starboard quarter. The tug "SEASPAN CUTLASS" (1800 BHP) was then instructed by the pilot to assist by pushing on the starboard bow. Both were given no subsequent orders and both tugs pushed at full power.

The "WESTVIEW CHINOOK" was the smaller and less powerful of the two tugs and the tug master sensed that the stern was setting back towards the jetty as the stronger tug pushed the bow out. He informed the pilot but continued pushing till the stern of the "JIN SHUN" was so close to the wharf that he felt his vessel to be in jeopardy. With the ship at an angle to the jetty and the stern setting in, he informed the pilot that he was getting out. As there was no response he moved the tug forward but still maintained a position aft of amidships as he resumed pushing in an effort to push the stern away from the jetty. He continued pushing as he did not get any further orders and shortly thereafter at 1256 observed the ship's stern contact the dolphin.

The pilot had assigned the more powerful tug, the "SEASPAN CUTLASS", to push the bow out when the ship cast off its moorings and the tug was still pushing even after the stern struck the dolphin and jetty. The tug master had eased off on his own accord when he felt that the anchor chain was providing resistance but resumed pushing full power when the anchor came up. The "SEASPAN CUTLASS" was given no change of orders before he was finally let go by the pilot when the vessel neared Cape Mudge.

The anchor was aweigh just before the stern set back and touched the dolphin. Eyewitnesses recount that the stern contacted the dolphin and then contacted the catwalk and jetty just before the ship moved full ahead on her engines at 1257. The catwalk was observed to fall in the water. After clearing the jetty, the pilot proceeded at slow speed while the crew rigged a ladder and inspected the stern.

The pilot reported the striking to Comox Marine Communications and Traffic Centre. They contacted the Port Warden who called the pilot on his cellular phone. As the damage reported was minimal and well above the waterline, and as it did not affect the seaworthiness of the ship, the ship was given permission to proceed on the voyage to Japan. However about three hours later after further discussions about the damage, the vessel's owners diverted the ship to Vancouver, B.C. for further inspection and repairs.

A minor crack was found in the inside part of the rope locker area of the ship's stern section. There was some indentation which was confined to well above the waterline at the ship's stern. The vessel proceeded to sea after minor repairs in Vancouver, B.C. The damage to the jetty was extensive. The concrete fender dolphin which was first struck was knocked over and submerged. The steel walkway connecting the dolphin to the jetty fell into the sea as this happened. About 25 metres of the main jetty were damaged and the entire jetty was twisted and pushed in about 3.5 metres towards the shore. The aluminium gangway which connects the jetty to the shore was also damaged.

Tides and Tidal Currents

The tidal curve for Campbell River indicates sharp reversals of direction at the peaks and troughs indicating little slack water at high tide and low tide, and the very strong tidal currents at nearby Seymour Narrows are well known. The pilot and the tug masters were well experienced and they were aware of the uncertain nature of the currents in the area. The currents emphasize the need for adequate prior planning for a quick and efficient departure. There was no prior discussion of the specifics of the unberthing manoeuvre between the pilot and the master. The pilot considered the tug masters were familiar with the unberthing manoeuvre and there was no prior planning with them.

Language and Communications

All requests by the pilot for information from the ship's officers stationed fore and aft, regarding the ship's distance off and scope of the anchor cable, were first translated into a Chinese language by the master. This, and the translation of the responses, was perceived by the pilot as causing a considerable time lapse before the pilot obtained replies to his queries.

Analysis

The pilot used two tugs, stationed one each fore and aft, on the starboard side in order to push the ship away from the pier. However, these tugs were of disproportionate horse power, the tug on the bow being nearly twice as powerful as the one on the stern. The combined effect of full thrust from both tugs was to cause the ship to move bodily away from the wharf but the disproportionate power of the tugs caused the "JIN SHUN" to also pivot about her longitudinal centre of lateral resistance, a point on the vessel near amidships. Although the vessel was moving bodily sideways, because the rate of transverse displacement of the bow was greater than at the stern, the relative motion was such that the stern was moving back towards the wharf. With the stern at an angle across the three to four knot current, little could be done to return the vessel to a direction parallel to the current - particularly as the higher powered tug was forward not aft.

The master took a passive role during the manoeuvre and did not at any time communicate to the pilot or express any concern regarding the manner in which the tugs were being employed. Despite there having been inadequate prior planning on the use of tugs, communications during the manoeuvre were minimal.

Findings

1. The anchor windlass was underpowered and the port anchor difficult to heave in.
2. The difficult recovery of the anchor necessitated a departure from the usual unberthing procedure.
3. The use of two assist tugs of disproportionate horse power caused the "JIN SHUN" to pivot about amidships.
4. There was inadequate prior planning between the tugs, pilot and master regarding the use of the tugs.
5. There was insufficient communication with the tugs during the unberthing manoeuvre.

Causes and Contributing Factors

The "JIN SHUN" struck the Campbell River ore jetty because the disproportionate horse power of the two assist tugs caused the stern to swing back onto the wharf as the ship departed the berth. A slow departure and ineffective communications between the tugs, pilot and ship's staff contributed to the occurrence.

This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson Benoît Bouchard, and members Maurice Harquail, Charles Simpson and W.A. Tadros, authorized the release of this report on 06 October 1998.