August 24, 2023 Marine Investigation Report MIR-23-18

Capsizing and Sinking of Crane Barge *Ambition*, Towed by *Karen Koby*

On June 15, 2022, about 0400 local time, the towing vessel *Karen Koby* was towing the crane barge *Ambition* when the barge capsized and sank in the Gulf of Mexico, about 48 miles southeast of Cameron, Louisiana.[1] There were no persons on the barge, and none of the *Karen Koby*'s four crew were injured. The *Ambition* was partly submerged in about 54 feet of water, where it was later salvaged. The sunken barge released an estimated 1,980 gallons of oil. The *Ambition* and its crane were determined to be a total loss, with damages estimated at $6.3 million.

Figure 1. Left: Towing vessel *Karen Koby* before the casualty. (Source: LA Carriers) Right: Crane barge *Ambition* before the casualty. (Source: Rigid Constructors)

[1] (a) In this report, all times are central daylight time, and all miles are nautical miles. All headings and speeds are referenced over the ground. (b) Visit ntsb.gov to find additional information in the public docket for this NTSB investigation (case no. DCA22FM024). Use the CAROL Query to search investigations.

Casualty type	Capsizing/Sinking
Location	Gulf of Mexico, 48 miles southeast of Cameron, Louisiana 29° 17.21'N, 92° 37.18'W
Date	June 15, 2022
Time	0400 central daylight time (coordinated universal time –5 hrs)
Persons on board	4 (*Karen Koby*); 0 (*Ambition*)
Injuries	None
Property damage	$6.3 million est.
Environmental damage	Oil sheen 5 miles long by 20 yards wide (estimated) observed (diesel, lube, and hydraulic oil), estimated volume released 1,980 gallons
Weather	Visibility 10 mi, few clouds, winds south to south-southeasterly 5-10 kts, seas 2-3 ft, swell 1 ft, air temperature 84°F, water temperature 84°F, morning twilight 0544, sunrise 0610
Waterway information	Gulf, depth 54 ft, westerly current 0.5 kts est.

Figure 2. Track line as indicated by a red line and area where the crane barge *Ambition* capsized and sank as indicated by a red *X*. (Background source: Google Maps)

1. Factual Information

1.1 Background

The 94.4-foot-long, twin-engine, twin-screw, inspected towing vessel *Karen Koby,* owned and operated by LA Carriers, was constructed of welded steel.

The 195-foot-long by 70-foot-wide uninspected crane barge *Ambition* was constructed of welded steel, with two spuds on the port side. It had a depth of 10.5 feet, a raked bow, and a square stern. Owned by Rigid Constructors, the barge was purpose-built by Diamond "B" Industries of New Iberia, Louisiana, to accommodate a crane by welding together two existing deck barges and was delivered to Rigid Constructors in June 2020. The port barge, *GD 962*, was constructed in 1995, and the starboard barge, *GD 983*, was constructed in 1998.[2] Each of the barges, purchased by Rigid in March and April 2020, had one longitudinal watertight bulkhead that ran from the rake void bulkhead to the stern void, along with five transverse watertight bulkheads.

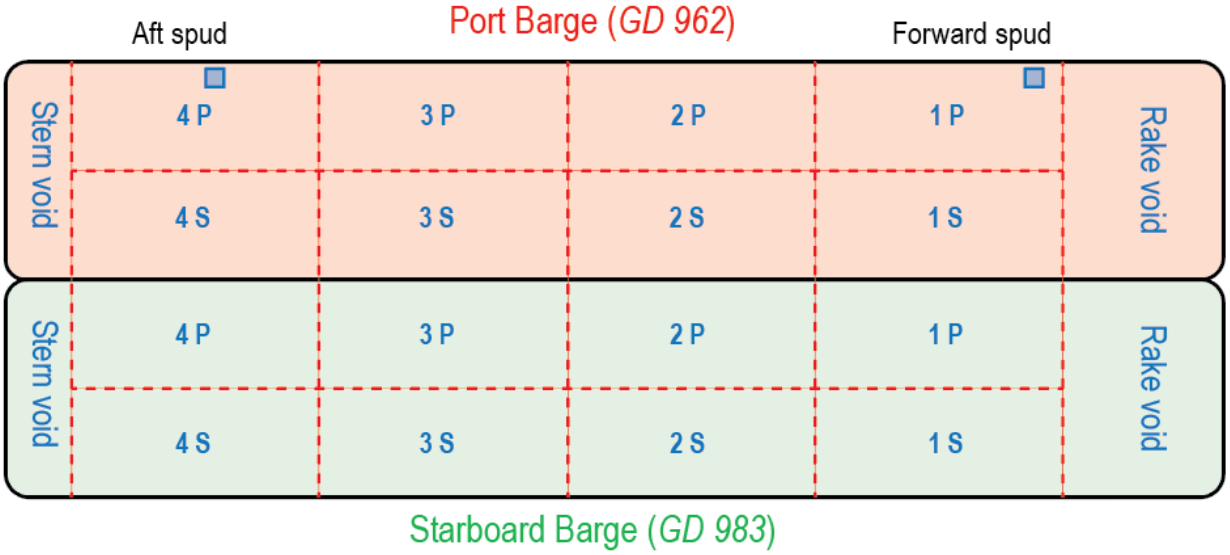


Figure 3. Annotated and simplified layout of the barge *Ambition* with compartment numbers and subdivisions. Below-deck compartments of each barge are annotated by a number (lowest forward and highest aft) and letter (P for port and S for starboard).

1.2 Event Sequence

Before the casualty, the *Ambition* was spudded down at the Devall fleet on the Gulf Intercoastal waterway (near mile 242) near Sulphur, Louisiana, where it had been in

[2] The Coast Guard had certificates of documentation for each of the barges that made up the *Ambition* but no documentation for the *Ambition* as a whole.

a nonworking status for about 4 to 5 weeks. Rigid Constructors requested Patriot Marine Services provide towage services for the *Ambition*. Patriot in turn requested LA Carriers to provide towage services for the *Ambition*; the tug *Karen Koby* was assigned to begin the job starting on June 14. Due to the height of the crane, the *Ambition* could not be towed through the intercoastal waterway and had to be towed down the Calcasieu River and offshore in the Gulf of Mexico to reach its destination on the Mississippi River.

At 0940 on June 14, the *Karen Koby* arrived at the *Ambition*; the crew consisted of a captain, a mate, and two deckhands. A Rigid Constructors crew of five, sent to the *Ambition* to "secure everything" for its transit, arrived shortly after. About 1020, the *Karen Koby* got underway with the *Ambition* on its starboard hip for the 19-mile trip down the Calcasieu River to a fuel facility at the mouth of the river. While underway, the Rigid crew said they secured all items on the deck of the *Ambition* using ratchet straps.

The captain of the *Karen Koby* told investigators that, while underway in the Calcasieu River ship channel, the port bow of the *Ambition* "grazed" against a green wooden piling channel marker on the west side of the channel. A Rigid crewmember told investigators that the barge hit the marker near the raked end about 5 to 8 feet forward of the forward spud. The captain determined the contact with the marker was only a light contact and did not warrant a check for damages. Because the marker was not damaged or displaced, he did not report the contact to the Coast Guard.

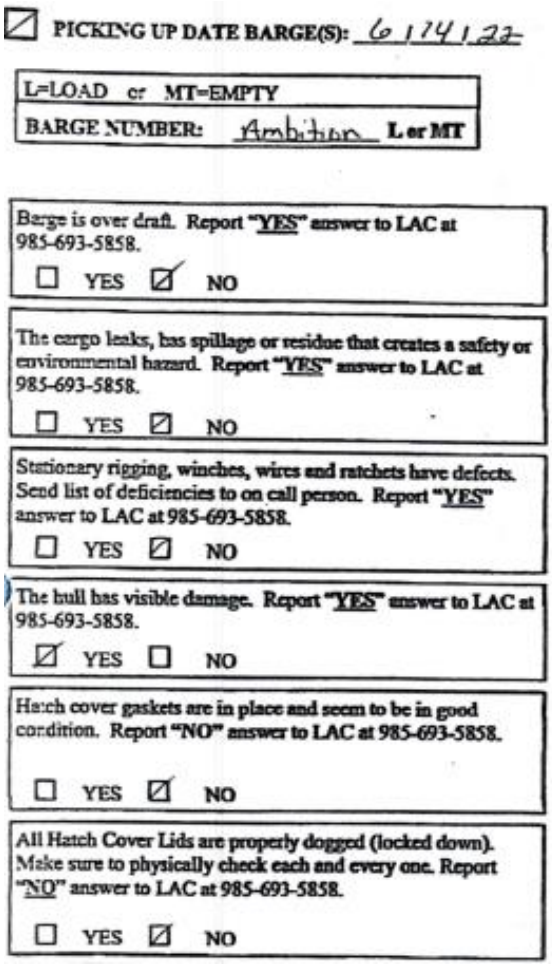
Between 1130 and 1150, the captain of the *Karen Koby* repositioned the tug because he was not comfortable with the way the barge was handling from the hip. He positioned the tug to push the barge from the bow (rake) because its stern was about 4 feet higher, by his estimation, out of the water than the bow; he noted it was common practice to push from the deeper end of the barge.

While the vessels were underway and after the tug had repositioned, the Rigid crew completed securing the items on the deck of the *Ambition* and returned to the boat launch via a skiff. They drove to the fuel facility, where they planned to fill a fuel tank on the deck of the barge, to await the arrival of the *Ambition*.

About 1610, the *Karen Koby* and the *Ambition* arrived at the fuel facility and tied off. One of the Rigid crewmembers began refueling the fuel tank on the barge's deck. The Rigid supervisor, noting that the stern of the barge was higher out of the water than the bow, instructed one of the Rigid crewmembers to add fresh water from the fuel facility to the aftermost compartments (the two stern voids) of the port and starboard barges to "get the barge level." The supervisor told investigators that 8,000 gallons of freshwater were added to those compartments and 1,800 gallons of diesel oil were added to the fuel tank on the deck of the *Ambition*. Once the refueling and ballasting was complete, the Rigid crew departed.

At the fuel facility, the captain of the *Karen Koby* completed the company's voyage risk assessment checklist, reviewing the forecasted winds and seas and the route, current, water depth, air clearances, and tug and barge running lights. He noted that the forecast was for "good weather with light winds and 2-to-3-foot seas."

Meanwhile, the deckhand on watch carried out LA Carriers' barge inspection for the *Ambition*. On the inspection form, he reported visible hull damage (he observed a 1-by-2-inch rust hole in the deck on the port barge near the stern). He also noted that hatch cover gaskets were not in place, nor were they in good condition, and not all hatch cover lids were physically locked down (see section 1.3.1).



☑ PICKING UP DATE BARGE(S): 6/14/22

L=LOAD or MT=EMPTY

BARGE NUMBER: Ambition L or MT

Barge is over draft. Report "YES" answer to LAC at 985-693-5858.
☐ YES ☑ NO

The cargo leaks, has spillage or residue that creates a safety or environmental hazard. Report "YES" answer to LAC at 985-693-5858.
☐ YES ☑ NO

Stationary rigging, winches, wires and ratchets have defects. Send list of deficiencies to on call person. Report "YES" answer to LAC at 985-693-5858.
☐ YES ☑ NO

The hull has visible damage. Report "YES" answer to LAC at 985-693-5858.
☑ YES ☐ NO

Hatch cover gaskets are in place and seem to be in good condition. Report "NO" answer to LAC at 985-693-5858.
☐ YES ☑ NO

All Hatch Cover Lids are properly dogged (locked down). Make sure to physically check each and every one. Report "NO" answer to LAC at 985-693-5858.
☐ YES ☑ NO

Figure 4. Excerpt of the barge inspection report, as completed by the deckhand. (Source: LA Carriers)

The deckhand reported the two missing hatch covers to the captain of the *Karen Koby* who, in turn, called the Rigid supervisor. At 1656, the supervisor called the Rigid crew back, and one of them went on the barge to locate and set the hatch covers in place. The *Karen Koby* deckhand on watch told investigators that a Rigid crewmember placed a portable dewatering pump over the top of an open hatch for the rake void on the port barge at the forwardmost port corner of the *Ambition*.

A Rigid crewmember told investigators that he could not find the hatch covers, so he put a "big plate" of metal on top of the aftermost hatch (for the stern void of the port barge) on the port side of the *Ambition*. He told investigators that he then overheard the captain of the *Karen Koby* say things were "good to go," so he got off the barge, and he and the Rigid crew headed back to the company yard.

The captain of the *Karen Koby* told investigators that, during his last communication with the Rigid supervisor, he was told that the *Ambition* was secured and ready to depart with "no restrictions." LA Carriers' operating policies and procedures stated that the "watch captain is to report problems or damages to the office as soon as possible," and three of the items that the deckhand noted on the barge

inspection checklist required notification to LA Carriers. However, the *Karen Koby* captain did not notify LA Carriers of any of the problems documented by the deckhand.

About 1730, the *Karen Koby* got underway with the *Ambition* in tow. The captain and a deckhand on watch said that, at that time, the freeboard of the *Ambition* was about 4 feet at the bow and about 5 feet at the stern. The *Ambition* was taken under a short tow through the nearby jetties and, once clear and in the open waters of the Gulf of Mexico, about 1,000 feet of tow line was gradually let out for the eastbound transit to the mouth of the Mississippi River.

None of the *Karen Koby* crewmembers said they noticed anything out of the ordinary with the barge in tow during the remaining hours of daylight, while they could see aft. The captain said the tow was making about 4.5 knots and the planned voyage to the mouth of the Mississippi River was to pass 1–1.5 nautical miles south of Trinity Shoal.

While it was dark, personnel on watch could only see the *Ambition*'s running lights. Both the captain and the mate said they kept a radar variable range marker on the barge to tell if the barge was still in tow. The captain said he used binoculars two or three times during his watch to check the tow apparatus and to make sure the *Ambition* was riding well.

Just before midnight, the mate arrived in the wheelhouse for his watch and relieved the captain. The captain reported there was nothing out of the ordinary and then left the wheelhouse. The mate told investigators that he altered the tow's course for two fishing boats and a towing vessel shortly after taking the watch. He made no other course changes after that, and the vessel remained in autopilot mode for the duration of his watch.

About 0330, the mate noticed on the electronic chart system that the speed of the *Karen Koby* had dropped from about 5.2 knots to about 4.5 knots. He told investigators that, although there was no other indication of a problem, the reduction in speed caught him by surprise since he had not made any changes to the engine rpm (which the captain recalled was about 1,050 rpm on each engine) and the winds and seas were still the same. He asked the deckhand to stand by in the wheelhouse so that he could check on the tow. He tried to use the spotlight on top of the wheelhouse, but he couldn't see much of the barge. The mate then woke up the captain.

At 0332, automatic identification system (AIS) data showed the *Karen Koby* was making a speed of 4 knots. The captain and mate went to the wheelhouse and looked at the *Ambition* with the spotlight. The captain said he couldn't see anything at that time. At 0339, the *Karen Koby*'s speed dropped to 3 knots; the *Karen Koby* was still in autopilot mode with no changes to the engine rpm.

About 0400, the mate saw the *Ambition* capsize, with the port corner of the bow dipping down before rolling over "quickly" to port. The on-watch deckhand saw water on the deck of the port barge up to the forward spud and noted that he could not see the portside running light located on the barge's forward port corner (he was able to see the starboard running light).

The *Ambition* partially sank in about 54 feet of water, with its port bow embedded in the sand and its starboard quarter protruding out of the water. After, the crew of the *Karen Koby* reeled in as much tow line as possible, to within about 100 feet of the partially sunken barge, and they cut the cable. They reported no damage to the tow bridle, shackles, shock line, or tow line. The *Karen Koby* remained on scene with the barge until heading back to port on June 29.

1.3 Additional Information

Regulations require all vessels over 150 gross tons to have a load line certificate, exemption, or designation for special service when operating beyond the Boundary Line (12 nautical miles offshore for the Gulf of Mexico). The port and starboard barges that had been welded together to make up the *Ambition* barge were registered at 573 gross tons each, and the casualty route was more than 12 miles offshore. The *Ambition* did not have a load line certificate, a load line exemption, or a designation for "special service" approved or issued by the Coast Guard. The president of marine operations for Rigid Constructors estimated that the *Ambition* was towed offshore between 6 and 12 times per year. He was not aware of any requirement for the *Ambition* to adhere to this regulation, nor was the Coast Guard made aware the vessel was making the transits.[3]

1.3.1 Watertight Integrity

Except for the two stern voids, which were filled about half full of water, the Rigid crew did not check any of the *Ambition*'s compartments or voids before the *Karen Koby* took it under tow. Thus, it is unknown if there was water in any other compartment or void. Rigid Constructors president of marine operations told investigators that he did not expect crews to check compartments and voids every time; crews would be expected to check them only if something was out of the ordinary.

[3] The Coast Guard published marine safety alert 06-23 regarding the risks involved with failing to adhere to load line regulations and to remind operators that, whether inspected or not, most commercial vessels 79 feet and longer are required to have a load line when operating outside the Boundary Line and to engage early with local Coast Guard when considering submission for a single voyage load line exemption. This process is critical for non-load-lined vessels to ensure the seaworthiness of the vessel (i.e., condition of the hull, integrity of closures and satisfactory stability) for the duration of the intended voyage.

At least six hatches were not covered or secured. Two hatch covers were missing (Rigid crewmembers put a pump over one hatch and a steel plate over the other), two hatches had the covers laid over water suction hoses leading into the compartments below, and two hatch covers were not properly secured and fell off after the barge capsized. A deckhand from the *Karen Koby* told investigators that a Rigid crewmember told him that they had hoses in the compartments "all the time" in case they needed to pump water out.

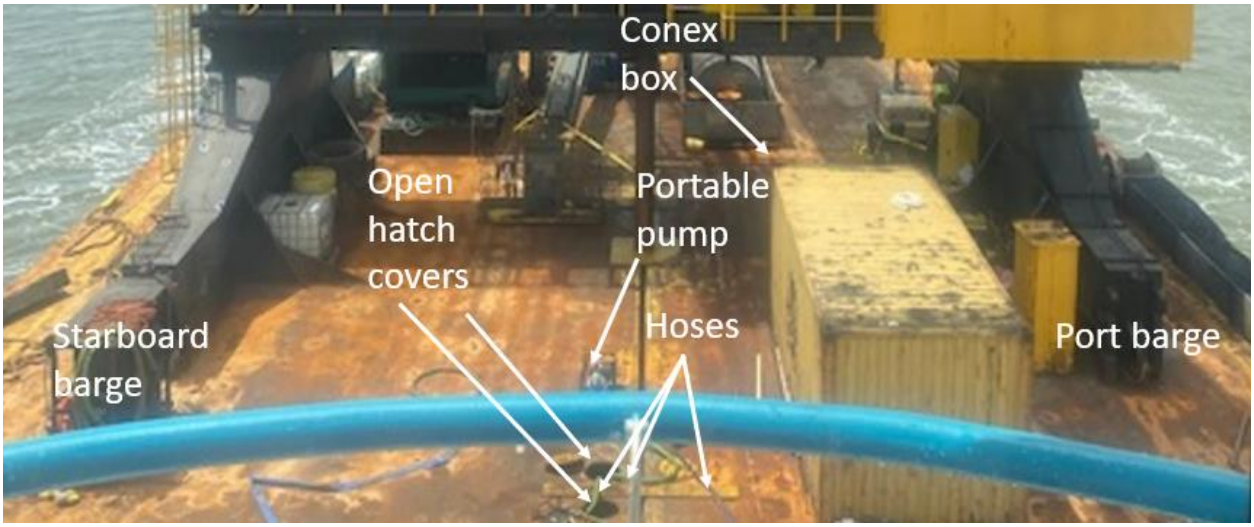


Figure 5. The barge *Ambition* at 1200 on June 14 while being pushed southbound on the Calcasieu River en route to the fuel facility. A portable pump and hoses are visible leading into open hatches on the deck of the starboard barge near the bow on the inboard side, with a discharge hose leading out onto the main deck. (Source: *Karen Koby* mate)

A postcasualty photo of the *Ambition* shows two missing hatch covers aft near the centerline of the starboard barge. According to the Rigid supervisor, these covers should have been secured. He told investigators that the tool used to tighten hatch covers was in the Conex box on the barge, but none of the Rigid crew were aware of the tool or its location.

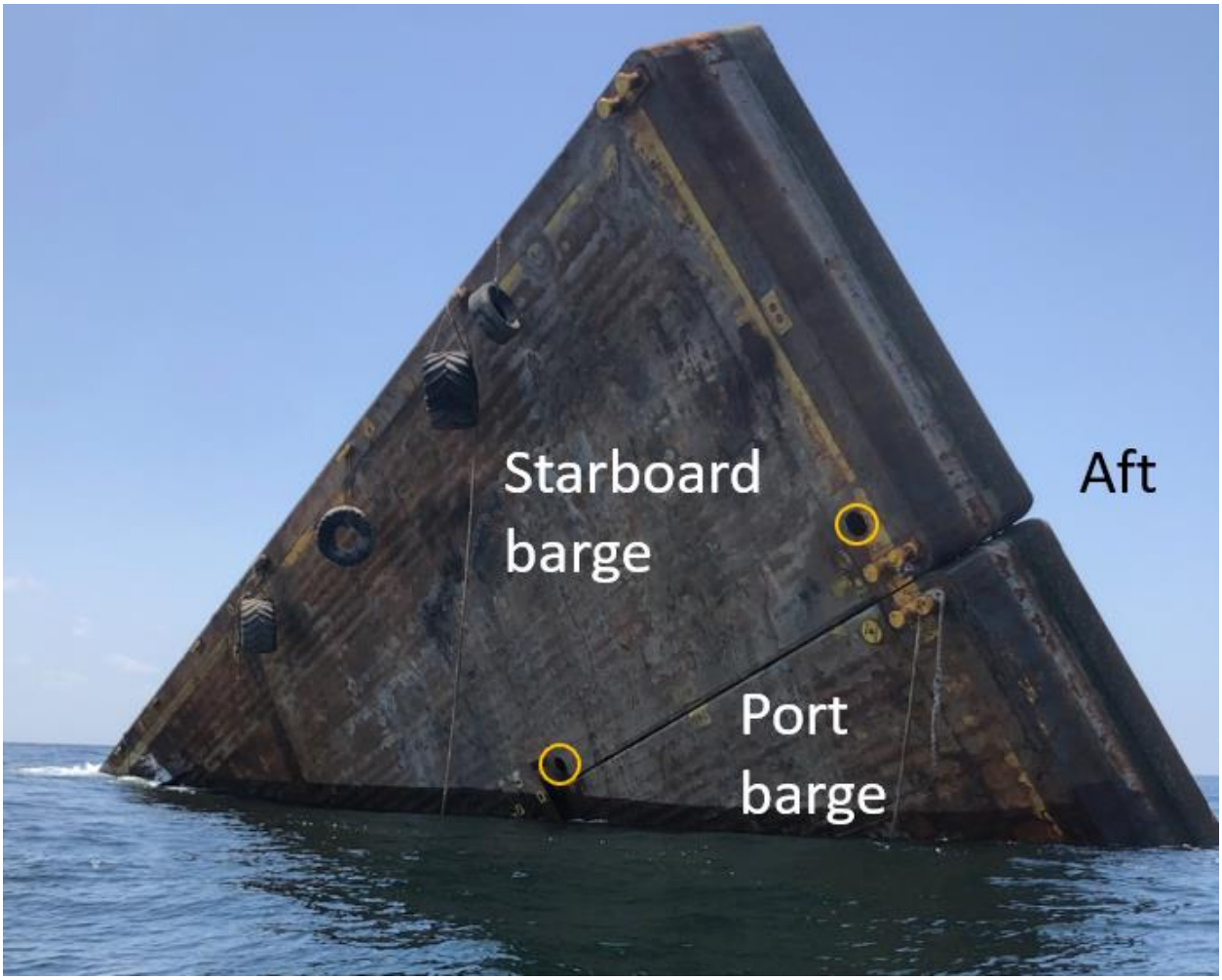


Figure 6. The partially sunken barge *Ambition* the morning of the casualty with the starboard stern of the barge out of the water. The orange circles show hatch covers that had fallen off during the capsizing. (Background source: unknown)

1.3.2 Examination of the *Ambition* Wreckage

A marine salvage company recovered the *Ambition* within 3 months of the casualty. Some of its deck equipment and sections of the crane were also recovered. The wreckage of both barges, separated during recovery, was brought to Amelia, Louisiana, for examination and eventual scrapping.

Investigators from the Coast Guard and NTSB examined the wreckage on September 29, 2022. The starboard barge (*GD 983*) was in one piece but had a section of its port side near the rake end separated from the hull due to salvage activities. The starboard barge was lying upside down on the deck of one of the recovery barges, making access to the main deck and compartments and voids impossible. The exterior of the hull exhibited corrosion and indentations on all surfaces. There were multiple

fractures and holes cut through the steel, all of which appeared to be from recovery activities.

The port barge (*GD 962*) was recovered in two pieces. The area where the barge was separated was heavily damaged from salvage efforts. Investigators examined the exterior of the hull, which exhibited corrosion on all surfaces. There were numerous areas of corrosion, indentations, and deformations on all surfaces. Many sections of the hull and internal transverse frames and longitudinals exhibited poor material conditions such as severe steel corrosion. Investigators were unable to find any damage on the forward port side of the port barge from the reported contact with the channel marker since that section was destroyed.

Figure 7. The two sections of barge *GD 962* (the *Ambition*'s port barge) after recovery from the Gulf of Mexico.

Investigators found a separation at the weld seam between the bottom plate and the bilge knuckle plate. The separation began in compartment no. 1S, where it was about 2 inches wide, with severely wasted (thin) steel on both plates. Three metal plates about 5 inches wide had been placed at the seam between the bottom plate and bilge knuckle plate; each of the three plates had a strongback-type bolt (a bar used with a soft patch to secure it when making temporary repairs) that passed into the hull at the center of each plate. Aft of the three plates, the separation between the bottom plate and bilge knuckle plate extended for about another 25 feet.

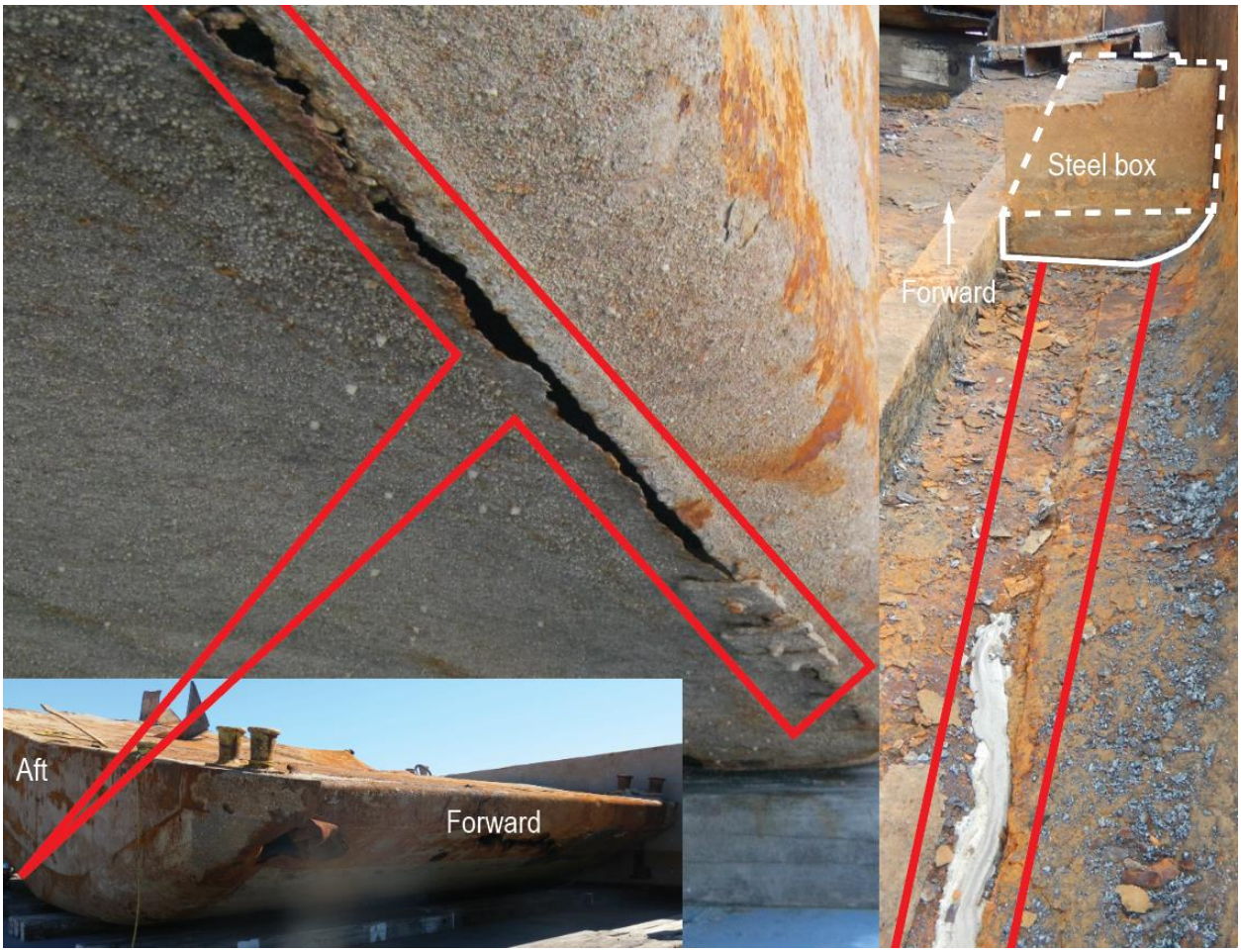


Figure 8. Left: The port barge's separation, at the weld seam, between the bottom plate and bilge knuckle plate, along with the metal plate repairs to the starboard bilge knuckle of the port barge (*GD 962*). Inset shows the location of the separation. Right: Aft (cutaway) section of the hull looking forward, showing the plate separation from the inside (between the red lines). The metal plate repairs to the separation are inside the steel box. (Sources: Coast Guard [left], K. Smith Marine Surveying [right])

This section of the hull was later cut away by parties representing Rigid Constructors and LA Carriers to examine compartment no. 1S. (Rigid Constructors retained this section of hull and a section of the transverse rake bulkhead forward of it, which exhibited severe corrosion with considerable metal loss and corrosion holes near the bottom.) The cutaway section revealed a steel box, about 13 feet long, created by welding plates, at the bottom and bilge knuckle plating at the forward portion of the separation between the bottom plate and bilge knuckle plate, encasing the endplates of the three strongback bolts that passed through the hull.

In addition to the hull damage, the bottom of the longitudinal centerline bulkhead separating the barge's nos. 1S and 1P compartments had severe corrosion. Investigators observed considerable metal loss along the bottom 2 feet of the bulkhead. Multiple

corrosion holes were found throughout the bottom section of the bulkhead. Moving up the longitudinal centerline bulkhead, toward the top of no. 1S compartment, there was surface corrosion but not at the severity observed at its bottom.

Figure 7. The bottom of the centerline longitudinal bulkhead between the no. 1S and no. 1P compartments of the port barge showing metal loss and corrosion holes. (Source: K. Smith Marine Surveying)

Per the Coast Guard Inland Tank Barge Inspection and Repair guidelines (03/09/94), "Bilge knuckles are highly stressed and critical to the longitudinal and overall strength of the barge." The guidance further stated, "Knuckles should be repaired as original; changes in dimensions or materials can create stress risers." Rigid Constructors did not provide any maintenance records related to their repair of the separation at the weld seam on the port barge.

1.3.3 Vessel Maintenance

The president of marine operations for Rigid Constructors told investigators that there was no planned maintenance or inspections for the *Ambition*'s hull. Maintenance was carried out on an "as-needed basis." Rigid was not able to provide documentation related to any work, preventative maintenance, condition or valuation surveys, or repairs carried out on the barge *Ambition* since its delivery from the shipyard. Further, the president of marine operations told investigators there were no policies or procedures related to the operation, inspection, maintenance, or preparation of the company crane barges. There were no company, third party, or Coast Guard inspections carried out on

the *Ambition* for the time of delivery to Rigid Constructors from the shipyard, nor were any required.

1.3.4 Related Casualties

The NTSB investigated the November 4, 2018, sinking of hopper barge *PTC 598*.[4] The barge was under tow by the LA Carriers' towing vessel *Kaitlin Olivia*, en route from Tampa, Florida, to Mobile, Alabama. The NTSB determined that the probable cause of the sinking of barge *PTC 598* was flooding of the barge's voids through improperly secured hatch covers due to the charterer's failure to ensure adherence to its procedures for barge watertight integrity and draft limits.

The report also noted that, in a search of the Coast Guard's accident database, NTSB investigators discovered two other casualties involving LA Carriers where a barge under tow sank in the Gulf of Mexico. For one casualty, the Coast Guard determined that, "the initiating event was the progressive downflooding into the voids of the barge and the … causal factors included: maintenance not completed and inspection forms [were] not completed accurately; the facility loaded more cargo than the master requested; the dogging mechanisms were difficult to operate; the void access covers were not watertight; [the barge had] insufficient freeboard related to conditions; and weather conditions were unfavorable."

2. Analysis

Shortly after leaving the Devall fleet, the forward port side of the *Ambition* contacted a wood pile channel marker. Investigators were not able to examine the area where the contact was reported because it was later destroyed during salvage. According to the captain of the *Karen Koby*, the contact was light, and the marker did not move—therefore it did not warrant an inspection of the *Ambition* for damages. Additionally, the first indication of a problem with the barge occurred 16 hours after the contact. Given the (long) length of time that passed without any noticeable flooding issues and lack of concern from the crew after the contact, it is unlikely this contact was causal to the sinking.

Postcasualty examination of the port barge found a 25-foot-long separation along the weld seam between the bottom plate and bilge knuckle plate with both plates exhibiting severely wasted steel, which was not consistent with other damage related to the salvage and recovery. At some point, a temporary repair, which consisted of steel

[4] *Flooding and Sinking of Hopper Barge* PTC 598, Marine Accident Brief NTSB/MAB-19/26, Washington, DC: NTSB.

plates welded to the floor and knuckle plating, forming a box inside compartment no. 1S, had been made to the area around the separation, to contain water ingress. Three soft patches with strongback-type bolts, typically used for temporary repairs, were found along the failed seam. However, the separation had grown aft, beyond the steel box, likely due to it being in an area known to be subject to longitudinal stress. The corrosive deterioration of the bottom and bilge knuckle plating and their separation along their weld seam would have allowed water to enter compartment no. 1S of the port barge, which was the likely origin of initial water ingress.

Investigators also found severe deterioration and steel wastage at the bottom of the centerline watertight longitudinal bulkhead (which segregated the no. 1S compartment from the no. 1P compartment of the port barge) and on the transverse bulkhead separating the rake void from the nos. 1S and 1P compartments. This allowed for the free communication of water from the compromised no. 1S compartment to the no. 1P compartment and rake void of the port barge. Based on the hull plating separation (which allowed water to enter the hull) and wastage on the interior bulkheads (which allowed water to spread across the full breadth of the port barge and to the rake void), the poor hull condition was the cause of the initial flooding.

The barges that made up the *Ambition* were 27 (port barge) and 24 (starboard barge) years old and had been in service before being welded together in 2020 to create a deck barge that could hold the crane. Rigid Constructors had no plans to carry out a permanent repair to the section of the hull where the temporary repair had been made to contain apparent water ingress between the floor and bilge knuckle plates. Further, there were no structural hull inspections or maintenance carried out on the *Ambition* other than on an as-needed basis.

Rigid Constructors failed to conduct permanent repairs in an area critical to hull strength, and the separation between the bottom plating and the bilge knuckle plating progressed beyond the temporary repair. Rigid Constructors' lack of hull inspection, maintenance, and permanent repairs resulted in the poor hull condition that caused the failure of the hull.

Neither Rigid nor LA Carriers personnel interviewed were aware of any load line requirement for the tow of the *Ambition* offshore. However, according to the president of marine operations, the *Ambition* had been towed offshore once earlier in the year and the previous year between 6 and 12 times—voyages under which the barge was subject to Coast Guard load line regulations. The issuance of load line certificate would have required a Coast Guard (or a recognized organization) inspection of the barge, which would likely have identified the poor material condition of the *Ambition*, including the temporary repair on the portside barge and the metal loss and corrosion holes of both

the watertight longitudinal centerline bulkhead, transverse rake bulkhead, and hull plating.

During the tow in the Gulf of Mexico, the *Ambition* had at least six hatch covers that were either missing or not properly secured. Although a *Karen Koby* deckhand notified the captain of two missing covers, the captain did not notify the LA Carriers office (towing vessel operator) of any of the items noted in the barge inspection report. Rigid Constructor's (barge owner) crew returned to the barge but did not properly secure the missing covers (an iron sheet and a pump were used to cover the two hatches, but neither of those items made the compartments beneath watertight). As a result, the barge *Ambition* was towed offshore with open and unsecured compartments that were intended to be watertight.

The barge had about a 4-foot freeboard underway in the 2–3-foot seas, yielding a foot of residual freeboard. Thus, any increase in draft forward would have likely exposed the open hatch at the port corner to seas reaching the main deck, and eventual downflooding in the rake void space below.

The initial hull failure at the knuckle and subsequent progressive flooding would have caused the *Ambition* to heel to port and ride further down by the bow. This is supported by both the on-watch mates' and deckhands' observations of how the barge rolled over (to port and with water on deck on the port side up to the forward spud). Therefore, it is likely that downflooding through the open hatch into the port barge's rake void accelerated the rate of flooding and contributed to its capsizing.

There was evidence of past dewatering of two compartments (1P and 2P) on the starboard barge of the *Ambition*: a pump and hoses were rigged there, and a Rigid crewmember told a deckhand from the *Karen Koby* that they had the hoses in the compartments all the time in case they need to pump water out. This implies that water accumulation was a known issue with those compartments. However, none of the Rigid crewmembers were tasked with checking compartments and voids on the barge for water, even though it had been sitting idle in a fleet for 4 to 5 weeks. Thus, Rigid Constructors allowed for the *Ambition* to be taken under offshore tow without verifying the watertight integrity of the hull or any water quantities in the compartments or voids (except for the aft ones that were about half full).

As indicated in the "Related Casualties" section of this report, this is not the first time LA Carriers has lost a barge offshore. The NTSB found that improperly secured hatch covers were the cause of the loss of the barge *PTC 589*. Gaps in the company policy and audit program resulted in recurrence of a similar casualty.

3. Conclusions

3.1 Probable Cause

The National Transportation Safety Board determines that the probable cause of the capsizing and sinking of the crane barge *Ambition* was the barge owner's lack of hull inspection and maintenance, and not conducting permanent repairs, which resulted in the failure of the hull and subsequent flooding. Contributing was likely downflooding through an open deck hatch due to the tow operator's failure to ensure adherence to its procedures for barge watertight integrity before getting underway, despite being aware of deficiencies with the watertight integrity of the barge.

3.2 Lessons Learned

Effective Hull Inspection and Maintenance

To protect vessels and the environment, it is good marine practice for vessel owners to conduct regular oversight and maintenance of hulls, including between drydock periods. An effective maintenance and hull inspection program should proactively address potential steel wastage, identify hull and watertight integrity deficiencies, and ensure corrosion issues are repaired in a timely manner by permanent means.

Vessel	*Karen Koby*	*Ambition*
Type	Towing/Barge (Towing Vessel)	Towing/Barge (Barge)
Owner/Operator	LA Carriers (Commercial)	Rigid Constructors (Commercial)
Flag	United States	United States
Port of registry	Cut Off, Louisiana	N/A
Year built	2011	1995/1998 (joined in 2020)
Official number (US)	1230122	N/A
IMO number	N/A	N/A
Classification society	American Bureau of Shipping	N/A
Length (overall)	94.4 ft (28.8 m)	195.0 ft
Breadth (max.)	29.0 ft (8.8 m)	70.0 ft
Draft (casualty)	10.0 ft (3.1 m)	4.5 ft (1.4 m)
Tonnage	95 GRT	N/A
Engine power; manufacturer	2 x 1,394 hp (1,036 kW); Mitsubishi SR 12 diesel engines	N/A

NTSB investigators worked closely with our counterparts from **Coast Guard Marine Safety Unit Houma** throughout this investigation.

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable cause of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for any accident or event investigated by the agency. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, "accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties … and are not conducted for the purpose of determining the rights or liabilities of any person" (Title 49 Code of Federal Regulations section 831.4). Assignment of fault or legal liability is not relevant to the NTSB's statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 United States Code section 1154(b)).

For more detailed background information on this report, visit the NTSB Case Analysis and Reporting Online (CAROL) website and search for NTSB accident ID DCA22FM024 Recent publications are available in their entirety on the NTSB website. Other information about available publications also may be obtained from the website or by contacting–

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