



National Transportation Safety Board

Marine Accident Brief

Contact of Towing Vessel *Edna T. Gattle* and Tow with Union Pacific Railway Bridge

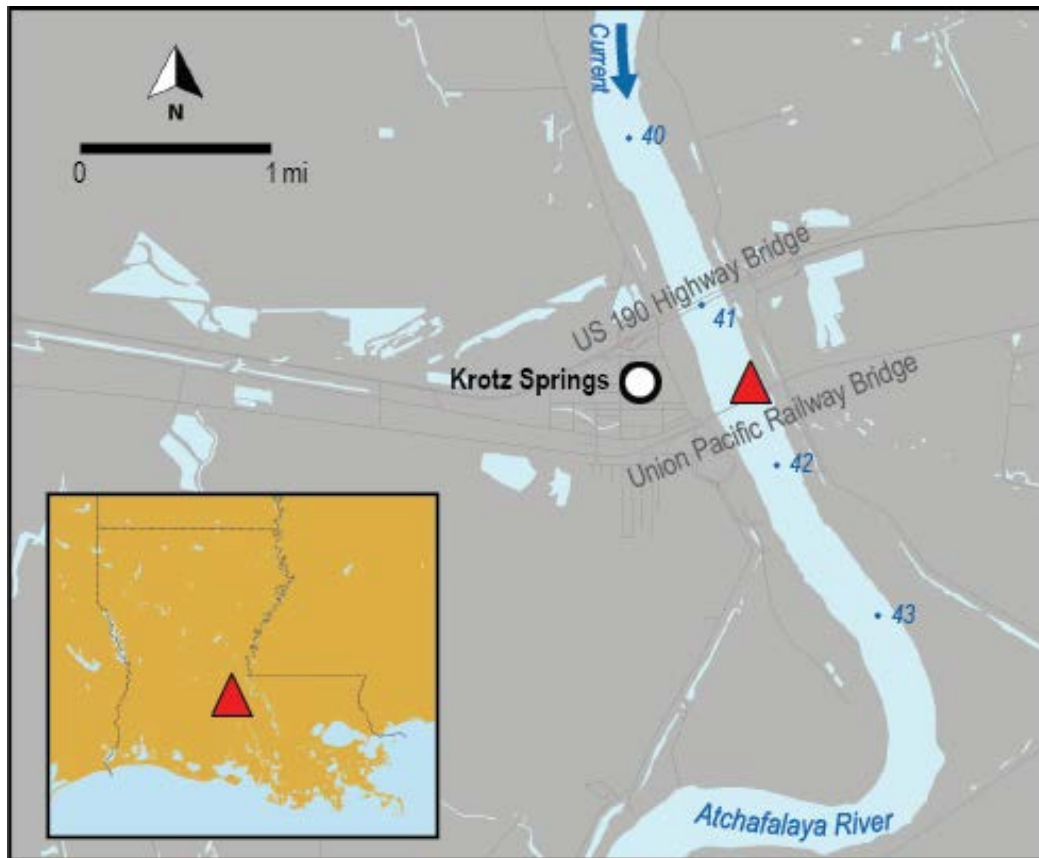
Accident type	Contact	No. DCA19FM032
Vessel name	<i>Edna T. Gattle</i>	
Location	Atchafalaya River, mile 41.5, near Krotz Springs, Louisiana 30°32.36' N, 091°44.70' W	
Date	April 24, 2019	
Time	2348 central daylight time (coordinated universal time – 5 hours)	
Injuries	None	
Property damage	\$550,000 est.	
Environmental damage	None	
Weather	Visibility 10 miles, overcast, winds light, air temp 74°F	
Waterway information	The navigable channel from the Old River Lock southward is 12 feet deep by 125 feet wide.	

On April 24, 2019, about 2348, the towing vessel *Edna T. Gattle* was pushing the barge *Terral 2* downbound on the Atchafalaya River through the Union Pacific Railway Bridge at mile 41.5, near Krotz Springs, Louisiana, when the captain lost control of the tow and the vessel and barge made contact with the bridge and piers. As a result, the barge suffered \$26,748 in damages, and the bridge sustained \$500,000 in damages and was out of service for 3 days. No injuries or pollution were reported.



The towboat *Edna T. Gattle*. (Source: *Terral River Services, Inc.*)

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Area of accident where the *Edna T. Gattle* contacted the Union Pacific Railway Bridge, as indicated by the red triangle. (Background source: Google Maps)

Background

The 3,000-horsepower towing vessel *Edna T. Gattle* was built in 2006 by New South Marine Construction, Inc. of Greenville, Mississippi, for Terral River Service, Inc. The vessel was 99 feet long, with a 32-foot beam and an approximately 18-foot air draft.¹

The railway bridge over the Atchafalaya River at mile 41.5 in Krotz Springs was part of Union Pacific's DeQuincy Subdivision. It consisted of four fixed spans and a "swing" span, which opened by rotating horizontally on a central axis, or pivot pedestal, in line with twin navigational channels.² The openings on either side of the pedestal were each approximately 130 feet wide. The bridge was originally built in 1928 for both trains and automobiles, but after the US-190 highway bridge was opened in 1933, one-half mile north, the original bridge reverted to train traffic only. There were no passenger trains on this line. The bridge was maintained and operated by Union Pacific. A Union Pacific bridge tender opened the swing span for passing vessels.

The Atchafalaya River runs from the confluence of the Red River and the Lower Old River, an outflow channel of the Mississippi River, to the Gulf of Mexico. The river is approximately

¹ The vessel had a retractable pilothouse, which, when fully extended, increased the vessel's air draft to approximately 37 feet.

² The bridge was opened by an electric motor in the bridge tender's cabin, above the pedestal, through reduction gears to a pinion in the pedestal below the track. There were two smaller gears, east and west in the pedestal, that turned the bridge.

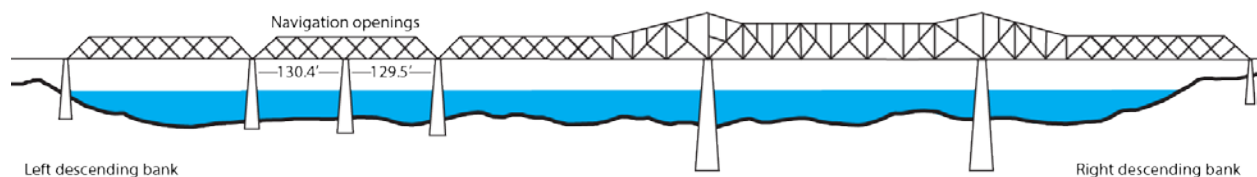
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137 miles in length with a 12-foot maintained depth. At the time of the accident, the river gage at Krotz Springs read 25.6 feet (flood stage was 29 feet).

Accident Events

On April 24 at 1840, the vessel left Terral's facility at Lettsworth, Louisiana, with a crew of six, including a captain, a relief captain, and four deckhands. The captain had the wheel watch for the entire passage to Krotz Springs. The crew picked up a spud barge, the 200-foot long *Terral 2*, with an excavator stowed on deck, at Moreau's Material Yard in Simmesport and were en route to Amelia, Louisiana, at 1920. The air draft of the spud barge was 45 feet, which exceeded the vertical clearance of the Union Pacific Railway Bridge (by 25.8 feet as calculated postaccident) and required the captain to call the bridge tender to request a bridge opening.

The captain first radioed the bridge tender at 2307 near mile 37 to request a bridge opening, and he stated that the radio reception was weak at that time. He stated that he called again near mile 38 (about 3.3 miles from the bridge) and had good reception. At this time, the tow's speed was 15 miles per hour (mph). The bridge tender told the captain that he had to call his dispatcher for permission; the dispatcher would assess how the opening affected the train schedule. The bridge tender called his dispatcher at 2313:54 and waited over three minutes for him to answer (the bridge tender logged that the dispatcher answered at 2317).

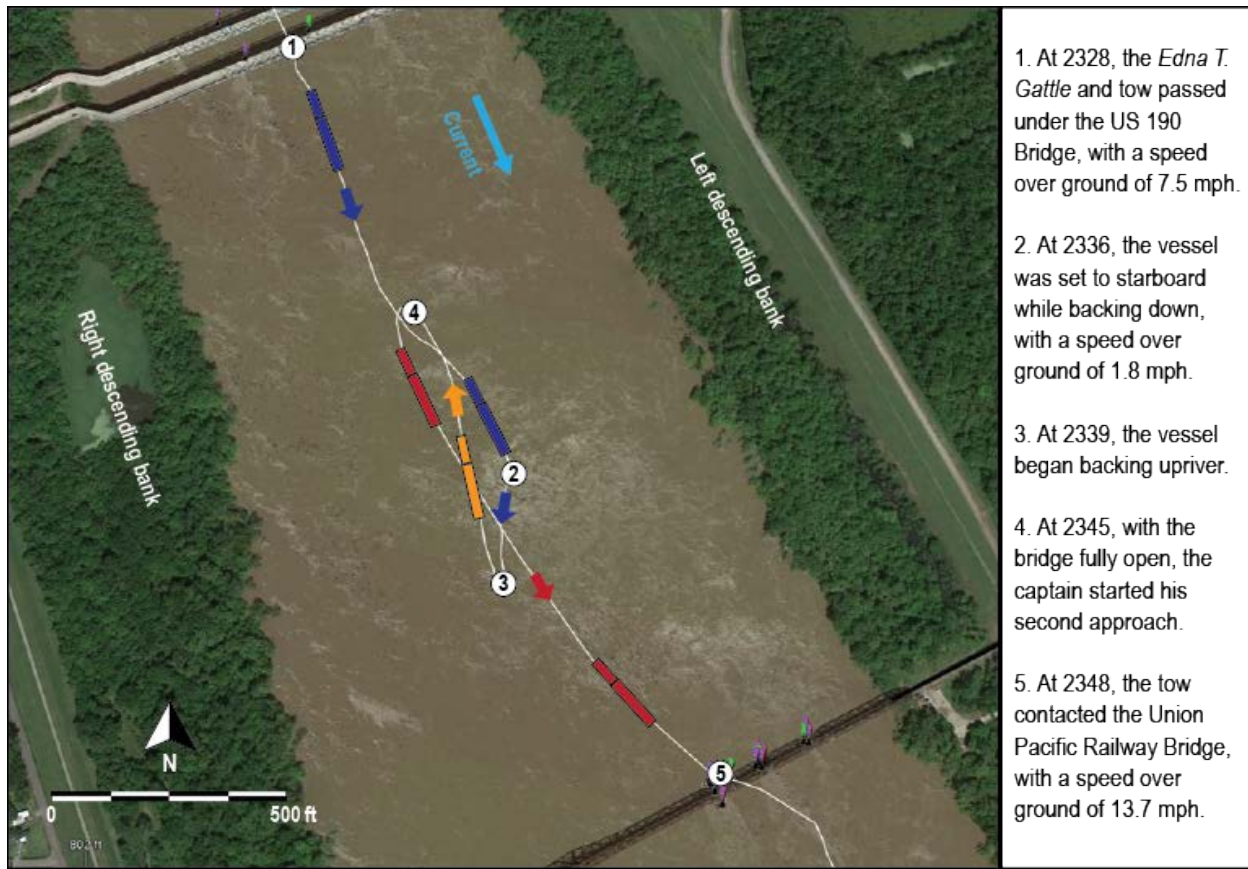


The Union Pacific Railway Bridge as viewed from the approach of the *Edna T. Gattle*. (Background source: US Army Corps of Engineers)

At 2315, the relief captain came to the wheelhouse to begin his regular watch. However, the captain retained control of the vessel, since the relief captain had not been through the swing span before, although he had passed under the other bridge spans there. The lead deckhand also came on watch at 2315 and was posted on the barge to act as a lookout.

At 2328, the *Edna T. Gattle* reached the US-190 highway bridge (the point at which the captain believed that he could safely abort the transit), and the railway bridge, which was about a half mile away, had not yet opened, so the captain stated that he throttled back, since he knew that the bridge would not have time to open before he reached it at the vessel's speed of 7.5 mph over ground. The captain called the bridge tender a third time about 2330 to request the status of the bridge opening, and the tender instructed him to standby. The captain estimated the current at 4.5–5 mph, and the *Edna T. Gattle* was set to starboard as it slowed down. The relief captain stated this was the fastest he had seen the current, and the captain told investigators that “Krotz Springs is a swift area.”

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The *Edna T. Gattle's* approach to the Union Pacific Railway Bridge. The track is shown as a white line. (Data source: US Coast Guard Navigation Center; background source: Google Earth Pro)

At 2337, the bridge opened, and the captain was given permission to proceed. As he continued backing down, the captain attempted to move to port (toward the left descending bank) using flanking rudders but stated that he was unsuccessful because of the current.³ The vessel began moving astern about 2339, and the captain continued to back up the river (against the current). By the time the captain began his second approach, the vessel and tow were about 150 feet to starboard (closer to the right descending bank) of the vessel's original approach and were not lined up on the opening of the swing bridge, so the captain made an approach on the bridge at a much steeper angle, beginning at 2345.

When it was evident that the tow would contact the bridge, the captain called the deckhand back to the *Edna T. Gattle* for his safety. The deckhand was making his way back to the vessel at the time of contact and was uninjured.

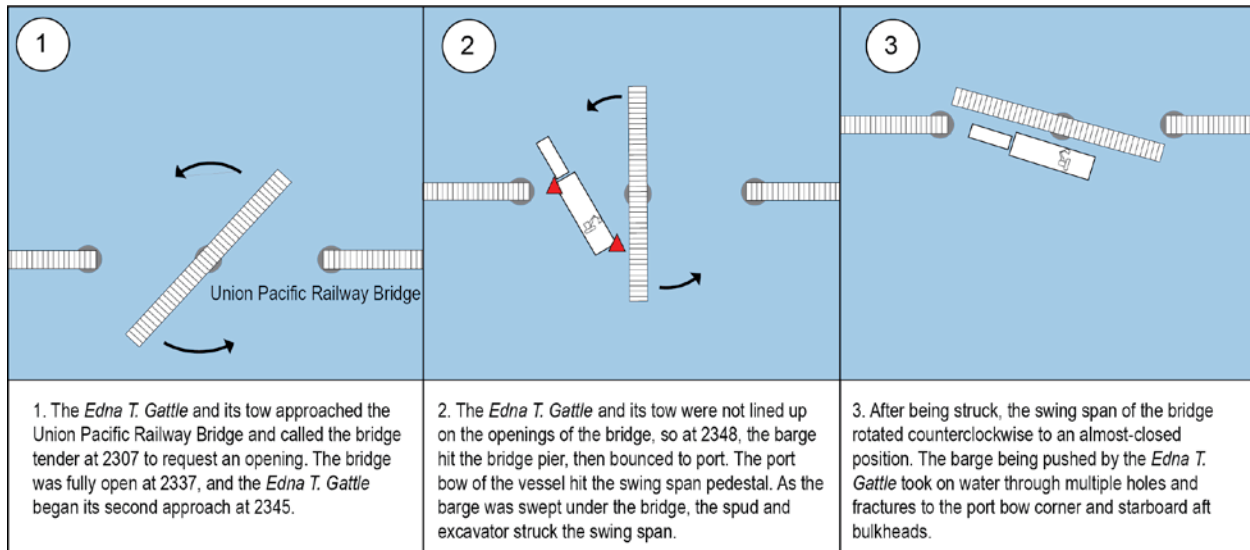
At 2348, the starboard quarter of the barge hit the bridge pier, then bounced to port. The port bow of the *Edna T. Gattle* hit the swing span pedestal. As the barge was swept under the bridge, the spud and excavator struck the swing span. The tow, propelled by current, forward

³ The inland towing industry refers to the shorelines of western rivers as the left and right banks when traveling (facing) downstream. The left bank is called the *left descending bank*, and the right bank is called the *right descending bank*.

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momentum, and a large eddy on the downriver side of the pedestal, forced the bridge to move in a counterclockwise motion, almost back to its closed position.

A facing wire from the vessel to the barge parted, and the barge took on water through multiple holes and fractures to the port bow corner and starboard aft bulkheads incurred from contacting the bridge. The crew used pumps to dewater the spaces.



Depiction of the *Edna T. Gattle* and tow as the vessel approached and struck the Union Pacific Railway Bridge, forcing the bridge to swing counterclockwise to an almost-closed position.

When the barge hit the bridge pier, bolts on the western gear were sheared off, and the eastern gear was displaced. A locking mechanism was also damaged, preventing the bridge from closing. Trains were diverted north to Alexandria, Louisiana. Temporary bridge repairs were completed by April 27, allowing trains to pass at a reduced speed.

Additional Information

Towing Vessel. The *Edna T. Gattle*'s captain had about 18 months of experience as master of the vessel, and he had worked for the company for 11 years.⁴ He had been assigned to the *Edna T. Gattle* for 6 years. He stated that he had transited the bridge several hundred times and had navigated the swing span before, once with a 600-by-70-foot tow, and another time with a spud barge, both times without issue. He stated that the only difference during the accident voyage was that he had to stop above the railway bridge.

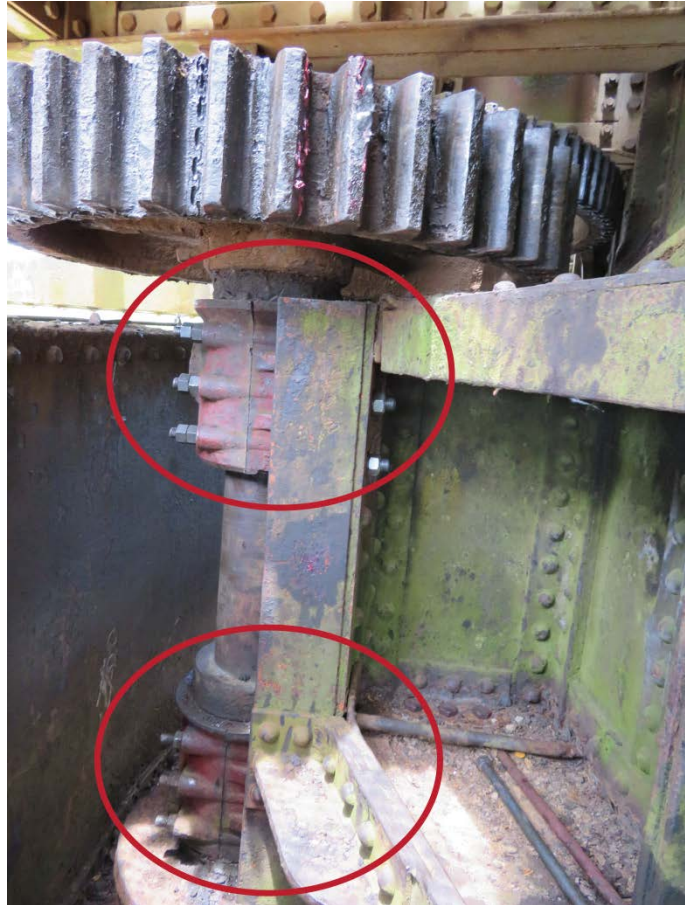
The *Edna T. Gattle*'s last US Coast Guard uninspected towing vessel exam was completed on March 8, 2018. The vessel had yet to be issued a Coast Guard Certificate of Inspection (COI) per the new 46 *Code of Federal Regulations (CFR)* Subchapter M, which was effective in July 2018 for towing vessels. There was a phase-in period for vessels to obtain a COI per the new regulations. The first milestone of the phase-in period was in July 2019 (after this accident), when operators were required to have a COI for 25 percent of their fleet.

⁴ The captain had also been relief captain for 8 months and pilot for 2 years. The *Edna T. Gattle* had a pilot, relief captain, and captain that rotated with each other in a 28-days-on/14-days-off schedule.

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Terral River Services' bridge transit procedure required vessels to "establish timely communications with the bridge tender of lift and swing bridges to ascertain the bridge lift or swing time and any other traffic affecting the transit." The procedure also stated that if "...the safe transit of the bridge is in doubt, the Master standing the watch is to stop and assess the prevailing circumstances."

Fendering. Union Pacific was in the process of installing fendering to protect the bridge piers from potential contact on either side of the west opening of the bridge. The west fender on the south side of the bridge was under construction until seasonal high water forced a temporary suspension. The bridge tender stated that he was at the bridge tender's operating station when the vessel called and there was no outside maintenance ongoing. According to the bridge tender and the Union Pacific manager, the bridge had no mechanical or electrical deficiencies.



A repaired gear within the pedestal. The new bolts are shown in the red circles.

Previous Bridge Contacts. The *Edna T. Gattle* was the third of several vessels of the same class. On June 9, 2017, the lead vessel in the class, *Marguerite L. Terral*, contacted the Union Pacific Railway Bridge, resulting in over \$4 million in damage to the bridge and the vessel's tow. Although the captain called the bridge tender to request an opening when the vessel was 5 miles above the bridge, the swing span was not open when the *Marguerite L. Terral* arrived. Similar to the *Edna T. Gattle*'s scenario, the *Marguerite L. Terral* was set to starboard and had to compensate for the current. The National Transportation Safety Board found, in that case, that the probable cause "was the bridge tender's delay in providing a timely opening of the drawspan, as requested, due to distraction by his other duties. Contributing to the accident was the pilot's failure to properly compensate for the current during the approach to the bridge."⁵

In another similar accident, on March 20, 2014, the *Edna T. Gattle* was approaching the Union Pacific Railway Bridge from upstream at a 45° angle and pushing a spud barge when the tow contacted the fixed bridge pier to starboard and then the swing span. There was no damage to the bridge. On February 11, 2010, the towing vessel *Lil Al Cenac*, pushing a crane barge, had to

⁵ National Transportation Safety Board, *Allision of the Marguerite L. Terral with Krotz Spings Railroad Bridge*, February 1, 2018.

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back down before reaching the bridge. The crane boom then struck and became entangled in the swing span. The *Lil Al Cenac* sank, and the vessel's crewmembers were rescued from the water.

Analysis

Investigators examined the bridge tender's log for the preceding month. From the time a vessel called the bridge tender, it took, on average, 9 minutes to obtain permission from the railway dispatcher to open the bridge. Once permission was granted, it took another 9 minutes, on average, to open the bridge (2 minutes to change the signal and 5–7 minutes to fully open the bridge and set the brake). In 28 bridge openings over a month-long period, it took a median 18 minutes between a vessel's first call to the bridge tender and the bridge opening. On the evening of the accident, it took 27 minutes, which was 9 minutes longer than the average, but still within the second quartile of logged data. A quarter of the bridge openings took longer than the accident opening; therefore, the time to open the bridge for the *Edna T. Gattle*, although longer than average, was not unusual.

Regulations governing bridges over navigable waters state that bridges must open promptly and fully for the passage of vessels.⁶ However, bridges can fail to open for a variety of reasons, including train traffic or mechanical issues. When the captain initially found the bridge unopen, he began backing to avoid hitting the closed bridge. The captain stated that he felt in control of the vessel until he started backing up. He did stop in time to avoid hitting the closed bridge, as discussed in Terral's procedures. However, despite backing and attempting a second approach, the captain was unable to line up the vessel correctly to transit the bridge. With a strong current pushing the vessel to starboard, the captain was unable to recover and make a better final approach. Though the bridge was slower to open than average, the captain and company should have anticipated such contingencies and planned mitigating actions, especially given the higher than normal river current. Since the company did not include decision points in their operations procedures for the Union Pacific Railway Bridge transit, the captain did not have a set location to stop and reassess the approach to the bridge once he realized that the bridge would not be open in time for his transit as initially planned. Had the captain slowed or stopped earlier at a planned and specified decision point before the bridge, he would have had more time and distance to make his second approach correctly.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the *Edna T. Gattle* and tow's contact with the Union Pacific Railway Bridge was the captain allowing the tow to proceed beyond a safe decision point without confirming the status of the bridge opening, given the high river current.

Bridge Transit Decision Points

Decision points in passage plans describe places or times when vessels must take action to avoid hazardous conditions. Such decision points should allow enough time and distance to safely execute a contingency plan. Passages that include lift and swing bridges must anticipate and account for delayed openings, especially in high-current scenarios.

⁶ See 33 *CFR* Part 117.5.

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Vessel Particulars

Vessel	<i>Edna T. Gattle</i>	<i>Terral 2</i>
Owner/operator	Terral River Service Inc.	Terral River Service Inc.
Hailing Port	Lake Providence, Louisiana	Lake Providence, Louisiana
Flag	United States	United States
Type	Towing vessel	Freight barge
Year built	2006	1943
Official number (US)	1184826	1067875
IMO number	1184786	None
Classification society	None	None
Construction	Welded steel	Welded steel
Length	98.8 ft (30.1 m)	195 ft (59.5 m)
Beam/width	32 ft (9.8 m)	35 ft (10.7 m)
Draft	10.2 ft (3.1 m)	3.5 ft (1.1 m)
Tonnage	320 GRT	515 GRT
Engine power; manufacturer	2 x 1500 hp (2237 kW); Caterpillar 3512 diesel engines	None
Persons on board	6	0

NTSB investigators worked closely with our counterparts from Coast Guard Marine Safety Unit Baton Rouge, Louisiana, throughout this investigation.

For more details about this accident, visit www.nts.gov and search for NTSB accident ID DCA19FM032.

Issued: April 14, 2020

The NTSB has authority to investigate and establish the probable cause of any major marine casualty or any marine casualty involving both public and nonpublic vessels under Title 49 *United States Code*, Section 1131(b)(1). This report is based on factual information either gathered by NTSB investigators or provided by the Coast Guard from its informal investigation of the accident.

The NTSB does not assign fault or blame for a marine casualty; rather, as specified by NTSB regulation, “[NTSB] 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 conducting investigations 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).