May 15, 2025 MIR-25-21

Capsizing and Sinking of Towing Vessel *Baylor J. Tregre*

On May 13, 2024, about 1657 local time, the towing vessel *Baylor J. Tregre* was towing the ocean barge *MARMAC 27* in the Gulf of America, about 23 miles south of Galveston, Texas, when the towing vessel capsized and sank (see figure 1 and figure 2).[1] All four crewmembers abandoned the vessel and were rescued by the US Coast Guard. One crewmember sustained minor injuries. There was no pollution reported. Damage to the towing vessel was estimated at $2 million.[2]

Figure 1. *Left to right*: Towing vessel *Baylor J. Tregre* at unknown date, and ocean barge *MARMAC 27* after the casualty. (Source: Trinity Towing LLC)

[1] In this report, all times are central daylight time, and all miles are nautical miles (1.15 statute miles) unless otherwise noted.

[2] Visit ntsb.gov to find additional information in the public docket for this NTSB investigation (case no. DCA24FM038). Use the CAROL Query to search investigations.

Casualty Summary

Casualty type	Capsizing/Listing
Location	Gulf of America, 23 nm south of Galveston, Texas 28°56.34′ N, 094°54.7′ W
Date	May 13, 2024
Time	1657 central daylight time (coordinated universal time –5)
Persons on board	4
Injuries	1 minor
Property damage	$2 million est.
Environmental damage	None
Weather	Visibility 0.5 mi, thunderstorms, winds southeast 23 kts, gusts 48 kts, seas 3 ft, swells 6 ft, air temperature 71°F, water temperature 70°F
Waterway information	Gulf; depth 60 ft (at casualty site)

Figure 2. Area where the *Baylor J. Tregre* capsized and sank, as indicated by a circled *X*. (Background source: Google Maps)

1 Factual Information

1.1 Background

The 67-foot-long towing vessel (tugboat) *Baylor J. Tregre,* constructed of welded steel, was built by R&S Fabricators, Inc. in Lockport, Louisiana, in 1997 as the *Trent Joseph* for Coastal Towing LLC. In 2023, Trinity Tugs LLC acquired the vessel, renaming it *Baylor J. Tregre*. The vessel's propulsion was provided by dual propellers with kort nozzles (each driven by a 750-hp diesel engine). The *Baylor J. Tregre* had an aft double drum towing winch with 1,800 feet of 1.25-inch tow wire. The *Baylor J. Tregre* had a valid US Coast Guard-issued certificate of inspection documenting compliance with Title 46 *Code of Federal Regulations* Subchapter M.[3]

The 260-foot-long, 72-foot-wide, 16-foot-depth oceangoing deck barge *MARMAC 27* was owned by McDonough Marine Service and was leased by Manson Construction Co. The barge had a load line certificate issued by the American Bureau of Shipping (ABS).

1.2 Event Sequence

On May 11, 2024, Trinity Tugs entered into an agreement with Manson Construction Co. for the *Baylor J. Tregre* to tow the barge *MARMAC 27*, which was loaded with a production platform and helideck, from Houma, Louisiana, to Brazos Area Block 538A, an oil and gas lease block in the Gulf of America.

The same day, about 0340, the *Baylor J. Tregre* departed Houma, en route to Block 538A, with the *MARMAC 27* in tow astern. The tow arrangement consisted of two bridles fitted to port and starboard bitts on *MARMAC* 27. The bridle lines connected to a shackle, which had a shock line attached to it. On the other end of the shock line was the main tow wire (towline), which was about 800 feet long (see figure 3). The wire was connected to the tow winch on the stern of the main deck; the towline ran through centerline roller chocks fitted in the stern bulwark just above the main deck centerline. The *MARMAC 27* drafts at departure were 9 feet forward and 10 feet aft.

[3] Subchapter M governs the construction, arrangement, installed equipment, and operations of towing vessels and became effective on July 20, 2018. Under Subchapter M, towing vessel operators document a towing vessel's compliance with regulations by either (1) allowing the Coast Guard to inspect the vessel or (2) implementing a towing safety management system.

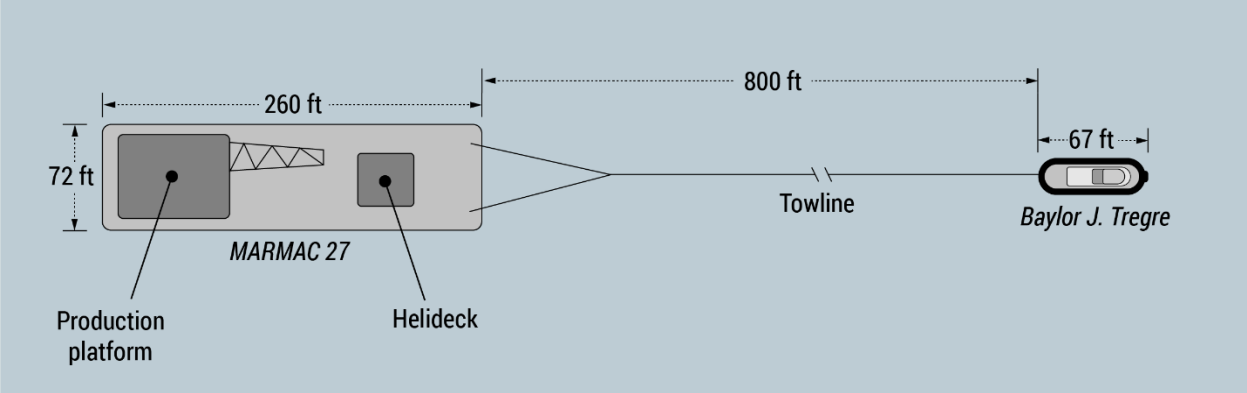

Figure 3. Towing arrangement of *MARMAC 27* and *Baylor J. Tregre* (towline not to scale).

The *Baylor J. Tregre* had four crewmembers aboard, including a captain, a mate, and two deckhands (deckhands 1 and 2). The captain and deckhand 1 worked a watch schedule of 0600–1200 and 1800–2400, and the mate and deckhand 2 worked the opposite watch schedule of 0000–0600 and 1200–1800.

Once offshore, the *Baylor J. Tregre* proceeded on a westerly course along the coastline of Louisiana (the tow could not use the Gulf Intracoastal Waterway because the platform on the barge was too tall to transit through some bridge and powerline crossings). About 0630, on May 13, the captain, who was at the helm for his scheduled watch, executed a southwesterly course change.

The crew received daily weather reports from Trinity Tugs shoreside staff and monitored VHF radio for marine weather broadcasts. The mate was on watch when the operating company called (via cell phone) with the daily weather report on May 13. According to the mate, the forecast for that day included a chance of thunderstorms throughout the day into the evening; he stated that the daily weather report forecast matched the weather report he had heard over VHF radio just before the phone call. (The mate did not recall hearing any updated weather forecasts over VHF radio afterward.)

The crew also reported daily to shoreside staff (typically verbally by phone) the vessel's position, estimated distance and time to destination, and weather conditions. At 1530, when the tow was about 60 miles from its destination, the crew reported the weather was 3- to 4-foot seas with winds from the south at 10–15 mph (about 9–13 knots). According to information transmitted from the automatic identification system (AIS), the tow was transiting between 4–5 knots. Shoreside staff directed the mate to reduce the vessel's speed to adjust the tow's arrival time.

Sometime after the phone call between the mate and office of Trinity Tugs, the mate noticed a squall forming to the north of the tow's position. The mate adjusted the heading of the tow, turning closer inshore.

The mate increased the range on the radar and saw a "narrow finger band" moving from west to east coming from the shore. After 15–20 minutes, the storm appeared larger, and the skies were beginning to darken. The mate again increased the range on the radar and saw that the storm picture had changed from a narrow finger band to a circle, about 4 to 5 miles wide, north of their position. The tow continued on a heading of west-southwest, transiting between 4–5 knots.

The mate stated that, shortly afterward, the wind began to blow out of the north and "intensified at a very quick rate," and he noticed that the vessel started losing speed. According to AIS data, the vessel's speed dropped from 4.0 knots at 1647:04 to 1.8 knots at 1650:09. The mate saw the anemometer display in the wheelhouse indicate a wind velocity of 45 knots (he could not remember if the anemometer was capable of displaying winds higher than 45 knots). He noted "the seas were blown flat."

The mate attempted to steer the *Baylor J. Tregre* into the wind. He stated that, before initiating the turn, the *MARMAC 27* was following "right behind," but "within a few more minutes after that, everything just went black." The mate lost sight of the barge, and he felt "like maybe some sort of cyclone had formed" on top of or next to the vessel. He thought it was hailing because "it sounded like ice on the boat."

Meanwhile, deckhand 2 was on duty down below aft in the vessel conducting clean-ups when he felt the vessel suddenly jerk him forward. He went to the wheelhouse; he told investigators that when he got there, the vessel was heeling 45° to port.

The mate then called the captain to the wheelhouse. The captain, whose stateroom was located directly aft of the wheelhouse, arrived immediately. According to the captain, when he arrived, "the main deck stern bulwarks were underwater." About 1654:20, the vessel's speed had dropped to 0.6 knots, according to AIS. The captain and mate estimated winds were about 85–100 mph (about 74–87 knots) at the time. The mate told investigators, "… I think it was maybe a waterspout or something, it took the barge and kind of brought it around to the side of us and the towline and the barge pulled us over." The mate then sounded the general alarm to summon deckhand 1 to the wheelhouse.

The captain then took the wheel and instructed the mate to leave the wheelhouse and "turn the barge loose." The mate stated he could not use the port

wheelhouse door because "it was almost in the water" and recalled, "We were leaning so hard that it took both deckhands to help [him] out of the starboard side door of the wheelhouse." The mate proceeded aft down the starboard side of the wheelhouse in an attempt to make it to the "doghouse"—a small, enclosed structure, located aft on the port side of deck 2 (the deck below the wheelhouse), that housed the controls to pay out and/or release the towline (see figure 4). However, as he proceeded aft, he saw the doghouse was halfway underwater and the windows were "blown out." The mate stated that he could not use the tow winch to pull in the tow because the winch was controlled from the doghouse, and the tow winch drive engine, located in the upper engine room, would need to be started. He returned to the wheelhouse and told the captain there was nothing he could do.

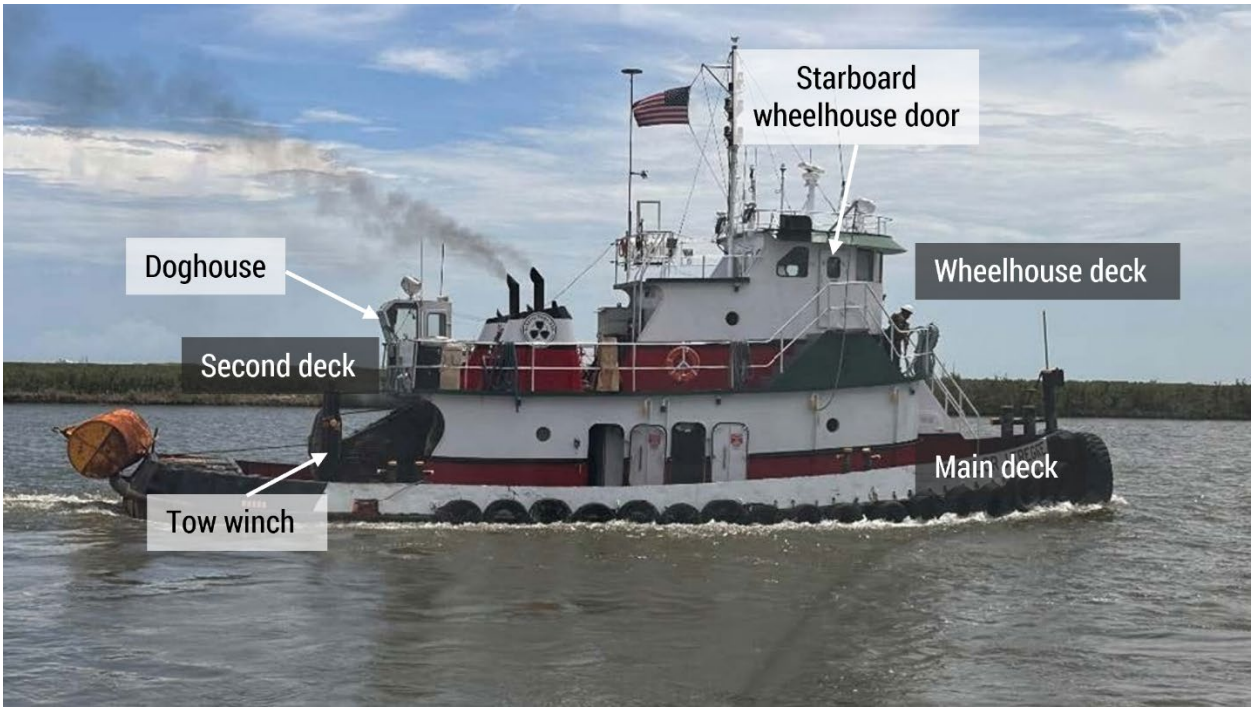

Figure 4. *Baylor J. Tregre* underway at unknown date before the casualty, with doghouse, tow winch, and starboard wheelhouse door labeled. (Source: Trinity Tugs LLC)

The captain and mate continued attempting to change the *Baylor J. Tregre*'s heading and right the vessel, but the port quarter was underwater, and the mate estimated that the starboard rudder and propeller were out of the water. When the mate located the barge, it was off the port beam, and the towline was "tight as a banjo string." The captain lost steering and attempted to use the vessel's propellers to steer the vessel in front of the barge but was unsuccessful. The mate and the captain referenced their electronic chart system; the mate told the captain, "This thing is dragging us sideways and backwards at 3.5 knots."

At 1657, the mate, with permission from the captain, made a distress call on VHF channel 16. Coast Guard Sector Houston-Galveston received the call. Shortly afterward, the vessel lost electrical power, and the main engines stopped running. The last AIS transmission from the *Baylor J.* Tregre was at 1712 (see figure 5).

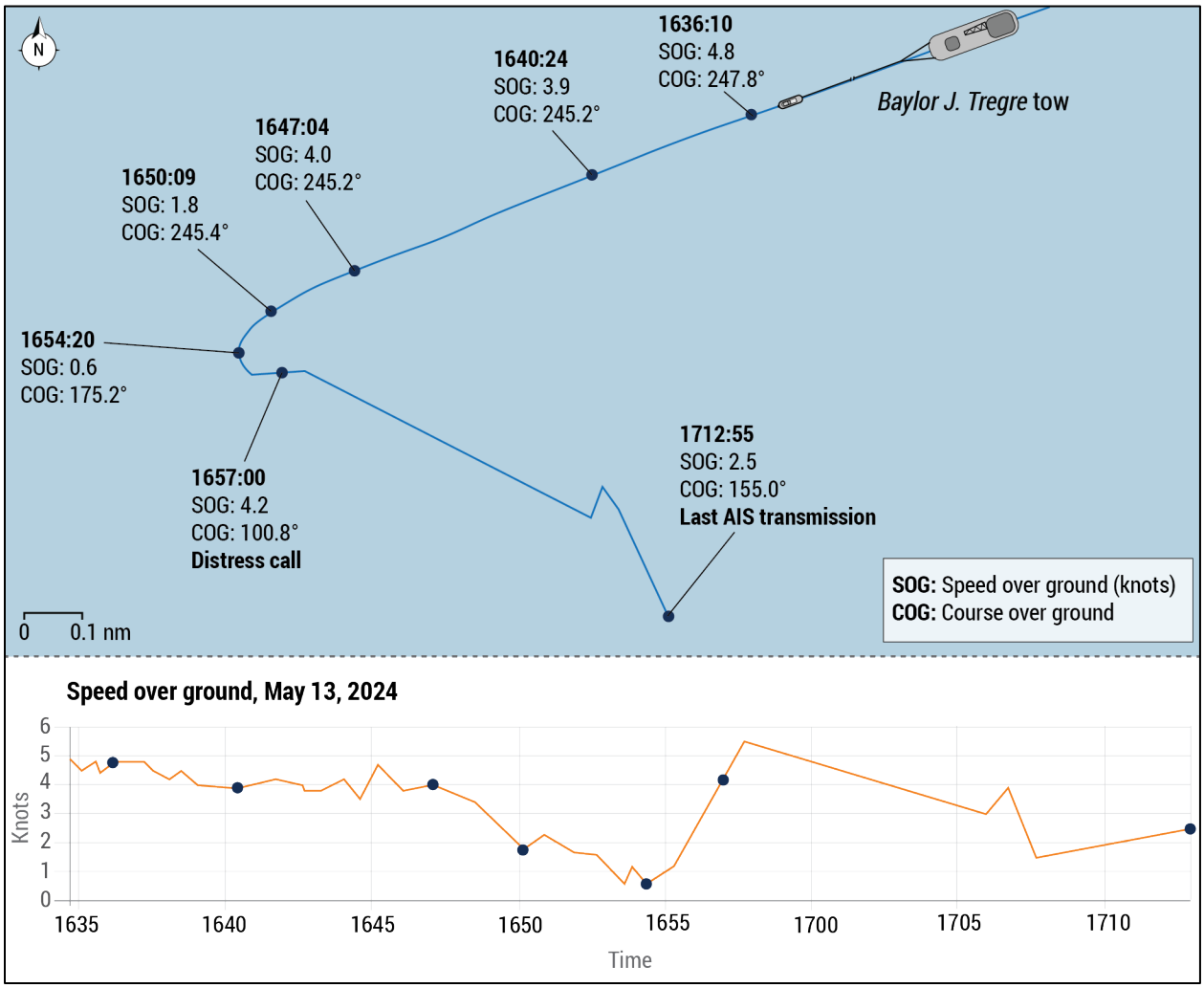

Figure 5. *Baylor J. Tregre* tow trackline and graph of vessel's speed over ground leading up to the last AIS transmission (tow not to scale). (Background source: MadeSmart AIS)

After the vessel lost power, the mate exited the wheelhouse by climbing up through the starboard door. He then helped the two deckhands and captain climb out of the wheelhouse. As the mate was securing the starboard wheelhouse door, deckhand 2 entered the water. Crewmembers threw a life ring to deckhand 2, but with the wind and waves, the life ring's retrieval line got hung up. By the time the retrieval line was free, the crew had lost sight of deckhand 2.

The three remaining crewmembers stayed on board the starboard side of the vessel. The sea state worsened, with 6- to7-foot seas, and the vessel continued to sink by the stern with a heavy port list. The crew, all wearing lifejackets, moved to the bow. A wave then blew the wheelhouse windows out, and the vessel started sinking more rapidly.

The remaining crew entered the water as the vessel sank, and the *Baylor J. Tregre*'s only liferaft self-deployed (automatically launched as designed once submerged). Deckhand 1 and the captain swam toward and entered the liferaft. The mate located and retrieved the vessel's emergency position indicating radio beacon (EPIRB), which had floated free from the vessel. The seas pushed the mate away from the liferaft, so he attempted to swim to the barge but missed it by about 100 yards and decided to drift. The captain and deckhand 1 cut the sea painter, and the liferaft began to drift.[4] The captain and deckhand 1 recovered deckhand 2 from the water, and shortly afterward, the mate spotted the drifting liferaft, swam to it, and was recovered by the crew.

At 1717, Coast Guard District 8 New Orleans received an EPIRB alert from the *Baylor J. Tregre*. Station Freeport (Texas) launched a response boat, and Air Station Houston launched an MH-65 helicopter. At 1804, the rescue helicopter crew spotted the liferaft and directed the response boat to the liferaft's position. At 1808, the response boat crew recovered the four *Baylor J. Tregre* crewmembers. Deckhand 2 reported injuries and was airlifted by the rescue helicopter from the response boat and transported to a local hospital.

An assist tug arrived about 2130 that same evening, and its crew reported that the *Baylor J. Tregre* was not visible, but its towline was still tethered to the *MARMAC 27*, which was holding relative position. The next day, on May 14, a marine warranty surveyor boarded the *MARMAC 27* for inspection. The surveyor found no damage to the cargo and reported that draft mark readings were "per the transit stability condition that was approved for the tow."

On May 15, the tow wire connecting the *Baylor J. Tregre* and *MARMAC 27* was cut, and the location was marked with a buoy. The *MARMAC 27* was towed to Freeport.

Salvage operations were conducted from May 18 to June 15. The salvor found the *Baylor J. Tregre* in an inverted position on the ocean floor. The vessel was

[4] On an inflatable liferaft, the *painter* is a line that attaches the raft to the vessel, and, when pulled, activates the inflation. The painter also acts as a guideline to deliver people safely to the floating liferaft when deployed.

successfully raised from the seafloor and transported to a salvage dock in Galveston, Texas, on June 12.

1.3 Additional Information

1.3.1 Damage

After the casualty, on July 9–10, NTSB investigators examined the *Baylor J. Tregre* and found multiple fractures and indentations on the vessel's superstructure, all of which appeared to be from recovery activities. The doghouse was missing, as were the port and starboard engine room/fiddley stack blowers (see figure 6).

Figure 6. *Baylor J Tregre* after salvage, showing the doghouse and fiddley blowers missing. (Background source: Coast Guard)

The outboard bulwark aft and to port of the centerline aft roller chocks exhibited abrasion and scarring to the paint coating, exposing bare metal (see figure 7). Comparatively, to starboard of the centerline aft roller chocks in the bulwarks, similar markings did not exist.

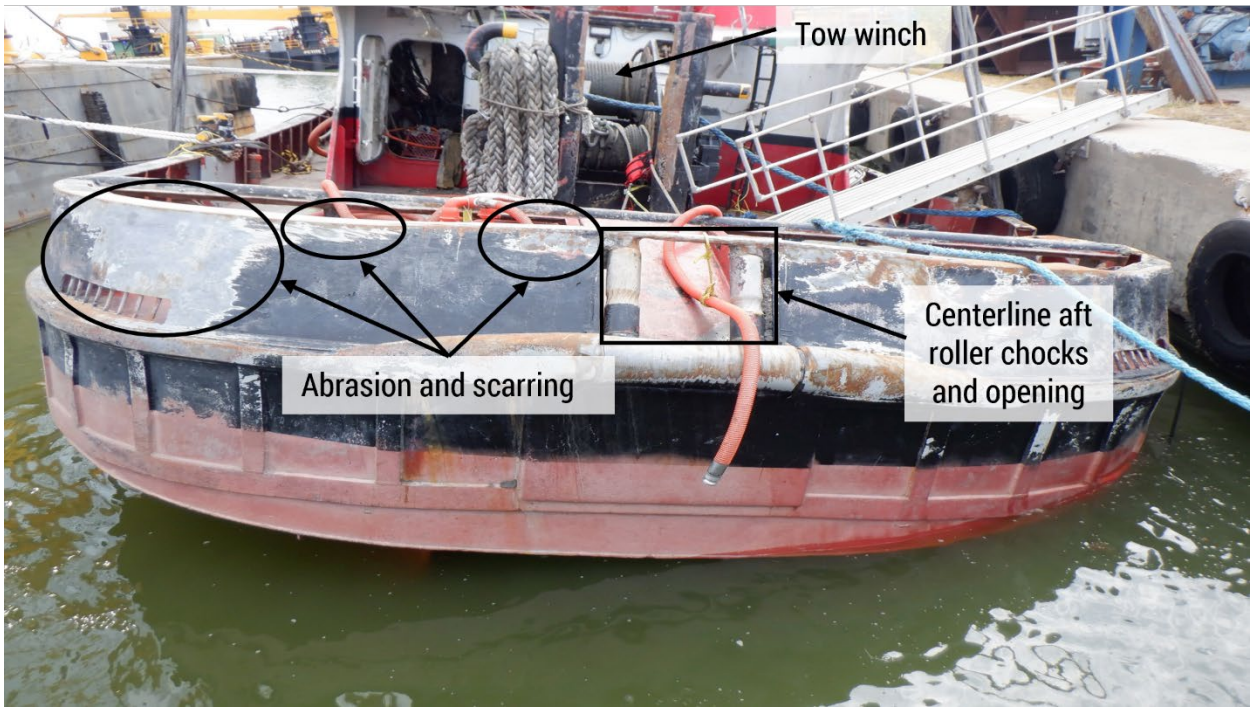

Figure 7. Abrasion markings and scarring (circled) on the vessel's port quarter bulwarks. (Background source: Coast Guard)

The *Baylor J. Tregre* had five exterior doors on the main deck. The starboard-side exterior door to the engine room was found separated from the hinges and lying on the deck. The salvage master told investigators that divers found the forward starboard main deck door open before salvage operations began. Additionally, various door hinges and sealing gaskets on both sides of the vessel were found deteriorated.

1.3.2 Vessel Inspections and Survey

The last Coast Guard inspections of the *Baylor J. Tregre* were an internal structural examination and periodic drydock inspection on April 15, 2024, and an annual inspection on April 22, 2024. Both inspections were completed satisfactorily.

Also on April 22, at the request of the company that would receive the production platform and helideck on the *MARMAC 27*, a surveyor completed a suitability survey on the *Baylor J. Tregre* in Houma to ascertain the vessel's suitability to tow the *MARMAC 27*. The survey recommended, "Careful consideration is to be given to weather criteria for the tow of *MARMAC 27*." The survey did not specify weather criteria limits for the tow. The survey concluded that the *Baylor J. Tregre* was suitable for the towing operation.

1.3.3 Environmental Information

1.3.3.1 Reported Weather

The closest National Weather Service (NWS) weather reporting location to the casualty site was Scholes International Airport at Galveston (KGLS), located about 22 miles north at an elevation of 6 feet. Thunderstorms were reported at KGLS beginning at 1554, with heavy rain and winds gusting up to 48 knots at 1724. Thunderstorms ended at 1734, with about 0.85 inches of rainfall.

At 1718, the Galveston Bay entrance (north jetty) buoy station (GNJT2), located 27 miles from the casualty site, reported a wind gust to 62 knots. At 1720, the Galveston Offshore 209A Buoy (KGVW), located about 25 miles northeast of the casualty site, reported wind from 310° at 28 knots gusting to 40 knots, and wave heights of 3 feet.

Satellite data from the Space Science Engineering Center at the University of Wisconsin-Madison in Madison, Wisconsin, indicated a large area of cumulonimbus clouds associated with a mesoscale convective system over the southeast Texas coast and extending over the sinking location at 1656.[5] Additionally, data indicated an extensive veil of cirrostratus clouds associated with a cumulonimbus anvil, with an area of overshooting cloud tops associated with the highest storm tops immediately over and west of the sinking location (see figure 8).

[5] A *mesoscale convective system* is a complex of thunderstorms that becomes organized on a scale larger than the individual thunderstorms but smaller than extratropical cyclones, and normally persists for several hours or more. A mesoscale convective system's overall cloud and precipitation pattern may be round or linear in shape, and include weather systems such as tropical cyclones, squall lines, and mesoscale convective complexes, and generally forms near weather fronts.

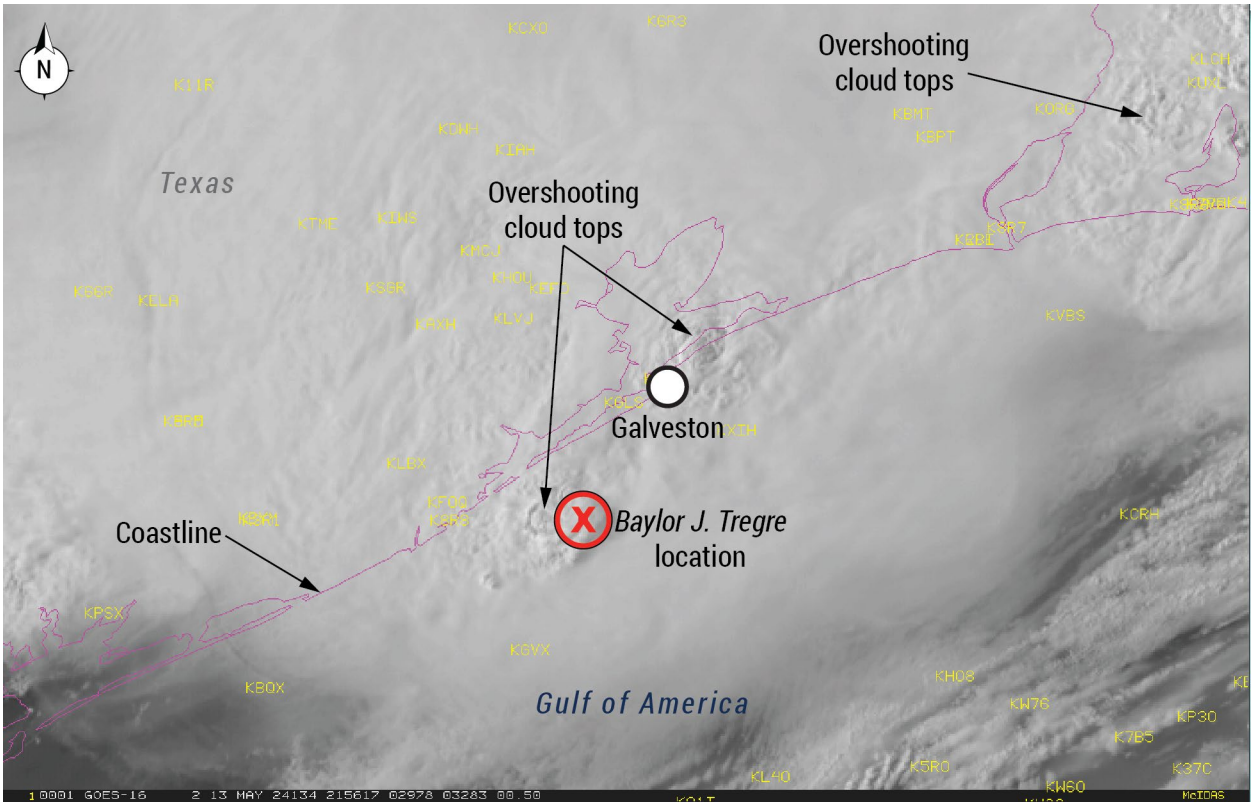

Figure 8. Overshooting cloud tops at 1656 with the location of the sinking site indicated by a circled *X*. (Background source: GOES-16 satellite data from Space Science Engineering Center)

1.3.3.2 Weather Forecasts

On the day of the sinking, at 1257, the NWS issued a severe thunderstorm watch for portions of southwest Louisiana, southeast Texas, and coastal waters, effective until 2000 that evening.[6] The watch warned of a cluster of thunderstorms capable of producing large hail and wind gusts between 60–80 knots.

At 1409, the NWS issued a Coastal Waters Forecast for High Island to the Matagorda Ship Channel out 60 miles, including Galveston and Matagorda Bays. The forecast stated:

> Moderate southeast winds will continue today, remaining at caution levels offshore. Scattered storms will continue to develop across southeast TX [Texas] this afternoon with an area of storms pushing

[6] A *severe thunderstorm watch* is issued when there is the potential for severe weather, but its occurrence, location, or timing is still uncertain. Watches are usually in effect from 4 to 8 hours and are normally issued in advance of the actual thunderstorm activity

> offshore likely this evening. Winds will briefly shift to the north/northwest as a boundary crosses the coast and high pressure moves into the area.

At 1501, the NWS issued a Special Marine Warning, applicable to coastal waters near Galveston, including the *Baylor J. Tregre*'s route, for severe thunderstorms capable of wind gusts to 40 knots, large hail, and frequent lightning.[7] The warning advised mariners to "move to safe harbor until hazardous weather passes." The Special Marine Warning was updated at 1544 to report "strong thunderstorms" with wind gusts 34 knots or greater and small hail.

[7] The NWS issues *Special Marine Warnings* for severe thunderstorms affecting coastal waters. These warnings are broadcast when the storms are predicted to produce winds of 34 knots or greater, hail 0.75 inches or more in diameter, or a waterspout. The warnings are issued for no more than 2 hours' duration, although they can be extended if conditions persist.

2 Analysis

On May 13, 2024, while towing the barge *MARMAC 27* astern on an 800-foot-long wire, about 23 miles south-southwest of Galveston, the *Baylor J. Tregre* encountered severe weather, listed to port, capsized, and subsequently sank. The crew abandoned the vessel into the liferaft and were rescued by Coast Guard responders.

While the tow was underway, the crew received daily weather reports from the operating company. According to the mate, the daily weather report for the day of the sinking forecasted a possible chance of thunderstorms throughout the day into the evening. This weather report matched the initial NWS local coastal waters forecast, issued at 1409—about 3 hours before the casualty—of scattered thunderstorms during the afternoon and evening hours. However, beginning an hour later, the NWS issued a series of Special Marine Warnings, forecasting severe thunderstorms and urging mariners to "move to safe harbor." The *Baylor J. Tregre* mate did not recall hearing any updated weather forecasts over VHF radio and thus was unaware of the Special Marine Warnings. However, even if the *Baylor J. Tregre* crew had received the Special Marine Warnings, they would not have been able to avoid the storm, given the vessel's speed (about 4-5 knots), the tow's position (about 17 miles from Galveston and surrounded by storms), and the speed of the storm's advance.

The weather deteriorated quickly as the vessel transited west-southwest in the Gulf of America, approaching the oncoming storm. According to the mate, the wind intensified suddenly: The captain estimated winds were about 85–100 mph (about 74–87 knots), and the closest NWS location reported winds gusting up to 48–62 knots (22–27 miles from the casualty site). Between 1647:04 and 1654:20, the vessel's speed dropped from 4.0 knots to 0.6 knots—almost a full stop—likely from the increased winds acting on the barge and, to a much greater degree, the production platform fixed to the barge. Unable to avoid the storm, the mate attempted to steer the *Baylor J. Tregre* so that the tow would be downwind. However, the storm quickly overtook the tow, and the mate lost sight of the barge. The force of the wind on the *MARMAC 27* pushed the barge to the south of the *Baylor J. Tregre*, causing the towline to exert force on the stern of the tugboat, pulling the stern and essentially halting the tugboat's forward motion, which affected the crew's ability to steer the tugboat. The crew stated that the towline was off the tug's port beam "tight as a banjo string" and that the barge was dragging the tug "sideways and backwards at 3.5 knots." The crew also stated the tug heeled to port 45°. Although the crew attempted to change the tug's heading, the towline force and heel to port prevented them from maneuvering the tow into the wind.

The *Baylor J. Tregre*'s captain stated that, when he arrived in the wheelhouse, the vessel was listing to port and the main deck stern bulwarks were underwater, thus indicating the deck edge was already immersed. Additionally, the crew stated they had to climb out of the wheelhouse through the starboard door because the port wheelhouse door was almost in the water. Deck edge immersion is often associated with the maximum righting arm for a vessel, meaning the vessel is more susceptible to a loss of stability (capsizing) if subjected to further heeling forces. In their continued effort to decrease the heel to port, the captain and mate attempted to change the tugboat's heading to bring the towline directly off the stern instead of over the port bulwark, but they were unsuccessful, and the vessel continued to heel and capsize.

After the vessel lost stability and was laid over to port, it would have flooded through any openings. These openings could have included the fiddley blowers (on the second deck), which were missing when the vessel was salvaged; windows, which blew open during the storm; or, to a lesser degree, exterior doors, with their hinges and sealing gaskets found deteriorated after the casualty. These openings would have allowed water to flood the vessel's interior spaces, causing it to eventually sink.

Releasing the tow could have reduced the risk of the vessel capsizing. However, there was no emergency release function in the *Baylor J. Tregre* wheelhouse, nor was one required.[8] Instead, to release the towline, a crewmember would need to start the winch engine in the upper engine room, and another crewmember would need to operate the winch controls located in the doghouse, aft on the second deck. The mate attempted to reach the doghouse to release the tow, but the doghouse was inaccessible because it was partially submerged. Additionally, even if the mate could have reached the doghouse, the winch engine was not running, and the engine room was inaccessible because the vessel was heeling so far to port.

[8] See 46 *Code of Federal Regulations* Subchapter M.

3 Conclusions

3.1 Probable Cause

The NTSB determines that the probable cause of the capsizing and sinking of the towing vessel *Baylor J. Tregre* was the mate's inability to maneuver the tow into the wind due to the overwhelming towline force generated by the towed barge during the sudden onset of severe weather, resulting in unrecoverable heeling.

Vessel Particulars

Vessel	*Baylor J. Tregre*
Type	Towing/Barge (Towing Vessel)
Owner/Operator	Trinity Tugs LLC (Commercial)
Flag	United States
Port of registry	New Orleans, Louisiana
Year built	1997
Official number	1055480 (US)
IMO number	N/A
Classification society	N/A
Length (overall)	67.2 ft (20.4 m)
Breadth (max.)	24.0 ft (7.3 m)
Draft (casualty)	9.0 ft (2.7 m)
Tonnage	97 GRT
Engine power; manufacturer	2 x 750 hp (559 kW); Caterpillar 3412 diesel engines

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