



National Transportation Safety Board

Marine Accident Brief

Sinking of Deck Barge *Margaret*

Accident no.	DCA15LM032
Vessel name	<i>Margaret</i>
Accident type	Sinking
Location	Mississippi River, near Convent, Louisiana, 30°01.9'N, 90° 50.1'W
Date	August 31, 2015
Time	0330 central daylight time (coordinated universal time – 5 hours)
Injuries	None
Property damage	\$2 million
Environmental damage	A light oil sheen was reported at the incident location
Weather	Darkness with clear skies, 5 miles visibility, calm winds, air temperature about 75°F
Waterway information	Left descending bank of the Lower Mississippi River, near mile marker 159.5 ¹

The deck barge *Margaret*, which was anchored at a fleeting area at mile marker 159.5 near Convent, Louisiana, began taking on water at an increasing rate during the night shift of August 30–31, 2015. A production manager, who was making inspection rounds every 2 hours, tried to increase the barge's dewatering capacity to stem the flooding, but by 0330, the *Margaret* listed heavily to port and sank moments later. No injuries were reported. A light sheen of suspected diesel oil was noted at the incident location. The barge owner estimated the loss at \$2 million.



The *Margaret* beached after salvage, awaiting destruction. (Photo by US Coast Guard)

¹ The banks of the Mississippi River and its tributaries are named *left* and *right* when traveling downstream. Thus, the east bank of the river is its left bank and the west bank is its right bank. To avoid confusion, commercial river traffic often calls the left bank the *left descending bank* and the right bank the *right descending bank*. (Source: US Coast Guard) All miles in this report are statute miles.

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The *Margaret* was moored bow-to-bow with the deck barge *Bulk Crane 1*. The barges were used for staging equipment in support of loading and discharging phosphorous rock at the Mosaic Company terminal located about half a mile upriver.²

The *Margaret* was one of ten uninspected deck barges fitted with cranes that the owner, Associated Marine Terminals, acquired when the company bought St. James Stevedoring in March 2015. The barges were in various states of disrepair. Some of the barges were surveyed before and following the acquisition; however, the *Margaret* was not. In its last survey in August 2014, the barge and its fixed pedestal crane were valued at \$2 million.³ The *Margaret*'s hull was compartmented with one longitudinal and four transverse bulkheads subdividing the hull into eight void compartments. Each void was accessible through an 18-inch manhole cover and a ladder. The survey focused on the external portion of the barge; the surveyor stated that gauging was not conducted to determine the thickness of structural members, watertight integrity was not inspected, and none of the internal compartments were available for inspection. The surveyor noted visible damage, wastage, and holing to numerous areas of the starboard bow, side plates, deck plates, and port stern.

Associated Marine Terminals production managers were responsible for monitoring cargo operations and checking the company barges. They worked in day shifts (0700–1900) and night shifts (1900–0700). The regular day-shift production manager told investigators that the port stern void of the *Margaret* had been taking on water intermittently for more than 5 years. He said that this void space had free communication with the void forward of it on the port side, and both voids needed to be pumped “once or twice a month.” *Bulk Crane 1*'s forward port void also leaked and was thought to be the less watertight of the two barges. The other production managers were also aware of the water ingress on the *Margaret* and *Bulk Crane 1* and would make three rounds each 12-hour watch to check for flooding. They did so by peering into void hatches on the main deck and estimating the amount of water in the 12-foot void by looking at the ladder rungs, which were spaced at about 1-foot intervals.

The production managers were also responsible for dewatering the barges as needed. They used four pre-staged portable submersible gasoline-powered pumps on the main deck, putting a dropdown hose through the manholes. When fully fueled, the pumps would run until the voids were pumped dry, the pumps lost suction, or until they ran out of fuel, for a maximum pumping time of about 2.5 hours. The regular day-shift production manager stated that the *Margaret*'s normal freeboard was about 3 feet and that he would wait until there was about 4 feet of water in the void before pumping.⁴ Associated Marine Terminals did not have formal reporting procedures or response actions for adverse conditions involving their vessels.

² Phosphate rock is primarily used in the production of phosphate fertilizers for agriculture; phosphorus helps plants to capture the sun's energy and begin the photosynthesis process.

³ Rivers and Gulf Marine Surveyors and Consultants, *Barge Margaret Survey Report #14-19198 for Condition and Valuation for Financial Purposes*, Convent, Louisiana, August 20, 2014.

⁴ *Freeboard* is the distance from the waterline to the upper deck and is a measure of reserve buoyancy.

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Portable pump and hose rigged to dewater a void on deck barge *Bulk Crane 3*.

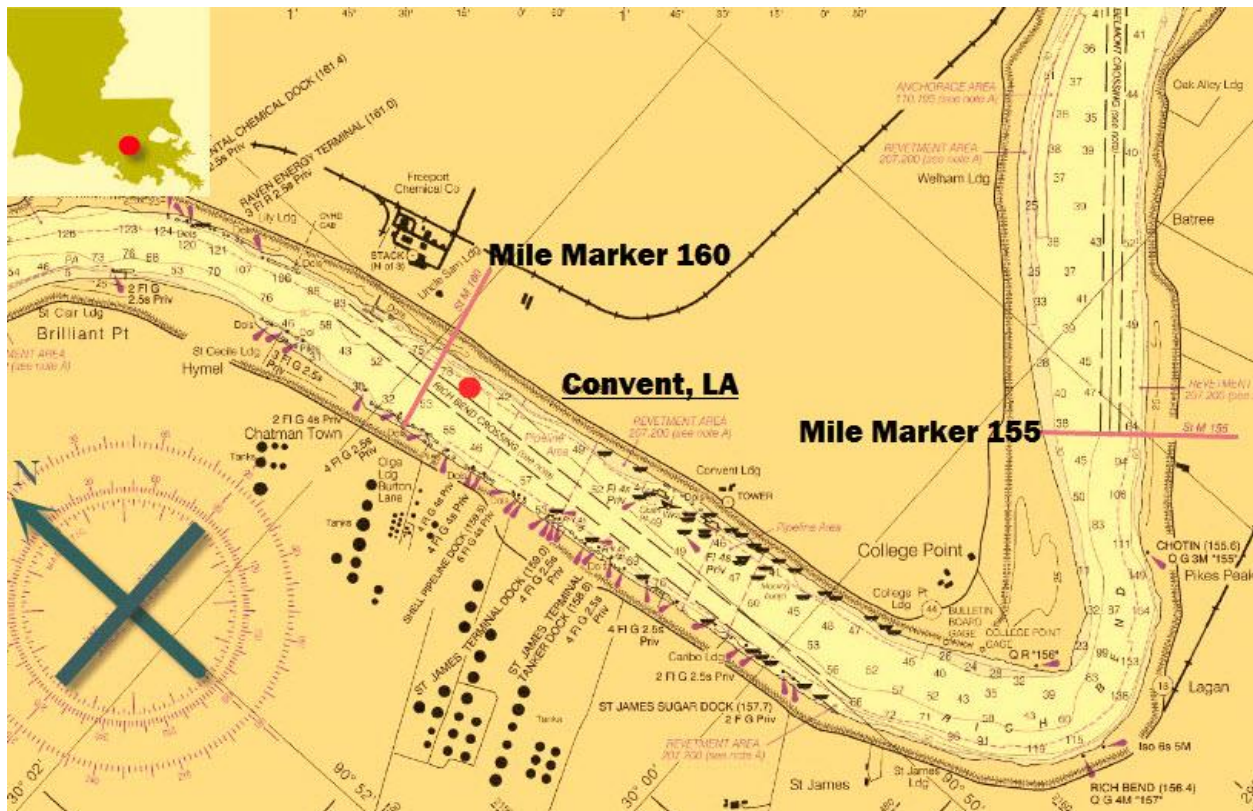
The regular day-shift production manager was on vacation August 23–31, 2015, and during that time, the day-shift crane manager took over the production manager's responsibilities. The crane manager did not know the condition of the barges and made no rounds of them. At 0730 on August 29, the captain of a crew boat transporting company personnel throughout its fleet reported that the *Margaret* was listing. The crane manager went out and started two pumps, which pumped out about 7 feet of water from the barge by the time his shift ended. The night-shift production manager estimated that the *Margaret's* water ingress flooding rate had tripled. Neither manager notified company officials of the barge's list or change-of-flooding rate.

At 0800 on August 30, the crane manager dewatered the *Margaret* and determined that the barge's freeboard had returned to normal. During the next shift, the night-shift production manager made four rounds of the barges by small boat. On his first round at 2030, he observed that the *Margaret* had a slight list to port, and he started two pumps before departing. On his second round at 2300, he saw that the *Margaret* had only about 1 foot of freeboard and that one of the two pumps had stopped working. He replaced the failed pump with one he took from *Bulk Crane 1* and departed the *Margaret* with both pumps running and about 2 feet of freeboard.

During his third round at 0130 on August 31, the night-shift production manager again discovered that one of the two pumps had stopped working. He replaced the pump with the last remaining pump from *Bulk Crane 1*, refueled both pumps, and departed the *Margaret* with both pumps running and about 2.5 feet of freeboard. While off the barges, he returned to supervising cargo discharge and also drove to a service station about 7 miles down the road to get more gasoline for the pumps.

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As he approached the barges for his fourth round at 0330, the production manager noted that the *Margaret* was listing heavily to port. The port stern soon submerged, followed by the rest of the barge, with the bow floating for a period of time before sinking to the bottom. The barge slid about 400 yards away from the left descending bank of the river and settled in 95 feet of water. No one was on board, and no injuries were reported. The *Margaret* had an 8,000-gallon fixed-deck diesel fuel tank. Officials at Associated Marine Terminals were unsure how much oil was aboard when the barge sank but estimated 150–200 gallons. A light oil sheen was reported at the accident location, and the company hired an oil spill response organization and a salvage company.



Portion of nautical chart 11370, *Louisiana Mississippi River-New Orleans to Baton Rouge (NOA)*. The red dot indicates the location of the accident.

The *Margaret* was raised on October 3, 2015. An investigator from Coast Guard Sector New Orleans who examined the barge noted no obvious location of the water ingress into the port stern void; however, the void was filled with 2 feet of river mud. The investigator also noted significant structural damage, including tearing of the hull in several locations by the salvage lifting lines attached to the barge. The barge was subsequently transported to a nearby company for destruction.

Following the accident, Associated Marine Terminals completed the assessment of the remaining nine barges acquired from St. James Stevedoring. *Bulk Crane 1* was scrapped, two barges were sold, and the remaining barges were deemed to pose no risk of sinking.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the sinking of deck barge *Margaret* was flooding of the port stern void due to the barge's overall lack of maintenance and watertight integrity. Contributing to the sinking was the barge company's lack of formal reporting procedures for its production managers conducting inspection rounds of the barges.

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Vessel Particulars

Vessel	<i>Margaret</i>
Owner/operator	Associated Marine Terminals
Port of registry	New Orleans, Louisiana
Flag	United States
Type	Deck barge
Year built	1994
Official number (US)	1028915
IMO number	N/A
Construction	Steel
Length	180 ft (54.9 m)
Draft	12 ft (3.7 m)
Beam/width	64 ft (19.5 m)
Gross and/or ITC tonnage	1,161 gross tons
Engine power; manufacturer	N/A
Persons on board	None

For more details about this accident, visit www.nts.gov and search for NTSB accident ID DCA15LM032.

Issued: August 17, 2016

NTSB investigators worked closely with our counterparts from Coast Guard Sector New Orleans throughout this investigation.

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*, 1131. 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*, 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*, 1154(b).