January 17, 2025 MIR-25-03

Grounding of Cargo Vessel *Bonnie G*

On October 4, 2023, about 0328 local time, the cargo vessel *Bonnie G* ran aground in the Caribbean Sea, less than 1 mile south of Cyril E. King Airport on St. Thomas, US Virgin Islands, while maneuvering following an anchor chain failure in heavy weather (see figure 1 and figure 2).[1] The twelve persons on board abandoned the vessel and were rescued by a US Coast Guard small boat. The *Bonnie G* remained hard aground for several weeks until salvors could successfully refloat it and tow it to a dock. There were no injuries, and no pollution was reported. Damage to the vessel was estimated at $1.5 million.[2]

Figure 1. *Bonnie G* underway in 2021. (Source: Rasheid Chambers, marinetraffic.com)

[1] In this report, all times are Atlantic standard time, and all miles are nautical miles (1.15 statute miles).

[2] Visit ntsb.gov to find additional information in the public docket for this NTSB investigation (case no. DCA24FM001). Use the CAROL Query to search investigations.

Casualty Summary

Casualty type	Grounding/Stranding
Location	Caribbean Sea, near Cyril E. King Airport, St. Thomas, US Virgin Islands 18°19.47′ N, 64°58.43′ W
Date	October 4, 2023
Time	0328 Atlantic standard time (coordinated universal time –4 hrs)
Persons on board	12
Injuries	None
Property damage	$1.5 million est.
Environmental damage	None
Weather	Visibility 9 nm, overcast, winds south-southwest 13 kts, seas 6 ft, air temperature 82°F, water temperature 86°F, morning twilight 0524, sunrise 0611
Waterway information	Sea, depth at grounding location 5–14 ft

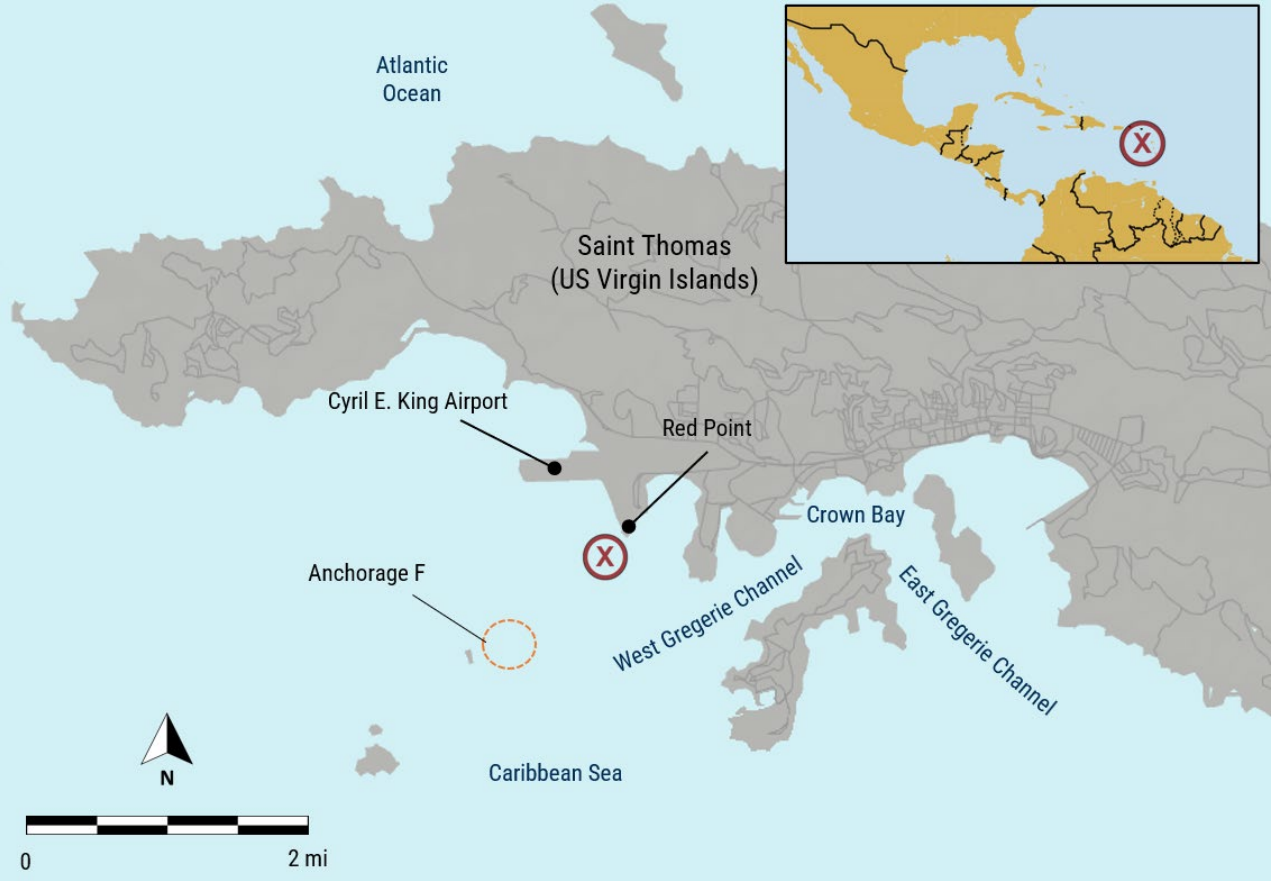

Figure 2. Area where the *Bonnie G* grounded, as indicated by a circled *X*. (Background source: Google Maps)

1 Factual Information

1.1 Background

The 172-foot-long, Vanuatu-flagged *Bonnie G* was constructed of welded steel by Halter Marine in Lockport, Louisiana, in 1981. Originally built as an offshore supply vessel to service oil platforms in the Gulf of Mexico, it had several previous names, including *Lone Wolf*, *Century*, and *Bella*.

The vessel was acquired by Third Lady, LLC in 2020. It then went through an overhaul to convert it into a cargo vessel, during which the stern ramp was widened and the twin deck stacks were moved to facilitate roll-on/roll-off cargo and maximize deck space.

1.2 Event Sequence

On October 1, 2023, at 2107, the *Bonnie G* departed San Juan, Puerto Rico, with a crew of 11 and one passenger (a representative from the vessel's operating company). The *Bonnie G* regularly transported cargo between Puerto Rico, St. Thomas, and St. Croix, with occasional stops in other US Virgin Islands and British Virgin Islands (BVI) ports. The vessel was starting its weekly round-trip run; the first destination was St. Thomas, followed by St. Croix, then a diversion into BVI waters to clear immigration, back to St. Thomas, and then a return to Puerto Rico 5 days later, on October 6.

After completing the port call in St. Thomas, the *Bonnie G* arrived in St. Croix around 0700 on October 3 and began cargo operations shortly thereafter. By 1400, the cargo operations were complete, and the vessel was ready to depart. The vessel was loaded with six passenger vehicles; an industrial truck, trailer, and scissor lift; a refrigerated container full of fruits and vegetables; and an assortment of other cargo including medical supplies, scratch tickets, printer toner, magazines, books, whiskey, and beer.

Before departing St. Croix, the captain reviewed the weather forecast for the vessel's route (back to St. Thomas, with an intermediate diversion into BVI territorial waters), consulting the vessel's NAVTEX (navigational telex) and weather forecasting applications—Windy.com and National Oceanic and Atmospheric Administration (NOAA)—on his cell phone. The National Weather Service had issued a small craft advisory for the area the *Bonnie G* intended to navigate, with predicted winds

10–15 knots, seas up to 9 feet, and wind gusts up to 25 knots after midnight.[3] These weather conditions were a result of Tropical Storm Phillippe, which was about 100 miles north of the *Bonnie G*'s travel area. The captain determined the weather forecast to be acceptable for the roughly 7.5-hour transit to St. Thomas, and he decided to get the vessel underway.

For navigation, the vessel was equipped with local paper navigation charts, radar, automatic identification system (AIS), and a GPS chart plotter.

At 1550, the *Bonnie G* got underway. Around 2000, the vessel arrived into BVI waters and, after exchanging the required electronic documents with customs and immigration, the vessel altered course to the east and proceeded toward St. Thomas. At this point, the weather began to deteriorate and, according to the captain, it began to rain "real hard." At 2230, the crew noted in the vessel's logbook, "approaching St. Thomas, bad weather."

The captain, who had been sailing as captain on the *Bonnie G* for less than a year (his current rotation on the vessel had started in May 2023), navigated the vessel up the East Gregerie Channel into Crown Bay, and the crew prepared to dock at the Sandfill Cargo Facility, on the eastern side of the bay, which was the vessel's usual berth. The captain said that, at 2320, on the approach to the dock, while he was at the helm navigating the vessel, the wind was blowing "real strong" (27 knots according to the weather data from the Charlotte Amalie Harbor station) and severe rain was limiting his visibility. He also noted that a loaded 250-foot-long-by-100-foot-wide barge had partially broken free of its moorings and had shifted along the dock, somewhat blocking the *Bonnie G*'s intended mooring location. The captain determined that attempting to dock the vessel in the current circumstances (poor weather conditions and with the barge obstruction) would be too dangerous. He called the vessel's owner, and together they decided that the vessel should go to anchor and wait out the poor weather.

At 2323, the *Bonnie G* departed Crown Bay via the West Gregerie Channel, transiting southwest toward Anchorage F. Anchorage F was a deep draft anchorage and was a designated anchorage area on the navigational chart, located about 1 mile due south of the Cyril E. King Airport (see figure 2).

[3] A small craft advisory for the area the *Bonnie G* was operating was issued by the National Weather Service when there was potential for wave heights of 7 feet or higher and/or wind speeds of 21–33 knots, expected to produce wave conditions hazardous to small craft.

The captain's experience with anchoring the *Bonnie G* was limited to a Mediterranean mooring arrangement.[4] He had anchored another vessel as chief mate but never at Anchorage F. To locate the anchorage, the captain relied on GPS coordinates and satellite imagery screen shots sent to him via text message by the vessel owner. After initially overshooting and sailing about 1 mile past the anchorage to the west, the captain turned the vessel around and sailed east to the northern reach of the anchorage and positioned the vessel.

At 0020, on October 4, the *Bonnie G* was about 0.6 miles south-southwest of Red Point. According to the captain, the winds were out of the south-southeast and gusting up to 25 knots. The captain was unsure of the water depth at the anchorage, telling investigators following the casualty that the water depth was "maybe 7 to 8 meters" (23–26 feet). The navigation chart for the location indicated the water depth was 68 feet. The captain ordered the port anchor, a 2,000-pound Danforth-type with 1-3/8-inch chain, let go, and 1.5 shots (about 135 feet) of chain paid out. After several minutes, the anchor fetched up, and the vessel held position (see figure 3).

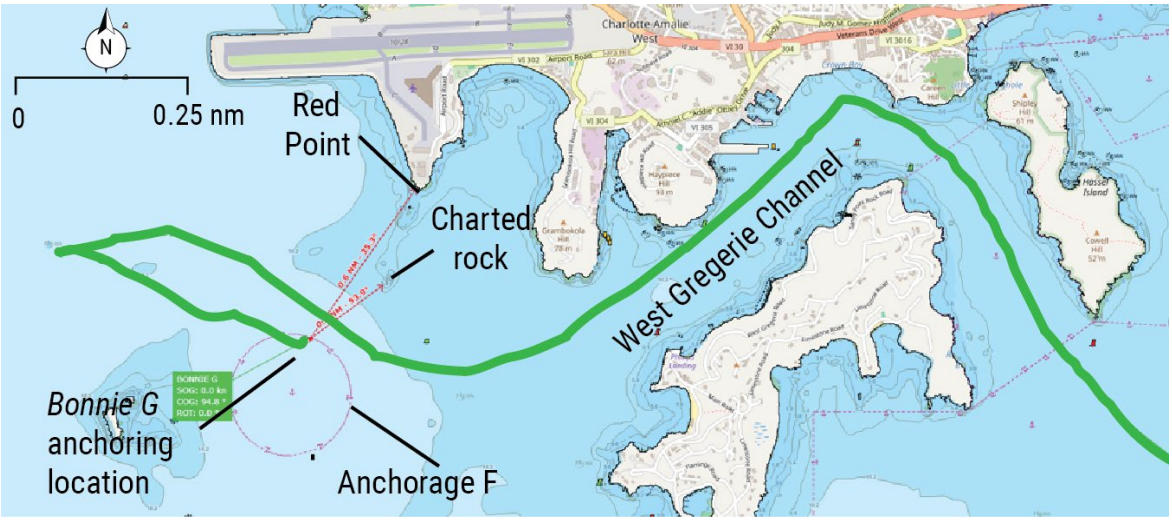

Figure 3. The *Bonnie G's* trackline leading up to the approximate time the vessel anchored on October 4, 2023. Red bearings indicate distances to the closest point of land and to a nearby charted rock. (Background source: NOAA electronic navigation chart 25649 as viewed on Made Smart AIS)

After the anchor was deployed, the captain assigned an able-bodied seafarer (AB) to stand anchor watch on the bridge while he and the remainder of the crew rested in their cabins. Before departing the bridge, the captain set up a 1/2-mile variable range marker on the radar between the *Bonnie G* and Red Point (the closest

[4] A *Mediterranean mooring* is a docking technique in which the vessel backs into a dock while using an anchor to control the vessel's position as it backs in.

landmass) and instructed the AB to monitor the speed and swing of the vessel and monitor the radar to ensure the vessel was not dragging anchor.[5]

About an hour after leaving the bridge, about 0120, the captain returned because he heard what he described as a loud noise coming from the bow—he assumed it was the anchor chain. Once on the bridge, he verified that the vessel was not drifting and assessed that all appeared to be "normal." He returned to his cabin.

AIS data indicates that, at 0257, the *Bonnie G* began to drift. Several minutes later, the AB on watch noticed the vessel's speed increasing, and, using the variable range marker, he verified that the vessel was drifting and not simply swinging around the anchor. The AB left the bridge and alerted the captain, who was resting in his cabin. The chief engineer had the propulsion in standby because of the adverse weather conditions.

Once the captain got to the bridge, he confirmed that the vessel was drifting north-northeast, being set in the direction of land by the prevailing wind. At this point, the vessel was within 1/4 mile of land. Assuming that the vessel was dragging anchor, the captain instructed the AB to go to the bow and heave the anchor. Meanwhile, the captain maneuvered the bow of the vessel into the wind. When the AB attempted to heave the anchor, he discovered that the anchor chain had parted at the first shackle (1-shot marker), and that the anchor was no longer attached to the vessel. The AB reported this to the captain on the bridge.

At 0320, after learning that the anchor chain had parted, the captain decided to maneuver the vessel back into nearby familiar waters and then sail in a westerly direction toward open water, rather than anchoring again using the vessel's starboard anchor. Afterward, he would contact the owner and decide whether to jog into the weather and attempt to dock in St. Thomas once the weather cleared, or return to Puerto Rico.

The captain observed a green navigational buoy about 0.3 miles to the southeast of the vessel's location, which he recognized as one of the West Gregerie Channel markers. The captain maneuvered the vessel toward the buoy (see figure 4).

[5] A *variable range marker* is a radar tool that measures the distance between the vessel and a target, such as a landmass or another vessel.

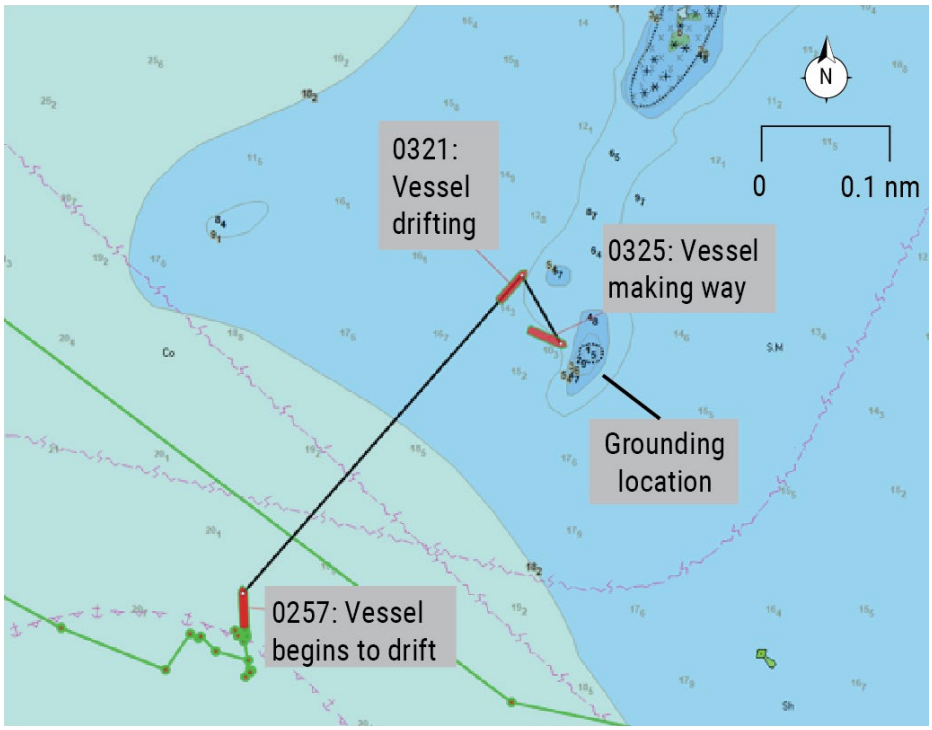

Figure 4. The *Bonnie G's* trackline after the captain began navigating the vessel toward the green buoy and the West Gregerie Channel, just before the vessel grounded. (Background source: NOAA electronic navigation chart 25649 as viewed on Made Smart AIS)

At 0328, only minutes after beginning to make way and traveling at 0.8 knots, the *Bonnie G* ran aground on a rock. The tide at the time was running near low, and the vessel's draft was about 10 feet. According to the *United States Coast Pilot*, "a rocky ledge extends 0.4 mile south of Red Point. A steep-to rock at the outer end has a least depth of 5 feet over it."[6] Investigators confirmed that the rock was depicted on NOAA chart 25649 and British Admiralty chart 2183.

The vessel came to a stop quickly after grounding. The captain repeatedly attempted to back the vessel off the rock but was unsuccessful. He called the owner of the vessel with his cell phone and reported that the vessel was hard aground. He also hailed the US Coast Guard on VHF channel 16 and reported that the vessel had grounded and was stranded. Realizing that the vessel was stranded on the rocks and concerned for the safety of the crew in the poor weather conditions, the captain decided that they should abandon ship. Over the next several minutes, the captain repeatedly hailed the Coast Guard, telling them of his plans to abandon ship and requesting rescue.

[6] NOAA, *United States Coast Pilot 5*, 52nd ed. Chapter 14, 527, last modified December 15, 2024, https://nauticalcharts.noaa.gov/publications/coast-pilot/files/cp5/CPB5_WEB.pdf

At the time of the grounding, the chief engineer, who was in the engine room, heard a loud banging noise. Shortly after, the AB on watch came down and informed the chief engineer that the captain was planning to abandon ship and that the crew was mustering. The AB and chief engineer exited the engine room and mustered with the rest of the crewmembers, who were preparing the vessel's inflatable liferaft and rescue boat. A few minutes later, the captain sounded the abandon ship signal.

Before abandoning the vessel, the chief engineer returned to the engine room and secured the main engines and electrical generator. When he was leaving the engine room, he looked forward through an open watertight door, into the midships passageway, and noticed water flooding into the space. He did not have time to shut the open watertight door that separated the passageway from the engine room; he told investigators that the situation was "terrible" and "maybe I [would] lose my life."

After the chief engineer returned to the main deck, the crew and passenger abandoned the vessel. Ten people boarded the inflatable liferaft, and two others boarded and launched the rescue boat.

The Coast Guard Sector San Juan command center, which had been communicating with the captain of the *Bonnie G* before he abandoned the vessel, alerted the Boat Force St. Thomas (located at Marine Safety Unit St. Thomas) of the situation. At 0445, a 33-foot-long special purpose craft crewed by four Coast Guard personnel departed from the Coast Guard Marine Safety Unit dock in Charlotte Amalie Harbor. The Coast Guard crew arrived at the scene of the *Bonnie G* grounding 8 minutes later and began recovering personnel from the liferaft, which had remained in the area. The crew of the Coast Guard small boat observed the on-scene weather conditions: winds sustained at 24 knots, gusting to 33 knots, seas 4-8 feet, and visibility less than 1 mile. Once all personnel were recovered from the liferaft, the Coast Guard crew recovered the two personnel from the rescue boat and took it in tow. The Coast Guard crew then transported the crew of the *Bonnie G* to the dock in Crown Bay Marina. There were no injuries reported.

Over the next several weeks, the vessel remained stranded, in the same position where it had grounded (see figure 5). Surveyors and salvors worked to ascertain the extent of the damage to the vessel and to mitigate the potential for pollution. On October 30, following the completion of temporary repairs to the breaches in the hull (using underwater epoxy) and the removal of most of the floodwater from the engine room and hold deck (the lowermost deck of the vessel in which the engine room was located), the vessel was successfully refloated and towed to the dock in Crown Bay.

Figure 5. The *Bonnie G* stranded on the rocks following the grounding. (Source: Coast Guard)

1.3 Additional Information

1.3.1 Damage

In the days following the grounding of the *Bonnie G*, a dive survey was conducted to determine and document the damaged underwater portions of the vessel (see figure 6 and figure 7). The survey determined that the bottom of the vessel had minor to serious indentation up to 1 foot in depth, pushed up into the vessel. Although there was damage to the hull noted between frames 39 and 62, most hull indentations were between frames 40 and 57. Most hull breaches were along bottom plating welds in the area of the midships passageway.

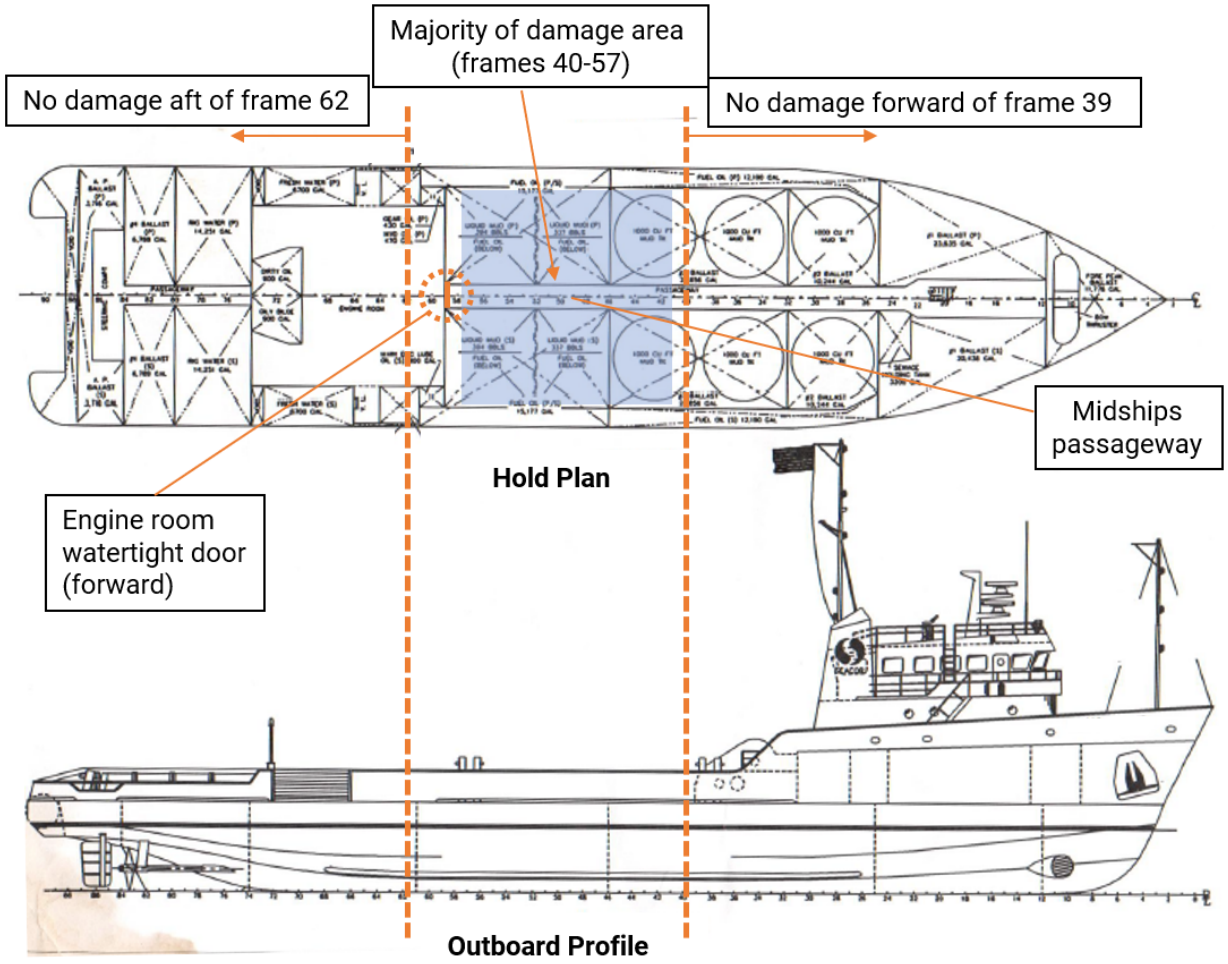

Figure 6. A plan and profile view drawing of the *Bonnie G* with annotations noting areas of damaged sustained during the grounding. Additionally, the engine room watertight door through which floodwater entered the engine room from the midships passageway is identified. (Source: Third Lady, LLC)

There was significant flooding inside the vessel. A hull breach in the midships passageway caused flooding into the passageway space. The watertight door located at frame 59 segregated the midships passageway from the engine room. This door was open during the grounding and subsequent flooding, and thus allowed water to progressively flood from the midships passageway into the engine room. In total, about 6–7 feet of water flooded the engine room, submerging all engine room equipment, including the electrical generators and main engines, in salt water.

The *Bonnie G* was declared a total constructive loss, valued at $1.5 million. On March 8, 2024, the vessel was towed to Colombia and scrapped. The majority of the cargo on board the vessel was declared a loss.

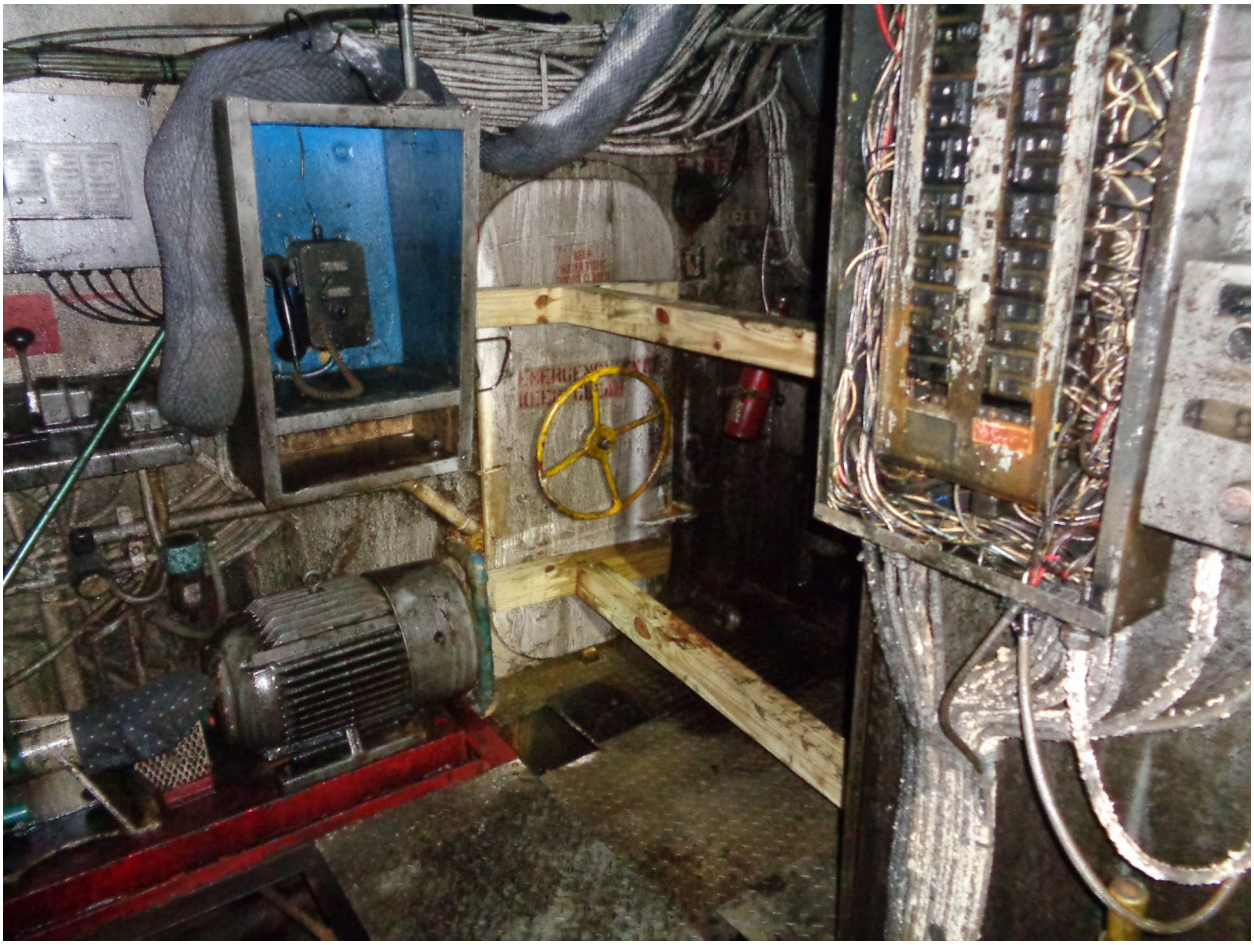

Figure 7. Forward engine room watertight door shown closed and secured with timber bracing that was installed after the grounding to facilitate salvage. (Source: Third Lady, LLC)

1.3.2 Weather

Investigators collected data from the Charlotte Amalie Harbor weather station, located about 3.5 miles east of the grounding location, to determine the conditions in the hours leading up to the grounding. An excerpt from a 24-hour plot of the winds and tide information is included in figure 8. The first bar near the time of departure from St. Croix indicated winds from the south-southwest at 8 knots. As the ship approached St. Thomas, the period of strongest winds was noted immediately around the time of the attempted docking, with winds from the south at 27 knots. The winds began to subside while the *Bonnie G* was anchored and began to drift with winds from the south-southwest at 20 knots. The winds again increased to above 30 knots around the time the vessel crew was being rescued.

Figure 8. Graphed wind observations recorded at the Charlotte Amalie Harbor weather station on October 3 and 4, 2023. Red bars indicate the approximate times of the *Bonnie G*'s departure from St. Croix, arrival into Crown Bay, and the grounding. (Background source: NOAA)

2 Analysis

While the cargo vessel *Bonnie G* was anchored, waiting out poor weather about 1 mile south of Cyril E. King Airport on the island of St. Thomas, its anchor chain parted. As the captain attempted to navigate the vessel away from shore, the vessel grounded. As the weather deteriorated further, the captain and crew abandoned the vessel and were later rescued by the Coast Guard.

Before departing St. Croix, the captain of the *Bonnie G* reviewed the weather forecast for the vessel's intended route to St. Thomas. The forecast indicated that a small craft advisory (triggered due to the potential for seas greater than 7 feet) was in effect. The winds, which were the greatest concern to the captain and vessel owner, were forecasted to be between 10–15 knots and gusting to 25 knots after midnight (by which time they expected to be tied up to the dock). However, when the vessel arrived in Crown Bay, the winds were sustained at 27 knots—which was higher than what had been forecasted and unusual for St. Thomas. In addition, a loaded barge had broken free of its moorings and was partially blocking *Bonnie G's* mooring location. Given the barge blocking the *Bonnie G*'s docking location and the worse than expected weather conditions, the captain made a reasonable decision to anchor the vessel until the weather improved.

Once the decision was made to anchor the *Bonnie G* and the captain navigated the vessel into position, the port anchor was deployed with 1.5 shots (135 feet) of chain. He likely based his decision to pay out 135 feet of chain on his erroneous assessment that the water depth in the area was only "around 7 to 8 meters" (23-26 feet). In actuality, the navigation chart for the location indicated the water depth was 68 feet. When anchoring a vessel, a length of anchor chain that is five to seven times the water depth (scope, or ratio of anchor chain to water depth) should be used; even more anchor chain should be used in adverse weather.[7] About 340–475 feet (3.7–5.3 shots) of chain should have been let out—about 2.5–3.5 times more chain than was let out—and potentially more could have been let go, considering the windy conditions. Therefore, considering the water depth and weather conditions at the time of anchoring, the *Bonnie G* captain did not deploy enough anchor chain for a secure anchorage (inadequate scope).

The weight of the anchor chain resting on the bottom provides additional holding force and absorbs the tension in the chain resulting from the vessel's natural

[7] Nathaniel Bowditch, LL.D., *American Practical Navigator: An Epitome of Navigation*, Volume 1, (National Geospatial-Intelligence Agency, 2024), 212, https://msi.nga.mil/api/publications/download?key=16693975/SFH00000/Bowditch_Vol_1_LoRes.pdf&type=view

movement in seas. If not enough anchor chain for the depth of water (inadequate scope) is used, there is less holding power, and the anchor may be subject to shock tension. In these conditions when there is inadequate scope, the anchor is more likely to drag, and in extreme cases, the chain may be damaged or break.

About 3 hours after anchoring, the *Bonnie G* began to drift north-northeast, in the direction of land. When the AB attempted to heave the anchor, he discovered that the anchor chain had parted at the first shackle, and that the anchor was no longer attached to the vessel. The inadequate scope of anchor chain was likely a factor in the anchor chain parting.

When anchoring the vessel, the captain relied on satellite imagery screen shots sent to him by the vessel owner to find the anchorage rather than using onboard charts and navigational equipment. Additionally, after anchoring the vessel, the captain did not look at the chart and identify the charted rock just 0.3 miles northeast of the vessel's position (the direction the wind would set the vessel when drifting). The captain of the *Bonnie G* was attempting to keep his vessel and crew safe after encountering heavy weather at night, experiencing a broken anchor chain, and then observing his vessel drifting toward shore. However, because the captain did not use the available onboard navigational chart to identify a rock nearby, when maneuvering after the anchor chain failed, he inadvertently steered directly onto the rock and grounded the vessel.

As a result of the vessel grounding, the hull was breached just forward of the engine room. Floodwater filled the midships passageway and then poured into the engine room through the open watertight door. Watertight doors are required to remain closed while not being traversed and while a vessel is underway so as to maintain watertight bulkhead subdivision and prevent progressive flooding (from a flooded space to another space).[8] The forward watertight door in the engine room of the *Bonnie G* was open during the casualty events, and it was not secured before the crew abandoned the vessel. Had the watertight door been shut as required, it is likely that progressive flooding of the engine room and aft spaces would not have occurred, limiting vessel damage.

[8] *International Convention for the Safety of Life at Sea* (*SOLAS*) Chapter II-1, Part B-4, Regulation 22

3 Conclusions

3.1 Probable Cause

The National Transportation Safety Board determines that the probable cause of the grounding of the cargo vessel *Bonnie G* was the inadequate scope of chain deployed when anchoring, which likely led to the anchor chain parting, and the captain not identifying a charted rock and steering the vessel onto it when attempting to maneuver to safe water.

3.2 Lessons Learned

Being Aware of Nearby Hazards When Anchored

When anchoring, mariners should review navigational charts and other sources of local information, such as the *US Coast Pilot*, to become familiar with nearby hazards. It is important to have this information available in heavy weather conditions, when there is heightened risk of drifting and crews may need to get a vessel underway on short notice.

Vessel Particulars

Vessel	*Bonnie G*
Type	Cargo, General (General cargo)
Owner/Operator	Third Lady, LLC / MMS Americas, LLC (Commercial)
Flag	Vanuatu
Port of registry	Port Vila, Vanuatu
Year built	1981
Official number	640945 (US)
IMO number	8023864
Classification society	Isthmus Bureau of Shipping
Length (overall)	171.8 ft (52.4 m)
Breadth (max.)	40.0 ft (12.2 m)
Draft (casualty)	9.8 ft (3.0 m)
Tonnage	780 GRT
Engine power; manufacturer	2 x 3,000 hp (2,237 kW); GE 7FDL12 diesel engines

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