UNITED STATES COAST GUARD

REPORT OF THE INVESTIGATION INTO THE SEA MULE (NY6762HE) FALL OVERBOARD IN SMITH POINT COUNTY PARK CANAL WITH THE LOSS OF ONE LIFE ON NOVEMBER 18, 2022

MISLE ACTIVITY NUMBER: 7597278

U.S. Department of Homeland Security
United States Coast Guard

Commandant
United States Coast Guard

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16732/IIA #7597278
28 March 2025

FALL OVERBOARD AND SUBSEQUENT LOSS OF ONE LIFE INVOLVING THE UNINSPECTED TOWING VESSEL SEA MULE (NY6762HE) IN THE SMITH POINT MARINA COUNTY PARK CANAL NEAR SHIRLEY, NEW YORK ON NOVEMBER 18, 2022

ACTION BY THE COMMANDANT

The record and the report of the investigation convened for the subject casualty have been reviewed. The record and the report, including the findings of fact, analysis, conclusions, and recommendation are approved subject to the following comments. This marine casualty investigation is closed.

ACTION ON RECOMMENDATION

Administrative Recommendation 1: At the conclusion of the field-level investigation, it is recommended that H&L Contracting, LLC create a training program for employees who operate their vessels to include operating, towing, personal protective equipment, vessel safety equipment, and the use of a minimum of two person crews for all vessels.

> **Action**: I concur with the recommendation. The Sector Long Island Sound Investigations Division will provide H&L Contracting with a copy of the investigation report and this recommendation for their consideration.

[redacted]

J. D. NEUBAUER
U.S. Coast Guard
Acting Chief, Office of Investigations
& Casualty Analysis (CG-INV)

U.S. Department of Homeland Security
United States Coast Guard

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United States Coast Guard

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16732
19 March 2025

SEA MULE (NY6762HE) FALL OVERBOARD IN SMITH POINT MARINA COUNTY PARK CANAL WITH THE LOSS OF ONE LIFE ON NOVEMBER 18, 2022

**ENDORSEMENT BY THE COMMANDER,
FIRST COAST GUARD DISTRICT**

The record and the report of the investigation convened for the subject casualty have been reviewed. The record and the report, including the findings of fact, analysis, conclusions, and recommendations are approved subject to the following comments. It is recommended that this marine casualty investigation be closed.

ENDORSEMENT/ACTION ON ADMINISTRATIVE RECOMMENDATIONS

Administrative Recommendation 1. H&L Contracting, LLC, a marine construction company, operates many vessels of various sizes that at the time of this marine casualty, required a minimum two-person crew on their vessels that are over 26' in length. The company does not have a formal training program in place to include the crew size of their vessels less than 26'. At the conclusion of the field-level investigation, it is recommended that H&L Contracting, LLC create a training program for employees who operate all their vessels to include operating, towing, personal protective equipment, vessel safety equipment, and the use of, at minimum, a two-person crew on all vessels.

Endorsement: Concur – My office agrees with the recommendation that H&L Contracting, LLC create a training program for employees who operate all their vessels to include operating, towing, personal protective equipment, vessel safety equipment, and the use of, at minimum, a two-person crew on all vessels. Although the Coast Guard does not inspect H&L's vessels or regulate the on-water operation of their vessels, it is our belief that the implementation of the recommended training and procedures outlined above would significantly increase the safety of H&L employees working upon the navigable waters of the United States.

[redacted]

D. E. O'CONNELL
Captain, U.S. Coast Guard
Chief of Prevention
By direction

U.S. Department of Homeland Security

United States Coast Guard

Commander
United States Coast Guard
Sector Long Island Sound

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16732
June 07, 2024

SEA MULE (NY6762HE) FALL OVERBOARD IN SMITH POINT MARINA COUNTY PARK CANAL WITH THE LOSS OF ONE LIFE ON NOVEMBER 18, 2022

ENDORSEMENT BY THE OFFICER IN CHARGE, MARINE INSPECTION

The record and the report of the investigation convened for the subject casualty have been reviewed. The record and the report, including the findings of fact, analysis, conclusions, and recommendations are approved in part, subject to the following comments. It is recommended that this marine casualty investigation be closed.

ENDORSEMENT/ACTION ON RECOMMENDATIONS

Administrative Recommendation 1. At the conclusion of the field-level investigation, it is recommended that H&L Contracting, LLC create a training program for employees who operate their vessels to include operating, towing, personal protective equipment, vessel safety equipment, and the use of a minimum of two person crews for all vessels.

Action: Concur. The Sector Long Island Sound Investigations Division will provide H&L Contracting with a copy of this investigation report and suggestions for the creation of an internal training program for vessel safety.

[redacted]

ELISA M. GARRITY
Captain, U.S. Coast Guard
Commander, Sector Long Island Sound

Enclosure: Investigating Officer's Report

U.S. Department of Homeland Security

United States Coast Guard

Commander
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16732
April 30, 2024

SEA MULE (NY6762HE) FALL OVERBOARD IN SMITH POINT MARINA COUNTY PARK CANAL WITH THE LOSS OF ONE LIFE ON NOVEMBER 18, 2022

EXECUTIVE SUMMARY

On November 18, 2022, at approximately 2:00 p.m., the operator of the uninspected vessel SEA MULE was moving dredge pipe on a canal in the vicinity of Smith Point Marina County Park Canal in Shirley, NY for a commercial company. The vessel operator was towing dredge pipe from the shore side work site to the east bank of the canal. The operator of the vessel failed to return to the shore side work site after the dredge pipe was towed into position as expected. Workers on land went to the end of the canal to look for the operator but could not find the vessel operator. The workers and good Samaritans found the SEA MULE in gear and pushed against dredge pipe on the east side of the canal with no one onboard.

The workers and good Samaritans conducted their search but could not locate the SEA MULE operator. U.S. Coast Guard and local police were notified, and subsequent searches were conducted which yielded no results. Suffolk County Police Department assumed the lead for search and rescue efforts due to the location and nature of the incident. Vessels, helicopters, a police drone, the police K-9 division, and shoreside personnel were used to search for the missing SEA MULE operator. The search continued for approximately two weeks.

On November 30, 2022, the Suffolk County Police Department dive team located the SEA MULE operator on the bottom of the canal. After the retrieval, the SEA MULE operator was taken to the Suffolk County Medical Examiner's Office where he was later pronounced deceased with the cause of death determined to be drowning.

As a result of this investigation, the Coast Guard has determined that the initiating event for this casualty was the vessel SEA MULE allided with an unknown object in the water. This was followed by the operator falling overboard and drowning. The causal factors that contributed to the casualty include (1) alliding with an unknown object in the canal, (2) only one person onboard the vessel, (3) the operator not wearing a personal flotation device, and (4) the operator not securing the engine safety ignition cutoff switch to his person.

U.S. Department of Homeland Security
United States Coast Guard

Commander
United States Coast Guard
Marine Safety Unit Coram

2045-2 Route 112
Coram, NY 11727
Phone: (631) 732-0190

16732
April 30, 2024

SEA MULE (NY6762HE) FALL OVERBOARD IN SMITH POINT MARINA COUNTY PARK CANAL WITH THE LOSS OF ONE LIFE ON NOVEMBER 18, 2022

INVESTIGATING OFFICER'S REPORT

1. Preliminary Statement

1.1. This marine casualty investigation was conducted, and this report was submitted in accordance with Title 46, Code of Federal Regulations (CFR), Subpart 4.07, and under the authority of Title 46, United States Code (USC) Chapter 63.

1.2. No individuals, organizations, or parties were designated a party-in-interest in accordance with 46 CFR Subsection 4.01-10.

1.3. The United States Coast Guard was the lead agency for all evidence collection activities regarding this investigation. OSHA and Suffolk County police detectives conducted an independent investigation.

1.4. Suffolk County Police Department (PD) was the lead agency for search and rescue efforts as well as the lead for next of kin notifications.

1.5. The Suffolk County PD responded to and assisted in the investigation of this incident. The Suffolk County PD, to include local police, drone operators, divers, aviation section, the marine patrol, detectives, and K-9 division, responded and assisted in search and rescue operations along with good Samaritans and the Mastic Fire Department. Coast Guard Stations Shinnecock and Fire Island, and Air Station Cape Cod also assisted in the search and rescue efforts.

1.6. All times used in this report are local, Eastern Standard Time, and are approximate.

2. Vessels Involved in the Incident

Figure 1. Photograph of SEA MULE (NY6762HE), Shirley, NY, taken November 19, 2022 by USCG

Figure 2. Photograph of SEA MULE (NY6762HE), Shirley, NY, November 19, 2022 by USCG

Official Name:	SEA MULE
Identification Number:	NY 6762 HE
Flag:	U.S.
Vessel Class/Type/Sub-Type	Miscellaneous Vessel, Work Boat, General
Build Year:	2020
Gross Tonnage:	4500 lbs.
Length:	23 feet
Beam/Width:	8 feet 6 inches
Draft/Depth:	1 foot
Main/Primary Propulsion: (Configuration/System Type, Ahead Horse Power)	Yamaha outboard / 150 HP
Owner/Operator:	H&L Contracting, LLC Hauppauge, NY

3. Deceased, Missing, and/or Injured Persons

Relationship to Vessel	Sex	Age	Status
Operator, SEA MULE	Male	46	Deceased

4. Findings of Fact

4.1. The Incident:

4.1.1. On November 18, 2022, at approximately 1:15 p.m., the operator of the SEA MULE got underway towing a section of dredge pipe that was ready to be moved into position in Smith Point Marina County Park Canal. The overall length of the dredge pipe

is several hundred feet long and towed out into the channel in 50-foot increments to allow a new section to be fused onto the pipe. Once fused to the required length, the entire portion is towed out and placed on the side of the channel.

4.1.2. At approximately 1:16 p.m., the SEA MULE operator towed the end of the dredge pipe in a southerly direction approximately 50'. The SEA MULE operator towed the dredge pipe into position alongside pre-staged pipe on the east side of the canal. Concurrently, the shore side crew completed their dredge pipe fusing which included the payloader operator moving pipe and staging the next section of pipe to be placed in the fuser. The dredge pipe fuser continued fusing the next 50' section of dredge pipe which is an evolution that takes approximately 45 minutes to one hour to complete.

4.1.3. Between approximately 2:00 – 2:45 p.m., while the payloader operator and the dredge pipe fuser were working on shore, they saw the SEA MULE in the middle of the canal going in circles.

4.1.4. At approximately 2:45 p.m., the pipe fuser attempted to contact the operator of the SEA MULE via VHF radio and cell phone. The operator of the SEA MULE did not answer. The dredge pipe fuser saw the SEA MULE facing north with the vessel's starboard side on the east side of the canal approximately 100 yards from the boat ramp.

4.1.5. From approximately 2:50 – 3:00 p.m., the dredge pipe fuser asked two good Samaritans who were using the boat ramp if they could see if the SEA MULE operator was on the boat and if it was tied up. The good Samaritan got approximately 15'-20' from the SEA MULE and told the dredge pipe fuser that he did not see anyone and there were lines on the dredge pipe next to the SEA MULE, so it appeared tied off. The dredge pipe fuser looked on the shore for the SEA MULE operator and the Good Samaritans donned waders and looked in the reeds for the SEA MULE operator. Their search efforts failed to locate the SEA MULE operator.

4.1.6. At approximately 3:02 p.m., the dredge pipe fuser returned to the job site at the north end of the canal and notified the operator of the payloader that the SEA MULE was on the east side of the canal and the SEA MULE operator could not be found. The payloader operator left the work site and drove to the Smith Point Marina County Park boat ramp. The payloader operator saw the SEA MULE facing north with the vessel's starboard side on the east side of the canal approximately 100 yards from the boat ramp. He asked the same two Good Samaritans who were using the ramp to check inside the SEA MULE for the operator. One of the Good Samaritan's got the duck hunting boat back underway to check onboard the SEA MULE. He found the throttles engaged full forward and the SEA MULE pinned against dredge pipe on the east bank of the canal with no one onboard. The payloader operator called the Coast Guard and reported the incident.

4.1.7. At approximately 3:15 p.m. the project superintendent returned to the job work site at the north end of the canal. The dredge pipe fuser informed him the SEA MULE operator could not be found. They drove to the ramp and met the payloader operator and the two Good Samaritans. They continued to look for the SEA MULE operator on the

water using push poles to feel around in the vicinity of the SEA MULE and searched along the shoreline. All search efforts were unable to locate the SEA MULE operator.

4.1.8. Subsequent search efforts were led by Suffolk County with Coast Guard air and waterborne assets, local police departments, fire department, drone operators, aviation section, the marine patrol, K-9 division, and good Samaritans assisting in search and rescue operations. A Suffolk police detective interviewed available persons in the area. Search efforts were unable to locate the SEA MULE operator. Due to the time of day, Suffolk County Police divers were scheduled to arrive the next day, November 19, 2022, to search the channel for the SEA MULE operator.

4.1.9. On the afternoon of November 19, 2022, the H&L Contracting, LLC removed the SEA MULE from the water and trailered the vessel to the Suffolk County Police yard in Great River, NY with a police escort.

4.1.10. On November 30, 2022, at 11:41 a.m., the Suffolk County Marine Patrol dive team located a deceased person and brought the person onboard the Suffolk County Marine Patrol boat.

4.1.11. At approximately 1:20 p.m., the medical examiner arrived on scene to complete an initial examination of the deceased person and verified the identity to be the SEA MULE operator. The SEA MULE operator was taken to the Suffolk County Medical Examiner's Office to conduct an autopsy.

4.1.12. On May 12, 2023, the Suffolk County Medical Examiner's Office report mentioned the SEA MULE operator's body had findings consistent with drowning and minor blunt force injuries. The medical examiner determined that the cause of death was drowning from a fall off a boat into a waterway. The medical examiner annotated that the operator of the SEA MULE had blunt force injuries consisting of facial abrasions, lip lacerations, right lower extremity abrasions, and minor abrasions of maxillary mucosa and left shoulder. The medical examiner could not determine the sequence of events in which the blunt forces injuries occurred.

4.2. Additional/Supporting Information:

4.2.1. The weather at the time the SEA MULE operator entered the water was seasonable: clear with air temperatures in the lower 40s. The winds were from the west at approximately 15 to 20 mph, with gusts up to 25 mph. It was high tide, and seas were 1 to 2 feet. The canal the SEA MULE operated in was dependent on winds and tides. The direction of the wind, canal position, and canal dimensions where the SEA MULE operated hindered the seas to build. Water temperature was approximately 58.6 degrees.

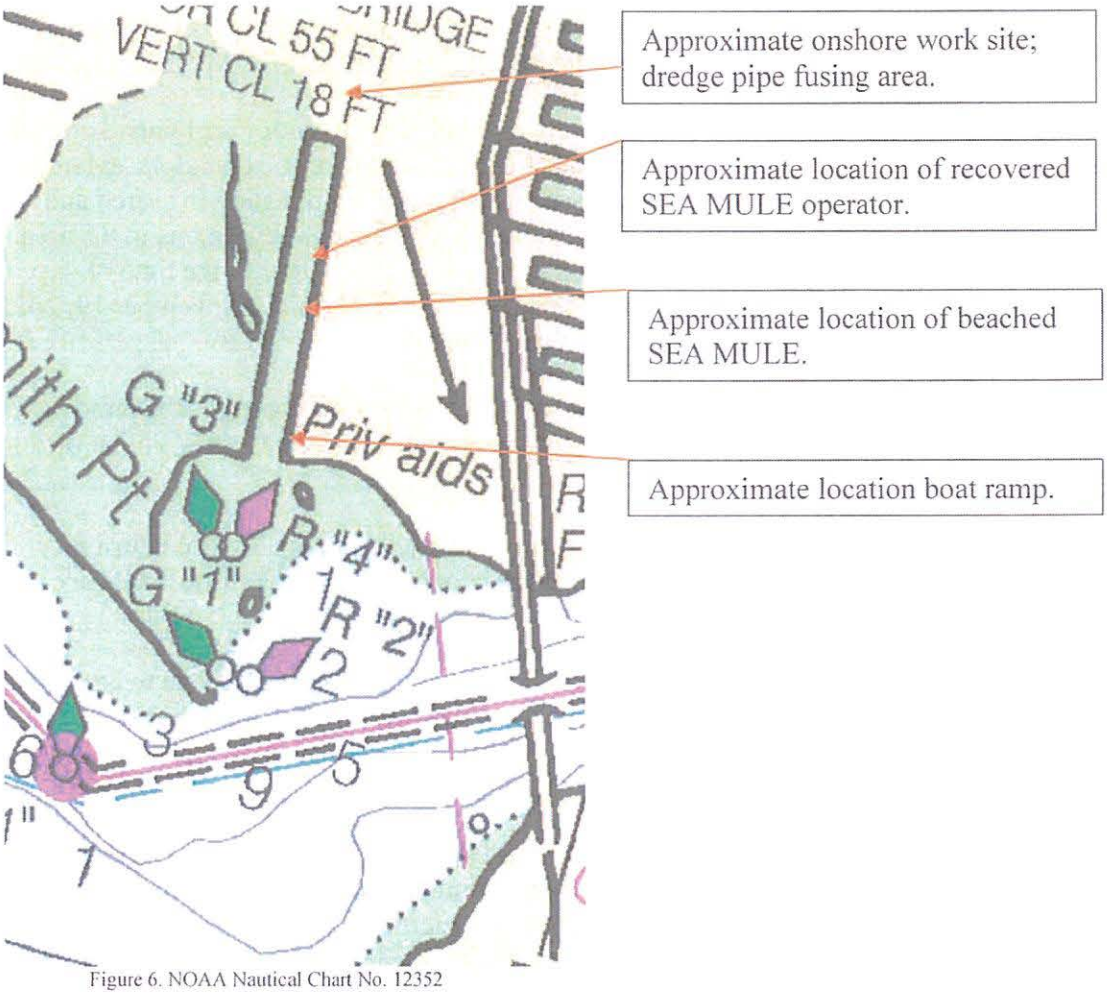

Figure 6. NOAA Nautical Chart No. 12352

4.2.2. The vessel SEA MULE is an uninspected vessel, but is regulated under 46 CFR Subchapter C, Part 25 and applicable Subparts of Part 26. In accordance with 46 CFR 25.25-5, each vessel not carrying passengers for hire and less than 40 feet in length must have on board at least one wearable personal flotation device (PFD) approved under subchapter Q of 46 CFR, and of suitable size for each person on board. There were two Type V PFD's that were marked "WORK VESTS ONLY" onboard the SEA MULE.

4.2.2.1. In accordance with 46 CFR 26.30-5, (a) approved buoyant work vests are considered to be items of safety apparel and may be carried aboard vessels to be worn by crew members when working near or over the water under favorable working conditions (b) when carried, approved buoyant work vests shall not be accepted in lieu of any portion of the required number of approved PFDs.

4.2.2.2. The operator of the SEA MULE was not a holder of a USCG Merchant Mariner`s Credential.

5. Analysis

5.1. The SEA MULE operator failed to wear the engine safety ignition cutoff switch. The SEA MULE was equipped with an engine safety ignition cutoff switch. The safety device should be connected to the operator's clothing or lifejacket. Its purpose is to immediately shut down the outboard engine if the operator or helmsman becomes separated from the immediate vicinity of the controls. The SEA MULE was found with no persons onboard and the engine running with the engine safety ignition cutoff switch in place and attached to the ignition key chain. Had the engine cutoff been properly utilized, the engine would have automatically shut off once the operator left the vicinity of the controls. If the operator was in the water and able to swim, he could have returned to the vessel. Also, the injuries to the operator could not be definitively linked to a specific event or as a causal factor for the incident. If the operator was not injured in the fall overboard, it is possible that the vessel, moving in a circular pattern, came around and struck the operator. If the cutoff switch had been properly utilized, this course of events could have been ruled out.

Figure 3. SEA MULE engine safety ignition cutoff switch taken on November 19, 2022 by USCG

5.2. Failure to wear a properly outfitted lifejacket. Through the investigation, it was discovered that the vessel had two Type V PFDs that were work vests only. One was stowed amidship in the compartment forward of the center console. The second Type V PFD was found lying on the aft deck behind the seat and in front of the outboard engine. Coworkers did not notice the SEA MULE operator's absence until 45- minutes to an hour after the SEA MULE operator towed the dredge pipe into the canal. If the SEA MULE operator had been wearing a properly donned life jacket or work vest, he may have been able to stay afloat and visible long enough to swim to shore or long enough for his coworkers or good Samaritans to find him before he drowned.

5.2.1. The SEA MULE operator was found with clothes that collectively weighed 24.5 pounds. Unexpectedly entering the approximate 58-degree water without a PFD, while wearing approximately 24.5 pounds of clothes, it likely was difficult to keep their head above the water.

Figure 4. Picture of Type V PFD found on SEA MULE aft deck taken on November 19, 2022 by USCG

Figure 5. Picture of Type V PFD found on SEA MULE aft deck taken on November 19, 2022 by USCG

5.2.2. The work vest PFD in the amidship compartment was a PFD that stayed onboard the SEA MULE. The Work Vest PFD that was found on the aft deck was a work vest PFD that the SEA MULE operator removed from the onshore storage shack. The shack housed a Type III PFD and a Type V PFD work vest. The PFDs were not assigned to individuals. The operator removed the Type V PFD from the shack and brought it to the SEA MULE.

Figure 5. Picture of the storage shack onshore at work site taken November 19, 2022 by USCG

5.3. At approximately 12:30 p.m., lunch time concluded, and the workers returned to work fusing a section of pipe using the payloader to stage dredge pipe for fusing. The fusing took approximately 45 minutes after which the SEA MULE operator towed the dredge pipe into the canal. At approximately 1:30-2:00 p.m., the workers onshore saw the SEA MULE moving in circles in the middle of the canal. The workers did not observe the boat towing a dredge pipe and then returned to work.

5.4. Damage Analysis: there was evidence on the SEA MULE's propeller that the propeller blade struck at least one submerged object and one of the objects was a dredge pipe. There was evidence of impact damage to the vessel's hull near the bow. However, it is not known if the damage was the result of a previous strike, a strike that resulted in the SEA MULE operator falling overboard or occurred after the SEA MULE operator fell overboard. It is also not possible to determine if the SEA MULE struck a dredge pipe while the operator was onboard or after the operator fell overboard since the vessel was found in the vicinity of staged dredge pipe. Before the SEA MULE arrived at the work site the week prior, the propeller had no known damage.

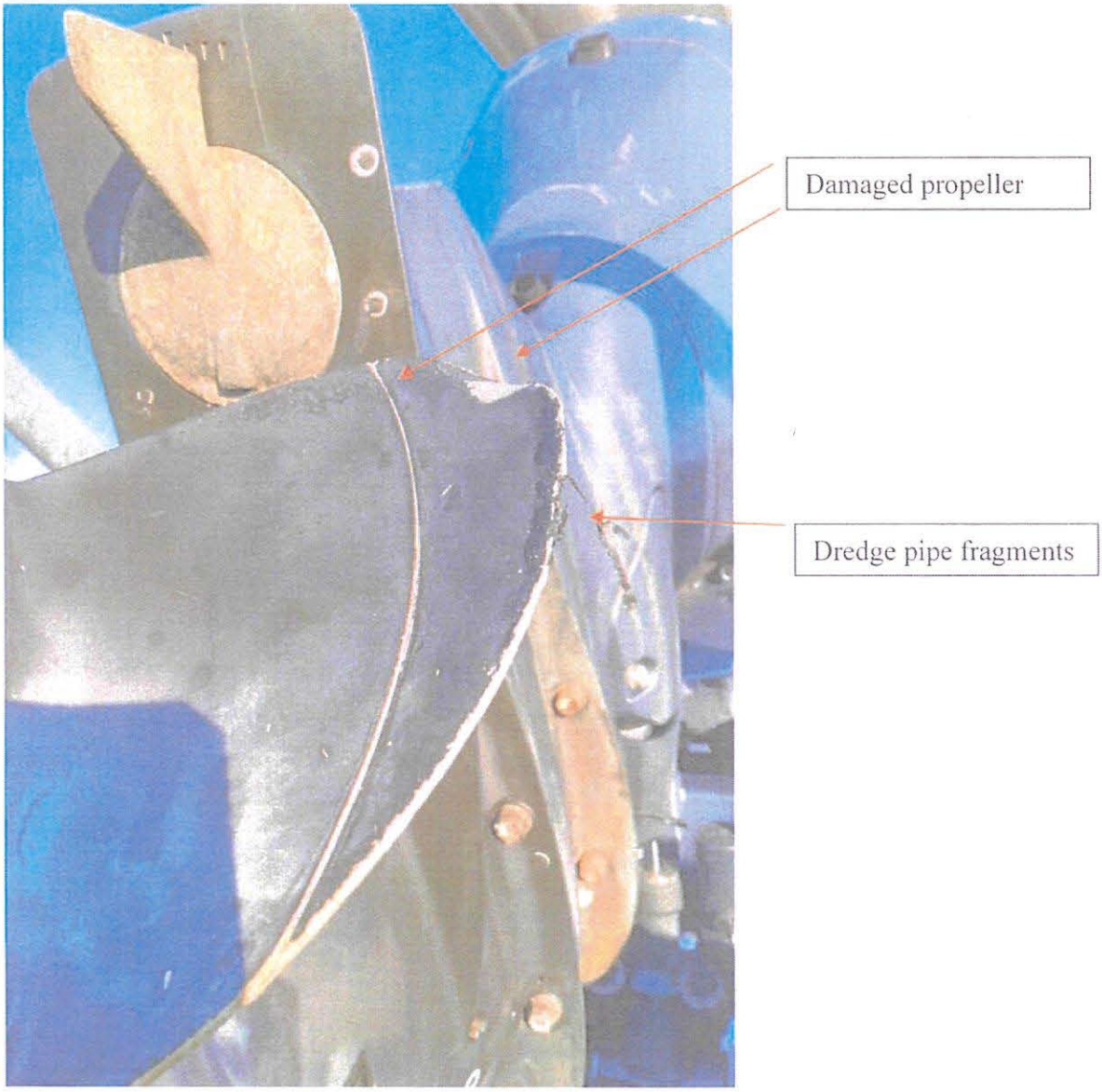

Figure 6. Photograph of SEA MULE propeller taken December 1, 2022 by USCG

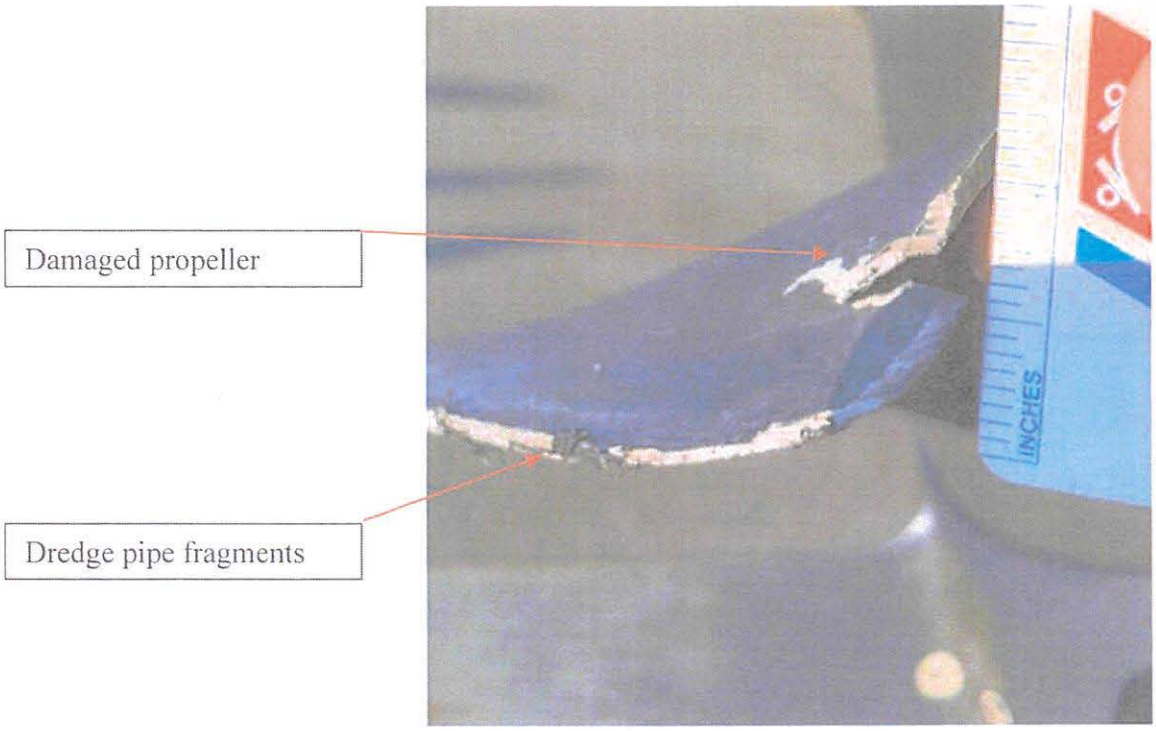

Figure 7. Photograph of SEA MULE propeller taken November 19, 2022 by USCG

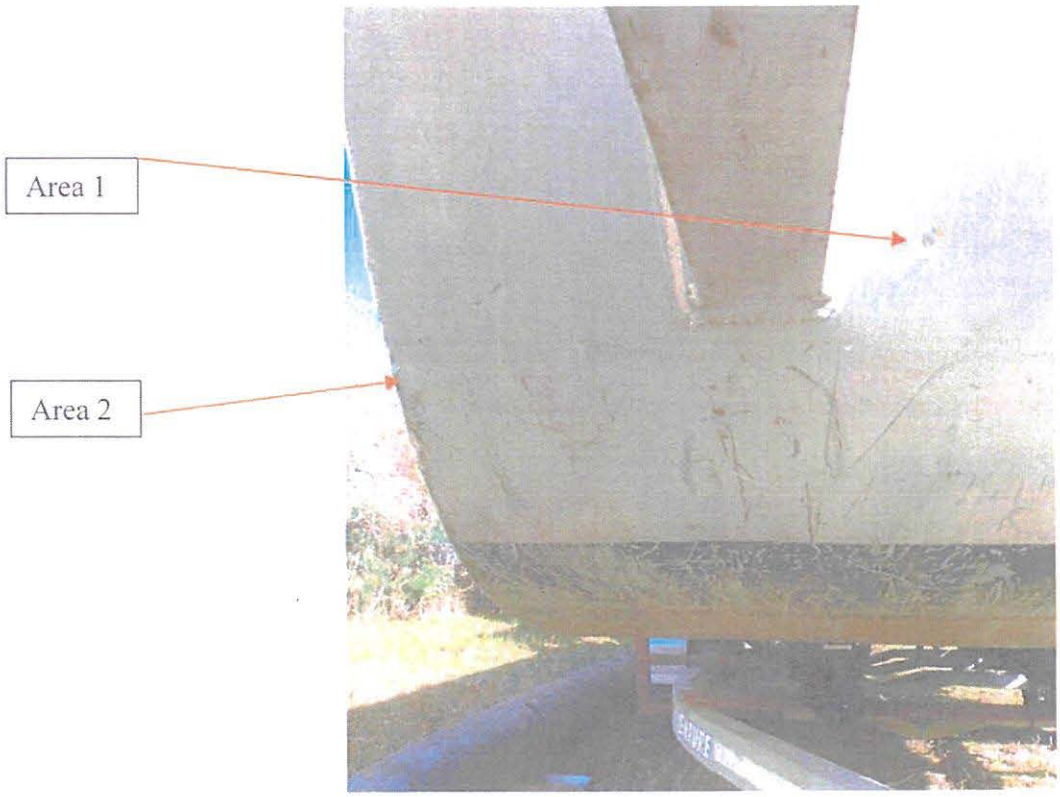

Figure 8. Photograph of SEA MULE damaged bow taken December 1, 2022 by USCG

Area 1

Figure 9. Photograph of SEA MULE damaged bow taken December 1, 2022 by USCG

Area 2

Figure 10. Photograph of SEA MULE damaged bow taken December 1, 2022 by USCG

5.5. Vessel Movement

5.5.1. Evidence showed that after the operator of the SEA MULE finished towing the dredge pipe into place on the east bank, the operator began to transit back to shore. The specific evidence was the tow line was found intact on top of the dredge pipe. During the return transit, the SEA MULE would have been facing in a northerly direction. The vessel was seen turning in circles in a counterclockwise motion in the canal until it ended up on the east bank, facing north, with the engine turned to the port (left) while it was in gear at full throttle.

The boat was seen going counterclockwise, then beached on the east side of the canal facing north, with the throttles fully engaged, the engine turned to the left, and the bow and propeller damaged. Underwater searches in the area the next day identified various debris throughout the canal. Therefore, it is presumed that the operator struck a submerged object in the water which damaged the bow and propeller and possibly turned the engine. This sudden movement jolted the operator forward and onto the throttles thrusting the vessel forward quickly. The sudden surge of the vessel contributed to the operator losing his balance and falling overboard. The operator was not wearing the engine safety ignition cutoff switch which would have disabled the engine if the operator left the helm which is why the SEA MULE kept moving. The SEA MULE, with its engine turned left and throttles engaged, continued in a counterclockwise movement until the vessel struck pipes on the east bank of the canal and stopped. This position is where the vessel was found.

5.5.2. If the operator was transiting north and fell overboard on his own without some external force, the vessel would have continued farther up the channel before coming to rest on the side of the channel. The SEA MULE would have not been seen moving in a counterclockwise direction before it beached itself. Witnesses saw the SEA MULE at full throttle and moving in a counterclockwise direction. This shows that the vessel's trajectory was impacted by an outside force, most likely an allision with an object, which caused the operator to fall overboard and put the vessel into a counterclockwise turn.

5.6. Cold Water Stress

5.6.1. The operator was wearing work boots, gloves, pants, shirts, and a jacket, which collectively weighed approximately 24.5 pounds in total. It has been assessed that the operator was not wearing a personal flotation device due to the work vest being observed on the deck of the SEA MULE and the only other PFD supplied by the company being located in the shoreside shed. Due to the water temperature being approximately 58 degrees, the SEA MULE operator most likely had breathing difficulties once he entered the water due to cold water shock. Cold water shock is the first stage of sudden and unexpected immersion in the water when the temperature is approximately 59 degrees or lower and occurs during the first minute of exposure. Cold water immersion can trigger involuntary gasping, rapid breathing or hyperventilating due to the shock of sudden immersion. This uncontrolled rapid breathing can quickly create a drowning emergency if water is inhaled and the person in the water cannot stay afloat. Cold water can cause a sudden spike in heart rate and blood pressure. Based on a body's initial cold

water shock response, the SEA MULE operator most likely transitioned into short term swim failure due to cold incapacitation. When this happens, handgrip strength, manual dexterity, and swimming speed decreases by sixty to eighty percent which is not enough to pull oneself out of the water or keep one's own head above the water. By not wearing a flotation device, when the SEA MULE operator entered the cold water, he likely could have experienced a loss of breathing control. His waterlogged clothes would have weighed him down and made it difficult for him to stay afloat or swim to shore. The operator most likely succumbed quickly to the environment and drowned.

5.7. Autopsy

5.7.1 The toxicology report showed carbon monoxide of 8% was detected in the postmortem femoral blood of the SEA MULE operator. Postmortem examinations of drowning victims have been seen up to 6%. This indicates that the SEA MULE operator had a higher level of carbon monoxide exposure build up in his blood. The SEA MULE was powered by a gasoline powered outboard motor which emits carbon monoxide. It is possible that while the SEA MULE operator was handling the towline and securing the dredge pipe in the vicinity of the outboard, he may have been exposed to carbon monoxide. While the 8% detected in the toxicology report is far below the lethal amount and his organs showed no indication to the medical examiner that the SEA MULE operator's death was caused by carbon monoxide poisoning, the exposure could have been a contributing factor to this casualty. Carbon monoxide exposure can cause many different side effects to include but not limited to dizziness, blurry vision, confusion, muscle weakness, and fainting. If the SEA MULE operator had an exposure and got confused and possibility fainted onto the throttle, that would have propelled the vessel forward and contributed to the operator being ejected into the water. However, the operator completed this routine task numerous times and there is no documentation that he ever reported a feeling of previous exposure. Furthermore, the SEA MULE is a center console vessel which allows for sufficient fresh air movement. Therefore, it is not likely that carbon monoxide exposure is the main contributing factor for this casualty, but it is a possible contributing factor.

5.7.1.1 A carbon monoxide exposure that may have resulted in possible dizziness, blurry vision, confusion, or muscle weakness, could have caused a delayed reaction by the SEA MULE operator if the vessel struck an object in the water. The delayed reaction to maneuver the vessel, brace himself, or adjust the throttles could have contributed to the SEA MULE operator being ejected into the water. If the SEA MULE operator fainted due to the carbon monoxide exposure, even momentarily, and then landed on the throttles, he could have then been ejected without the vessel striking an object. There is evidence that there was new damage to the SEA MULE's bow and to its propeller, but it is not possible to determine if that damage occurred before or after the SEA MULE operator entered the water. It is possible that if the SEA MULE operator fainted onto the throttles and the sudden thrust of the vessel caused the operator to lose his balance and be ejected, the boat could have sustained its damage when it was unmanned and stopped on the east side of the canal against dredge pipe.

5.7.1.2 The microscopic examination in the medical examiner's report identified the SEA MULE operator's heart had [redacted] can be divided into three main categories: [redacted] often go together and increase with age. It is a nonspecific finding and presents in a variety of cardiac conditions such as hypertensive heart disease, cardiomyopathies, and small vessel disease. Carbon monoxide exposure affects persons differently. Those with underlining cardiac or respiratory dysfunction may be particularly predisposed to the toxic effects of carbon monoxide as they may already be sensitive to cardiac ischemia or have impaired pulmonary gas exchange (IAW National Library of Medicine.). With the findings identified on the microscopic examination and 8% concentration of carbon monoxide detected in the postmortem femoral blood, it is possible the SEA MULE operator with the above-mentioned conditions, could have been susceptible to the common carbon monoxide exposure symptoms. Experiencing these symptoms alone on the vessel could have then led to the chain of events described in paragraph 5.6.1.

5.7.2 The autopsy identified blunt force injures to the forehead, left upper eyelid, left lower eyelid, upper lip, right and left corners of the lower lip, maxillary mucosa, left shoulder, and right popliteal fossa. It could not be determined if these injuries occurred before or after death, but are consistent with injuries that could have occurred by falling onto the vessel console and some of its components to include but not limited to the helm and throttles.

6. Conclusions

6.1. Determination of Cause:

6.1.1. The initiating event for this casualty occurred when the SEA MULE operator entered the water. Causal factors leading to this event were:

6.1.1.1. The SEA MULE operator failed to utilize the safety equipment onboard while operating the boat.

6.1.1.1.1. The SEA MULE operator did not attach the engine safety ignition cutoff switch to his clothing or life jacket. The engine safety ignition cutoff switch should have been properly secured to the operator's person to immediately shut down the engine if the operator left the helm.

6.1.1.1.2. A Type III PFD was available for the SEA MULE operator to put on before the operator got the vessel underway. The SEA MULE operator took a Type V work vest in lieu of a Type IIP PFD. While operating the SEA MULE, the operator did not properly put on the Type V PFD that was onboard the vessel. A Type III PFD would have been the preferred option over the Type V PFD, but wearing a Type V PFD could have provided the wearer enough buoyancy to have stayed afloat.

6.1.1.1.2.1. A Type I PFD will turn most unconscious wearers face-up in water but would reduce the wearer's ability to perform work tasks onboard and is meant to be worn in offshore conditions. A Type II PFD is good for protected, inland water near shore, where chances of immediate rescue is good. It will turn some unconscious wearers face-up in water. A Type III PFD is more comfortable to wear and would not excessively obstruct the wearer from performing line handling tasks, but it is not designed to turn an unconscious person face-up. Working alone, the SEA MULE operator should have been wearing a flotation device to prevent drowning. At a minimum, a Type II PFD would have kept the operator afloat and might have kept his face out of the water if he was or became unconscious. The SEA MULE operator then could have floated long enough for help to arrive or remain afloat long enough to have regained consciousness and swam to shore.

6.1.2. It could not be determined if the SEA MULE operator was aware of any debris in the area, where the submerged dredge pipe was, or at what depth any debris could have been in the area.

6.1.2.1. The debris in the canal was at various locations and depths which made it difficult to locate the SEA MULE operator. However, during the search for the SEA MULE operator, several vessels entered the canal, and no other vessels struck any dredge pipes or debris. The SEA MULE operator was found on the east side of the canal under previously staged dredge pipe in the vicinity of the shoreline. Therefore, it can be concluded that the operator most likely struck dredge pipe close to the shoreline that he staged previously that week.

6.2. Evidence of Act(s) or Violation(s) of Law by Any U.S. Coast Guard Credentialed Mariner Subject to Action under 46 USC Chapter 77: There were no acts of misconduct, incompetence, negligence, unskillfulness, or violations of law by a credentialed mariner identified as part of this investigation. The SEA MULE operator and H&L Contracting, LLC employees were not credentialed mariners.

6.3. Evidence of Act(s) or Violation(s) of Law by U.S. Coast Guard Personnel, or any other person: There were no acts of misconduct, incompetence, negligence, unskillfulness, or violations of law by Coast Guard employees or any other person that contributed to this casualty.

6.4. Evidence of Act(s) Subject to Civil Penalty: There was no evidence of act(s) that would warrant civil penalty enforcement actions.

6.5. Evidence of Criminal Act(s): There was no evidence of criminal act(s) or violations of criminal law.

6.6. Need for New or Amended U.S. Law or Regulation: This investigation identified no matters needing new or amended U.S. law or regulation.

6.7. Unsafe Actions or Conditions that Were Not Causal Factors: This investigation identified no unsafe acts or conditions that were not causal factors.

7. Actions Taken Since the Incident

7.1. Once the work site was reopened, H&L Contracting, LLC minimized the use of a vessel to move the dredge pipe. The company utilized the payloader to position the dredge pipe onto the fuser and once fused, the payloader operator would push the dredge pipe into the canal eliminating the need to use a boat. A work boat was staged in the area but would only be used to ensure the dredge pipe was in position and in the desired location, not for towing.

7.2. Vessel Requirements

7.2.1. In accordance with 46 CFR 25.30-20 all motorboats must carry at least the minimum number of portable fire extinguishers set forth in table 25.30-20(a)(1). There were no portable fire extinguishers onboard of any type.

7.2.2. In accordance with 33 CFR 173.15, no person may use a vessel to which this part applies unless the number is displayed as described in 173.27. The SEA MULE had a valid New York State Boat Registration but did not have the state registration numbers attached to the vessel in accordance with 173.27.

7.2.3. In accordance with 46 CFR 28.145, each vessel must be equipped with the distress signals specified in table 28.145. The SEA MULE was operating with no day or night distress signals onboard.

7.2.4. While there were carriage requirement deficiencies identified in paragraph 7.2.1.-7.2.3., those deficiencies were not identified as a contributing factor for this casualty and were able to be corrected before the vessel was used again.

8. Recommendations

8.1 Safety Recommendation: There were no proposed actions to add new or amend existing U.S. laws or regulations, international requirements, industry standards, or U.S. Coast Guard policies and procedures as part of this investigation.

8.2. Administrative Recommendations:

8.2.1. At the conclusion of the field-level investigation, it is recommended that H&L Contracting, LLC create a training program for employees who operate their vessels to include operating, towing, personal protective equipment, vessel safety equipment, and the use of, at minimum, two person crews for all vessels.

8.2.2. Recommend this investigation be closed.

[redacted]

Chief Warrant Officer, U.S. Coast Guard
Investigating Officer