Southeastern Marine Surveying Company
220 Battery Circle
Savannah, Georgia 31410
Tel. 912.220.6370
Fax 404.549.4399

Marine Surveyors & Consultants

ATTENTION: Mr. John Ward
PO BOX 1172
Deltaville, VA 20304

RE: **M/V "JACQUELINE A"**
SINKING LOSS
North Myrtle Beach
D.O.L. 08-08-2023
Our File NO.: L-23010

REQUEST:

At the request of Mr. John Ward, and for the account of **To Whom It May Concern**, the undersigned marine surveyor did attend and survey the **M/V "JACQUELINE A"** August 13, 2023 and subsequent dates. The purpose of the survey was to determine the cause and extent of damage to subject vessel as the result of a sinking.

Particulars of Casualty:

On Tuesday August 08, 2023 the model bow tug, **M/V "JACQUELINE A",** was engaged in a near coastal voyage from cape Fear, NC to a shipyard in Louisiana under command of a three man delivery crew. At, or around 1700 hrs the tug took on water in the stern portion of the hull subsequently flooding the engine compartment. The crew abandoned efforts to keep the vessel afloat and were taken from the vessel prior to her sinking approximately three miles offshore of North Myrtle Beach, SC. Resolve Marine, A recognized salvage company, was engaged to raise the vessel arriving on site on August 13, 2023. With an ocean crane barge and support vessels Resolve Marine anchored adjacent to the tug and deployed divers to recover reported approximately 5000 gallons of diesel fuel. Fuel tanks were found inundated with sea water resulting in no fuel being recovered. Following a few days of rough seas salvage operations were continued with tug raised and pumped free of water on August 20, 2023. Stevens Towing Company was employed to tow the vessel to their shipyard at Yonges Island, SC. Subject tow was carried out without issue.

PARTICULARS OF SURVEY:

On Sunday August 13, 2023 the undersigned proceeded to North Myrtle Beach, SC and met with Mr. John Ward and Mr. Jay Ward, Owners of the **M/V "JACQUELINE A".** The following day Resolve Marine and United States Coast Guard decided to de-fuel the sunken vessel prior to raising it. The undersigned returned to Savannah to wait until vessel's haul out.

On Friday August 25, 2023 the undersigned proceeded to Stevens Towing Company, Yonges Island, SC and met with Mr. John Ward, shipyard owner Mr. Johnson Stevens. and Mr. Michael McEntee (DLS Marine) surveying on behalf of Travelers Insurance Company. Also in attendance were USCG inspectors. Upon the removal of the tug from the water using a rolling

heavy lift, out of water inspection revealed below waterline shell structure found watertight with the exception of a slight leak around a transducer fitting positioned midships, slightly to starboard. Additional below waterline exceptions noted were port rudder shoe torn loose and missing aft of the strut, Starboard rudder shoe cracked at the strut. However, no noticeable holes were identified that could have caused the vessel to sink. The undersigned, accompanied by Mr. McEntee, proceeded to inspect the vessel's interior compartments to ascertain possible seawater ingress points which could have caused the vessel to sink. Inspection was hampered by standing water, oil and debris preventing a thorough inspection.
Following discussions among all parties involved, a unanimous decision was made to have the shipyard dewater and clean oily debris to allow access to all compartments. Closed bulwarks prevented inspection of approximately 2' of deck plate all around tug's stern, port and starboard aft quarters. The shipyard was instructed to crop out the inboard bulwark plate from deck, upwards approximately 2'.

On Tuesday September 19, 2023 the undersigned again proceeded to Stevens Towing Company shipyard and met with the same personnel as before. Inspection of the aft deck revealed a significant amount of rust scale debris had been removed from the lazarette and from the cut-a-way section of the closed bulwark. Inspection of machinery spaces yielded no apparent seawater ingress points, Inspection of port and starboard potable water tanks yielded spaces in apparent good order. Inspection of lazarette yielded a compartment accessed by port and starboard typical single bolt type yoke 18" manholes. Subject manholes inspected and found in apparent good order. Interior inspection yielded a contiguous compartment partially segregated by five (5) longitudinal bulkheads with lightening hole cut outs. Rudder post tubes were noted to port and starboard. An electric bilge pump noted installed on centerline against forward bulkhead. Generally, skeletal members were found moderately to heavily rust scaled with lower portions of longitudinal partial bulkheads heavily wasted. Rudder post tubes found in apparent good order. Significant deck plate wastage was found inside the closed bulwark with holes ranging from 2" to 8" in diameter.

Observed Deck Holes:

For the purpose of this report structural members are numbered (or measured) from forward to aft, port to starboard and unless otherwise noted, top to bottom.

- Hole #1: An 8" diameter hole was found in way of the transverse bulkhead at the #1 frame.

- Hole #2: Found two holes, one with a 6" diameter and another with a 2" diameter, located in way of and forward of #3 frame.

- Hole #3: A slight wasted hole in stern plate positioned approximately 2" below deck plate, in way of and to starboard of centerline. Subject hole measures less than 1" diameter. Hole found hidden beneath stern rubrail.

- Hole #4: A 6" diameter wasted hole was located in way of the longitudinal bulkhead between frames #3 and #4, positioned 14" forward of the transom.

- Hole #5: Found a 2" diameter hole to starboard of longitudinal bulkhead #4, approximately 8" forward of the transom.

Extent of Damage:

Found: The Model bow, twin engine tug M/V "JAQUELINE A" was recovered from being submerged in the Atlantic Ocean for the better part of two weeks in early August. Vessel was running at the time of sinking. Following salvage, the vessel was towed and placed ashore.

Recommend: Haul, block, launch and lay days.

$38,000.00

Recommend: Vessel's interior and machinery spaces fouled and corroded require stripping of all machinery, cabinetry, wiring, electronics and appliances.

$75,000.00

Recommend: All diesel tanks, hydraulic tanks, fresh water tanks as well as associated hoses and lines require thorough cleaning and line purging.

$35,000.00

Recommend: Replace two MTU 8V M72 diesel engines fitted with Twin Disc 516 gears including all controls and monitoring devices.

$450,000.00

Recommend: Replace two Northern Lights 30 KW generators.

$100,000.00

Recommend: Replace electrical motors servicing hydraulics and various pumps.

$25,000.00

Recommend: Replace all DC and AC wiring.

$110,000.00

Recommend: Replace all insulation, overhead and wall paneling, Cabinets.

$45,000.00

Recommend: Replace galley and head equipment.

$12,000.00

Recommend: Replace all electronics in pilot house and flybridge.

45,000.00

Recommend: Replace flybridge windows and damaged doors:

$35,000.00

Total estimated casualty related repair cost:

$970,000.00

Preliminary Conclusions:

Based on a thorough inspection of the **M/V "JACQUELINE A",** in-water and ashore on blocks, it is the undersigned's opinion that the exact cause of sinking is undetermined. However, based on said inspection it is the undersigned's opinion that the most probable cause was due to sea water ingress filling lazarette and thence machinery spaces through the above

noted deck plate wastage inside the closed after bulwarks.

The above report is hereby signed and rendered without bias or prejudice **To Whom It May Concern.**
Respectfully submitted on behalf of Southeastern Marine Surveying Co., Inc.

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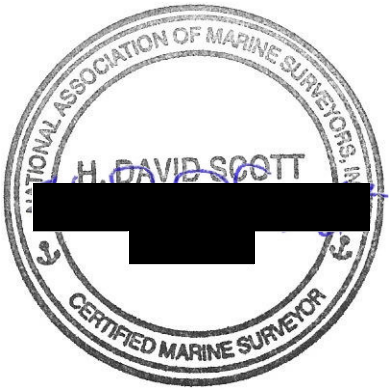
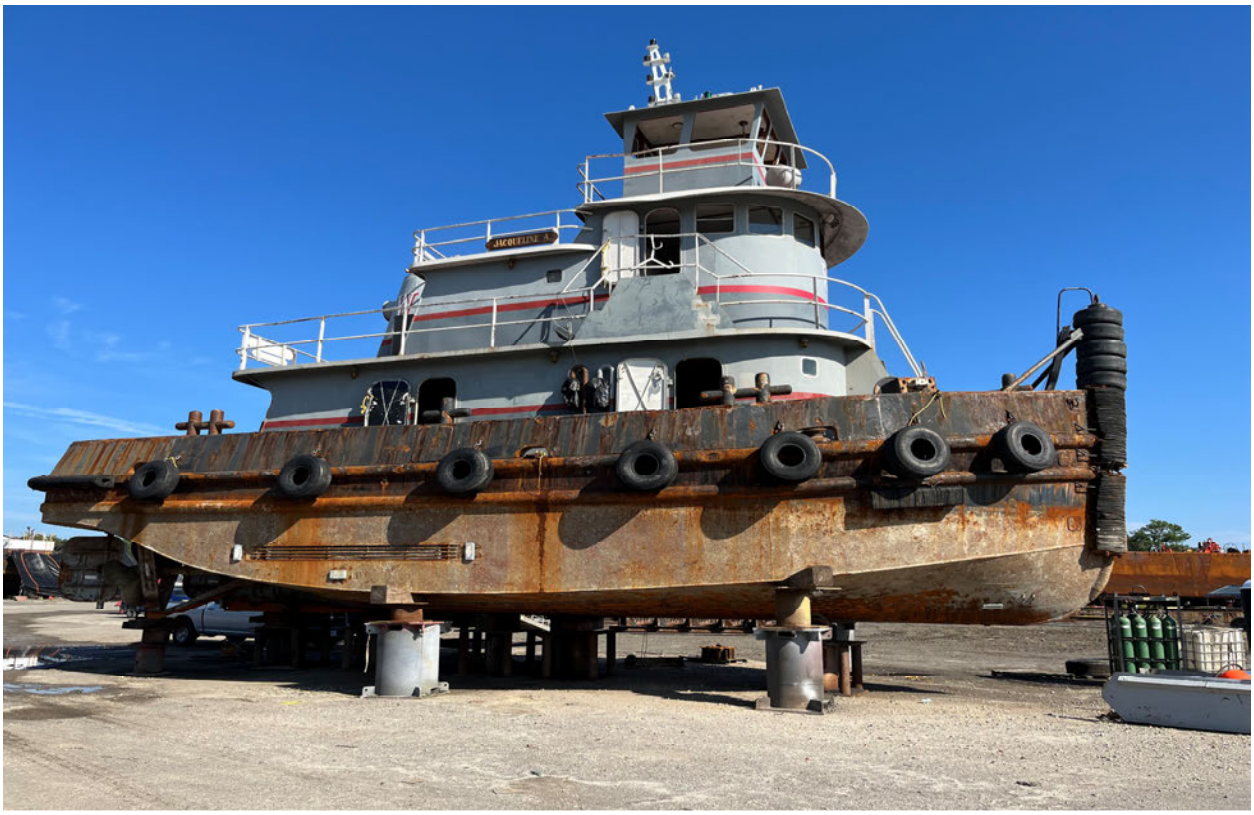
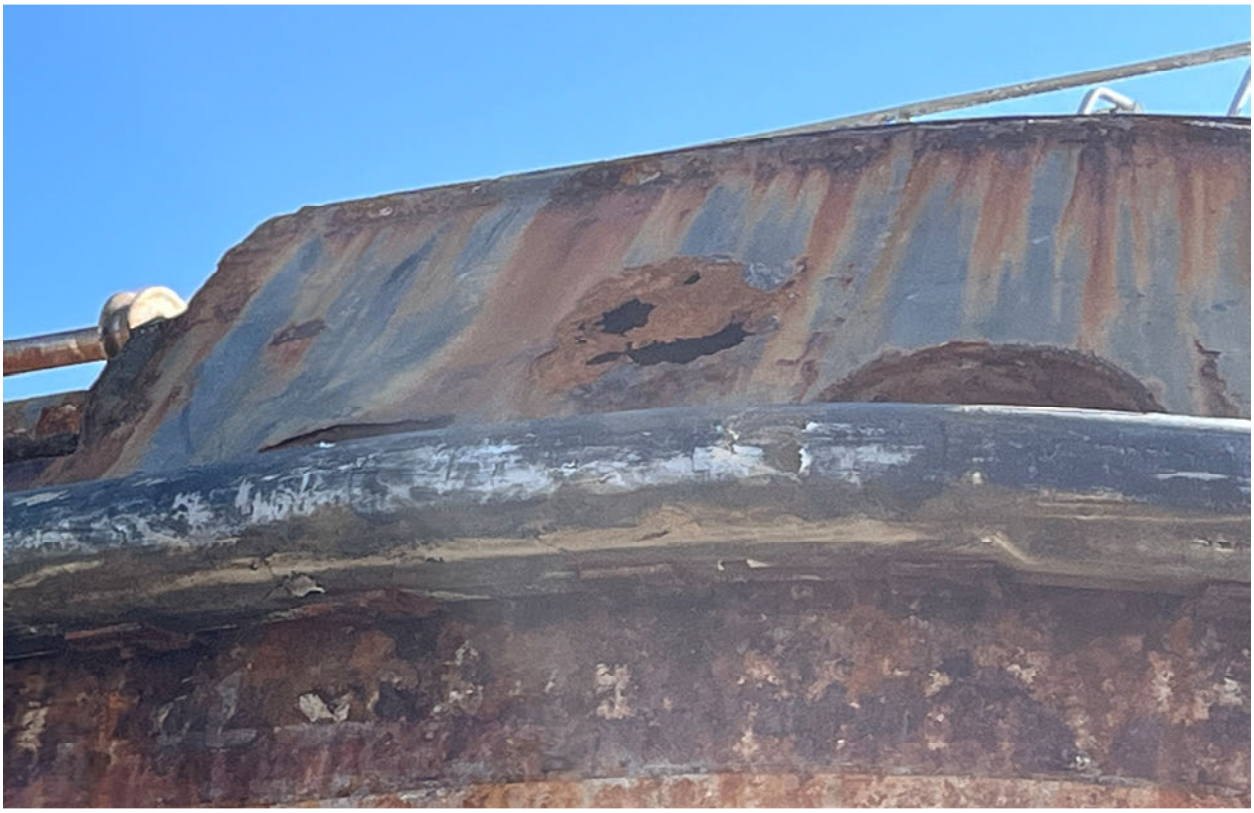
Southeastern Marine Surveying Company Inc.



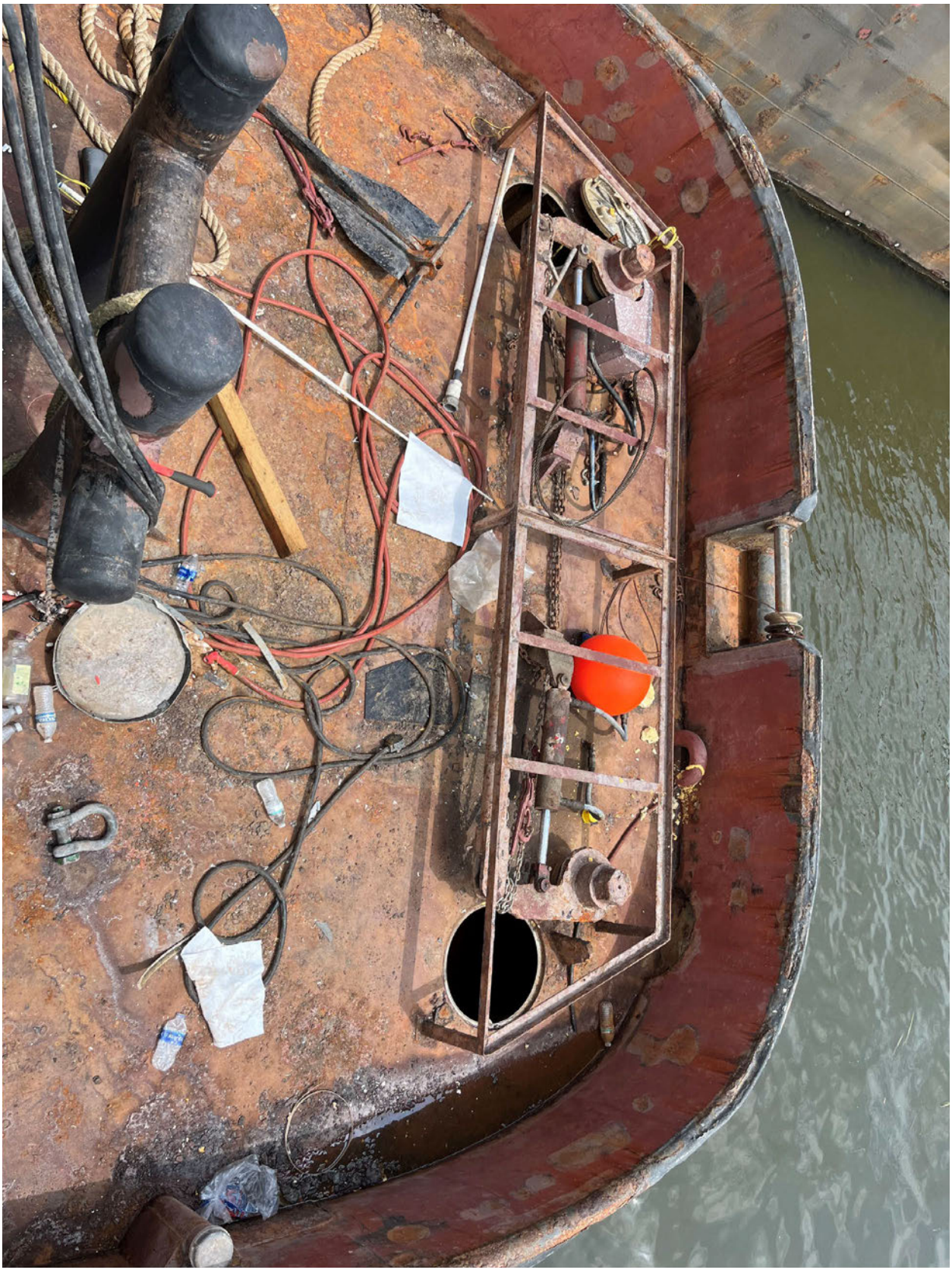
Capt. H. David Scott
Principal Surveyor CMA, NAMS



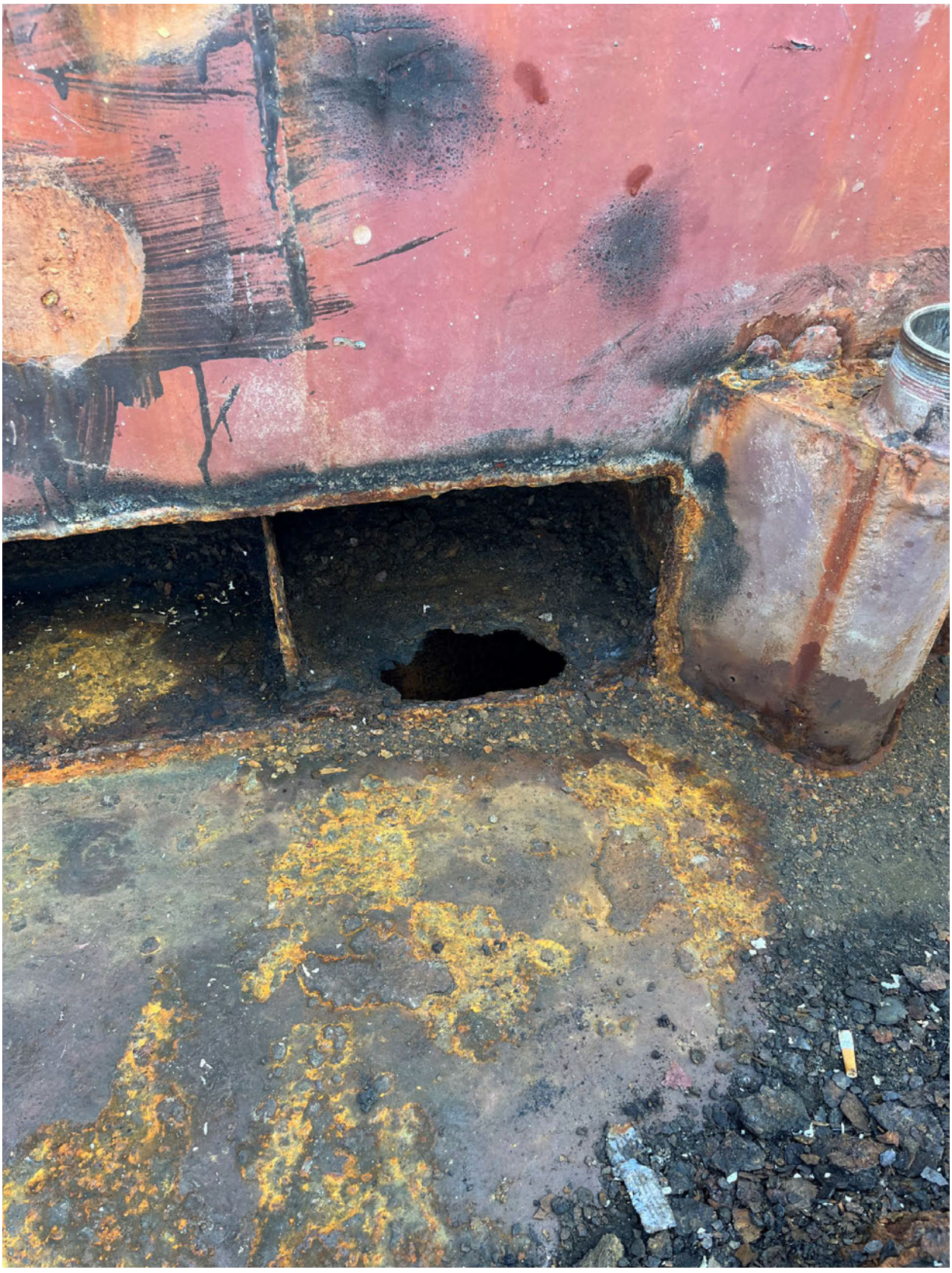
M/V "JACQUELINE A" hauled at Stevens Towing Company following salvage.



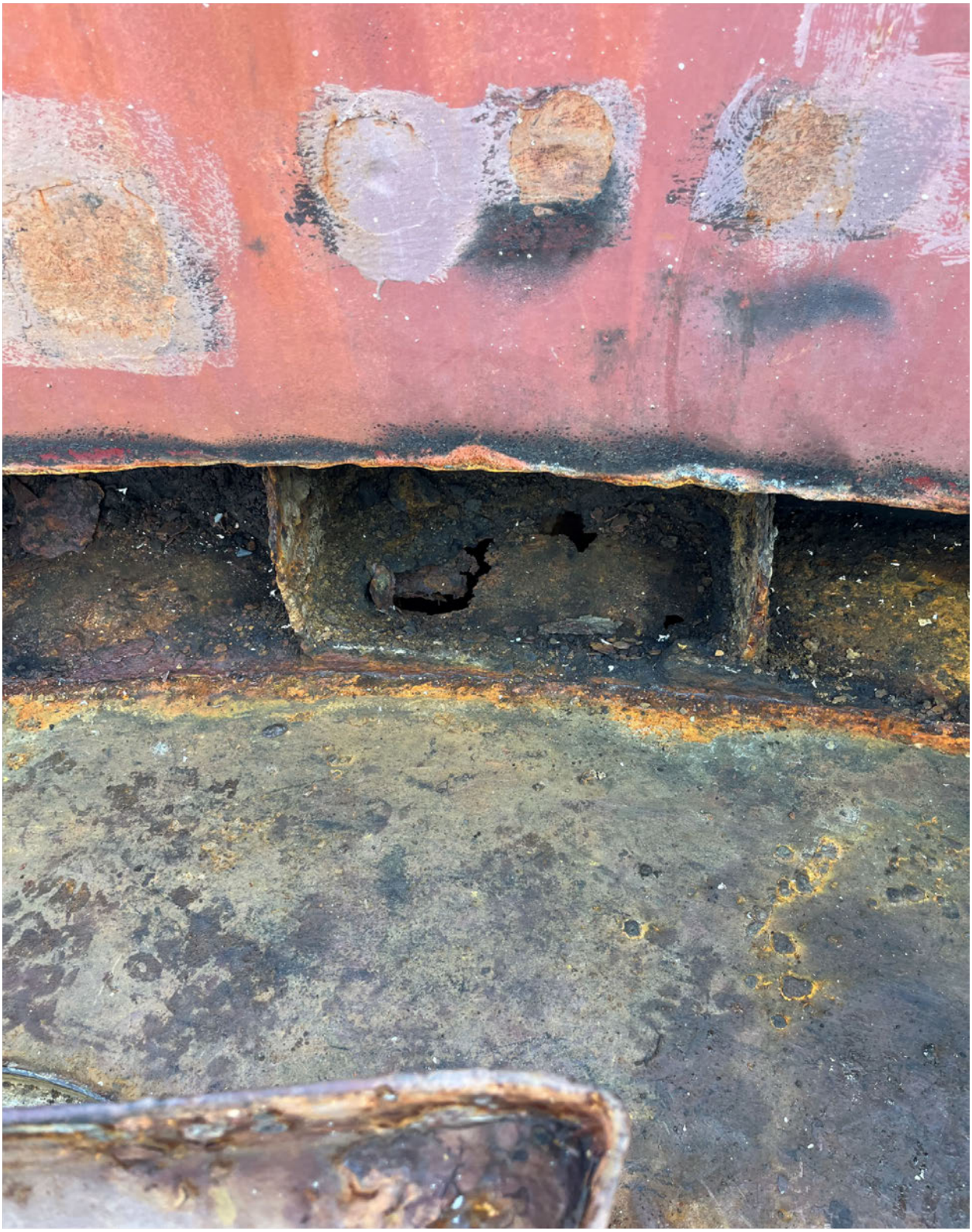
Stern view of closed bulwark with plate wastage.



Inboard view of closed bulwark prior to steel being cropped out.



Hole #1 port side adjacent to lazarette forward bulkhead after bulwark steel cropped out. Hole possibly enlarged by scale removal.



Hole #2 in way of frame #'s 2 and 3 after bulwark steel cropped out. Hole possibly enlarged by scale removal.

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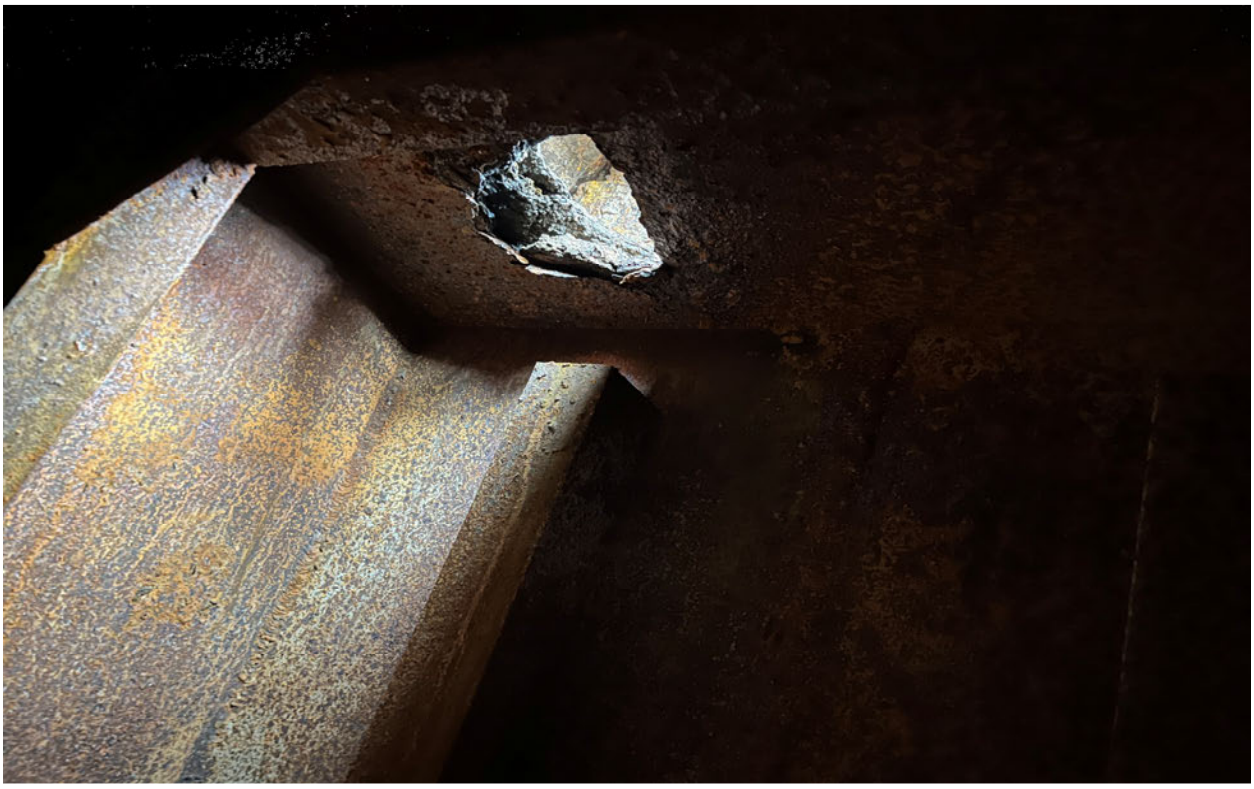
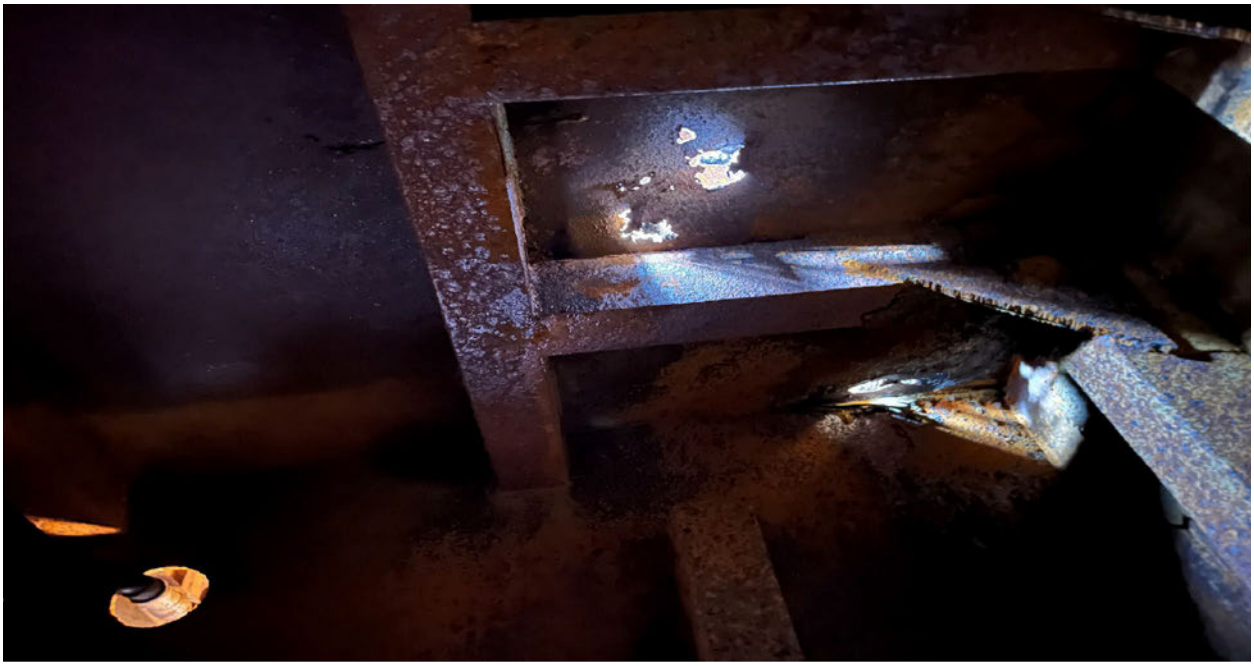


Hole #1 viewed from inside lazarette after bulwark steel cropped out. Hole possibly enlarged by scale removal.



Hole #3 and stern hole viewed from inside lazarette after bulwark steel cropped out. Hole possibly enlarged by scale removal.

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Hole #2 viewed from inside lazarette after bulwark steel cropped out. Hole possibly enlarged by scale removal.