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HAMILTON BANKER

Condition Survey, Pollution Risk, Vessel Removal, Towing & Disposal Assessment

**At Colliers, Newfoundland
24 February 2020**



Date: 23 April 2020



EXECUTIVE SUMMARY

FV "HAMILTON BANKER" is a fishing vessel which broke from her moorings during a storm in Colliers, Newfoundland and grounded between a rocky outcrop and the shore on 17 January 2020, settling with an approximate 15-degree starboard list and sitting on a rock/boulder seabed. Since the incident the owner appears to have abandoned the vessel and has not afforded any cooperation in pollution prevention or removal from the grounded location.

An ROV survey was performed by Pro-Dive Marine Services on 24 February 2020. LOC Canada (LOC) also attended on the same day to carry out a technical assessment of the vessel.

The ROV survey found that the rudder had sheared off and was lying on the seabed, the propeller was badly damaged, shell plating on the port and starboard sides showed significant damage and the hull was breached with a crack port side aft. The bilge keel was missing on the port side and set up on the starboard side. The bow section was found without any damage.

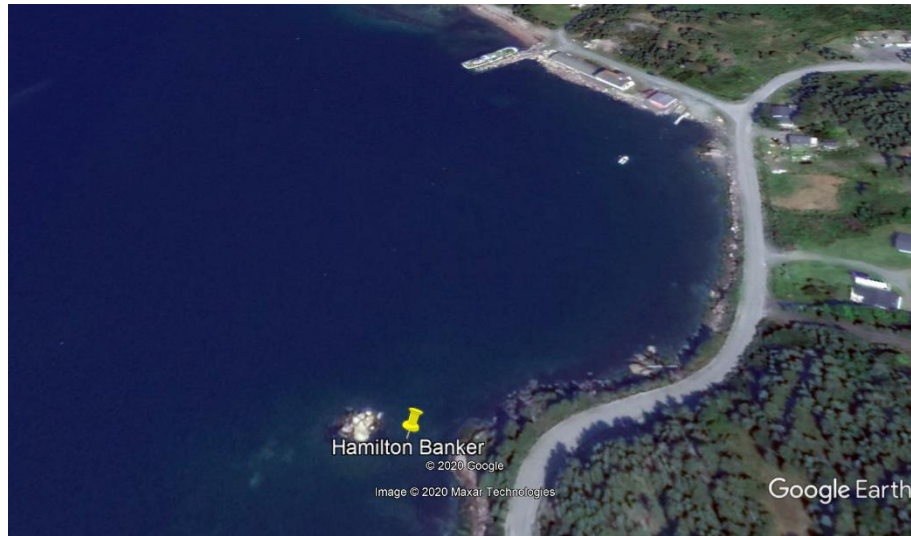
LOC's survey found the hull was flooded from the stern to the forward watertight bulkhead with water or oily water in the engine compartment and some tanks. The fish hold, whilst flooded, did not appear to be affected by oil. Ice conditions during the survey precluded a thorough inspection of each compartment as sounding pipes were obstructed. The bridge and accommodation were found in poor condition and it was noted that they had been stripped of many fittings including wiring and panelling.

From observations there is little oil onboard contained in tanks, however, the machinery did not appear to have been drained of oil. Given the current location and condition of the vessel efforts should be made to pump out any remaining oils and oily water at the earliest opportunity and certainly prior to the commencement of any vessel removal operations.

2 **VESSEL DETAILS**

Name:	HAMILTON BANKER
Previous Names:	UNKNOWN
Builder:	-
Built:	1960's
IMO Number:	-
Port of Registry:	-
Length overall:	34m
Breadth Moulded:	7.3m
Depth Moulded:	5.3m
Displacement:	-
Material:	Steel
Owner:	-

2.1 Vessel location



2.1.1 Colliers is a small coastal town on the Avalon peninsula in Newfoundland. The vessel is aground between a rocky outcrop and the eastern shoreline which is rocky in nature. There is a coastal road running parallel to the shoreline and a stone constructed jetty about 250m NE from the vessel location. The opposite side of the bay is just over 1 km distance.

Figure 1: Google Earth image of Colliers showing location of vessel

2.1.2 There is a maritime climate in Newfoundland with summers being shorter. Weather is generally unpredictable with the worst storms occurring between November and March. Prevailing winds in the winter are westerly and, in the summer, west south westerly. The vessel location is relatively low lying and therefore exposed to winds from most directions. Tides are diurnal and the rise and fall is believed to be in the order of 1 metre.

3 VESSEL CONDITION ASSESSMENT

3.1 Limitations of Survey

- 3.1.1 No ceilings, claddings or sheathings were removed for examination of underlying structure.
- 3.1.2 Thickness gauging was not carried out on the hull.
- 3.1.3 Attempts were made to sound all accessible tanks via sounding pipes. Fuel filler caps for the port-aft and port-starboard fuel tanks, located in the aft fantail area, were also unscrewed. Sounding pipes (3 in total) found in the forward processing area, assumed to be related to the freezer system, were cut and re-sealed with wooden plugs. No tanks, other than those already open, were opened for inspection. Some of the sounding pipes were found to be blocked by ice.
- 3.1.4 Only areas of the vessel deemed safe for access were examined. The hull was found flooded; therefore, engine room space was only viewed from open stairwells and the cargo hold was only viewed from the open hatches in the processing area.
- 3.1.5 Comments are based on conditions observed. It is understood that no vessel specific documentation is readily available

3.2 Vessel Hull Above the Waterline

- 3.2.1 The hull above the waterline was noted to be in satisfactory cosmetic condition with isolated areas of rust around hull penetrations.
- 3.2.2 The vessel was resting with a starboard list so only the upper hull area was visible on the starboard side. The port side could not be viewed due to shallow water and ice cover at time of survey.

3.3 Vessel Main Deck

- 3.3.1 The main deck forward of the accommodation was found to be in satisfactory cosmetic condition with areas of light to moderate rust.
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- 3.3.2 Some of the sounding pipes were in good condition and appeared to properly closed. Others had broken caps or the pipes had rusted through and broken off.
- 3.3.3 The handrails throughout were in poor condition with many damaged areas as well as areas showing heavy wastage.
- 3.3.4 The forward winches were assumed to be full of oil.
- 3.3.5 The aft deck was largely snow covered but from areas visible, was consistent with observations made above with respect to the main deck forward of the accommodation.

3.4 Bridge

- 3.4.1 The bridge was noted to be cosmetically poor with ceiling panels and console panels removed and exposed wood, wiring, insulation and debris found throughout.
- 3.4.2 A package of batteries was found on the console.

3.5 Deck No.1 – Accommodation Area

- 3.5.1 The galley and mess, as well as captain/officers' quarters, were found to be cosmetically poor. Wall panels and portions of ceiling panels had been removed. Debris was noted throughout. Multiple portholes on the port side were found partially open.
- 3.5.2 Water and floating debris were visible through the stairwell to the lower accommodation area. Water appeared to be 4-5-foot-deep at the base of the stairwell.
- 3.5.3 Water with a thick layer of oil/sludge was visible through the engine room access.

3.6 Deck No.1 – Fantail Area

- 3.6.1 The aft fantail area (below the main deck-aft) was found cosmetically poor. Lower sections of wall panels had been removed on the starboard side. The ceiling had
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ribbons of paint flaking off. The deck contained filler caps for the port and starboard fuel tanks as well as access hatches. Deck coating was in poor condition.

3.6.2 Water and ice were found along the starboard side (low side due to vessel list) with no evidence of running water from the higher port side.

3.6.3 The aft doors did not properly close.

3.6.4 A 5-gallon bucket of oil was found with roughly 2 gallons remaining.

3.7 Deck No.1 – Process Area

3.7.1 The forward process area was found in okay cosmetic condition. The ceilings had ribbons of paint flaking off. Overboards on the port and starboard sides, as well as trawl opening on starboard side, were found open.

3.7.2 The lower fish hold was visible through open hatches and was full of water. Water level appeared to be consistent with sea level on the hull exterior, however, ice cover made it difficult to see clearly.

3.7.3 Sounding pipes forward of the strapping machinery were cut off to allow soundings to be taken. Pipes were believed to be feed water or similar for the factory freezer or general processing. Wooden plugs were installed to re-seal the pipes.

3.7.4 The forward machinery space contained the refrigeration compressors and freon equipment for the factory freezer. Sight glasses on port and starboard compressors indicated at least residual levels of oil, but potentially more given the list of the vessel. It was assumed that refrigeration system would be full. Hydraulic header tank for crane was found empty with trace amounts remaining. Fluid accumulation sighted on starboard side below tanks and against the side shell.

3.7.5 The forepeak area contained pipework for the forward winches and were assumed full. A header tank was found full. Hatch in the floor was open with dirty water visible below.

3.8 Deck No.2 – Lower Hull Interior

- 3.8.1 The lower hull area contains the engine room, bunk rooms, cargo hold and forepeak space. While no drawings are available, it is likely the vessel would have been subdivided by at least 2 watertight bulkheads, but likely 3. At the forward end would be a collision bulkhead dividing the forepeak space and cargo space. A forward engine room bulkhead would divide the cargo space and engine room, and lastly an aft engine room bulkhead would divide the engine room and steering gear space or similar.
- 3.8.2 From what could be observed from the deck above, the hull appeared to be flooded from the stern forward to the collision bulkhead.
- 3.8.3 An open hatch in the forepeak space, forward of the collision bulkhead, contained what appeared to be dirty water but contents are otherwise unknown. From speaking with CCG representative onboard, the contents were present prior to hull flooding so it's possible the collision bulkhead itself is intact and the contents are isolated from the remaining spaces flooded with seawater.
- 3.8.4 It is assumed that all engine room machinery still contained oil as a layer of oil sludge was observed on the water surface in the engine room space. A slight sheen also appeared present in the bunkroom space which is adjacent to the engine room.

3.9 Exterior Accommodation Spaces

- 3.9.1 The starboard aft compartment appeared to contain a header tank that was empty.
- 3.9.2 There is a crawlspace compartment beneath the starboard stairs that contained approximately 8 batteries.
- 3.9.3 The roof areas were not accessed due to the vessel list and slippery conditions at time of survey.
-

3.10 General Comments on Vessel

- 3.10.1 Upon entering the vessel from the bridge on the portside, there was a noticeable odour of fuel. Many of the vessel interior walls and ceilings have been opened and stripped of wiring, and any other metal of value has also been removed.
 - 3.10.2 The vessel is grounded between the shore and a rocky outcrop. It's likely that during the storm when the vessel broke loose, there was a storm surge which allowed the vessel to drift into the shallow waters and ground along most of its length.
 - 3.10.3 The vessel has a heavy list of roughly 15 degrees to starboard which influences sight glass readings as well as tank soundings.
 - 3.10.4 The hull appears to be flooded from the stern forward to the collision bulkhead. It should be assumed that subdivision is compromised.
 - 3.10.5 It should be assumed that any hull penetrations (valves, chests, etc.) are compromised.
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4 TANK SOUNDINGS / TANK CONTENTS

- 4.1 No general arrangement, tank layout or sounding tables were available for the vessel so exact tank layout is unknown. Sounding readings were taken from all accessible sounding pipes sighted throughout. Given absence of sounding tables, combined with the vessel list, it is difficult to convert the sounding readings to volumes.
- 4.2 It should be noted that port side soundings, aside from Port 5, indicated that tanks were empty. Given the sounding pipes are located at the outboard edge, on the high side of the vessel, it's possible these tanks contain still contain water or pollutants that couldn't be measured from the sounding pipes. Similarly, starboard soundings indicated that tanks were not empty, but the sounding readings are likely exaggerated given the sounding pipes are outboard and on the low side.
- 4.3 Soundings were taken from port-forward to port-aft, then starboard-aft to starboard-forward. Port 1 Tank is forward on the bow, whereas Starboard 1 Tank is at the stern/transom.

Item	Tank/Item Name	Sounding	Estimated Quantity of oil	Estimated Quantity of oil contaminated water	Comments
1.	PORT 1 (FWD)	Empty			Tank measured 13' 13" deep
2.	PORT 2	Empty			Tank measured 23' 6" deep
3.	PORT 3	Empty			Tank measured 10' 6" deep
4.	PORT 4	Unknown			Sounding pipe cap is seized.
5.	PORT 5 (AFT)	6"			Tank measured 12' 5" deep. 6" clear liquid found, no smell, no reaction to water finding paste
6.	STBD 1 (AFT)	Unknown			Ice in sounding pipe, tape dropped 5' 4" before stopping. When fuel filler cap was unscrewed from fantail area, diesel spewed out and cap was re-tightened immediately. No sounding of contents was obtained.

Item	Tank/Item Name	Sounding	Estimated Quantity of oil	Estimated Quantity of oil contaminated water	Comments
7.	STBD 2	4"			Tank measured 7' 9" deep. 4" lube oil found.
8.	STBD 3	3' 4"			Tank measured 18' 8" deep. 3' 4" water found.
9.	STBD 4	10"			Tank measured 8' 2" Deep. 10" fuel found.
10.	STBD 5 (FWD)	Empty			5' 10" Deep.
11.	Crane Hydraulic Header Tank	Empty			Located in refrigeration machinery space forward of process area. Tank was open at top, only residuals remaining
12.	Forepeak Header Tank	Full			Located in forepeak space forward of refrigeration machinery space.
13.	Starboard Access Space Header Tank	Empty			Located at aft of accommodation through an exterior door.
14.	Process Tank 1 (FWD)	Empty			Forward most pipe in the process area. Pipe cut to gain access. Wooden plug hammered into open pipe.
15.	Process Tank 2 (PORT)	Unknown			Pipe cut to gain access. Sounding tape dropped a short distance and stopped. Believed to be blocked with ice. Wooden plug hammered into open pipe.
16.	Process Tank 3 (STBD)	Unknown			Pipe cut to gain access. Pipe blocked with ice. Enough ice was removed to hammer wooden block into pipe.
Total Estimated Volume			Unknown	Unknown	

Table 1: Tank Contents

- 4.4 An unknown quantity of water and pollutants were found within the tanks sounded. Tanks and the hull in general containing water could be tested to confirm if the water in these tanks could be discharged without being processed. That said, given the lack of care and maintenance, and number of unknowns, it should be assumed that the hull interior and all tanks will require pumping via vacuum truck or similar means.

5 **ROV SURVEY**

5.1 On 24 February 2020 Pro-Dive Marine Services attended the vessel to carry out an underwater inspection of the hull below the waterline and surrounding seabed area using an observation class ROV (Video Ray Pro 4 system).

5.2 The survey scope of work was as follows:

5.2.1 Overall inspection of the vessel's underwater area to identify any damage or areas of concern.

5.2.2 Assess the extent of grounding along the length of the vessel.

5.2.3 Assess the seabed geography, composition and water depth forward and aft of the vessel.

5.3 A copy of the full ROV report is attached as "Appendix B". Copies of the ROV video are available on request.

5.4 Summary of the ROV survey findings below:

5.4.1 Significant damage found on starboard side shell area as well as bent bilge keel.

5.4.2 Significant damage found on port side. Large indented area with an open crack in the hull at the port-aft location. The bilge keel appeared to be missing with significant damage in the vicinity.

5.4.3 No observable damage found to the bow.

5.4.4 Significant damage found to the propeller, rudder was dislodged and found on the seabed aft of the vessel, and no skeg was observed.

5.4.5 Water depth forward of the vessel was shallow with depths between 2-3m.

5.4.6 Water depth aft of the vessel was between 5-6m with two large boulders and dislodged rudder on the seabed.

APPENDIX "A"
PHOTO REPORT



1. General view (1)



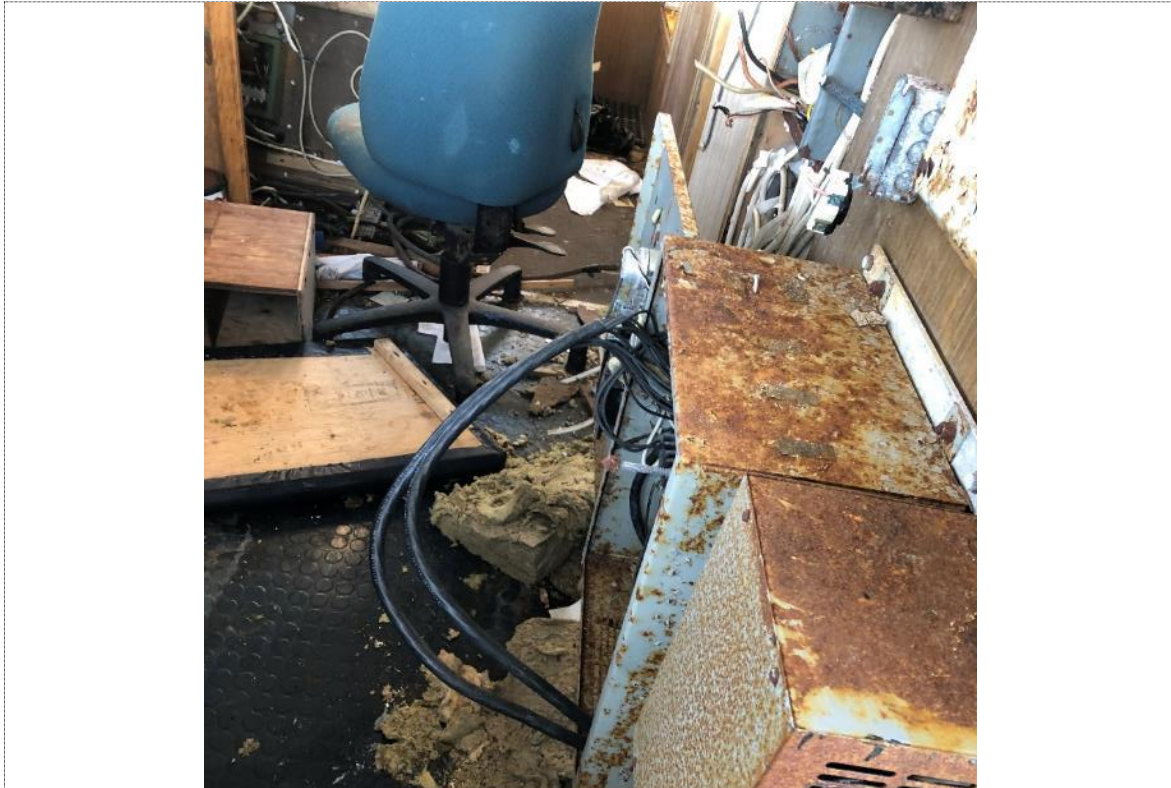
2. General view (2)



3. Bridge



4. Bridge – view of ceiling



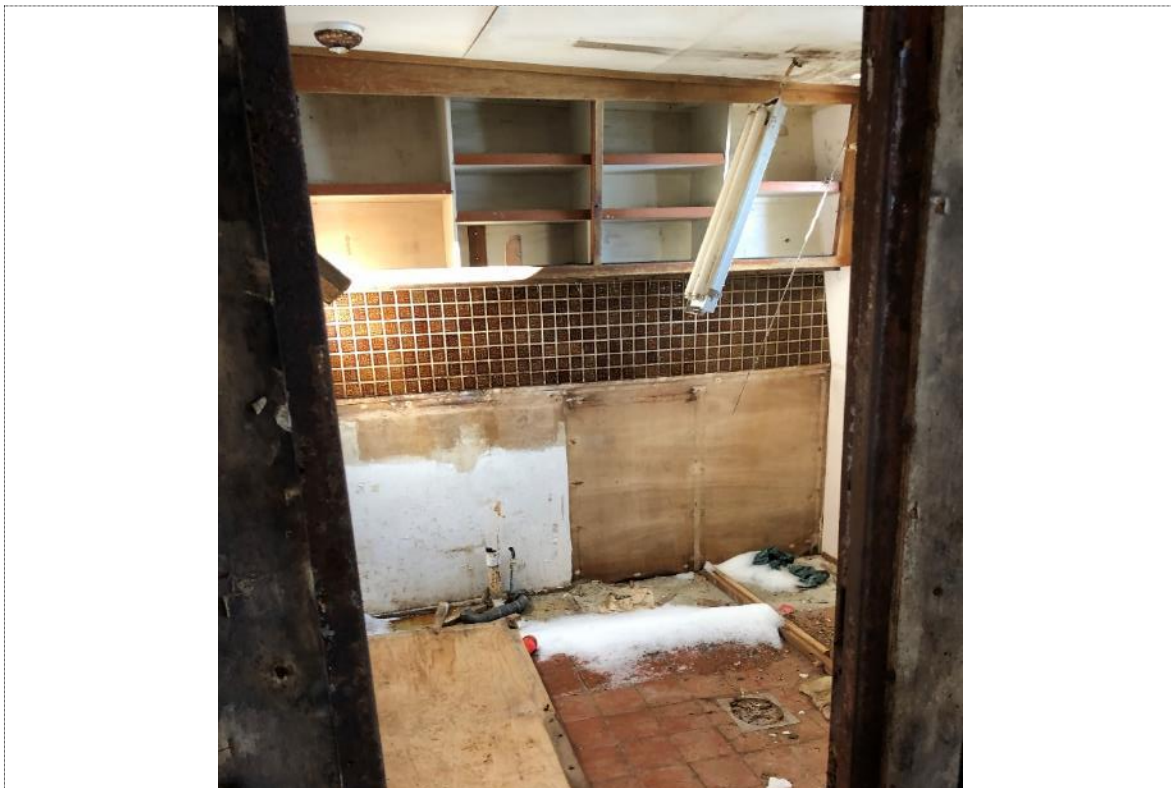
5. Bridge – view of typical debris



6. Accommodation space (1)



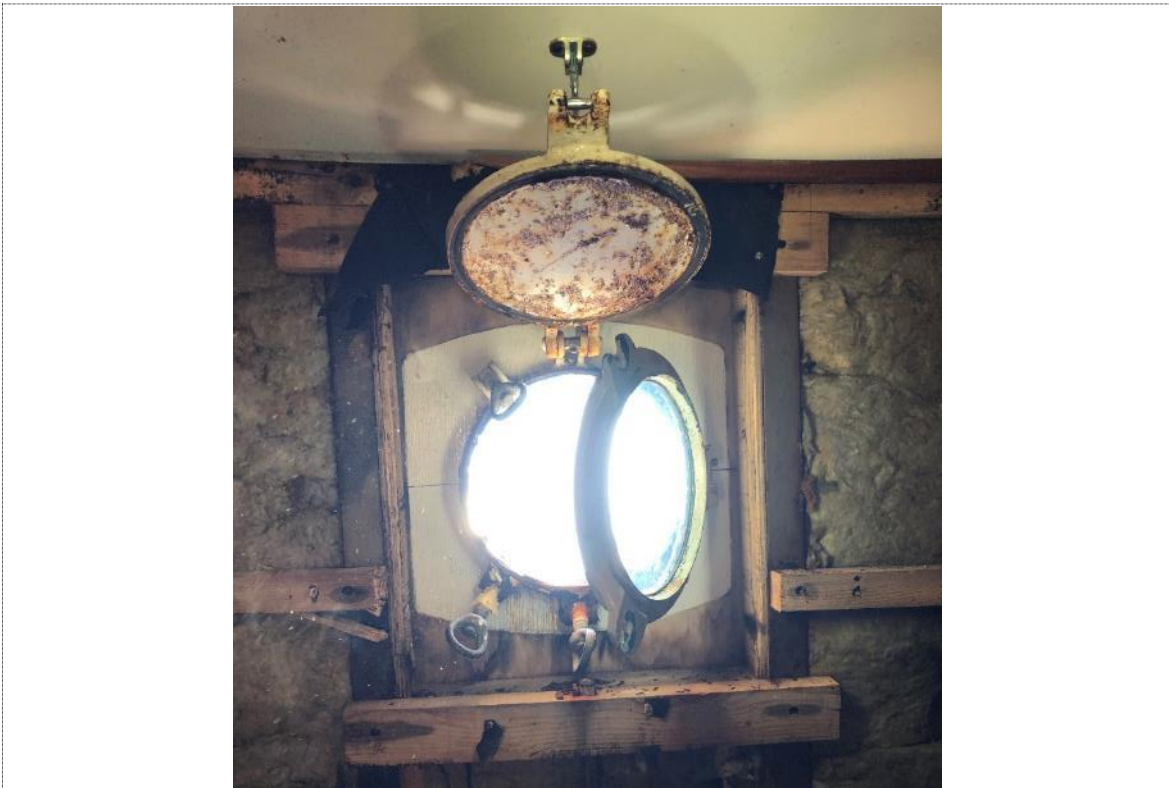
7. Accommodation space (2)



8. Accommodation space (3)



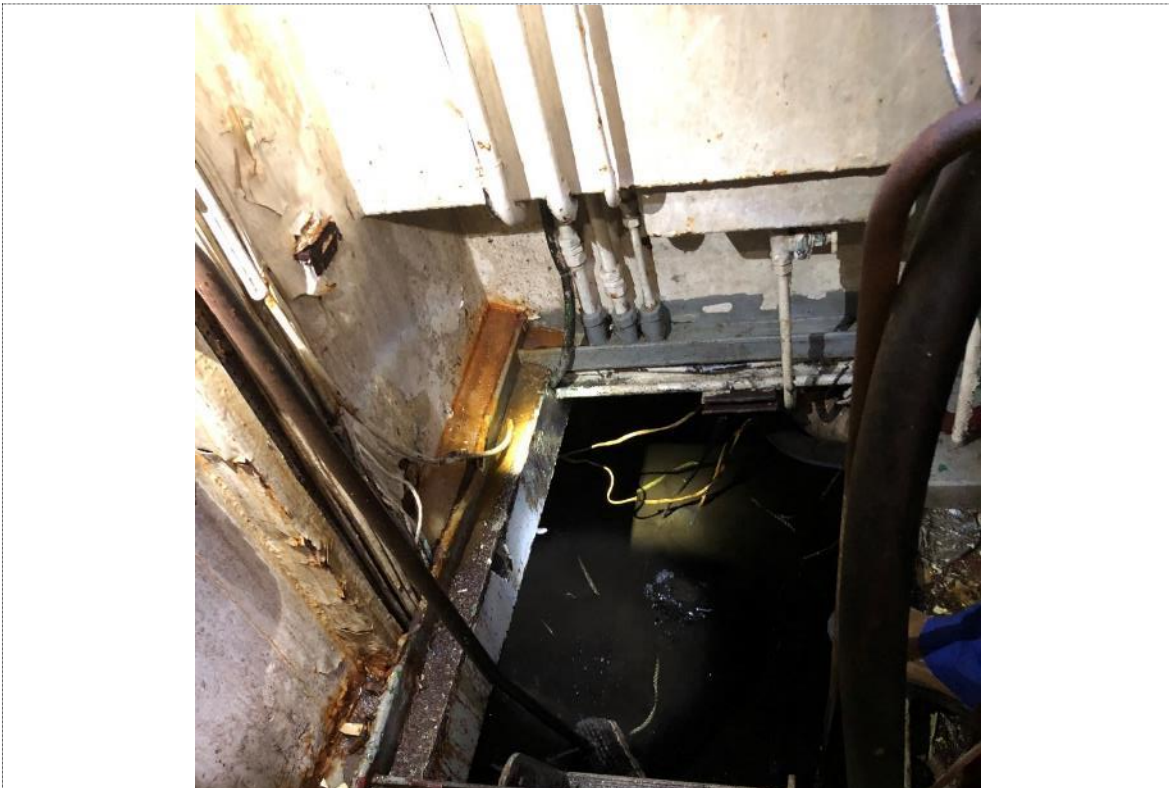
9. Accommodation space (4)



10. Accommodation space – open porthole



11. Access to bunk room – flooded with floating debris



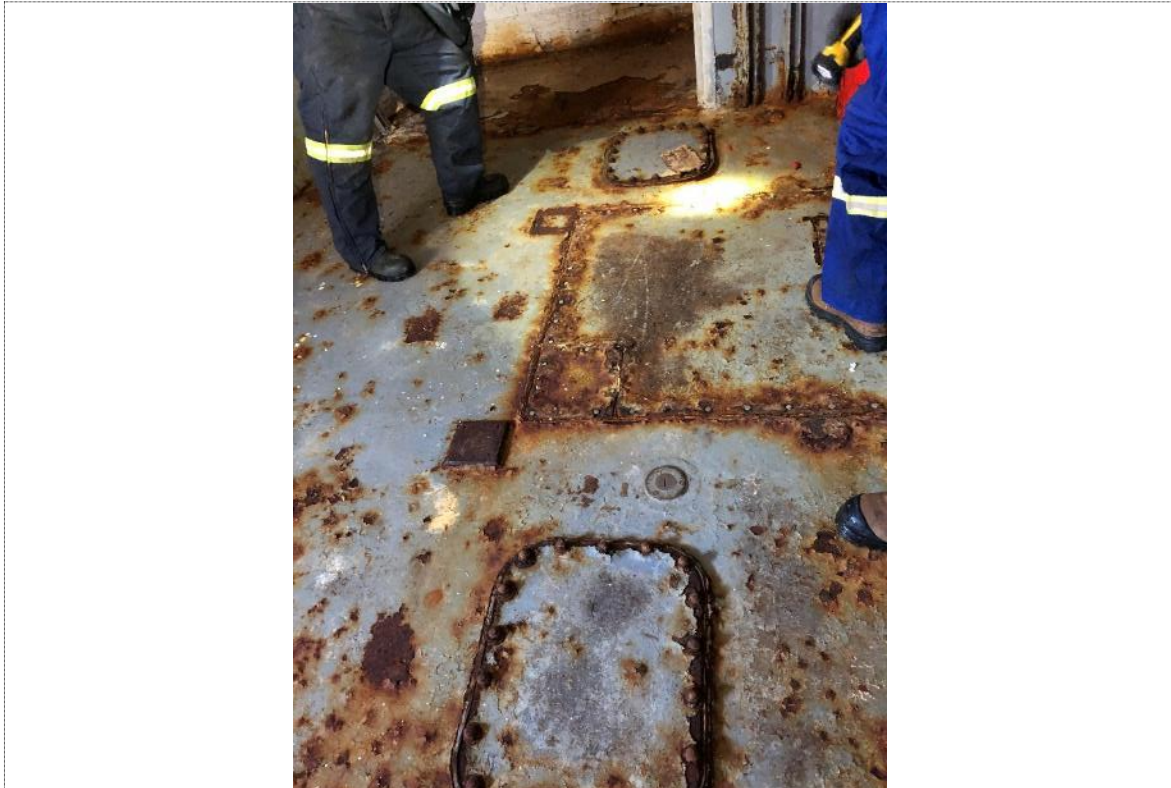
12. Engine room access – flooded with layer of oil visible



13. Starboard access to fantail area – flood water against sidewall



14. Aft fantail area – doors not properly closed



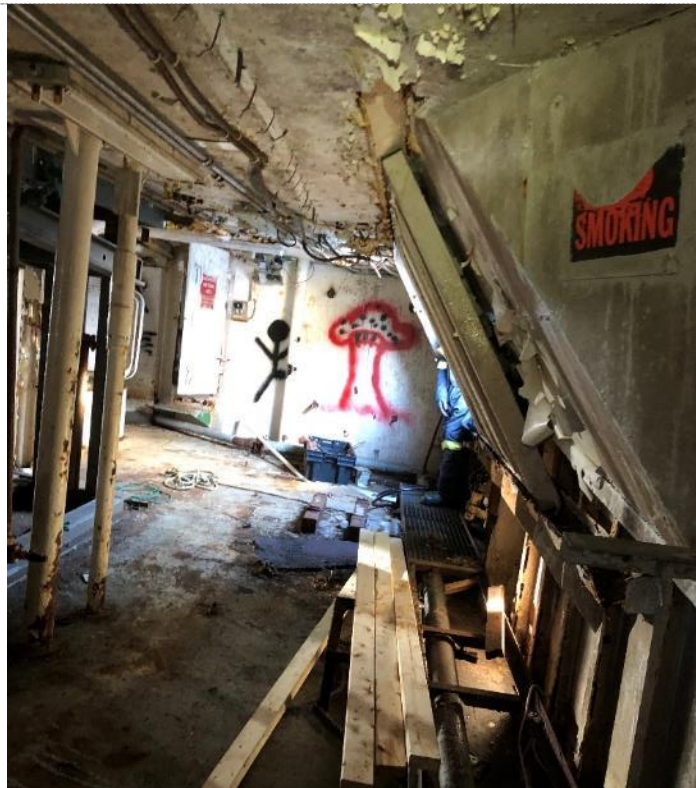
15. Port and starboard fuel tank access hatches and filler caps – aft fantail area



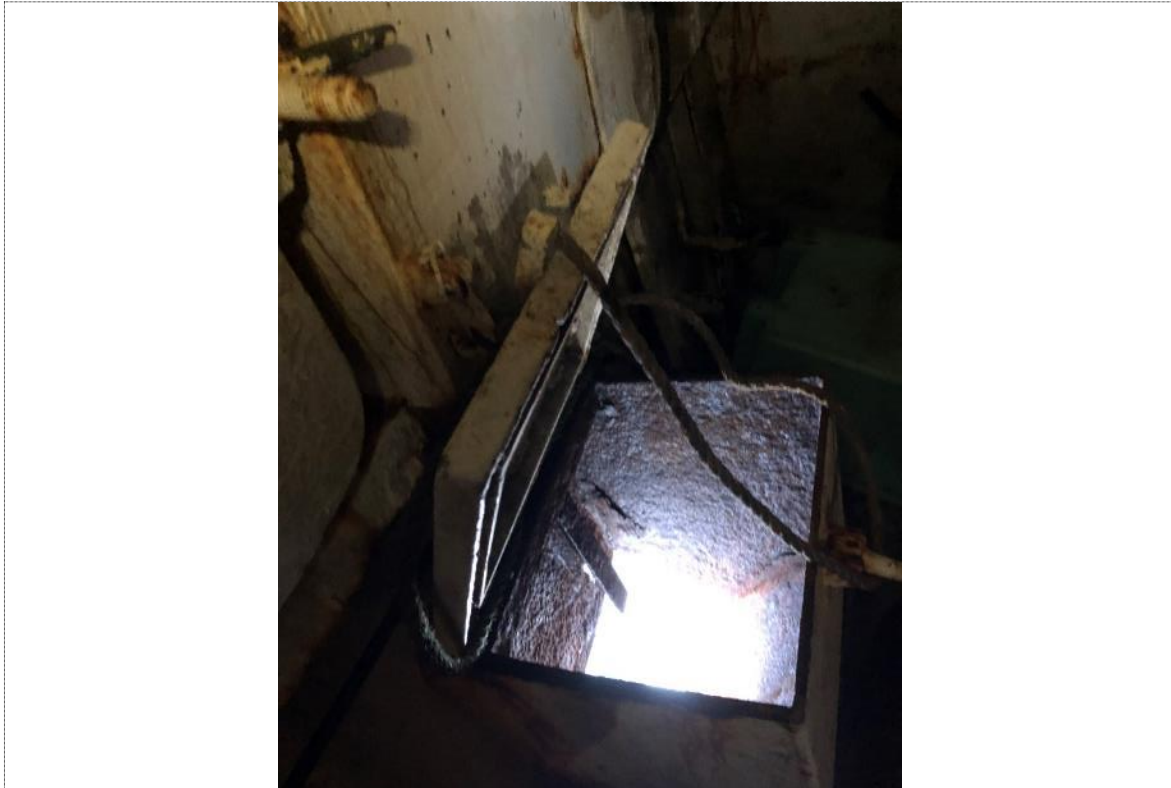
16. Processing Deck (1)



17. Processing deck (2)



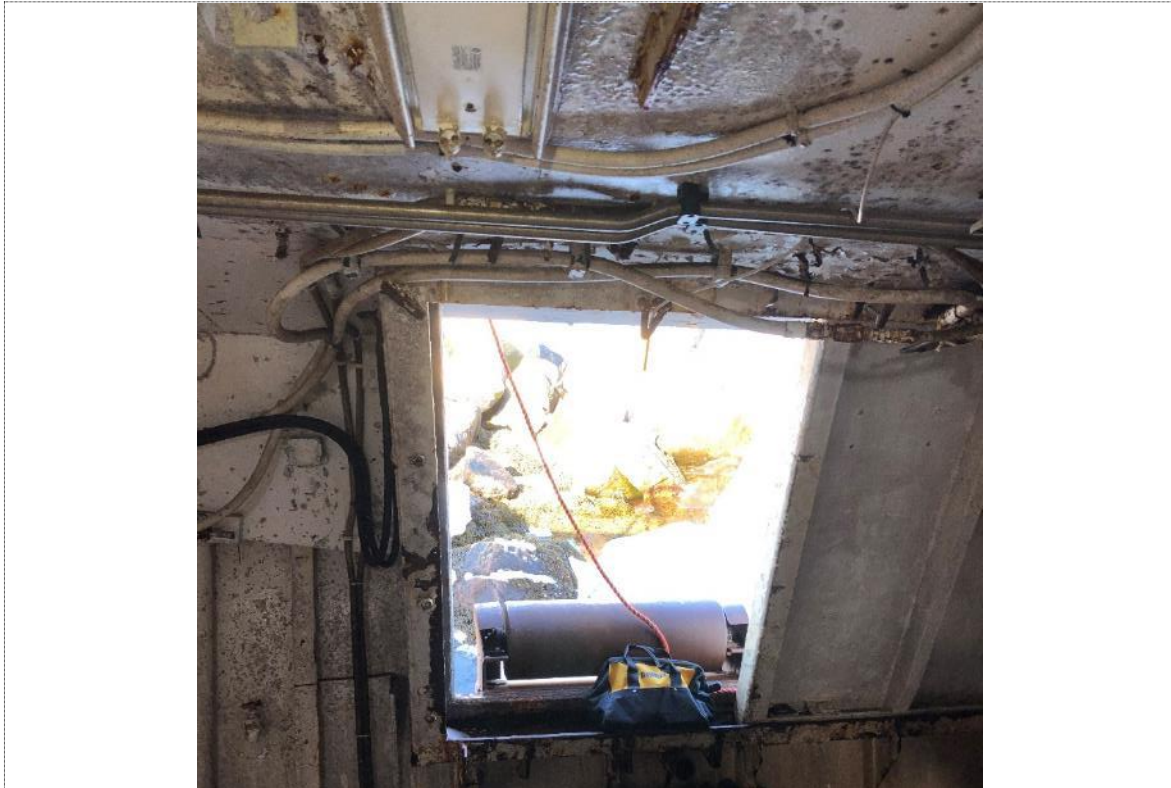
18. Processing Deck (3)



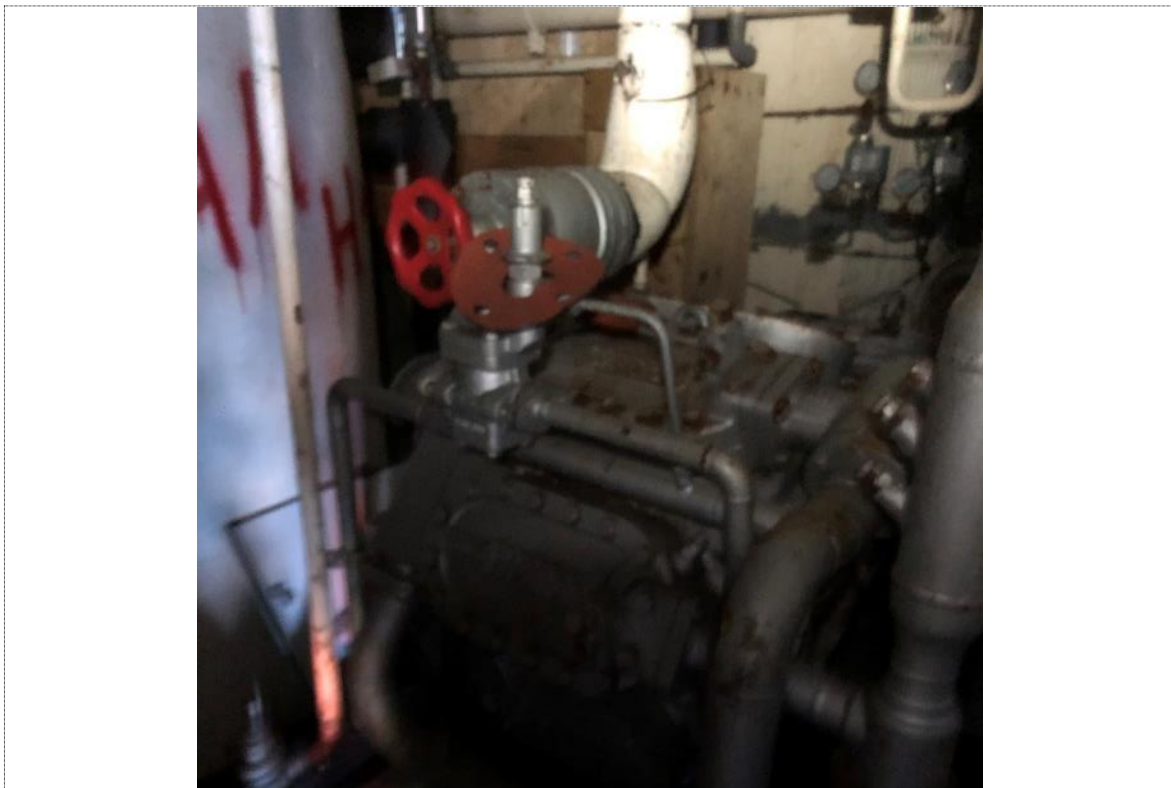
19. Processing deck - overboard



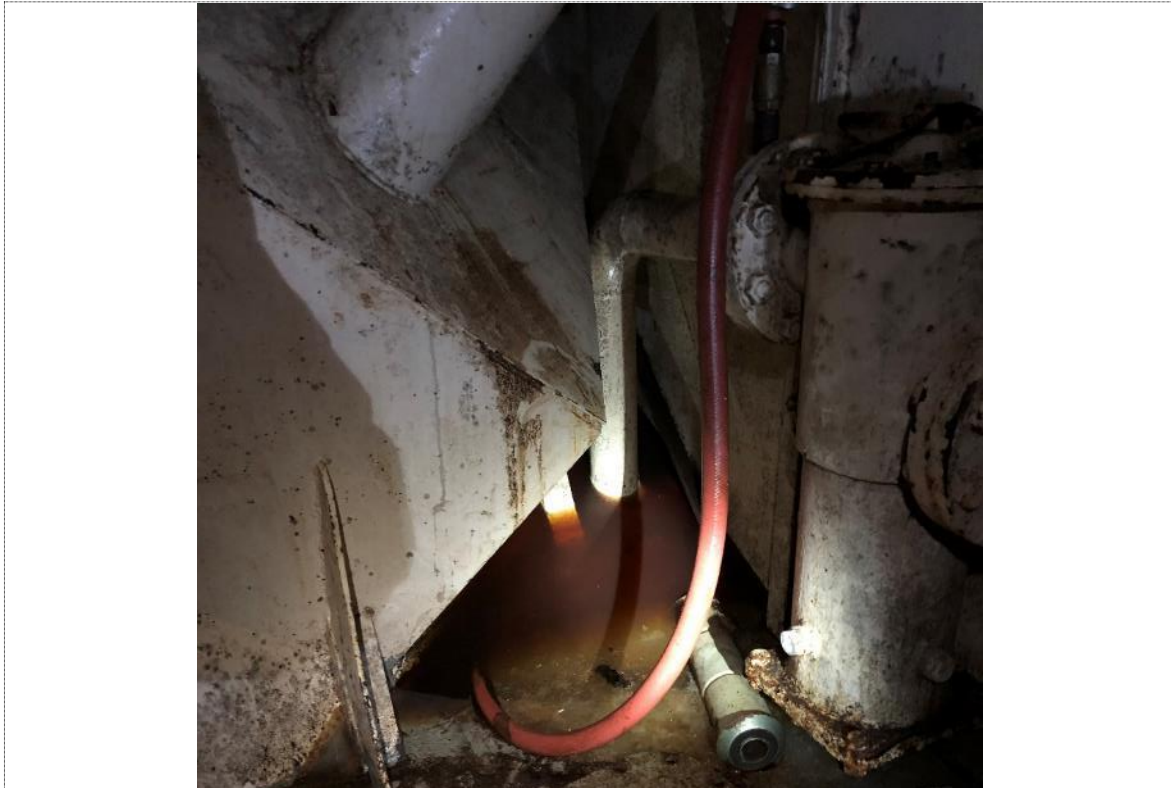
20. Processing deck – view of cargo space through hatch - flooded



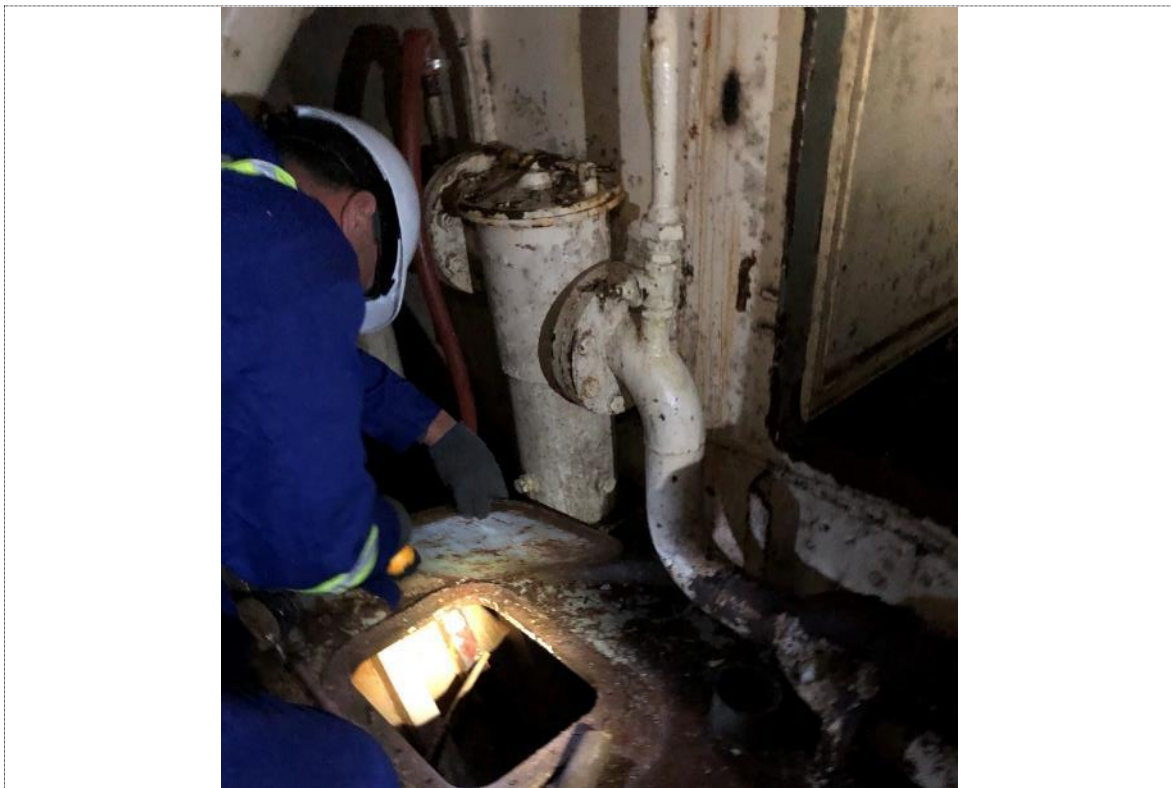
21. Processing deck – trawl door/opening



22. Refrigeration room – compressor (1 of 2 units present)



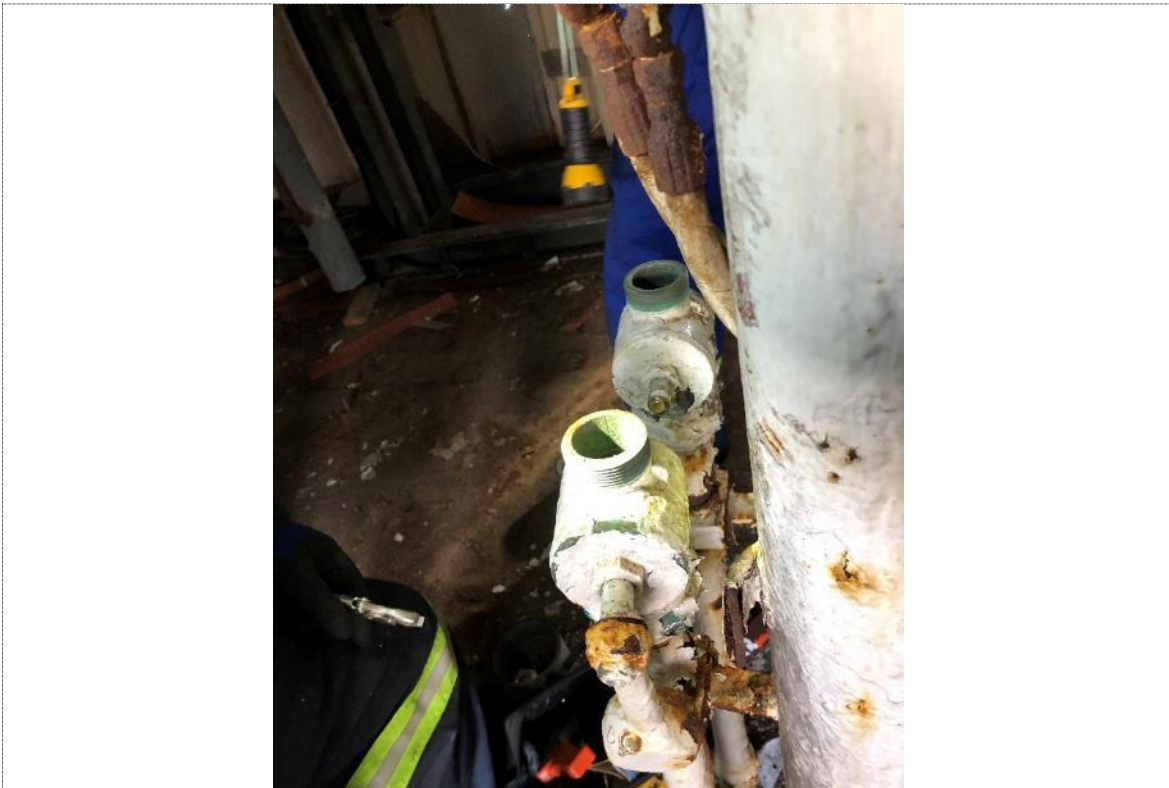
23. Liquid buildup against starboard sidewall



24. View down hatch forward of collision bulkhead – brown liquid visible



25. Pipes on processing deck prior to cutting to take sounding (1)



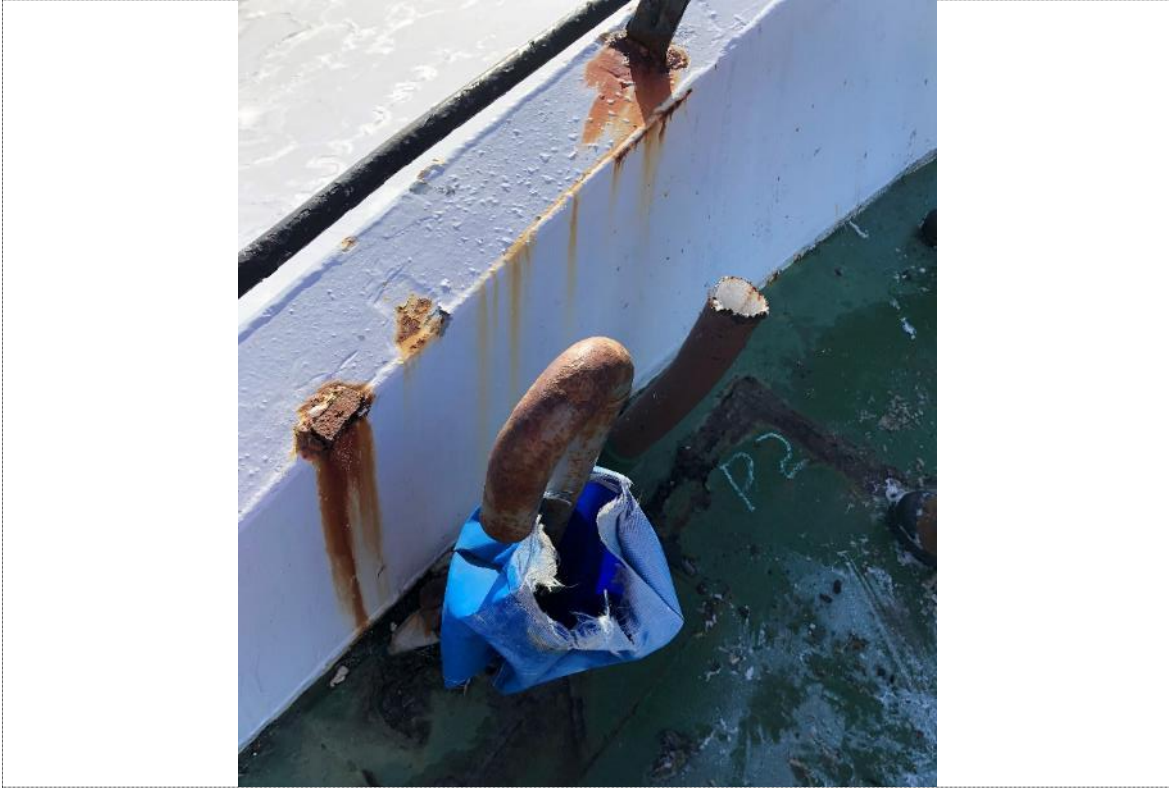
26. Pipes on processing deck – prior to cutting to take sounding (2)



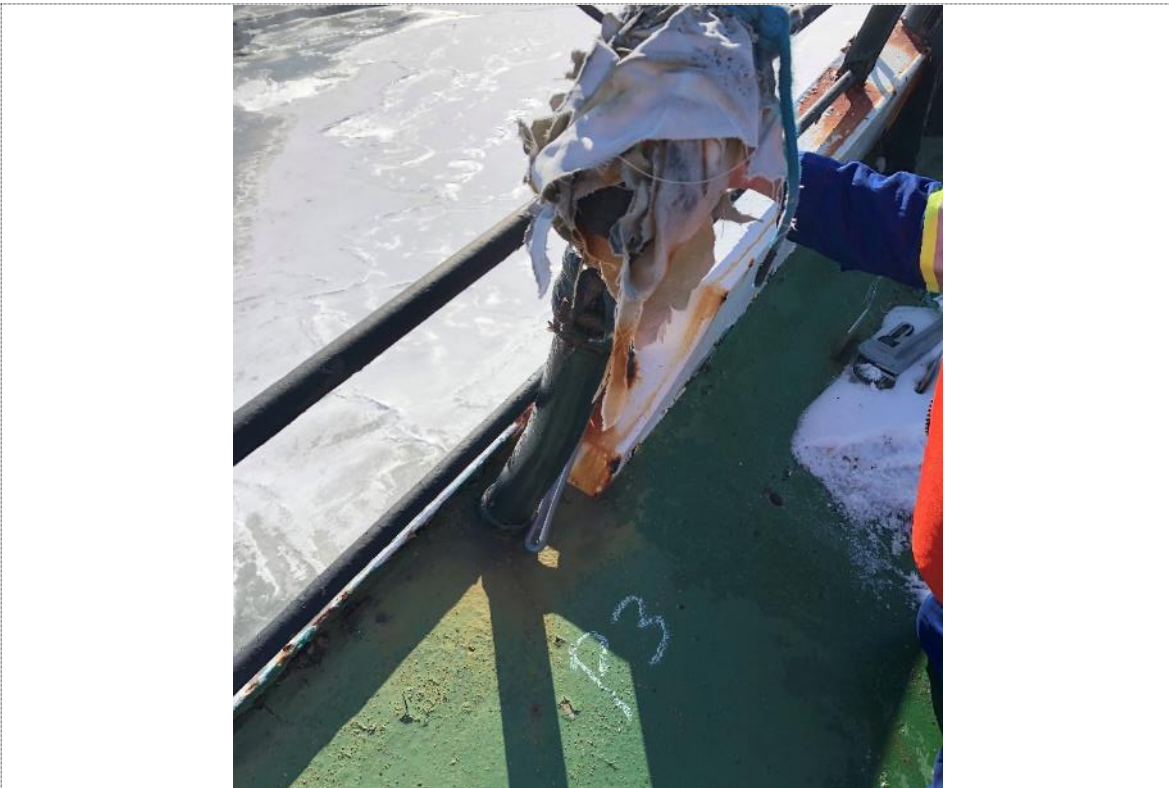
27. View from main deck port side – road visible



28. View from main deck port side – looking forward



29. View of typical sounding pipe condition (1)



30. View of typical sounding pipe condition (2)



31. View of typical sounding pipe condition (3)



32. View of typical sounding pipes condition (4)

APPENDIX "B"
DIVE SURVEY REPORT



PWGSC
ROV Hull Survey of the Vessel "Hamilton Banker"
February 24, 2020

Disclaimer

The material, photos, descriptions, charts etc. presented in this report are for informational purposes only and do not constitute technical or other professional advice or guidance. The material contained within this report is believed to be accurate, but Pro-Dive Marine Services accepts no responsibility for any inaccuracies, errors or actions taken in reliance on the information contained herein. Before making any decision or taking any action relating to the materials discussed in this report, please consult a qualified professional adviser as to the use of this report and any materials contained within. Use of the report and reliance thereon will be at the user's sole risk.

PDMS Ref: NLJ-20-05
Prepared by: Stephen Best ROV Supervisor
Checked by: Ron Pitcher, P.Eng. Vice-President, Operations & Technical Services
Approved by: Ron Pitcher, P.Eng. Vice-President, Operations & Technical Services

1	Issued to Client	Feb. 26/20	SB	RP	RP
0	Issued for Internal Review	Feb. 26/20	SB	RGP	RGP
Rev	Reason for Issue	Issue Date	Prepared By	Checked By	Approved By

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ROV Hull Survey of the vessel "Hamilton Banker"
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- 1.0 Job Summary
- 2.0 Scope of Work
- 3.0 Findings

Attachments

Attachment I - Flash drive containing video, pictures and PDF copy of report.



PWGSC
ROV Hull Survey of the vessel "Hamilton Banker"
February 24, 2020



1.0 JOB SUMMARY

Date: February 24, 2020

Client: PWGSC

Client Contact: Carolyn Connolly

ROV Contractor: Pro-Dive Marine Services

Personnel: Stephen Best ROV Supervisor
Derek Sproule Technician

Location: Colliers, NL

Scope: ROV Underwater survey of the vessel "Hamilton Banker"

Equipment: ROV container
Video Ray Pro4 ROV system

Job Number: NLJ-20-05



PWGSC
ROV Hull Survey of the vessel "Hamilton Banker"
February 24, 2020



2.0 SCOPE OF WORK

On February 24, 2020 Pro-Dive Marine Services was contracted by Carolyn Connolly of PWGSC to perform an ROV underwater survey of the vessel Hamilton Banker which was aground in Colliers Bay, NL. Weather conditions at time of inspection were good with light winds and clear skies. The vessel was surrounded by light sea ice.

The underwater examination was conducted using a VideoRay Pro4 observation class ROV system operated from a mobile control unit and powered by a Honda portable generator (See Figure 1). The survey was conducted from the vessel "Ocean Predator".

All ROV operations were conducted in compliance with International Marine Contractors Association (IMCA) R004 – Code of Practice for Safe and Efficient Operation of Remotely Controlled Vehicles and CSA Z275.4-12 Competency Standard for Diving, Hyperbaric Chamber, and Remotely Operated Vehicle Operations.



Figure 1 – VideoRay Pro4 ROV System



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ROV Hull Survey of the vessel "Hamilton Banker"
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3.0 FINDINGS

3.1 GENERAL OBSERVATIONS

The following is a summary description of the findings during the underwater ROV survey.

Starboard side

- The Starboard side was inspected and found to have significant damage observed to the hull vertical sides.
- The bilge keel was inspected and found to be bent up due to the vessels position at rest.
- The under side of the hull could not be inspected due to the vessels position.

Port side

- The port side was inspected and found to have significant damage observed near the aft location. The location was closely inspected and found to be dented with a large open crack in the hull. The bilge keel appeared to be missing and there was significant damage observed in this area. The remaining areas of the vertical sides were in good condition.

Bow

- The bow was inspected and found to have no damage observed.

Stern

- The stern area was inspected and found to have significant damage to the propeller; the rudder was dislodged and laying on the seabed approximately 3 meters aft of the vessel. There was no damage observed to the rudder stock on the upper end of the stern.
- There was no skag observed at the aft location.



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Forward seabed condition

- The forward area of the vessel was surveyed and found to be shallow with depths at 2 to 3 meters.

Aft seabed condition

- The aft area of the vessel was surveyed and found to have depths of 5 to 6 meters. There were two large boulders observed at this location; as well as, the dislodged rudder.



Figure 2 - Position of vessel during inspection.



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Figure 3 - Stern area showing damaged propeller.

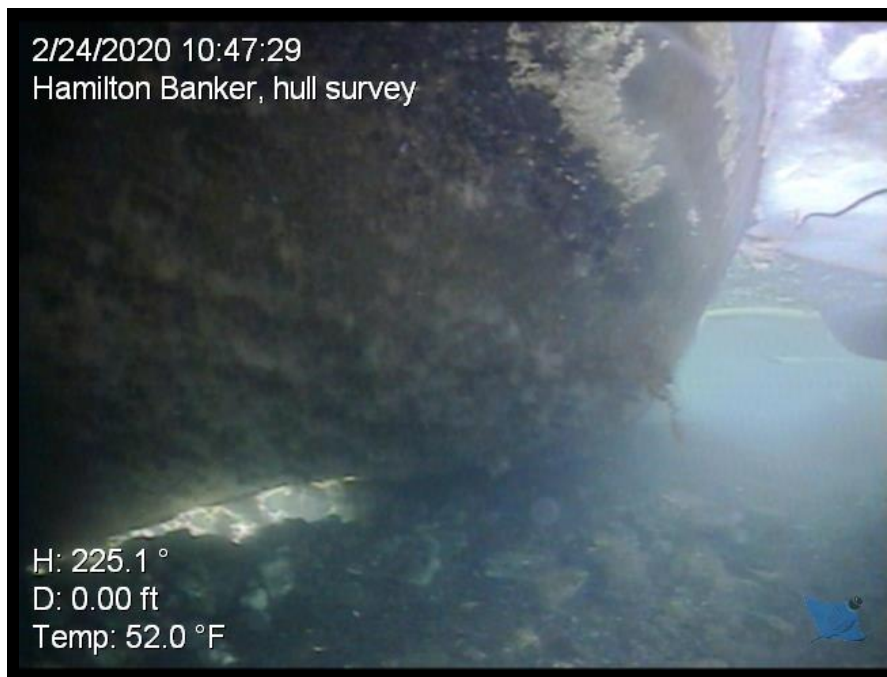


Figure 4 - Starboard side looking forward.



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Figure 5 - Starboard side hull penetration.

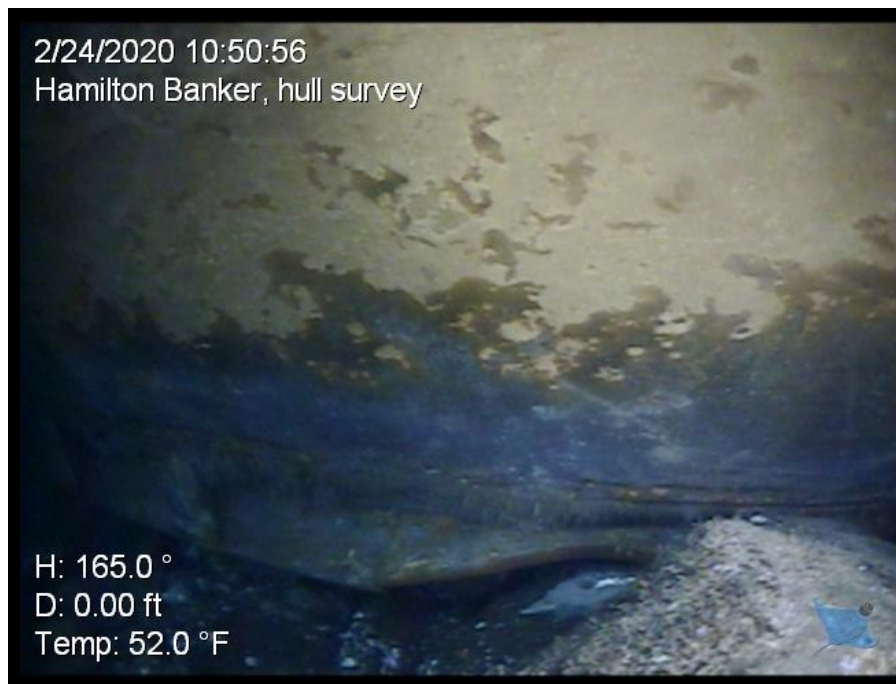


Figure 6 - Starboard side bilge keel.



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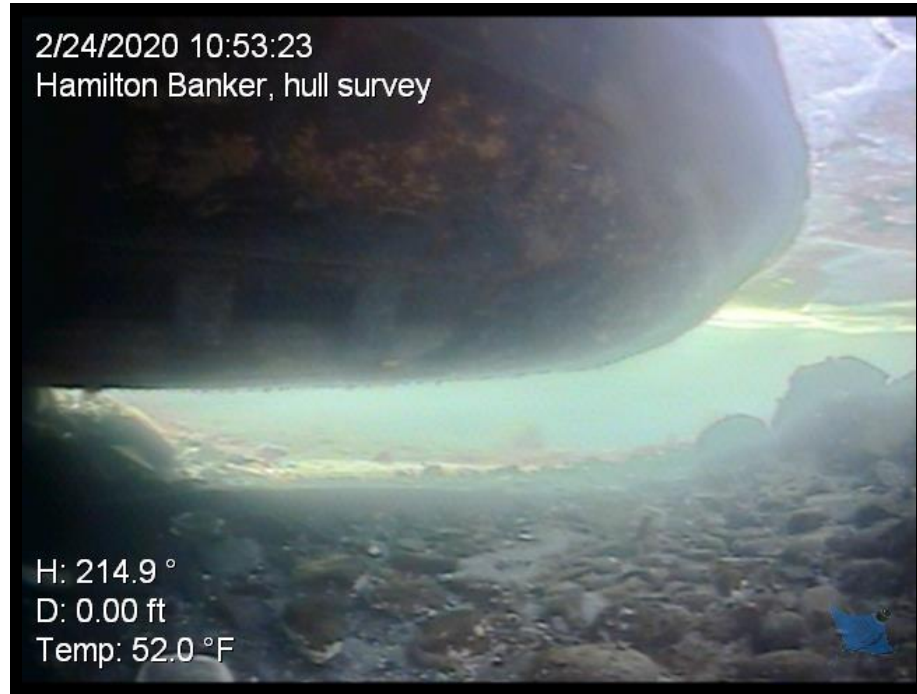


Figure 7 - Starboard side bow location.

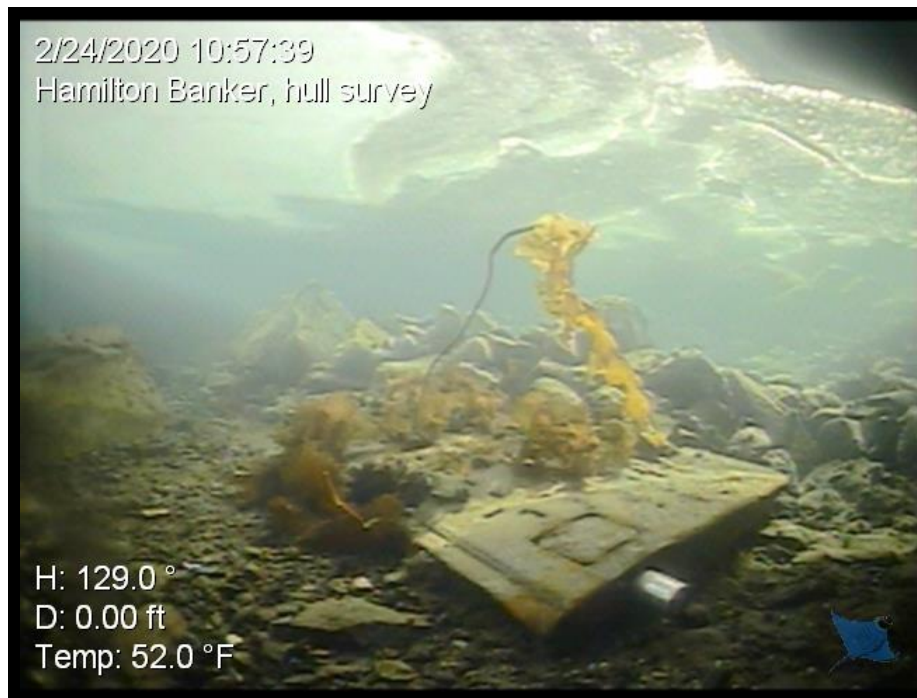


Figure 8 - Dislodged rudder near aft location.



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Figure 9 - Rudder stock connection point.



Figure 10 - Aft location showing damage to keel.



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Figure 11 - Missing bilge keel area on port side.

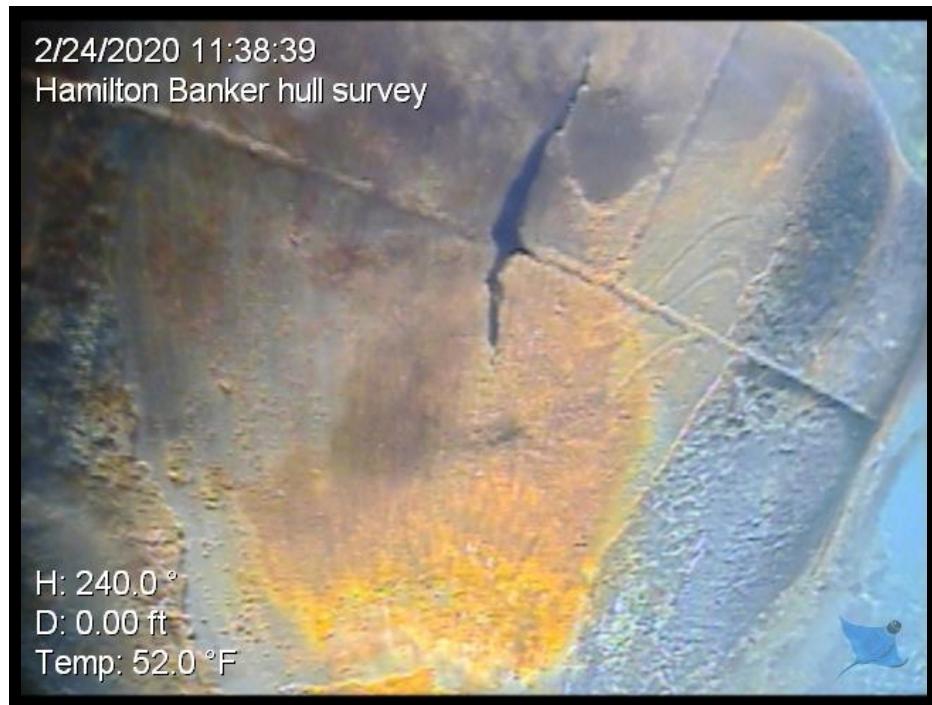


Figure 12 - Damaged area show crack in hull, port side aft.