UNITED STATES COAST GUARD

MISLE INCIDENT INVESTIGATION REPORT FOR INDUSTRIAL VESSEL GENERAL MACARTHUR (O.N. 1301331), LOSS OF LIFE WHILE IN DRY DOCK AT CONRAD SHIPYARD IN AMELIA, LA, ON JUNE 19, 2023, 14:15:00 CDT

MISLE ACTIVITY NUMBER: 7861135

U.S. Department of Homeland Security

United States Coast Guard

Commandant
United States Coast Guard

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16732/IIA # 7861135
22 December 2025

LOSS OF ONE LIFE ABOARD THE INDUSTRIAL VESSEL GENERAL MACARTHUR (O.N. 1301331) WHILE IN DRY DOCK AT CONRAD SHIPYARD IN AMELIA, LOUISIANA ON JUNE 19, 2023

COMMANDANT'S ACTION ON REPORT OF INVESTIGATION

The record and the report of investigation completed for this marine casualty have been reviewed by the Office of Investigations & Casualty Analysis. The record and the report, including the findings of fact, analyses, and conclusions are approved. This marine casualty investigation is closed.

[redacted]

E. B. SAMMS
Captain, U.S. Coast Guard
Chief, Office of Investigations & Casualty Analysis (CG-INV)

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

Commander
Eighth Coast Guard District

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16732
JUN 11 2025

INDUSTRIAL VESSEL GENERAL MACARTHUR (O.N. 1301331), LOSS OF LIFE WHILE IN DRY DOCK AT CONRAD SHIPYARD IN AMELIA, LA ON JUNE 19, 2023

ENDORSEMENT BY THE COMMANDER, EIGHTH 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. It is recommended that this marine casualty investigation be closed.

COMMENTS ON THE REPORT

1. The loss of the industrial worker was a tragic and preventable accident. I offer my sincere condolences to the family and friends of the person who lost their life.

2. The investigation and report contain valuable information which can be used to address the factors that contributed to this marine casualty and prevent similar incidents from occurring in the future.

[redacted]

J. E. FOTHERGILL
Commander, U.S. Coast Guard
Chief of Prevention
Eighth Coast Guard District
By Direction

U.S. Department of Homeland Security

United States Coast Guard

Commanding Officer
United States Coast Guard
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13732
C-25046
June 5, 2025

INDUSTRIAL VESSEL GENERAL MACARTHUR (O.N. 1301331), LOSS OF LIFE WHILE IN DRY DOCK AT CONRAD SHIPYARD IN AMELIA, LA ON JUNE 19, 2023

ENDORSEMENT BY THE OFFICER IN CHARGE, MARINE INSPECTIONS

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

ENDORSEMENT ON RECOMMENDATION

Administrative Recommendation 1: It is recommended this investigation be closed.

[redacted]

Mary A. Gilday
Commander, U.S. Coast Guard
Officer in Charge, Marine Inspection

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

Commander
United States Coast Guard
Marine Safety Unit Morgan City

7327 Highway 182
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16732
August 27, 2024

INDUSTRIAL VESSEL GENERAL MACARTHUR (O.N. 1301331), LOSS OF LIFE WHILE IN DRY DOCK AT CONRAD SHIPYARD IN AMELIA, LA, ON JUNE 19, 2023

EXECUTIVE SUMMARY

On June 19, 2023, at about 1415 CST, a newly hired worker (Worker 1) assigned to the dry-docked Industrial Vessel GENERAL MACARTHUR, drowned in a large pump impeller. The vessel was in drydock at Conrad Deepwater South in Amelia, Louisiana. While in drydock, workers assigned to the vessel were doing various maintenance jobs. Six were assigned to disassemble the industrial underwater dredge pump. A Job Safety Analysis (JSA) form for "Working on Dredge Pump Impeller, Liner, Pump Shell & Back Liner" was completed and signed by all six personnel prior to beginning the task. The person that signed the JSA form as the job's supervisor was different from the person that claimed to be the job supervisor during interviews. Thus, for this report, the job supervisor will be the person that claimed to be the supervisor during interviews.

While removing the front of the pump, the job supervisor was working above on top of the pump's shell with a hammer. Then, the job supervisor placed the hammer on the edge of the pump's outlet/discharge opening. Then, the hammer's weight caused it to fall into the opening and slide under the pump's impeller. Worker 1 was down below in front of the pump's impeller opening watching his supervisor work. The other four personnel assigned to the job were gone. Three were at lunch, and the other was beginning to leave the area for a hydration break. So, at that moment when the hammer fell, no one had direct observation of Worker 1.

Worker 1 then asked his supervisor if he could help by retrieving the dropped tool. The supervisor replied something like, "only if you can." With no one watching and his supervisor overhead with a limited view, Worker 1 reached into the pump impeller opening that was filled with about three feet of water. As Worker 1 reached deeper for the submerged hammer, he fell into the pump impeller opening face first and became stuck in the impeller vane opening.

Worker 1 yelled for help and his supervisor working overhead heard the call for help. The supervisor jumped down from above and saw Worker 1, with his legs sticking out from the pump impeller opening, flailing. Another co-worker nearby who had just begun to leave the area for a break, heard the cry for help and returned. After seeing Worker 1 trapped in the pump impeller, he ran to the vessel's galley seeking help from anyone aboard.

The supervisor frantically tried to free Worker 1 from the waterfilled pump impeller. He pulled and tugged for a few moments, then the worker's legs stopped kicking. After a few others arrived to help, Worker 1 was eventually freed from the pump impeller opening, but he was unresponsive. Emergency medical personnel were called and arrived in about 30 minutes. CPR was conducted, but Worker 1 remained unresponsive. Worker 1 was rushed to a local hospital where he was pronounced deceased the following morning.

Through its investigation, the Coast Guard determined the initiating event was when Worker 1 reached into the waterfilled pump impeller opening to find the dropped hammer. Then, when he reached deeper into the opening, his body fell in face first and he became stuck. With his face submerged in the waterfilled pump impeller and his body stuck in the impeller vane opening, Worker 1 eventually drowned.

The causal factors that contributed to this casualty include: (1) Failure of the company to identify and label confined spaces, (2) Inadequate company JSA for safety observations and responses, (3) Lack of company policy to drain or dewater all pump impeller casings, (4) Inadequate company JSA for tool handling, (5) Worker 1's lack of experience to recognize and avoid hazards.

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

Commander
United States Coast Guard
Marine Safety Unit Morgan City

7327 Highway 182
Morgan City, LA 70380
(Investigations Division)
Phone: (985) 380-5342

16732
August 27, 2024

INDUSTRIAL VESSEL GENERAL MACARTHUR (O.N. 1301331), LOSS OF LIFE WHILE IN DRY DOCK AT CONRAD SHIPYARD IN AMELIA, LA, ON JUNE 19, 2023

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 as a party-in-interest in accordance with 46 CFR Subsection 4.03-10.

1.3. On June 20, 2023, representatives from Occupational Safety and Health Administration (OSHA) Baton Rouge and U.S. Coast Guard (USCG) Marine Safety Unit (MSU) Morgan City met at Conrad Shipyard located in Amelia, Louisiana to discuss the case's jurisdiction.

1.3.1. When the incident occurred, the vessel was: (1) in dry-dock, (2) not drawing draft, (3) not in navigation, and (4) not upon a navigable waterway. Thus, OSHA determined it to be in their jurisdiction.

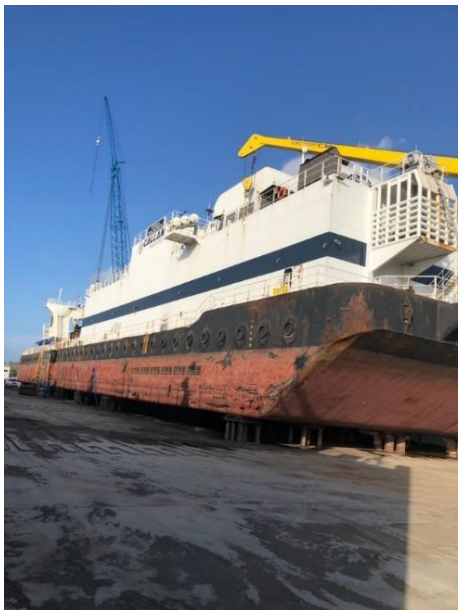


Figure 1: Coast Guard Photo of the Industrial Vessel GENERAL MACARTHUR in dry dock at Conrad Shipyard in Amelia, LA taken June 19, 2023.

1.3.2 Then, on December 18, 2023, the USCG MSU Morgan City marine casualty investigator received a phone call from the assigned OSHA investigator stating that after months of investigating, OSHA's jurisdiction was deemed improper pursuant to Chao v. Transocean Offshore, Inc. 276 F.3d 725(5th Dir. 2002). Since that call from OSHA, the Coast Guard began to investigate, gather evidence, and conduct interviews.

1.4. All times listed in this report are in Central Standard Time using a 24-hour format and are approximate.

2. The vessel:

Official Name:	GENERAL MACARTHUR
Identification Number:	Official Number - 1301331
Flag:	United States
Vessel Class/Type/Sub-Type	Industrial Vessel
Build Year:	2019
Gross Tonnage:	3563 GT
Length:	278.3 feet
Beam/Width:	72 feet
Draft/Depth:	16 feet
Main/Primary Propulsion: (Configuration/System Type, Ahead Horsepower)	None
Owner/Operator:	Callan Marine Ltd. Galveston, Texas USA

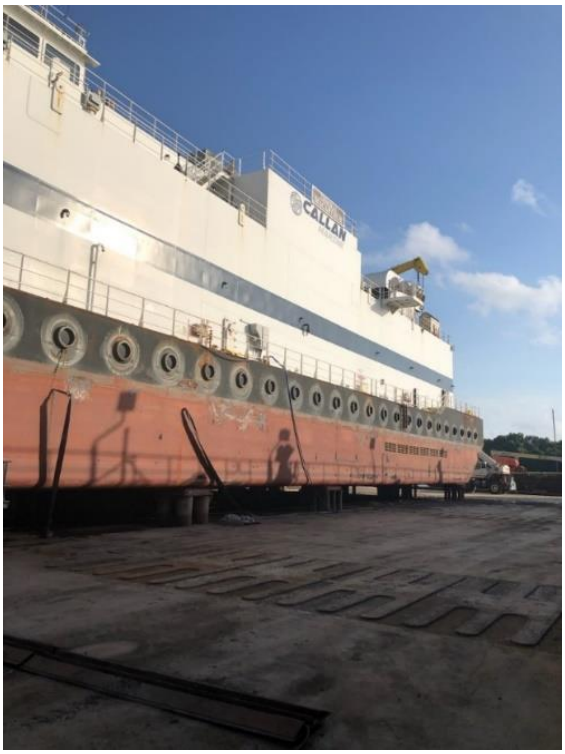


Figure 2: Coast Guard Photograph of the GENERAL MACARTHUR in dry-dock at Conrad Shipyard in Amelia, LA taken June 19, 2023.

3. Deceased, Missing, and/or Injured Persons

Relationship to Vessel	Sex	Age	Status
Worker 1 – *A newly hired Industrial Worker assigned to the vessel.*	Male	29	Deceased

4. Findings of Fact:

4.1. The Incident:

4.1.1. On June 19, 2023, with the Industrial Vessel, GENERAL MACARTHUR dry-docked in Amelia, Louisiana at Conrad Deepwater Shipyard, one of the tasks of that day was to remove the "front door" to the dredge's underwater pump impeller for maintenance. Which was filled with approximately three feet of water.

4.1.2. Part of Worker 1's training consisted of "On the Job Training (OJT)" where he would observe seasoned, experienced workers perform tasks. Then, once he learned the task, he'd be allowed to perform the task under supervision.

4.1.3. Six industrial personnel were assigned to the job including the newly hired Worker 1, who would observe and learn the process.

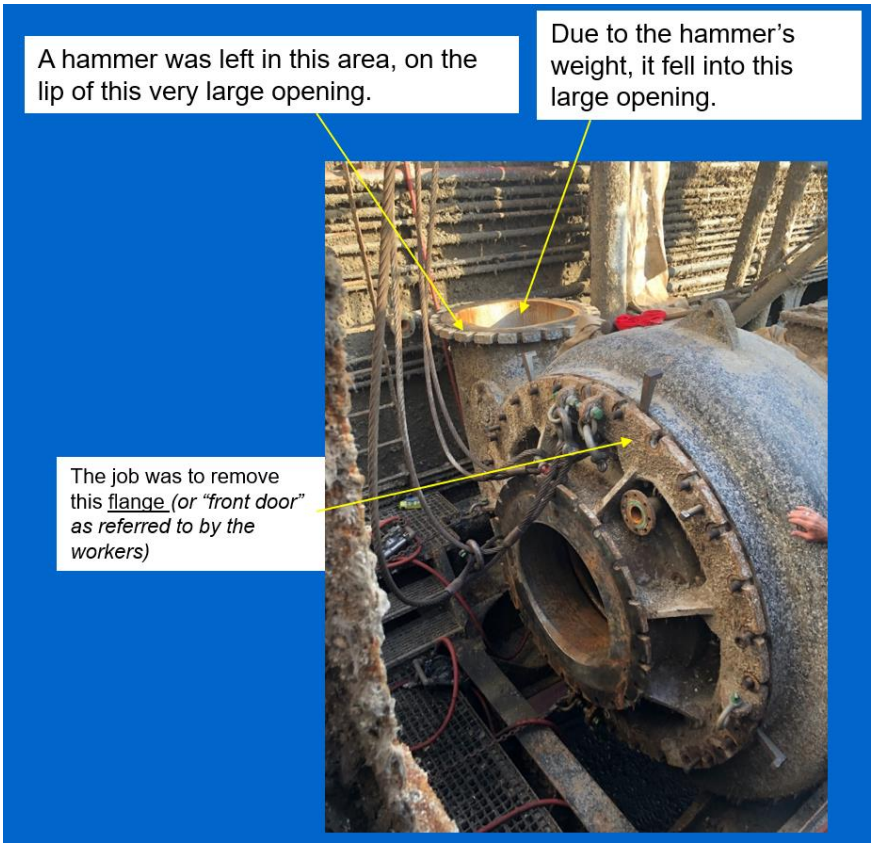


Figure 3: Coast Guard Photo of the Industrial Vessel GENERAL MACARTHUR's pump impeller area, taken on June 19th, 2023.

4.1.4. To remove the pump's impeller front, "the front door", steel wedges were placed around the perimeter.

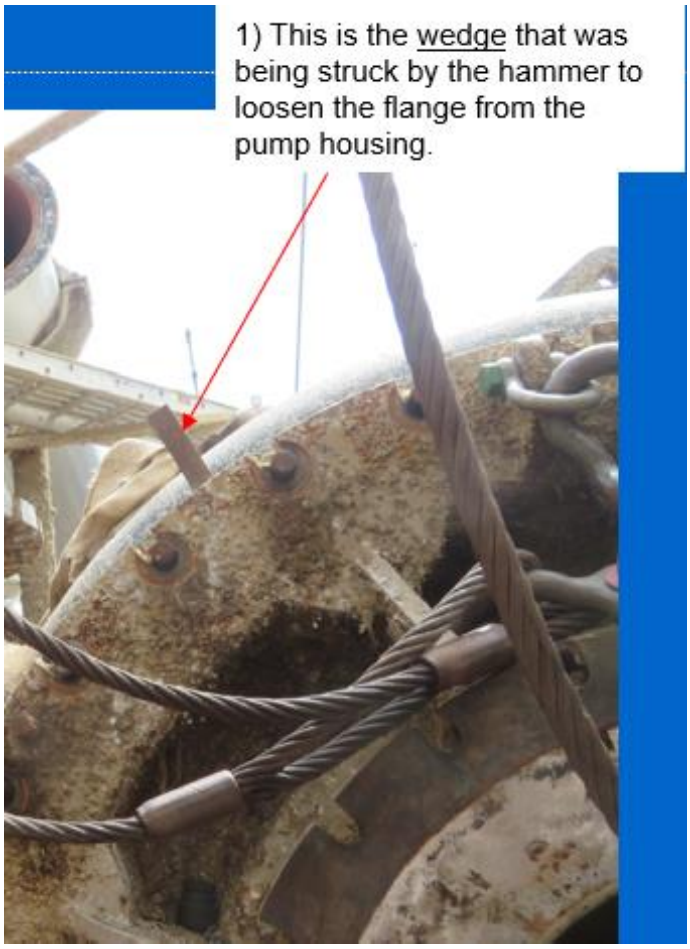


Figure 4: Coast Guard Photo of the Industrial Vessel GENERAL MACARTHUR's pump impeller area, taken on June 19th, 2023.

4.1.5. Then, the wedges were hammered in to loosen the flange seal, "front door" seal, between the flange and the pump's housing. One of the men, the job supervisor, got on top of the pump's housing. He used a hammer to beat a steel wedge between the flange "front door" and the pump's housing.

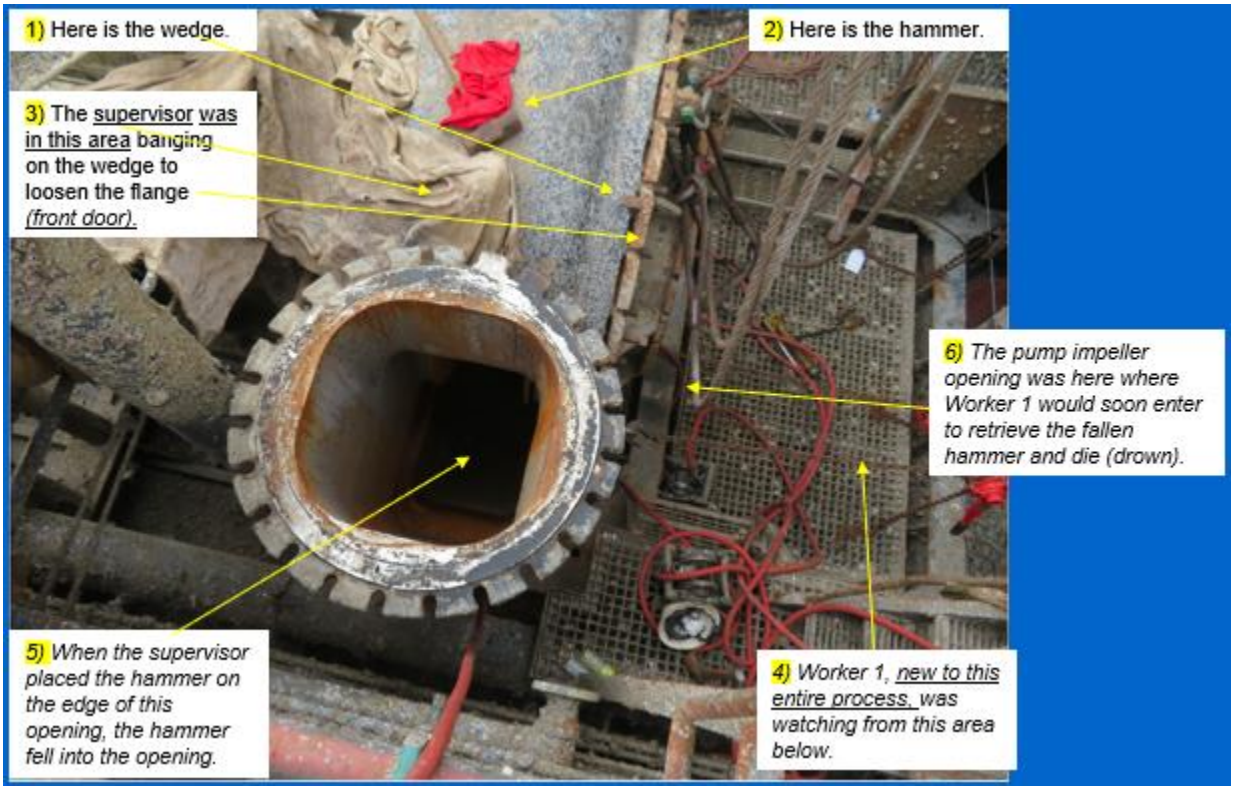


Figure 5: Coast Guard Photo of the Industrial Vessel GENERAL MACARTHUR's dredge pump impeller area overhead view, taken on June 19th, 2023.

4.1.6 At approximately 1330, three of Worker 1's co-workers left the area for a lunch break. Then, about 1415, another co-worker began to leave the area for a Gatorade break. That left just Worker 1, new to the job, observing his supervisor working above with no one watching or observing Worker 1's actions.

4.1.7 Then, the supervisor placed the hammer he was using on the lip of the pump housing opening atop. The weight of the hammer made it fall into the pump housing outlet opening. Then it slid under the pump impeller that was filled with water.

Figure 6: Coast Guard Photo of the pump impeller opening, taken on June 19, 2023.

4.1.8 Then, Worker 1 asked his supervisor working above if he could help by retrieving the dropped hammer. The supervisor replied something like, "only if you can." At that moment, with no one watching to stop him, Worker 1 put his body into the waterfilled pump impeller opening to retrieve the submerged hammer.

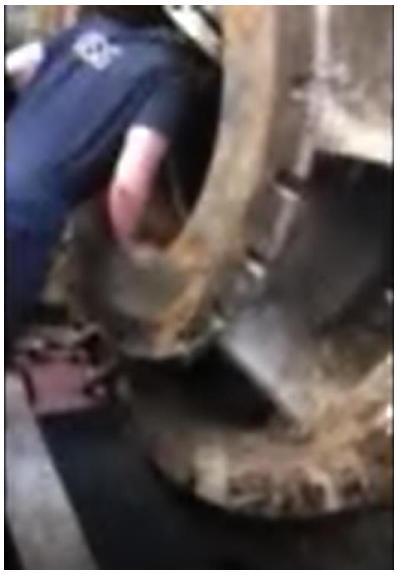


Figure 7: Coast Guard Photo reenactment of someone putting their body into the pump impeller opening, taken on June 19, 2023.

4.1.9 While reaching for the hammer, Worker 1's weight shifted, and he fell into the waterfilled pump impeller opening face first. Then Worker 1's upper body became lodged between the pump impeller vanes with his head submerged in approximately three feet of water.

Figure 8: Coast Guard Photo reenactment of someone reaching into the water filled impeller opening to retrieve a submerged hammer, taken June 19, 2023.

Figure 9: OSHA Photo of the pump impeller opening, taken on June 20, 2023.

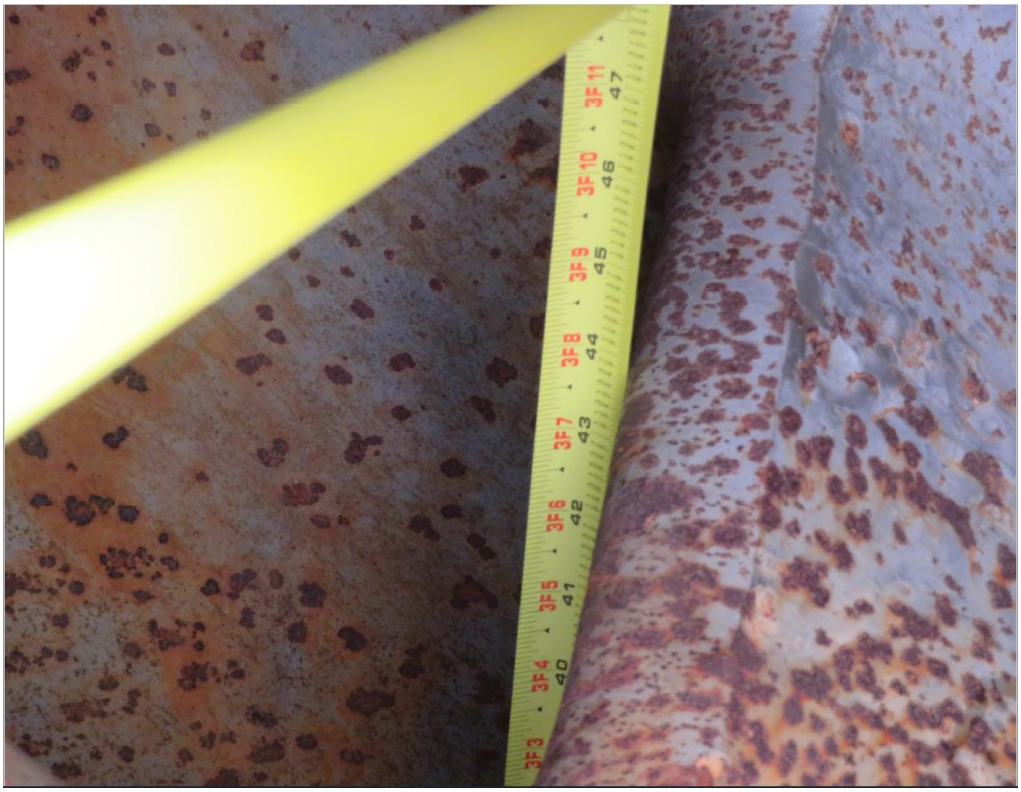


Figure 10: OSHA Photo, close in photo of the ruler reading showing the approximate water depth inside the pump impeller, taken on June 20, 2023. The water depth was about three feet deep.

4.1.10 Worker 1 yelled for help and his supervisor immediately reacted, jumped down from above and began trying to pull Worker 1 out of the impeller. The other co-worker still nearby but who had begun to leave the area, heard the yelling, quickly returned, and saw Worker 1's legs kicking, sticking out of the pump impeller opening. That co-worker then ran about the vessel seeking help.

4.1.11. Worker 1's upper body was stuck between the pump impeller vanes, with his head submerged in the pump impeller opening for several minutes until others arrived and eventually freed Worker 1 from the impeller opening.

Figure 11: Coast Guard Photo of the pump impeller opening, taken on June 19, 2023. Safety glasses of the Deceased noted by the yellow arrow.

4.1.12. Emergency medical personnel were called and arrived in about 30 minutes. CPR was conducted but Worker 1 was unresponsive. He was rushed to a local hospital where he was pronounced deceased the next morning.

4.1.13. At about 1800, drug and alcohol testing were conducted on those individuals deemed directly involved in this serious marine incident. All test results were negative.

4.1.14. Autopsy report revealed cause of death was asphyxia due to drowning.

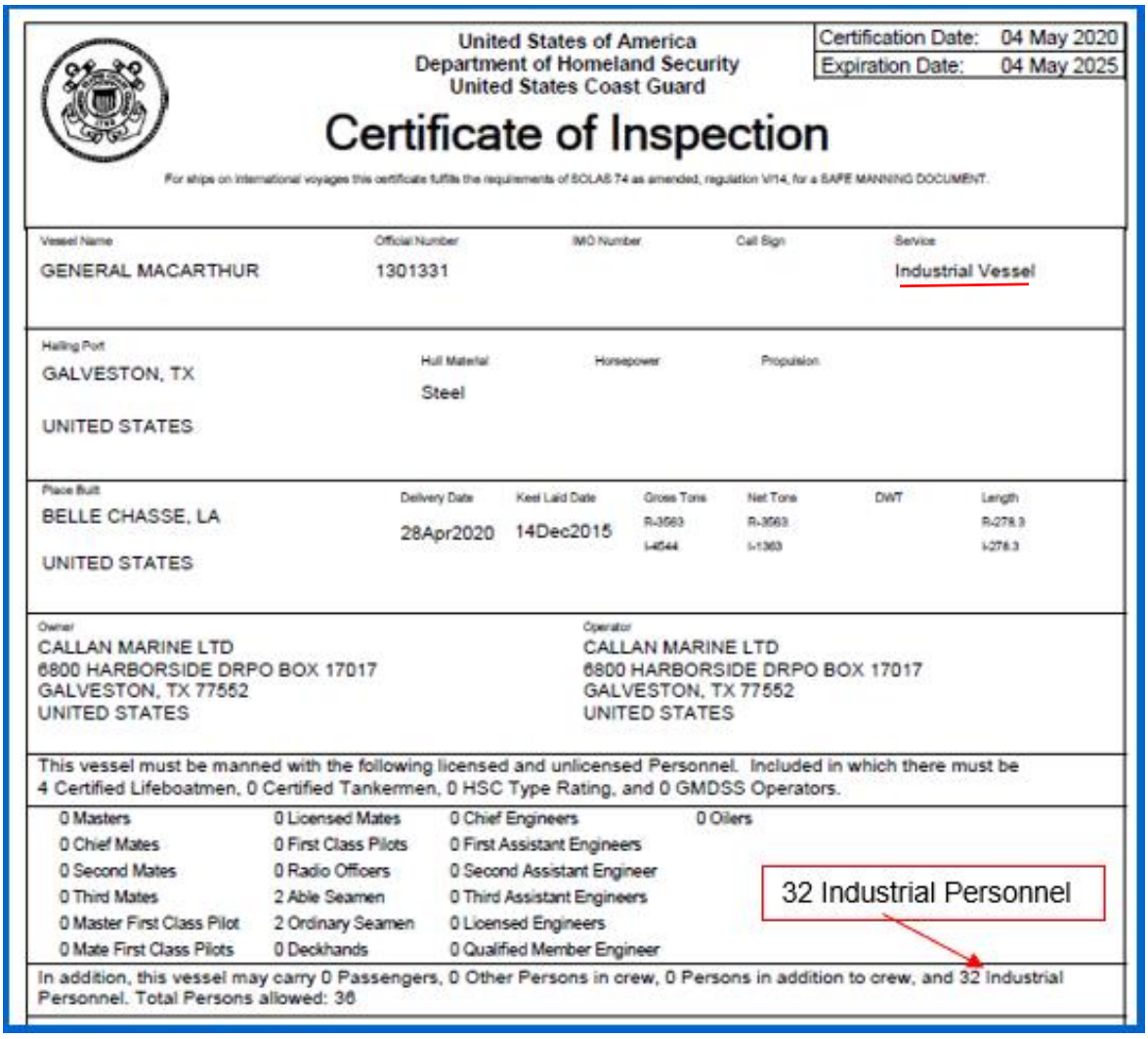
4.2 Additional/Supporting Information:

4.2.1. On May 23, 2023, Worker 1, was hired by Callan Marine Ltd. By Worker 1's resume, this was his first experience working in the industrial dredge industry. From January 1, 2012, to April 18, 2023, he worked as a landscape professional.

4.2.2. To help prepare Worker 1 for his new occupation in the industrial dredge industry, Worker 1 completed twenty-five OSHA safety training courses, one of which was Confined Space Entrant/Attendant. Worker 1 also completed "New Hire Orientation" & "Safety Quizzes."

4.2.3. Then, on June 12, 2023, Worker 1 was assigned to the Industrial Vessel GENERAL MACARTHUR, which was a dredge barge on a floating drydock at Conrad Shipyard in Amelia, Louisiana undergoing routine maintenance.

4.2.4. The GENERAL MACARTHUR was inspected under 46 CFR Subchapter I-Cargo and Miscellaneous Vessels. According to 46 CFR 90.10-15, the term Industrial Personnel "means every person carried onboard an industrial vessel for the sole purpose of carrying out the industrial business or functions of the industrial vessel. Examples of industrial personnel include tradesmen, such as mechanics, plumbers, electricians, and welders; laborers, such as wreckers and construction workers; and other persons, such as supervisors, engineers, technicians, drilling personnel, and divers." By the vessel's Certificate of Inspection (COI), Worker 1 would have been one of the 32 Industrial Personnel assigned to the Industrial Vessel. The GENERAL MACARTHUR was required to have four certified lifeboatmen and two Able Seaman, to which Worker 1 did not fill any other these roles. Additionally, the Lifeboatman and Able Seaman's duties were ceased throughout the vessel's drydock period.



United States of America
Department of Homeland Security
United States Coast Guard

Certification Date: 04 May 2020
Expiration Date: 04 May 2025

Certificate of Inspection

For ships on international voyages this certificate fulfills the requirements of SOLAS 74 as amended, regulation V/14, for a SAFE MANNING DOCUMENT.

Vessel Name	Official Number	IMO Number	Call Sign	Service
GENERAL MACARTHUR	1301331			Industrial Vessel

Hailing Port	Hull Material	Horsepower	Propulsion
GALVESTON, TX UNITED STATES	Steel		

Place Built	Delivery Date	Keel Laid Date	Gross Tons	Net Tons	DWT	Length
BELLE CHASSE, LA UNITED STATES	28Apr2020	14Dec2015	R-3563 I-4544	R-3563 I-1363		R-278.3 I-278.3

Owner
CALLAN MARINE LTD
6800 HARBORSIDE DRPO BOX 17017
GALVESTON, TX 77552
UNITED STATES

Operator
CALLAN MARINE LTD
6800 HARBORSIDE DRPO BOX 17017
GALVESTON, TX 77552
UNITED STATES

This vessel must be manned with the following licensed and unlicensed Personnel. Included in which there must be 4 Certified Lifeboatmen, 0 Certified Tankermen, 0 HSC Type Rating, and 0 GMDSS Operators.

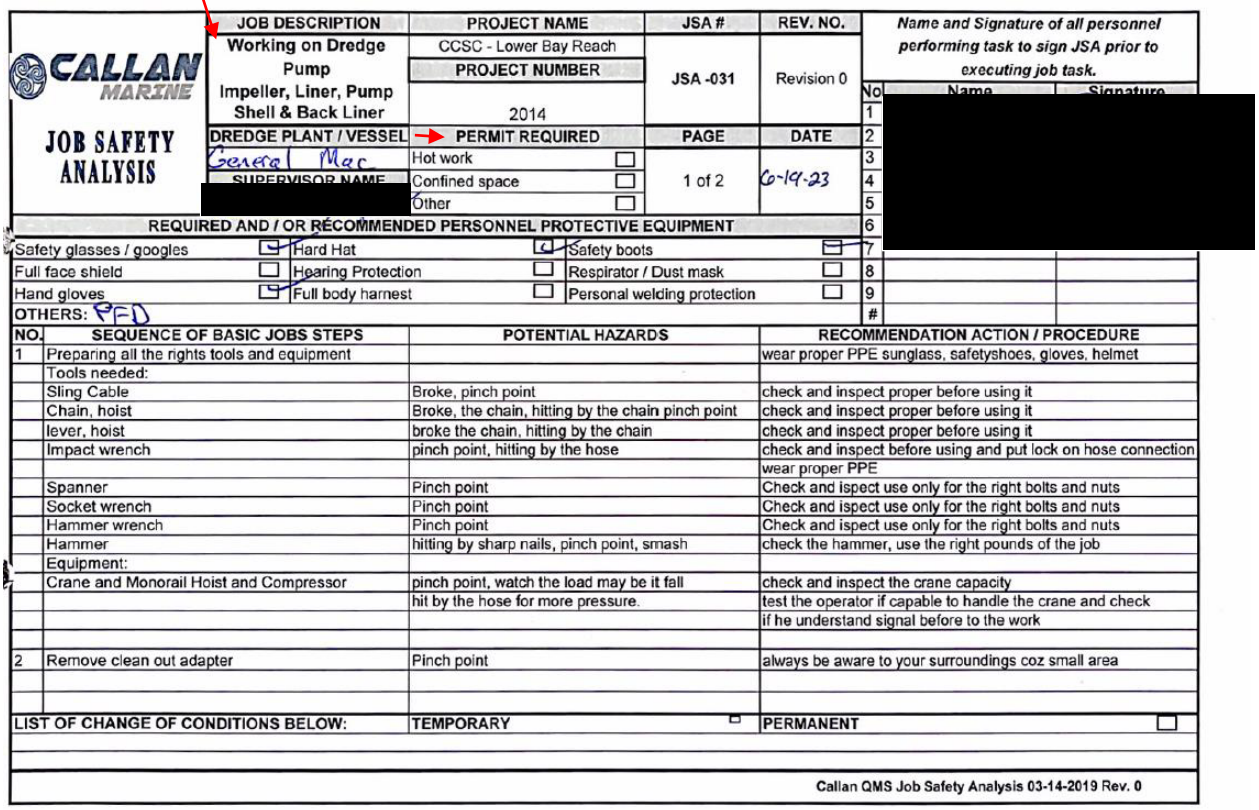
0 Masters	0 Licensed Mates	0 Chief Engineers	0 Oilers
0 Chief Mates	0 First Class Pilots	0 First Assistant Engineers	
0 Second Mates	0 Radio Officers	0 Second Assistant Engineer	
0 Third Mates	2 Able Seamen	0 Third Assistant Engineers	
0 Master First Class Pilot	2 Ordinary Seamen	0 Licensed Engineers	
0 Mate First Class Pilots	0 Deckhands	0 Qualified Member Engineer	

32 Industrial Personnel

In addition, this vessel may carry 0 Passengers, 0 Other Persons in crew, 0 Persons in addition to crew, and 32 Industrial Personnel. Total Persons allowed: 36

Figure 12: Image from the U.S. Coast Guard's Marine Information for Safety and Law Enforcement (MISLE) database system from December 27, 2023.

4.2.5. On June 19, 2023, a Job Safety Analysis (JSA) was completed and signed by the six personnel on the GENERAL MACARTHUR before "Working on Dredge Pump Impeller, Liner, Pump Shell & Back Liner." The person that signed the JSA as a supervisor was different from the person that claimed to be the onsite supervisor in the interviews. Due to the limited amount of crew to conduct the dry dock tasking, the crew essentially split in half and the Supervisor listed on the JSA went on a lunch break while the next most seasoned member stayed to work on the impeller and identified as the onsite supervisor.



CALLAN MARINE

JOB SAFETY ANALYSIS

JOB DESCRIPTION	PROJECT NAME	JSA #	REV. NO.
Working on Dredge Pump Impeller, Liner, Pump Shell & Back Liner	CCSC - Lower Bay Reach PROJECT NUMBER 2014	JSA -031	Revision 0

DREDGE PLANT / VESSEL	PERMIT REQUIRED	PAGE	DATE
General Mac	Hot work ☐ Confined space ☐ Other ☐	1 of 2	6-19-23

Name and Signature of all personnel performing task to sign JSA prior to executing job task.

No	Name	Signature
1	[redacted]	
2		
3		
4		
5		
6		
7		
8		
9		
#		

REQUIRED AND / OR RECOMMENDED PERSONNEL PROTECTIVE EQUIPMENT

Safety glasses / googles ☑	Hard Hat ☑	Safety boots ☑
Full face shield ☐	Hearing Protection ☐	Respirator / Dust mask ☐
Hand gloves ☑	Full body harnest ☐	Personal welding protection ☐
OTHERS: PFD		

NO.	SEQUENCE OF BASIC JOBS STEPS	POTENTIAL HAZARDS	RECOMMENDATION ACTION / PROCEDURE
1	Preparing all the rights tools and equipment		wear proper PPE sunglass, safetyshoes, gloves, helmet
	Tools needed:		
	Sling Cable	Broke, pinch point	check and inspect proper before using it
	Chain, hoist	Broke, the chain, hitting by the chain pinch point	check and inspect proper before using it
	lever, hoist	broke the chain, hitting by the chain	check and inspect proper before using it
	Impact wrench	pinch point, hitting by the hose	check and inspect before using and put lock on hose connection
			wear proper PPE
	Spanner	Pinch point	Check and ispect use only for the right bolts and nuts
	Socket wrench	Pinch point	Check and ispect use only for the right bolts and nuts
	Hammer wrench	Pinch point	Check and ispect use only for the right bolts and nuts
	Hammer	hitting by sharp nails, pinch point, smash	check the hammer, use the right pounds of the job
	Equipment:		
	Crane and Monorail Hoist and Compressor	pinch point, watch the load may be it fall	check and inspect the crane capacity
		hit by the hose for more pressure.	test the operator if capable to handle the crane and check
			if he understand signal before to the work
2	Remove clean out adapter	Pinch point	always be aware to your surroundings coz small area

LIST OF CHANGE OF CONDITIONS BELOW: TEMPORARY ☐ PERMANENT ☐

Callan QMS Job Safety Analysis 03-14-2019 Rev. 0

Figure 13: Image from Callan Marine Ltd. provided to the U.S. Coast Guard on February 28, 2024.

4.2.6. On the JSA worksheet, see Figure 13 above, under the "Permit Required" section, none of the six workers that signed the JSA before work began identified the pump impeller opening as a confined space. No confined space warning signs, markers or tape were placed on the pump impeller opening to warn workers of the hazard.

4.2.6 The company's JSA worksheet did not address tool handling.

4.2.7 The pump impeller being worked on was the main underwater centrifugal dredge pump. It pulls water, mud, and debris from the sea floor and disperses it to another location. The impeller pump is the main artery for all moved water and once placed above water, the pump impeller casing always contains a residual amount of water.

4.2.8. The company had no policy or procedure to drain or dewater the pump impeller prior to beginning maintenance work, which could have eliminated the risk of drowning.

Figure 14: Coast Guard Photo of the pump impeller opening, taken on June 19, 2023. Safety glasses of the Deceased noted by the yellow arrow.

5. Analysis

5.1 Failure of the company to identify and label confined spaces. Confined spaces are typically marked as a confined space and have hazard entry signs to prevent employees from inadvertently entering the space. During the investigation, no confined space signs or markers were placed on the impeller pump, nor were there company polices to have them in place. If the company had a procedure to mark the large industrial pump impeller opening as a confined space and implemented it, it could have prevented Worker 1 from entering the impeller pump, which could have prevented his death.

5.2. Inadequate company JSA that allowed gaps in safety observations and responses. At the time of the casualty, none of the five co-workers were observing Worker 1. Three were away at lunch, and another was leaving the work area for a break, and the supervisor was atop the pump impeller with a limited view of Worker 1. The company's JSA worksheet did not have an "All Stop" for lunch and water breaks to prevent gaps in safety observations and safety responses. Had the Company implemented an "All Stop" policy for breaks, then all work would have ceased and when resumed, all five of the co-workers would have had the opportunity to observe Worker 1 and could have prevented him from reaching into the impeller and could have prevented his death.

5.3. Lack of company policy to drain or dewater all pump impeller casings. The company had no policy or procedure to drain or dewater the pump impeller casings prior to beginning any maintenance work. At the time of the casualty the pump impeller casing was filled with about three feet of water. Had the pump impeller been drained or dewatered beforehand, it could have prevented Worker 1 from drowning after he became stuck inside the pump impeller opening.

5.4. Inadequate company JSA for tool handling. The company failed to address tool handling that could have prevented the hammer from falling into the large, waterfilled pump impeller opening in the first place. Ergonomically designed tool belts, coveralls or carpenter's pants with hammer loops could have been used to holster and secure the hammer between usage. Instead, the hammer was laid to rest on the ledge of the large, overhead pump impeller opening. Then the hammer's imbalanced weight caused it to fall into the pump's large discharge tube opening and settle under the waterfilled pump impeller. Had an ergonomically designed tool holder been used, the hammer likely would have not fallen in the first place. Which could have prevented the incident from occurring.

5.5. Worker 1's lack of experience to recognize and avoid hazards. With Worker 1 new to the job, he likely had no experience to recognize the job's latent hazards. He likely did not know that putting his body into the waterfilled industrial pump impeller opening could result in injury or death. For example, the U.S. Coast Guard required General Mandated Training on Confined Space Awareness, "all confined spaces, no matter where they are located, have common characteristics. A confined space has limited opening for entry or exit, is large enough for a person to enter (fully or partially), is poorly ventilated, possibly contains dangerous contaminants (vapors, chemicals), and is not designed for continuous human occupancy." Consider, the company's JSA worksheet that Worker 1 signed along with the other five co-workers before the job began did not identify the pump impeller opening as a confined space. Also, the pump impeller opening was not labeled beforehand as a confined space. When Worker 1 fell face first into the waterfilled pump impeller opening, his face became submerged under the water. Then, when his body became stuck in one of the impeller veins, Worker 1 drowned. Despite receiving OSHA Certified Confined Space Entry Training, it is likely that Worker 1 did not recognize the pump impeller opening as a confined space. Additionally, this was the first time Worker 1 had ever seen the procedure of "removing the front door" to the pump impeller. If Worker 1 was experienced with confined spaces, he could have identified the impeller as a confined space and may not have entered it to retrieve the hammer, which could have prevented his death.

6. Conclusions

6.1. Determination of Cause:

6.1.1. The initiating event for this casualty occurred when the Deceased (Worker 1) broke the plane of a confined space and put his body into the pump impeller opening. The causal factors leading up to this event were:

6.1.1.1. Failure of the company to identify and label confined spaces

6.1.1.2. Inadequate company JSA that allowed gaps in safety observation and responses.

6.1.1.3. Lack of company policy to drain or dewater all pump impellers.

6.1.1.4. Inadequate company JSA for tool handling.

6.1.1.5. Worker 1's lack of experience to recognize and avoid hazards.

6.1.2. The first subsequent event occurred when Worker 1 fell into the confined space while reaching for the submerged hammer. Worker 1 fell face first into the confined space, the pump impeller vane, and became stuck with his head submerged in about three feet of water.

6.1.3. The second subsequent event occurred when Worker 1 drowned inside the confined space.

6.2. Evidence of Acts or Violations of Law by Any Coast Guard Credentialed Mariner Subject to Action Under 46 USC Chapter 77: There were no potential acts of misconduct, incompetence, negligence, unskillfulness, or violations of law by a credentialed mariner identified as part of this investigation.

6.3. Evidence of Acts or Violations of Law by Any Coast Guard Personnel, or Any Other Person: There were no potential acts of misconduct, incompetence, negligence, unskillfulness, or violations of law by Coast Guard employees that contributed to this casualty.

6.4. Evidence of Acts Subject to Civil Penalty: This investigation did not identify any potential violations of U. S. law warranting Coast Guard civil penalty actions.

6.5. Evidence of Criminal Acts: This investigation did not identify potential violations of criminal law.

6.6. Need for New or Amended U.S. Laws or Regulations: This investigation identified no matters needing new or amended U.S. laws or regulations.

6.7. Unsafe Actions or Conditions That Were Not Causal Factors: None noted.

7. Actions Taken Since the Incident

7.1. The U.S. Coast Guard has taken no actions since the incident other than investigating it as thoroughly as possible.

8. Recommendations

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

8.2. Administrative Recommendations:

8.2.1. Recommend this investigation be closed.

[redacted]
Chief Warrant Officer 4, U.S. Coast Guard
Investigating Officer