GD-904

Barge Recovery

Method Statement

Prepared For:

H & H CLAIMS CONSULTANTS

40 Cypress Creek Parkway - #435

Houston – Texas

Job: 23WN01			Revision: 00		Date: 2/3/2023
REVISION LIST					
Rev.	Revised Section(s)	Revision Promoter	Approved By	Revision Reason	Revision Date
00	Initial issue	CGS	TJS	-	02/03/2023

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Contents

1 CORPORATE PROFILE

Resolve Marine, headquartered in Fort Lauderdale, FL, USA, has been actively offering Salvage and Wreck Removal services to the maritime community for over thirty years. The organization was first registered as Resolve Towing & Salvage, Inc., a Florida Corporation, in 1984. Resolve experienced steady growth and progressively expanded their operations into various marine related businesses while maintaining Marine Salvage, Wreck Removal and Emergency Response as the core business specialty. Resolve Marine Group, Inc. was incorporated in 1996 as the holding company for the various business units.

Resolve has grown significantly over the past 15 years. During this period, the group expanded operations in North America, Central America, and the Caribbean to marine operations across the globe. To date, Resolve has undertaken projects in Europe, Africa, Southeast Asia, Far East, Middle East, the Oceania and the Americas. These global projects eventually led to ownership of full-service facilities in South Africa, United Kingdom, The Netherlands, Gibraltar, Spain, Singapore, and India. These stocked and manned facilities plus those in the US, including Mobile, Alabama; New Orleans, Louisiana; Fort Lauderdale, Florida; and Dutch Harbor, Alaska enable significant job support and low project costs. Additionally, Resolve offers complete OSRO services in China with their Shanghai-based spill response joint-venture covering 102 ports.

With its steady and consistent growth, Resolve continues to add experienced and knowledgeable personnel to our in-house workforce. On-staff personnel include a complement of Salvage Masters, Naval Architects, Salvage Engineers, Salvage Divers / Technicians, Fire Fighters, Tanker Men, Equipment Operators, and Environmental experts. These professionals deal with all aspects of project planning, management, and execution. We take pride in carrying out professional and efficient operations.

Resolve's operational experience encompasses all sizes and types of vessels. The group's unique partnerships with key support sub-contractors enables the organization to truly serve their clients. Resolve is committed to seeing projects through and understands the liabilities that the clients face.

Resolve is a founding member of the American Salvage Association, as well as a member of the International Salvage Union, the National Fire Protection Association, Association of Average Adjusters, Maritime London, and the Singapore Shipping Association. **Resolve Marine is an ISO 9001:2015 Company.**

2 EXECUTIVE SUMMARY

RESOLVE Marine is pleased to offer our services to H&H Claims and all concerned parties regarding the recovery operation of the GD-904. Our equipment and personnel are available for immediate mobilization to begin operations and complete the project by March 1.

To summarize the technical plan, the proposed methodology is to dismantle the barge on the nearby beach. The vessel would be pulled ashore utilizing RESOLVE's 300mt chain puller. To reduce the required pull force, pressurized air will be introduced into the barge tanks to reduce ground reaction and to assist the stern in sliding off the rock pinnacle currently pinning it. The main operational steps of the Primary Salvage Plan are listed below:

1. Mobilization: RESOLVE will mobilize specialist salvage personnel to site. Concurrently, chain pullers and rigging will be mobilized from RESOLVE equipment depots.
2. Pull Preparation: The salvage team will weld strong points onto the hull to connect pull rigging. The dive team will remove sand build up inside the hull as far as practicable and install salvage patches into select tanks for pressurized air dewatering.
3. Installation of Pull Rigging: Once required pull rigging consisting of 3" chain and 3.5" wire arrives onsite, the team will lay the chain from the beach to the casualty and connect the wire pulling bridle from the barge to the chain. Excavators onshore will install hold back anchors into the beach. The shore team will assemble the chain puller system.
4. Dewatering of Casualty: Using air compressors, select tanks will be partially dewatered with pressurized air. This will reduce the initial ground reaction, reduce plowing of the bow, and reduce rock embedment into the bottom plating.
5. Beaching: The casualty will be slowly pulled ashore by the chain puller. Anticipated nominal required pull force is 165LT.
6. Dismantling: Once beached, RESOLVE's team of scrappers will begin dismantling the barge into approximately 5t sections. The sections will be loaded onto trucks and transported to a nearby scrap processing facility.

<u>Contingency Plans</u>

In the event the condition of the casualty prevents the beaching of the vessel as described above. RESOLVE will maintain on standby the following additional equipment to be mobilized if required.

1. 9mx1.5m roller bags. In the event the casualty is either heavier than expected or the authorities require the barge to be shifted to a specific location on the beach. RESOLVE will utilize roller bags to assist in reducing required pull force and/or facilitate precise positioning of the casualty on the beach.
2. Additional chain puller. In the event the required pull force is higher than expected and the condition of the casualty precludes the use of roller bags, an additional chain puller, hold back, and pull rigging will be mobilized to site. This will give RESOLVE up to 600mt of pull capacity, far in excess of the estimated required capacity.

RESOLVE's proposed methodology provides a comprehensive approach to a dynamic situation. RESOLVE's contingency methods will allow for a rapid and low risk wreck removal solution, that is flexible in execution to accommodate deterioration in the vessel's condition in the near future.

Expertise and Planning

RESOLVE has extensive experience on salvage cases throughout the world, including with the similar cases and methodology / approach as is below outlined in the technical proposal. The Salvage Master and Naval Architect will be highly accomplished professionals with competencies that include safe execution of cutting, chain puller, and refloat jobs. Communication with the Client and stakeholders shall be conducted on a daily basis to ensure clarity regarding the ongoing and intended operations. Further planning documents, such as the Work Plan, Safety Plan, Diving Plan, etc. shall be distributed to the Client in advance of the recovery operations – for transparency of the engineering, safety, and salvage components of the operation.

3 INTRODUCTION

The GD-904 is a deck barge that is grounded on the South Packery Channel Jetty in Corpus Christi, Texas. The Principal Characteristics of the GD-904 are as follows:

LOA	195ft	Breadth	35ft
Depth	10.5ft	Draft	2ft
		Lightship (reported)	445.3LT

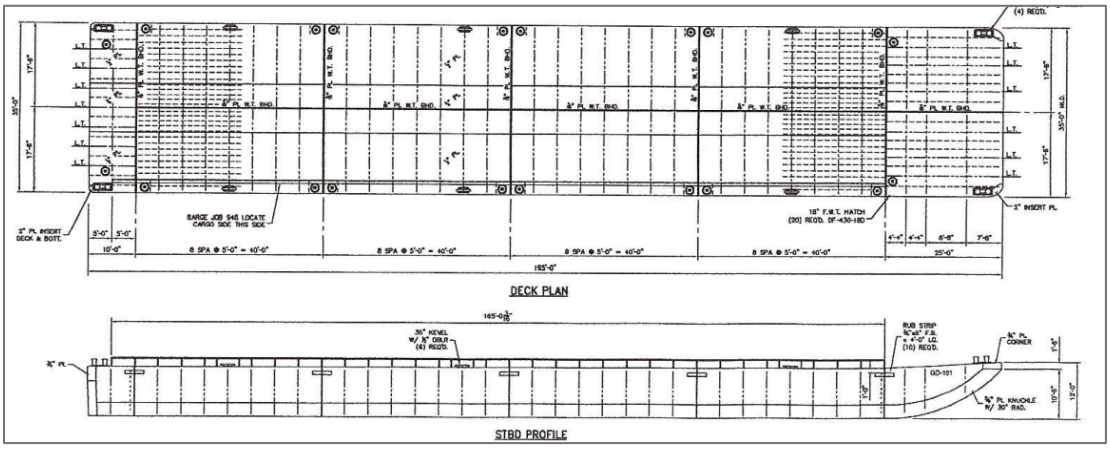


Figure 1 Vessel GA

3.1 CURRENT CONDITION

The casualty is grounded on the South Packery Channel Jetty approximately 700' off the beach. It is understood that the stern compartment and several starboard compartments are damaged and flooded. Approximately 300tons of rock was onboard the casualty during sinking and has since washed off the starboard side. Upon initial grounding, the vessel was seen to list to starboard, with the port side appearing to remain afloat. After several weeks in this orientation, the barge was seen to settle to the seafloor with a bow trim, and port list.

Following the incident, a dive survey was completed on the starboard side of the vessel to identify the location and extent of any damage. The survey revealed that the stern compartment as well as the starboard ballast tanks have significant damage in the side shell and knuckle that have caused flooding. Fractures were also identified in the bow side shell slightly forward of the collision bulkhead. Damage was reported to extend to a maximum of 5' above keel. The flooded compartments and damaged areas can be seen below. It should be noted no information was shared regarding the status of the port side compartments. The below Figure illustrates our understanding of the barge's current condition based on the dive survey report.

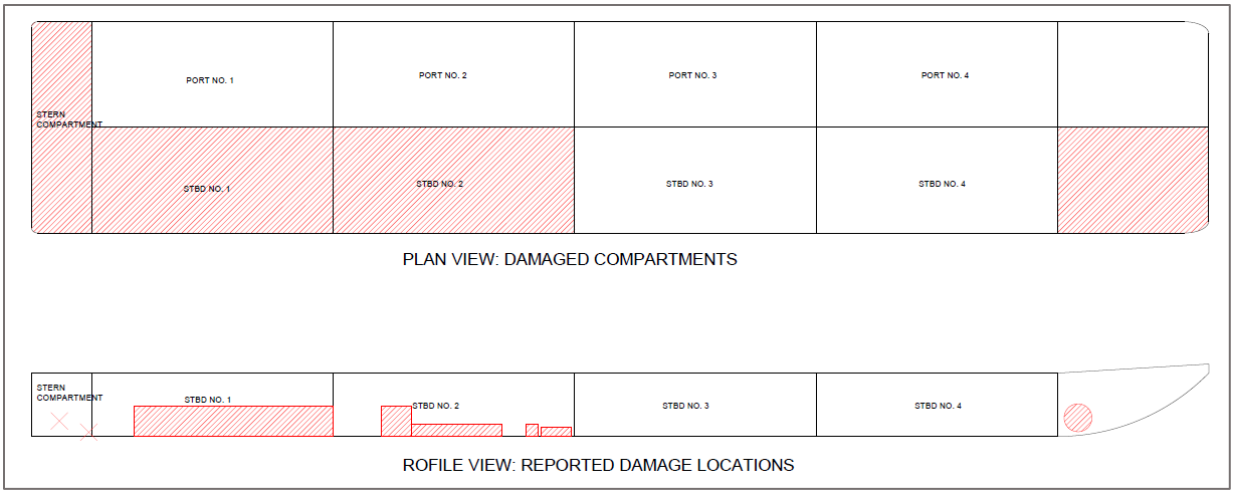


Figure 2 Diver Damage Report

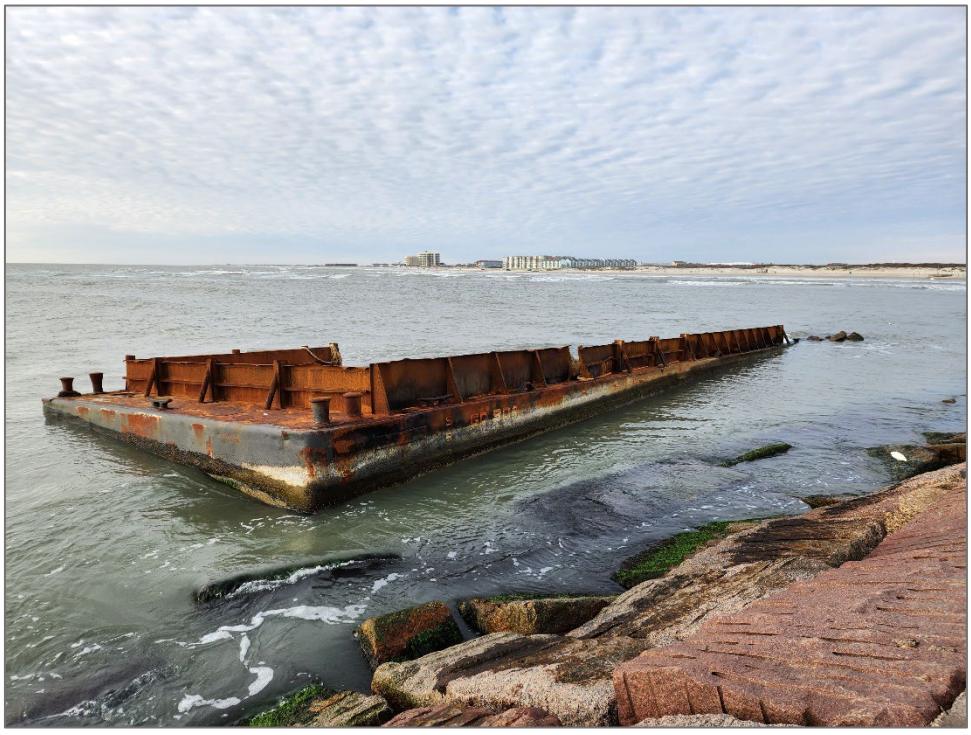


Figure 3 Casualty Current Orientation Looking from Stern

4 METHOD STATEMENT

RESOLVE proposes to remove the GD-904 by pulling the casualty ashore and dismantling it for onward processing. This will require several key steps including determining the integrity of the casualty in its current orientation, setting up pressurized air injection to reduce ground reaction, and installation of pulling chain from the beach to the casualty.

Running concurrently with preparatory work, a 330 st chain puller will be installed on the beach. Once the chain puller is properly rigged and secured, the casualty will be partially dewatered, and then be pulled to the beach. Once on the beach the GD-904 will be cut down into manageable size sections of approximately 5 tons, and loaded on trucks for onward transit to a scrap processing facility.

4.1 MOBILIZATION

At the time of activation RESOLVE will mobilize the primary salvage equipment from our U.S. depots. Where possible, locally available or client supplied assets will be utilized to reduce costs as far as possible. Concurrently with equipment mobilization, personnel will also be mobilized to site. The majority of our equipment is located at our Gulf Coast facility in Theodore, AL and will be transported on trucks to the work site.

It is anticipated to take 5-7 days to prepare and mobilize the required salvage equipment.

4.2 STRUCTURAL INSPECTION

Upon arrival onsite, RESOLVE's dive team will conduct a survey of the casualty site. Key points of this survey will include:

1) Verify casualty is structurally sound for pulling. Determine if any portions of the casualty are likely to separate or break off during the pulling / beaching operation.
2) Determine disposition of lost cargo. Determine if any of the cargo impedes any stage of the salvage operation.
3) Locate separated portions of the casualty. Find and mark lost sections of the bulwark. Develop a recovery strategy for same.

At completion of the survey, the team will commence prepping the casualty for removal.

4.3 BLOW DOWN SET UP

Through the course of the site survey and meetings with Owners, Stakeholders, relevant Authorities, and their representatives, a few points have been discussed that highlight complicating factors to the salvage operation. Specifically, it has been stated that the bow of the vessel is laying in a deeper scoured out hole. Additionally, it has been discussed that during the initial grounding event the stern of the vessel appeared to ground out on a high point and pivot about that point during the following sinking event. Both of these observations complicate the pulling sequence, in that the buried bow condition will act as a plow when pulled, and the pinnacle in the stern may actually penetrate the bottom plate and effectively pin the barge in position.

RESOLVE's solution to both of these challenges is the injection of pressurized air to partially restore buoyancy to the casualty. This will reduce ground reaction at both the bow and stern, and potentially allow for a partial refloat of the barge. This reduces the required initial pull force to get the barge clear of the scoured hole and off the high point at the stern.

RESOLVE will install blow down fittings on to tanks that are to be dewatered. A patch will be placed over the tank manhole that will include an air injection port, and a water discharge pipe. The tanks can then have compressed air injected into them, forcing the water inside out to the level of the shallowest breach in the tank, or out the discharge pipe in the case of an intact tank. The following figure depicts this arrangement.

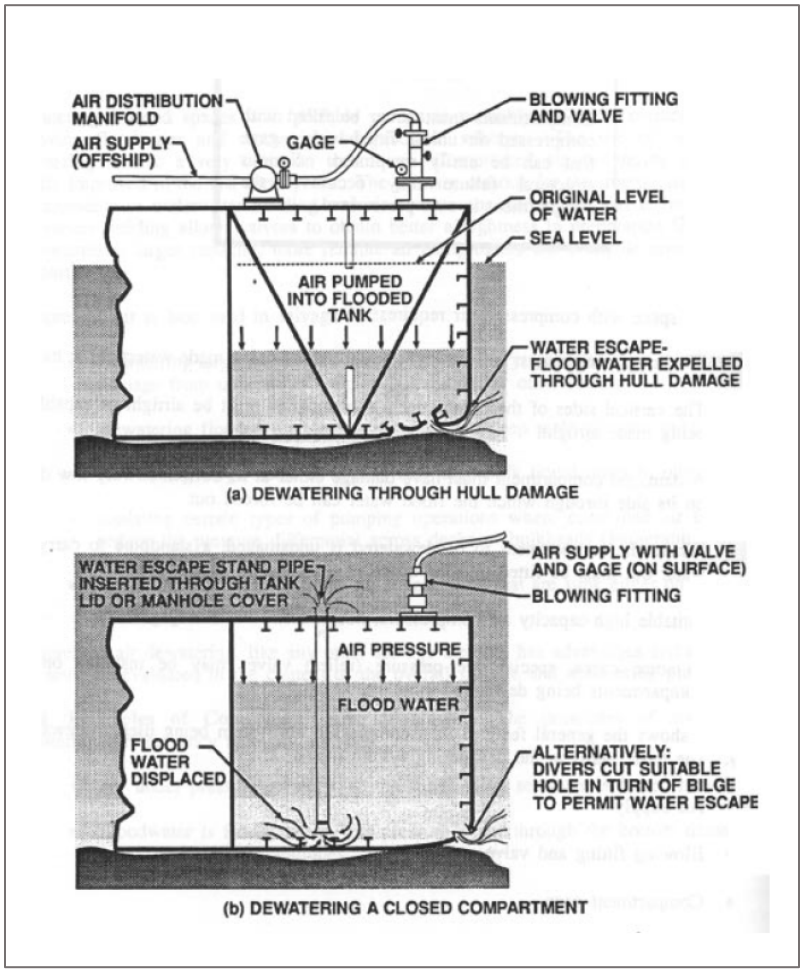


Figure 4 Compressed Air Dewatering System (Reference US Navy Salvage Manual)

Figure 5 Barge Deck and Internal Structure Appear in Good Condition

4.4 CHAIN PULLER INSTALLATION

To drag the hull up onto the beach and dismantle it, one of Resolve's 330 st chain pullers will be utilized to conduct the drag sequence. This will be secured on the beach with a buried holdback (aka deadman anchors). One chain puller has the needed capacity to pull the casualty up onto the beach. In the event a currently unknown condition exists, increasing required pulling force, an additional chain puller can be mobilized to site.

A path via Access Road 3A has been identified for access routing to the beach for deploying the equipment. Using trucks, and excavator(s), the equipment shall be routed through the designated path and deployed.

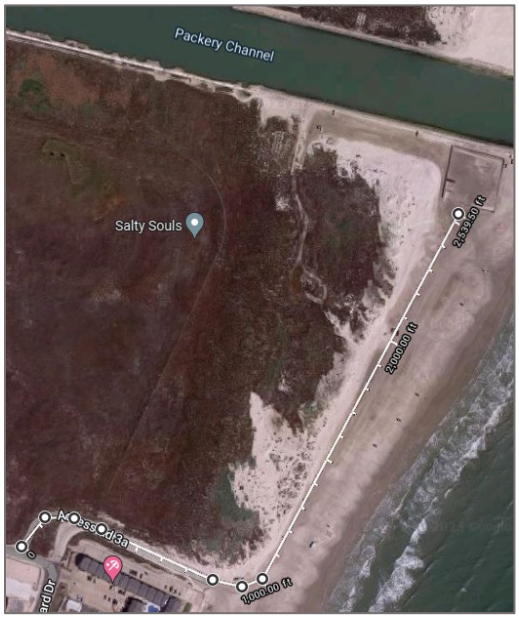


Figure 6 Routing for Access of the Site

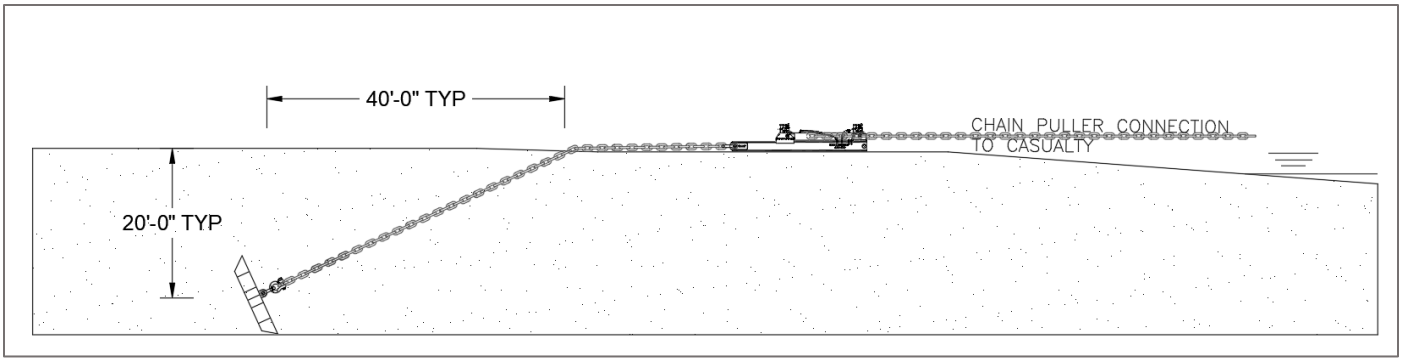


Figure 7 Typical Chain Puller w/ Buried Holdback Installation

Figure 8 Typical Chain Puller w/ Buried Holdback Installation

The deadman anchors have been engineered for the holdback installation utilization as depicted above. Based upon the US Navy Salvors Handbook, medium sand (compact) environment with an embedment depth of 10 ft design capacity is 247 mt (with 1.5 safety factor considered). RESOLVE will install holdbacks as deep as possible with the available equipment onsite, typically approximately 20' depth.

Material	Medium sand - compact - (5)	5	
Height	*B*	3	(ft)
Width	*L*	19	(ft)
Depth	*z*	10	(ft)
Safe	*SF*	1.5	
Weight	γ_b	130	(lb/ft^3)
Area	*A*	57	(ft^2)
Angle	θ	40	(deg)
	Nq	12.74	
Force	*F*	544559	lbs
		247	mt
		272	st

Figure 9 Example Deadman Design

4.5 RIG VESSEL

RESOLVE chain pullers are sized to operate with 3" K4 chain (MBL 600mt), that will connect to padeyes to-be-installed on the barge. To simplify installation, wire segments may be installed in the rigging. The structural calculations for the pull force and pull configuration will be performed based upon the structural drawings of the vessels and survey of the rigging points. Once fully installed, the system will be able to provide the necessary pulling force to pull the barge off the jetty and onto the beach.

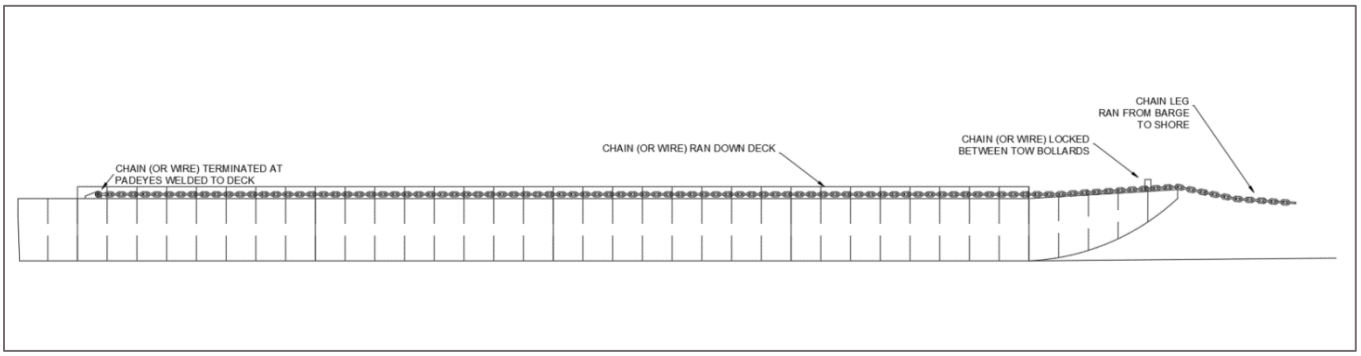


Figure 10 Chain Rigged on GD-904

4.6 PULLING OPERATION / PATH

Once the installation of the chain pullers on the beach and the chains have been attached to the casualty the pulling operation can commence. The pulling path is angled away from the jetty so that the chain pullers can be installed farther up on the beach and to pull the casualty off of the jetty and through sand. The barge will be pulled in a straight line from its current location as far up the beach and as close to the dunes as possible. The images below illustrate the beginning, middle, and end of the operation.

Figure 11 Beginning, middle, and end of pulling operation

The maximum calculated force required to pull the casualty due to bottom interaction and the slope of the beach, plus a 20% weight margin for entrapped sand, is found to be 165LT. This force was calculated in accordance with the U.S. Navy Salvage Engineer Handbook using a coefficient of friction of 0.3 for a sandy bottom / steel interface. The worst-case scenario was used with the full area of the bottom plating in contact with the bottom and no residual buoyancy in any of the compartments. Actual pull force is expected to be significantly less for initial pulling when considering the recovered buoyancy. However, as the vessel is pulled into shallower water and up onto the beach the pull force will increase as buoyancy is lost until the maximum calculated pull force is reached. Inclusion of sand or plowing effects from deformed bottom plating will further increase the required pull force.

4.7 VESSEL CUT UP

Once pulled up the beach RESOLVE will oversee the complete dismantling of the vessel. All cutting operations will be conducted in accordance with relevant laws and regulations. Cutting will be conducted by a competent 3rd party contractor who is properly licensed to provide the service. It is anticipated to utilize oxy-propane torch cutting to dismantle the vessel. However, other means may be employed as needed.

The barge will be cut into sections that can be loaded onto trucks for onward transit to a nearby scrap processing facility. These sections are expected to be approximately 5tons in size. It is anticipated trucks can access the beach to collect the steel. However, in the event trucks are not able to safely transit over the sand, the steel sections will be loaded at the nearest road access point.

RESOLVE will ensure at completion of operations the beach is left in “as found” condition.

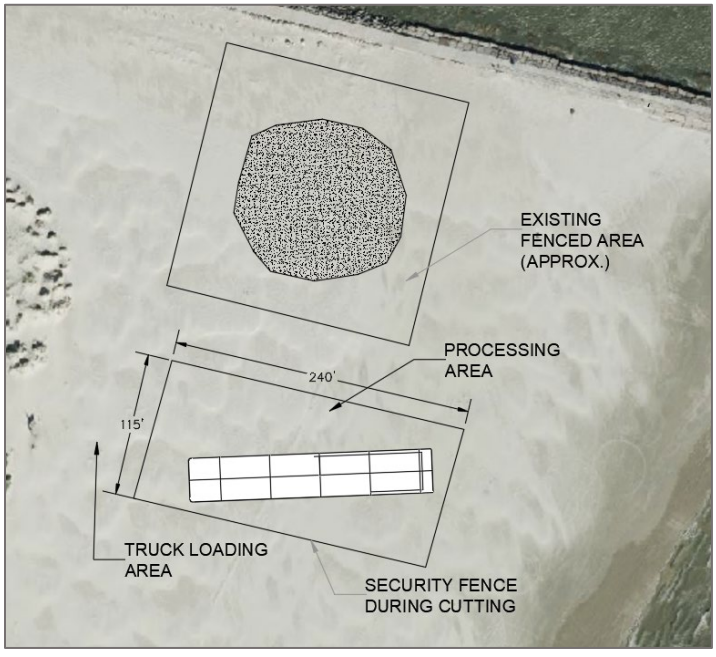


Figure 12 Wreck Processing Area

4.8 DEBRIS SURVEY

At completion of pulling operation divers will survey the grounding site and determine all steel sections are removed. If any vessel structure is found to have separated from the casualty, the debris will be marked as a hazard and a plan for removal of structure will be prepared and presented to Client and Stakeholders. Similarly, the disposition of the barge cargo will be determined.

4.9 DEMOBILIZATION

Upon completion of the project work scope, the assets and personnel will be demobilized back to their respective locations of origin.

4.10 SITE ACCESS

In the interest of public safety and minimizing risk from the industrial equipment, RESOLVE intends to install temporary fencing to isolate RESOLVE's equipment during pulling operations and vessel cutting on the beach. The temporary barricade across the beach will be put in place once RESOLVE begins assembling and running chain from the puller to the casualty. At this stage 3" chain will be stretched across the beach and into the ocean. This will prevent safe access by pedestrians or vehicles, therefore the section of the beach from south of the pullers to the north will have to be closed to the public (see Figure 13). Once the GD-904 is pulled to the upper portion of the beach, vehicle and pedestrian access will be possible across the lower beach. The fencing will be re-arranged to provide a secure area for processing the wreck while leaving an accessway for beach goers to get to the jetty (see Figure 12).

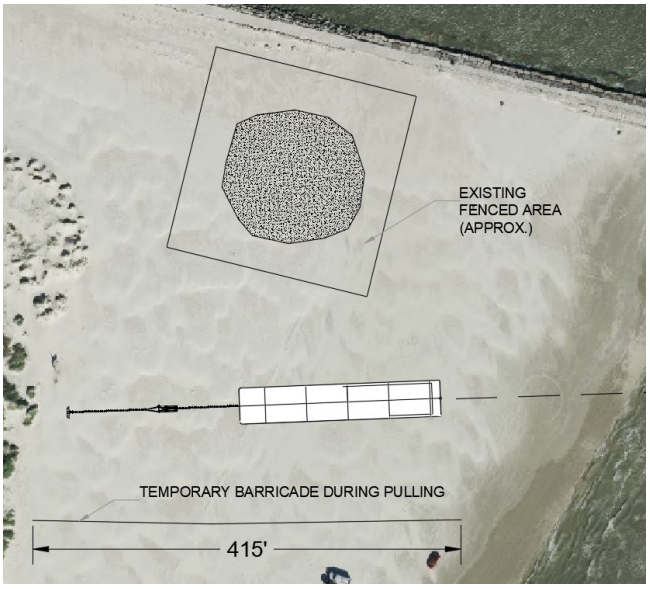


Figure 13 Wreck Pulling Fencing

RESOLVE will require the walkway on the jetty to be closed to public access from the commencement of diving operations until completion of the final site survey after the barge is pulled up the beach. This is necessary to ensure access for RESOLVE personnel moving equipment up and down the jetty.

Based on the current project schedule the required beach restrictions would be as follows:

- Jetty Closure: During commencement of diving to completion of final site survey; 9 days
- Beach Full Closure: During running of pulling chain to completion of vessel pulling; 4 days
- Upper Beach Fencing: During scrap processing operations; 6 days

(see Gantt Chart for details of schedule)

5 CONTINGENCY PLANS

5.1 WRECK DETERIORATION

In the event the condition of the casualty degrades to the point the vessel fully sinks, breaks in half, or shifts away from the pier, RESOLVE's proposed methodology is able to adapt and be utilized to complete the wreck removal project. The severity of the change of condition will drive the degree to which the salvage plan has to be modified. The degree of modification could range from relatively no change in operational sequence or timeline to requiring the full rigging and pulling process to be repeated multiple times in the event the casualty breaks up in large sections.

5.2 VESSEL REPOSITIONING

In the event the relevant authorities require the barge to be positioned in a specific location for processing on the beach RESOLVE has the capability to precisely shift and position the GD-904. The most efficient means of doing this is through the use of roller bags. It should be noted that roller bags are only usable if the bottom plating of the hull is in a condition where the bags will not be cut or torn by deformed steel.

If condition of the hull permits, then roller bags can be run on the underside of the hull allowing for the barge to be precisely shifted on the beach. Given the shallow grade of the beach, once on the bags two large excavators or loaders would be able to push the barge around. Once the casualty is positioned where desired blocks will be placed under the hull and the roller bags will be removed. The barge will be cut into pieces using propane torches and removed by truck in 5ton sections, as described in the methodology section. In the event the hull is too badly compromised for use of roller bags, RESOLVE's chain puller and holdback can be repositioned to drag the barge to the desired position, although this would take considerable effort and time.

Figure 14 Examples of roller bags in use in previous projects

6 SALVAGE TEAM

6.1 PERSONNEL

The following list details the composition of the planned salvage team. Additional personnel of varying specialties may be required at different phases of the project. Project team composition will be at the discretion of the onsite Salvage Master with the concurrence of client representative.

1 – Salvage Master

1 – Naval Architect

1 – Project Coordinator

1 – Salvage Officer /Salvage Engineer

1 – Salvage Technician

2 – Equipment Operators

1 – Dive Supervisor

4 – Salvage Diver

1 – Scrapping Supervisor

3 – Scrapping Technician

2 – Security (Night Shift)

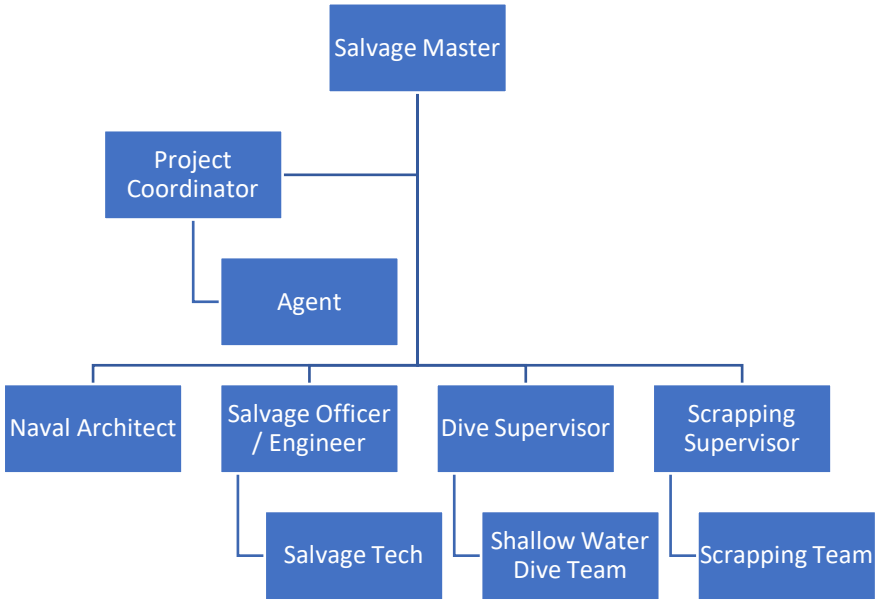


Figure 6-1 Organization Chart

RESOLVE Salvage Master will manage the operation and meet with relevant parties to advise/update of the status and continuation of the project. Upon the completion of 24 hours of operation a Daily Project Report "DPR" will be circulated to owners, authorities, and all relevant parties.

6.2 EQUIPMENT SPREAD

The following table details the primary salvage equipment to be utilized in completion of proposed methodology. Equipment may be added or removed from project as required.

No.	Item	Qty
1	Excavator 60-80Kips Class	2
2	Chain Puller	1
3	Chain Puller HPU	1
4	3" Chain (shots)	12
5	Heavy Rigging Package	1
6	Puller Hold Back	1
7	Light Rigging Package	1
8	Welding Package	1
9	Blow Down Package	1
10	185 CFM Air Compressor	1
11	Surface Supplied Diving Pkg	1
12	U/W Cutting Pkg	1
13	Patching Package	1
14	Safety Package	1
15	Work Skiff	1

16	Hydraulic Power Unit	2
17	4" Hydraulic Pump	2
18	Hydraulic Hose	600'
19	4" Discharge Hose	100’
20	Consumables Pkg	1
21	Scrapping Package	2
22	Cutting Gasses	TBC
23	Patch Fabrication	TBC
24	Consumable Cutting Rods	TBC

Table 8-1 Equipment Spread

APPENDIX A) PERSONNEL CVS

Name: Mujeeb Ansari

Title: Project Manager

Citizenship:

Singapore

Education:

- South Tyneside, South Shields, UK – Master Mariner / Nautical Sciences Diploma

Certifications and Licenses:

- BOSIET
- Advanced Fire Fighting
- TWIC

Summary:

Mujeeb Ansari is an ex-Master Mariner and possesses a strong repertoire of 35 years of progressive Salvage, Marine Firefighting, Safety and Ship Management. His knowledge encompasses all types of tankers, Bulk Carriers/ OBO'S– Safety, Operational; Commercial, as well as Offshore Storage / Transshipment terminals. As Project Manager Mr. Ansari is responsible for the set-up, supervision and management and coordination od all aspects of field projects including mobilization and demobilization, personnel supervision, salvage vessel and craft operations, salvage operations including fuel lightering, diving operations, job accounting, cash flow management, daily reporting and daily client interaction

Past Project Experience:

- Salvage Master- MV ZIM Kingston – Container Vessel, stack collapse and fire – Juan De Fuca St. off Victoria BC
- Project Manager- Hard Bottom Mitigation Project- Installation of artificial reef nearshore Ft Lauderdale.
- Salvage Master - NYK Delphinus, Container vessel ER Fire & Tow- Off SFO, California.
- Salvage Master - Aleutian Falcon, Fish Factory Fire, Seattle, Washington.
- Project Manager - Hoegh Transporter, Car Carrier, Discharge of cars following a fire, Jacksonville, Fl.
- Project Manager - MT Clio, Dive inspection following Grounding, Galveston, Tx.
- Salvage Master - MV Hyderabad, Bulk Carrier Grounding / Refloat, Galveston Tx
- Salvage Master - MV Antonia, Heavy Lift vessel, Bunker tank leak, Houston, Tx.
- Project Manager, Texas Battleship; Refloat and Stabilization
- Project Manager, HOEGH XIAMEN, Cargo removal
- Project Manager, DB1, Gulf of Mexico; Derrick barge wreck removal
- Project Manager, Raysut II, Oman; Wreck removal and scrapping of a cement carrier
- Project Manager, L & T Jacket, India; offshore oil platform removal and scuttling
- Project Manager, BW Maple, Chennai, India; LPG tanker post-collision emergency patching
- Project Manager, INS Betwa, India; righting of frigate casualty in IN Navy drydock
- Project Manager, Buckeye Pipe, BORCO, Bahamas; petroleum pipe relocation
- Project Manager, QING, Morumago, India; cruise liner salvage and refloat
- Project Manager, MV Tanto Hari, Surabaya, Indonesia; 414 ft container vessel sunk in shipping channel with strong currents and zero visibility; refloat and tow of vessel to de-servicing site
- Project Manager, Rena, Tauranga, New Zealand; 3,351 TEU container ship removal Astrolabe Reef
- Salvage Master, SBM III, Paradip, India; refloat following super storm 'Phalin'
- Salvage Master, Miraero Brave, Vystosk, Russia; refloat of grounded Panamax laden with coal

- Project Manager, C/S Chamarel, Henties Bay, Namibia; cable laying vessel, wreck removal
- Salvage Master, Emergency Towing vessel for DG shipping India West coast during SW monsoons
- Salvage Consultant, CMA CGM Florida, Shanghai; fully laden container vessel with collision damage
- Salvage Consultant M/V Suerte, China; fully laden panamax ore-carrier with tidal cargo holds and DB tanks ruptured following collision
- Salvage Consultant, MT Algarrobo, W. Africa; hazardous cargo release from disabled loaded and drifting tanker
- Salvage Consultant, MT Napa, S. Africa; offshore STS of fully laden single hull VLCC with structural failure.
- Salvage Consultant, MT Nysa, Freeport, Bahamas; refloat, repair of grounded VLCC in Freeport, Bahamas followed by ocean towing to Europe.

Name: Ed Yenni

Title: Assistant Salvage Master

Summary:

Edward Yenni has 20 years of experience in the salvage industry. Serving in many concurrent capacities, including Salvage Master, Assistant Salvage Master, Diving Supervisor, Rigger, Crane Operator and Barge Master.

Citizenship:

United States of America

Education:

The Diver Institute of Technology

Certifications and Licenses:

- BOSIET
- Advanced Fire Fighting
- Crane Operator
- Commercial Diving

Past Project Experience:

- 2021, Salvage Master, Hercules 204, Jack up rig refloat, Mobile, Al
- 2021, Salvage Officer, MUNGER T BALL, WWII era vessel fuel removal, Key West, FL
- 2020, Salvage Officer, MANSON 23, Barge removal, Jacksonville, FL
- 2018, Dive Supervisor, MV Mimi, Florida; removal of partially submerged casualty from Miami Beach Jetty
- 2017-2018, Salvage Master, Hurricane Irma and Maria clean up, St. Thomas and Key West.
- 2017, Dive Supervisor, L & T Jacket Removal, India; offshore oil platform removal and scuttling
- 2017, Diver, Grand Bahamas Shipyard Shipyard Crane; removal of collapsed crane following hurricane
- 2017, Dive Supervisor, Goddess Santosh Devi, Golfo de Penas, Chile; underwater welding and patching up of hull plating on a 80,000 DWT bulk carrier
- 2016, Salvage Master, MV Los Llanitos, Barra de Navidad, Manzanillo; fuel removal and caretaking of bulk carrier after running aground during Hurricane Patricia
- 2014, Salvage Master, Mosaic Dredge Gulf 1, Mayyka, FL; sunken dredge removal
- 2014, Dive Supervisor, Ajwa, Ciudad del Carmen, Mexico; wreck removal and site remediation
- Diver, MV Oceanic Power, Jamaica; containership wreck removal
- 2014, Welder, Submarine Sindhurakshak, Mumbai, India; removal of Indian Naval Submarine and ordnances after unexpected explosion
- 2013, Salvage Master/Welder, ROHR, Dredge Irwindale, California; refloat of dredge barge sunk in approximately 90 feet of water in an inland lake in California
- 2013, Diver/Barge Supervisor, M/V Rena, Tauranga, NZ; containership wreck removal
- 2012, Dive Supervisor, MV JIREH, Mona Island, Puerto Rico, Grounded freighter wreck removal.
- 2011, DRYDOCK PERSEVERENCE, San Juan, Puerto Rico, Drydock refloat
- 2011, ANGELN, St. Lucia, 435ft Container ship refloated and scuttled
- 2012, Diver, Sri Lanka, wreck removals
- 2011, Diver, ANGEL 1, Mauritius, wreck removal
- 2009, Salvage Master, SS Beaumont Reserve Fleet Beaumont, TX - Removal of fuel/oil

Name: Christopher Scott

Title: Naval Architect

Summary:
Christopher joined Resolve Marine Group in 2014 coming from the offshore energy sector. Since joining he has been involved in a broad variety of projects, including emergency response, site remediation, heavy lift, artificial reefing, fuel lightering, demolition, and wreck removal. Having earned a degree in Ocean Engineering, with a focus in Naval Architecture, Chris has a strong educational base in a range of engineering applications.

Citizenship:

USA

Education:
- B.S. in Ocean Engineering, Florida Institute of Technology

Certifications and Licenses:
- STCW
- MMC
- BOSIET
- HIS Medic Plus First Aid

Past Project Experience:
1. 2021, MUNGER T. BALL, Key West, Fuel Removal, Naval Architect
2. 2020, MV KAAMI, Refloating Operations, Naval Architect
3. 2019, NANA PROVIDER, Refloating Operations, Naval Architect
4. 2019, Grand Bahama Shipyard Dry Dock 1, Refloating Operations, Naval Architect
5. 2018, Tappan Zee Bridge, Demolition Operations, Naval Architect
6. 2018, TOPS DB1, Refloating Operations, Naval Architect
7. 2018, SpaceX Dragon9 Booster Removal, Naval Architect
8. 2017, Lady Virginia, Refloating Operations, Naval Architect
9. 2017, Subbase Dry Dock, Refloating Operations, Naval Architect
10. 2017, RT Barge, Salvage Operations, Naval Architect
11. 2017, JKipp Point, Wreck Removal, Naval Architect
12. 2016, YTC HB 8, Wreck Removal, Naval Architect
13. 2016, MY MIMI, Wreck Removal, Naval Architect
14. 2016, MY TIME OUT, Wreck Removal, Naval Architect
15. 2016, Lady Luck, Controlled Sinking Operations, Naval Architect
16. 2016, GODDESS SANTOSH DEVI, Vessel Repair, Naval Architect
17. 2015, MV MIKE AZZOLINO TUG, Fuel Removal and Refloating Operations, Naval Architect
18. 2015, DRYDOCK KAPILIPONO, Refloating Operations, Naval Architect
19. 2015, MV TANTO HARI, Refloating Operations, Naval Architect
20. 2013-2015, MV RENA, Wreck Removal, Naval Architect
21. 2013, SINDHURKSHAK, Wreck Removal, Naval Architect
22. 2013, Hoverbarge GHOST, Launching Operations, Naval Architect

APPENDIX B) SPECIFICATION SHEETS

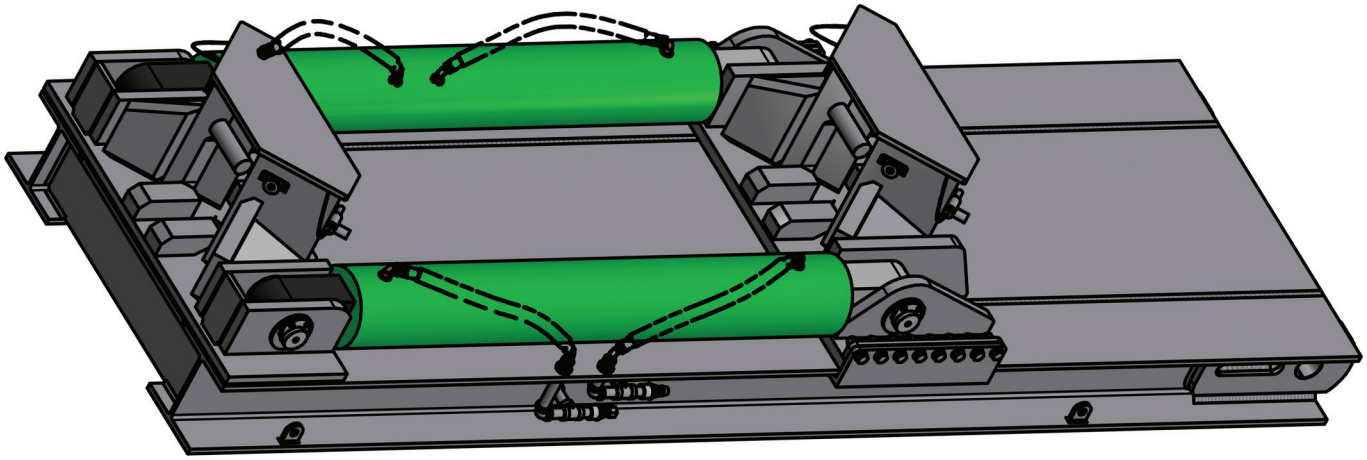
RESOLVE MARINE GROUP INC

Chain Pullers

330 Short Ton Load

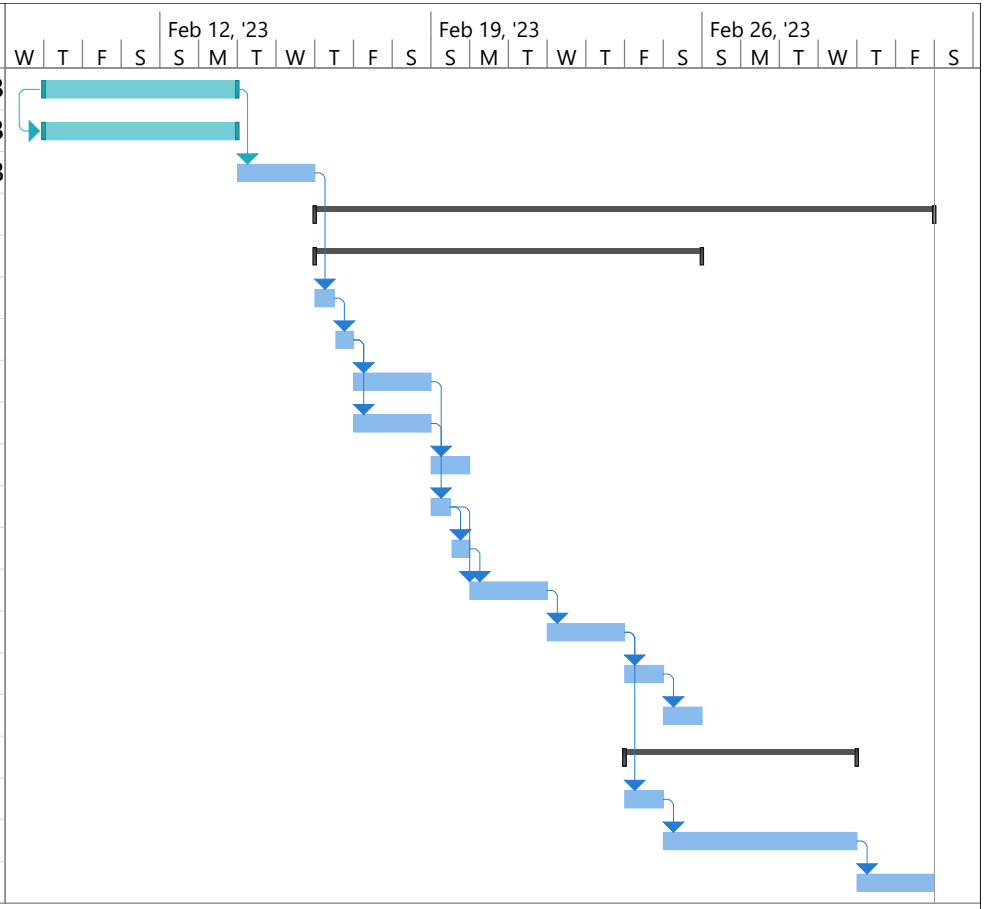
CHAIN PULLER STATISTICS	
Pull Force (Short Tons - ABS Rated)	330.5
Cylinders	2
Bore Diameter	10″
Pressure	4600 lbs
Length of Stroke	72″
HPU GPM	40
Cylinder Volume in3	5600
Piston Area (in2)	78
Force (lbs)	360000
Force (Short Tons)	180
Volume in Gallons	25
Stroke Time (Seconds)	37

CHAIN PULLER DIMENSIONS	
Height	42″
Width	66″
Length	220″



APPENDIX C) PROJECT GANTT CHART

ID	Task Name	Duration	Start	Finish
1	Prepare Equipment	5 days	Thu 2/9/23	Mon 2/13/23
2	Fabrication	5 days	Thu 2/9/23	Mon 2/13/23
3	Mobilize To Site	2 days	Tue 2/14/23	Wed 2/15/23
4	**Onsite Ops**	**16 days**	**Thu 2/16/23**	**Fri 3/3/23**
5	**Wreck Removal**	**10 days**	**Thu 2/16/23**	**Sat 2/25/23**
6	Setup Dive Spread	0.5 days	Thu 2/16/23	Thu 2/16/23
7	Survey Wreck	0.5 days	Thu 2/16/23	Thu 2/16/23
8	Install BD System	2 days	Fri 2/17/23	Sat 2/18/23
9	Weld Padeyes	2 days	Fri 2/17/23	Sat 2/18/23
10	Install Support Rigging	1 day	Sun 2/19/23	Sun 2/19/23
11	Bury Holdback	0.5 days	Sun 2/19/23	Sun 2/19/23
12	Setup Puller	0.5 days	Sun 2/19/23	Sun 2/19/23
13	Connect and Run Chain	2 days	Mon 2/20/23	Tue 2/21/23
14	Pull Ashore	2 days	Wed 2/22/23	Thu 2/23/23
15	Survey Grounding Site	1 day	Fri 2/24/23	Fri 2/24/23
16	Partial Demobe	1 day	Sat 2/25/23	Sat 2/25/23
17	**Cutting Ops**	**6 days**	**Fri 2/24/23**	**Wed 3/1/23**
18	Prep Cutting Site	1 day	Fri 2/24/23	Fri 2/24/23
19	Section Vessel	5 days	Sat 2/25/23	Wed 3/1/23
20	Demobilize	2 days	Thu 3/2/23	Fri 3/3/23



Project: Project Schedule
Date: Mon 2/6/23

Task	Inactive Summary	External Tasks
Split	Manual Task	External Milestone
Milestone	Duration-only	Deadline
Summary	Manual Summary Rollup	Progress
Project Summary	Manual Summary	Manual Progress
Inactive Task	Start-only	
Inactive Milestone	Finish-only	