

Working Hypothesis 17 Jun 2019



Working Group Plan

1. Develop Solid, Evidence-Based Narrative of What Happened
2. Identify Contributing Factors
3. Focus on Factors that can Provide Compensation for Loved Ones

What a Hypothesis Must Explain



- **All** Physical Evidence of Fire
- Autopsy Evidence: CO Levels, Soot in Trachea, Postmortem Burns, **Outliers**
- Witness Accounts of the Development of the Fire, Especially its **Speed**
- Things Around the Victims: **Discharged Fire Extinguisher**, Clothing, Cell Phones, Personal Effects
- Wide **Disparity in Fire Effect** on Bodies and Possessions

Working Hypothesis

- At Approximately 0300 Hrs a Thermal Event Occurred In the Starboard Aft Area of the Salon
- This Event had Two Consequences:
 1. It Ignited the Contents of the Salon
 2. It Penetrated the Bunk Area and Generated Thick Smoke, Which Roused and Then Killed the Passengers
- The Penetration of the Bunk Area Caused a "Hot Spot" in the Starboard Aft Corner
- The Remainder of the Bunk Area Was Not Burned Until After the Superstructure Fire Was Fully Developed

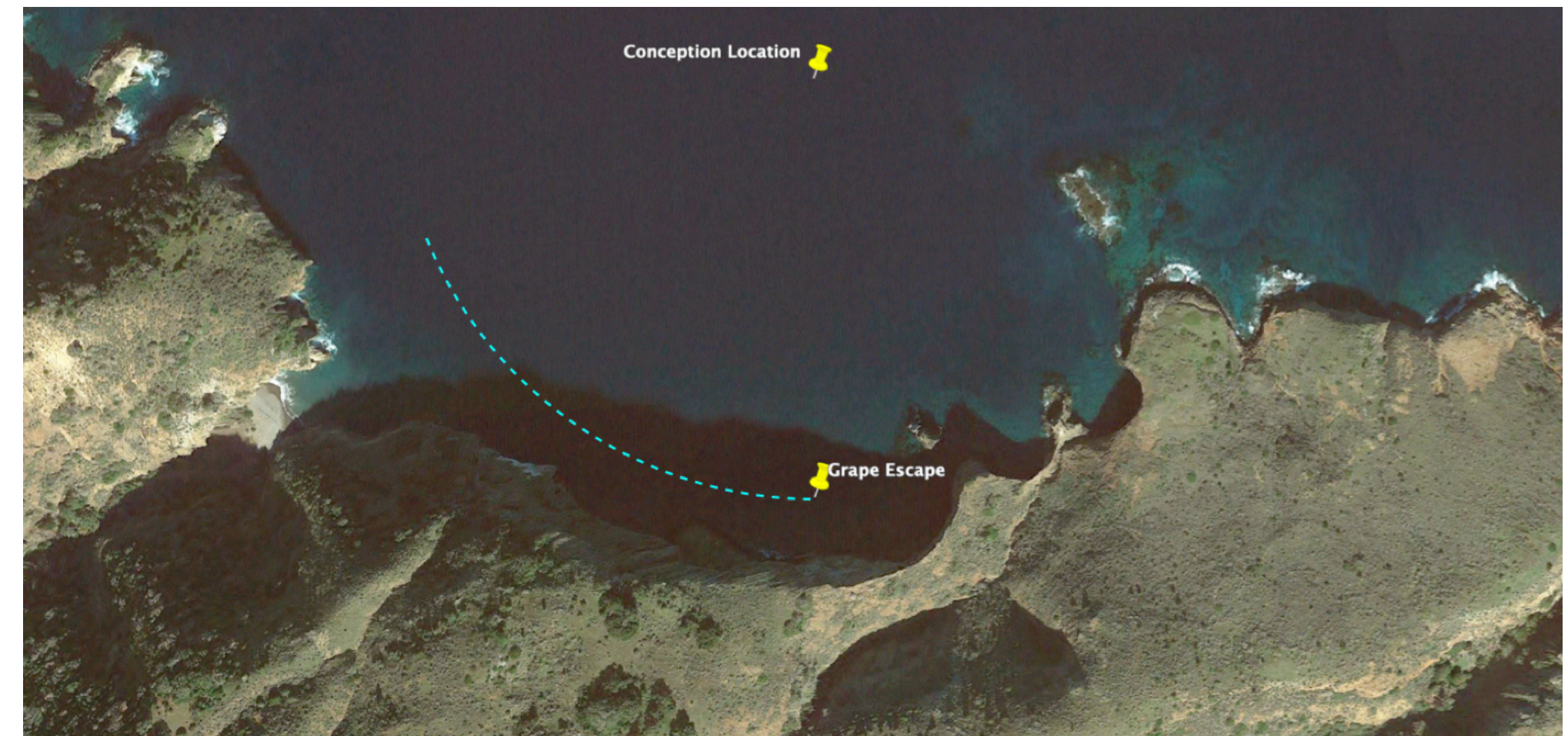
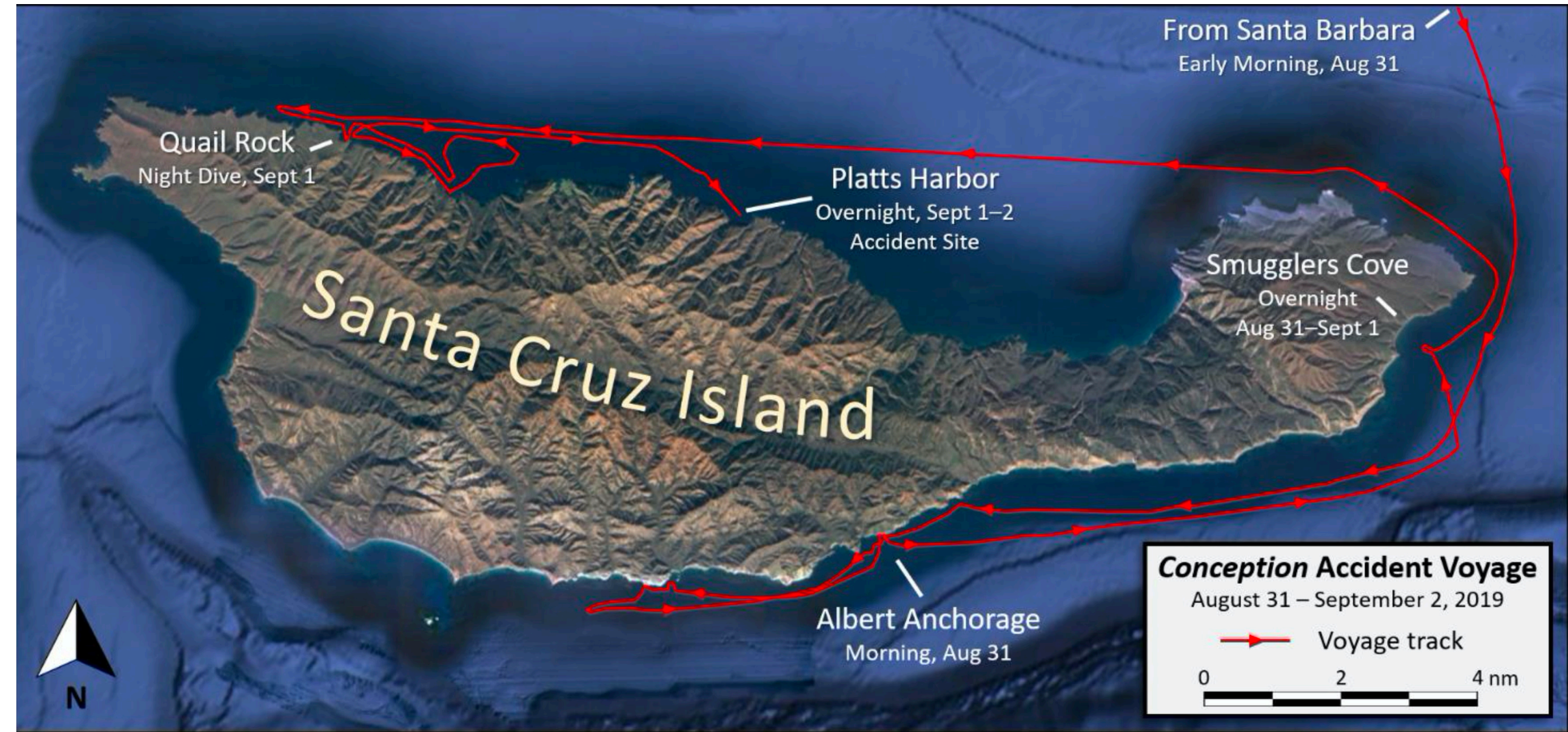
The Basic Message

This is not a case where a boat burned up and people died.

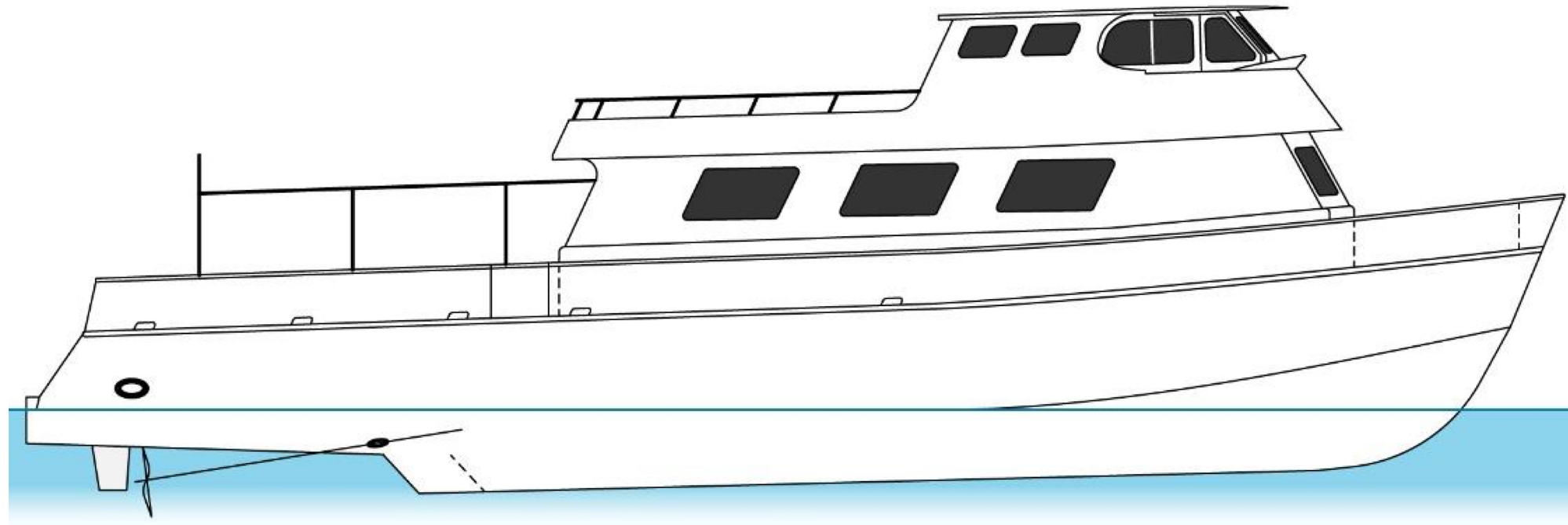
This is a case where people died and then a boat burned up.

Conditions

- Light and Variable Wind out of the East
- Light Overcast
- Waxing Crescent Moon 13%
- 0.2 to 0.4 Knot Current from East
- AIS Data is Puzzling



Construction of Conception



- Built in 1981
- Drawings Status Unknown; Undocumented Interior Changes (Air Handling System)
- From 2011 Insurance Survey:
 - Upper Hull and Deck Constructed of Unknown, Probably Flame-Resistant Resin Saturated Cloth over 1/2" x 2 Layer Marine Plywood
 - 1/2" Ply Superstructure; Use of Cloth Uncertain; Polyurethane Paint; Bulkheads Unknown
- Original Wiring

Air Handling on the Vision (Sister Ship)

516d Bunkroom Blower
Installed 9-26-12

Operating Instructions & Parts Manual 1C791, 1C792, 2C889, 2C890, 2C938, 2C939A, 4C118 and 4C119

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

Dayton® High Volume Direct Drive Forward Curve Blowers

Description

Dayton's high volume direct drive forward curve blowers are for general ventilation where duct systems are used for exhausting foul air, cooling, drying, or in forced air furnaces.

Includes 16 GA welded steel housing and motor base, dynamically balanced wheel, and a baked-on gray polyester/epoxy finish. Blowers are CW rotation and can be assembled in any one of eight discharge positions. See Figure 2. Maximum temperature is 180°F (82°C). Air deliveries are based on standard test codes of AMCA. Dayton motors packed separately when blowers are ordered complete.

General Safety Information

1. Follow all local electrical and safety codes, as well as the National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA) in the United States.
2. Blower must be securely and adequately grounded. This can be accomplished by wiring with a grounded, metal-clad raceway system, by using a separate ground wire connected to the bare metal of blower frame, or other suitable means.
3. Always disconnect power source before working on or near a motor or its connected load. If the power disconnect point is out-of-sight, lock it in the open position and tag to prevent unexpected application of power.
4. Be careful when touching the exterior of an operating motor – it may be hot enough to be painful or cause injury. With modern motors, this condition is normal when operated at rated load and voltage – modern motors are built to operate at higher temperatures.
5. Protect the power cable from coming in contact with sharp objects.
6. Do not kink power cable and never allow the cable to come in contact with oil, grease, hot surfaces, or chemicals.
7. Make certain that the power source conforms to the requirements of your equipment.
8. When cleaning electrical or electronic equipment, always use an approved cleaning agent such as dry cleaning solvent.
9. Not recommended as an explosion proof blower. Do not use where explosive fumes or gases are present.
10. If blower is operated without an inlet or outlet duct, guard openings in accordance with OSHA regulations to prevent contact with rotating blower wheel.

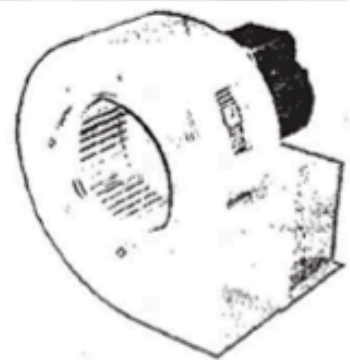


Figure 1 – High Volume Direct Drive Forward Curve Blower

WARNING Do not use where explosive gases or fumes are present or in material handling applications.

Form 552054

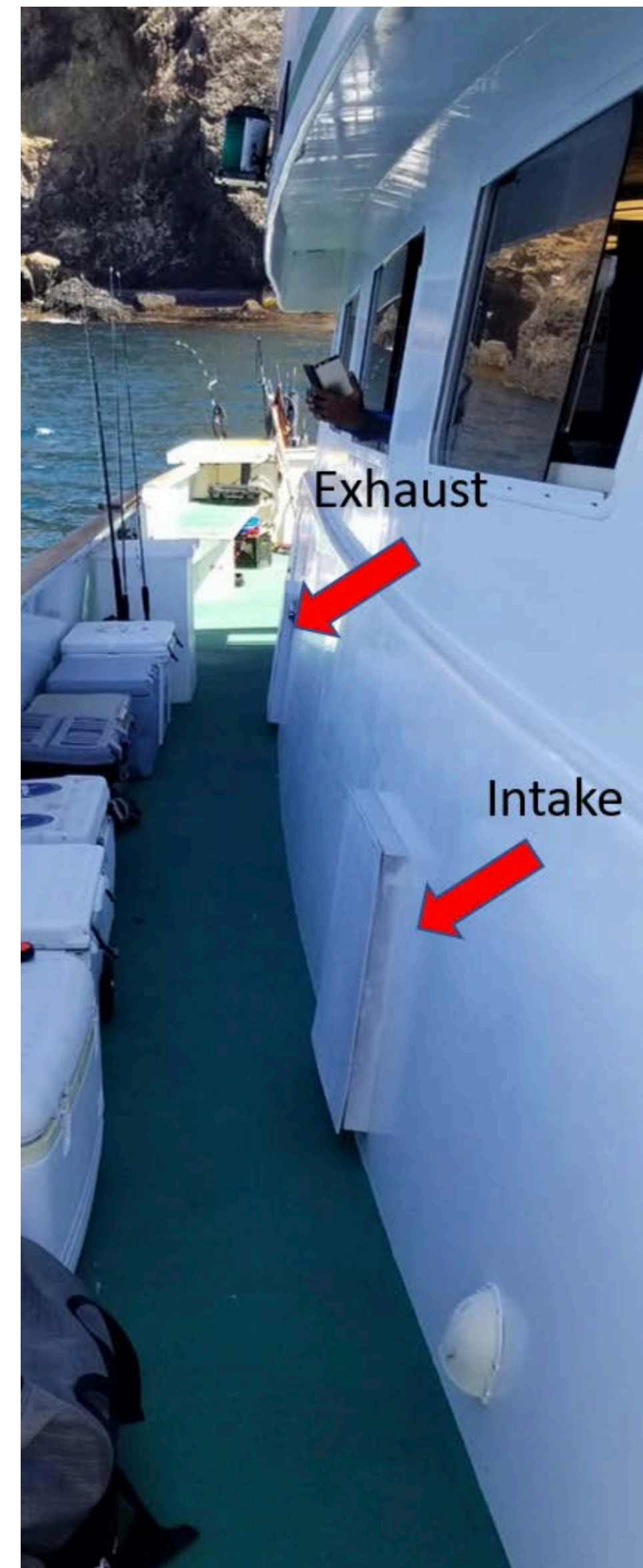
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Dayton

1B163-MISC DOCUMENTS-000036

- A single Dayton supply fan rated for 595 cubic feet per minute (cfm), was utilized to distribute fresh outside air to the bunkroom.
- Two Broan 480-CFM exhaust fans, one located on each side of the bunkroom, were utilized to expel air from the space.
- With passengers on board, the Vision, like the Conception, would operate the bunkroom supply and exhaust fans continuously, and would utilize the bunkroom air conditioning unit at night or as needed.



The Crew



**Captain
Jerry Boylan**



**2nd Captain
Cullen Molitor**



**1st Deckhand
Milton French**

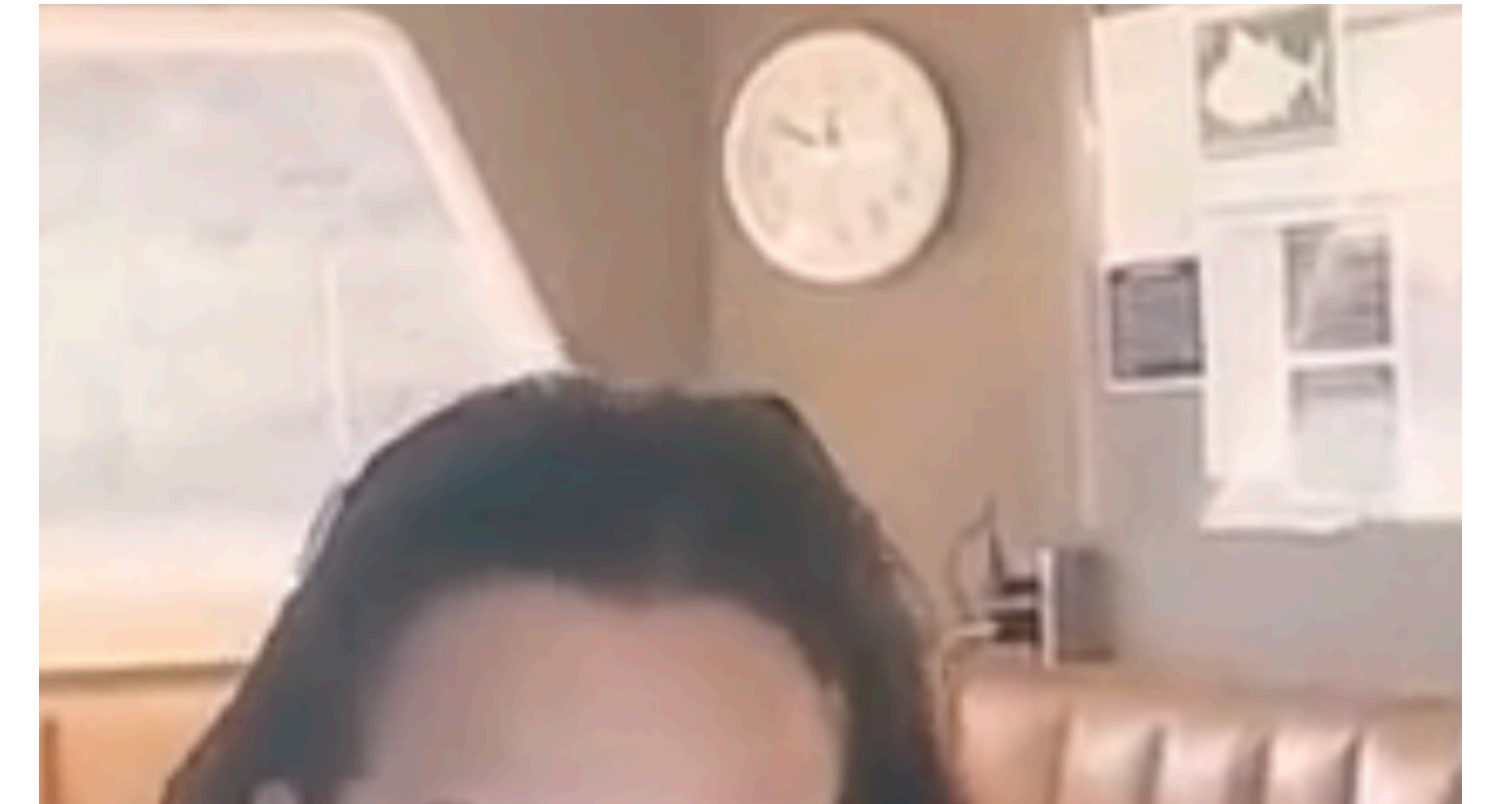
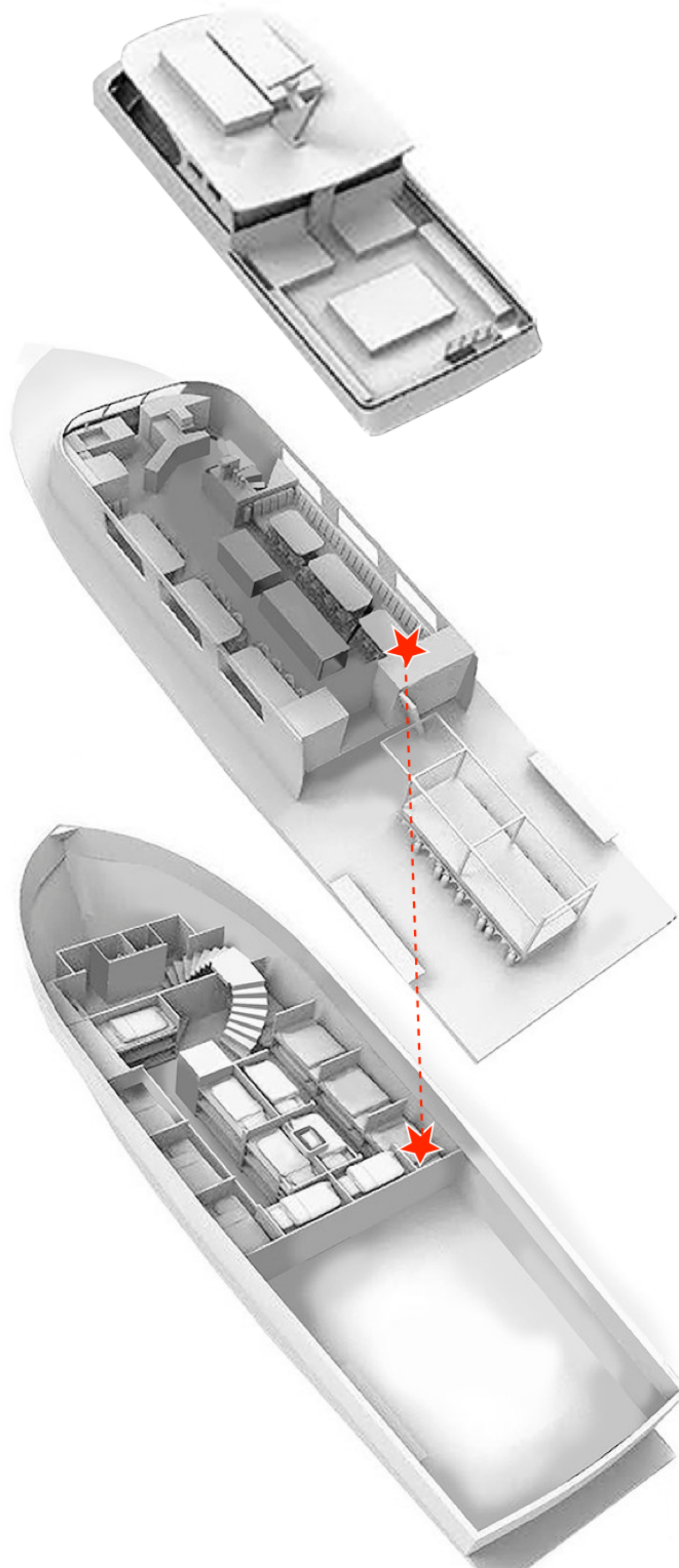
**2nd Deckhand
Alexandria "Allie" Kurtz
(Deceased)**



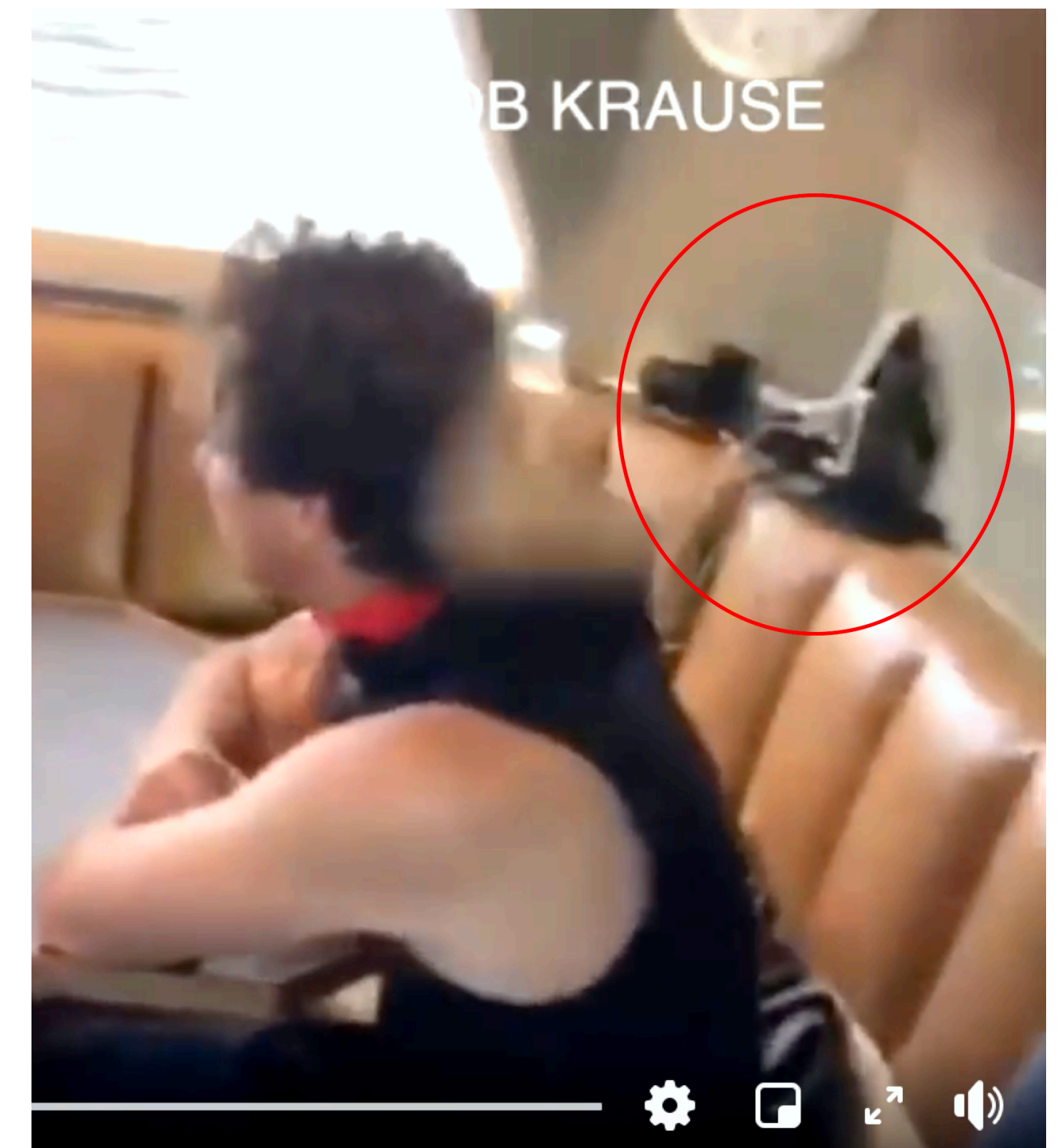
**1st Galley Ryan Sims
(Foreground)**

2nd Galley Michael "Mikey" Kohls

Ignition (Physical Evidence)

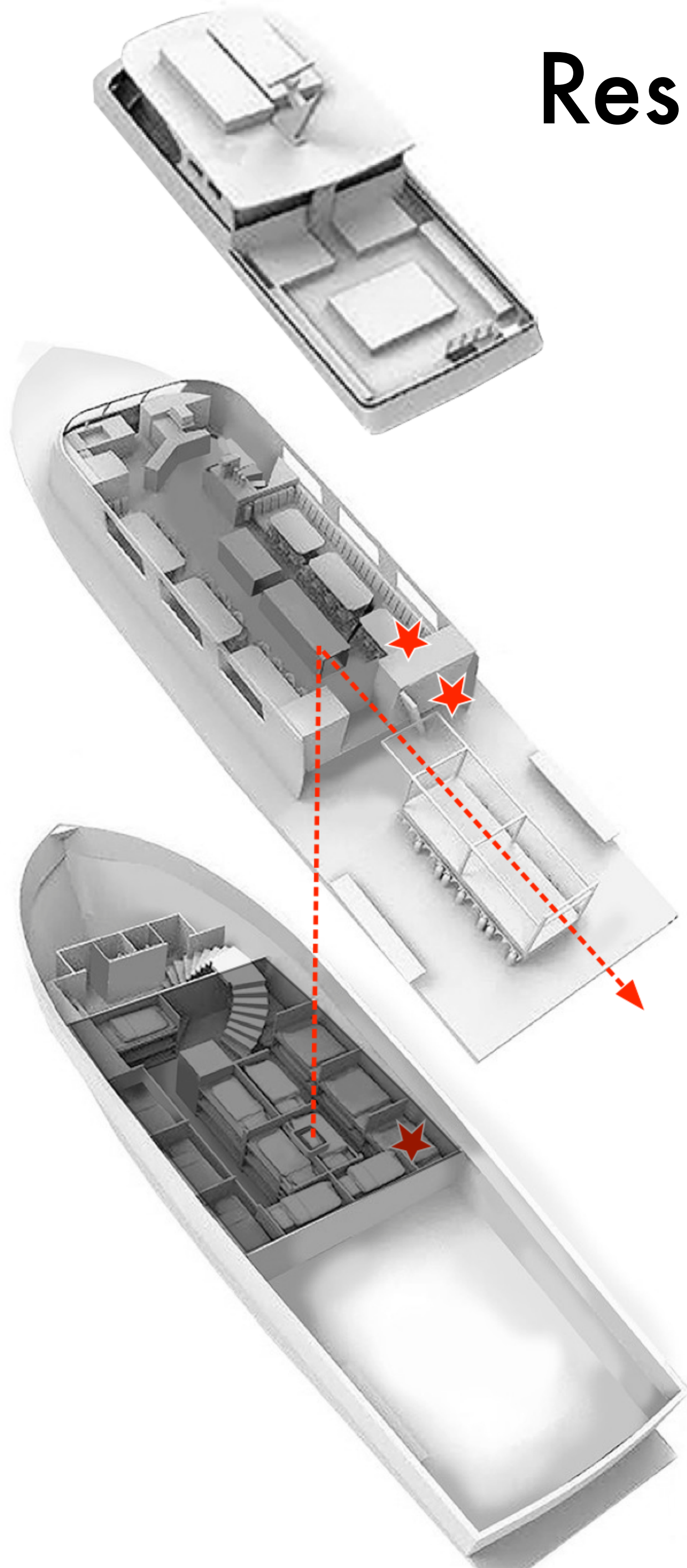


- Burning Material Disables Occupants of Bunks 5U and 8M
- Smoke Alarm Goes Off
- Passengers are Alerted
- Fire Extinguisher is Discharged

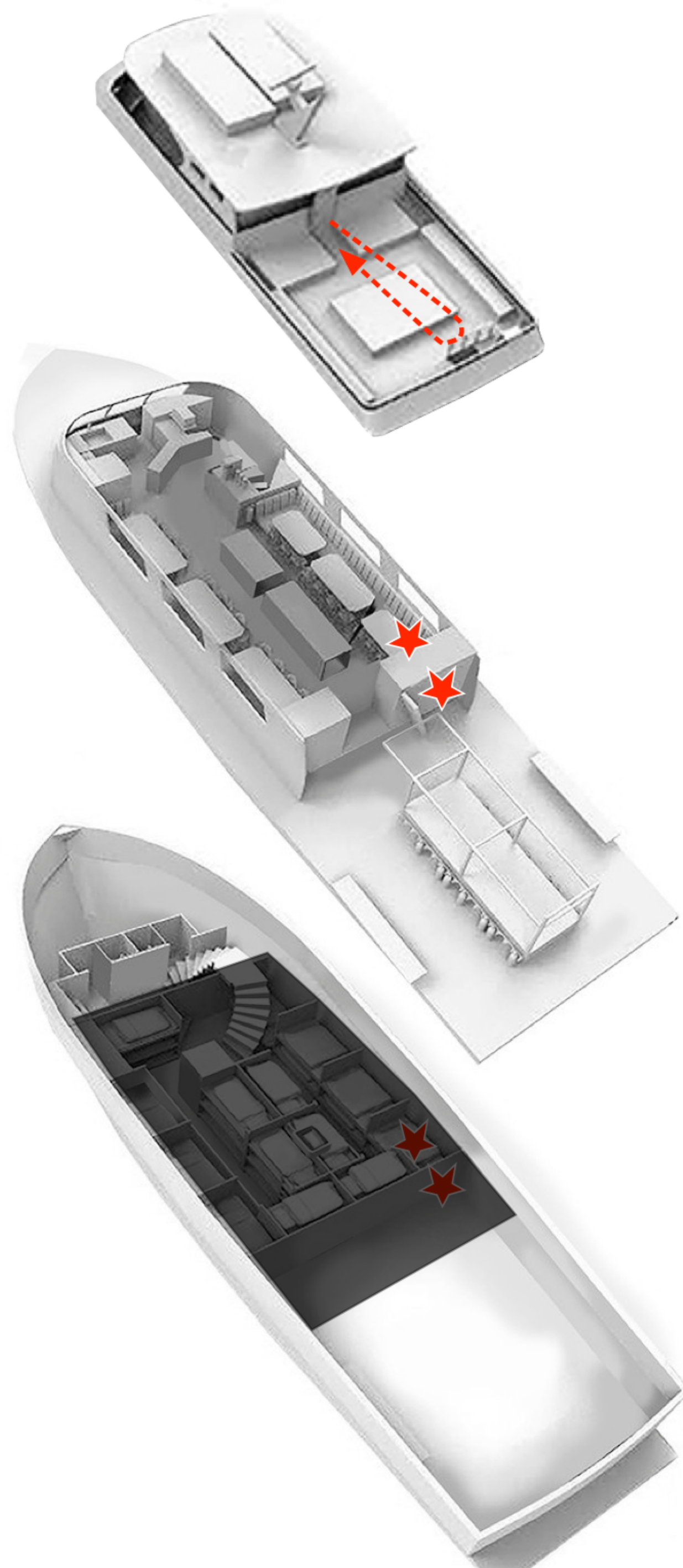


Response (Crew and Physical Evidence)

- Occupant of Bunk 10U Opens and Exits Through Hatch
- Occupant of 10U Screams and Goes Overboard
- Remaining Occupants are Overcome by Smoke
- Occupant of 10U Remains Recovered 8 Days Later Approx. 500 yds from Fire Site



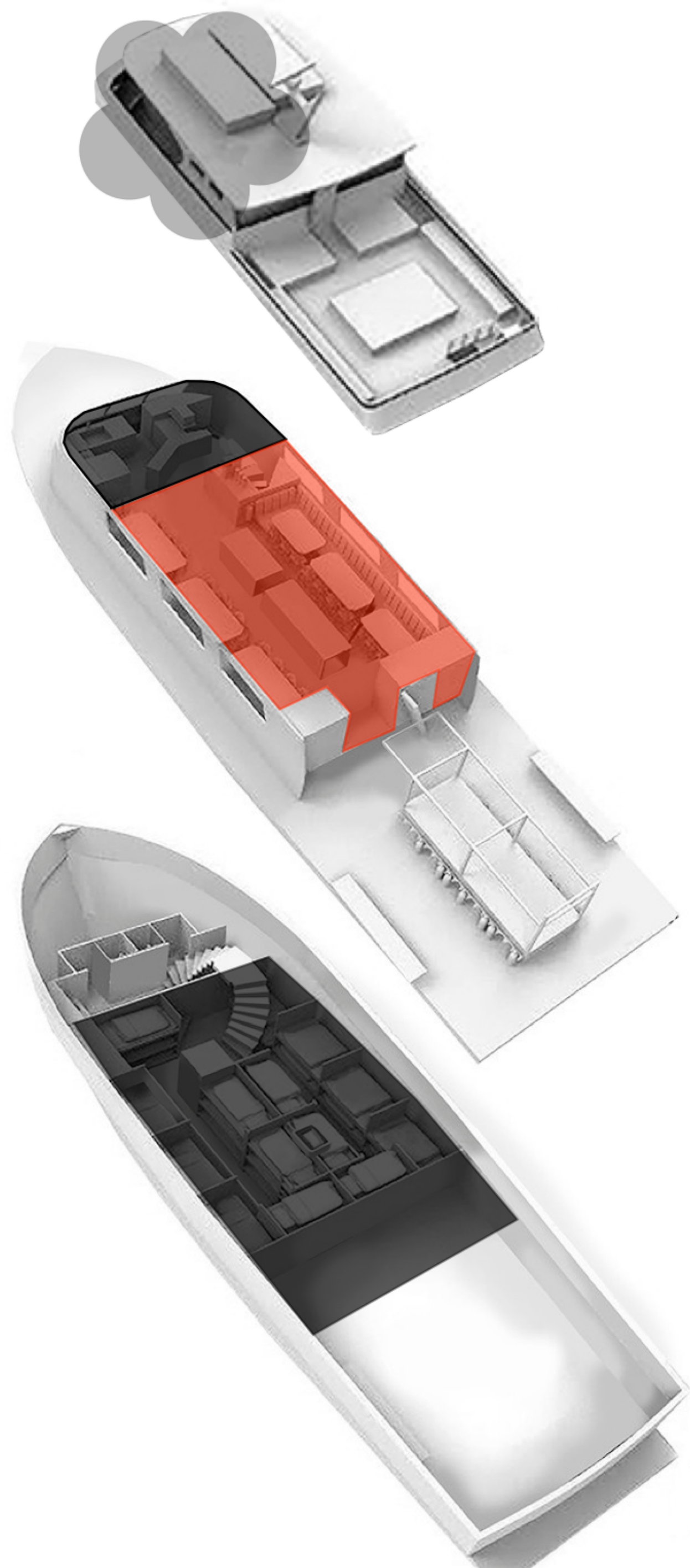
Crew Action (Crew Evidence)



- Kohls Hears Sounds and Scream
- After Pause, Kohls Goes to Ladder to Investigate
- Kohls Sees Glow from Fire at Starboard Corner, Number Three Bathroom, and Bottom of Stairs
- Kohls Does **Not** Report Smoke/Flames from Side Windows or Smoke Around Crew Cabin
- Kohls Runs Back to Crew Cabin and Raises Alarm

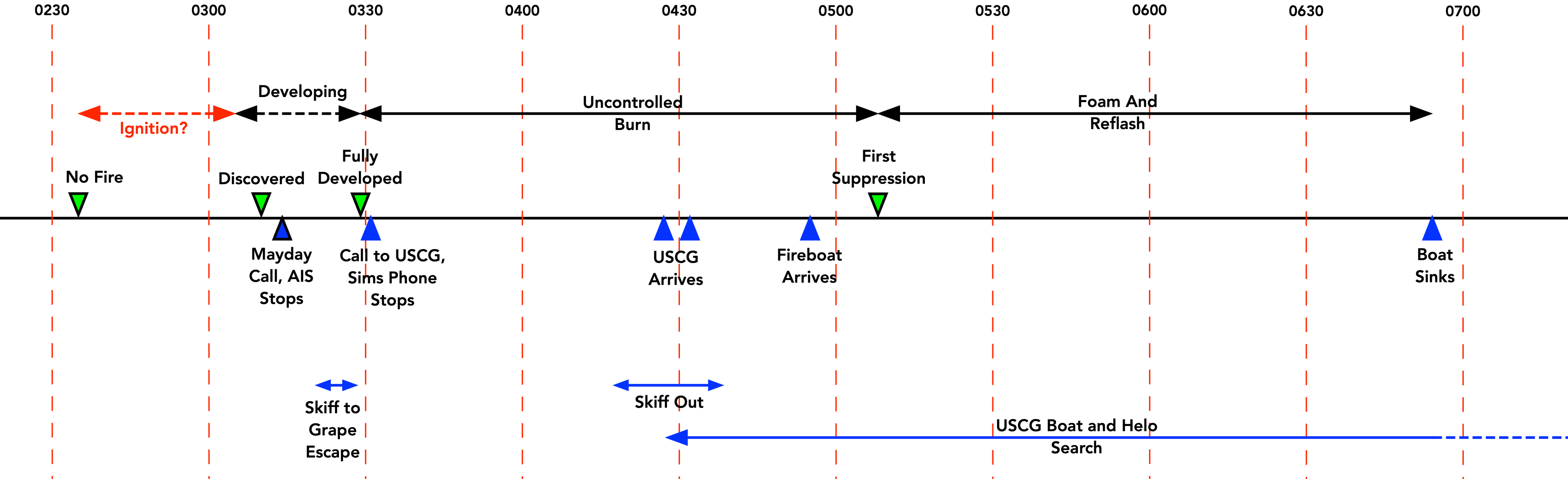


Development (Crew Evidence)



- Thick Black Smoke is Coming Out of Forward Side Windows of Salon
- Boylan Enters Wheelhouse and Makes Mayday Call. Reports Difficulty Breathing
- Other Crew Jump to Port Side Deck. All Report Smoke and Flames Coming Out of Side Windows of Salon
- Molitor and French Attempt to Open Galley Windows. Report Black Smoke in Galley Blocks Vision of Interior
- Molitor, French and Boylan Swim to Aft Deck and Launch Skiff. Monitor and French Report Thick Black Smoke in Engine Room and Fully Developed Fire in Salon. Launch of Skiff Proves Generator Still Running

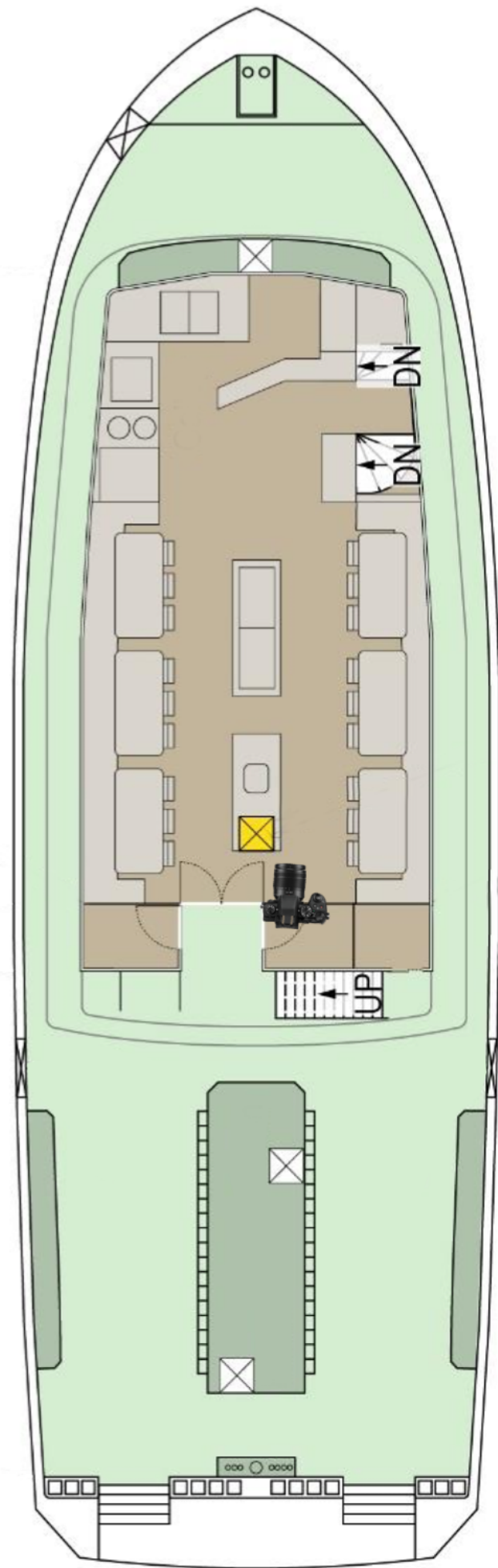
Timeline



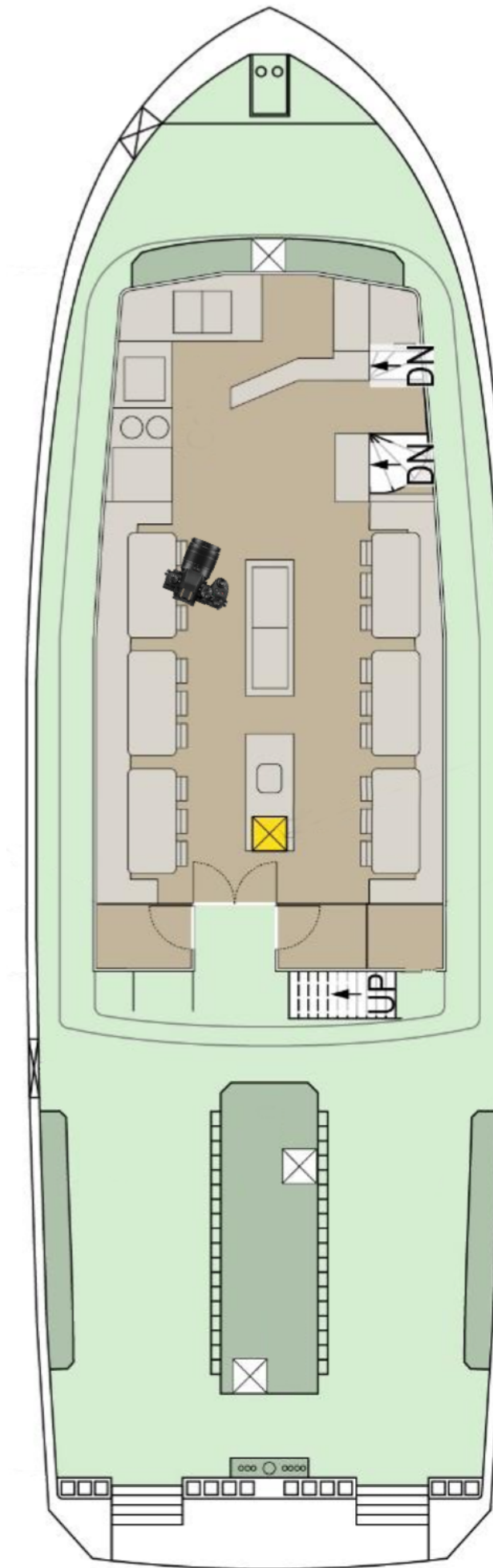
Before and After Views



Superstructure (100% Destroyed)

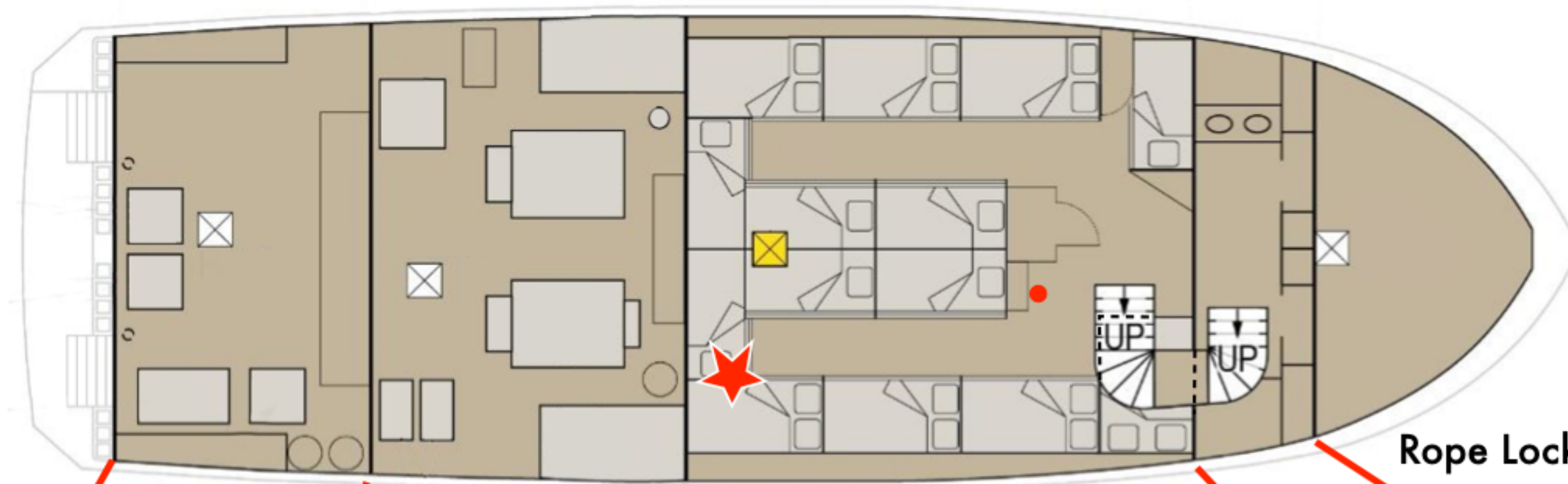


Salon, Showing Potential Fuel



Galley, Showing Forward Windows and Stairs to Below Deck Areas

Hull Remains



Lazarette

Engine Room

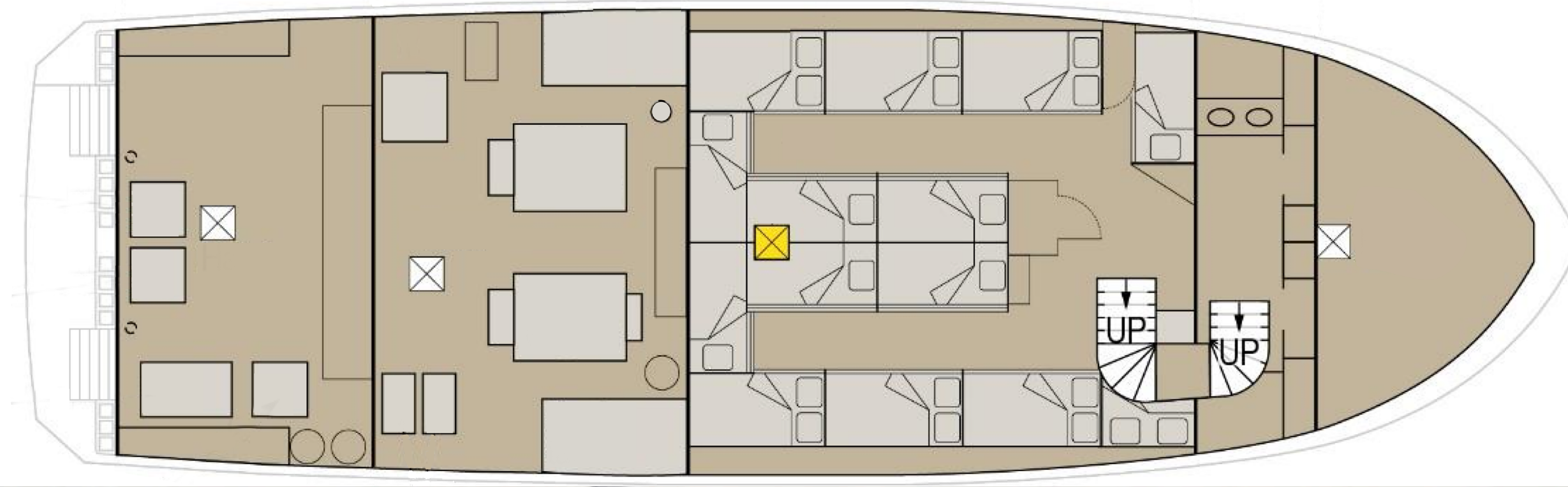
Bunk Room

Showers

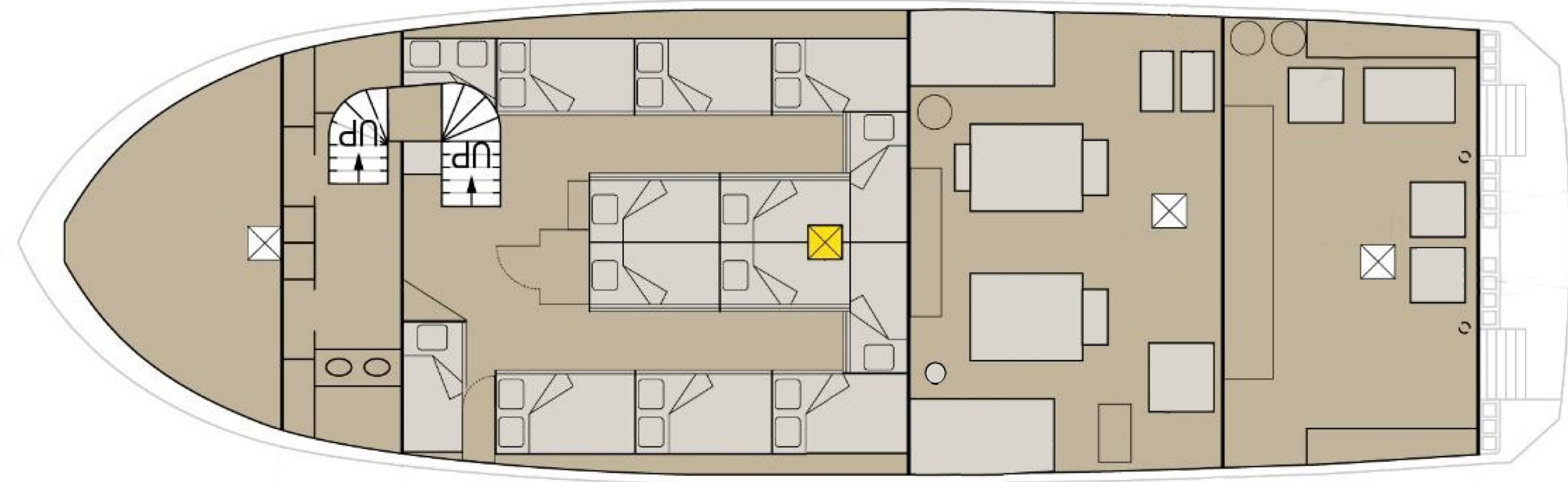
Rope Locker



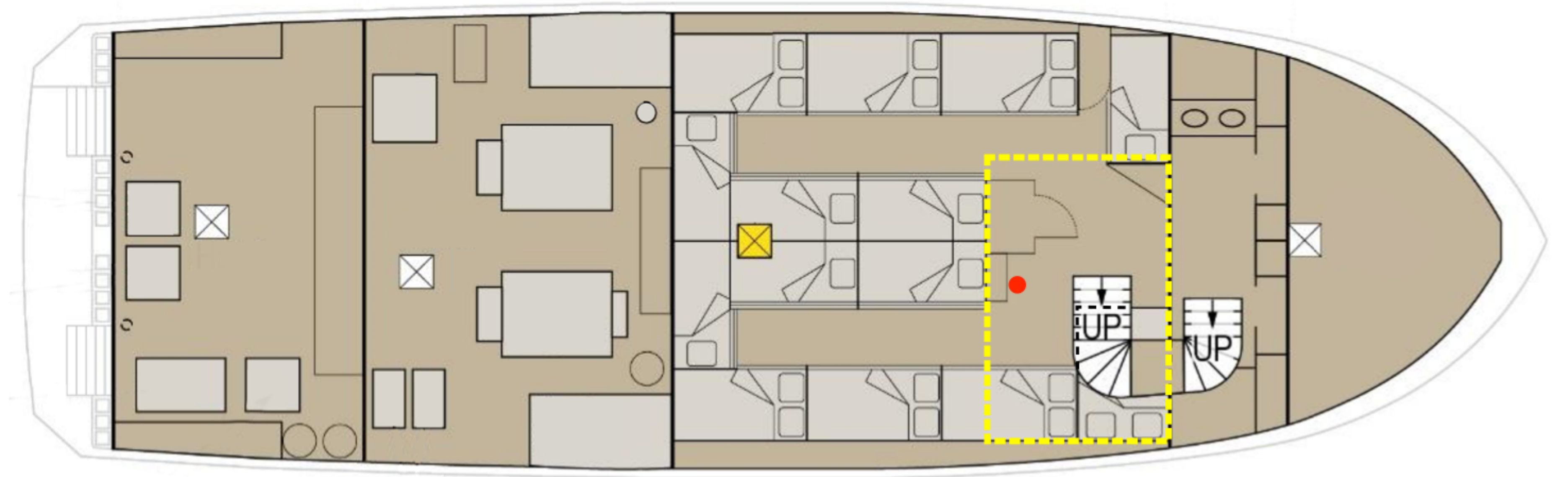
Hull Remains



Hull Remains



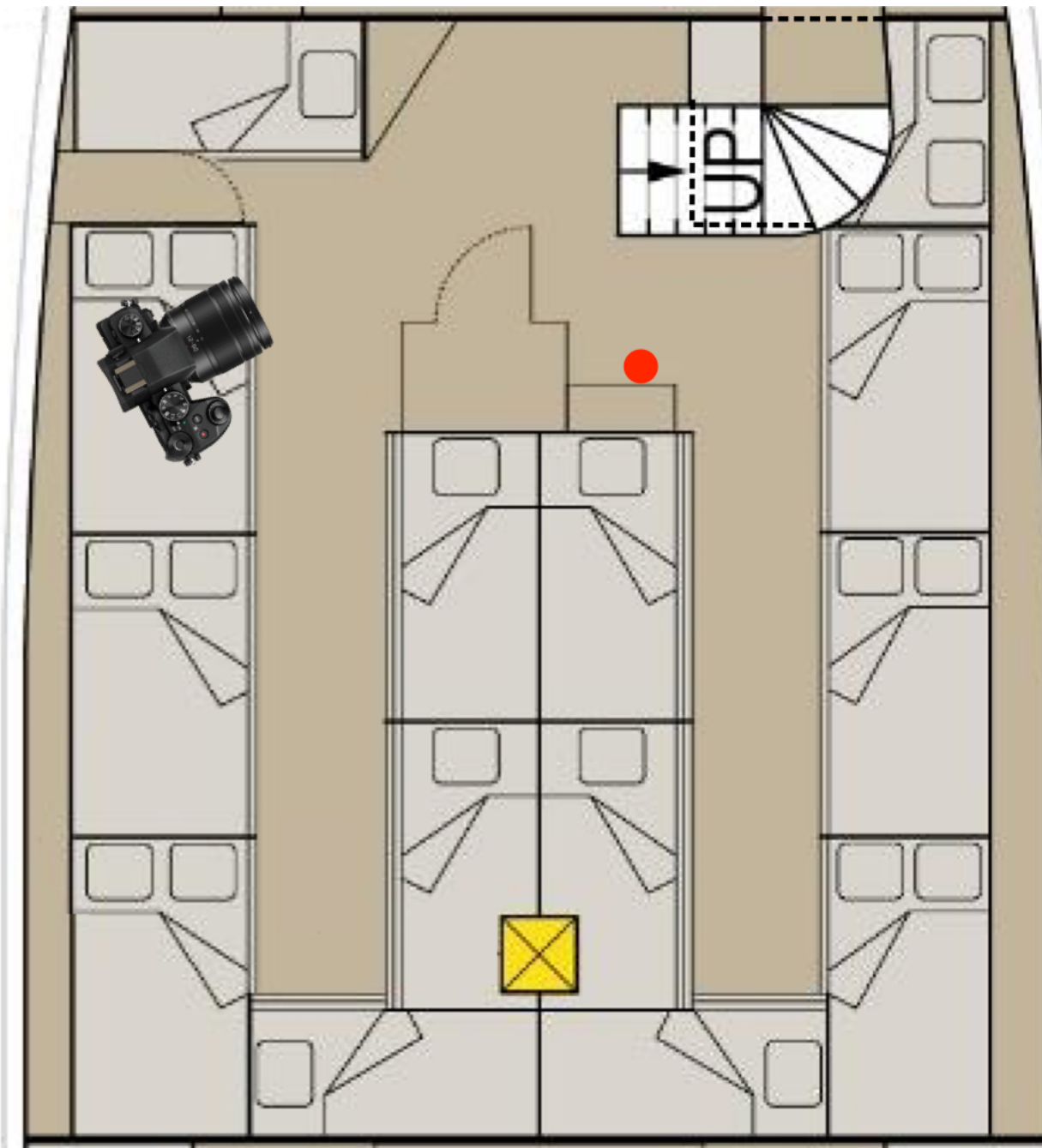
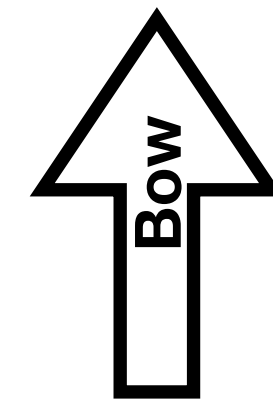
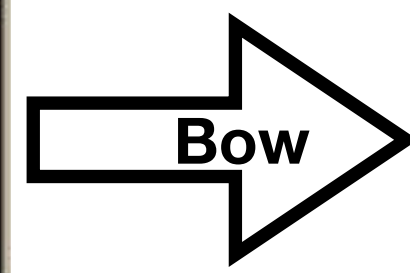
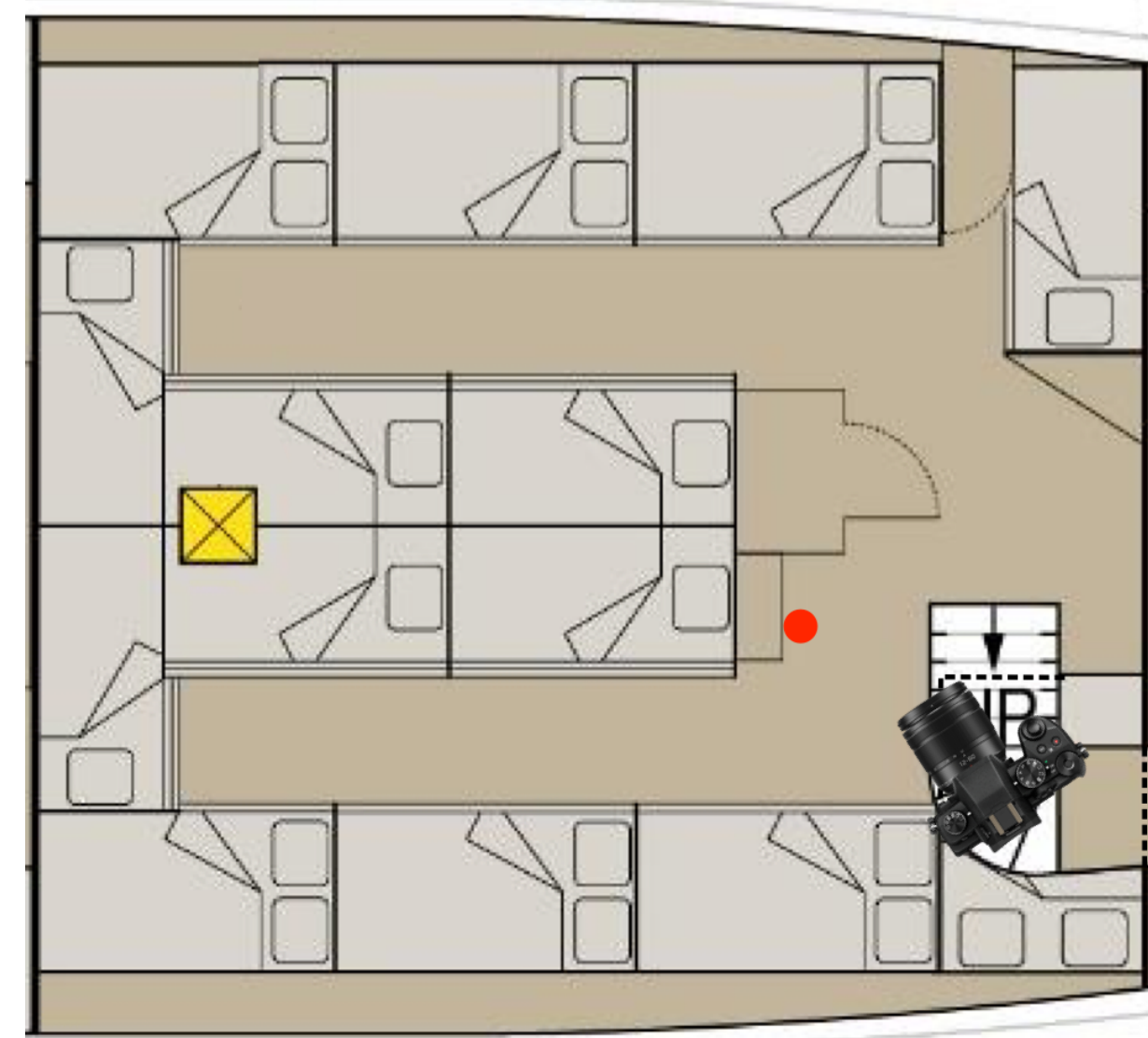
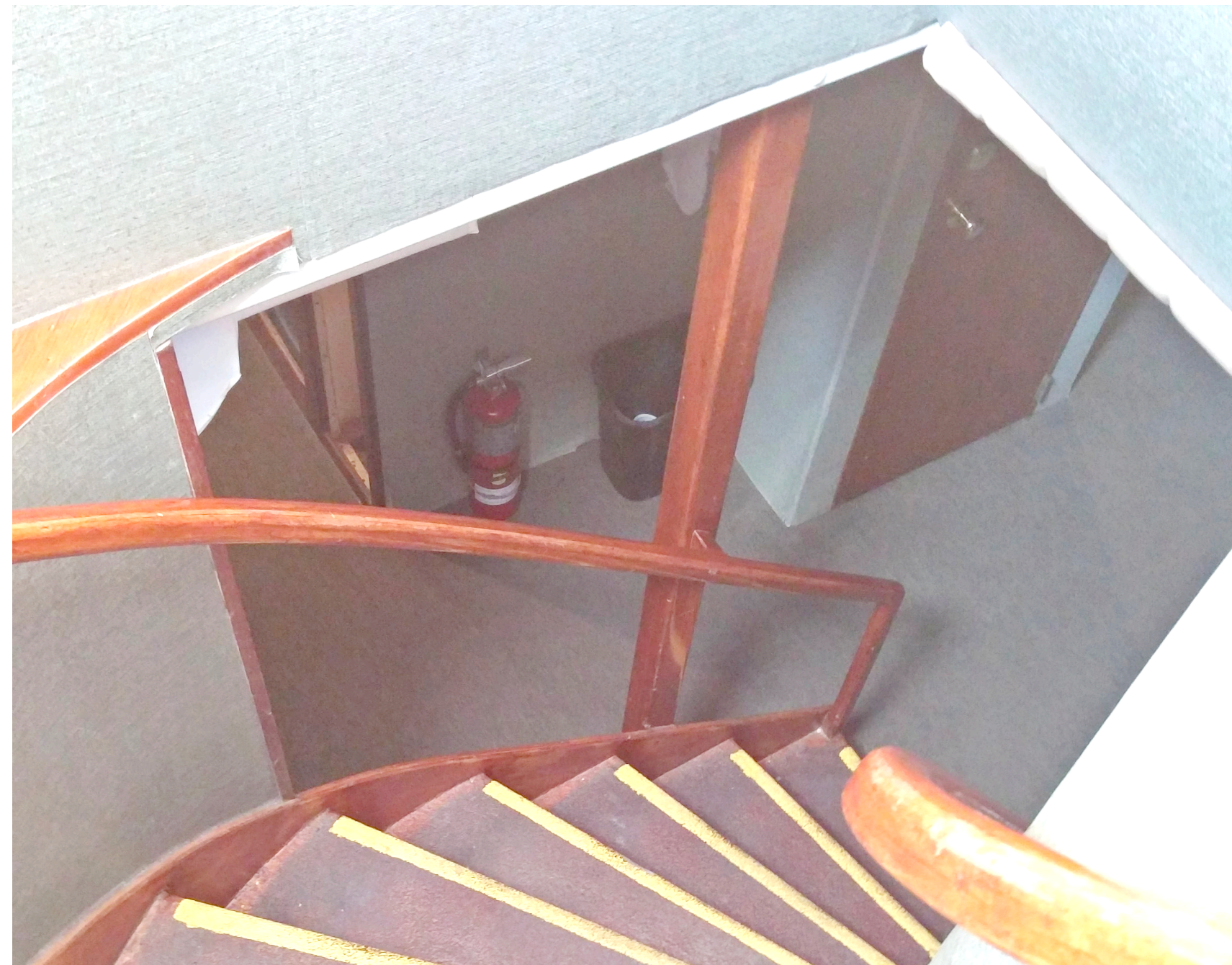
deck



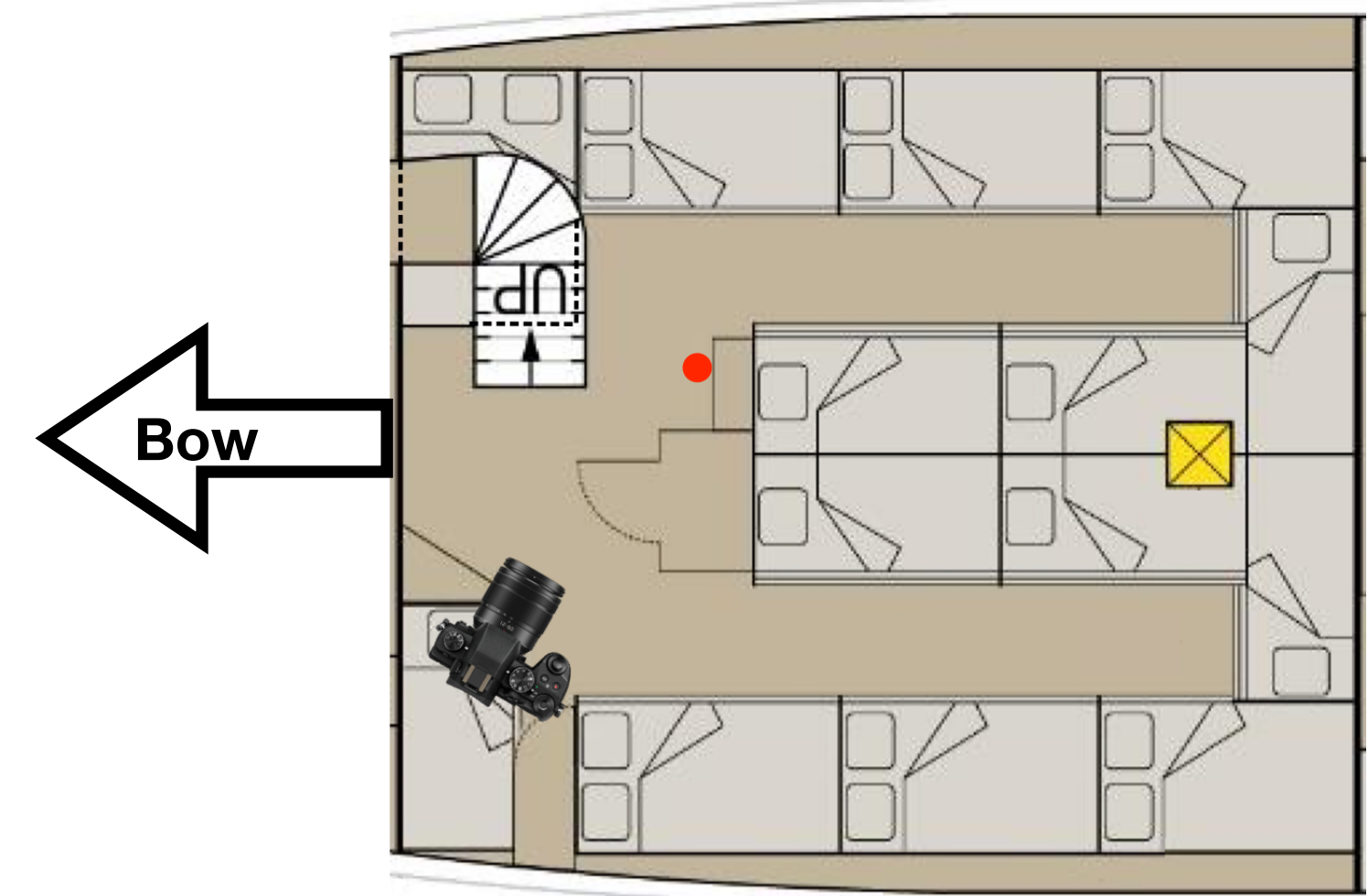
Zone 1, Stairs, Landing,
and Changing Closet



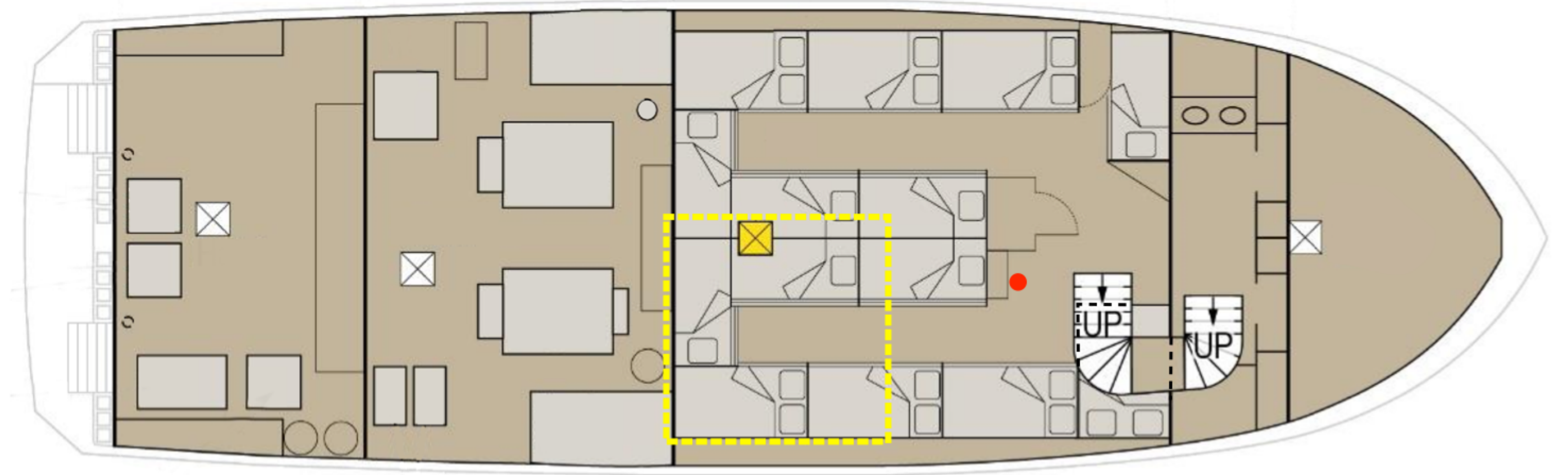
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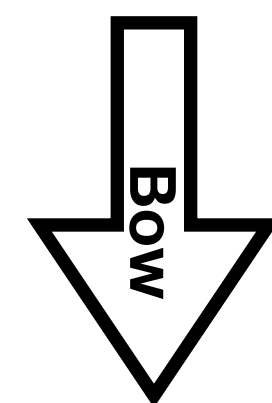
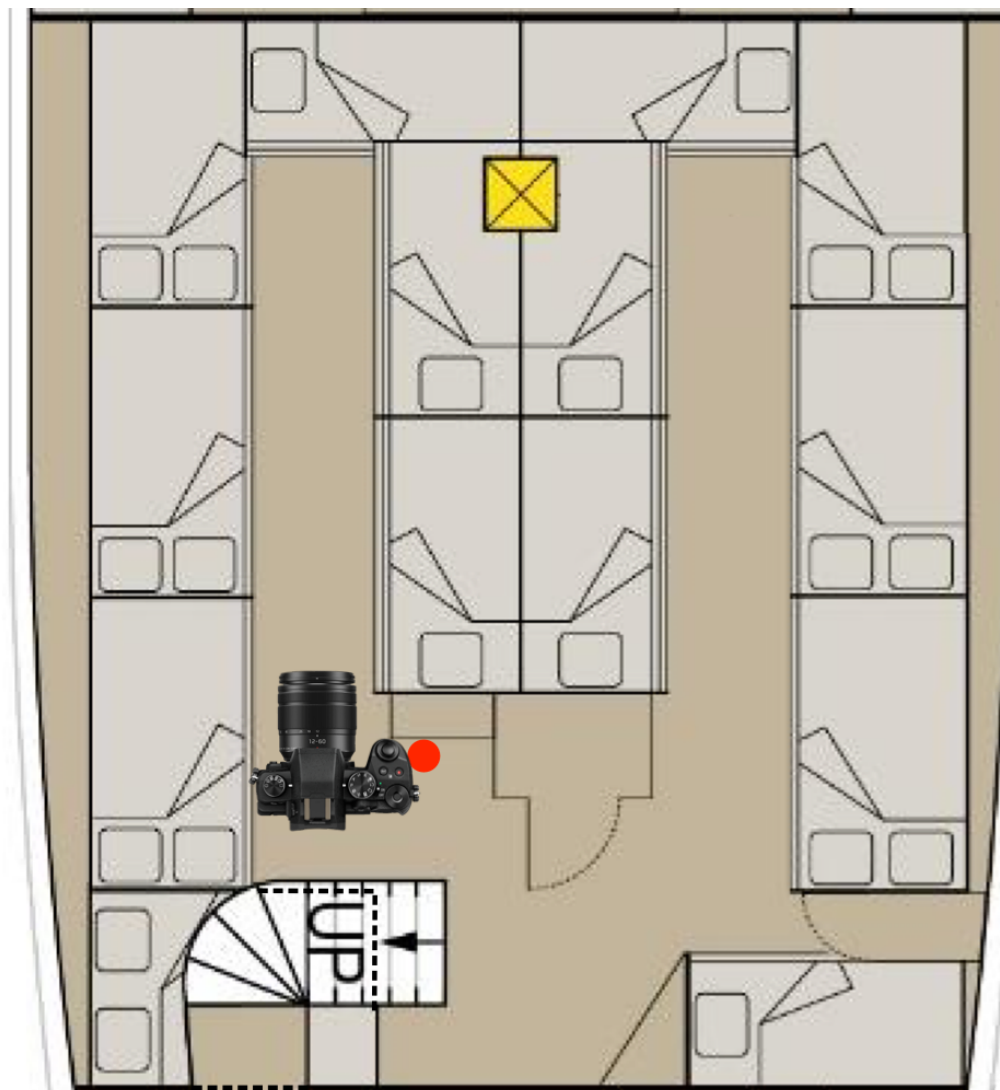


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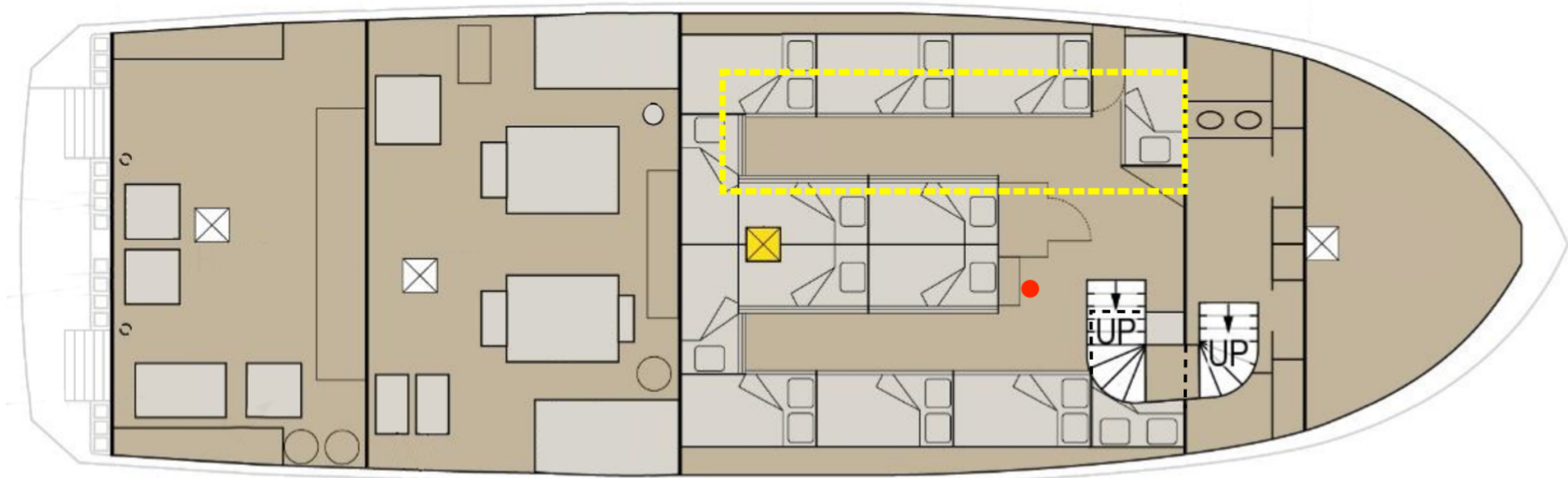


Zone 2, The "Hot Spot"



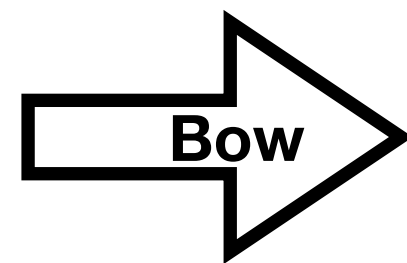
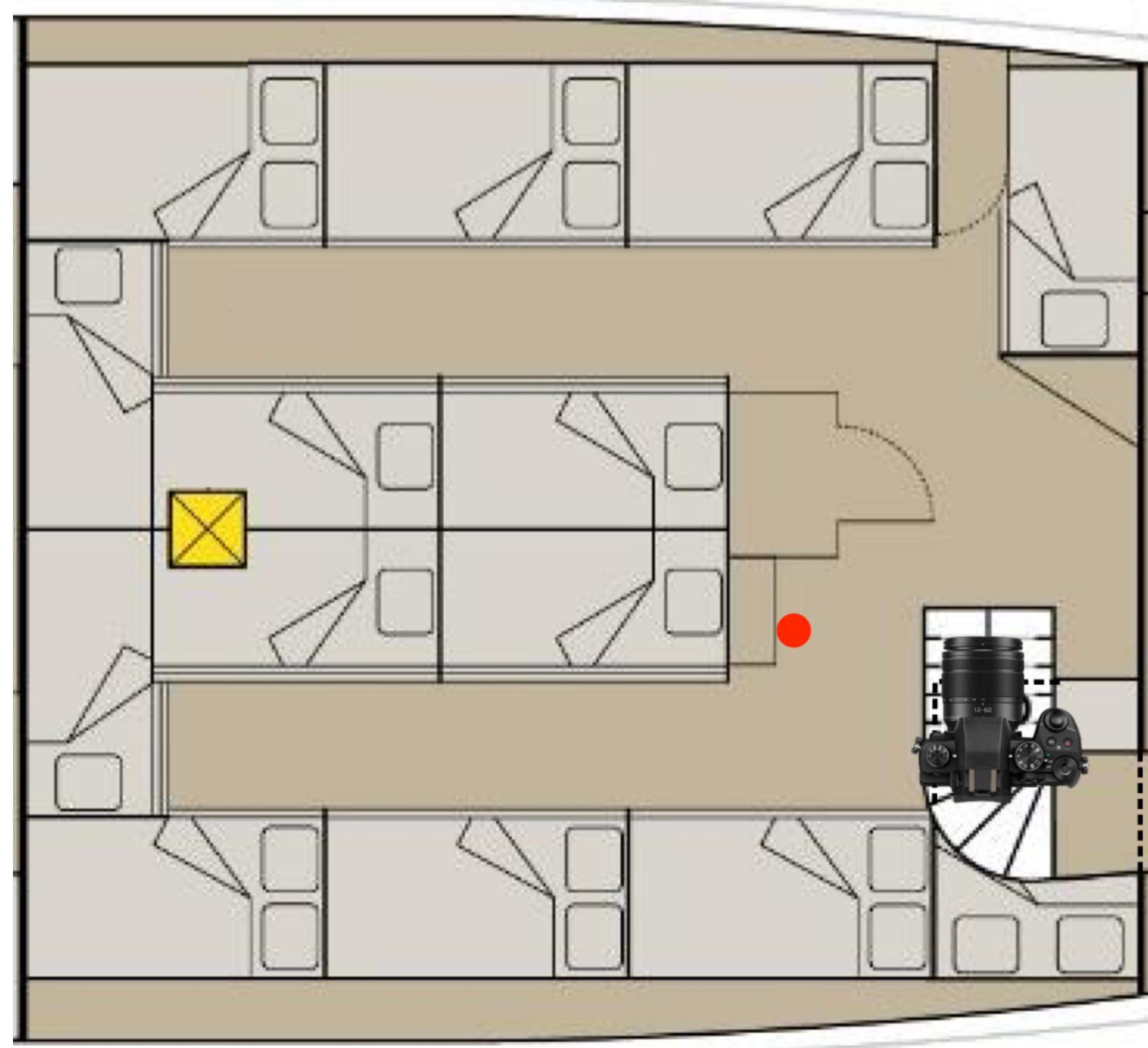
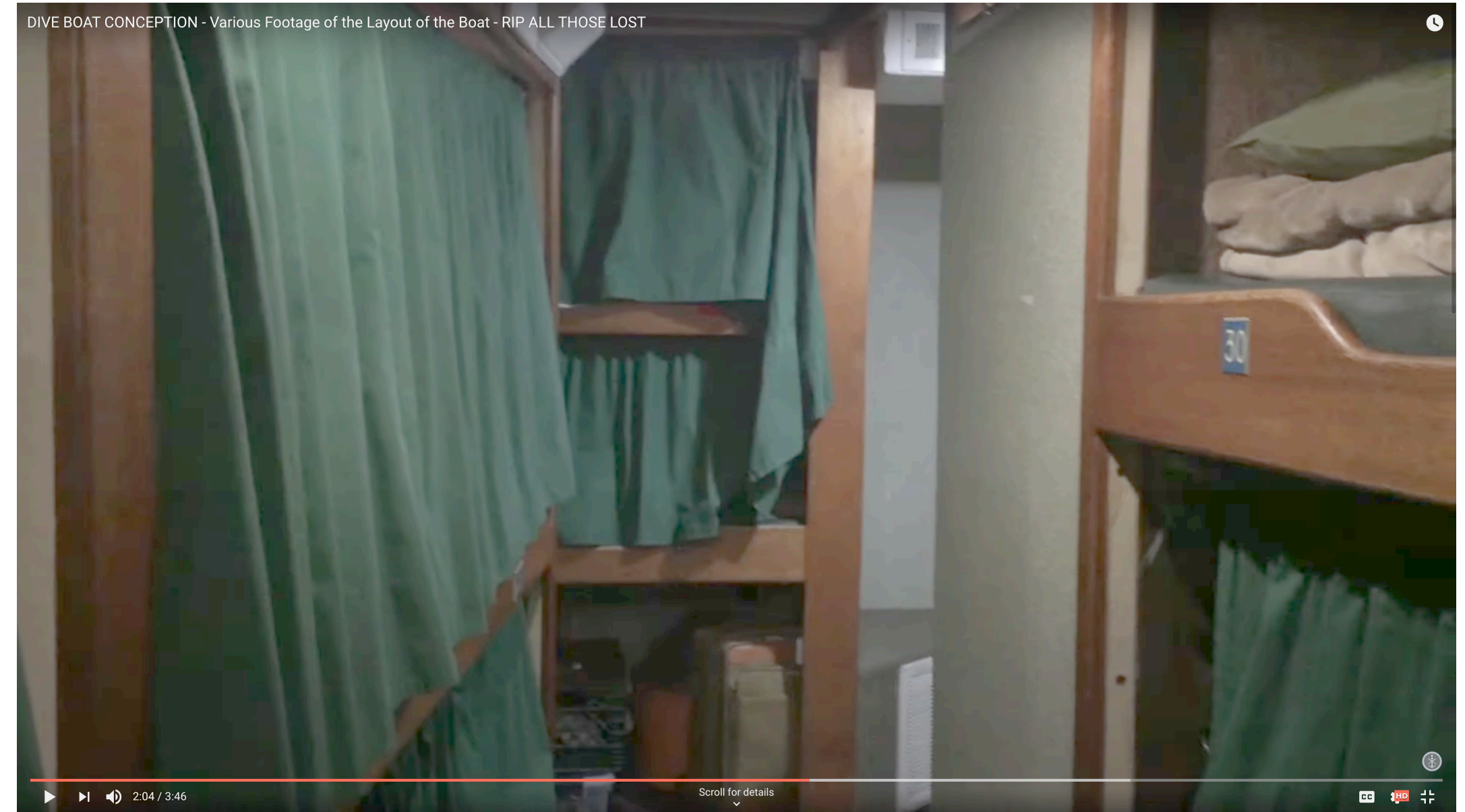


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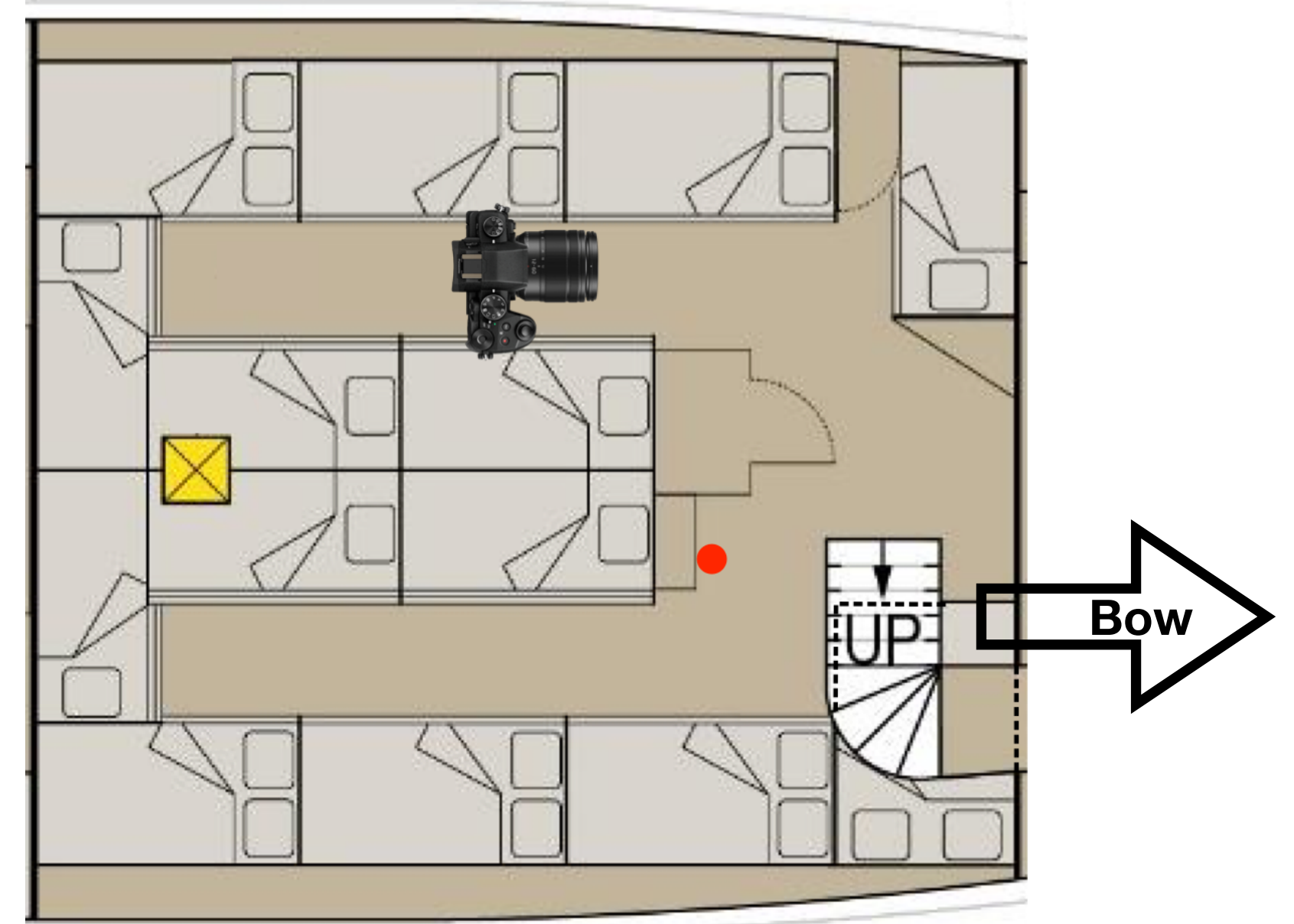


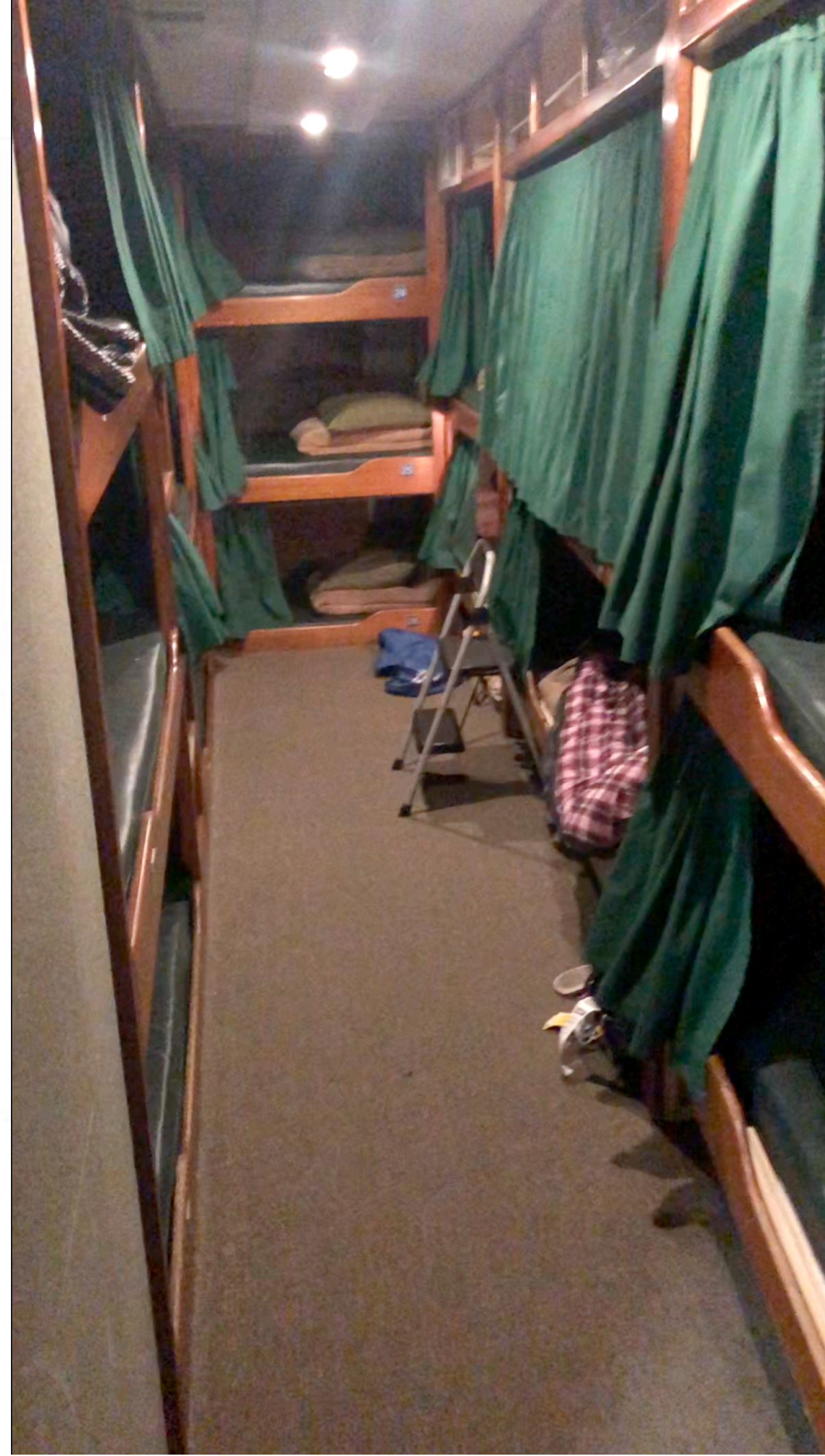
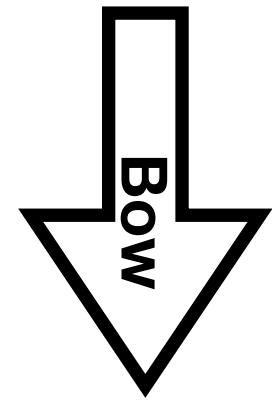
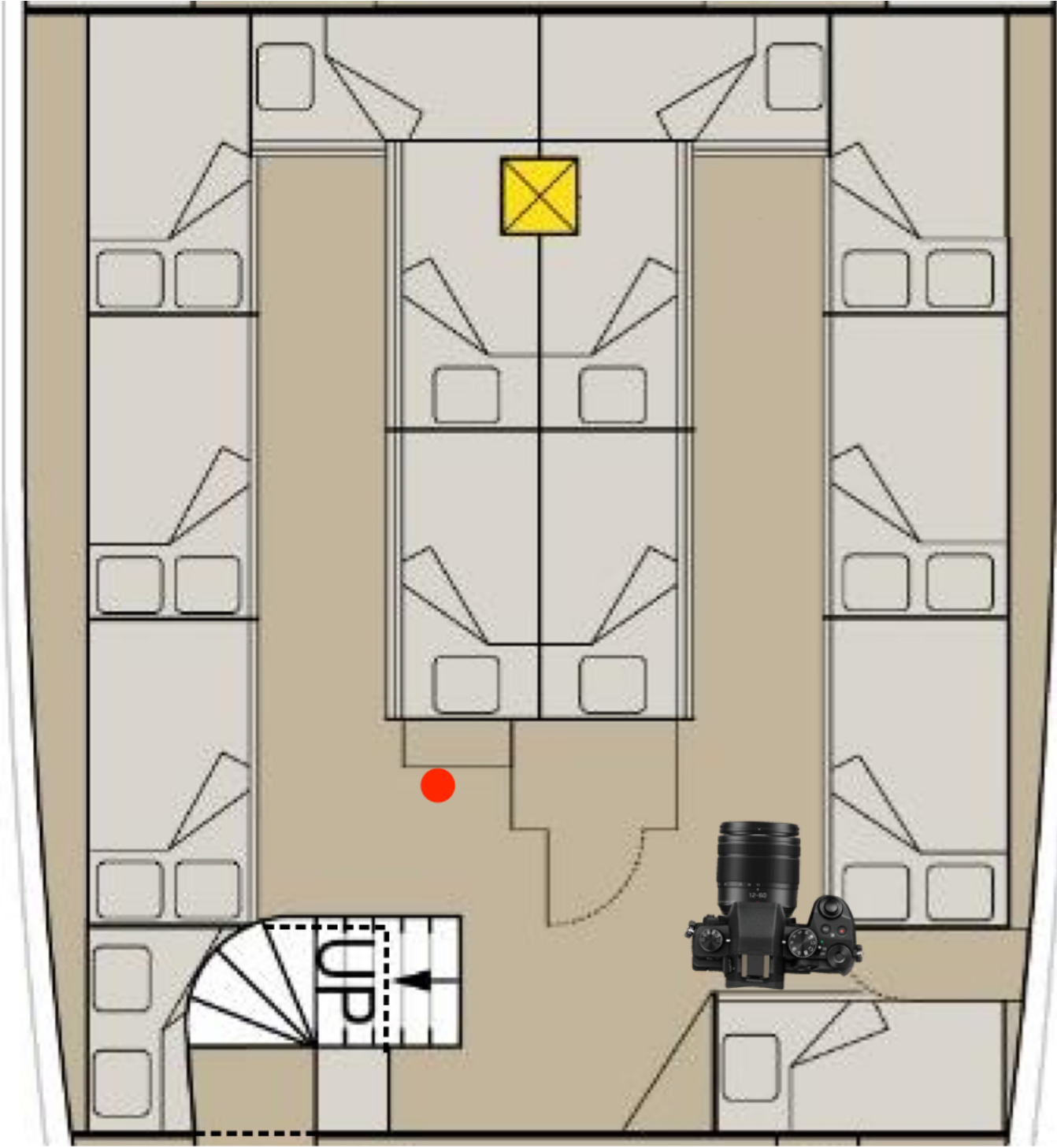
Zone 3, Port Side





Zone 3, Port Side





Goals of the Visit

- Confirm Thickness of Hull and Deck
- Measure Thickness of Bulkheads
- Examine Fuel Tanks for Potential Leaks (Reflash Explanation)
- Measure/Photograph Burn Effects in Starboard Aft vs. Port Forward Areas
- Look for Silhouettes of Corpses in Rug
- Check Chain Locker for Battery Traces (Reflash Explanation)
- Determine Where Recovered Objects are Stored
- If Possible, Examine and Photograph The Following:
 - Item 64, Bag G: 42-Circuit Panel Board
 - Item 113, Bag G: Batteries
 - Item 350, Bag LLL: Battery with no Contents
 - Item 363, Bag TTT: Damaged Batteries
 - Item 367, Bag VVV: Battery with no Contents
 - Item 205, Bunk Area: Probable Power Bank
 - Item 231, Bunk Area: "Squid Light" Cable or Extension Cord

Questions

- If You are Watching this as a Recording, Please Post Your Question to the "Mark's Visit to the Wreck" Board on the forum