

# National Transportation Safety Board

Office of Marine Safety  
Washington, D.C. 20594

## Group Chairman's Factual Report

Fire and Explosions Group

**Conception**

DCA19MM047

**May 7, 2020**

## A. ACCIDENT INFORMATION

Place : Off Channel Islands; 26 nautical miles offshore of Ventura, California  
Date : September 2, 2019  
Vehicle : Small passenger vessel *Conception*  
NTSB No. : DCA19MM047  
Investigator : Adam Tucker

## B. ACCIDENT DESCRIPTION

On Monday, September 2, 2019, about 0314 Pacific daylight time, US Coast Guard Sector Los Angeles/Long Beach received a distress call from the 75-foot small passenger vessel *Conception*, with 39 persons on board. The vessel was anchored in Platts Harbor on the north side of Santa Cruz Island, 21.5 nautical miles south-southwest of Santa Barbara, when it caught fire. The *Conception* was carrying 39 persons, 6 of which were crew.

The fiberglass over plywood vessel had three levels: the upper/sun deck, containing the wheelhouse, crew bunks and rooms; the main deck, which included the salon and galley; and the lower deck within the hull, which included the passenger berthing (bunkroom), shower room, engine room and lazarette. At the time of the accident, five crewmembers were asleep in berths in and behind the wheelhouse, and one crewmember was asleep in the bunkroom with the passengers. A crewmember sleeping in the wheelhouse berth was awakened by a noise and got up to investigate. He saw a fire at the aft end of the upper deck, rising up from the salon compartment below. The crewmember alerted the crew in and behind the wheelhouse. As crewmembers awoke, the captain radioed a short distress message to the Coast Guard before evacuating the smoke-filled wheelhouse.

Unable to use the aft ladder, which was on fire, the crewmembers jumped down to the main deck (one crewmember broke his leg in the process) and tried to access the salon to reach the passengers below. The salon was fully engulfed by fire at the aft end and by thick smoke in the forward end. Unable to open a window at the forward end of the salon and overwhelmed by smoke, the crew jumped overboard.

Two crewmembers and the captain swam to the stern and re-boarded the vessel. Access to the salon through the aft doors was blocked by fire, so they launched a small skiff and picked up the remaining two crewmembers in the water. They transferred to a recreational vessel anchored nearby where the captain continued to radio for help, while two crewmembers returned to the *Conception* to search for survivors around the burning hull. No survivors were found.

Coast Guard and fire department boats arrived on scene to extinguish the fire and conduct search and rescue. The vessel burned to the waterline by morning and subsequently sank in about 60 feet of water. Thirty-three passengers and one crewmember died.

## C. DETAILS OF THE EXAMINATION

### Description of the accident vessel

The Conception was a fiberglass over plywood boat that was built in 1981. The vessel had three levels (figures 1, 2, 3).

The uppermost level included a sun deck, and an enclosed space containing the wheelhouse and crew quarters. The wheelhouse had wing stations on both sides. The only means of access to the upper deck was a staircase on the outer main deck, aft of the main salon/galley, that led to the aft portion of the sundeck area.

The main deck included open areas at the bow and stern of the vessel and an enclosed compartment containing the salon (dining room) and the galley. The galley and salon were a continuous compartment, with the salon comprising most of the space at the aft portion, and the galley at the forward portion. The salon had seating and tables spanning the port and starboard sides of the compartment (figures 4, 5). The outboard seating was constructed from plywood and built into the bulkheads. The bulkheads were covered with FRP sheathing. The seating included cushioning of unknown composition, which the owner confirmed was from when the vessel was originally constructed. There were wooden tables in front of the outboard seating as well as moveable plastic chairs inboard (figure 4). In the centerline of the salon there were built in coolers which were also used as food serving platforms (figure 6) and an icemaker. The ceiling in the salon and galley compartment was lined with a decorative acoustic tile. The salon and galley compartment did not have any smoke detectors installed. The galley had a heat detector installed (figure 7) near the smoke and grease evacuation hood above the griddle and range top. In the galley and salon compartment, as well as underneath the stairs leading to the sun deck, large polyethylene trashcans were being used.

The salon and galley had a main exit at the aft end of the compartment which led to the open part of the aft main deck, there were a set of double doors which were kept open at sea. (figure 8).

There were also three separately enclosed compartments attached to the salon and galley compartment of the main deck. These compartments contained the toilets. Two of the toilets were accessible via doors on the port and starboard sides of the entryway leading into the salon (figure 8). The third toilet was on the starboard side and accessible from an exterior sliding door at the bottom of the stairway leading down from the upper deck (figure 9).

The lower deck, located within the hull, housed the passenger overnight accommodation space, known as the bunkroom; shower room; engine room; and lazarette. Access to the bunkroom was via a staircase (figure 10) located towards the front of the salon/galley compartment (figure 11). In the same area of the galley, a separate staircase provided access to the washroom, known on board as the shower room. The bunkroom consisted of three levels of bunks along the centerline of the compartment and two levels of bunks (the bunks along the sides were double wide bunks) along two aisleways that joined at the forward end of the bunkroom, where some standing space and a dressing room were located (figure 12). The bunks were constructed of wood (figure 13). The floor and the interior

of the bunk spaces were covered with carpeting. The ceiling was lined with acoustic tile. There was one modular smoke detector on the ceiling in each of the aiseways (for a total of two smoke detectors in the bunkroom). The bunkroom also had an emergency exit hatch located at the rear of the bunkroom above one of the passenger bunks. The emergency exit hatch led to the aft portion of the salon (figure 14).

### **Description of the fire and crew actions at the time of discovery and shortly thereafter.**

This description of the fire is based on the initial interviews conducted with three of the surviving five crewmembers. The complete interviews can be found in the accident docket. A table with excerpts relevant to the fire from each of the three crewmembers' interviews is included in Appendix A of this report. In this section, a description of the fire and crew actions is presented based on the events as observed by each of the interviewed crewmembers.

According to the interviews, all the crewmembers were asleep at the time the fire was discovered. Five crewmembers were sleeping in the crew quarters and wheelhouse of the uppermost deck. One crewmember was sleeping below deck in the bunkroom.

#### ***From the second galleyhand interview:***

The last crewmember to go to bed was the second galleyhand, who went to bed at approximately 0235 after he finished cleaning the dining room and making preparations for the next morning's breakfast. At the time he went to bed, there did not appear to be other crew or passengers awake, and nothing was abnormal.

The second galleyhand was the first crewmember in the crew quarters to awaken and discover the fire. He initially heard a sound similar to that caused by a person bumping into one of the plastic chairs in the salon. An undetermined time after that, but presumed, by him, to be a short duration, he said he heard what sounded like a door to one of the toilets on the main deck closing. After that, the next sound he heard was described as a single scream or yell.

The second galleyhand got up from his bunk to investigate after hearing the sound. Upon exiting the crew quarters onto the sundeck, he observed an orange glow towards the starboard side, and when he went to the aft portion of the sundeck, the stairs that lead to the main deck were obstructed by flames at the bottom of the stairs. The second galleyhand then backtracked towards the crew quarters yelling "fire" to alert the other crew and leaned over the railing on the forward port side area of the sundeck. He said that smoke was coming out of the salon windows and that the deck was not visible. At this point in time, the rest of the crewmembers on the upper deck were still in the crew quarters and wheelhouse and were beginning to get up.

The second galleyhand lowered himself down on to the port side of the main deck by holding on to the railing of the sundeck. Once on the main deck, he went around to the back of the vessel from the port-side walkway to enter the salon/galley compartment. He was not able to make entry because flames were filling the entire entryway. The entryway to the salon was a short (approximately 4-foot-long) corridor, which had bathrooms on the port and starboard sides. He described this area as being full of flames. The escape hatch for the

passenger bunkroom was located beyond this entryway inside the aft part of the salon, which was engulfed in flames. The second galleyhand described the salon as being full of flames, while fiberglass was melting and falling down onto the deck. The second galleyhand said that the flames were more intense on the starboard side of the salon.

The second galleyhand saw a crewmember drop down onto the main deck (this turned out to be the deckhand) from the port-side wing station of the wheelhouse. At that point, he went around and up the port side walkway of the vessel headed towards the bow. He stated that at that point, flames were starting to come out of the port-side windows of the salon. While making his way forward another crewmember, the first galleyhand, dropped down onto the deck from the port-side wing station and broke his leg upon landing.

Once the second galleyhand got to the bow after bypassing the first galleyhand he found the deckhand and the second captain there. The deckhand was attempting to open the forward window of the galley. According to the second galleyhand and the deckhand there was no visibility into the galley due to thick black smoke and the forward window was hot but not enough to burn or cause pain while being handled. Neither one of them was able to see flames in the galley beyond the black smoke coming out of the forward window they were trying to open.

While the second galleyhand, the deckhand, and the second captain were on the bow, they saw flames going up to the wheelhouse, at which point they saw the captain jump off the starboard wing station and into the water. After the captain jumped into the water, the second captain jumped into the water after him.

The second galleyhand and the deckhand helped the injured first galleyhand into the water through the open bow gate on the port side. The second galleyhand then entered the water and swam with the first galleyhand away from the vessel; they were eventually picked up later by the other crewmembers in the skiff.

***From the deckhand interview:***

After the second galleyhand woke the deckhand by yelling "fire," the deckhand stated that he exited the crew quarters via the aft door to the sun deck and observed an orange glow on the starboard side by the stairs leading to the main deck. He approached the stairs and realized that he could not go down them, so he turned around and went to the wheelhouse and exited from the port-side wing station, lowering himself down to the main deck. He said that once on the main deck, he could not walk down the port-side walkway of the vessel because black smoke and flames were coming out of the salon windows, so he headed towards the bow. When the deckhand arrived at the bow, he looked up at the wheelhouse; he said that he could see the captain on the radio with his head leaning out the window and smoke coming out from behind him. The deckhand tried to open the middle-forward window of the galley, which was the only one by design able to be opened. Since the window release was on the inside of the galley, the deckhand was not able to open the window. The deckhand was about to yell to the captain for the fire axe, which was in the wheelhouse, but before he could do so, the captain jumped from the wheelhouse wing into the water. At this time, the second captain, who was also at the bow, jumped into the water to help the captain.

The deckhand returned to again attempt to open the galley window but was unsuccessful. The deckhand was the last crewmember on board at the bow of the *Conception*. The deckhand opened the anchor compartment hatch at the bow and did not notice anything unusual in that compartment. Determining that there was nothing further he could do from the bow, the deckhand jumped into the water, swam to the stern, and climbed up the swim step onto the aft main deck. As he was climbing up the swim step, the second captain, who had previously swam to the stern of the vessel, was lowering the skiff into the water.

According to the deckhand, the fire was more severe on the starboard side of the vessel, but the port side was almost as bad. The fire on the port side prevented the deckhand from accessing the fire hose and the fire pump remote start control, which were located on port side of the vessel, outside the salon and galley compartment. The deckhand then went to assist the second captain with the skiff and to help pull the captain, who had also swam to the stern of the vessel, out of the water and into the skiff.

The deckhand then went back up the swim step and onto the aft main deck of the vessel, where he opened the hatch to the engine room. He said that the fire had spread almost as far back to the engine room hatch but not over it. He opened the hatch and saw that there was smoke in the engine compartment but no flames. He described it as a grey/white smoke and not the same as the black smoke from the fire above.

After realizing there was nothing more he could do, he rejoined the captain and the second captain in the skiff, and they picked up the first and second galleyhands, who were still in the water.

***From the second captain:***

The second captain woke to the second galleyhand yelling, "Fire!" When he got up and looked through the open door between the crew quarters and the sun deck, he observed flames coming up the stairs that lead down to the main deck.

The second captain then went into the wheelhouse and exited through the port-side wing station, lowering himself down to the main deck. The second captain stated that at that time, the walkway along the port side to the stern of the vessel was impassible due to smoke and flames coming out of the salon windows. The second captain then proceeded to the bow of the vessel, where he opened the port-side bow gate. He then turned around and saw the deckhand attempting to open the forward galley window.

The second captain stated that, at this point, the captain was still in the wheelhouse making a mayday call. The second captain said that the flames had begun to spread from the salon walls up to the wheelhouse, and noted that there had been smoke already in the wheelhouse when he was up there and that he had woken up with the taste of smoke in his mouth.

The next thing that the second captain saw after the flames reached the wheelhouse was the captain jumping from the starboard wing station into the water. The second captain

then jumped over the starboard side of the vessel into the water to assist the captain. After seeing that the captain was ok, the second captain swam to the stern and climbed up the swim step.

The second captain said that he went towards the salon entrance and the stairs to the sundeck was fully on fire, the toilets were engulfed in flames, and the entrance to the salon was a wall of flames. He said that the ceiling at the salon entrance was dripping flames and that the location of the bunkroom escape hatch was fully engulfed.

The second captain went back to the stern and began lowering the skiff using the electric winch. The captain had arrived at the back of the vessel, and the second captain helped him into the skiff which was now floating in the water. The captain, second captain, and the deckhand began paddling away until they got the engine running. They picked up the two galleyhands and headed towards a nearby boat, the *Grape Escape*.

### **Description of the *Conception* wreckage**

The *Conception* sank at 0658, about 3 hours and 44 minutes after the fire was initially reported. A photo of the *Conception* was taken by one of the responding fire boats after the fire had been extinguished and before it sank (figure 15). The wreckage was recovered over the next couple weeks following the accident and was transported to and stored at a Naval base in Ventura County, Port Hueneme, Oxnard, California, where it was examined by the National Transportation Safety Board (NTSB) on September 26–27, 2019. Debris and personal effects still contained inside the wreckage had been removed by the Federal Bureau of Investigation (FBI) and the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) prior to NTSB investigators being permitted to examine the wreckage. The wreckage and debris recovered from the seafloor or surface was laid out by the ATF and FBI in a secure parking lot into three sections consisting of the main hull with the below deck spaces, the main deck, and the upper deck (figure 16). There was also an area with bags full of items that had been floating in the water and from the seabed that were collected. The ATF and FBI had placed the recovered items and portions of structure that could be identified in their corresponding places for each of the three sections of the wreckage representing the three decks. For the main deck and upper deck portions, an outline had been made on tarpaulin underlays, and the items/structure were placed within the outlines in the areas where they belonged. As seen in figure 16, very little material remained from the upper deck and the main deck.

The hull of the *Conception*, where the below-deck compartments had been located, represented the bulk of the remaining structure. There was no longer separation of the below-deck compartments between the anchor room, shower room, bunkroom, engine room, and lazarette going from forward to aft. The entire interior of the below-deck space was charred, with some exceptions in areas that likely became covered by collapsing structure and thus were protected from thermal exposure. Overall, the interior of the below-deck compartments had burned all the way down to the floor in the bunkroom and shower room and consumed the floor, exposing the longitudinal frames in both the engine room and lazarette (figure 17).

Port-side portions of the hull exterior had burned down to a few inches from the water line. The areas with the fire damage closest to the waterline corresponded with the locations of the lazarette compartment (figure 18) and the passenger bunkroom (figures 19 and 20).

On the bow portion of the hull exterior, the fire burned down to the level of the main deck rub rails (figure 21).

On the starboard side of the hull exterior, as on the port side, the areas with the closest to the waterline fire damage corresponded to the lazarette (figure 22) and passenger bunkroom areas (figure 23). Overall, the area of lowest burn-through of the hull on the starboard side of the passenger bunkroom was larger than the area of lowest burn-through on the port side.

The structure and items recovered belonging to the main deck of the vessel consisted mostly of a few pieces of partially charred deck material and the noncombustible remains of the galley and salon equipment (figure 24). The decking material that remained belonged to the three toilets on the main deck and small portions of the port and starboard walkways that were adjacent to them.

No structural components remained from the upper deck, which included the sundeck, crew quarters, and wheelhouse; the only items that remained from this deck were the metal frame of the helm wheel and the batteries for the vessel's radios.

### **Applicable Fire Safety Regulations**

The *Conception* was subject to US Coast Guard regulations in 46 *Code of Federal Regulations* subchapter T, commonly referred to as "Old-T" regulations. In 1996, the regulations were updated (referred to as "New-T" regulations). Most, but not all, of the changes in the regulations found in the New-T regulations are retroactively applicable to "existing" vessels built under the Old-T regulations. Based on the latest certificate of inspection (COI), the *Conception* had been in compliance with the applicable Coast Guard regulations pertaining to fire safety for this class of vessel.

Based on the past inspection history and current COI, the *Conception* had the required fire pump and fire hose stations as well as fire extinguishers. Photos from previous passengers that were submitted to the NTSB depicted fire extinguishers in many areas of the vessel, including the passenger bunkroom and the salon and galley compartment. Fire extinguishers were also retrieved from the wreck site. Although an attempt was made by crew to reach the fire stations and start buttons for the fire pump, the crewmembers did not utilize the fire hoses or extinguishers to fight the fire. The fire pump and fire extinguishers did not have a role in this accident.

The *Conception* had a carbon dioxide fixed fire-suppression system installed in the engine room (required from the New-T regulations). The galley exhaust hood also would have been required to have a built-in, fixed fire-suppression system based on the updated regulations (section 181.425). An exemption for this was approved July 6, 2000 by the Coast Guard Officer in Charge, Marine Inspection (OCMI). This exemption allowed for alternative compliance by the use of a heat detector alarm in the vicinity of the exhaust hood, a

maintenance program to ensure the existing galley ventilation system was kept free of grease and the addition of an additional B-II portable fire extinguisher for use in the galley (figure 7).

The salon and galley compartment of the *Conception* complied with the applicable egress requirements (Subpart 177.15, "Means of Escape" [Old-T regulations]; Subpart 177.500, "Means of Escape" [New-T regulations]), which required two independent means of emergency exit. The salon and galley compartment had three: (1) the main aft door into the salon and galley compartment, (2) the forwardmost sliding window on the port, and (3) the middle sliding window on the starboard side of the salon. The New-T egress regulations did not retroactively apply to the *Conception*. Unlike the Old-T regulations, the New-T regulations define the dimensions of acceptable exits and require the means of escape from each space to be sufficient for "rapid evacuation." There is no evidence to suggest that this difference played a role in this accident.

The passenger bunkroom also complied with the applicable egress regulations requiring two independent means of emergency exit: (1) the main staircase in the forward part of the bunkroom compartment and (2) the escape hatch above a passenger bunk at the aft end of the bunkroom compartment. Both exit pathways lead the passengers into the salon and galley compartment. This configuration was approved by the Coast Guard as per the means of escape regulations previously referenced. This allowable configuration played a role in the accident.

The salon and galley compartment were not required to have smoke detectors installed. Neither the Old-T nor the New-T regulations required them. The passenger bunkroom was equipped with modular smoke detector units as required by subpart 181.405(c). This requirement applied retroactively to vessels with an overnight passenger accommodation space.

From eyewitness photos and videos of the *Conception*, large polyethylene trashcans (waste receptacles) were seen throughout the interior and exterior areas of the vessel, which was the type utilized for many years. Both the Old-T (section 177.30-7 (d)) and the New-T (section 177.405 (f)) regulations do not allow for these types of trash cans to be used in passenger bunkrooms and instead require them to be constructed of non-combustible materials. New-T regulations extend the prohibition on combustible trashcans to all compartments and only apply to Old-T vessels when the trashcans are replaced. Throughout the inspection history of the *Conception* and the other two vessels in the fleet (the *Vision* and *Truth*), there were no remarks or deficiencies related to the waste receptacles on board.

Except for mattresses in the passenger bunkrooms, there are no flammability standards for the interior furnishings applicable to the *Conception* in both the Old-T and New-T regulations.

Under both the Old-T and New-T regulations, the *Conception* was required to have a roving watch whenever passengers were asleep, as per the operating conditions of their COI (Old-T section 185.22, "Patrolmen"; New-T section 185.410, "Watchmen"). Based on the interviews of crewmembers that survived the accident, the crew did not maintain a roving watch.

Although there were no regulations or guidance material pertaining to the use and charging of lithium-ion batteries aboard passenger vessels following the accident on the *Conception*, on September 10, 2019, the Coast Guard issued a Marine Safety Information Bulletin (MSIB 008-19) recommending that vessel owners, operators, and masters “reduce potential fire hazards and consider limiting the unsupervised charging of lithium-ion batteries and extensive use of power strips and extension cords.”

### **Description of the other vessels in the company**

Other vessels in the Truth Aquatics fleet were the *Vision* and the *Truth*. The *Truth*, built in 1974, was smaller and had a different arrangement than the *Conception*. The *Vision* was about 5 feet longer and one foot wider than the *Conception*. The general arrangement of the compartments between both the *Conception* and *Vision* was similar. The salon and galley compartment were similarly arranged with a salon area in the aft portion and the galley forward (figures 25, 26, 27). The passenger bunkroom was also similarly arranged and outfitted with bunkbeds along the centerline and bunkbeds along aisles on the port and starboard sides. Further, the bunkroom had capacity for the same number of passengers (44 plus one crew). The passenger bunkroom was accessible from a staircase near the galley (figures 28, 29). Egress from the passenger bunkroom was available from the main staircase and from an emergency exit hatch (figure 30) above one of the bunks. Both exits from the passenger bunkroom would lead to the salon compartment (figure 31). The *Vision*'s bunkroom ventilation system was similar to the *Conception* (refer to Engineering factual report, section 9, “HVAC”). Located in the bunkroom bilge was a six-ton, direct-expansion air conditioning unit, which drew air from within the space through a grill located at the bottom of the stairs and discharged air-conditioned air through a system of ducts to individual bunks and to the passageways on the port and starboard sides of the bunkroom. 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. Although the passenger bunkroom had smoke detectors, the salon and galley did not. The interior furnishings of the *Vision*'s salon were generally the same as those that had been in the *Conception*.

Examination of the salon for potential ignition sources only revealed electrical systems. There were cable runs located behind the seatback of the bench-type seating and receptacle drops just under the seatbacks (figures 32, 33). The electrical cable runs were not enclosed in protective conduit, were often not supported, and did not have the appearance of a professional installation. In the bunkroom, more signs of non-professional electrical installations were also observed, including a lighting fixture in the bunkroom (figure 34). Discussion with the owner revealed that during trips, the aftmost tables were often used as charging stations for the customer's electronic devices. These devices would typically consist of rechargeable flashlights, cameras, strobe lights, laptops, and cell phones. This practice of using the aftmost tables as designated charging stations was also employed on the *Conception* according to crew interviews. Photos submitted to the NTSB by previous passengers depict the practice of using the aftmost tables as charging stations (figure 35).

A small fire involving the charging of a lithium-ion battery took place on board the *Vision* about a year before the fire aboard the *Conception*. On October 8, 2018, between 0415 and 0430 in the morning, a passenger, who was awake and in the galley, heard a “hissing” noise and then a loud “bang” which came from the bookshelf located at the aft starboard side of the salon (the *Conception* did not have a bookshelf in the same area). Another passenger, who was returning to the bunkroom after using the restroom on the aft deck, also heard the noise, which drew his attention to a fire on the bookshelf. He stated that the fire looked like a “torch” flame, and a battery charger (which was charging two lithium-ion batteries) was emitting smoke. The passenger in the galley grabbed a dry chemical extinguisher from the galley, and both passengers went to the battery charger. The passenger without the fire extinguisher unplugged the charger, grabbed the unburnt end of the charger, brought it out to the main deck, and threw it in to the rinse bin located under the stairs to the sun deck. The passenger with the fire extinguisher stated he discharged one “shot” on the bookshelf after the battery charger had been removed to extinguish the smoldering paper books on the shelf. He then grabbed a sponge and wetted the bookshelf and items on it to prevent reignition.

Afterward, the passenger went to the wheelhouse and informed the captain, who in turn examined the batteries and charger in the rinse bin. The batteries and charger were removed from the rinse bin and thrown overboard. One of the passengers interviewed stated there was soot residue and scorch marks on the books and the shelf.

According to the captain on the *Vision* at the time, who was filling in as a relief captain, he photographed the charger and sent this to another captain in the Truth Aquatics fleet. Upon returning from the trip, he stated informed the owner of Truth Aquatics, as well as the captain that took the *Vision* on its next trip. The owner of Truth Aquatics stated he was only made aware of the small fire on the *Vision* after the accident on the *Conception*. The owner noted that at the end of each trip, each captain was required to complete a “Trip Payment Report,” which required multiple handwritten entries related to the voyage conducted, including the number of people on board, the amount of fuel used, and the number of engine running hours. At the bottom of the form, there was a “special comments about the trip section” where the captain on duty was required to enter any notable incidents that occurred during the trip, including “any accident, bad weather, notable rescues or incidents.” Investigators reviewed the completed form for the October 7–10 trip for the *Vision* and found no entries in this section.

The two batteries that caught fire were for an underwater diving light, and, according to the owner, the batteries had been removed from the light and were connected to a separate charger and plugged into a power strip on the bookshelf. The lithium-ion batteries were each 3.7-volts and capable of 5,000 milliamp hours. According to the owner of the flashlight, he purchased the item from Amazon.com about a year earlier. The batteries were original to the dive light and were not replacements. The dive flashlight was a Goldengulf brand, underwater 100-meter superbright 4000 luminosity LED scuba flashlight (Amazon Standard Identification Number: B014QSOIKO).

There was no report to the Coast Guard of this incident, nor was there any requirement to do so.

### **Origin and cause of the Fire**

The descriptions of the fire from the interviews of the crew indicate that the fire did not begin in the chain locker, the engine room, the lazarette, the galley, or the upper deck. The crew descriptions consistently identify the aft portion of the salon compartment on the starboard side as exhibiting more intense fire involvement at the time of discovery. No physical evidence was recovered that could be identified as an ignition source or indicate a specific ignition location within that area. Therefore, the cause of the fire is undetermined.

Based on the crew interviews and statements from previous passengers it is believed that there were numerous electronic devices being charged overnight in the aft portion of the salon. Batteries (in particular, lithium-ion batteries) have a known and documented history of initiating accidental fires. In the past, the Consumer Product Safety Commission has issued numerous product safety recalls due to fires caused by electronic devices with defective batteries and chargers. The NTSB has investigated accidents in which battery failures led to fires. The Federal Aviation Administration has strict regulations on the carriage of lithium-ion batteries aboard passenger aircraft based on a long history of incidents involving fires. It is therefore reasonable to include lithium-ion battery failure as a possible ignition source in this fire scenario.

Another potential source of ignition is the vessel's electrical system in the salon compartment. An energized electrical system has the potential to become a source of ignition when elements of the system age, are improperly installed or are accidentally damaged. Crew interviews revealed that sometimes electrical work such as the replacement of lighting electrical fixtures in the salon was done by crew members who were not licenced electricians. Although examination of the *Conception's* electrical system was not possible, the examination of the *Vision* and the similarity of the two vessels would suggest similar electrical installations and condition. Additionally, although the *Vision* was not in service at that time, on October 2, 2019, a Coast Guard inspection found 19 electrical system deficiencies throughout the vessel. Some of the deficiencies cited were a result of work being done at the time. Deficiencies in the salon and galley area included corrosion, improper connectors, and signs of overload on a power strip. Deficiencies of this type can lead to electrical system failure conditions capable of initiating a fire. It is reasonable to include the vessel's salon electrical distribution system as a possible ignition source in this fire scenario.

Besides the electrical system in the salon, and the charging of electronic devices and batteries, there do not appear to be other sources of ignition energy available to initiate a fire in the aft interior portion of the *Conception's* salon.

On the exterior of the aft portion of the salon compartment in the vicinity of the stairway to the upper deck there was a large polyethylene trashcan (Figure 9). Undetermined, ignition sources in this area, such as improperly discarded smoking materials cannot be discounted. Therefore, the potential ignition sources in the vicinity of the aft portion of the salon include:

- Failure of batteries being charged in chargers or in devices
- The vessel's salon electrical system
- Undetermined ignition sources such as improperly discarded smoking materials

**Potential Fire Safety Issues**

- Lack of regulations requiring smoke detectors in all the vessel's compartments and, in particular, those that must be used during an escape.
- Lack of a roving watchman
- Both emergency exits from the passenger bunkroom led into the same compartment
- Unattended overnight charging of battery-powered devices in the egress pathway
- Size and accessibility of emergency exits
- Flammability of interior materials.

Joseph Panagiotou  
Fire Protection Engineer

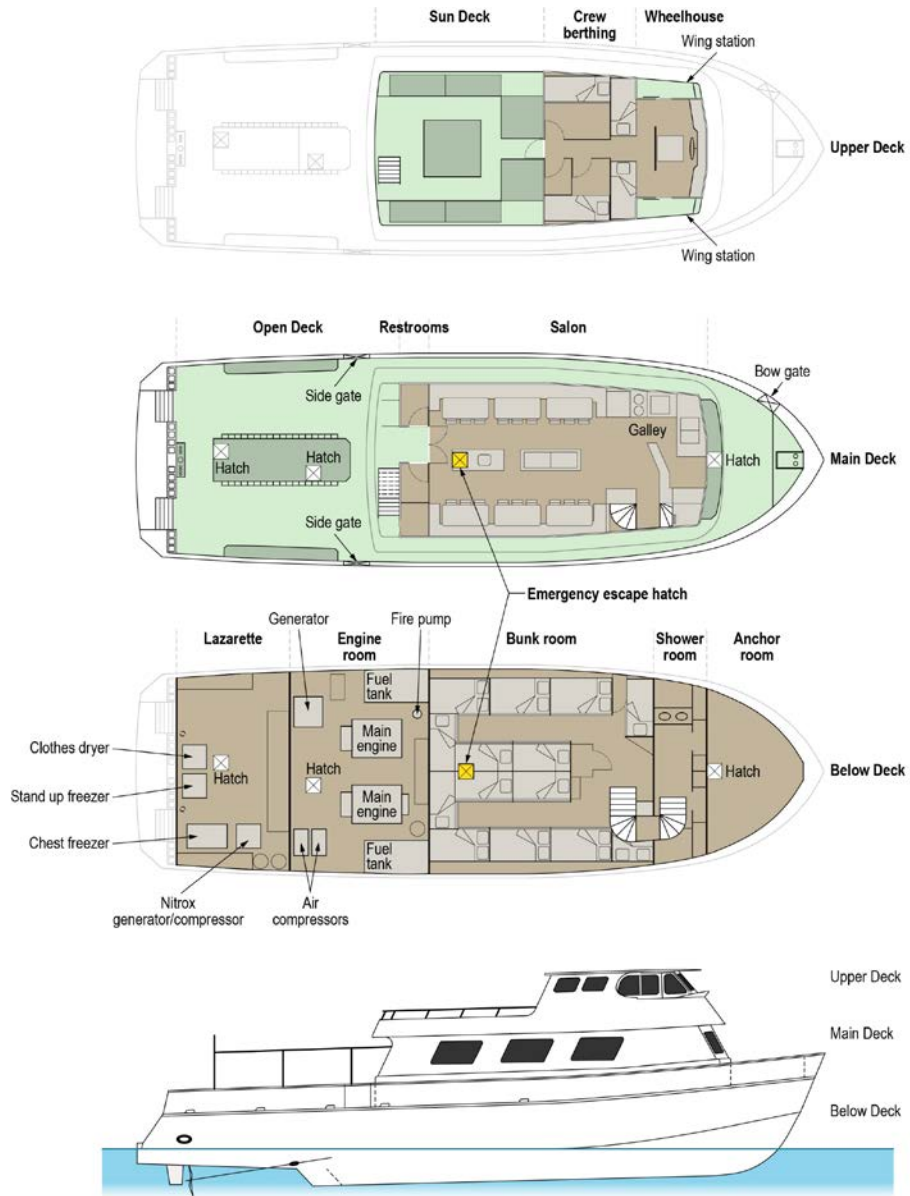


Figure 1. General arrangement of the *Conception*.



Figure 2. Undated photograph of the *Conception* with the skiff alongside. (Source: Truth Aquatics)



Figure 3. Undated photograph of the *Conception* with bow gate in open position. (Source: Truth Aquatics)



Figure 4. Port side of the *Conception's* salon looking aft. (Source: M. Ryan)



Figure 5. Starboard side of the *Conception's* salon looking aft. (Source: M. Ryan)



Figure 6. Coolers and serving station of the salon on the Conception. (Source:J. Palmer)



Figure 7. Photo of the galley of the Conception taken from the forward centerline window.  
(Source: J. Palmer)



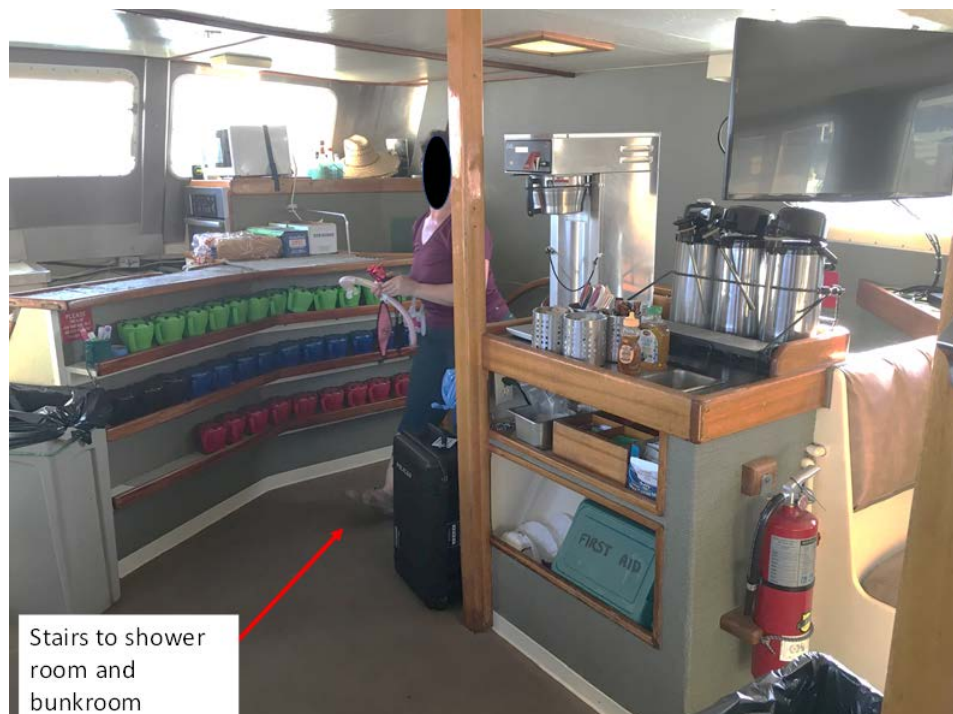
Figure 8. Photo looking forward into the main entrance to the salon on the Conception. (Source: G. Boyer)



Figure 9. Toilets and stairway to the upper deck of the *Conception*. Note the storage of a polyethylene trash can, food waste containers, and a rinsing container under the stairway in front of the life ring. (Source: M. Ryan)

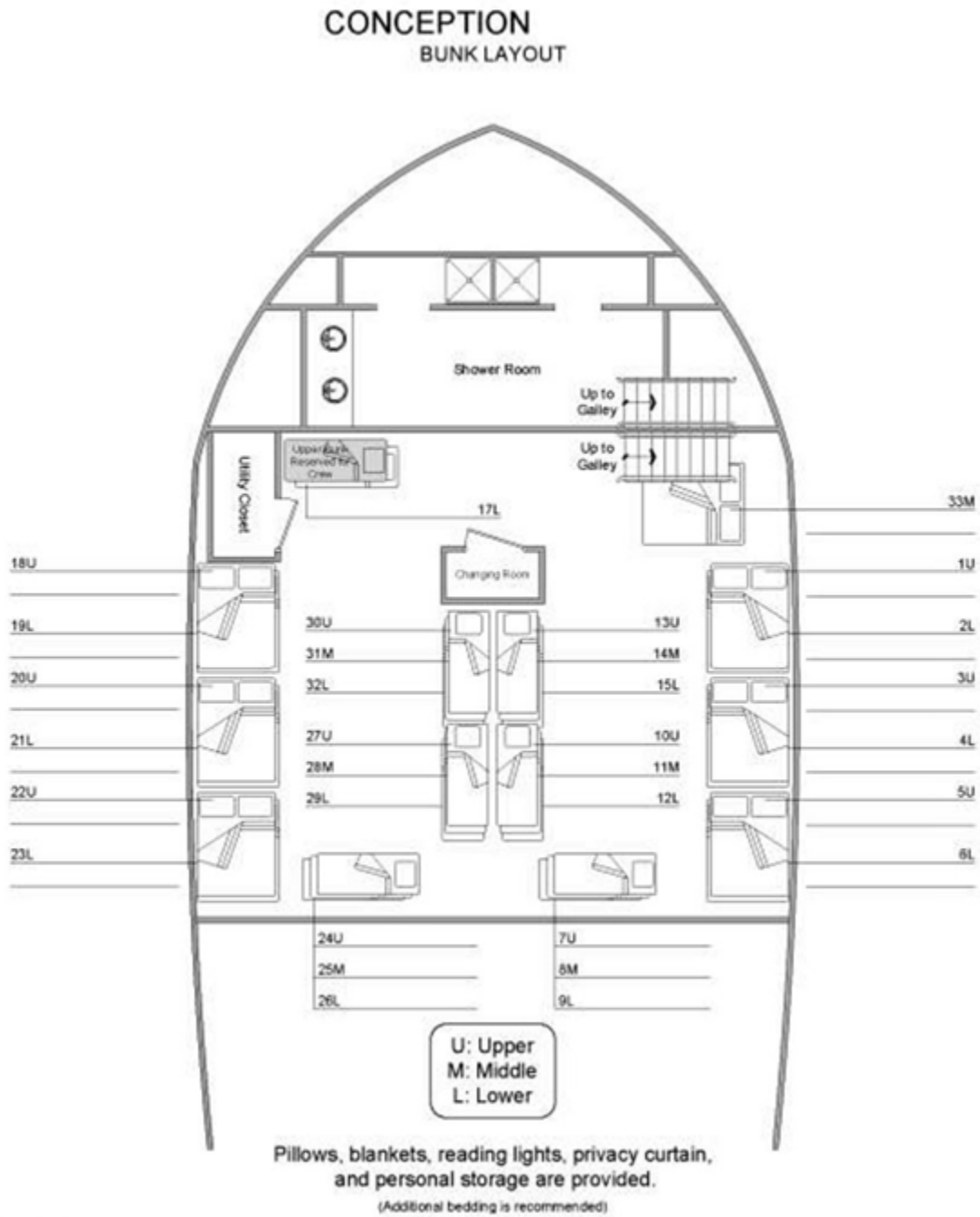


Figure 10. Staircase from the main deck galley/salon leading down to the bunkroom on the *Conception*. (Source: G. Boyer)



Stairs to shower  
room and  
bunkroom

Figure 11. Bunkroom staircase location at the forward starboard side of the salon. (Source: G. Boyer)



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Figure 12. *Conception* bunkroom layout. (Source: Truth Aquatics)

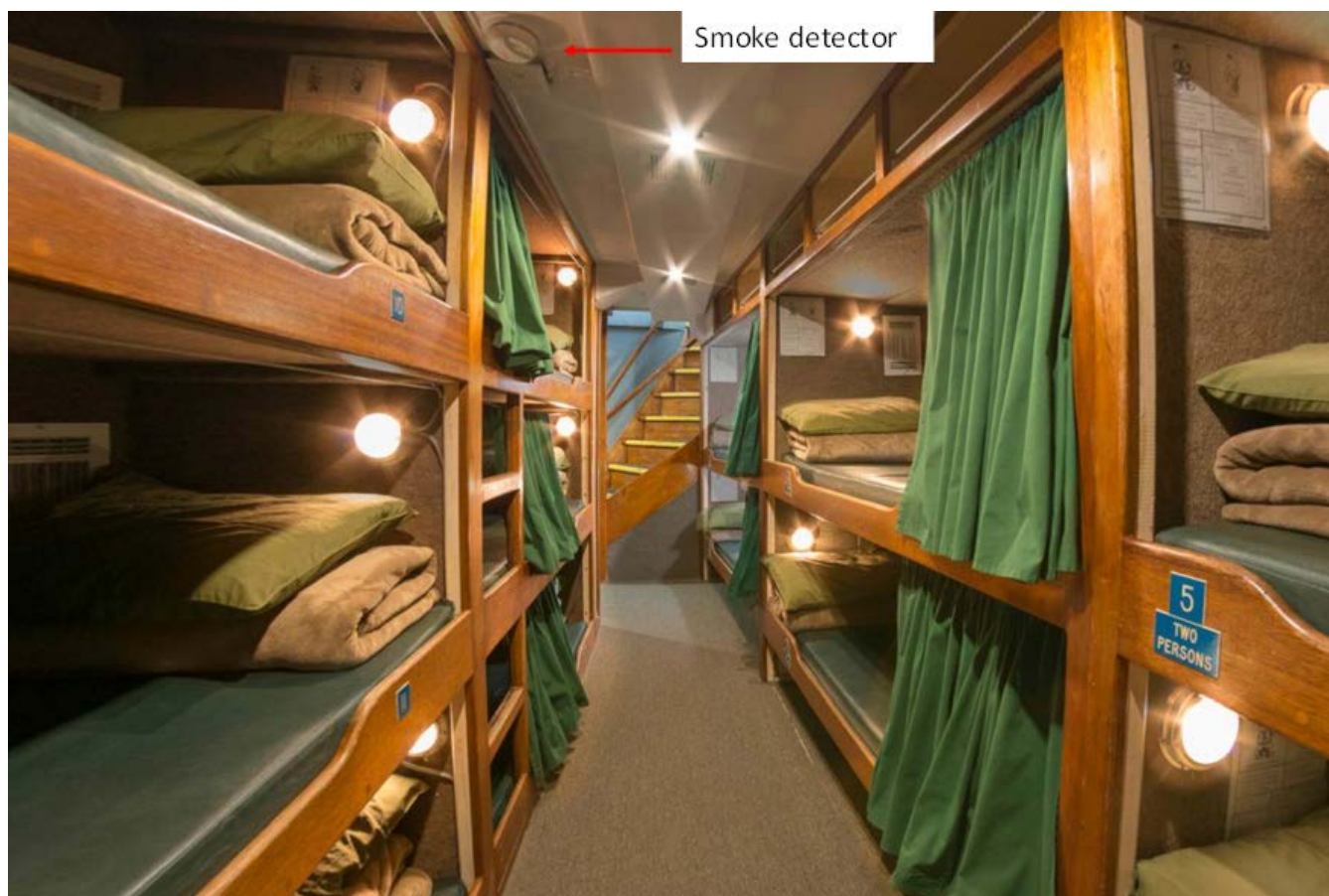
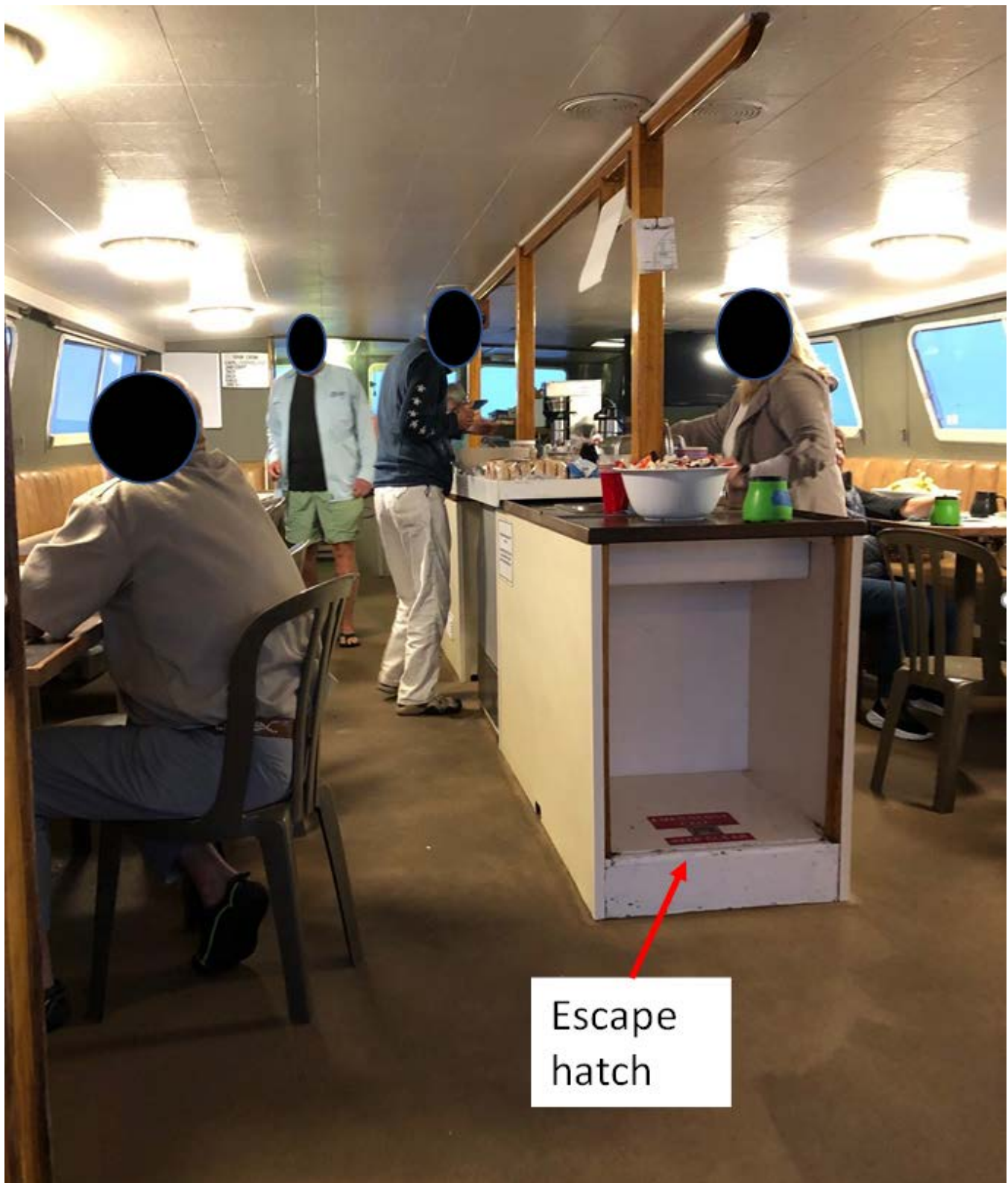


Figure 13. Interior view of *Conception* bunkroom. (Source: Truth Aquatics)



Escape hatch

Figure 14. Location of emergency escape hatch from the bunkroom in the aft salon of the *Conception*. (Source: J. Palmer)



Figure 15. Small passenger vessel *Conception* at sunrise prior to sinking. (Source: Ventura County Fire Department)



Figure 16. *Conception* wreckage layout at Port Hueneme. (Source: FBI evidence response team (ERT))

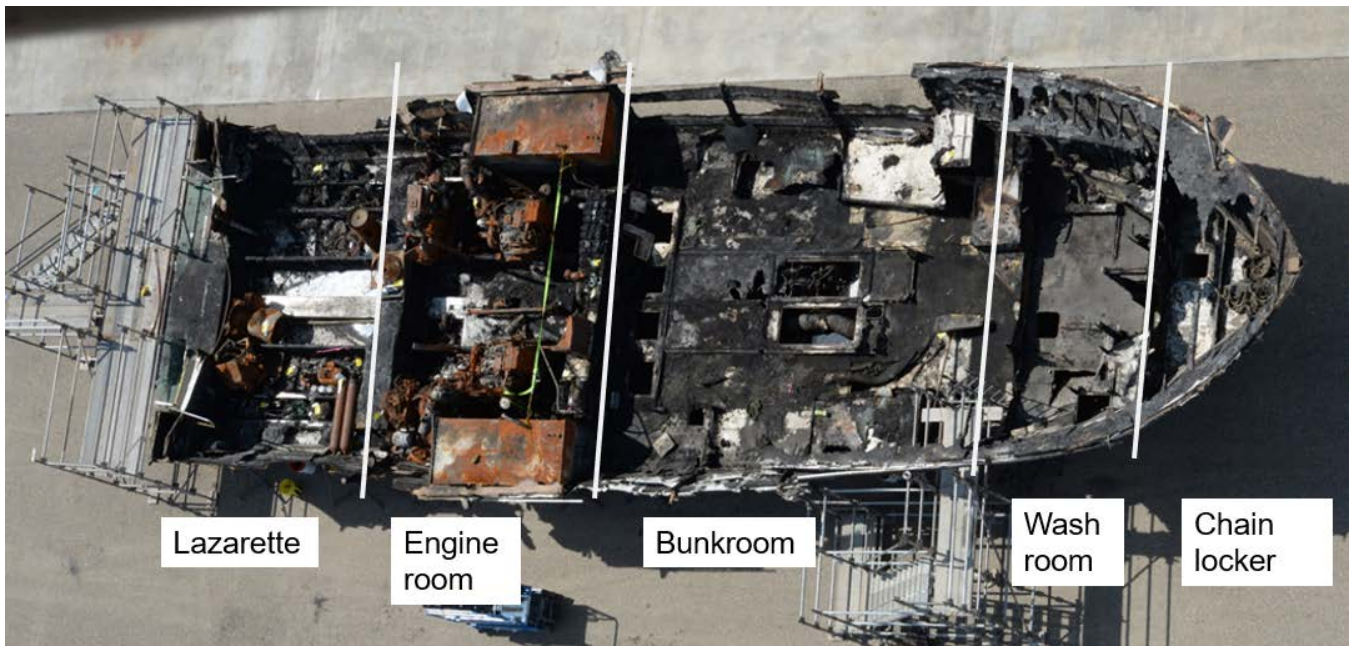


Figure 17. Below-deck areas of the *Conception*. The solid, white lines mark the approximate boundaries of each compartment. (Source: FBI ERT)



Figure 18. Port side aft of the *Conception* hull. (Source: FBI ERT)



Figure 19. Port-side mid-section of the *Conception* hull. (Source: FBI ERT)



Figure 20. Port side of the *Conception* hull. (Source: FBI ERT)



Figure 21. Bow of the *Conception* hull. (Source: FBI ERT)



Figure 22. Starboard aft side of the *Conception* hull. (Source: FBI ERT)



Figure 23. Starboard mid- and forward-section of the *Conception* hull. (Source: FBI ERT)

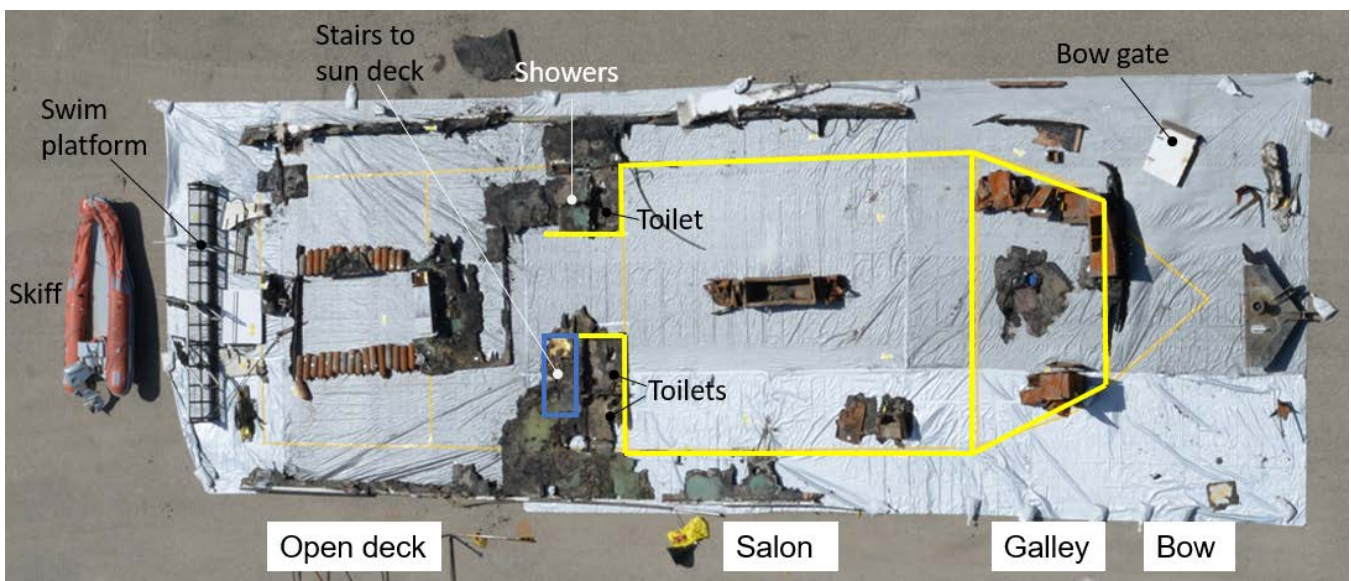


Figure 24. Wreckage belonging to the main deck of the *Conception*. Solid, yellow lines indicate the enclosed spaces on the deck. The blue box marks the location of the stairway to the sun deck. (Source: FBI ERT)



Figure 25. Port side of the *Vision's* salon.



Figure 26. Starboard side of the *Vision's* salon.



Figure 27. Galley area on the *Vision*. Note, similar to the *Conception*, the center window is the only one with hinges that allow for it to be opened.



Stair to passenger bunkroom and shower room.

Figure 28. Location of the staircase to the bunkroom and shower room on the *Vision*.



Figure 29. Staircase to the bunkroom (left) and shower room (right) on the *Vision*.



Figure 30. Emergency exit hatch location above passenger bunk on the *Vision*.



Figure 31. Location of the passenger bunkroom emergency exit hatch outlet in the salon of the *Vision*.



Figure 32. Electrical outlet drop below seatback on the *Vision*.



Figure 33. Cable run behind the starboard-side bulkhead seating of the *Vision*.



Figure 34. Power cable for lighting routed through ventilation grille in the *Vision* bunkroom.

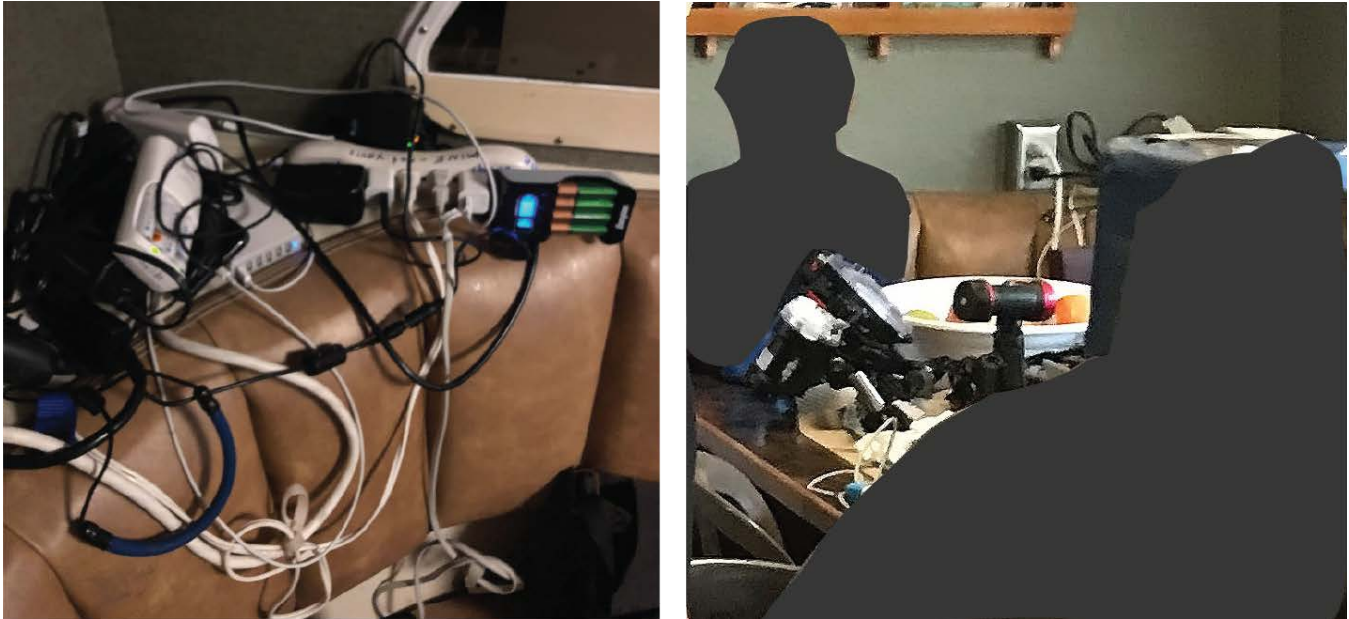


Figure 35. Left: August 31, 2019 photo of devices plugged in at the port side aft corner of the salon on the *Conception* (source: FBI). Right: September 1, 2019 photo showing various devices charging on the table and electrical cables running from the outlet on the port side aft corner of the salon (source: FBI).

## APPENDIX A - EXCERPTS FROM CREW INTERVIEWS

### *Michael Kohls, second galleyhand*

<b>P13 L12-13</b>	And so I cleaned the galley -- I mean, I looked at the clock, it was 2:35.
<b>P13 L14-20</b>	I went back to my room -- my bunk room, which is in the wheelhouse, right. And I went there, I laid down there and I don't know what time it was at all. And I heard like in the galley, when some people walk, you know, they hit the chair and it's makes a kaa sound. I heard that and it sounded like someone fell. I go, oh, I should get up and see if they -- if they're all right. But then, it sounded like the bathroom door shut.
<b>P13 L24-25</b>	And I sat in my bunk there for a while and then I heard an ahhh and I go, oh, someone sprained their ankle.
<b>P14 L4-6</b>	I get up and I look and I'm looking at -- and I see this glow like psh. I'm like, what is that? I go, fire. I yelled fire.
<b>P14 L16-19</b>	But I came to the stairs and you could not go down the stairs because there's a bathroom right when you board the boat that was on the fire. There was fire there. You could not go down those stairs. There's smoke and fire.
<b>P14 L20-25</b>	So I ran back from the stairs. And I didn't see anyone come out of the bunk room. I yelled fire, fire. And then we have a --like, it's -- you know, they call it the sun deck. There's a railing about 2 feet. I went there, I held my hands on it and smoke was coming from the galley windows out. You could barely see the deck, you know.
<b>P14 L25 P15 L1-2</b>	I put my hands on there, I threw my body over, and as my body went down, my arms extended, you know, and I let go. I hit the ground.
<b>P15 L1-14</b>	I ran around from the port side around to the galley. And it was the whole galley was engulfed in flames, the whole galley. The -- their escape hatch, the one -- because they have the stairwells that come out of the bunk room, there's back -- I would say aft of the galley, the -- by our bathrooms are, you know, the two bathrooms. You could not get in there at all where the bathrooms are. Those are one - there's one step. Right there is

	<p>the emergency exit. That was all engulfed in flames. Flames, heat. The up top of the boat, fiberglass was melting, falling down on the ground. And I was barefoot. And at that point I looked and I said, oh my God -- I never felt so helpless in my life.</p>
<b>P15 L19-23</b>	<p>I saw someone from the wheelhouse drop down, so I ran up to the bow and there's smoke coming out the windows. And as I'm running up to the bow, Ryan Sims drops right down in front of me, wham. And he said ahh, I think I broke my leg. And it was like that -- he goes I broke my leg. I jumped over him.</p>
<b>P15 L24-25</b> <b>P16 L1-2</b>	<p>Milton was by the galley window; he was trying to open it. Smoke was coming out -- the front of that window is all black. I tried to help him open it. We could not open it, it was too hot. We didn't burn our hands but it was too hot.</p>
<b>P16 L3-5</b>	<p>Cullen was standing here, Milton was there, I was here, and you look up at the wheelhouse and flames were now engulfing up the wheelhouse.</p>
<b>P16 L6-9</b>	<p>I was like, wow, and then Jerry, I heard him say, oh God, oh God. And I was like oh, he's burning. And then a couple seconds later there was a shout and Jerry had jumped from the boat.</p>
<b>P16 L10-14</b>	<p>And at that time he was there and then Milton and Cullen go, we got to get a dinghy. And that's all they said. They jumped overboard on the starboard -- not the starboard, the port, swam back to the dinghy. I helped Ryan Sims get off the boat, his big -- his leg was broken. He was screaming.</p>
<b>P17 L1-8</b>	<p>And then there's the dinghy. I don't know how they got it off or anything. I don't know how Milton or them got the dinghy off. Jerry must have swam around the other side. And then I was swimming. He kept swimming with me and then he saw the dinghy and they yelled and he started swimming towards -- not the dinghy, the inflatable. He started swimming towards the inflatable. I kept swimming away from the boat. I was afraid it was going to blow up. It was just a ball of fire.</p>

<b>P23 L1-3</b>	<p>Q. And you -- but you were down in the galley between that time cleaning up the --</p> <p>A. From 1:00 -- yeah, from 1:00 to 2:35.</p>
<b>P23 L6-11</b>	<p>Q. And the entire time you were down there, you didn't see anything that was suspicious or anything that --</p> <p>A. Nothing. Everything looked normal. I wiped the tables, they were clean. There were battery -- there was battery chargers, someone's charging a battery. There's flashlights, you know, dive lights we're being charged.</p>
<b>P28 L18-23</b>	<p>Q. Okay. And then you went back up to your bunk and you said you were in your bunk. Did you ever fall asleep before you got back out of your bunk?</p> <p>A. I might have. I don't -- I mean, yeah, I was -- I laid down and, you know, I laid there and I try and fall back asleep. But I don't know how long time was --</p>
<b>P29 L1-7</b>	<p>Q. And describe to me, again, what that first noise you heard was?</p> <p>A. Sounded like someone came out of the bunk room and bumped into chairs. It was like kaa. When you move the chairs in the galley they make this sound and Jerry's always, don't make that sound when you put the chairs in because people sleep underneath you. So I thought someone bumped into a chair.</p>
<b>P29 L12-19</b>	<p>Q. When you say it sounded like somebody fell, did you hear like a thump or anything or did you --</p> <p>A. I heard a kaa, and it was like, you know, like a thump foot but, you know, I don't know. I was like I think someone fell. I should check on them, but I, you know, was laying in my bunk, half asleep, trying to sleep, and I heard that sound. And then it sounded like someone shut the bathroom door right there. It was like, it was that noise of the bathroom door shutting.</p>
<b>P30 L8-19</b>	<p>Q. So you heard a door --</p> <p>A. It sounded like the door shut, like it makes a little clink when you shut it.</p> <p>Q. Yeah.</p> <p>A. And I go, oh, they're probably okay, you know. And I said should check, I should check. I should check and see if they're okay. And then I said, they're all right. And then I heard an ahh and I go oh, someone sprained their ankle. And then --</p>

	<p>Q. Was that definitely a human voice that you heard?</p> <p>A. That was definitely a human voice. It was ahh. That was the sound and I was like oh, I better go check. And that's when I got out of my bunk and I looked.</p>
<b>P30 L19-24</b>	<p>And I had to focus at what's that yellow glow? And then I realized it was fire and that's when I yelled fire, fire. And I seen Jerry go fire. And then from that point I ran to the stairs. You could not get down the stairs because we have another third bathroom right there. That bathroom, there was a fire at the bottom of the stairs there.</p>
<b>P31 L11-22</b>	<p>I looked down the stairs, impossible to go down the stairs. It was -- you could not go down without being burnt or you'd be going into a fire.</p> <p>Q. Was the whole deck engulfed in flames or just over on the side by the stairs?</p> <p>A. Just the stairs is the bathroom. It's like, yeah, just the bathroom was there. And then I went to the railing and jumped over because it was like, you know, the port fire extinguisher is there. That -- I was like, get that out. But as I turned the corner and I looked into the galley, you know, the two bathroom doors, you couldn't get there because the whole galley was engulfed in flames.</p>
<b>P31 L23-25</b>	<p>Q. So when you jumped down, where did you jump down? Right at the back end of the sun deck?</p> <p>A. I jumped back in on the port side.</p>
<b>P36 L18-23</b>	<p>Q. Okay. So you jumped down from about the middle on the port side, down --</p> <p>A. Middle on the port side.</p> <p>Q. Down to the main deck?</p> <p>A. Down to the main deck.</p> <p>Q. And you initially ran back?</p>
<b>P37 L7-22</b>	<p>I turn the corner there. The whole galley is engulfed in flames, the whole galley is engulfed in flames.</p> <p>Q. Can you see all the way forward to the --</p> <p>A. You can't.</p> <p>Q. -- to where you're cooking --</p> <p>A. All you can see is flames.</p> <p>Q. Right in front of you?</p> <p>A. Right in front of me. You can't see nothing in the galley.</p> <p>The whole galley is on fire. It's beyond.</p>

	<p>Q. Okay.</p> <p>A. Yeah.</p> <p>Q. When you jumped down here, could you see into the galley through the windows?</p> <p>A. No. There's smoke coming out. Smoke was coming out, black smoke coming out the windows.</p>
<b>P37 L23-25 P38 1-3</b>	<p>Q. And then, after you -- so you came over here. You saw --</p> <p>A. Then I seen -- that's where the escape hatch is in the galley. It was, you couldn't get in there. You couldn't get past the two bathrooms because it's like, it's fiberglass, the deck up there. That was melting and coming down, all melting. It was that hot. And it was engulfed, I have to say.</p>
<b>P38 L10-19</b>	<p>I seen someone, I don't know who, that come down. And that's when I run up the side and that's when Ryan Sims falls right in front of me and he goes -- hit the deck like a rock. And, I think I broke my leg, ahh, my leg's broken. I jump over him. We try and open the window with Milton but the smoke's coming out of it. Now there, it's just pure black smoke, there's no flames in the forward galley, it's just black smoke, that's it. And we couldn't get it open. Then we hear oh God, oh God, I think Jerry's burning in the wheelhouse.</p>
<b>P42 L15-16</b>	<p>Q. Did you hear any of those going off that night?</p> <p>A. Never heard anything at all.</p>
<b>P45 L15-19</b>	<p>Q. Okay. So a little timeline wise. So how long from the time you heard the fall, or you presume was a fall, until you heard the scream? Do you recall?</p> <p>A. I'd say it'd been about 5, 10 minutes, maybe 15. Right in that range right there, yeah.</p>
<b>P46 L23-25 P47 1-2</b>	<p>Q. How long from when you saw that fire, you jumped over the rail, you came around back and you saw the galley completely engulfed, how long do you say that that was?</p> <p>A. Two, 3 minutes at the most.</p> <p>Q. Okay. Thank you.</p>

<b>P48 L13-20</b>	<p>My first priority was take care of -- get people out of that hatch, you know, and grab a fire extinguisher. But as I turned that corner there was -- it was a wall of fire.</p> <p>Q. Okay. Even with that wall of fire, could you see where that hatch was at that point?</p> <p>A. No, you could not even see the hatch. It was -- there was no one coming out of that hatch.</p>
<b>P56 L18-23</b>	<p>Q. And then so on the port side you were able to make it all the way to the aft of the boat?</p> <p>A. Oh, I jumped, it's not that far. I turn the corner and then now there's the big galley door and there's two bathrooms, I turn there and this, there's the blaze, the fire, the whole thing's fire.</p>
<b>P57 L1-4</b>	<p>Q. So thinking back to the fire now, when you looked in there, was fire more on one side than on the other?</p> <p>A. Fire was more on the starboard side. It was coming out the starboard side.</p>
<b>P57 L6-15</b>	<p>A. Yeah, it was more intense -- well, it was all fire there but more flames were coming up the starboard side. And then finally those windows -- when I was back in the back by the lazarette, and I seen the other, someone come down. I don't know who it was. That's when I went by and you could see flames were coming out the top of the window going up to the wheelhouse. I mean, on the port side now, they're --</p> <p>Q. Okay.</p> <p>A. -- coming out of the galley going up for port side. And that's where Jerry was. Flames were going above the wheelhouse.</p>
<b>P57 L24-25</b> <b>P58 L1-9</b>	<p>Q. Now when you were down there and you see fire on that starboard side, could you tell, were the bathrooms on fire? Was the fire in the galley? Or what portion was actually burning or on fire?</p> <p>A. It seemed more starboard side in the galley. Like, probably because the other bathroom, you know, the third bathroom was on fire. We can't come down -- I couldn't come down the stairs. Seen the starboard side was burning hotter, but the whole galley was on fire and the doorway was on fire, but that starboard side was burning, more flames were coming up. And then finally it reached out to the port side and the flames were coming up --</p>

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<b>P61 L6-15</b>	Okay. But that was different from the port side you were saying. Port side, it was just - A. Well, the fire -- Q. -- starting to reach up there? A. -- was going out the windows on the starboard side. The port side they hadn't busted out yet. I mean, it was coming. The smoke, the windows are kind of cracked like this, smoke was coming out. Flames were shooting up. They weren't like bursting out, they were -- the heat was drawing it up. It was like, you know, coming up to the wheelhouse and going up on it.
<b>P61 L18-23</b>	Q. And do you remember any wind that night? A. Wind was light. We were anchored because we were like this. So where at -- where was it, Platts. We were -- the boat anchor, we were -- it was -- we were facing like west and there was - and when I was in the water, it was -- you could see the smoke was going to the bow. It was pushing -- it was going that way.

**Milton French, deckhand:**

<b>P19 L20-22</b>	Fell asleep in like 6 seconds, soon as I hit the rack. Then woke up to Mikey yelling fire. I don't know what time I went to bed.
<b>P20 L12-15</b>	So I looked to that exit from my bunk, and take a few steps maybe to the door. But I'm like pretty confined. So I just see like orange glow coming up on the starboard side by the stairs.
<b>P20 L23-25</b>	So I went and just verified that that was the case, and definitely couldn't get down the stairs.
<b>P21 L3-4</b>	But decided that the best exit from the wheelhouse was going to be off the wing stations where the captain will drive.
<b>P21 L9-14</b>	But I went off the port wing station onto the main deck, and then went to turn left to get to the galley, but that was blocked by fire. I couldn't walk down the edge of the -- the side of the boat to get to the back. It was coming out of the windows, like black smoke and flames, and it was wrapping around the edge. It was pretty gnarly.
<b>P21 L20-25</b> <b>P22 L1-2</b>	But, oh, I -- there was one little bit. So before I jumped, I kind of -- I didn't really, maybe didn't really realize it when I first woke up, but I could hear like some alarms, but they sounded really quiet, really distant. Or I didn't even recognize it as distant at the time, but just quiet, really quiet alarms. I thought they were coming from the dash. And I just remember thinking, like, what kind of alarm sounds like that? It's like barely, barely a little chirp.
<b>P22 L7,L10</b> <b>P22 L14-16</b>	I went for the center window to try to get into the galley. I was able to get my fingers under it a little bit. So it didn't feel like it was locked in closed, but it was latched, at least. I couldn't rip it open.
<b>P22 L18-25</b>	So I went to call up for Jerry to throw me down the fire ax, and it was like -- before I went for the window, I looked back up, and I could see him on the radio like leaning towards the window. I think he was watching us and -- or maybe just trying to stay away from the smoke, because you could see the smoke pouring in behind him. But I could see him before I went for the window, and then when I went back up to call for him, the windows were blacked out.

<b>P23 L2-9</b>	So I wanted to go over to the side to yell his name so that he could hear me through the door opening, and before I could even really call his name or fire ax or anything, he just like went flying, jumped from the side into the water, and he was over me like shirtless in a pair of jeans, and black smoke like engulfed him. And I thought he was on fire himself because the glow behind him made him look like he was just on fire.
<b>P23 L13-15</b>	So Cullen was next to me at that point and saw him go into and, you know, watched him like sail basically through the air and land in the water. And Cullen jumped in to help Jerry.
<b>P23 L20-23</b>	So I turned back, and tried that window again pounding. It didn't break. Tried the other one. It was kind of, like -- it was so thick black in there you couldn't see inside anyways, and they were pretty warm.
<b>P24 L3-4</b>	And then Ryan was at our feet. Mikey was still on board, and Ryan and myself were still in the bow. Jerry's in the water.
<b>P24 L20-25</b> <b>P25 L1-5</b>	So then we dragged -- Mikey and I dragged Ryan over to the gate, and kind of halfway tossed him. He jumped off. But got him in the water. And then Mikey went in shortly after, and I was -- last one on the bow, and tried again to, like, look around and see if anything changed in the situation up there. And was like thinking about what other possible way I could get into the galley from there and into the bunk room, and just like open the engine room hatch or the -- not the engine room hatch, the anchor compartment hatch just to see if like something was going on down there that would have given me an option. But of course there wasn't.
<b>P25 L6-8</b>	When I first hit the deck, I don't even know if I was thinking about the fire hose, but I knew that I couldn't get down that port side.
<b>P25 L10-16</b>	And just kind of looked around after I closed the anchor compartment hatch, and decided that if anything was going to be possible, it wasn't from the bow. I just wanted to make sure because I knew I wasn't going to be able to get back to that spot if I jumped off. So I jumped off, and swam directly to the stern of the boat, got up on the swim step.

<b>P25 L24-25</b> <b>P26 L1-8</b>	<p>But the hose was like completely engulfed because the flames were pouring out of the back and, like, the whole fucking house was on fire.</p> <p>And I knew that -- I knew the starboard side was like was totally on fire from -- I was on the port side is where I got up (indiscernible), and I could see the starboard side was -- I don't know worse or it was just all bad. But the port side was on fire too, and I couldn't access the hose. I couldn't even get close to it. And the port side has the controls for it until it can gauge the fire pump from above.</p>
<b>P26 L23-25</b>	<p>And then looked over down the skiff, and saw Cullen working on the stern. He was getting the engine done. I think the skiff was floating at this point, and he was just -- was still tied on</p>
<b>P27 L1-9</b>	<p>the stern, and he was working on the engine. I think we pulled Jerry in at that point. Got him into the back of the skiff towards the engine. And then I ran back upstairs to see if I could get like into the engine room to fire up the fire pump because there's controls down there that I was, like I said, just using earlier that day, going up. And Jerry was like telling me not to go back into the fire, but I told him I could get to the engine room hatch. The fire wasn't quite all the way there. It was there but not over it.</p>
<b>P27 L10-14</b>	<p>So I slid it open and looked in, and it was just smoke. I could maybe kind of see the generator, the top of the generator, but anything forward of that was -- I just remember it was like gray-ish white-ish kind of dark, but not black like the rest of the smoke.</p>
<b>P28 L2-4</b>	<p>At this point I don't know if it's -- the question, yeah, the generator was running, powered to the stern of the boat. That's how we got the skiff down.</p>
<b>P28 L25</b> <b>P29 L1</b>	<p>And I just looked around again, and was just like helpless.</p> <p>And went to go launch the skiff.</p>
<b>P49 L18-25</b> <b>P50 L1-9</b>	<p>Q. So all the crew was asleep that night -- A. Right.</p> <p>Q. -- before the fire started?</p> <p>A. Yeah.</p> <p>Q. Okay. And when the fire started, you said that you woke up. You didn't have your glasses on. You looked back, and saw a glow. Any sense or maybe even after you put your glasses on at that time</p>

	<p>where the fire was? You did mention that you -- the stairway was engulfed. Was it entirely aft or can you kind of think through where that fire was when you first saw it?</p> <p>A. It was closer to port side. It was -- sorry, the starboard side of like the aft part of the house where those stairs go down towards the port rail, right? By the bathroom. That whole corner was on fire, and around through like to the middle near where the entrance would be between the rails of the kayak rack, and then I can't positively say there were flames on the port side corridor, corner right there.</p>
<p><b>P52 L20-25</b> <b>P53 L1-11</b></p>	<p>Okay. You mentioned hearing an alarm, hearing alarms when you were up there. Can you describe the alarms a little bit for me? For instance, was it a high pitched? Was it a beeping? Or was it a solid tone?</p> <p>A. It was like a intermittent like regular but -- not like a buzzer, but like a higher pitch like --Q. Was it high pitched like a smoke detector or --</p> <p>A. Yeah. It was --</p> <p>Q. -- more like a --</p> <p>A. -- like smoke detectors in my house. I mean, you're standing under them though, and they're just -- they just feel like they're constant with a little high point, right? They go high low, high low, high low. This one I couldn't hear the lows if that was what was happening. So it was like high, high, high, high. You know what I mean?</p> <p>Q. Yeah. It was high pitched like that?</p> <p>A. The same kind of tone, yeah.</p>
<p><b>P62 L18-25</b></p>	<p>Q. When you got back on board that night and attempted to enter the engine room, did you see flames at all from the engine room?</p> <p>A. No flames.</p> <p>Q. Just --</p> <p>A. The lights were on.</p> <p>Q. Lights were on.</p> <p>A. Yeah.</p> <p>Q. Just smoke.</p>
<p><b>P65 L9-15</b></p>	<p>Q. What was usually plugged into the receptacles in the --</p> <p>A. Everything. Like cameras, phones, laptops, lighting batteries for dive lights.</p> <p>Q. Can you explain the batteries a little more for my knowledge?</p> <p>A. The batteries?</p> <p>Q. Yeah. Are they a large battery or --</p>

	<p>A. On this trip I saw a bunch of stuff. It was basically both of the aft tables were covered in cameras and electronics. And, I mean, it's not outside of what we do. But like the camera is still like drying, and it's sitting next to the battery that's charging, and that's just how it has always been every single time. It's not even something I was considering.</p> <p>Q. Are these plugged into a power strip or are they plugged --</p> <p>A. Sometimes. Sometimes people will bring their own strip. There was one on this trip that I remember distinctly because somebody had written not yours on it. So that was plugged in with however many other things. Yeah.</p>
<p><b>P68 L22-25</b></p>	<p>Q. All right, great. Thank you. So you mentioned that after you descended from the wheelhouse that you were attempting to open one of the galley windows. What did you see through the window?</p> <p>A. Nothing. Black.</p>
<p><b>P69 L8-12</b></p>	<p>Q. What did the window feel like when you touched it?</p> <p>A. It was, I mean, warm. Not like hot. I don't know. I don't remember it like it didn't burn me. It didn't -- the temperature doesn't stand out to me. I was banging on it. I didn't even really feel it so much. I was just banging.</p>
<p><b>P84 L14-25</b> <b>P85 L1-13</b></p>	<p>Q. Okay. Now in the galley area you mentioned that there was a couple things plugged in. Try to get more specific of what you remember being plugged in or how that place looked? Was it one table of gear, six tables of gear, and --</p> <p>A. Two tables.</p> <p>Q. Two tables of gear?</p> <p>A. Yeah.</p> <p>Q. On what side of the boat?</p> <p>A. Aft, both sides. It was the aft-most tables.</p> <p>Q. Okay. Do you remember what was on those tables?</p> <p>A. Not precisely. I couldn't -- probably if I looked at it. I couldn't identify everything. But underwater cameras with their housings, big strobe lights, assorted dive lights. I think there was a laptop somewhere over there too, some jackets. In like the seating, more seating areas, a lot of baggage around because I'd have to move those every day to try to eat around that area because all the other tables were filled, people eating. So we eat among like the cameras and phones and stuff.</p> <p>Q. Was there phones there as well?</p>

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	<p>A. I think there were phones. There are definitely phones tucked in the -- there's outlets underneath the seats. Like it has a little -- right at your lower back there's a little pocket and outlets there. And a lot of people -- I will plug my phone in there just because it's out of the way of everything. And people stuff sweaters and all kind of stuff in there.</p>
<b>P85 23-25</b>	<p>Q. Now as far as all the stuff charging, you said it was the back two tables on both sides? A. Yeah.</p>
<b>P88 L25 P89 L1-16</b>	<p>Q. Now, in all your times walking around, I know there are several windows that go down the sides. Which -- what of those windows would have fire coming out of them when you walked around -- when you first saw those windows for the first time? A. That's what I've been trying to remember correctly. And it's hard to say. I know the aft ones had fire, and there was smoke in all of them. I just can't remember if it was like pumping flames out of -- because there's three sets of the windows on each side. Yeah. I can't say for sure if the flames were all the way to the first or just the two aft ones. But, yeah, I just remember knowing that I couldn't get all the way back to the fire hose or -- I didn't think about the hose at that time, but all the way back to the galley entrance without swimming around it. Q. Were the two aft windows broken or were they just you were able to see flames through them? A. I think they had -- I imagine they were left open because it was a pretty night.</p>
<b>P90 L11-13</b>	<p>A. I wasn't able to pass. I didn't try passing any windows on the sides, I don't think. Because I couldn't get all the way back.</p>

**Cullen Molitor, second captain**

<b>P14 L3-6</b>	But yeah, so I woke up to the second galley operator, Mikey in the middle of the night. I had no idea what time it was, but he had woken up alerting the crew that there was fire.
<b>P14 L11-15</b>	And there's a curtain that draws across, so I opened the curtain and I immediately saw that there was an orange glow in the wheelhouse. And so, I stuck my head out and I looked around towards the sundeck, aft of the wheelhouse and saw flames coming from the staircase, which is the exit down from the top deck.
<b>P14 L16-19</b>	And just, Mikey had, after he alerted us, he had went on the back on the sundeck to try to get down. He came back and told us that it's impassible. He exited the wheelhouse through the wing station.
<b>P14 L20-25</b> <b>P15 L1-3</b>	It, I believe he was the first one to go down and I was soon after. I'm not sure what the order was. I exited off of the port wing station and jumped over the rail and lowered myself down to the main deck of the boat. And when I looked back on the port side, there's a kind of catwalk going down the side. And it was, at that point it was already impassible with flames coming from the galley. It was just a lot of smoke and fire billowing out the side walls and windows.
<b>P15 L4-8</b>	So, I, the first thing that I did was to open the bow gate, which is a gate on the port side that we can let divers off of. So, I opened that, and I turned and looked and Milton was down. He was trying to open the forward galley window.
<b>P15 L14-21</b>	At this point, Jerry was in the wheelhouse. He stayed the longest. He was making a mayday call, trying to get help. The flames very quickly grew from the galley walls up and pretty quickly engulfed the wheelhouse. And there was already smoke when I was in there. That was the first thing I remember when I woke up was actually tasting, just burnt something.
<b>P15 L22-24</b>	And so anyways, the next thing that I heard was Jerry yelling and I looked up and he had jumped off the starboard side wing station.
<b>P16 L4-7</b>	At that point, I had thought that he had caught fire actually. And so, I immediately ran and jumped over the starboard rail to go help him. I dove in headfirst and came up next to him. And I, he appeared to be okay.

<b>P16 L12-20</b>	And so, I swam past him after seeing that he was okay. And I swam to the back of the boat. Climbed out on the swim step and when I got up onto the back, I saw, I went towards the galley and I could just see the staircase was fully on fire. The bathrooms were engulfed and the, I could see, it just feels like a wall of fire on the entrance. And you could just see the ceiling dripping flames down. I could see the aft escape hatch to the bunkroom was fully engulfed in flames. There was just no way in, at that point.
<b>P17 L1-4</b>	So, I went to the back to the transom of the boat and at this point there was still power on the back. And so, I turned on the winch pump for the swim step and with the swim step, it has the cradle for the skiff on it.
<b>P17 L18-24</b>	And I -- Jerry had swam to the back of the boat and I helped him get into the skiff. I remember Milton at some point had followed me up on the swim step. I don't know how long he had been up there, but he had also, I saw him next to the engine room hatch and next to the galley and it was, and I just remember him saying that he couldn't get in. And which was the same experience I had.
<b>P19 L3-10</b>	And about halfway towards paddling to Ryan, Milton had gotten the motor running again and the line out of the prop. And so, we did the rest of that towards him on motor. And when we got to him, we pulled him into the boat. He was just screaming about his leg and he, after that, we picked up Mikey, who was also in the water. And realizing that we didn't have a radio, we went to the closest vessel in the anchorage.
<b>P20 L10-13</b>	And one thing we never heard was any screams or banging or anything from the boat, both while we were on it and when we were close nearby. It was just flames. I never heard any alarms go off.
<b>P20 L14-17</b>	If Mikey hadn't woken us up, the wheelhouse was on fire very shortly after that. I don't think we would have made it. The smoke was already getting kind of thick when I had woken up. I don't know how long it had been going on for.
<b>P28 L8-21</b>	Q. In the, in the galley, was there any equipment plugged into the receptacles, anything? A. Yes. The aft part of the galley, there's an outlet on either side that many people use to charge electronics. We had, we had done a night dive that night, where I believe like 17 people went night diving. A lot of those flashlights are rechargeable. So, I believe some people are charging flashlights.

	<p>There was also, I don't know, maybe 10 people who had camera setups, which a lot of them include flashlights or strobes for lighting.</p> <p>So, people were charging cameras, strobes, flashlights, those sorts of things, many of which had, you know, come out of the water, so they were, they were wet. I could not tell you how many things. I didn't count or inventory them.</p>
<p><b>P28 L22-15</b> <b>P29 L1-3</b></p>	<p>Q. Was there anything else back there, cell phones, computers, any kind of electronics also plugged in back there?</p> <p>A. Definitely some cell phones, I believe. Most people don't get service out there and so their batteries drain rather fast, if they don't put on airplane mode. And so, I can't say for certain that there was, but that's a very common thing that people leave them to charge overnight in the galley.</p>
<p><b>P29 L4-8</b></p>	<p>Q. And the equipment, the diving equipment and the cell phones, were they all being recharged in the same area?</p> <p>A. Most people put things on the two aft galley tables to recharge. So, they're, you know, all kind of right next to each other, but on two separate tables.</p>
<p><b>P29 L20-24</b></p>	<p>Q. Okay. You said you woke up and you looked back and you saw flames in the vicinity of the staircase. This is the staircase at the back of the sundeck?</p> <p>A. Yeah. At the back of the sundeck on the starboard side, it kind of leans towards the starboard side, like down.</p>
<p><b>P29 L25</b> <b>P30 L1-12</b></p>	<p>Q. Okay. Was the flames concentrated in that area or had, were they spread? Can you describe what you saw?</p> <p>A. So, when I came out of my bunk, and I saw that, I could just them on the back and coming off the staircase. And then I had put on my glasses and walked, which I sleep right next to them, so I put them on and started walking that direction towards the sundeck. And the closer I got to the door to the wheelhouse, I just saw more and more on kind of the sides, on the periphery. But Mikey was already coming back that direction and was still yelling fire. And he said, that it's impassible. So, I didn't go any further because I could already see that it wasn't without walking all the way over. And yeah.</p>
<p><b>P30 L13-20</b></p>	<p>Q. So, am I correct in saying, you saw flames coming up along the sides of the sundeck as well?</p> <p>A. Well I just remembered on the corners really. I didn't really make it far enough to see out on the sides.</p> <p>Q. Okay.</p>

	<p>A. But when I made it down off of the wing station, which was very shortly after that, I could see that they were in the galley on the sides. So --</p>
<p><b>P30 L21-25</b> <b>P31 L1-6</b></p>	<p>Q. Okay. And that's actually where I wanted to ask you about. You said, coming out of the galley. Was it forward, aft, every window?</p> <p>A. Every window had smoke and flames coming out.</p> <p>Q. Even the forward most windows?</p> <p>A. Oh no, not the, not on the forward part.</p> <p>Q. Okay.</p> <p>A. Those were black with just soot, so you couldn't really see through them. And they weren't hot enough yet for Milton to try to open them. I think Milton and Mikey were both trying to open it. And I never touched it, so I don't know how hot it was.</p>
<p><b>P31 L8-16</b></p>	<p>Q. Was the forward most side windows, the ones that are marked I believe with escape, were those, was there flames coming out of the there, do you remember, or smoke?</p> <p>A. Honestly for what I remember it was just seeing that they were going kind of over the rail. I don't know how far forward really, they had come up. Just that you couldn't make it back. I know that, if this helps, when I jumped from the wing station, it's kind of on the side of like the actual galley where people cook, and there was no flames right there.</p>
<p><b>P31 L17-22</b></p>	<p>Q. Right where you jumped down?</p> <p>A. Yeah. I'm having a hard time exactly imagine where those forward windows are that you're mentioning. So, I'm not sure how, what point they're at. But where I jumped down, it was clear. And looking back down the port side of the boat, there's flames down there.</p>
<p><b>P37 L6-11</b></p>	<p>Q. You said you had opened the hatch at one point to look down in the engine room. Is that correct? Did you see any flames when you did that, in the engine room?</p> <p>A. I don't remember seeing any flames. Just smoke.</p> <p>Q. Just smoke? Do you remember the color of that smoke?</p> <p>A. Black.</p>
<p><b>P40 L12-20</b></p>	<p>Q. You mentioned earlier that you didn't really hear any alarms that you remember. Is that correct? Okay. Do you, to the best of your knowledge, were there alarms that you would have expected to hear on the bridge?</p> <p>A. Well I would have expected a fire alarm. And whether I slept through it and didn't hear it, or if it had been brief because it had been overcome by flames or</p>

	<p>whatever it was, I don't know. But I just never heard it. But that's what I would have expected for sure.</p>
<p><b>P40 L21-25</b> <b>P41 L1-7</b></p>	<p>Q. Okay. Thank you. I think I have one last question. You mentioned that you at one point looked into that, the galley from the doorway, I believe. And you said that you could see the escape hatch for the berthing engulfed in flames. Was it opened or closed at that point or could you tell?</p> <p>A. Could not tell, but there was so much flames coming from near the bathrooms and the back of the galley that it was kind of obscured but that was kind of the center thing like when you look in and so you could tell that there was flames coming from that area. With the smoke and the flames, I couldn't see back to the, to the staircase.</p>
<p><b>P47 L4-10</b></p>	<p>Q. You noted that a lot of the passengers were plugging up their computers, phones, cameras, rechargeable batteries on those back two tables. Did you notice any power strips that were there?</p> <p>A. I believe that there was one power strip. There was, because I remember sitting at, to eat dinner on that table and looking up and it had red, in Sharpe written on the side, mine, not yours.</p> <p>And I just, I don't know why I remember that. But --</p>
<p><b>P51 L13-18</b></p>	<p>Q. Okay. Did you try to look through any of the windows? I know you said it was dark, but did you look through any of the windows?</p> <p>A. The ones on the side that I remember just had flames coming out and the front windows were just black, couldn't see into them from there.</p>
<p><b>P51 L21-24</b></p>	<p>Q. So, from the forward windows, were you able to see any glow, any flames, anything from those windows?</p> <p>A. I just remember it being black. I don't necessarily remember a glow or anything.</p>
<p><b>P71 L22-25</b> <b>P72 L1-7</b></p>	<p>Q: One last question. Do you have an idea from the time you saw smoke and fire and soon, to the point of which you abandoned ship? Do you have like an estimate of time?</p> <p>A: I would say that I was out of the wheelhouse within somewhere between 15 to 30 seconds. And I was on deck for likely 30 to 45 seconds, maybe over a minute. And it kind of felt like shorter than that though, because Jerry was making the mayday call, so I don't know how long that lasted. It could have been as little as 15 seconds on deck before I jumped overboard to check on</p>

	<p>Jerry. Yeah. I would say anywhere between 30 seconds and 2 minutes.</p>
<b>P72 L8-16</b>	<p>Q: And then in that time, do you have like in your mind how much change in the spread of fire took place, or was it just too much panic to recognize that?</p> <p>A: The only thing that I really remember as growing was watching it climb up the wheelhouse, off the side of the wheelhouse. From the time that I jumped and looked back, you know, there was smoke coming out of the wheelhouse but not really fire yet. And then when I looked back to see Jerry, there was fire coming up the side then.</p>