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The Conception Fire: Solving the Puzzle

The Final Minutes Aboard the Fatal Dive Boat and How to Prevent Future Disasters



Kristy Finstad (left), Bill Finstad, and Heather Sawdon diving the Channel Islands on the Conception. | Credit: Courtesy

By **Heather Sawdon**

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After the *Conception* boat fire killed my sister, Kristy Finstad, and 32 divers and one crew woman, I was haunted, wondering if she died trapped, trying to escape. For months I awakened at night, choking for air in my nightmares. I needed to solve the puzzle of

what really happened. What caused the fire? Why were they unable to escape from the lower bunkroom? How could this be prevented? I recently discovered the missing pieces.

It's been eight months since the fire aboard the *Conception*. It occurred over Labor Day weekend 2019, at Santa Cruz Island. Kristy and her husband, Dan Chua, owned WDA (Worldwide Diving Adventures), the ill-fated charter master. WDA is a family business started by our father, Bill Finstad, half a century ago. The divers had signed up for what was expected to be an exciting three-day dive trip to Channel Islands National Park aboard Truth Aquatics' well-respected dive boat.

After Kristy's death, when her Toyota was retrieved from Santa Barbara Harbor's parking lot, the CD player automatically engaged with the last song she played. "Knockin' on Heaven's Door" filled the truck's cab. It was prophetically bone-chilling. My tears streamed from the depths of my grief. My sister was gone.

The Cause

I blame lithium-ion batteries. The crewman who discovered the fire heard the odd "caaw" sounds made by burning batteries. The 17 night divers had wet dive lights to charge, just five hours before the fire. Some had brought their own power strips because there were so many batteries to charge.

Given the needs of the 39 people on board, a spaghetti of power strips with charging cell phones, tablets, cameras with spare batteries, laptops, and dive lights would have been on the back two tables. Last year a crewmember found a smoldering underwater light on the Vision and threw it overboard before it ignited. [Editor's Note: It was later clarified that a charging 26650 battery from a dive light burst into flame and was immediately thrown into a rinse tank by a passenger.]

Boat fires often start in engine compartments or are traced to electrical sources, but two crewmen found no fire in the engine room, and they successfully released the dinghy using electricity.

I researched how one faulty battery could start a killer fire chain reaction. A non-certified battery, like a cheap spare, can overheat from moisture exposure or low-quality insulation layers between the cells, causing a runaway thermal reaction (932 degrees F in seconds). Once the highly reactive lithium ignites, it cannot be put out with fire extinguishers, which can disperse the lithium, spreading the fire. Using water to put out a lithium fire is debated, since it re-ignites, but this method is approved for airlines.

The Federal Aviation Administration has documented that lithium-ion batteries have brought down aircraft: UPS Flight 6 and Asiana Flight 991. Why not a boat? Between 1991 and 2019, the FAA counted 241 incidents involving overheated lithium-ion batteries in airports or onboard aircraft. YouTube is replete with videos of explosions. At first, I didn't believe a battery could cause such a rapid killer fire, until I found evidence.

The fire ignited, expanded, and ended 34 lives in six to ten minutes in a flash-over of flames, according to fire inspectors. A crewman had checked the galley at 2:35 a.m. The mayday call was received at 3:15 a.m. Just minutes before that, the same crewman heard something like a falling chair. He went to the back of the upper deck and discovered the already intense conflagration engulfing the aft entrance to the salon. He heard odd "caaw" sounds. He ran back into the wheelhouse shouting "Fire!" The captain's mayday call ended with a haunting gasping: "I can't breathe."

No Escape

Kristy slept in the first bunk located under the stairs. The stairs were not blocked by fire initially, and Kristy is the type of courageous person who would have wrapped up in blankets to run through flames and retreat into the ocean. The crew saw thick

black smoke but no fire at the front of the galley where the stairs come up. When they attempted a rescue through the forward galley window, they said it was warm but not hot to the touch.

Kristy knew exactly where the fire escape hatch was located on the aft end of the bunk room. I've crawled through it with her before. Did she suffer trying to escape?

Ghost shadow images on the bunk mattresses of the *Conception's* burned hull tell the story of how they died, as the deadly gasses blanketed them.

Kristy's coroner report states the cause of her death was smoke inhalation, in minutes. There were two smoke/carbon monoxide (CO) alarms in the bunk room, tested with fresh batteries just two months earlier. Why didn't they wake the passengers?

I believe they had already passed out from carbon monoxide poisoning. Unlike smoke, which rises, CO quickly diffuses into surrounding air. CO would have been sucked down the stairs to the bunk room, where the air-conditioning intake vents draw air down from the galley. The poisonous CO would have been blown directly onto each sleeping face.

Carbon monoxide sneaks in undetected as a clear, odorless, and tasteless gas, causing sleeping victims to be rendered unconscious. They die before experiencing symptoms or discomfort. My nightmares ended with my sister falling into a deeper sleep as the poisons ushered her to her death.

Solving the Puzzle

When the FBI investigation meeting for family of the victims was cancelled due to COVID, I ordered the forensic toxicology report. It showed Kristy's CO level to be greater than 75 percent saturation. Her cyanide was up to two micrograms per milliliter. These levels are exceptionally high, causing death in a couple minutes. But four

to 15 minutes pass with carbon monoxide levels above 400 parts per million before a CO detector reaches the threshold to go off. Furthermore, the Coast Guard does not even require CO detectors.

My stomach churned reading the coroner's report describing my sister's scorched body. It proves she was sleeping on her right side when death occurred. Her right arm still held parts of her nightshirt, while her left side was charred beyond recognition. Death had already occurred by the time fire ravaged her lifeless body. Except for her right side, most of her body was covered in raw 4th-degree burns. She never even rolled over. May this bring comfort for everyone to know they passed away while resting in peace.

In my opinion, a plan outlined by Glen Fritzler, Truth Aquatics' owner, to install fireproof charging cabinets is the best solution to a disaster such as this. They would automatically close and lock when sensing heat, release an internal fire extinguisher, set off a centralized alarm system, and vent the fumes safely outside.

The Small Passenger Vessel Safety Act, a bill for new safety measures in the aftermath of the *Conception* tragedy, will be voted on in May when the COVID delay is lifted. I hope the bill will be modified to reflect this evidence before this tragedy is repeated. It won't bring my sister and the 33 others back, but it just might keep others alive.

Heather Sawdon is writing her first book, on the Conception's last voyage, while getting her master's in Teaching English as a Second Language. She grew up in California and now lives in Michigan.

Editor's Note: We asked the Coroner's Office about the statements made regarding the *Conception* boat fire victims: The victims' locations at the time of death could not be verified. When the *Conception* sank and overturned, the victims were displaced. Additionally, the intense fire destroyed the majority of the boat's interior structures, including the bunkroom. All 34 victims died as a

result of smoke inhalation, which created a lethal level of carbon monoxide in their blood. Burn injuries sustained by victims occurred post-mortem.

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