USS San Francisco Grounding

Blood was everywhere. Sailors lay sprawled across the floor, several of them unconscious, others simply dazed. Even the captain was asking, 'What just happened?' All anyone knew for sure was that the nuclear-powered attack submarine had slammed head-on into something solid and very large, and that it had to get to the surface fast. In the control room, a senior enlisted man shoved the 'chicken switches,' blowing high-pressure air through the ballast tanks to force the vessel upward. Usually, the submarine would respond at once. But as the captain, Cmdr. Kevin G. Mooney, and top officers stared at the depth gauge, the needle refused to budge.

Moments before, they had been slipping quiet and fast through the Pacific. Now, they were stuck, more than 500 feet down. Ten seconds passed. Then 20, 30. 'I thought I was going to die,' Commander Mooney recalled. It would be close to a minute, but an excruciatingly long minute, before the submarine's mangled nose began to rise, before the entire control room exhaled in relief, before the diving officer, Chief Petty Officer Danny R. Hager, began to read out a succession of shallower depths.

“I don't know how long it was,” Chief Hager said, “but it seemed like forever.” Last week, Navy investigators reported that a series of mistakes at sea and onshore caused the 6,900-ton submarine, the San Francisco, to run into an undersea mountain not on its navigational charts. One crewman was killed, 98 others were injured, and the captain and three other officers were relieved of their duties as a result of the Jan. 8 crash, one of the worst on an American submarine since the 1960's.

But what is becoming clear only now, from the first interviews with Commander Mooney and 15 other officers and enlisted men, as well as a review of Navy reports, is how much worse it nearly was, and how close the San Francisco came to being lost.

The submarine crashed at top speed - 33 knots, or roughly 38 miles an hour - about 360 miles southeast of Guam. The impact punched huge holes in the forward ballast tanks, so the air being blown into them was no match for the ocean pouring in. The throttles shut, and the vessel briefly lost propulsion. As the emergency blow caught hold, mainly in the rear tanks, the sub was just drifting in the deep, its bow pointing down.
Luckily, the thick inner hull protecting the nuclear reactor and the crew's quarters held. But within was pandemonium – bodies pinballing, heads striking steel in the warren of lethally sharp

surfaces in impossibly tight spaces. There was so much blood on the instruments and on the control-room floor that the place, Chief Hager said, 'looked like a slaughterhouse.'

Then chaos gave way to improvised heroism and a perilous, and finally futile, effort to rescue the most grievously injured sailor. The merely battered ministered to the badly hurt, turning the mess hall and the officers' wardroom into instant clinics, ripping off shirts to use as tourniquets and creating splints from cleaning brushes. When they realized that the only hope for the dying man, a young machinist's mate named Joseph A. Ashley, was to get to a hospital, sailors cut off railings and fixtures to thread his stretcher through narrow areas. They then rigged pulleys in an effort to hoist him through the sail, at the top of the submarine, and onto a helicopter hovering just above.

To avoid detection, submarines travel silent and largely blind, relying heavily on charts, and their interpreters, to navigate the undersea landscape. The meeting of this submarine and that mountain beneath the Pacific was in many ways a stroke of hauntingly rare bad luck: everyone relied on the one chart, from panoply of them that lacked even a hint of the looming danger. But the submarine's fate was also the result of a confluence of simple shipboard errors.

The Navy has placed the blame on the captain and the crew, and Commander Mooney says, 'I accept full responsibility.' He acknowledges several critical mistakes, including going too fast, taking insufficient depth soundings and failing to cross-check the route with other charts. Yet the fact that those errors happened on a boat with a highly rated commander suggests a more nuanced calculus of responsibility, raising questions about the relatively primitive state of undersea charting and the training and support of submariners.

Petty Officer Ashley's father, Daniel L. Ashley, a Navy veteran, refuses to let the Navy off the hook. Sitting in his home outside Akron, Ohio, one recent morning, with a memorial of flags and photographs on the family organ, Mr. Ashley said he had forgiven Commander Mooney and the crew. “I know what these men have to live with for the rest of their lives,” he said. “I feel the same pain.” But if the Navy's systems for supporting submarines had not also broken down, he said, “this would not have happened, and my son would be alive today.”

A Normal Saturday as the San Francisco prepared to shove off in early January, spirits were high. Since taking over in December 2003, Commander Mooney had pushed his 136 sailors through four months of repairs and two intelligence missions. The San Francisco, previously known as a troubled boat, was winning praise in the Navy as a “Cinderella story.”

Now the submarine was headed for Brisbane, Australia , and its first liberty stop under the 40-year-old captain, a graduate of Duke University and a submarine officer for 19 years. One thing, though, was bothering him, he recalled: the basic routing instructions seemed to be late. So he told his navigators to call the Seventh Fleet in Japan and hurry them along.

June 4, 2004 USS San Francisco SSN-711 arriving at Guam

The goal of the routings was to ensure that no other Navy ship would cross the submarine's path, and they laid out a wide track to follow. But some officers had come to view these navigational guides as suggesting a measure of safety. And as the San Francisco left here on Friday, Jan.7, the team plotting the precise route within that track focused on a single set of charts that, Navy officials agree, usually gave the most detailed view of the seabed.

Since submarines generally do not use active sonar, with its telltale pings, a good picture can be critical in avoiding mountain ranges rising from the seabed. Relying on charts, though, has always been somewhat hit or miss. Only 10 percent of the oceans have been charted by Navy survey ships. Many charts only include obstacles spotted by warships, commercial vessels or even 18th-century explorers like Captain Cook. One poorly charted area was south of Guam , where the Navy started basing subs in 2002. So by Saturday morning, when the San Francisco entered the Caroline Islands mountain chain, there had been talk of special precautions among some of the men. But to the plotting team, the winding route down to Australia looked wide open.

To the rest of the crew, it was just a normal Saturday, which meant cleaning the boat. Lunch began at 11 a. m. - hamburgers, French fries, baked beans - and at 11:25 Commander Mooney went to the wardroom, where the officers ate. The crew's work shift changed five minutes later, and when a line formed outside the mess, several men, including Petty Officer Ashley, decided

to have a smoke first in the vessel's tail. Sailors said this was typical of Petty Officer Ashley, 24, an unabashed country boy who loved motorcycles, Jeeps and the boat's diesel engine, which he cared for. His nickname was Cooter, after a mechanic on the old television show 'Dukes of Hazzard.' He was also known for his wicked Michael Jackson imitation, which one sailor called 'moon walking in cowboy boots.'

That afternoon, the plan was to slow down for drills, so with everything humming along, Lt. Cmdr. Bruce L. Carlton, the navigation officer driving the submarine, decided to get ahead of schedule by bumping up to full speed and going deeper. A sounding taken at 11:30 a. m. confirmed what was on the charts - the ocean was 6,000 feet deep there - and the submarine began to glide down to 500 feet from 400 feet. At 11:38, a decision was made to go to 525 feet, and a junior officer recommended another sounding. But Commander Carlton did not think that was necessary, the Navy reports indicate, and none was made.

Blood and Chos

Chief Hager, wry and wiry at 39, unbuckled his seat belt and hopped up to jot a note on a card taped to the jet-black control panel. Suddenly - it was just after 11:42 - he felt his grip on a drawer handle tighten as the submarine shuddered. Then 'came the real deal,' he said, a thunderous blast and what felt like a warp-speed gale whipping through the submarine as it froze in its tracks. The force spun his body around - like Spiderman twisting against a wall, he said - and his hand punched through a Plexiglas gauge cover. His seat ripped out of its runners and crushed his leg. Then one of the quartermasters, who had been monitoring the charts 15 feet away, came catapulting into view. He ended up knocked out on the floor, blood pouring from his forehead.

A few feet away, three more men were unconscious. One - the junior officer who had just suggested the extra sounding - was bleeding from his head and leg, and could hardly breathe. Commander Carlton, who was still in charge, had been thrown into a passageway, and blood streamed from the right side of his face as he scrambled back to the command center. In the wardroom, Commander Mooney had been pinned into his seat, while a cook came over his shoulder and crashed into a television screen 10 feet away, cracking it in two places. Within seconds, the captain was rushing up a ladder to the control room, where the effort to blow the submarine to the surface had just begun.

Hundreds of papers that had popped out of binders were streaking dark red on the floor, and the microphones were crackling with injury reports. By 11:44, the submarine had finally broken the surface, with the captain scanning through a periscope. No ships. No wreckage. Nothing. 'I realized at that point that we had survived a collision with the bottom that was just unbelievable,' Commander Mooney said. But, he said, he 'literally had no idea' what it was doing there. And no time to figure it out: there were also serious injuries in the crew's mess, the engine rooms and the smoking room - the other relatively open areas where men had gone flying. From the bridge atop the sail, Commander Carlton could see that the bow was damaged, raising fears of flooding. 'We were in shock,' Commander Mooney said. But everyone was running on instinct and training. Damage-control parties quickly reported that the inner hull as intact, the torpedoes and cruise missiles unscathed. The captain radioed for help and turned the boat back toward Guam.

In the stern, men began bringing the injured forward, toward the wardroom and the mess.
In the smoking room, Petty Officer Ashley had been thrown about 20 feet, fracturing his skull against either metal equipment or a bulkhead doorjamb. Two sailors crouched over him. I didn't know what to do,' said one of them, Bryan Barnes, a 22-year-old electrician's mate. 'So I just held his hand and talked to him until doc came back.' When 'doc,' the ship's medic, James H. Akin, arrived, he knew instantly that they had to get Petty Officer Ashley off the boat.

Racing to Save a Life

A submarine at sea is a self-contained world in a steel bubble. One thing it does not have, though, is a doctor; the medic, an enlisted man with basic medical training, handles the run of everyday illness and injury. Now, in a full-out emergency, the medic's first job was to get Petty Officer Ashley immobilized on a stretcher so he could be carried to the crew's mess. There, the chief of the boat, William Cramer, the senior enlisted man, was commanding the cleanup. His men unfurled large rolls of terry cloth to sop up the slippery goo of blood and capsized lunch, and shoved the broken plates and glasses into the galley. In the wardroom, Lt. Craig E. Litty, himself a former medic, quickly set up a triage center, where he helped bandage most of the injured men.

Corpsman Akin, at 6 foot 4 and 280 pounds the largest man onboard, set up his medical supplies on the salad bar in the mess. He stitched up the men with the worst lacerations. And he tried to keep Petty Officer Ashley alive. The medic says he knew he was probably nursing a dying man. Still, Petty Officer Ashley held on. For 21 hours, Corpsman Akin monitored his vital signs, kept his air passages clear, and gave him oxygen and morphine. Sailors took turns holding his hand. At one point, someone brought in a CD player and put on some Hank Williams Jr.

The first rescue ship, the Coast Guard cutter Galveston Island, arrived at 4:30 a. m. on Sunday. But by then, squalls had moved in, and it seemed too dangerous to try to shuttle Petty Officer Ashley over in a small boat. The alternative seemed hardly less daring: using a helicopter to lift the wounded man and his stretcher out of a hatch on the top of the submarine's sail.

By now, a second ship, the Stockham, had arrived. It carried more doctors and two helicopters. Around 9 a. m., as one of the helicopters hovered 10 to 15 feet above the submarine, it dangled a doctor and a corpsman into the submarine to help prepare Petty Officer Ashley for the move. The pilots had to rely on a spotter in back to keep the copter clear of the pitching submarine.

'He was giving drift calls, saying 'Cut left,’ Come right,' 'You're getting too close,' said one of the pilots, Ricke Harris. Inside the submarine, Chief Cramer ordered a path cleared for the stretcher. Several men unbolted or cut off ladder railings and lockers. By late morning, men were stationed in doorways and stairwells to pass the stretcher along; one even crawled underneath and supported the stretcher on his back through the narrowest spots.

They climbed up one level and under the sail, and then another group took over, heaving on a rope and pulley to lift the stretcher up the 25-foot sail. The first effort failed when Petty Officer Ashley's breathing tube came loose. With his condition deteriorating, a second try made it to the

top. That was when the men had an awful realization: the hatch atop the sail did not quite open the full 90 degrees. No matter how much they tried, angling this way and that, the stretcher would not slip through. A surgeon, Chris Cook, was then lowered by cable from the copter. But Petty Officer Ashley's heart stopped, and the men began CPR. Half an hour later, at 1:11 p. m., Dr. Cook pronounced him dead. Still, one of the sailors kept pounding. 'I looked at him and said, 'we’re sorry," Dr. Cook recalled. ‘‘There’s nothing more we can do."

Hard Lessons

When the San Francisco pulled into Guam on Jan. 10, its bow slinking low in the water, the flags on other submarines were at half-mast, their crews lining the decks in tribute.
Looking at a picture of that moment, Commander Mooney speaks with pride of the way his crew brought the boat home. But an image discovered on the voyage back also remains seared in his mind, he says, one that helped seal his dismissal and spark broader questions about the Navy's navigational training and support.

That image is a small, light-blue circle on a white background. It signifies a potential hazard two to three miles from where the San Francisco crashed - close enough, Commander Mooney says, that if he had known about it, he would have tried to skirt the area or asked for a new routing. Charting experts now believe that hazard was the mountain, and that its location was imprecisely reported in the days before satellites made navigational fixes more precise.
Commander Mooney said he first heard about the hazard from his boss onshore a few hours after the grounding. It is, in fact, on every chart of the area except for the one that the boat was using - the one that usually provided the most detailed picture of the seabed contours. That revelation has been embarrassing to the Navy and the Pentagon office that prepares the charts. Moreover, investigators have found that the officer who gave the submarine its basic routing also relied only on that one chart.

Under Navy rules, the captain and his crew are solely responsible for the safety of their ship. After all, in wartime, submarines must operate without help from shore. The captain acknowledged that he and his crew should have cross-checked the charts. But some of his officers say it was common to grab what seemed the best chart and run down the center of the basic track, as the San Francisco did. They also said they were not alone in believing that the routings were based on more substantial navigation checks. 'I look at it as just a lot of really bad luck,' said Lt. Cmdr. Rick Boneau, the San Francisco’s executive officer.

Commander Boneau, Commander Carlton and an assistant navigator were relieved of their duties, and three enlisted men were reprimanded. Commander Carlton did not respond to requests for comment. But Navy reports have found that the sea charts are not updated frequently enough and that the routings are often delivered late, limiting the time for onboard navigation checks. The accident has also stirred concerns - dating back to the advent of nuclear submarines under the legendary Admiral Hyman G. Rickover - that Navy training places more emphasis on engineering than on skills like navigation.

The approach to keeping the reactor safe is to build in redundant checks and test sailors constantly. But even though inspections had found some navigation deficiencies on the San

Francisco in 2004, the reports said, squadron officials in Guam did nothing to make sure the problems had been fixed.

Since the accident, the Navy has briefed hundreds of officers on the lessons to be drawn. Capt. Matt Brown, the spokesman for the Pacific Fleet, said the Navy is also looking at other changes to improve safety. Some of the younger sailors said they had not realized how close they had come to dying until they saw the San Francisco's mutilated bow at the dry dock here.
'Your jaw just kind of dropped open, and you wondered why you were still alive,' said Mr. Barnes, the electrician's mate who held Joseph Ashley's hand right after the collision. As many as 10 sailors have asked not to return to submarine duty.

Commander Mooney is working a desk job until he can retire next year. Last month he visited Petty Officer Ashley's grave in a family plot on a hillside in West Virginia. The captain and the sailor's father said a prayer together as they placed a Navy marker by the grave. They embraced. Then, the captain left one final offering - his command star, buried in the dirt.



USS San Francisco in a drydock in Guam during her temporary repairs for her voyage to Puget Sound, May 2005.

The nuclear submarine San Francisco in Guam, after repairs.

[Source: New York Times Christopher Drew article 518 May 2005 ++]