

BONEFISH FIRE 24 APRIL 1988 – XO'S RECOLLECTIONS

These notes will chronologically cover the 18 months that I was associated with the USS Bonefish (SS 582) from reporting aboard as XO in early January 1988 to the sale of the ship for scrap in approximately June 1989. There are an infinite number of rumors, sea stories and other perspectives floating around regarding Bonefish, the fire itself, and the ship's subsequent last days as a US Navy asset. I will comment or provide descriptions for only what I personally know to be true. If I provide any beliefs or opinions they will be clearly identified as such. That said, here we go:

January 1988: I report aboard Bonefish and assume duties as the XO. I did meet my predecessor; however, it was not exactly a contact relief. He had been diagnosed as having diabetes and was therefore being medically disqualified for continued submarine duty. As I recall, we had only a few hours to converse on the status of the unit before he departed and I had the job. Over the next few days I learned that the ship had last been to sea in the fall of 1987 and had returned from sea with a number of significant mechanical issues, including severe problems with the main engines, the air compressors and the fresh water still. It appeared that it was going to take some time to return the ship to a sea worthy status. Additionally, crew morale seemed to be very low at that point, although they were all working hard in trying repair and maintain the submarine.

I met the CO, CDR James Toney upon reporting aboard, however, we did not have much interaction after that. My career philosophy had always been to "run the show" as I saw fit and wait for my superiors to "reel me in" if and where they felt the need. That seemed to suit CDR Toney just fine, because he was generally not on board and when he was aboard he was usually in his stateroom working on something that seemed to have no relationship to the Bonefish. We typically only conversed for a few minutes over coffee one or two mornings per week. I usually also attended the morning status meeting with the Submarine Squadron 4 Commander, a task that is traditionally performed by the ship's CO.

Over the course of the subsequent three months the crew, with some significant help and support from the IMA personnel aboard the resident Submarine Tender USS Frank Cable, restored the ship to being nearly mechanically ready to return to sea. At about that same time the crew began an aggressive training and drill schedule that was designed to ensure that they would be fully ready to operate and "fight the ship" when it was finally ready to sail. The expectation was that the ship would return to sea in early April.

One of the submarine training scenarios that is often used for deployment preparation is called "Fast Cruise", which is a 24 to 48 hour period where the crew tries as much as possible to operate the ship as if it were actually at sea, e.g. everyone is onboard, the hatches are shut, the watch rotations are set and the crew actually operates as many ship's systems as possible. In addition, the period is also stuffed full of casualty drills and battle simulations to train and refresh the crew on these evolutions and to elevate the crew's levels of confidence and teamwork. The Bonefish fast cruise schedule was published and the Submarine Squadron 4 Staff agreed to provide observers and drill monitors to assist/evaluate and to subsequently report the crew's readiness to the Squadron Commander.

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On the morning that the “Fast Cruise” was to commence the Squadron 4 observers and drill monitors were all present and ready, and the Bonefish crew was all present and ready with the exception of the CO. No one, including me, knew where he was. After a number of attempts we finally reached him by telephone. He stated he'd be “there in a few minutes”. “Fast Cruise” was cancelled and replaced by the activities associated with CDR Toney's detachment for cause.

CDR Toney was soon replaced by CDR Mike Wilson, who was actually at that time permanently assigned as the XO at the Trident Training Facility in King's Bay, GA. He was assigned as the Bonefish CO on a TAD basis pending the identification of a permanent relief for CDR Toney. Mike was absolutely the right guy at the right time, in my opinion. For whatever reason (and I have my theories that will remain unstated), I believe the crew's level of morale and confidence took a step jump upward as soon as Mike arrived. The repairs on the ship were all completed and tested, the “Fast Cruise” was rescheduled and conducted successfully (even from the Squadron Staff perspective), and the ship finally got underway for a scheduled three weeks at sea in early April 1988.

April 1988: The first few days back at sea were dedicated to testing and evaluating the proper operation of the ship's systems and to the continued training and qualification of the crew. The Bonefish's major systems were operating smoothly and the crew's proficiency in operating the submarine was steadily becoming more polished, which was good, since the first significant at-sea test of Bonefish's skills – an exercise submarine-against-submarine encounter with a US nuclear submarine – was rapidly approaching.

The exercise was Bonefish, the last Atlantic fleet diesel submarine (and one of only four US diesel submarines still in commission (Barbel, Bonefish, Darter & Dolphin) versus a front line Sturgeon class (SSN 637) US nuclear submarine. The exercise was not extremely long, e.g. less than 24 hours, however, Bonefish and its crew performed extremely well, impressing not only the opposing submarine crew, but the Sublant and Submarine Squadron 4 staffs as well. Bonefish then confidently turned to the South Southeast and headed out to meet the “Kennedy battle group” for the next exercise.

Bonefish arrives on station approximately 160 nautical miles East of the Florida coast and the exercises with the “Kennedy battle group” begin. The Bonefish and her crew are both operating smoothly and efficiently and the exercises appear, from the Bonefish perspective, to be going quite well.

24 April 1988: It is about 1600 in the afternoon. There is a break in the exercise activity and the “Kennedy battle group” is sailing West, steadily opening Bonefish's current datum. Bonefish is moving slowly toward the Northwest at a depth of 150 feet. Mike Wilson and I are sitting in the wardroom reviewing the plans and schedules for the rest of the underway period. We are both smoking cigars. At about 1615 we hear the report regarding the low ground on the forward battery well. A low ground is not terribly unusual in the diesel submarine business and there are established, effective procedures for dealing with them. We were therefore not alarmed by this report. At 1624, however, the report of “Fire in Crew's Berthing” was heard over the MC system. As the CO, Mike reported to his assigned station in the Bonefish control room. As XO,

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I grabbed my Emergency Air Breathing (EAB) kit and reported to my assigned station at the fire scene.

The fire scene was on the lower level of the Midships compartment (Bonefish had 3 compartments – Torpedo Room, Midships Compartment & Engine Room) in the crew's berthing area on the port side of the ship. When I arrived at the scene I donned my EAB kit, plugged it in, and took charge at the scene. At that point the access hatch for the ventilation plenum that ran fore and aft under the deck in that area had already been opened and I could see that the battery well terminal lugs and the associated 5 large electrical cables that connected the main propulsion motor to the battery were glowing cherry red at and near the terminal lugs, (the cables ran from this point for a distance of approximately 120 feet aft along the port side of the ship through the ventilation plenum to reach the main propulsion motor. The point of the plenum was to support ventilation of the battery well.) I knew we had one hell of a short somewhere, but I didn't know where. Also, since Bonefish was an old submarine (commissioned in 1959), the only way to disconnect the battery from these cables was to take a couple of socket wrenches and remove the bolts/nuts that connected the terminal lugs to the terminal bus (no pretty knife switches like on the newer submarines). We immediately recognized that any attempt to perform the socket wrench disconnect would be suicide.

So we knew that at that point we had all of the electrical energy from a 506 cell lead-acid battery (with each cell being approximately 19 inches by 19 inches by 5 feet tall) going to ground through these 5 cables. No wonder they were bright red. We attempted to cool the cables with very short bursts from CO₂ fire extinguishers, which obviously had little or no effect on the cable temperatures. After a very short period, maybe a minute or so the inevitable occurred – a gas plasma explosion in the ventilation plenum and a fireball the size of Rhode Island (or so it seemed) erupted from the plenum access hatch and knocked us all on our asses on the opposite side of the ship. Both of my ears were immediately turned to 2nd degree burned blobs of flesh but the EAB had done a great job of saving my eyes, nose, etc. We returned to the fire scene, which now was visibly aflame and we could hear what sounded like a cutting torch in operation. Additionally, the explosion had also breached the ventilation plenum at several points, thus "taking out" the switchboard that powered the pumps that would have enabled the use of salt water on the fire (had we chosen to completely ignore the risk of chlorine gas). As an aside, another detractor to the use of salt water was the crew's earlier reports to me that CDR Toney had contaminated the ship's sea water fire fighting system with diesel fuel during an attempt to take on excess fuel in support of the ship's earlier deployment in 1987. In either case, the loss of this switchboard meant that a source of sea water for fire fighting was no longer available even if we chose to try to use it.

There is more bad news. The fire was now burning the cork insulation on the inside of the submarine hull (cork insulation is another "old submarine" artifact) and was thereby producing copious quantities of thick black smoke. The fire had also moved forward from the switchboard a few feet to the fuel oil sampling station, where the cork insulation was also impregnated with the diesel fuel residue from nearly 30 years worth of periodic fuel samples. Not surprisingly, the fire got a little stronger and produced a lot more smoke. The fire subsequently also reached the small diameter tubing that connected the ship's four high pressure air banks (at 3000 PSI) to the gauges on the ship's ballast control panel in the control room, (no electrical pressure sending

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units on this old gal). Once the first silver-braided joint gave way under the heat the nearly 500 cubic feet of 3000 PSI compressed air in the ship's high pressure air banks was ported onto the fire.

I don't believe that the fire fighting team and I were still at the scene when the high pressure air arrived. The "cutting torch" sound we were hearing was clearly coming from the vicinity of the original fire scene in the ventilation plenum. With the loss of fire fighting water and the arrival of the fire at the fuel oil sampling station I concluded that the fire was out of control. I directed the fire fighting team to evacuate the area. I then went to the control room and reported that the fire was out of control.

When I arrived in the control room I noted that the fire had apparently already reached the vicinity of the ballast control panel, as I could see the faint orange glow of flames rising from behind the panel. CDR Wilson had already brought Bonefish to the surface and was attempting to reduce the level of smoke by ventilating the ship via the Bonefish's three diesel engines. Shortly after my report that the fire was out of control the diesel engines all shut down without order, probably due to control or other system loss/damage caused by the fire. That was the last straw. The ship again quickly re-filled with smoke and Mike directed the crew to abandon the ship through the nearest hatch.

As of that point in time I believe that two of the three lost Bonefish crew members were already dead, specifically LT Ray Everts, who had been the OOD at the time of the fire, and RM1 Robert Bordelon, who had been on duty in the radio room at the time of the fire. LT Everts had joined the Bonefish crew within the past 6-7 weeks or so, having previously served and completed his submarine warfare qualification onboard USS Darter. LT Everts had also re-qualified as an OOD on board Bonefish during this underway period. LT Everts was a competent experienced submariner. My speculation is that he was a little slow to don his EAB kit as the ship ascended to periscope depth and was subsequently overcome by smoke before he could get it on. This speculation is supported by my understanding that the fire fighting philosophy onboard the USS Darter, which had seven compartments, was to evacuate the affected compartment and allow the fire to suffocate itself. On Bonefish, with its three compartments, this philosophy would not have been at all effective. Regarding RM1 Bordelon, I have heard that he was directed to, and succeeded in, transmitting a single radio message to the effect of "Bonefish is experiencing a fire onboard – request you stand by." After that, his status or actions are unknown. The radio room was located on the port side upper level of the Midships compartment, directly above the fuel oil sampling station.

As I understand it, the evacuation took place as ordered through all three hatches (one in the torpedo room, one at the submarine bridge and one farther aft in the Midships compartment.) I eventually exited through the hatch at the submarine bridge after first attempting to verify that the rest of the control room personnel had already evacuated. I believe that I was the last individual to use that evacuation path, although there is speculation that one or more crewmembers may have used that route after I did. In my opinion, the submarine bridge route was the most dangerous, since the sailor had to take off his EAB at the base of the exit ladder and then climb up the 55 foot ladder to the bridge without an air source while completely

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engulfed in a column of thick, toxic smoke. Not surprisingly, more than a few of the crewmen that were subsequently hospitalized for smoke inhalation had used this exit route.

Once on deck, the trick was to stay topside and out of the ocean. Fortunately, the sea state was not very high (Beaufort state 2 to 3) and the water was relatively warm. Even so, a number of crewmen (I estimate 20 or so) ended up in the water. When I arrived on deck I could see the USS Carr, one covered life raft, and a motor whaleboat. I began pacing the deck to find the CO, to count heads and to try to keep everyone as organized and as calm as possible. The head count turned out to be close to impossible. After an indeterminate period of time the Torpedo Room hatch and the aft Midships compartment hatch were both shut. The bridge hatch, however, remained open because the billowing smoke was by now so thick and toxic that none of the crew could survive climbing back down into the bridge cockpit to shut it. I later recall reaching down and doing a temperature check on the exterior of the submarine's hull. It was distinctly hot to the touch. I recall wondering if the Bonefish would literally blow up underneath us before the evacuation was complete.

At some point I recall noting that a number of crewmen had entered the covered life raft and that the raft seemed to be headed back to the USS Carr. Later I observed that the covered life raft seemed to have flipped over and dumped the crewmen back into the water. I attributed that event to rotor wash from the evacuation helicopters. Years later I learned that there may have been other contributing factors when I read some of the online blogs on the event.

The majority of the crew was evacuated from topside by helicopter and horse collar. I recall seeing one crewmember "freak" during his ascent and completely take his hands off the collar. I expected to see him come crashing back down to the topside deck, however, he eventually did make it into the helicopter without additional injury.

As I recall, the last evacuation helicopter flight picked up three personnel - one last crewmember, the CO and I. I recall looking at my watch and noting that it was about 2030. The helicopter flew to the USS Carr, and the CO and I headed for the ship's bridge. I was detained and diverted by what I remember to be a very large and muscular Warrant Officer (I would later look in the mirror and come to understand why), who demanded that I follow him to sick bay. I protested, but eventually ended up doing things his way. I was soon parked in a chair and sucking on an oxygen tank. I also quickly learned that silvadine cream is great stuff for burns.

Twenty three of the crew were subsequently transferred to, and hospitalized in the Jacksonville, FL Naval Hospital. Our durations of stay varied based on our injuries, and I was able to return to Charleston after about four or five days. The stricken Bonefish was towed back to Charleston and parked alongside the USS Frank Cable within just a couple of days after that.

May 1988 to June 1989: By the time Bonefish arrived back in Charleston we knew that 3 crewmembers had been lost during the accident. By consensus, we were confident we knew the locations of LT Everts and RM1 Bordelon, however, we had no specific data on what had happened to YN3 Todd Lindgren. Was he lost during the fire or during the evacuation? He had been seen alive during the evacuation, but not on the topside deck. Once Bonefish was alongside the USS Frank Cable the first order of business was to recover the remains of the lost

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crewmembers. All three were found and recovered from the upper level of the Midships compartment. It appears that, for some unknown reason, YN3 Lindgren had returned to the "Yeoman's shack" for something and was apparently unable to make it back to the nearest evacuation hatch.

The next order of business was to remove the torpedoes and other ordinance from the Torpedo Room. The USS Hoist, which towed Bonefish back to Charleston, had reported that the submarine was "down by the Bow". We soon discovered why in preparing for the torpedo offload – the cavity drain valve on the Torpedo Room hatch had been left open during and after the evacuation, which caused the Torpedo Room to slowly take on water after the evacuation and during the ship's tow back to port. The Torpedo Room was drained and the weapons were successfully offloaded. All classified and COMSEC material was then removed from the ship – since the COMSEC containers were located in the Radio Room the only tools required for the removal of the COMSEC material was a shovel and a bucket.

Naturally, the formal investigation of the incident also began as soon as the ship arrived alongside the USS Frank Cable. The investigation continued in earnest until the end of 1988. As usual, no single entity or factor was solely responsible for the fire. In the end a number of individuals and/or agencies were cited as being individually and/or collectively culpable for one or more of the events leading up to the fire, however, none of those cited as being culpable were onboard Bonefish at the time of the fire.

In short, the investigation concluded that the fire started because the main propulsion motor cables had become shorted to the hull. The cables became shorted because of insulation damage caused by long-term (i. e. many year's) exposure to salt water. The salt water exposure occurred because there were holes in the deck in the port outboard waterway located just above the ventilation plenum containing the motor cables. The holes were not visible because they were obscured by the habitability bulkheads that were installed in the crew's berthing area. There were indications that the holes were present during the ship's 1984 overhaul when the battery wells failed to pass a 12 PSI air tightness test. These test results, however, were apparently ignored or waived. The salt water entered the waterway via the ship's trash disposal unit due to the performance of improper or incomplete maintenance on the TDU by the IMA. There were obviously other contributing factors, but the above comprised the most proximate causes.

Once the highest priority post-fire tasks were completed the Bonefish was moved from alongside the USS Frank Cable to the North side of Pier Romeo on the Charleston Naval Base. That was the last time the Bonefish would be underway until she was towed to New Orleans for destruction/scrap disposal in the summer of 1989.

Over the course of the next few weeks the entire crew and their families all received counseling related to PTSD and such. From my perspective, it seemed that the majority of the crew handled the entire series of events without incurring significant spikes in their mental stability. During this same time the crew also dealt with and/or participated in a number of memorial services and the like with respect to the ship and their lost shipmates. I personally developed a profound admiration and respect for any officer who is assigned to perform as a CACO.

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Over the course of the next several months the ship was toured by numerous senior Naval Officers, particularly those from the Submarine Force. Admiral Reynolds, who at the time was in charge of the new Seawolf Class submarine design/construction program, toured the ship with a cadre of submarine designers in tow. The intent was that the designers could get a first-hand view of what should, and more importantly, should not be present in the Seawolf submarine design. In every case, the post-tour comment was not “How did you lose three men?”, but rather “How did you get 89 men out alive?”.

Once the decision to decommission the ship was made in the second half of June 1989 the crew size began to shrink as crew members began to be transferred to other duty stations. Mike Wilson returned to his permanent assignment as XO at the Trident Training Facility and I assumed command of the stricken ship. By the time of Bonefish’s decommissioning on 28 September 1988 the crew size was down to about 45 personnel. The decommissioning ceremony was somber, but well attended. At the decommissioning ceremony five Bonefish crewmembers were awarded the Navy & Marine Corps Medal in recognition of their heroic acts during the fire. Since a decommissioned ship cannot have a crew, the remaining ex-Bonefish crewmembers were transferred to TDY duty on the Submarine Squadron 4 staff, but remained with the ex-Bonefish to complete the final activities required for the ship’s disposal. By June 1989 the salvage sale of the Bonefish was coming to its conclusion and the last of us finally received PCS orders to our new assignments.