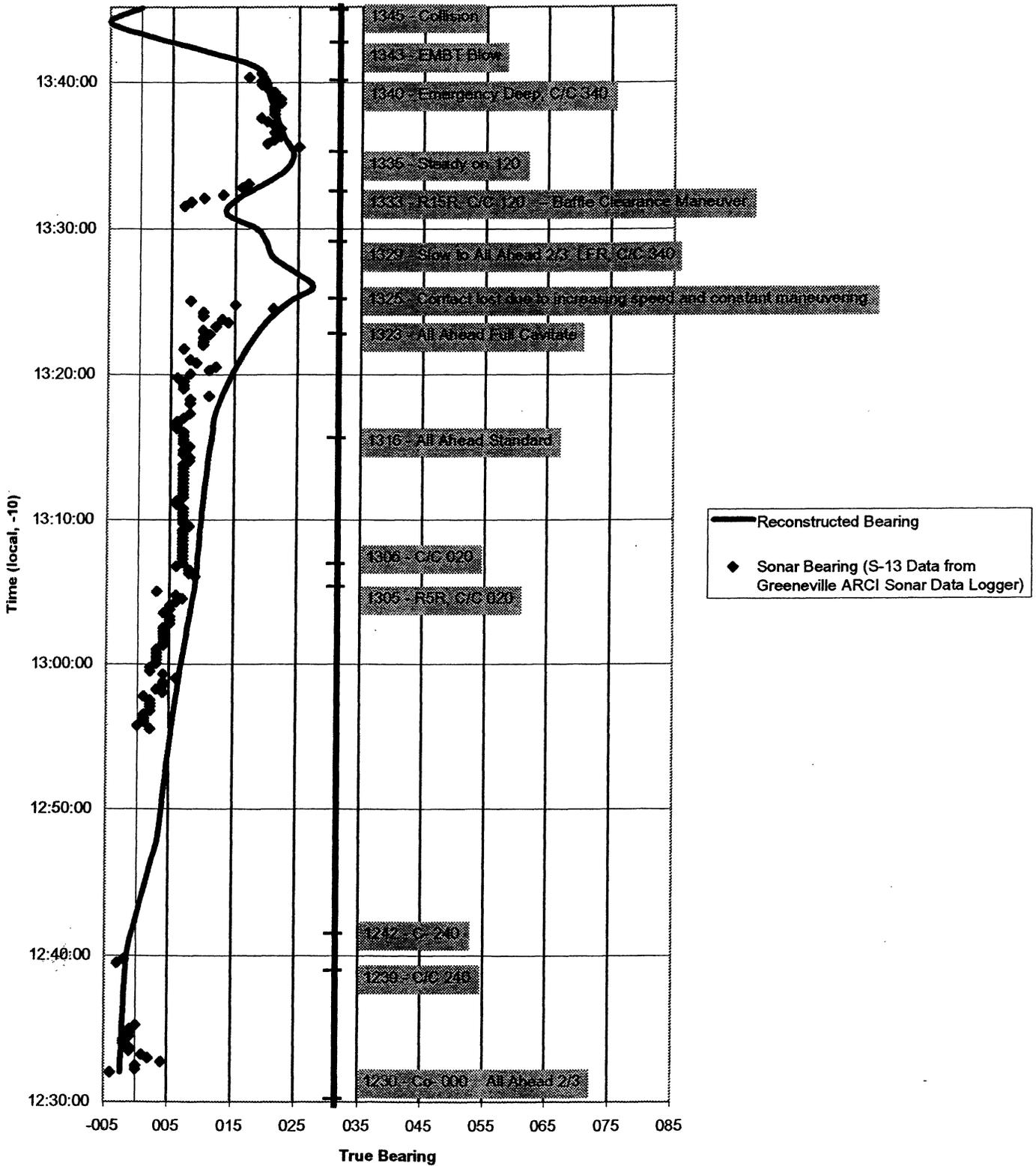
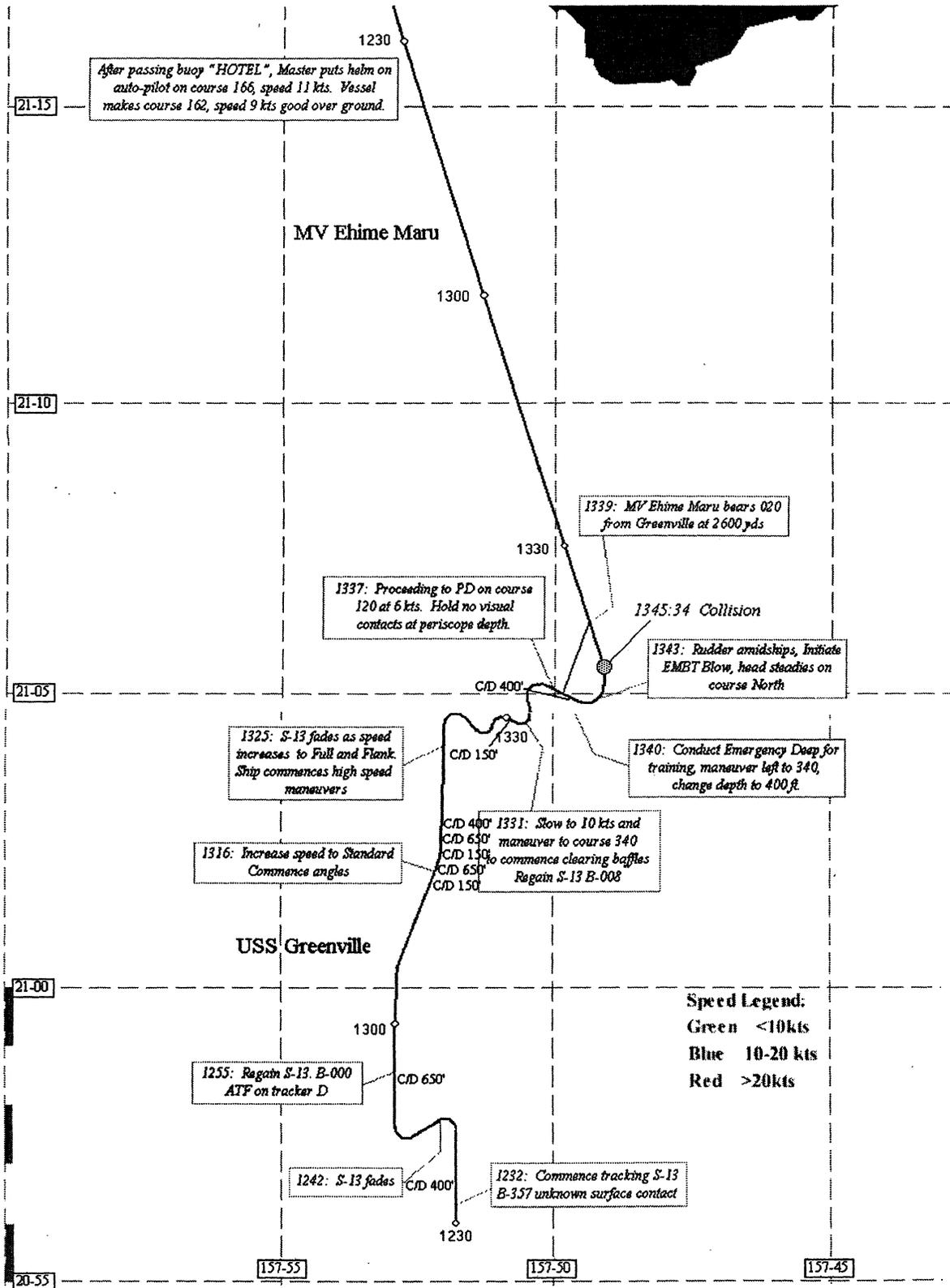


# Sonar Bearing vs Reconstructed Bearing

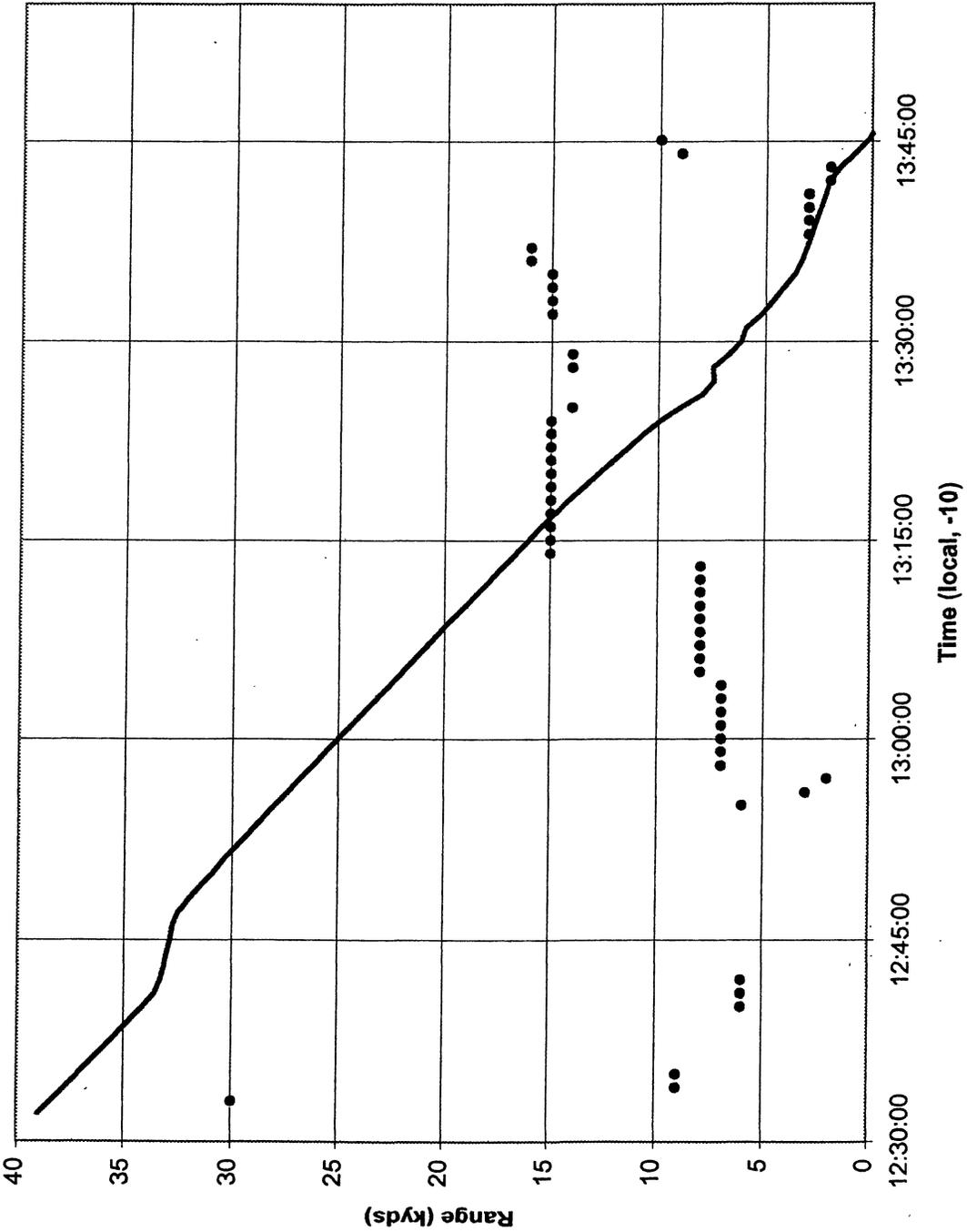


Reconstructed data for Collision between USS GREENEVILLE and EHIME MARU

ENCLOSURE(1)



# Time Range Plot



— Reconstructed Range

• FCS Range (S-13 Data from Greenville ARCI Sonar Data Logger)

13:45:00

## Reconstruction Methodology of USS Greenville's Track

The track was anchored at the 1300 Master ESGN position. Courses and speeds based on deck log entries were used to extend the track before and after 1300. A computer algorithm was used to account for acceleration, deceleration, and advance and transfer based on SSN 688 class information. Times for course changes from the deck logs were compared with information from the ARCI sonar data logger. For cases where the times differed between the two data sources, the time from the automatic data logger was used.

The DR position at the time of the collision computed in this manner was approximately 750 yds to the southwest of the ship's logged position at the time of the collision. A vector correction was applied proportionally to the track from the 1300 position until the time of collision to anchor the reconstructed track both at the 1300 position and at the position reported for the collision.

(this 750 yd may have been due to set and drift. 750 yds over the 45 min time frame equals a drift of 0.5 kts, very reasonable. The set would have been approx 045, which is not unreasonable (historically it is either 090 or 270 in that area.)

ENCLOSURE(1)

CDR Scott Waddle, USN  
Commanding Officer, USS Greenville (SSN 772)

Summary of interview of CDR, Scott Waddle, USN on 2/10/01.

Ship was underway from Pearl Harbor at 0800, 2/9/01 for a VIP cruise. Ship had a normal transit out of port with one exception. At about 0830, while on the surface conducting a surfaced outbound transit, the control room Auxiliary Sonar Video Display Unit (ASVDU) failed. This piece of equipment was not regained for the remainder of the underway.

After reaching their assigned operating area, the ship submerged. The ship rigged for deep submergence and conducted a deep dive to test depth before lunch. Conditions were normal through the dive.

After completing the deep dive, the ship conducted a number of evolutions for the benefit of the guests. These evolutions included torpedo tube evolutions, tours, lunch and allowing the guests to drive the submarine as helmsman and planesman under the instruction of qualified watchstanders for minor depth and course changes.

At about 1300, lunch had been completed. The ship had remained in the northern half of their submerged operating area due to the time scheduled to pass the Pearl Harbor entrance point "PH" (1400). At about 1300, the ship commenced a series of large up and down angles, which concluded at about 1330. The ship commenced a series of high speed, large rudder turns at about 1340.

The ship then proceeded to 150 feet and commenced preparations to go to periscope depth. Due to the ASVDU material failure, CDR Waddle went into the sonar room to observe contacts. The ship held two contacts to the north. The right most contact was bearing about 010 degrees and was thought to be a small craft. The left most contact was bearing about 340 degrees and was thought to be a merchant. CDR Waddle left sonar, discussed intentions with the OOD (LTJG COEN) and agreed with a maneuver to course 120. CDR Waddle remained in the Control Room and did not return to sonar. When on course 120, the right most contact drew left on the Fire Control System Time-Bearing display.

The ship was taken to periscope depth. The OOD conducted his initial search and reported no close contacts. ESM reported no close contacts. CDR Waddle took the scope and conducted a low power search and saw no close contacts. Approximate Sea State 2, visibility was hazy. Could clearly see the water. Could not see

Encl (2)

land mass of OAHU. CDR Waddle then conducted a second search in high power (approximately 30 second) in the sector of the two sonar contacts previously identified, approximate bearing 015 to 320 degrees. There were no visual contacts. CDR Waddle then panned right in high power to dead ahead, shifted the scope to low power, and held no contacts.

At the time this was taking place, there were about 17 guests in the control room over by the Fire Control panels and back by the plotting stations.

CDR Waddle lowered the periscope and ordered an Emergency Deep for training to 400 feet. Ahead full was ordered. When at 400 feet, CDR Waddle ordered the OOD to Ahead Standard and ordered course changed toward Pearl Harbor from 120.

CDR Waddle had asked the XO to remain in Sonar through the P/D evolution. Time-Bearing display had only one contact. During the turn, sonar did not report regaining of any contacts. CDR Waddle ordered the OOD to Emergency Surface the ship. The OOD ordered the ship Emergency Surfaced. On the order, a guest supervised and assisted by the Chief of the Watch (COW), who had his hands on the actuators over the guests, actuated Emergency Main Ballast Tank Blow. A second guest supervised and assisted by the Helmsman, who had his hands on the helm, was seated at the in board station.

CDR Waddle reported that as the ship ascended, there was a loud bang and shudder followed by a second bang and shudder. He ordered slow or stop. He then raised the Number 2 Scope when the ship was on the surface and holding. Off the aft port quarter he noted the fishing vessel with which the ship had collided. He noted a number of people on the after part of the vessel. The vessel was noted to have a white hull and was bearing port 130-135 Relative from own ship with a stbd 35 angle on the bow. The vessel was listing aft to the stbd side. CDR Waddle told the OOD to increase speed to Ahead Full, turn left, prepare to surface and prepare to render assistance. The vessel was observed to be squatting in the water with items being thrown out. CDR Waddle reported the vessel was taking on water rapidly and sank in less than about 5 minutes.

CDR Waddle took the Conn from the OOD and commenced maneuvering to assist. The ship attempted to contact CSP on Secure Voice for initial report. He directed the small boat handling party mustered. Attempted to send personnel topside via the Forward Escape Trunk (FET) but could not due to seas (5-6 foot waves rolling over the FET upper hatch). A shudder was felt from on the ship when bell was ordered above Ahead 2/3.

CDR Waddle ordered the bridge manned. Maneuvered the ship to provide a lee. Seas were mixed, no single direction. Ordered the SPM lowered. The watch was shifted to the bridge. CDR Waddle went to the bridge. The gyro repeater on the bridge suitcase was not working. The XO remained in Control. They were unable to maneuver the ship close to the rubber rafts due to the seas for fear of capsizing them.

By the time the bridge was manned the vessel's life rafts were inflated, personnel from the vessel were all in the rafts. The life rafts were spread out. The ship attempted to stay close to one raft with one person on board that was drifting away from the others. When the ship approached, they were unable to communicate. Survivors had no radios. The ship maneuvered north of the group, stayed with the lone raft.

There were three ship's force personnel on the bridge, CDR Waddle, the OOD and a lookout. They could not tell the extent of injuries to personnel on the rafts. They observed debris in the water and a noticeable slick of supposed diesel fuel in the water. They maintained a constant search until the Coast Guard arrived on the scene. A Helo was first on the scene. CDR Waddle made the decision that it would be too dangerous to try and bring people on board from the life rafts due to the seas.

CDR Waddle reported there were difficulties talking with the Coast Guard. Attempted to call up using a hand-held bridge to bridge radio on the bridge unsuccessfully. Attempted with a second radio from the bridge without success. CDR Waddle believes it due to distance. Tried patching control room VHF via a BRA-34 antenna, very broken. CDR Waddle reported that the senior submarine rider accompanying the guests assisted sending much traffic via secure voice to CSP from the radio room. An OPREP 3 report was released.

CDR Waddle reported that when the Coast Guard Rigid Inflatable Boat (RIB) arrived it did an initial inspection of the rafts and tallied survivors as 25. Medical assistance was provided to one injured person in one life raft. Ship offered to provide additional oxygen to a Coast Guard diver but it was not transferred. When the RIB started positioning life rafts, the ship was moved out of the way. The ship asked what assistance was required, they were ordered to remain on service.

CDR Waddle reported that the ship was informed that a Navy TWR was coming out with CDR (b)(6) on board. The TWR arrived on scene, CDR Waddle was unsure who had relieved as SAR commander. CDR Waddle reported the ship told that USS Salvor and USS Port

Royal were sortieing. Later told USS Lake Erie was sortieing. At about the time the Coast Guard Vessels were returning to port, the ship was told they were to stay in the area and would not be returning overnight.

At about this time, CDR Waddle came down from the bridge to check on conditions below decks and with the guests. A message was sent reporting damage to the ship as damaged SHT on the port side and rudder, the shaft shudder/vibration. The anchor light and stern light on the rudder were damaged, also.

CDR Waddle reported that the ship kept a Contact Coordinator in the Control Room and believes there was a second scope operator on the Number 1 Scope. After several hours with the Coast Guard on station, the ship may have reduced the scope watches. No other people from the vessel had been seen.

Concerning the OOD (LTJG COEN), CDR Waddle stated that he was a newly qualified OOD and that he regularly had to tell him what to do.

Summary of interview with LCDR Pfeifer, USN on 2/11/01.

XO 15 months

Lunch ended later than scheduled, told CO after MSs prepped the ship ready for angles. Went to control talked with DVs. At 1306 XO went to CO and told him 54 minutes to PH we needed to get going. CO was concerned about doing angles during propulsion plant sampling. Several minutes later CO came to control and told ENG to ensure ER ready for angles. Shortly commenced angles. XO back in control helping with guests. Looked at chart at 1326. GPS waypoint showed 13 miles to PH (26 knot SOA), informed CO. CO responded he had it under control.

When completed with angles/rudders, overheard CO tell OOD make preps for P/D, want to be at P/D in 5 minutes. XO thinks that that is very aggressive. Saw CO go forward believed to sonar. XO told OOD he would go to sonar to assist with getting a course. As went in through FWD door saw CO going out after door into control from sonar. Looking at screens very hard to tell if there was anyone close, difficult due to maneuvers. Ship was turning to 120. Believe at 150 feet. Looked at sonar screen SAPBB, 3 traces to N or NW looking close to see if anyone was breaking (believe contacts were S-12, S-13, S-14). Very quick for CO to order ship to P/D. XO and OOD did not really feel comfortable with contacts.

Two outer ones straight up and down, middle one weaker had maybe a very slight left. Not sure if ship had been steady on a previous course. Studying real hard. Hard to tell if anyone was close due to large rudder angles.

Go to STA/ITA, go to P/D. Went to stand at door, saw OOD take rapid sweeps, CO ordered 58 feet, thought that is not a high look, but that is the way the CO has always done it. CO took scope. Hoped for chance to broach. Very short time when CO ordered emergency deep (Comment - XO thought WHOA). XO wanted a broached look, did not tell CO. XO's attention was now in control room.

XO remembered thinking we need to get right back up. Ship blows really quickly from going down. Prior to emergency surface believes CO said "Bearing to PH" then changed course and blew. Surface heard two slaps, heard CO raise #2 scope saying OH, NO. XO raised #1 scope and arranged for DVs out of control.

XO handed 1MC to CO, went to radio for comms. Came out, went back to radio with name of vessel.

Went to crews mess, swimmers were being staged for FET. Went to control saw gigantic - waves over FET.

XO sent ~~(b)(6)~~ with flexible ladder to bridge, told him to go up with ENG. Made 1 MC waves too rough at FET. Swimmers to bridge trunk instead. Telling guys on scopes, find them, find them. 6, 7, 8 rafts (unsure of final number). Never saw anyone in the water. Personnel stayed on both scopes for hours. Divers ready and briefed if anyone seen in water. #1 scope down after dark.

At one point discussed with CO survivors safer in rafts than trying to get on board us.

XO response to question \_\_\_ OOD (LTJG Coen). Honest and cautious OOD. He will take a while getting to P/D if you have more than one contact. Thinks things through.

XO response on ships procedure for P/D: Ship trains OODs per CO's standing orders. Always get two good legs. Course on 120 was probably long enough if we had a good first leg. Thought we had another leg coming. OODs trained to use fire control system.

When asked, XO found out about ASVDU when underway perhaps maneuvering watch. Sonar just secured power. No observed troubleshooting, there was a reason they could not fix it.

#1 scope down after dark.

Summary of interview of LTJG COEN, USN on 2/10/01.

OOD qualified since about June 2000 transit to Santa Barbara. On board since March 99. Commissioned Aug 97. On active duty since June 95.

LTJG COEN relieved as OOD after lunch at 1145, relieved by Engineer LCDR Medder when bridge manned after the collision. When relieved as Officer of the deck, he stationed himself as Contact Coordinator. He was relieved as Contact Coordinator after about 15 minutes and went aft to investigate the reported shaft wobble.

LTJG COEN thinks that when he relieved the ship was driving south, at 650 feet, at A 2/3 (10 knots).

LTJG COEN reported that during the first part of the watch the ship was conducting torpedo tube evolutions. Those evolutions were completed after about 1.5 hours.

The ship then conducted course changes and depth changes.

Through these course and depth changes the ship wound up heading north about 1300, 17 miles from PH, a full bell would be required on the surface to be on schedule. Concerned about getting to PH on time, he discussed the situation with the QMOW and ANAV/NAV. He knew the ship still planned on doing large angles and an emergency blow.

LTJG COEN believes the NAV discussed the situation regarding time and distance to PH with the XO. LTJG COEN did not personally tell the CO or XO. His impression was the NAV did.

The CO came to the control room and announced on the 1MC that the ship would be conducting high-speed angles and depth changes and where best locations to view them would be.

LTJG COEN observed that the control room was very crowded.

CO directed ahead full. Ordered Max turns. LTJG COEN believes the ship was at 650 feet and that the ship was on either course 340 degrees or 000 degrees.

LTJG COEN expressed that he was concerned because he thought they had only about five miles ahead within their authorized submerged operating area.

Regarding the contact picture, before the control room became crowded he remembers having had 3 contacts, two to north and one to south. Before he started maneuvers he told the FTOW (P.O. Brown) to forcefully report if a contact was close.

LTJG COEN reported that at his time he as the OOD was directly behind the DOOW, the FTOW was on the stbd side of the control room and the CO was on the stbd side of the Conn (the periscope stand).

LTJG COEN reported he was at that time also concerned about contacts, sonar had been reporting contacts. They were 2 to north and one to south.

CO asked helms planes when was last time he had conducted these type maneuvers - helm response was that it had been a long time. As such, the decision was made to start small.

LTJG COEN expressed that he may have the sequence of angles and large rudder turns backwards).

LTJG COEN reported that the ship conducted a 15° up angle from 650ft to 150 ft at AI. Then the ship used increasing angles up to 30 degrees up while changing depth from 150 ft to 650 ft and back to 150ft. Speeds of Ahead Standard were used for up angles and Ahead 2/3 for down.

LTJG COEN reported the ship conducted course changes at 400 feet. LTJG COEN expresses he was concerned about operating remaining in their area, the ship was tending north as they maneuvered. The ship made max ahead turns. The ship changed course for large rudder turns between course 340 degrees (or 000 degrees) to 140 degrees. She ship used 10° rudder and up. The ship ordered Ahead Flank (cavitate) before the last course change.

LTJG COEN expressed that he was excited, tight.

LTJG COEN reported that the CO then ordered him as OOD to make preparations to go to P/D and the CO told him he had 5 minutes to go to P/D.

LTJG COEN reported that he ordered the ship's depth changes from 400 feet to 150 and took bell off with the ship going north. He reported that the ship held two sonar contacts with one bearing 010° and the other bearing either 330° or 340° (The first contact was either S-12 or S-13 and the second was S-14). LTJG COEN reported that he ordered ships course changed the Right to C120°.

LTJG COEN reported that on course 120 contact picture was the same. Sonar reported the contacts. The CO ordered LTJG COEN to take the ship to periscope depth. [RAPID came up very fast did not give standard report to CO.]

LTJG COEN reported he then:

Ordered turns for 6 knots.

- Reported proceeding to periscope depth to all stations.
- Tested the early warning receiver.
- Adjusted RACs to the sail
- Adjusted the speaker on the EWR

LTJG COEN he then raised the #2 Scope and ordered ship's depth to 60 feet. Through the evolution of coming to Periscope Depth he had been pretty serious and at some point had asked the guests off the Conn (periscope stand).

LTJG COEN reported that when the scope broke the surface he conducted 3 rapid 360° sweeps and reported no close contacts. The CO took the scope. LTJG COEN reported he did not get a chance to complete his initial search.

LTJG COEN reported that the CO ordered depth to 58 feet.

LTJG COEN reported that he followed the CO on the scope as he did several revolutions. The CO did not call out any visual contacts and LTJG COEN did not see any on Periviz. LTJG COEN reported he did not look at the Periviz monitor full time. He reported there were people near the monitor in the way.

LTJG reported the CO looked straight ahead (toward the bow), lowered the scope and ordered Emergency Deep, ordered ship's depth taken directly to 400 feet.

LTJG COEN reported that enroute to 400 feet he ordered the bell from Ahead Full to Ahead Standard.

LTJG COEN reported that ship's course was changed to 340° (ordered) using a 15° rudder. He reported that close to all the way around the CO ordered rudder amidships and ordered LTJG COEN to Emergency Surface the ship.

LTJG COEN reported that on the order a guest sounded the diving alarm 3 times. A second guest activated emergency blow. The blow was conducted for 10 seconds and was very loud. LTJG COEN ordered a 20° up angle. No experience with emergency blows.

LTJG COEN reported the CO was on 1MC announcing ship's angle and depth. The CO described what was going on.

LTJG COEN reported he felt the sensation of ship through surface then free fall then a loud boom above the COW.

LTJG COEN reported the CO commented what was that and that the CO was ready to raise scope. Ship speed was > 10 knots. LTJG COEN ordered All Stop to reduce speed to < 10 knots. LTJG COEN reported that when the scope was raised, directly astern was fishing vessel that initially looked okay through Periviz.

LTJG COEN reported the CO ordered him to come around back to vessel. He started the right using a 15° rudder A 2/3 to turn back to point vessel.

The CO made a 1 MC describing what had happened.

LTJG COEN reported the Navigator, in control, raised #1 scope.

LTJG COEN reported the CO ordered get over there Mr. Coen. Ahead Full Right Full Rudder was ordered. LTJG COEN reported he was hesitant, the ship was not surfaced fully, and he was concerned about losing depth with scopes raised.

LTJG COEN reported the CO relieved "Captain has Conn." The CO then ordered Right Hard Rudder.

LTJG COEN reported he was then coordinating in control as Officer of the Deck.

LTJG COEN overheard the Chief of Staff (COS) order the Navigator to get RMs to make reports.

LTJG COEN reported the CO ordered him to surface the ship.

By the time the ship had turned toward, the CO ordered bridge manned.

By the time the ship had turned toward, the vessel was already sunk.

CO gave scope to OOD just before ship sank. Did not see people or lifeboats.

LTJG COEN reported the vessel's name was observed. XO directed Divers to take stations.

Members of the crew were getting sail ladders up to the bridge.

Navigator or COS ordered getting the ship's LAT/LONG for reporting purposes Guests went down aft of control.

Bow planes rigged in.

Engineer went to bridge, relieved of deck and Conn. Believe at all stop. After relieved as OOD he became the contact coordinator.

LTJG COEN also commented:

No knowledge of radio communications problems.

At P.D overcast kind of hazy. Don't remember seeing OAHU, don't remember a blue sky.

As Contact Coordinator, started GEO PLOT, plotting relative position of lifeboats, own ship position, on periscope looking of any people in the water. Making observations did not see any people in the water. Saw eight lifeboats. Ship was being maneuvered to try and assist. Did not open FWD escape hatch, taking water over the hatch. He remembers the XO talking about divers going down to assist from the sail. He heard the ship could not come alongside

CO went to the bridge. The DOOW was relieved to assist with line handlers.

Sloan LT NAV

2/11/01

Summary of interview with LT Sloan, USN on 2/11/01  
2 years onboard.

Ate lunch about 1215. About 1300 went to control, knew we had a 1400 PH. Found we were dawdling. Went to XO, told him we needed to accelerate. Went to CO a few minutes later and told CO we would be late and need to get going. At least 10 miles from PH (maybe 13-14 miles) and still had evolutions to do. CO went to do angles and dangles.

Went back to control, slightly concerned about being 6 or 7 miles from northern edge of boundary. As it turns out always had 2 or 3 mile buffer. Never really an issue at least two miles between buffer and fix expansion. Had to go down one level and around to get back to control because there were too many bodies in control.

ANAV as Nav Sup other than for breaks. Fathometer operator stationed for usual piloting party due to Penguin Banks.

CO was driving angles and rudder. Events were going quickly, did not feel talking to CO again would be useful or necessary, a few minutes late would not be a big deal. CO had indicated earlier in morning that he did not want to do an EB, but later changed his mind.

Made preparations for P/D from Northerly course to 120°. Really tough to see Periviz monitor due to crowd in control. OOD did 3 sweeps and called out no close contacts. Overheard come up to 58 feet for higher look. Layer of VIPs between NAV and CO. NAV up against bulkhead aft.

CO ordered Emergency Deep. Told OOD to continue to 400 feet. Dropped bell to AI from AII. Told OOD to change course to the north.

At 400 feet, don't recall pause or delay before emergency surfacing. Conducted Blow, 20° up, speed peaked at about 13 knots. OSDS depth display froze up at 90 feet. Felt surfacing then pop and bang. Then a few seconds later a second pop and bang, know it was not a normal sound.

CO wanted scope up, > 10 knot. CO directed a backing bell. When speed < 10 knots (NAV reported) raised scope.

ANAV and second QM checked fan room.

Encl (5)

Got position from ESGN and went to Radio. Agreed with Radio Supervisor that OPREP-3 Navy Blue was required. Stayed until circuit (SATHICOM) established and voice report sent. Then returned to control.

Took #1 scope did not see anyone in the water.

Ensured comms continued emphasis on data collection for follow-up OPREP-3 text report.

Port Plotter manned to plot position of rafts and people, manned by Junior Officers.

No problems with comms with Coast Guard or Sathicom, except one time tried to call Honolulu CG via control room VHF on channel 23 and was unable, called on channel 16. Future comms on 23 fine. W/CSP later monitored freq 23 when TWRs reported on the way out.

When asked remembered no chart notes on fishing, just FAD buoys (none close)

NAV reported visibility earlier in the day was poor, overcast, and kind of whiteout. Especially hard for light colored vessels. Noted contacts earlier. Very hazy out.

NAV reported sea state a little rougher than normal very choppy. Rolling a little at P/D. Rocking while outbound transit.

ASVDU OOC reported by NAV at 0715-0730, told sonar supe who came out to look at it (P.O. [(b3/b6)] Reyes), also informed CO prior to underway.

No changes in SOs or Procedures as a result of ASVDV material failure.

When ship went to P/D, XO went to Sonar. Believe it due to ASVDU out of service

#### Command Climate:

Discussed that CO tended to drive OODs with very specific direction (rudder angles, speeds, depths etc.) in anything other than normal transit situations. Concerned that this was not instilling appropriate decisiveness in the Junior Officers and this would be a problem when we deployed. Relayed an anecdote

regarding a tracking exercise the previous week in which NAV spoke to CO on this subject after noting the involved OODs were

"parrots' for the CO, not driving independently. Noted that the CO reacted negatively to these comments.

I considered this a potentially relevant as I observed very close direction of the OOD prior to the incident. I cannot say with any degree of certainty that this was a direct factor, but feel it should be considered.

Continuation of interview of 2/11/01 on 2/14/01.

Has been Navigator just over two years.

Left control over one hour before the collision.

Returned to control about 1300, we were something like 13 miles from PH. Went to tell XO, who acknowledged and went to find the CO. XO we need to start thinking about time and distance. Found Captain in his stateroom after walking through middle level. Informed CO who acknowledged. CO went toward control to push the OOD.

Was in control for everything from starting angles until collision when took position to RM room. Did not feel being late PH would be a big deal.

Seems like we are always pressed for time doing DV cruises because we generally get behind schedule.

Relatively standard allotment of time, schedule of events for DVs was standard, always tight but we always make it. Believe most times we have DV cruises we have generally done emergency blows.

General preps for P/D would include brief of evolutions, baffle clear.

There was no brief. CO knew we were running late, no need to continually remind. Apparent he was trying to get things going.

Observed a baffle clear to course 120 was conducted.

Observed XO going into sonar.

CO told OOD to go to P/D on course 120.

Don't remember hearing OOD give CO normal ready for P/D evolution.

Honestly think CO was more directive. Don't believe OOD had opportunity to make ready report. CO was in control entire time and probably had full idea of contact situation.

OOD is most slow and methodical officer on board, not easily pushed, meticulous. Probably not the OOD of choice to get to

P/D quickly. But, he probably would be if you wanted to get there quickly and correctly.

Ship's practice is to select RACs to sail and turn up volume.

XO instituted a checklist that included selecting Sail Transducers for RACs/WLR-9 and adjusting volume. This was used for training during EPAC May - July 2000.

Only times, EWR would have been on other than OMNI/ALL would be in large contact density. (after at PD/Surface)

Tried to look at Periviz while approaching and at P/D intermittently. Did not get a really good look due to number of people in control.

Believe CO directed OOD to order 58 feet. Digital Depth gage is a couple feet off.

Recall OOD conduct 3 sweeps, assume low power that is how trained. CO to the scope, recall at least one slower 360° sweep. Don't know what power or specifics of how conducted.

Don't recall sonar acknowledging OOD report of no close contacts. Normally sonar acknowledges no close contacts, on occasion has heard sonar acknowledge with "no close contacts"

Time searching with scope very quick. Don't remember any "put me on this contact" type effort during scope time.

CO called emergency deep. OOD did not initially order a depth. (150' is standard). CO ordered OOD to proceed to 400 feet. OOD ordered bell changed from AII to AI. During CO ordered OOD to come left to the north. Unsure of exact course. CO ordered OOD to put rudder amidships during turn, prior to EB.

Heard no reports from sonar or FTOW during period from P/D to 400 feet.

Gut feel was time from P.D to emergency surface was 3-4 minutes.

Observed guest on alarm and EMBT Blow actuators.

Bell on emergency surface, believe it was AI. Observation of ship on the way up was 13 knots on OSDS display.

As ship was broaching, looked like depth indicator stopped at 90 feet. Felt ship come up after surge, felt a slam. First thought was problem with a ventilation valve recently repaired.

Knew it was not a usual sound. About 2 seconds later heard a second bang. Did not feel a roll. On the surface it was pretty rough out.

As SWO had a growing feeling that CO was becoming too directive. Very hands on. Specifics of direction, including course and speed, was frustrating. Concern was preparing for deployment that OODs were not learning to be independent enough, grow, and develop, make small mistakes.

This had come up a couple times. Talked with XO, believe he had discussed with CO. Had personally discussed with CO.

During recent exercise with another submarine, CO had been extremely directive. OODs were simply parrots. Saw with two OODs. CO would go back to stateroom but continue to drive the boat off video displays in his stateroom, course changes, rudder to use, etc. Nav was frustrated. Nav discussed with CO. Response was that OODs would learn from the way he was doing it, very important exercise that was the way it would be done.

CO and he had a good relationship, shortly after light levity about CO driving from behind. CO laughed.

Not sure if relevant but wanted to bring it up.

CO was not always that directive. There were situations, like strike exercises, where CO was not directly involved.

Hard to say if he was more directive with JOs than DHs. There had been times he felt frustrated and saw times WEP was frustrated (by body language).

CO was always directive on angles/dangles, large rudders. Continued that for this event. Nav was OOD before Mr. Coen, CO had not been directive through deep dive.

No reason for him to have a beef with CO, opposite, CO support of him had been great, glowing fitrep. CO had done a lot for the ship. Political animal, smoozed good. Left him generally alone did not micromanage Navigator. Generally a great CO.

McGibney STS1

2/10/01

Summary of interview of STS1 McGibney on 2/10/01

Started interview at time preparing to go to Periscope Depth.

STS1 reported holding three sonar contacts, S-12 and S-13 to the north, S-10 toward the west or southwest.

S-12 and S-13 were in 3 DEs, drawing slightly left.

C/C toward the east S-12 and S-13 abaft beam, S-10 in baffles.

When asked, believes all contacts were merchants, but does not remember.

Maybe 3 or 4 minutes on that course, CO gave order to proceed to P/D.

Bearing rate still to the left no significant increase in bearing rate.

Believed both contacts (12, 13) outside 10 kyds. Did not see much change in bearing rate.

Went to P/D, heard two voices do look arounds. Heard shallower depth ordered. Then went deep to 400 feet.

Called away emergency surface, deep changed bell

Shortly after emergency blow still had two contacts on the left drawing left.

Had not regained S-10 before the blow.

STS1 reported that another Sonar Supe [Blz/B/G], who relieved him regained S-10 after the blow.

S-16 was new guy who was fisherman they had hit.

After collision, STS1 was relieved to go help get ladders and man-over bags having previously been first lieutenant.

STS1 experience was 3 ½ years sonar supervisor on this boat. Stands the watch regularly.

When questioned, did not know what LEs were during the period he was on watch.

Encl (6)

When questioned STS1 reported that DOME SVM's may be OOC. Layer just above 400 feet.

No WLR-9 detects from any contacts.

Pre-underways for Conns/RACs/WLR-9 were completed.

Thought the acoustic environment was good - could hear a long way off.

Summary of interview of FT1 Seacrest, USN on 2/10/01

FT1 Seacrest reported he relieve as FTOW at about 1130. Relief Break about 1600, resumed FTOW. 1800-2400 he is the FTLPO, FTC inport supporting attack centers.

Starting with after completing Angles and dangles.

FT1 Seacrest reported he believed ship at the time was about course north and had two contacts S-12 and S-13. Reported that ship had held the two contacts for a while and he felt comfortable with their range.

FT1 reported that the ship changed course to the right to 120 degrees, believe at 150 feet. He had solid contact on S-13/S-12 throughout the turn. Bearing rate did not change a lot. When steady, sonar reported S-14. Can't remember S-14.

FT1 reported the ship started coming back to 340, CO said he was comfortable with contacts and directed OOD to P/D. So while coming left they started up. Started watching Perivize monitor, continued to monitor the whole time at P/D.

FT1 reports that as the scope breaks, contact of concern was S-14. Watched as Mr. COEN did his initial search. OOD called out no close contacts.

FT1 reported the CO took the scope, did his search then started looking down the bearing of contacts S-12, S-13, and S-14. FT1 reports he was verifying the bearing of the scope on OSDS on each contact.

FT1 reported the ship came up for a high look down bearing of S-14. (58 or 56 feet) drawing left 0.8°/min to 1°/min throughout. The CO called Emergency Deep to 400 feet.

FT1 reported as soon as we got to 400 feet we blew.

When asked FT1 reported they had S-10 earlier in the watch. At the time Sonar thought close, FT1 did not agree. FT1 Thought S-10 was lost before angles and dangles and never regained.

FT1 reported Master Contact Logs were being kept, but no Fire Control logs due to no SONAR contacts being designated as Masters.

FT1 reported he had found out ASVDU was out of service about 1/2 way through watch. Not doing anything different as a result of it being out of service. Likes to have ASVDU.

When asked FT1 expressed he felt P/D preps were a little fast.

FT1 reported he had been qualified FTOW on GREENVILLE about 9 months. From BUFFALO (MK1 C4.2) about 12 months.

FT1 reported that through Periviz gray skys, swells, SS 2 to 3, Scope took some hits at 60 feet but not when the ship came up higher.

FT1 reported that after we hit Fishing Vessel we held the same three contacts S-12, S-13, and S-14. Not the one we hit. Checked with Sonar.

After we hit the FV, CO took Conn attempted backing boat down. Tried to bring speed on, shaft wobble as AI or higher, tried AI/AII.

CO started giving orders for comms. CO in perfect control.

Sonar assigned S-16 to sinking FV. Did not get bearings to FV to the NAVPLOT.

No GEO PLOT.

Not sure if bearings to Rafts and People in water on plot or chart.

Commented on amount of people in control, a lot of guests on Conn. Could not get to CEP pushed back to aft most FC console.

CEP has nothing on it from the angles and dangles to hitting the FV.

Continuation of interview of 2/10/01 on 2/14/01.

Arrived on GREENEVILLE about May 2000. Had time underway through EASTPAC. About 2 ½ months underway on GREENEVILLE. Rapidly qualified on GREENEVILLE have been FTOW on 688s BUFFALO and OMAHA, non BSY-1.

Had the watch through the period leading up to and including collision.

Alignment of FC Consoles

Can perform FTOW functions on any day. Was sitting on third console aft.

First normally set to LOS mode  
Second normally TB mode  
Third normally FLIT MATE  
Fourth normally OP Summary

That was the way on day of event.

With number of people in control could not get to FWD most console.

In general, with visitors in control did not feel OOD would be able to see OP summary console due to people on periscope stand between OOD and consoles.

Captain was driving the whole evolution. OOD was a mouthpiece. At no time did he talk to FTOW about contacts, feels like he was pretty much cut out of the loop. CO went directly from what SONAR reporting.

Seemed like all visitors up there, as far as could tell did not count.

Had outspotted range of system solution on S-13 from 3K - 2K out to 9K based on CO not having any visual contacts.

At the time, had selected OSDs to #2 scope and was watching where CO was looking, he was look on bearing of contacts. Sector look CO looked on diligently as far right as 040, I believe. Believe left sector was as far left as 320.

Don't know how contact was missed. Believe ordered depth was 60 feet then 58 feet.

Was already at P/D when ranges on S-13 were between 2-3 Kyds.  
Don't remember inserting a range of 3 Kyds (interviewers  
estimate) maybe 4 Kyds.

Believe legs taken for preparing for P/D were adequate.

Don't remember conversation from sonar or myself from going deep  
to emergency blow.

Once ship came to 58 feet, thought periscope hight of eye was  
adequate wash at 60 feet.

No special trip wires had been established, for DV's and  
transit.

Carter ET1

2/11/01

Summary of interview of ET1 Carter on 2/11/01

10 months onboard, about 9 months qualified. Previously on 688 W/WLR-8, 89-92.

Radar Operator for Maneuvering Watch, then stood ESM remainder of day.

Remembers being at P/D only briefly 30-40 seconds.

For P/D an U/I came up and assumed watch just before. U/I on headsets monitored, the ETOW monitored and had no signal strength 4 or 5 contacts. U/I made report no close contacts after ETOW directed, and after OOD had reported no close contacts.

System was in "Scan Lock" for bands 10,9,8,7 mostly fire control. Band 10 out of commission - no other material issues. Screen (video display) filled up with contacts. Started more detailed analysis. About to make report completed defensive search no threat contacts when ship conducted an emergency deep.

Looking at all bands on a visual display felt like one minute or less.

There were contacts on the Early Warning Receiver. Guess would be about 10 band-9 contacts on the video display.

U/I had come to periscope depth before. Most of qualifications complete had not had many contacts during the past month. Still had not taken exams.

Presence of contacts in lower bands might have been visible on other WLR-8 displays but there was no time for discrimination or recognition. Hadn't gotten to them before the ship went deep. Would have heard if they were a collision threat on audio system (EWL). Had seen a few contacts band 7 band 6 but had not gotten lower yet.

Did not have Periviz turned on in ESM (Peripherally located).

Bowie STS3 Broadband Sonar Operator

2/11/01

Summary of interview of STS3 Bowie on 2/11/01

Sonar Operator - Broadband.

Qualified Sonar 1 year. Did not make last westpac boat made.

Before preparations for P/D 3 contacts to the north. Ship was heading northerly. 2 contact to left of bow, one contact right of bow all drawing slow left bearing rates S12, S13, S14. Not long on northerly leg we had just finished angles. Does not remember classification. Had held S12-S13 for approximately one hour or less.

Unsure of Blade rate, configuration had been determined by class. 12 and 13 looked like merchants.

S-14 gained shortly after S-13 (thinks), unsure of classification.

Work Load Share Operator (SN Rhodes) was unqualified under instruction of STS1 Reyes.

Baffle clear maneuver almost to south, > 120°s. Put all 3 contacts out side port baffles. No other contacts.

Observed the 3 contacts very slight bearing rate. XO was in control. First leg on northerly course for not very long before turning right to south. 5 to seven minutes on second leg. Does not remember any significant change in bearing rate.

Went to P/D on that course, clear course did acoustic search +40° of bow. Did not hear any other contacts. Did not see any change in bearing rate on 3 we held.

At P/D overheard no close contacts. Sonar and ESM reported "no close contacts" shortly after, CO ordered emergency deep. Then course changes diving don't remember to right or left.

At 400 feet did emergency blow, sonar screens blanked because of air noise. Continued to listen but all you here is air then flow noise.

NO fish finders or fathometers.

Then collision.

Regained all three contacts. For sure he regained 12, 13 may have regained S-14 as well, or another #. Based on bearings and bearing rates. Unsure if we went back to class.

When asked, STS3 could not explain the near 60° bearing change logged for S-13. He was not keeping logs.

During high speed maneuvers two contacts had increasing SNR. Indicated to him that they were moving quickly. The Trip Wire was called to control.

Sonar contact on the FV was air noises and transients.

Summary of interview of STS1 Reyes on 2/11/01

SN Rhoads on Work Load share. STS1 Reyes was discussor for tour group. STS1 Reyes reported SN Rhoads was qualified on auxiliaries.

When preparing for P/D, 3 contacts S-10, 12, 13. All drawing slowly left. Clearing baffles to the right had affect of putting S-10 in the baffles. S12/S13 remained pretty steady slow left.

Emergency deep. STS1 Reyes left to find Sonar Supe a head relief. Returned on emergency surface with sharp up angle. Heard crash.

Still had S-12/S-13 in ATF. Saw Periviz.

When asked to clarify if contacts were better classified than all surface craft. STS1 responded that he had been on watch with the previous section and all contacts had been turned over with classification. All outside of 10 kyds.

Left when CO said we would render assistance to aid with topside equipment.

When asked, STS1 responded that they were going back to class on broadband contacts every 30 minutes. Did not know the "book" requirement.

When asked to help explain the near 60° bearing change in S-13 over an approximate 15 minute period, (having been provided a bearing by the interviewer) STS1 responded he did not know but thought S-13 had been in ATF through the blow.

Ramirez YNSN

2/11/01

Summary of interview of YNSN Ramirez conducted 2/11/01

11 months on board. 6 months as planesman

Ordered to P/D went to 60 feet. Remembered ESM test, remembered clearing baffles.

When questioned, thinks bell to go to P/D was A 2/3, can't remember any specific turns being ordered

No problems achieving 5° up to 60 feet. Ship went smartly to 60 feet bumping bubble down as they went up.

At 60 feet leveled ship, no problems with angle or staying on depth. He thought they were a little heavy at first, but they were okay overall.

Can't remember any depth change or any course changes at P/D. seemed like normal time at periscope depth.

Ordered back to 400 feet by an Emergency Deep. He went to full dive on stern planes limiting angle not to exceed 5° down to 80 feet then greater.

When questioned, YNSN thought the ship went to Ahead Full on the Emergency Deep.

At 400 feet, sounded diving alarm and did an emergency blow. Dive ordered reach and achieve 20° rise. Used little stern planes and came up. Normal operation of stern planes.

Felt shaking, thought we had hit something. Started kind of sinking pulled up on stern planes. Ship stayed on the surface then they started doing a low pressure blow.

Pinned SP at 8 degrees rise, relieved and went to get life rafts. No problems, had standing by under the bridge access.

Noted that CO was trying to get SUB to SAR immediately.

Summary of interview with ETCS Smith on 2/11/01

At time of the event, ETCS layed to radio and took comms responsibilities right away.

RMOW started typing hard copy OPREP

As soon as antenna was raised started SAT HICOM (Secure) with CSP. Gave immediate OPREP 3 Navy Blue voice report. Suffered collision with surface vessel.

Gave posit/position to SUBPAC that had been brought in by Navigator.

Told CSP ship was sinking or taking on water, saw on Periviz.

Moved RMOW and directed RMOW to get information. ETCS completed hard copy Navy Blue. Gave to COS, minor edit believe added Coast Guard on the way.

COS and ETCS continued SAT HICOM throughout this portion of SAR effort.

OPREP routed, approved, transmitted. Remember looking at the clock. 16 minutes since he had gotten to radio. Procedures allow 20 minutes from initial voice report. Delayed 6 more minutes by waiting for downlinks to complete. Transmitted via SSIIXS.

Then dropped SSIIXS, brought up 282.8 MHz, 2182 kHz, and 5680 kHz distress frequency to monitor, coast guard was on their way out.

SAT HICOM continued. COS left, CSP reported they were taking reporting requirements (for follow-up OPREP 3). Went to working on amplifying information message for CSP. About 2 hours before transmitted.

Had bridge to bridge in control patched to #2 scope. Remembers discussion that CO said could not talk to survivors because of language. Never shifted to BRA-34 due to SAT HICOM. As overheard via open mike, appeared there were good comms with Coast Guard. Not aware of any problems with comms in immediate area or with Coast Guard Honolulu.

As Coast Guard vessels were coming in, heard CO and ENG talking with them via hand held. Don't remember bridge to bridge to C/G Honolulu.

CPF upgraded OPREP to Pinnacle. Got guardshift (ship did not hold their own guard initially due to short underway) when change in direction to stay out overnight.

About 1515-1520 CSP reported that at 1503 Coast Guard assumed responsibility for search and recovery.

Summary of interview of ET1 Thomas on 2/11/01

2 months onboard.

NAV Supervisor stationed throughout.

After submerging, conducted Deep Submergence, went to [REDACTED] feet. Then came shallow and served lunch.

About 1200 told OOD we needed to start heading to the surfacing point. Guests came to control for angles and dangles. About eight nautical miles from surfacing point.

1.0 NM constant fix expansion. ESGNs within ½ nautical mile. DRs, pretty much tracking. No resets remembered. About 8 miles into area at 1200. Not operating close to OPAREA boundaries at anytime.

Major known (tribal common knowledge) merchant traffic lanes East/West, north of opareas.

No charted fishing areas. 2 miles circle in red around FAD buoy to keep from hitting the buoy.

Ship had not been around FAD buoy.

No material issues. When we came to P/D not up long enough for GPS lock-on. Mod piloting party stationed.

About 4 hours between GPS when gotten after surfacing GPS was about on top of ESGN. ESGN had been used to report position of collision.

No problems keeping up logs for maneuvers.

Continuous GPS after surfacing. After surfacing could barely make out shoreline, could see Diamond Head.

Through course of the afternoon and evening, visibility stayed pretty much the same. Some rainsqualls and had rainsqualls in the morning when coming in.

When collision occurred, actions were to:

Set up secondary plotter.

Two officers came-up started man-overboard plot.

Nav in Control Room.

Another QM came to control and assisted GEO plotter calling off scope bearings.

Concerning the P/D evolution,  
OOD cleared baffles to the right to 120. On course 120 at P/D.  
Normal evolution, don't remember a brief.

Came down from P/D. Turned left to 340.

1MC announced they would be doing an emergency deep just prior to an emergency blow.

Overheard we had a couple contacts to the north, supposed to be distant. Heard OOD to say no close contacts when the scope broke.

Don't remember a high look or airborne contact report.

When asked, ANAV reported that mylar overlays of ship's track prior to the collision were scrubbed due to personnel error. Ships track through SAR was maintained on the chart in use.

Blanding ET3 QMOW

2/10/01

Summary of interview of ET3 Blanding on 2/10/01

Qualified QMOW 1 ½ years

On watch from maneuvering watch, relieved about ½ for lunch, then resumed watch.

Normal watch routine.

SE course to go to P/D. Emergency deep came right to 348. Before 348 heard rudder amidship, heard emergency blow.

As came up heard a loud bang, heard it again. Both scopes were raised looked behind and saw damaged ship.

The ship was surfaced.

At the time, Nav Supe and Fathometer watch was stationed because ship was 10 NM from shallow water.

Always well inside Operating Area. Before surface 10 or 11 miles inside operating area boundary.

At the time fix expansion as 1.0 NM, constant position uncertainty.

ESGN 1 and 2 were right on, within 0.5 NM of each other. DR not far off either. Reset DR to ESGN once during watch. Set and drift not that bad.

At time of collision, froze the display on the WRN-6 and marked as a waypoint.

E-6 came and took deck logs.

(b)(5)

XO and RMs got position of collision based on Master ESGN. NO GPS fix yet, at that time.

When we got a GPS fix the offset between ESGN master channel and GPS was within ½ mile.

Pretty standard navigation, no Navigation problems.

Harris PO1 COW

2/10/01

Summary of interview of P.O.1 Harris on 2/10/01

Relieved 1131. Submerged maintaining track

Two Tour Groups. Depth excursion, small angels, letting some VIPs drive up and down.

Shot water slugs.

Started going through emergency surface procedures with watchstanders

Performed angles and dangles. High speed runs. Rudder angles 25-30° up and down. Rudders hard left, ahead flank and full bells.

CO on the 1MC explaining importance of baffle clears.

Sonar reported 3 contacts

Cleared Baffles, went to P/D looking at Periviz, answering questions, did not see anything while glancing at Periviz

CO took the scope, called out emergency deep. Fast Flooded to 80 feet. Did not hear Emergency Deep was for training. Went down to 400 feet.

CO briefed emergency surfacing.

Guest on the diving alarm with OOD close to him.

Guest conducted EMBT actuation with my hands on his.

Guest on Helm (Bow Planes) with watchstanders hands on Helm.

OOD ordered 10 sec emergency blow.

Announced Alarm

Hands on guest on actuators

10 sec blow

84 feet digital, first noise about 15° to 20° up.

COB said sounds like bow planes.

Heard screeching sound throughout.

CO said what the hell was that, raised scope

Glanced at Periviz, saw fishing vessel, noted very rough seas.

Encl (15)

Manned the bridge. Waves too big to open forward escape trunk.

Divers to the Bridge.

CO turned over to the OOD and went to bridge.

After 1<sup>st</sup> screech, guests removed from control.

Got relief for dive.

Got personal relief to breakout DC equipment.

Language problem, bridge called down needed first Chinese and then Japanese person. Offered to call (on cell phone) for Chinese speaker. Declined.

Pretty soon Coast Guard arrived.

No deficiencies noted when spaces reported internal to the boat.

Not aware ASVDU broken.

Qualified COW 1½ months. Has done 4 EMBT blows 2 in training two as COW

Helm had one - hand positive control throughout time guest was there.

No problems with Emergency Blow system, Combat Systems or Sonar that he is aware of.