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1st Set:	Funnel Smoke	159 T.
	Our tanker in flames and down by stern	192 T.
2nd Set:	Funnel Smoke	155 T.
	Flames and Smoke	172 T.
	Our tanker in flames	186 T.
3rd Set:	Funnel Smoke	154 T.
	Flames and Smoke	170 T.
	Our tanker in flames	182 T.

These bearings are recorded in detail because they constitute the sole evidence of damage to the AK, at which two torpedoes were fired and on which hits were neither seen nor heard. The second small engines-aft vessel was never sighted after coming up to periscope depth, nor was the AK, and it is quite possible that the AK and engines-aft went over the hill together, one of them showing the funnel smoke; in this contingency the second fire would be from oil on the water given forth by the tanker. However, in view of the differences in bearings between the two fires (14° and 12°) at a range of about 5,000 yards, a hit is claimed on the AK, and the attack data has been written up accordingly.

While WAKATAKE and engines-aft were getting farther away, commenced closing tanker and taking pictures of the fires. Rain interfered with photography.

As the rain died out, so did the fires on the tanker. It was soon apparent that the tanker would need killer shots. He got rid of his drag by the stern, extinguished all fires, and commenced tracking at 1 knot. The WAKATAKE and engines aft started heading towards us and getting closer. Depth charging had ceased. The tanker began to swing slowly to port, showing us his port side.

1517 H Fired 4 bow tubes at tanker, spread by periscope, 80% coverage, 2 ft. depth, 111° track (at time of firing), average gyro 357° , average torpedo run 1750 yards. Heard first hit and had periscope up in time to hear and see three more hits. Target disappeared almost immediately leaving a low ($\frac{1}{4}$), thin, patch of steam along his length and a small puff of black smoke where his bow had been. WAKATAKE had a bone in his teeth with the engines-aft tagging along. Did not appear to have time to get set-up on him.

CONFIDENTIAL

Went deep. Pronounced breaking up noises. Depth charges, which blew oil out of vents on forward capstan vent and replenishing tank and also out of bow plane rigging gear box. No other damage noted. Counted 32 large charges this day.

1719 H Reloaded.

1834 H Surfaced.

1900 H Set out down PALAWAN PASSAGE to look for AK. When RAY surfaced told him to form scouting line and exchanged information. RAY felt that convoy had anchored and would hug coast from then on, and suggested patrol south of LUBANG. I felt, too, that the convoy's most probable destination was CERCIN BAY and that we were following a slim hope in searching PALAWAN for him. Seas would not permit a speed of more than 11 knots. Reversed course and headed for patrol station off CALAVITE.

2241 H APR detected interference.

6 October

0240 H SJ interference probably RAY.

0410 H SJ contact 11,600 yards. Ship Contact No. 25. About 8 miles off CAPE CALAVITE. Tracked at 8 knots, zigging on 5 minute legs, course south. Closed and looked. It was a patrol craft, SC size. Avoided. Lost radar contact at 13,510 yards.

0508 H Submerged for day patrol.

1010 H Sighted an unusual formation consisting of one BETTY escorted by 2 float-planes, RUFES, headed for MANILA from southwestward. A/C Contact No. 11.

1114 H Sighted 2-engine bomber. A/C Contact No. 12.

1306 H Sighted unidentified plane. A/C Contact No. 13. At the same time sighted a rectangular object above the horizon which gave every appearance of a smoke pipe. Planed up and identified as a tree on the south shore of LUBANG ISLAND.

1825 H Surfaced and headed for rendezvous with RAY.

2203 H Received message from RAY that he was attacking convoy four miles north of LUBANG, course 280, speed 8. Set course to intercept and sent RAY probable time of interception. Sent this message blind, since RAY did not answer our callup.

2235 H SJ interference.

ATTACK NO. 3

2342 H SJ contact 20,250 yards. Ship Contact No. 26.

CONFIDENTIAL

Commenced tracking. Radar identified one very large ship and two escorts, one escort of about DD size and one very small. Escorts were to port and starboard, moving from bow to quarter at random. Zigs were between courses 200°T and 280°T, at highly irregular intervals. 3/4 moon for the rest of the night. Stayed up ahead and concentrated on solving escorts' maneuvers, while waiting for RAY to get in his attack.

7 October

After one hour of tracking with no word from RAY, I began to wonder about KINSELIA. He would never wait this long to attack, I did not want to interfere with him; and I knew that he would rather expect first crack at the target since he had made the original contact. I even began to wonder if we were on the same convoy. It was not like him to keep quiet under these circumstances. I knew that he (or some sub) was on the surface, by the SJ interference.

- 0045 H Sent composition, position, course and speed to RAY. No answer, sent it blind.
- 0104 H RAY challenged us by SJ and sent message that he was working up ahead for an attack and that his transmitter was out. I still did not know that he had already made one hit in the target. Thought he was still making his first approach, but I could not let any more chances go by. Decided to get in at next favorable change of escorts' position.
- 0145 H Sent message to RAY (blind) that we were diving to attack.
- 0152 H Submerged and commenced approach from radar depth. Went to periscope depth at 3500 yards. Target chose this time to show us zero angle on the bow for ten (10) minutes and I guessed wrong as to where his next zig would be. We pulled off his track to starboard and he zigged to port, giving up a stern tube shot at a greater range than I had contemplated. Lt. Beckman was under the hood for his first live run and did a workmanlike job of calling bearings and angles on the bow. He could never call any angle but zero on the near escort, however, and this got on my nerves, so I had him devote all his attention to the target. The target was a very large oiler, engines aft, two tall masts, one short mast. The foremast was unusually heavy with heavy booms not normally found on a tanker. It had a medium stack. Next day the largest escort

CONFIDENTIAL

vessel (of destroyer type) was completely dwarfed beside it. The tanker appeared to be of about 15,000 tons, but no definite identification was made. The C.O.'s best estimate is:

1 Large AO (EU) 15,000 T.

0232 H Fired four (4) stern tubes, spread by periscope, 150% coverage, 6ft. depth, average track 104°S, average gyro 167°, average torpedo run 2700 yards. Started deep at once, counting on the RAY to assess the damage on this one. Heard two explosions timed properly for hits, and the RAY saw and heard two hits. Rigged for depth charge. Ran silent. They started going off six minutes after firing and there were only eight charges dropped, but the next hour was the most harrowing of my experience. There was a nine degree negative gradient starting at 235 ft., and we got under it in 1 minute and 42 seconds, slowed to 50 turns and commenced evasive tactics. There were two sets of screws, one fast and one slow. They would ping and listen. I tried to put them astern; sometimes we would get one back on the quarter, only to have him make a run across to our other bow, passing ahead or directly over. They stayed one on either bow most of the time, and would turn and make their runs over to the other side. I have spent many hours in the A/S attack teachers at NOUMEA and EFATE, and many of the runs this night were good. There were some runs without sufficient lead angle, when the A/S vessel would pass directly overhead, but these only added to the discomfort. At one time the maneuvering room reported our port screw making a "squishing" sound. This turned out to be the slow speed escort passing overhead. On another occasion both vessels were milling about overhead and I thought surely they must be using a depth finder. And all of this was carried on in the utmost silence. Not a charge was dropped after the first two-minute barrage. It is impossible to describe the tension attached to listening for the charges when you know that the scoundrel is in a good dropping position and he does not drop. I could not believe that they could hear us through the gradient, yet I could not understand why their search did not take them farther afield. Found myself wishing that some charges would be dropped so that we might speed up in the confusion and

CONFIDENTIAL

- get away. Finally concluded that the target must have sunk and that the escorts were staying on the scene to pick up survivors.
- 0327 H Escorts pulled away on bearing 145(T). Target screws were never heard.
- 0353 H Reloaded.
- 0449 H Surfaced. SD interference. Came to southerly course.
- 0514 H Heard four explosions through hull. Appeared to be on port hand. Came to course 140(T) at full speed. (This was the RAY's second attack on this tanker).
- 0536 H Heard first of several (5 or more) depth charges through hull. High periscope and SJ both picked up ship bearing 124(T), 20,650 yards. It was our tanker, on a mean course of 135(T). There was a small engines-aft escort on his starboard quarter and a WAKATAKE (not well identified) who, when first sighted, was catching up with the tanker from astern. Settled down to the chase, trying to get ahead and watching the group through the high periscope.
- 0611 H Saw and heard an explosion on the tanker, accompanied by smoke. Noted that the tanker's after mast was broken, he had a list to starboard and would emit large clouds of smoke from time to time. Closed him to 16,000 yards by radar. Overcast and squally day.
- 0656 H SD contact, 9 miles, closing. A/C Contact No. 14. The expected plane cover. Could not see it. Submerged.
- 0753 H Surfaced. Set out after target on four (4) engines.
- 0835 H Regained periscope and SJ contact. Closed to 16,000 yards by radar again while making end-around. The tanker had settled in the water by about 10 feet. This was noted both from the bridge and through the periscope. His list was greater, also. Tracked at 8 knots. Course about 150°T. He was heading for the shoals north of BUSUANCA.
- 0856 H Large cloud of white smoke from target. WAKATAKE went close aboard on his beam.
- 0907 H OOD sighted plane over target formation. A/C Contact No. 15. Watched him until he was lost in the overcast. He appeared to be maintaining station ahead of formation. Target was now tracking at 9 knots.
- 1004 H Cloud of white smoke from target. WAKATAKE ranged close aboard once again. Smoke rapidly

CONFIDENTIAL

subsided, however, and target soon began to track at 10 knots. The engines-aft was being left behind. WAKATAKE appeared to be about 1/2 target's length.

- 1035 H Had now reached position 8 miles on tanker's beam. In one hour he would be in 8 fathoms of water. With a 7 knot speed advantage, the situation looked hopeless. Broke off and submerged. Set course to NW across PALAWAN PASSAGE. Stayed at 200 ft. until every one had four (4) hours sleep. We needed it. Kept sound watch.
- 1817 H Surfaced.
- 1915 H Received message from RAY suggesting rendezvous at dawn if there were no further contacts during night. Agreed and told him the bad news on the tanker.

8 October

- 0140 H Weak SJ interference.
- 0453 H Exchanged recognition signals with RAY by SJ.
- 0515 H SJ contact 8,700 yards. Ship Contact No. 27. RAY. He came close aboard and passed over wolf-pack instructions by line-throwing gun. Exchanged information. He had made his first attack on the tanker at 2145 and scored one hit. He had seen and heard both of our hits. On his second attack he had been forced deep but had heard four explosions. The tanker had been making ten knots when first picked up, north of LUBANG. Assigned patrol stations and set off for ours, close to CABPA ISLAND, on a north-easterly heading.

ATTACK NO. 4

- 1100 H Lookout sighted mast astern, bearing 233^oT, range about 18,000 yards. Ship Contact No. 28. This was a warship of about 1500 T, coming up from astern, zigging between 025^oT and 065^oT, making about 18 knots. Went to four engines and tracked him from ahead with high periscope until range began to close too much. His destination was apparently the same as ours, CABPA ISLAND, and we were on his base course.
- 1128 H Submerged. Had angles on the bow starboard, port, then starboard, then zero, for the next four zig legs. Everything was going nicely. Set depths 2 ft. Target then made a wide zig to the left of 60^o, putting us well off the track. He was of about 1500 tons, had a tripod

CONFIDENTIAL

foremast, and a stick mainmast. His bridge structure was triangular in outline, giving a sloping line leading down from mast to deck. There was an enclosed gun mount or gun shield forward. There was some kind of torpedo or gun mount (or other enclosed structure) between foremast and mainmast. There was a stack abaft the mainmast (whether or not there was another stack forward of mainmast was not recorded) and farthest aft of all there was a low, elongated, flat-topped structure, the forward end of which was vertical and the after end of which sloped down to the fan-tail in a turtle back or "ski-slide" arrangement. We could hear no echo ranging. It was new to me. C.C.'s estimate:

1 CL (EU) 1500 tons

After his wide zig to the left, target zigged back, giving us a shot at 3100 yards range. Decided to take it. I was to regret this decision later, but at the moment it was just a ship, and we had a chance to sink it. The control party, of course, was all for giving him the works.

1203 H Fired 6 bow tubes, spread by periscope, 200% coverage, 2 ft. depth, average track 104° S, average gyro 007, torpedo run 3100 yards. Noted while firing that the rail was manned aft on the target. There was no doubt why we missed; the target saw them coming, turned right and avoided them. He was headed directly at us when I next put the scope up after firing. Turned to right and went deep. Target dropped a pattern of 5 charges, fairly close. Was hoping for a stern tube set-up until the last minute, so did not have the doors closed aft in time. Bent depth setting spindle on No. 10 tube and gyro spindle on No. 9 tube. Replaced with spares. Lost power on bow planes for a few minutes. No other damage noted. Could still hear no echo-ranging on target, and he soon left on his original course. We headed in opposite direction at periscope depth.

1813 H Converted No. 4 to ballast tank and flushed out.

1829 H Surfaced.

1911 H Sent COD FIVE to Force Commander, giving results of wolf-pack to date and torpedoes remaining. Sent orders to RAY to form north-south patrol

CONFIDENTIAL

line 70 miles west of CABRA ISLAND. This was designed to intercept any traffic headed between MANILA and MALAY ports by routes north of DANGEROUS GROUND and also to let the Japs complete their hunter-killer search, if they were going to make one. A ten-ship southbound convoy passed 25 miles west of our line the next day and was attacked by CAVALLA and BECUNA, but we did not get word of it until they were 90 miles away.

9 October

On patrol line.

- 0915 H Submerged.
- 0958 H Surfaced.
- 1914 H Assigned new patrol stations, forming a submerged line NW of CABRA by day and a patrol north of CABRA for CCD at night. Left it for new station.
- 2200 H Decoded BECUNA's report of attack on convoy at 1700. Could not make out whether BECUNA had lost contact, from his report, nor whether convoy was headed into DANGEROUS GROUND or PALAUAN PASSAGE. Convoy would be 90 miles away by now.
- 2305 H Decoded report of CAVALLA sighting same convoy at noon. The two positions showed the convoy headed for DANGEROUS GROUND.

10 October

- 0125 H Decoded report that HAWKBILL had sighted convoy going into north end of PALAUAN PASSAGE at 2300. Came to 4 engines and headed south.
Estimated situation. Convoy had a lead of 150 miles. We had a nine-knot speed advantage. Fuel was a factor. If the convoy did not hole up in the nearest shoal water after experiencing a successful attack, it would be the first low-speed convoy in this area not to do so, to my knowledge. We had no reports of anyone trailing him to see where he took shelter.
- 0200 H Decided not to form scouting line with RAY, reversed course and headed for station off CABRA. Decided to patrol this station 25 miles NW of CABRA on the surface, until forced down by plane.
- 0545 H Passed what appeared to be a bloated human body. Did not investigate.
- 0610 H OOD sighted BETTY about 6 miles. A/C Contact No. 16. Submerged.
- 0958 H Sighted formation of three (3) PELLEs, headed south, A/C Contact No. 17.
- 1831 H Surfaced.

CONFIDENTIAL

1850 H Searchlight drill on CORREGIDOR. Observed this almost every night while in this area.
2127 H SD contact, 11 miles, closing. A/C Contact No. 18. Submerged.
2207 H Surfaced.

11 October

0333 H Received contact report from RAY, south of LUBANG, of a destroyer northbound through CALAVITE PASS at 15 knots. If he were headed for MANILA, we might have just intercepted him off EL FRAILE. I had no desire, however, to fight it out with a single destroyer at night in shoal water under the guns of CORREGIDOR. Did not chase.
0705 H SD contact, 11 miles, closing. A/C Contact No. 19. Submerged.
0815 H Sighted plane, probably VAL, headed east. A/C Contact No. 20.
1030 H Sighted unidentified single-engine monoplane headed NE. A/C Contact No. 21.
1215 H O.C.D. sighted what he thought was a mast and headed for it. Disappeared.
1408 H O.C.D. sighted smoke close to beach north of LUBANG ISLAND. We watched this all afternoon and at night we went in to investigate it.
1445 H Sighted two-engine bomber headed SW. A/C Contact No. 22.
1728 H Thought we heard pinging from direction of LUBANG.
1817 H Surfaced. Ran east along CABRA ISLAND shore and investigated anchorage north of LUBANG. All clear by radar. Headed out for new station 20 miles off CALAVITE, with RAY close in. Received orders. RAY was to leave for new area at dark on the fourteenth. COD was to assume lifeguard duties off SUBIC BAY from dawn sixteen through eighteen October for carrier strikes. BLUEGILL and ANGLER were to move in to our present area at dark on the fourteenth. That left us the fifteenth without definite assignment, but the intent was clear enough. Decided to spend that day in the SUBIC area, which would then be vacant.
2348 H Sent COD SIX acknowledging receipt of orders.

12 October

0753 H SD contact, 12 miles. A/C Contact No. 23. Submerged.

CONFIDENTIAL

- 1331 H When 19.5 miles west of CAPE CALAVITE heard a tremendous explosion from the direction of the CAPE, where the RAY was. Saw clouds of intense white smoke rising from a spot about 5 miles north of the CAPE. Decided we had better get over to help the RAY and look for the remnants of whatever he was attacking. Made preparations for surfacing.
- 1348 H Fourteen explosions, about four (4) seconds apart.
- 1353 H At 50 feet, making SD search.
- 1356 H SD contact 8 miles, closing. Closed to 6 miles. Went to 100 ft. Heard 21 distant explosions in groups of three with about four (4) seconds between each group.
- 1405 H At 60 feet.
- 1412 H All clear on SD.
- 1416 H Surfaced and headed over for CALAVITE at four-engine speed. Nothing in sight.
- 1500 H O.C.D. sighted plane, PETE, toward CALAVITE, distant about 6 miles. A/C Contact No. 25. Submerged.
- 1815 H Surfaced. While on the surface before, we would have sighted any remnants from the RAY's attack, had they been headed southwest or south across the mouth of MINDORO STRAIT. However, a ship might have escaped by hugging the coast of MINDORO. In this event, the most likely harbor of refuge would be PALUAN BAY, where the MUSKALLUTTE had once picked up a convoy. Headed over to mouth of the bay. All clear. Headed out.
- 1918 H In reply to question, received message from RAY that he had sunk a large ammunition ship and that there were only two (2) CHIDORIS left of the convoy.
- 1940 H Received message from RAY that he had radar contact on convoy one (1) mile bearing 300^{OT} from CALAVITE, course 230, speed 9. Set course to intercept and informed RAY of probable interception time.
- 2001 H SJ contact 19,950 yards. Ship Contact No. 29. Two (2) ships, course 192(T), speed 10. Commenced tracking and sending information to RAY. The contacts appeared to be a little smaller than destroyer size. They were making a sweep off CALAVITE, working through courses SW, W, and NW, to N. We were making an end-around to port and had so informed the RAY, so I was much surprised to pick up the RAY on the radar on the targets' port flank. Asked him "Are you on

CONFIDENTIAL

port flank," no reply. Sent "Enemy course north, what is your position?" no reply. So we ended-around on the RAY, too, and started up ahead to get a look at the targets. The situation clarified itself when the RAY reported that the targets were the two CHIDORIS, still looking for him. He then came in with "My position three (3) miles east of you" but we already knew that. At the RAY's suggestion we broke off.

2140 H Assigned RAY area north of LUBANG and COD SW of CALAVITE, across the entrance to PALATAN PASSAGE. Proceeded to station.

13 October

- 0347 H O.C.D. sighted plane, about 5 miles, elevation $1\frac{1}{2}$, apparently closing. A/C Contact No. 26. Submerged.
- 0540 H Surfaced.
- 0817 H SD contact 19 miles. A/C Contact No. 27. Faded.
- 1014 H SD contact 6 miles. A/C Contact No. 28. Submerged.
- 1128 H Surfaced.
- 1323 H SD contact 20 miles. A/C Contact No. 29. Faded.
- 1442 H SD contact 10 miles. A/C Contact No. 30. Submerged.
- 1551 H Surfaced.
- 1555 H SD contact 23 miles. A/C Contact No. 31. Faded.
- 2112 H Set course to close CALAVITE.
- 2137 H SJ contact 5,000 yards, closing fast. A/C Contact No. 32. Submerged. Closed to 2,000 yards while we were submerging.
- 2229 H Surfaced.

14 October

- 0519 H Submerged for patrol close off CALAVITE.
- 0905 H Sighted plane, JAKE. A/C Contact No. 33.
- 1404 H Sighted plane, PETE. A/C Contact No. 34.
- 1518 H Sighted two (2) planes, KATES. A/C Contact No. 35.
- 1520 H Sighted unidentified fighter plane. A/C Contact No. 36.
- 1608 H Sighted plane, VAL. A/C Contact No. 37.
- 1830 H Surfaced. Set course for PALAUIC POINT, between SUBIC BAY and CAPE BOLINAQ.

CONFIDENTIAL

2203 H Passing through a rain squall, observed St. Elmo's Fire on SD antenna and had interference on both SD and SJ.

15 October

0452 H Submerged off PALAUIG REEF.
0638 H Sighted plane, RUFÉ. A/C Contact No. 38.
0720 H Sighted plane, RUFÉ. A/C Contact No. 39.
0721 H Sighted plane, BETTY. A/C Contact No. 40.
0940 H Sighted smoke, followed by masts, to northeast. Ship Contact No. 30. Closed and investigated. Contact turned out to be two small engines-aft vessels, with two masts, patrolling off PALAUIG REEF. They reversed course from south to north while we were watching them. Echo-ranging. A total of three (3) were seen during the day, running a patrol at 6 knots about one mile off the reef. We stayed to seaward of them and in the afternoon ran north and patrolled off PORT NATALVI.
1442 H Sighted two (2) sailboats close to beach. Ship Contact No. 31.
1821 H Surfaced. Headed over for lifeguard station, thirty miles west of entrance to SUBIC BAY.

16 October

On lifeguard station.

0407 H Submerged.
0455 H Surfaced.
0536 H SD interference.
0735 H O.O.D. sighted plane about 100 ft. above the water headed north near the beach. A/C Contact No. 41.
0830 H Lookout sighted single-wing float plane flying north along beach at about 7000 feet. Plane changed course to south and disappeared over BATAAN. A/C Contact No. 42.
1032 H J.C.C.D. sighted float plane flying south at tops of mountains. Disappeared over SUBIC. A/C Contact No. 43.
1320 H J.C.C.D. sighted formation of three (3) planes headed north near BATAAN. SD contact 4 minutes later at 20 miles. Sighted two (2) more planes, making a total of five (5). Three (3) BETTYS. Two (2) unidentified. A/C Contact No. 44.
1610 H Heard weak voice signals on the lifeguard frequency.
1709 H Investigating possible smoke. Turned out to be a cloud.
1731 H Returned to station.

CONFIDENTIAL

- 1736 H Closed beach, heading for reference point.
Commenced patrolling 6 miles off LOS FRAILES.
2202 H SJ contact 2870 yards. Ship Contact No. 32.
Sailboat. Avoided.
2215 H SJ contact 4700 yards. Ship Contact No. 33.
Patrol craft, about SC size. Avoided.
2219 H Returned to lifeguard station.

17 October

- 0405 H Submerged.
0450 H Surfaced.
0655 H BN signal 35 miles, opening. More than one (1)
plane. Code 1. A/C Contact No. 45. Faded
at 40 miles.
0717 H O.C.D. sighted two (2) planes, RUFÉ, headed
south in the direction of CABRA ISLAND. A/C
Contact No. 46.
0719 H BN signal 26 miles, opening. Code 1. A/C
Contact No. 47.
1350 H Sighted sailboat, about 12 miles. Ship Con-
tact No. 34. Avoided.
1819 H (Dark) C.C. and O.C.D. both noted a strange
phenomenon in the water. At intervals of
several seconds, patches of smooth water near
the ship would be lighted with a momentary glow
as if some yard-long patch of phosphorescence
suddenly had its lights turned on under the sur-
face. I have never before seen white flashes
in the water.
2326, 2340 H SJ contacts on sailboats. Ship Contacts
Nos. 35 and 36. Avoided.

18 October

- 0407 H Submerged.
0505 H Surfaced.
0516 H Sighted a red glow over SUBIC BAY. We hoped
it was an indication of our bombers at work,
but it may have been connected with the sun-
rise.
0701 H Lookout sighted flight of six (6) planes headed
south along coast of LUZON. Appeared to be
TBF's. BN signal at 40 miles, closed to 26
miles. Sighted more planes coming astern
of the original six. A/C Contact No. 48.
0710 H Lookout sighted two (2) small planes headed
north past LOS FRAILES. Appeared to be fighters.
SD pip at 10 miles. A/C Contact No. 49.

CONFIDENTIAL

- 0735 H O.C.D. sighted large unidentified plane headed north along shore. A/C Contact No. 50.
- 0822 H J.C.C.D. sighted plane, DAVE, 7 miles, low, closing. A/C Contact No. 51. Submerged.
- 0944 H SD contact 8.5 miles, opening. A/C Contact No. 52. Faded at 10 miles.
- 1140 H Investigating possible smoke on horizon.
- 1244 H Returned to station.
- 1313 H O.C.D. sighted plane, SALLY, 10 to 14 miles, headed toward us from beach. A/C Contact No. 53. Submerged.
- 1347 H Picked up plane, assumed to be same one, in periscope. He was apparently searching. Disappeared to northwest at 1353.
- 1423 H Surfaced. A line squall was headed our way from the southeast with rain clouds scattered here and there. Everything seemed blue and purple. Steered various courses, trying to keep out from under the clouds, with the two-fold purpose of improving electronic performance and attempting to be on our flyers' most probable route. Ran directly through the squall at right angles to its front when it reached us.
- 1427 H BN signal 16 miles. Lookout sighted 4 planes headed east toward BATAAN. A/C Contact No. 54.
- 1435 H BN signal 26 miles. Nothing sighted. A/C Contact No. 55.
- 1455 H BN signal 26 miles. Nothing sighted. A/C Contact No. 56.
- 1545 H O.C.D. sighted flight of planes approaching from south. Initial BN signals from 22 to 26 miles. Counted 30 planes in all. Appeared to be SB2Cs and F6Fs. This was what we had been waiting for. The planes were headed northeast for SUBIC; we set course to intercept them. Two fighters peeled off as if to investigate us, so we turned right and showed our silhouette. They passed up our port side, six miles away, and I hope they got half as much satisfaction out of knowing that we were there as the COD did from being on hand to help them, with her BK lit off, searchlight rigged, flares mounted, and colors flying. I could think only of:

"For I dipt into the future, far
as human eye could see,
Saw the Vision of the world, and all
the wonder that would be;
Saw the heavens fill with commerce,
argosies of magic sails,

CONFIDENTIAL

Pilots of the purple twilight,
dropping down with costly bales;
Heard the heavens fill with shouting,
and there rain'd a ghostly dew
From the nations' airy navies grappling
in the central blue;
Far along the world-wide whisper of
the south-wind rushing warm,
With the standards of the peoples
plunging thro' the thunder storm;
Till the war drum throb'd no longer,
and the battle flags were furl'd
In the Parliament of man, the Federation
of the world."

It all seemed to fit, except the final line. If we want to reserve MANILA and SUBIC BAYS for our own use in the next war, we had better keep plenty of airy navy stationed there.

1618 H Commenced closing beach.

1750 H Passed through objects in water including a large box, oil drums, and a cane fender.

2317 H SJ interference.

19 October

0001 H Orders to lifeguard duty had read "from dawn sixteen through eighteen October." Believed strikes were finished and lifeguard duties completed, so shifted voice receiver from lifeguard frequency to area frequency. Commenced patrolling in area. Heavy seas; rain and wind.

0324 H SJ contact 14,100 yards. Ship Contact No. 37. Commenced tracking. Radar pip showed a ship of about DD size. Tracked on base course 135, speed 7 to 8. Position was about 45 miles west of SUBIC BAY; this course headed the target across the entrance to MANILA BAY. Tried to get ahead of target at 2-generator speed, but the seas were so heavy that green water was coming over the bridge. We were overcoming this obstacle by closing the upper conning tower hatch on warnings from the O.O.D. This system broke down when the C.O. happened to be in the hatch at the wrong time; the man at the hatch felt a natural (and praiseworthy) reluctance to close it on the C.O.; the diving officer got the lower hatch closed, but we were ankle deep in the conning tower. Tried to drive through the seas on 4 generators, but could not get more than 11.5 knots.

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- 0453 H Radar picked up a second target of about the same size on the near quarter of the first target. Shifted targets.
- 0510 H Made tubes ready, except for outer doors.
- 0523 H It was getting too light to stay on the surface, even in the existing rain. Submerged.
- 0528 H Saw target through periscope. Patrol craft about PC size. Did not shoot. Did not think we had a chance of hitting him. Ran periscope patrol. Routed torpedoes.
- 1014 H Surfaced. Seas abating.
- 1300 H Passed through large patches of orange colored matter on the surface of the water which smelled like paint.
- 1907 H Decoded orders to leave lifeguard station at sunset on the twentieth and then to patrol next area to northward. Shifted to lifeguard frequency searched along beach from HERIANA MAYOR to CAPONES, and went out to lifeguard station.
- 2208 H SJ contact 5650 yards. Ship Contact No. 38. Probably sailboat. Drew aft. Ignored.

20 October

- 0009 H SD contact 9 miles, closing. A/C Contact No. 58. Submerged.
- 0050 H Surfaced.
- 0412 H Submerged.
- 0526 H Surfaced.
- 0545 H C.O.D. sighted three (3) planes, about 20 miles, headed SE toward BATAAN. A/C Contact No. 59.
- 0551 H SD contact 8 miles. A/C Contact No. 60. Submerged.
- 0634 H Surfaced.
- 0652 H Lookout sighted what he thought was a periscope, and at 1202 the sound operator heard possible close screws. We did a lot of zigzagging on the lifeguard station today.
- 0942 H SD contact, 11 miles. A/C Contact No. 61. Submerged.
- 1042 H Surfaced.
- 1606 H SD contact 13 miles, followed four (4) minutes later by another at 7 miles making two (2) on the screen. A/C Contact No. 62. Submerged.
- 1714 H Surfaced.
- 1814 H Set course for new area, between CAPES BOLINAO and BOJEADOR. Patrolling off shore first day.
- 2214 H SJ pip 5170 yards. Apparently an atmospheric.

21 October

- 0002 H SD contact 26 miles. A/C Contact No. 63. Faded at 28 miles.

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- 0714 H Submerged.
0815 H Surfaced.
1150 H SD contact 17 miles. A/C Contact No. 64.
Plane was sighted by lookout and J.O.C.D.
Four-engined bomber. Submerged.
1247 H Surfaced.
1531 H SD contact 14 miles. A/C Contact No. 65.
Closed to 12 miles. Submerged.
1647 H Surfaced. Set course for inshore patrol off
BOLINAO.

22 October

- 0102 H SJ interference.
0200 H Sound operator heard echo-ranging on northerly
bearing. Ship contact No. 39. Narrowed
bearing down to 015(T) and closed on four
generators.
0239 H SJ contact 10,600 yards. Commenced tracking.
Position 15 miles off BOLINAO. Radar operator
judged it to be a small craft. Target was
steering southerly courses, zigging, at 6
knots. Closed and locked. Radar operator
was right. A small patrol boat, making
a sweep. Moved in between him and beach for day
patrol.
0405 H SD contact 7 miles, opening. A/C Contact No.
66. Submerged. Submerged patrol.

GUN ATTACK NO. 1

- 0652 H Sighted sails bearing 024(T). Ship Contact No.
40. On closing to investigate, the contact
proved to be five (5) sea trucks, motor driven
with foresails rigged, headed south for BOLINAO.
I let the C.O.D. talk me into a battle surface,
although we were only five (5) miles from the
100 fathom curve north of BOLINAO HARBOR. Let
them go by, came to parallel course, distance
between tracks about 4000 yards, and made plans
to pick them off with the 4" gun, starting with
the one astern.
0813 H Battle surface. Range 3900 yards. The third
shot from the gun was a hit, but had no effect
on the target. The foot-firing mechanism then
jammed and it took a few minutes to rectify.
Meanwhile, all five (5) sea trucks had turned
toward us and were spraying the water with shells
of about .30 to .50 caliber. Their shot was
falling about 1000 yards short, but the ricochets
were singing all around us. Turned away until

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- jam was cleared, then closed range to 6000 yards and maneuvered to keep it there. Opened fire again at 3,000 yards on the way in, and fired 75 rounds in all, slow fire. The deflection control and training were beautiful, falling off only a mil or so for the first shot after a course or speed change, all the others being on. The pointing, however, was exasperating. The shots would be 100 over, 50 short, 50 over, 100 short, and so forth, with monotonous regularity. Scored one more hit at this range, which, like the first, had no effect. Closed to one (1) mile from the 100 fathom curve, broke off, and secured gun.
- 0924 H Sighted another sea truck about 10 miles astern of the first group. Called 4" gun crew to their stations again to try to let them save their face.
- 0927 H SD contact 10 miles. A/C Contact No. 67. Cleared deck. Closed to 6 miles. Submerged. Lost breech cover of gun. In reviewing this fiasco I can see that more sea trucks would have been sunk had I dashed in to close range with 20 mms, machine guns, and 4" all blazing. Perhaps I should have.
- 1028 H Surfaced. Trying to get away from the scene.
- 1042 H SD contact, 21 miles, closing. A/C Contact No. 68. This was followed by another pip at 18 miles, the second one very large. O.C.D., high periscope, and lookout then sighted the planes, moving south along the shore by SAN FERNANDO. Counted 20 planes, with more lost from sight in clouds. Judged that these were reinforcements flown in to oppose our task forces and that a contact report was in order. Accordingly enciphered COD SEVEN and cleared it at 1356.
- 1056 H SD contact, 9 miles, closing. A/C Contact No. 69. Submerged.
- 1142 H Surfaced.
- 1206 H SD contact 8 miles, closing. A/C Contact No. 70. Submerged.
- 1312 H Sighted plane, TESS, 2 miles. A/C Contact No. 71.
- 1348 H SD contact, 19 miles. A/C Contact No. 72. Sighted on a southerly heading at 12 miles.
- 1349 H SD contact, 16 miles. A/C Contact No. 73. Closed to seven miles. Sighted as we submerged at 1356.
- 1426 H Sighted plane, 14 miles. A/C Contact No. 74.
- 1518 H Sighted plane, 10 miles. A/C Contact No. 75.
- 1600 H Sighted plane, 4 miles. A/C Contact No. 76.
- 1608 H Sighted plane, TESS, 2 miles. A/C Contact No. 77.

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- 1623 H Sighted two (2) planes, TESS, 5 miles. A/C Contact No. 78. Most of the planes sighted this afternoon were of transport type. Two had commercial numbering. In general, they were approaching or leaving BCLINAC on southeasterly or northwesterly headings.
- 1724 H Surfaced. Ran a sweep out to western edge of area and then back to CAPE BOJEADOR.
- 2317 H SJ pip at 18,100 yards. Apparently an atmospheric. It disappeared immediately.

23 October

- 0613 H Submerged.
- 0710 H Surfaced.
- 0748 H SD contact, 19 miles. A/C Contact No. 79. Closed to 16 miles, then opened and faded at 13.
- 1504 H SD contact, 7 miles. A/C Contact No. 80. Submerged.
- 1546 H Surfaced.

24 October

- 0538 H Submerged off CAPE BOJEADOR.
- 0723 H Sighted plane, 10 miles. A/C Contact No. 81.
- 0751 H Sighted plane, VAL, 8 miles. A/C Contact No. 82.
- 1311 H Heard the first of several explosions coming from the westward of BOJEADOR.
- 1820 H Surfaced. Commenced running down coast for next day's patrol off VIGAN.

25 October

- 0010 H Received orders to stay in area until further orders.

ATTACK NO. 5

- 0237 H SJ contact, 23,070 yards. Ship Contact No. 41. Contact's position was 4 miles off the beach, north of VIGAN. Headed for it and started tracking. Radar showed four large ships in a rough line abreast, southerly course, about 1500 yards between ships, and five escorts, one on either beam, one astern, and two ahead. At no time was there any indication of radar on target or escorts. We came in from the west and sighted the near escort and the four large ships from a little abaft their

CONFIDENTIAL

beam. It was the only time we ever had the targets overlapping. Turned right. We had four torpedoes aft. Commenced maneuvering for a stern tube shot.

The targets were tracking at 15 to 15.5 knots on base course 225(T). They were zigging every five minutes. The nearest and largest ship was plainly visible as a large two-stack transport. After thirty minutes of tracking and while we were working up ahead, the targets commenced making 60 degree zigs, still at five minute intervals. In these maneuvers, the transport pulled away to the westward from the other ships, getting out of visual distance (unaided by binoculars). We were thrown on the port bow of the transport, separated from all but one escort, so I picked the transport as our target. Lade tubes ready except for outer doors and closed track. The target after two legs to the northwest, came to course west. We had a shot, from his port bow, but I wouldn't take it because we would not have been able to swing and get the gyro angles cut down and doors open until the leg was three (3) minutes old. The target then zigged left and headed over toward us with a 30 degree port angle on the bow. Slowed and opened outer doors. This was a short leg and he soon came farther left across our stern on course 170(T) at range 4900. Turned left for 90 degree track, and waited for favorable gyro angles. The torpedo run was 4300 yards, but the set-up looked so good and the fire control party was functioning so smoothly, that I cut down the spread to $\frac{1}{2}^{\circ}$. Angles on the bow were checking perfectly by binocular with the set-up on the TDC (and we had been able to call the zigs by observation all during the approach).

0402 H With the leg one minute old, fired four (4) stern tubes, $\frac{1}{2}^{\circ}$ divergent spread, 6 feet depth, average track 81° S, average gyro 171° , average torpedo run, 4,288 yards.

Commenced tracking the near escort who was on the target's starboard beam and headed for us, swung left to formation course, and built up gradually from 1/3 speed to full power and pulled out of the formation.

The set-up was so good on the target that I had the fire controlman tell me when to look for hits. He did. There were no hits forthcoming. The target never knew we were there. (On the following night the target group was

CONFIDENTIAL

alerted and their actions on that occasion proved conclusively to me that this approach had been undetected). No splashes nor explosions of any kind were seen nor heard. No torpedo wakes were seen, but no one was specifically looking for them. The O.O.D. took a quick look for wakes shortly after firing, saw none, and had his attention diverted to the escort.

The saddest feature of the whole attack, to me, is that under similar circumstances I would not know how to conduct it differently. With a high speed target, on a clear night, zigging widely on short legs, and torpedoes aft only, I know of no better means of approach than to get up ahead, wait for a favorable zig and take the best shot that presents itself, within the maximum range of the torpedo. Analysis of the entire firing has brought out the following faults:

1. Radar bearings were used (lobing). However, they checked exactly with TBT bearings at firing time.
2. The ship was rolling slightly during firing. Ship's head swung through only 0.05 , however.
3. The torpedoes had been depth charged with the doors open on 8 October. They had been inspected thereafter and routined three times.
4. They were stern shots from the surface.

Everything else checked properly. Spread was applied properly, fire-control system checked, no fault could be found in tubes. No one could feel more deeply about missing this target than myself and crew. The thought of the American and Australian soldiers that may be killed by the enemy troops and equipment in this transport is very sobering, indeed.

0436 H After missing this cold set-up, I determined then and there that we would track this convoy until we should turn it over to another submarine. He was apparently headed for MANILA. Encoded a contact report in the aircraft code, calling the convoy 4 large merchantmen and five (5) escorts, giving his position, course, and speed. Sent this to CTF 71, where it would be placed on the Baker schedule to the boats, and then broadcast the report on the area frequency with the added information that we were trailing, with no torpedoes.

0518 H SD contact, 14 miles. A/C Contact No. 83. Faded at 16 miles.

CONFIDENTIAL

- 0535 H Secured from battle stations and went to our two-section tracking stations, which we had never used. Tracked target with high periscope.
- 0557 H Sunrise. It was becoming apparent that we were tracking an ASAMA MARU. Throughout the day the following points of similarity were checked with the photographs on page 1 of ONI-208-J, Revised: Two masts and two funnels, of proper proportions and properly spaced; high bridge, of proper proportion to forward funnel; poop deck higher than foc's'le; foremast located at break of foc's'le deck; cross yards on masts; no smoke from funnels; size. There were no discrepancies from the photographs noted. The other three ships were AKs of large and modern appearance. All had block superstructures. Nos. 1 and 2 were MKBFKM, with funnel abaft the center of the superstructure. No. 3 was MKFKM with funnel in center of superstructure. At least one had topmasts painted blue-green. Various ones smoked. C.O.'s estimate:

1 Large AP, ASAMA MARU class (EC) 16,975 tons
3 Large AKs (LU) 7,500 tons

No effort was made to close the escorts to a range permitting identification. All that were seen were small.

- 0601 H High periscope sighted plane over formation. A/C Contact No. 84.
- 0620 H SD contact 15 miles. A/C Contact No. 85. Sighted this plane astern of formation.
- 0635 H SD contact, 5 pips between 10 and 11 miles. A/C Contact No. 86. Closed to 8 miles. Sighted planes headed our way from target formation. Submerged.
- 0729 H Surfaced. Targets had been tracking on 260(T) since the first contact report. They were not in sight when we surfaced. Set out after them on 270(T). It did not appear that they were headed for MANIA. That meant that some outfit other than subs of T.F. 71 would have to get them. That, in turn, would require many contact reports from us, both in order to keep the attacking forces informed (whoever they might be) and also to assure the attacking forces that we were acting with good faith and determination, and would not suddenly leave off tracking after

CONFIDENTIAL

they had made their plans. I judged that three (3) reports from us spaced about four (4) hours apart, would convince any operations office or independent commander that we meant to stick with the target, and after that it would be necessary to report only course changes. The next item of doubt was in regard to loading up the circuits with reports of this convoy while the battle for LEYTE was in progress. Our orders were specific as to making contact reports on CAs or above. I judged that the importance of the convoy was equal to that of a CA and that the communications should be able to handle the extra load, and decided to send the rest of the contacts reports to all hands from Admiral HALSEY down.

- 0738 H Transmitted our second contact report. Addressed this one to CHINA AIR FORCE, also, since it appeared that the targets were headed for INDO-CHINA. Also broadcast it on the area frequency.
- 0745 H O.C.D. sighted a large flying boat, MAVIS, crossing our stern, about 9 miles. A/C Contact No. 87. Lost it in the clouds at about 15 miles.
- 0838 H High periscope sighted target. He had been making good about 280(T) since our last observation. Looked like he was headed for HAINAN.
- 1015 H Target came to course north and then started working around to the east. Speed had dropped to 14 knots through the water. He was still zigging every five (5) minutes. He settled down on base course 060(T). This was heading him for CAPE BOJADICE.
- 1127 H Sent our third contact report. Named the ASAMA MARU in this report. This was also addressed to the CHINA AIR FORCE, to let them know that the convoy was no longer headed for their area.
- 1151 H O.C.D. sighted two (2) planes over targets. A/C Contact No. 88. SD contact at 15 miles. Faded.
- 1308 H SD contact 10 miles. A/C Contact No. 89. Faded.
- 1344 H High periscope sighted a single, unescorted, unidentified merchant ship that appeared to be a medium AK. Ship Contact No. 42. He was proceeding on a southerly course and crossed about 8 miles astern of our convoy. I thought it must be a hospital ship, but could see no indication of hospital markings.

CONFIDENTIAL

- 1355 H SD contact 12 miles, closing. A/C Contact No. 90. Three pips. Closed slowly to 6 miles. Submerged. Watched and heard the targets go by and also had a look at the un-escorted southbound ship.
- 1633 H At 50 feet preparing to surface. SD contact 7 miles. A/C Contact No. 91. Faded at 8 miles.
- 1637 H Surfaced. Convoy in sight heading southeast.
- 1658 H SD contact 14 miles. A/C Contact No. 92. Faded.
- 1717 H SJ contact on targets, 30,100 yards. We were able to hold the ASAMA at 36,000 yards.
- 1732 H Sunset.
- 1738 H Received orders that we were to rendezvous later with BREAN to take off his prisoners.
- The DRAI was now stuck, and the Navigator was lost until he worked out some stars. Meanwhile, I let the enemy do our navigating for us, and followed them south along the coast very close to the beach. The O.C.D. picked up the white water tower at VIGAN in the twilight. Crossed it with some peaks and tangents and got ready to send our next contact report.
- 1907 H Weak SJ interference ahead.
- 1913 H Transmitted contact report to VIXO, having first sent it blind on the area frequency. Exactly when this transmission was completed, the escort on the near quarter turned on his searchlight and started shooting. We were on the beam of the ASAMA at this time and had closed him to 13,900 yards. The moonlight was very bright, from our side of the formation, but we were not silhouetted. Could not see any splashes. Opened the range. The escort swept with his searchlight twice again during the next ten minutes, hesitating ever so little on our bearing during one sweep. Various ships in the formation exercised their guns at intervals for the next 65 minutes, the loudest noises and brightest flashes coming from the direction of the ASAMA itself. Ensign KIMBALL, the O.C.D., was very happy about all this, as he had always been at the diving station when we were being shot at during previous patrols. For my part, I was happy not to see any splashes nor hear any shells.
- During the shooting, the SJ interference had grown steadily stronger from ahead. It could only be one boat.
- 2013 H Using the last name of the C.O. of that boat for a call, we raised him on the area frequency.

CONFIDENTIAL

Asked him if he had contact. Reply negative. Encoded a contact report and sent it. He replied that he could not attack. This was hearbreaking; the convoy was obviously heading for a harbor now.

- 2020 H (During the above) SD contact 10.5 miles. A/C Contact No. 93. Faded at 14 miles.
- 2048 H SJ contact on the other submarine. Challenged him and worked him by SJ. Broke off this conversation in the middle at 2125 as it was fruitless and we had lost track of the convoy. Went on down the coast.
- 2130 H Regained contact on convoy. They were still hugging the coast.
- 2215 H SD contact 7 miles. A/C Contact No. 94. Faded at 6 miles, reappeared at 8 miles, faded at 9.
- 2229 H Convoy had rounded FAGG REEF off SAN FERNANDO, slowed, and entered LINGAYEN GULF. We headed west and patrolled north of CAPE BOLINAOC, waiting for him to come out.
- 2306 H Heard four (4) possible explosions through the hull.

26 October

- 0127 H Transmitted COD EIGHT to CTF 71 giving amplifying data on convoy.
- 0505 H Submerged north of CAPE BOLINAOC.
- 0520 H Heard one (1) possible distant explosion.
- 0658 H Sighted two (2) ships and three (3) planes, one float type at about 8 miles, and two (2) NELLIS at 2 miles. A/C Contact No. 95. Heard echo-ranging. The planes presented a problem, as the NELLIS were an effective A/S cover. They were flying very low and doing figure of eights ahead of the ships. The sun was almost behind them. However, instead of flying separate courses, one would follow right astern of the leader. This simplified our problem. We would watch them heading for us from 65 feet, never training the periscope between them and the sun; we would wait until they turned; then plane up for a look at the ships; then run the scope down before the NELLIS had started their turn back towards us. Then we would go back to 65 feet and start over. By this means we saw the blue-green top-masts of one of the AKs, many masts, and the twin funnels of the ASATA MARU. They were headed south and hugging the coast. We went

CONFIDENTIAL

- to 300 feet, opened the beach at standard speed, and encoded our contact report.
- 1021 H Surfaced.
- 1025 H SD contact 7 miles, opening. A/C Contact No. 96. Sighted from bridge.
- 1029 H Transmitted contact report.
- 1050 H SD contact, 11 miles. A/C Contact No. 97. Closed to 8 miles. Submerged. Did not surface to chase convoy any further because:
(1) I was now sure he was headed for MANILA and (2) There was only one boat between us and MANILA, I was sure that he would be down for the day, and I expected that he would be on the convoy's track.
- 1831 H Surfaced. Headed out for western part of area.
- 1957 H SJ interference.
- 2050 H Additional SJ interference. There were two radars in the vicinity on bearings 055^{OT} and 071^{OT}.

27 October

- 0146 H O.O.D. and lookout sighted first of a series of flashes from the bearing of the southernmost radar interference. Flashes were observed three (3) times during the next 20 minutes. No signals on the area frequency.
- 0410 H SJ contact 26,200 yards. Commenced tracking. Apparently atmospheric.
- 0702 H Submerged.
- 0758 H Surfaced.
- 1010 H Lookout sighted smoke bearing 303^{OT}. Ship Contact No. 43. Commenced closing. Smoke disappeared then reappeared at 1325 on bearing 240^{OT}. Commenced tracking by high periscope. Target was a single unescorted AK smoking intermittently. We judged it to be a medium sized ship for want of better data. Base course 140^{OT}, speed 7 (or the vectorial equivalent), heading for MANILA.
- 1626 H Decoded orders giving time of rendezvous with BREAK.
- 1629 H Transmitted first contact report in aircraft code to CTF 71 with information that we were trailing and could be called by voice.
- 1737 H Sunset. Closed target to 16,000 yards for a better look in the twilight. It was a large AK, having mast, bridge, signal mast, funnel, low mast, and mast in that order. There was a structure of some kind directly forward of the funnel. The funnel was old-fashioned and high.

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There was a gun on the Number 3 island.
Could not identify. C.O.'s estimate:

1 Large AK (EU) 7500 T.

- There was no escort. Radar picked up target at 24,300 yards.
- 1912 H Sent second contact report after getting star fix and checking target speed at 10 knots. All boats would normally be on the surface when this report was retransmitted on the Bakers.
- 2006 H Broadcast contact report on area frequency. An unidentified ship receipted for it but was never heard again.
- 2018 H SJ interference ahead. This was lost in an hour.
- 2026 H Received message from BREAM giving his probable time of interception. Sent BREAM two more encoded contact reports giving target's latest position, course and speeds, zig plan, speed through water, base course, etc.
- 2142 H Weak SJ interference on starboard beam.
- 2150 H Decoded a message to the BREAM from the Baker schedule giving him the data from our first contact report. This message had a time group of 1914 H. It is not apparent which message first reached the BREAM.
- 2315 H SJ interference.

23 October

- 0012 H Working BREAM on area frequency in plain language.
- 0044 H BREAM had made contact. Asked him if he wanted us to call the zigs, which he did. We were 16,000 yards directly astern of the target and could easily watch the zigs in the bright moonlight. Commenced sending tracking data on an average of once every two minutes and continued for the next two hours.
- 0103 H Target commenced shooting and turned left. BREAM indicated submergence by not answering us on the radio.
- 0113 H Last shot from target.
- 0116 H SJ interference from BREAM, back on the surface. Sent latest course and speed. BREAM had contact and was chasing. Target had reversed course and speeded up from 9.5 to 10 knots.
- 0213 H Target came to course North. He then commenced zigging at random between courses North and East.

CONFIDENTIAL

- 0243 H SD contact. 21 miles. A/C Contact No. 98.
Faded at 24 miles.
- 0246 H Received message from BREAM of which we could not make out the meaning. Interpreted it to mean that he wanted us to keep quiet as he thought the target was listening on the voice frequency. Accordingly maintained radio silence for the next two (2) hours, but could not detect any change in the target's tactics as a result.
- 0443 H BREAM broke off attack. Ceased tracking. The target was now zigging more violently and was last tracked on a northwesterly course.
- 0510 H Submerged. Periscope patrol.
- 1219 H Surfaced. Headed for rendezvous with BREAM
- 1412 H High periscope sighted NAUTILUS. Ship Contact No. 44. Exchanged calls by SJ.
- 2315 H SD contact, 21 miles. A/C Contact No. 99. BN signal Code 1. Turned on ABK. SJ had a brief contact at range of about 45,000 yards. BN signal faded at 30 miles. Probably a CHINA AIR FORCE search plane.

29 October

- 0237 H SJ interference.
- 0258 H Exchanged calls with BREAM by SJ.
- 0308 H SJ contact with BREAM. Ship Contact No. 45.
- 0445 H Received six (6) prisoners on board. Learned from BREAM that they had been picked up out of the water, that they were soldiers, and that their transport had been sunk from under them. Stripped prisoners down and examined them. They were covered with unidentified ulcerated wounds, jungle sores, and chancres. Placed them in the magazine. Notebook taken from the prisoners had been sent over by the BREAM. Gave the BREAM our data on patrol craft, planes, and traffic routes in the area and set course for PEARL.
- 0702 H Submerged.
- 0753 H Surfaced.
- 1750 H Transmitted COD NINE to CTF 71 giving previously unreported contact and results.
- 2000 H Passed to operational control of ComSubPac. Transmitted despatch reporting for duty and requesting a route to nearest base to unload the prisoners.

30 October

- 0655 H Submerged.
- 0744 H Surfaced.

CONFIDENTIAL

1235 H Received orders to SAIPAN.
2133 H SD contact, 17 miles. A/C Contact No. 100.
Closed to 16 miles. Faded.

31 October

0658 H Submerged.
0801 H Surfaced.
1241 H SD raised BATAN ISLANDS at 36 miles. Very
poor visibility. Rain.
1552 H SD contact six miles. A/C Contact No. 101.
O.O.D. and J.O.O.D. sighted PETE headed for
us. Submerged.
1740 H Surfaced.
2007 H SJ interference on port hand.
2026 H Additional SJ interference on starboard hand.

1 November

Rain.
0701 H Submerged.
0743 H Surfaced.
1337 H High periscope sighted U.S. submarine ahead.
Ship Contact No. 46. Apparently had just sur-
faced. Challenged by SJ. No reply. Westerly
course. Exchanged call with PARCHE by Aldis
lamp.
2048 H SJ interference passed down port side and was
lost at about 0400.

2 November

0701 H Submerged.
0735 H Surfaced.
1352 I High periscope sighted what appeared to be
submarine bearing 347°T. Ship Contact No. 47.
Commenced tracking. Westerly course. The
following characteristics were apparent: Clean
foc's'le (no gun nor other large item visible)
very low silhouette (about 1/2 the height of ours),
no periscope shears, no radar mast, no high
periscope, short in length, diesel driven, box-
shaped superstructure, no 20 mm guns visible.
As the target had reached a position well abaft
of our beam, apparently without sighting us,
attempted to get astern of him to track.
Came left 30 degrees.
1359 I Target disappeared from sight while I was
looking at it. Enciphered and transmitted COD
TWO to ComSubPac giving times and positions
when passing PARCHE, the friendly radar in-
terference, and this last submarine which I
summarized as being "of enemy appearance."

CONFIDENTIAL

3 November

- 0700 I Submerged.
0736 I Surfaced.
1018 I SD contact 11 miles. Closing. A/C Contact No. 102. Submerged.
1130 I Surfaced.
1330 I Decoded message telling us that Ship Contact No. 47 was probably BARBEL.
1812 I O.C.D. sighted what he thought was a white flare dead ahead. Nothing further was sighted.
2200 I Transmitted COD THREE giving ETA at rendezvous off SAIPAN.

4 November

- 0630 I Submerged.
0702 I Surfaced.
0845 I SD contact and BN signal 20 miles. A/C Contact No. 103. Turned on ABK. BN signal faded at 36 miles.
1703 I High periscope sighted U.S. submarine ahead. Ship Contact No. 48. Attempted to challenge by SJ. No reply. Exchanged calls with BANG by Aldis lamp.
1814 I SJ contact ahead 9700 yards. Ship Contact No. 49. We were challenged by SJ and by Aldis lamp. Replied to both but did not exchange calls. Probably REDFISH.
1941 I SJ contact 12,000 yards. Ship Contact No. 50. Exchanged recognition signals and calls by SJ with SHAD.
2350 I Weak SJ interference ahead.

5 November

- 0228 I SJ contact 6700 yards. Ship Contact No. 51. Did not challenge. Unidentified.
0630 I Submerged.
0708 I Surfaced.
0740 I SD contact 12 miles. A/C Contact No. 104. Submerged.
0817 I SD contact 24 miles. A/C Contact No. 105. Three planes on screen from 26 to 22 miles. Bogy. Faded at 26 miles.
1521 I SD contact 24 miles. A/C Contact No. 106. Two planes on screen. BN signals. One closed to 12 miles. Submerged at 1540. Plane sighted by lookout while submerging.
1623 I Surfaced.

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- 2129 I SD contact 11 miles. A/C Contact No. 107.
SJ contact at 20,500 yards. Faded at 23
miles.
- 2346 I BN signal, 10 miles. A/C Contact No. 108.
Closed to 6 miles. Submerged.

6 November

- 0018 I Surfaced.
- 0144 I BN signal, 15 miles, closing. A/C Contact
No. 109. Closed to 8 miles. Picked up by
SD and SJ. Faded at 18 miles.
- 0335 I SJ contact 20,400 yards. Ship Contact No.
52. Experienced SJ interference, heard echo
ranging, exchanged recognition signals with
U.S.S. GRAYSON (DD 435) and set course for
TANAPAG HARBOR. BN signal was obtained on
escort at 4 miles.
- 0343 I BN signal 20 miles. A/C Contact No. 110.
Faded at 26 miles. Numerous contacts with
friendly planes and ships.
- 0954 I Entered net, received pilot on board and
moored in nest alongside U.S.S. HOLLAND. Trans-
ferred prisoners and papers. Commenced re-
ceiving fuel, water, torpedoes and voyage re-
pairs from HOLLAND. Divers examined stern
planes but could not locate the trouble. Sent
two recreation and sight-seeing parties ashore.

7 November

- 0105 I Air raid. Set maneuvering watch and battle
stations.
- 0145 I All clear.
- 0332 I Air raid. Set maneuvering watch and battle
stations. The shore battery exercised their
guns. A smoke screen was laid in the harbor
and we later saw one of the raiders who was
shot down near the airfield.
- 0445 I All clear.

8 November

- Received mail. We wish to thank the persons
responsible for this service.
- 1501 I Underway for PEARL in accordance with des-
patch orders from ComSubPac.
- 1510 I Passed PIPEFISH in channel.
- 1530 I Cleared net and fell in with U.S.S. DICNNE
(DE 261), our escort. Numerous contacts with
friendly planes.
- 2126 I Left escort. BN signal was obtained on escort
as his range opened to two miles.
- 2154 I Submerged for trim. Bow planes failed to tilt
in power. Adjusted limit switch.
- 2247 I Surfaced.
- 2321 I SJ interference ahead.

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2326 I BN signal, 21 miles. A/C Contact No. 111.
Picked up by SD. Closed to 10 miles,
opened. Lost contact at 24 miles.

9 November

0134 I Heavy SJ interference ahead. Challenged. No
reply.
0157 I SJ contact 8800 yards. Ship Contact No. 53.
Picked up three submarines at ranges out to
11,180 yards. ARCHERFISH, PAMPINITO, and
SEARAVEN. Ran around to starboard. No
recognition signals exchanged.
0605 I BN signal 24 miles. A/C Contact No. 112.
Float plane. Sighted by C.O.D. at 11 miles.
0622 I BN signal 34 miles. A/C Contact No. 113.
Second contact on screen. Faded.
1358 I BN signals, two, 19 and 21 miles. A/C Contact
No. 114. Faded at 22 miles.
1401 I Heard two stations exchanging information con-
cerning SD contact.
1414 I Sighted and exchanged recognition signals by SJ
with SCABBARDFISH. Ship Contact No. 54. Ex-
changed signals with the SEACAT who was not
visible.

10 November

1004 K Submerged.
1031 K Surfaced.

11 November

0853 K Flash over on No. 4 main generator. Burned
commutator and brush rigging.
0900 Y BN signal, 24 miles. A/C Contact No. 115.
Closed to 10 miles. Submerged. Bow planes
failed to tilt in power.
1002 K Surfaced.
1013 K BN signal, 27 miles. A/C Contact No. 116. SD
contact at 24 miles. Faded at 36 miles.
1843 K Lay to and adjusted bow planes limit switch.
1926 K Underway.
2237 K Intermittent SJ interference from astern. SD
interference.

12 November

1525 L Submerged. Battle Stations. Fire control drill.
1734 L Surfaced.
2000 L SJ interference on port bow.

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13 November

Uneventful.

14 November

- 1058 L Submerged. Converted No. 4 to main ballast tank and flushed out.
1221 L Surfaced.
1802 L SJ interference on starboard bow.
2022 L Transmitted CCD FOUR, giving daily positions and ETA at rendezvous off PEARL. Could not get proper authenticator from NPM but later received receipt from ComSubPac on FCX schedule.

15 November

- 0836 M Submerged.
0940 M Surfaced.
1815 M Conducted battery discharge.

15 November

Uneventful.

16 November

- 1132 Y Submerged.
1212 Y Surfaced.
1506 Y SD interference.

17 November

- 0736 X Submerged.
0821 X Surfaced.

18 November

Received orders to meet escort at rendezvous.

19 November

- 1240 W Submerged. Battle Stations. Fire control drill.
1336 W Surfaced.
1405 W BF signal, 40 miles, followed by a second signal at 32 miles and SD contact. A/C Contact No. 117. Closed to 22 miles. Faded at 40 miles.

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- 1917 W First of thirteen (13) BN signals sighted during the night before meeting the escort. Twelve (12) contacts showed Code 1; one (1) showed Code 3. The last closed to four (4) miles before opening. These contacts are not logged in Section G.
- 2204 W SJ interference ahead. This interference increased in intensity and then merged with interference from at least four (4) sources which covered the screen.
- 2233 W SJ interference on starboard bow apparently from a different type of radar.

20 November

- 0425 W Sighted three (3) searchlights on OAHU.
- 0516 W SJ contact and echo ranging on PC 571 who escorted us to PEARL.

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(C) WEATHER

The weather for this time of the year was as expected from the sailing directions of this area. The only heavy weather encountered was during the radar approach on two small escort vessels on the morning of 9 October. Attempting to force the boat through the seas resulted in taking a large amount of water down the conning tower hatch, but did no material damage.

(D) TIDAL INFORMATION

Tidal currents were the same as would be expected from the tidal and current tables for this area.

(E) NAVIGATIONAL AIDS

No navigation lights were observed although several lighthouses were sighted. The water tower on VIGAN on LUZON was used to obtain good cuts, and is similar in appearance to a white light house.

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(F) SHIP CONTACTS

No.	Time & Date		Lat. & Long.		Type(s)	Initial Range	Est. Course	Speed	How Contacted: P-Periscope R-Radar SD-Surface SN-Surface	Day Night	Remarks
	Time	Date	Lat.	Long.							
1.	2048-H	20 Sept.	23 18	36 E	Corvette	14,150	215	15	R		Avoided Friendly
2.	1035-H	22 Sept.	17 55	55 E	SS	20,000	225	--	SD		Avoided Friendly
3.	1227-H	22 Sept.	18 07	5 S	SS	24,000	070	13	SD - P		See Nar- rative
4.	1624-H	29 Sept.	122 46	32 E	Sail	22,000	---	--	SD		Avoided
5.	1918-H	29 Sept.	6 37	19 E	Sail	9,000	185	6	SN		Avoided
6.	1348-H	30 Sept.	5 30	30 E	SS	1,500	---	--	Smoke Bomb		Avoided
7.	1444-H	30 Sept.	5 27	5 S	Sail	16,000	---	--	SD		Avoided
8.	1724-H	30 Sept.	5 08	8 S	Sail	20,000	---	--	SD		Avoided
9.	2346-H	30 Sept.	118 42	2 E	Sail	6,000	---	--	SN		Avoided
10.	0012-H	1 Oct.	3 33	3 S	SC	10,850	180	7	R		Avoided
11.	0105-H	1 Oct.	3 28	5 S	Sail	7,050	---	--	R		Avoided
12.	0115-H	1 Oct.	3 24	5 S	Sail	14,000	---	--	SN		Avoided
13.	0215-H	1 Oct.	3 04	5 S	2 Sail	9,050	---	--	SN		Avoided

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(F) SHIP CONTACTS (CONT'D)

14	0300-H 1 Oct.	2 55 S	118 35 E	Sail 1	6,200	---	---	SN	Avoided
15	0307-H 1 Oct.	2 52 S	118 35 E	SS	25,400	N	14	R	Exchanged Calls
16	0357-H 1 Oct.	2 41 S	118 31 E	Sail 1	5,000	---	---	SN	Avoided
17	0614-H 1 Oct.	2 10 S	118 26 E	2 Sail 1	20,000	---	---	SD - P	Avoided
18	0638-H 1 Oct.	2 07 S	118 26 E	Sail 1 Trawler	11,000	---	---	SD	Submerged
19	0818-H 1 Oct.	2 03 S	118 28 E	3 Sails	20,000	---	---	SD	Avoided
20	1041-H 1 Oct.	1 51 S	118 22 E	Sail 1	14,000	---	---	SD	Avoided
21	1923-H 1 Oct.	1 07 S	118 45 E	Sail 1	11,650	176	5	R	Spoke
22	0533-H 3 Oct.	5 34 N	119 46 E	Sail 1	14,000	---	---	SD	Submerged Exchanged Calls
23	0315-H 4 Oct.	9 27 N	120 28 E	SS	10,000	---	---	R	Attacks No. 1 & 2
24	1250-H 5 Oct.	13 05 N	120 15 E	Convoy	7,000	210	9	P	Attacks No. 1 & 2
25	0410-H 6 Oct.	13 20 N	120 09 E	SC	11,600	180	8	R	Avoided
26	2342-H 6 Oct.	13 40 N	119 46 E	Convoy	20,250	215	8	R	Attack No. 3
27	0515-H 8 Oct.	13 05 N	119 21 E	SS	8,750	210	---	R	Spoke
28	1100-H 8 Oct.	13 37 N	119 47 E	CM	18,000	050	18	SD	Attack No. 4

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(F) SHIP CONTACTS (CONT'D)

29	2001-H 12 Oct.	13 18 N 120 20 E	2 TBs	19,950	192	10	R	Tracked
30	0940-H 15 Oct.	15 25 N 119 47 E	3 Patrol	10,000	S	6	P	Watched
31	1442-H 15 Oct.	15 27 N 119 47 E	2 Sail 1s	10,000	---	---	P	Ignored
32	2202-H 16 Oct.	14 36 N 119 53 E	Sail 1	2,870	---	---	R	Avoided
33	2215-H 16 Oct.	14 35 N 119 53 E	PC	4,700	---	---	R	Avoided
34	1350-H 17 Oct.	14 46 N 119 37 E	Sail 1	24,000	---	---	SD	Avoided
35	2326-H 17 Oct.	14 43 N 119 14 E	Sail 1	3,950	---	---	R	Avoided
36	2340-H 17 Oct.	14 44 N 119 15 E	Sail 1	2,790	---	---	R	Avoided
37	0342-H 19 Oct.	14 37 N 119 18 E	2 PC	14,100	135	8	R	Tracked
38	2208-H 19 Oct.	15 16 N 119 47 E	Sail 1	5,650	N	---	R	Ignored
39	0200-H 22 Oct.	16 30 N 119 32 E	SC	20,000	160	5	Sound	Tracked
40	0652-H 22 Oct.	16 34 N 119 50 E	6 Soa Trucks	12,000	180	5	R	Gun Attack No. 1
41	0237-H 25 Oct.	17 39 N 120 05 E	Convoy	23,070	---	---	R	Attack No. Five
42	1344-H 25 Oct.	17 39 N 119 31 E	AK	16,000	180	7	P	Watched
43	1010-H 27 Oct.	16 39 N 118 04 E	AK	30,000	135	7	SD	Tracked

CONFIDENTIAL

(F) SHIP CONTACTS (CONT'D)

44	1412-H 28 Oct.	15 55 118 33	N E	SS	20,000	180	12	P	Spoke
45	0308-H 29 Oct.	16 28 118 00	N E	SS	9,600	313	9	R	Rendezvous
46	1337-H 1 Nov.	20 32 125 22	N E	SS	11,700	285	14	P	Spoke
47	1352-I 2 Nov.	20 35 129 56	N E	SS	14,000	270	14	P	Contact Submerged
48	1703-I 4 Nov.	18 35 139 34	N E	SS	14,000	270	14	P	Spoke
49	1814-I 4 Nov.	18 33 139 48	N E	SS	9,700	290	14	R	Spoke
50	1941-I 4 Nov.	18 30 140 00	N E	SS	10,000	290	14	R	Spoke
51	0228-I 5 Nov.	18 30 141 06	N E	?	6,700	310	14	R	Avoided
52	0335-I 6 Nov.	14 49 144 30	N E	DD	20,400	---	---	R	Escort
53	0157-I 9 Nov.	16 34 145 45	N E	3 SS	8,800	255	---	R	Avoided
54	1414-I 9 Nov.	17 10 148 26	N E	SS	16,000	256	---	SD	Spoke

CONFIDENTIAL

(G) AIRCRAFT CONTACTS

No.	Time & Date	Lat. & Long.	Type (s)	Initial Range	Estimated Course & Speed	How Contacted:	Remarks
						P-Periscope R(3D)-Radar SD R(3J)-Radar SJ SD-Surface Day SN-Surface Night	
1	Sept. 19 0613-H	300-10'S 1130-36'E	Dive Bomber	11 mi.	Unk.	R(SD)-IFF	Friendly w/S Search
2	Sept. 28 0305-H	100-02'S 1280-17'E	Unk.	10 mi.	Unk.	R(SJ)	Probably Friendly
3	Sept. 28 0324-H	90-53.1'S 1280-13.0'E	Unk.	10 mi.	Unk.	R(SJ)	Probably Friendly Dived to avoid
4	Sept. 28 0401-H	90-49.0'S 128-11'E	Unk.	11 mi.	135(T)	R(SJ)	
5	Sept. 28 1101-H	90-02.5'S 1270-49.6'E	Unk.	22 mi.	Unk.	R(SD)	Faded
6	Sept. 28 1316-H	80-39.5'S 1270-39'E	Unk.	20 mi.	Unk.	R(SD) - IFF	Faded Sighted by lookout Elevation 50
7	Sept. 28 1500-H	80-16'S 1270-28.4'E	NEEL	5 mi.	Unk.	SD	
8	Oct. 1 1155-H	010-39'S 118-20'E	Unk.	20 mi.	Unk.	R(SD)	Faded
9	Oct. 2 0957-H	20-49'S 1190-36.8'E	Unk.	23 mi.	Unk.	R(SD)	Faded
10	Oct. 5 0852-H	130-05'N 1200-27.9'E	Single Engine	6-7 mi.	Unk.	P-Submrgd.	Elevation angle 1 1/2°
11	Oct. 6 1010-H	130-25.9'N 120-9'E	2 RUFES 1 BETTY	5 mi.	NE	P-Submrgd.	Elevation angle 2°
12	Oct. 6 1114-H	130-29'N 120-10'E	2 Eng. Bomber	10 mi.	Unk.	P-Submrgd.	Elevation angle 1°

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(G) AIRCRAFT CONTACTS (CONT'D)

27	Oct. 13 0817-H	12°-35'N 119°-19'E	Unk.	19 mi.	Unk.	R(SD)	Closed to 18 mls. Faded at 20 miles.
28	Oct. 13 1014-H	12°-55.9'N 119°-20.2'E	Unk.	6 mi.	Unk.	R(SD)	Submerged
29	Oct. 13 1323-H	138-03.7'N 119-39.4'E	Unk.	20 mi.	Unk.	R(SD)	Faded at 20 miles
30	Oct. 13 1442-H	130-07.3'N 119°-51'E	Unk.	10 mi.	Unk.	R(SD)	Submerged
31	Oct. 13 1555-H	130-11'N 119°-52'E	Unk.	23 mi.	Unk.	R(SD)	Faded at 24 miles
32	Oct. 13 2137-H	138-18.9'N 120-04.3'E	Unk.	2 1/2 mi.	Unk.	R(SJ)	Closed to 1 mi. while sub was diving
33	Oct. 14 0905-H	130-33'N 120°-15.7'E	Jake	6 mi.	Unk.	P-Submgd.	1/2° elevation
34	Oct. 14 1404-H	130-25.2'N 120°-14.2'E	Pete	5 mi.	Unk.	P-Submgd.	10° elevation
35	Oct. 14 1518-H	130-25.5'N 120°-15'E	2 Kates	6 mi.	Unk.	P-Submgd.	6° elevation
36	Oct. 14 1520-H	130-25.5'N 120°-15'E	Fighter	6 mi.	Unk.	P-Submgd.	6° elevation
37	Oct. 14 1608-H	130-28.8'N 120-18.8'E	Val	7 mi.	Unk.	P-Submgd.	6° elevation
38	Oct. 15 0638-H	150-28'N 119°-46.1'E	Rufe	7 mi.	North	F-Submgd.	20° elevation
39	Oct. 15 0720-H	150-26'N 119°-46'E	Rufe	6 mi.	South	P-Submgd.	--
40	Oct. 15 0721-H	150-26.3'N 119°-46.1'E	Betty	6 mi.	South	P-Submgd.	2° elevation
41	Oct. 16 0735-H	14°-49'N 119°-38.3'E	Unk. Pos. Betty	18-20 mi.	000 300 kts.	SD	Sighted by 0.0.D.

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(G) AIRCRAFT CONTACTS (CONT'D)

42	Oct. 16	0830-H	140°-44.5'N	119°-44.5'E	Rufe	12 mi.	N & S	SD	Sighted by lookout about 7000 ft. elev.
43	Oct. 16	1032-H	140°-44.9'N	119°-44.9'E	Rufe	7-8 mi.	South	SD	Sighted by J.O.O.D. 20 elevation
44	Oct. 16	1320-H	140°-46.5'N	119°-39.3'E	3 Betty 2 Unk.	20 mi.		SD-R(SD)	Sighted by J.O.O.D. Planes headed north over Lt. Bataan.
45	Oct. 17	0655-H	140°-42.8'N	119°-42.5'E	More than 1. Unk.	35 mi.	Unk.	R(SD)-IFF	Using Code One. Lost contact at 40 mi.
46	Oct. 17	0717-H	140°-42.8'N	119°-42.5'E	2 planes Rufe	20 mi.		SD	Headed south toward MINDORO.
47	Oct. 17	0719-H	140°-42.8'N	119°-42.4'E	Unk.	26 mi.	Unk.	R(SD)-IFF	Using Code One
48	Oct. 18	0701-H	140°-41.7'N	119°-37.6'E	6 Aven-gers	40 mi.	Unk.	R(SD)-IFF	Using Code One. Sighted by lookout
49	Oct. 18	0710-H	140°-41.8'N	119°-37.6'E	2 small planes	7 mi.		SD-R(SD)	Headed north past Los Frailes
50	Oct. 18	0735-H	140°-43.7'N	119°-38.3'E	1 large plane	12 mi.		SD	Sighted by O.O.D. Flying low over water. Submerged.
51	Oct. 18	0822-H	140°-45.5'N	119°-41.1'E	1 Dave	7 mi.		SD	Not sighted. Faded at 10 miles.
52	Oct. 18	0944-H	140°-43.6'N	119°-39.4'E	Unk.	8½ mi.	Unk.	R(SD)	
53	Oct. 18	1313-H	140°-50.8'N	119°-26.9'E	Sally	10-14 mi.	280(T)	SD	Dived to avoid
54	Oct. 18	1427-H	140°-53'N	119°-31'E	Unk.	16 mi.	E	R(SD)-IFF	Four planes sighted heading east.
55	Oct. 18	1435-H	140°-53'N	119°-32'E	Unk.	26 mi.	Unk.	R(SD)-IFF	Not sighted
56	Oct. 18	1455-H	140°-53'N	119°-33'E	Unk.	26 mi.	Unk.	R(SD)-IFF	Not sighted

CONFIDENTIAL

(G) AIRCRAFT CONTACTS (CONT'D)

57	Oct. 18	14°-53'N 119°-33.2'E	30 SB2Cs 22 - 26 & F6Fs	mi.	050(T)	SD-All hands on bridge	Planes were in forma- tion. Watched them. Closing. Dived to avoid.
58	Oct. 20	14°-58.3'N 119°-51.8'E	Unk.	9 mi.	Unk.	R(SD)	
59	Oct. 20	14°-43.2'N 119°-40.2'E	3 planes	20 mi.	SE	SD	Sighted by O.O.D.
60	Oct. 20	14°-43.2'N 119°-40'E	Unk.	8 mi.	Unk.	R(SD)	Dived to avoid.
61	Oct. 20	14°-43.2'N 119°-32.8'E	Unk.	11 mi.	Unk.	R(SD)	Dived to avoid.
62	Oct. 20	14°-45.7'N 119°-35.2'E	Unk.	1 at 13 mi. 1 at 7	Unk.	R(SD)	Dived to avoid.
63	Oct. 21	15°-27.8'N 119°-04.5'E	Unk.	26 mi.	Unk.	R(SD)	Faded at 28 mi. Position angle 50.
64	Oct. 21	16°-41.5'N 118°-41.4'E	4 Eng.	17 mi (R) 12 mi (S)	Unk.	R(SD)-SD	Dived to avoid.
65	Oct. 21	17°-00'N 118°-58.5'S	Unk.	14 mi.	Unk.	R(SD)	Dived when contact closed to 12 miles.
66	Oct. 22	16°-27.4'N 119°-40.5'E	Unk.	7 mi.	Unk.	R(SD)	Opened to 10 mi. as we dived.
67	Oct. 22	16°-33.3'N 119°-50.2'E	Unk.	10 mi.	Unk.	R(SD)	Closed. Conducting Battle surface. Dived.
68	Oct. 22	16°-37.1'N 119°-46.3'E	Unk.	21 mi.	S	R(SD)-SD-P	A group of over 20 planes headed south.
69	Oct. 22	16°-40.1'N 119°-45.3'E	Unk.	9 mi.	Unk.	R(SD)	Contact closed to 7.5 miles. Dived to avoid.
70	Oct. 22	16°-44'N 119°-45.4'E	Unk.	8 mi.	Unk.	R(SD)	Closed to 7½ miles. Dived to avoid.

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(G) AIRCRAFT CONTACTS (CONT'D)

71	Oct. 22 1312-H	160°-44.0'N 119°-42.9'E	Tess	2 to 3 mi.	310(T)	F-Submrgd.	Position angle 50°
72	Oct. 22 1348-H	160°-44'N 119°-40.9'E	Unk.	19 mi.	S	F(SD)	Sighted by lookout at 12 miles.
73	Oct. 22 1349-H	160°-44'N 119°-40.9'E	2 Eng. Bomber	16 mi.	S	R(SD)	Closed to 7½ miles Sighted. Dived to avoid
74	Oct. 22 1426-H	150°-46.8'N 119°-37'E	Unk.	14 mi.	210(T)	P-Submrgd.	Unidentified
75	Oct. 22 1518-H	150°-46.8'N 119°-36.6'E	Unk.	10 mi.	310(T)	P-Submrgd.	Large land plane.
76	Oct. 22 1600-H	160°-48.3'N 119°-35.1'E	2 Eng. Large	4 mi.	S	P-Submrgd.	Very large plane, looked like transport.
77	Oct. 22 1608-H	160°-48.3'N 119°-36.1'E	Unk.	2 mi.	120(T)	P-Submrgd.	Topsy, Tess or Sally
78	Oct. 23 1623-H	160°-48.4'N 119°-36.1'E	Tess(2)	5 mi.	170(T)	P-Submrgd.	Disappeared from view to the south.
79	Oct. 23 0748-H	170°-51.7'N 118°-06.3'E	Unk.	19 mi.	Unk.	R(SD)	Faded at 18 mi. after closing to 16 mi.
80	Oct. 23 1504-H	180°-13.8'N 118°-44.2'E	Unk.	7 mi.	Unk.	R(SD)	Dived to avoid.
81	Oct. 24 0723-H	180°-30.7'N 120°-30.7'E	Possible Bomber	10 mi.		P-Submrgd.	½° elevation
82	Oct. 24 0751-H	180°-32'N 120°-30.7'E	Possible Val	8 mi.	NE	P-Submrgd.	20° elevation
83	Oct. 25 0518-H	130°-24.5'N 119°-49.9'E	Unk.	14 mi.	Unk.	R(SD)	Faded at 16 mi.
84	Oct. 25 0601-H	170°-18'N 119°-42.7'E	Unk.	Unk.	Unk.	P-Surface	ConvoY cover
85	Oct. 25 0620-H	170°-20.2'N 119°-38.4'E	Unk.	15 mi.	Unk.	R(SD)	ConvoY cover

CONFIDENTIAL

(G) AIRCRAFT CONTACTS (CONT'D)

36	Oct. 25	0635-H	170-19.2'N 119-34.1'E	5 Pips on radar	10 & 11 mi.	Unk.	R(SD)	Sighted at 8 mi. Dived.
87	Oct. 25	0754-H	170-17.7'N 119-25.4'E	Mavis	9 mi.	330(T)	SD	Lost sight at 15 mi. in patch of clouds.
88	Oct. 25	1151-H	170-21.4'N 119-07.5'E	Bettys	15 mi.	N	SD-R(SD)	Convoy cover. Faded at 15 mi.
89	Oct. 25	1308-H	170-37'N 119-20'E	Unk.	10 mi.	Unk.	R(SD)	Faded at 10 miles. Did not dive.
90	Oct. 25	1355-H	170-39.9'N 119-30'E	Unk.	12 mi.	Unk.	R(SD)	3 contacts. Dived when closed to 6 mi. Subm'd. at 50 ft.
91	Oct. 25	1633-H	170-37.4'N 119-37.2'E	Unk.	7 mi.	Unk.	R(SD)-Subm'd.	Lost contact at 8 mi. Contact remaining steady at 14 mi. Faded
92	Oct. 25	1658-H	170-38.1'N 119-37.2'E	Unk.	14 mi.	Unk.	R(SD)	Faded at 14 mi.
93	Oct. 25	2020-H	170-09'E 120-44.5'N	Unk.	10 1/2 mi.	Unk.	R(SD)	Contact faded at 6 miles, came in at 8 mi. Last range 9 mi. Did not dive.
94	Oct. 25	2215-H	120-05.5'E	Unk.	7 mi.	Unk.	R(SD)	Over convoy. Nells flying low over water.
95	Oct. 26	0658-H	169-32.1'N 119-46.0'E	1 float 2 Nells	8 mi. 2 mi.	S	P-Subm'd.	
96	Oct. 26	1025-H	169-31.0'N 119-32.2'E	Unk.	7 mi.	135(T)	R(SD)-SD	Position angle 20 Faded at 16 miles. Closed to 8 miles. Dived to avoid.
97	Oct. 28	1050-H	169-33.3'N 119-29.5'E	Unk.	11 mi.	Unk.	R(SD)	Faded at 24 miles.
98	Oct. 28	0243-H	150-24.7'N 119-07.5'E	Unk.	21 mi.	Unk.	R(SD)	

CONFIDENTIAL

(G) AIRCRAFT CONTACTS (CONT'D)

NO.	Date	Time	Lat	Long	Type	Distance	Remarks	Code	Notes
99	Oct. 28	2315-H	160°-30.5'N	118°-00.6'E	Unk.	21 mi.		R(3D)-IFF	Code 1. Faded at 25 miles.
100	Oct. 30	2133-H	200°-36.4'N	119°-49.4'E	Unk.	17 mi.		R(3D)	Closest range 16 mi. Dived. Plane also sighted by OOD & JOD
101	Oct. 31	1552-H	200°-10.2'N	121°-45'E	Poto	6 mi.		F(3D)	
102	Nov. 3	1018-I	190°-50.8'N	133°-59.5'E	Unk.	11 mi.		R(3D)	Dived to avoid.
103	Nov. 4	0742-I	180°-50.8'N	138°-08.5'E	Unk.	20 mi.		R(3D)-IFF	Faded at 36 miles.
104	Nov. 5	0740-I	170°-49.7'E	141°-24.7'N	Unk.	12 mi.		R(3D)	Dived to avoid.
105	Nov. 5	1348-I	170°-49.7'E	141°-24.7'N	Two	26 mi.		R(3D)	Faded at 30 mi. Other contact closed to 12 mi. Dived to avoid.
106	Nov. 5	1521-I	170°-49.7'E	141°-24.7'N	Unk.	32 mi.		R(3D)	Closed to 8 mi.
107	Nov. 5	2122-I	170°-49.7'E	141°-24.7'N	Unk.	11 mi.		R(3D)	Closed to 8 mi. then opened.
108	Nov. 6	2310-I	150°-09'E	140°-03.0'N	Unk.	10 mi.		R(3D)-IFF	Code No. 1. Closed to 6 mi. Dived.
109	Nov. 6	0144-I	140°-49'N	144°-14.9'E	Unk.	8 mi.		R(3D)	Closed to 8 mi. then opened.
110	Nov. 6	0342-I	140°-49'N	144°-14.9'E	Combat Patrol	20 mi.		R(3D)-IFF	Faded at 26 mi.
111	Nov. 6	2320-I	130°-12'E	135°-08'N	Unk.	21 mi.		R(3D)	Closed to 9.5 miles. Faded at 24 miles.
112	Nov. 6	0605-I	130°-12'E	135°-08'N	Floater Type	24 mi.		R(3D)	Sighted by O.O.D. at 11 mi. Code No. 1.

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(G) AIRCRAFT CONTACTS (CONT'D)

113	Nov. 9 0622-I	16°-50'N 146°-42.5'E	Unk.	34 mi.	Unk.	R(SD)	Did not close.
114	Nov. 9 1358-I	17°-09.2'N 148°-22.2'E	Two Unk.	1 at 19 mi. 1 at 21 mi.	Unk.	R(SD)	Lost contact at 23 miles.
115	Nov. 11 0900-K	19°-16.5'N 157°-28.3'E	Unk.	24 mi.	Unk.	R(SD)	Closed to 10 mi. Dived to avoid.
116	Nov. 11 1013-K 1016-K	19°-18'N 152°-34.8'E	Unk.	27 mi.	Unk.	R(SD)	Lost contact at 36 miles.
117	Nov. 19 1405-W	21°-01.9'N 140161°-25.1'W	Unk.	#1-40 mi. #2-32 mi.	Unk.	R(SD) Code 1	Closed to 22 mi. Faded at 40 miles

CONFIDENTIAL

Subject: U.S.S. COD (SS224) - Report of Fifth War Patrol

(H) ATTACK DATA

U.S.S. COD (SS224) TORPEDO ATTACK NO. 1 PATROL NO. 5

Time: 1318 H Date: 5 October 1944 Lat. 13° 01.5' N
Long. 120° 15.4' E

Target Data - Damage Inflicted

Description: Tanker similar in appearance to U. S. Maritime Commission T-2 design. Un-identified AK.

Ships Damaged: One large AO(EU) Damaged.
One large AO(EU) Damaged.

Damage Deter- Saw two hits on AO. Neither saw nor mined by: heard hits in AK, but later saw fire which was probably from this vessel. See narrative.

Target Draft: 30' Course: 210°T Speed: 9½ kts. Range: 2400
(at firing)

Own Ship Data

Speed: 2½ Kts. Course: 280°T Depth: 65 ft. Angle: ½° Up
(at firing)

Fire Control and Torpedo Data

Type Attack: Day periscope submerged.

CONFIDENTIAL

Subject: U.S.S. CCD (SS224) - Report of Fifth War
Patrol.

ATTACK NO. 1

Tubes Fired	No. 3	No. 4	No. 5	No. 6	No. 1	No. 2
Track Angle	111 $\frac{1}{2}$	112 $\frac{1}{4}$	115 $\frac{3}{4}$	113	101 $\frac{1}{4}$	101
Gyro Angle	358 $\frac{1}{2}$	357 $\frac{3}{4}$	354 $\frac{1}{4}$	357	008 $\frac{3}{4}$	009 $\frac{1}{2}$
Depth Set	6'	6'	6'	6'	6'	6'
Power	High Only					
Hit or Miss	Hit	Hit	Miss	Miss	Miss	Hit
Erratic	None observed.					
Mark Torpedo	23	23	23	23	23	23
Serial No.	49485	41143	61667	53185	53176	41212
Mark Exploder	6-5	6-5	6-5	6-5	6-5	6-5
Serial No.	25891	18518	25806	25863	6836	25915
Actuation Set	Contact Only					
Actuation Actual						
Mark Warhead	16-1	16-1	16-1	16-1	16-1	16-1
Serial No.	17442	17374	16463	17422	16341	17953
Explosive	TPX	TPX	TPX	TPX	TPX	TPX
Firing Interval	0	12	8	8 $\frac{1}{4}$	13 $\frac{3}{4}$	10
Type Spread	Divergent with periscope					
Sea Conditions	Slight Sea					
Overhaul Activity	U.S.S. GRIFFIN					
Remarks:						

CONFIDENTIAL

Subject: U.S.S. COD (SS224) - Report of Fifth War
Patrol.

(H) ATTACK DATA

U.S.S. COD (SS224) TORPEDO ATTACK NO. 2 PATROL NO. 5

Time: 1517 H Date: 5 October 1944 Lat. 13° 05.5' N
Long. 120° 15.4' E

Target Data - Damage Inflicted

Description: Tanker similar in appearance to U. S.
Maritime Commission T-2 design.

Ship Sunk: One large AO (EU) sunk.

Damage Deter- Saw and heard four hits. Target ob-
mined by: served to sink.

Target Draft: 30' Course: 040° T Speed: 1 Kt. Range: 1800
(at firing)

Own Ship Data

Speed: 2½ Kts. Course: 110° T Depth: 65' Angle: 0

Fire Control and Torpedo Data

Type Attack: Day periscope submerged.

CONFIDENTIAL

Subject: U.S.S. COD (SS224) - Report of Fifth War
Patrol.

ATTACK NO. 2

Tubes Fired	No. 1	No. 2	No. 3	No. 4
Track Angle	111 $\frac{1}{4}$	111	113 $\frac{1}{4}$	110 $\frac{1}{2}$
Gyro Angle	357 $\frac{3}{4}$	358 $\frac{1}{2}$	355 $\frac{1}{4}$	359 $\frac{1}{2}$
Depth Set	2'	2'	2'	2'
Power	Hi Only			
Hit or Miss	Hit	Hit	Hit	Hit
Erratic	No	No	No	No
Mark Torpedo	23	23	23	23
Serial No.	53198	41255	41293	52773
Mark Exploder	6-5	6-5	6-5	6-5
Serial No.	14039	14271	14004	12969
Actuation Set	Contact Only			
Actuation Actual	Contact	Contact	Contact	Contact
Mark Warhead	16-1	16-1	16-1	16-1
Serial No.	3505	13649	13463	13647
Explosive	TPX	TPX	TPX	TPX
Firing Interval	0	9	10	10
Type Spread	None			
Sea Conditions	Slight Sea			
Overhaul Activity	Field Torpedo Unit, DARWIN, N. T.			

Remarks:

CONFIDENTIAL

Subject: U.S.S. COD (SS224) - Report of Fifth War
Patrol.

(H) ATTACK DATA

U.S.S. COD (SS224) TORPEDO ATTACK NO. 3 PATROL NO. 5

Time: 0232 H Date: 7 October 1944 Lat. 13° 39.8'N
Long. 119° 24.8'E

Target Data - Damage Inflicted

Description: One very large tanker, engines aft,
two tall masts, one short mast. The
foremast was unusually heavy with
heavy booms not normally found on
a tanker. It had a medium stack.
Estimated to be of 15,000 tons.

Ship Damaged: One very large AO (EU) damaged.

Damage Deter: Heard two timed explosions. Two hits
mined by: heard and observed by U.S.S. RAY.

Target Draft: 30' Course: 210°T Speed: 9½ Kts. Range: 2700
(at firing)

Own Ship Data

Speed: 2½ Kts. Course: 298°T Depth: 62' Angle: 0

Fire Control and Torpedo Data

Type Attack: Night radar submerged using angle on
bow and periscope bearings only for
last 3500 yards.

CONFIDENTIAL

Subject: U.S.S. COD (SS224) - Report of Fifth War
Patrol.

ATTACK NO. 3

Tubes Fired	No. 7	No. 8	No. 9	No. 10
Track Angle	107 $\frac{1}{4}$	105	104 $\frac{1}{2}$	99 $\frac{1}{4}$
Gyro Angle	164 $\frac{1}{4}$	167 $\frac{1}{4}$	167 $\frac{1}{2}$	172 $\frac{1}{4}$
Depth Set	6'	6'	6'	6'
Power	High Only			
Hit or Miss	Hit	Miss	Miss	Hit
Erratic	None Observed			
Mk. Torpedo	23	23	23	23
Serial No.	50296	50357	50406	50043
Mk. Exploder	6-5	6-5	6-5	6-5
Serial No.	25000	26330	24986	25143
Actuation Set	Contact Only			
Actuation Actual	Contact	-----	-----	Contact
Mk. Warhead	16-1	16-1	16-1	16-1
Serial No.	16455	17994	17983	17028
Explosive	TPX	TPX	TPX	TPX
Firing Interval	0	16	20	13
Type Spread	Divergent with periscope			
Sea Conditions	Swells Condition Two			
Overhaul Activity	U. S. S. GRIFFIN			

CONFIDENTIAL

Subject: U.S.S. COD (SS224) -- Report of Fifth War
Patrol.

(H) ATTACK DATA

U.S.S. COD (SS224) TORPEDO ATTACK NO. 4 PATROL NO. 5

Time: 1203 H Date: 8 October 1944 Lat. 13° 42.3'N
Long. 119° 41.2'E

Target Data - Damage Inflicted

Description: 1 CM (EU) 1500 Tons. Ship had a tri-
pod foremast and a stick mainmast.
His bridge structure was triangular
in outline, giving a sloping line
leading down from mast to deck.
There was an enclosed gun mount or
gun shield forward. There was some
kind of torpedo or gun mount (or
other enclosed structure) between
foremast and mainmast. There was a
stack abaft the mainmast (whether or
not there was another stack forward
of mainmast was not recorded) and
farthest aft of all there was a low,
elongated flat-topped structure, the
forward end of which was vertical and
the after end of which sloped down
to the fan-tail in a turtle-back or
"ski-slide" arrangement.

Ships Damaged: None.

Damage Deter- Target combed wakes.
mined by:

Target Draft: 8' Course: 023°T Speed: 18 Kts. Range: 3100
(at firing)

Own Ship Data

Speed: 2.8 Kts. Course: 300°T Depth: 65' Angle: 1/4 D

Fire Control and Torpedo Data

Type Attack: Day periscope submerged.

CONFIDENTIAL

Subject: U.S.S. COD (SS224) - Report of Fifth War
Patrol.

ATTACK NO. 4

Tubes Fired	No. 3	No. 4	No. 5	No. 6	No. 1	No. 2
Track Angle	100	102 $\frac{1}{2}$	103	105 $\frac{1}{4}$	105 $\frac{1}{4}$	107 $\frac{1}{2}$
Gyro Angle	004	006	006 $\frac{1}{2}$	008 $\frac{3}{4}$	008 $\frac{1}{4}$	010 $\frac{1}{2}$
Depth Set	2'	2'	2'	2'	2'	2'
Power	Hi Only					
Hit or Miss	Miss	Miss	Miss	Miss	Miss	Miss
Erratic	None observed					
Mark Torpedo	23	23	23	23	23	23
Serial No.	52953	49665	33872	33776	33809	52910
Mark Exploder	6-5	6-5	6-5	6-5	6-5	6-5
Serial No.	17070	14178	14047	14195	14159	17163
Actuation Set	Con.	Con.	Con.	Con.	Con.	Con.
Actuation Actual						
Mark Warhead	16-1	16-1	16-1	16-1	16-1	16-1
Serial No.	13461	13729	13650	13844	13482	13460
Explosive	TPX	TPX	TPX	TPX	TPX	TPX
Firing Interval	0	9	7	6 $\frac{1}{2}$	10	9 $\frac{3}{4}$
Type Spread	Divergent with Periscope					
Sea Conditions	Slightly ruffled surface					
Overhaul Activity	Field Torpedo Unit, DARWIN, N. T.					

CONFIDENTIAL

Subject: U.S.S. COD (SS224) - Report of Fifth War Patrol

(H) ATTACK DATA

U.S.S. COD (SS224) TORPEDO ATTACK NO. 5 PATROL NO. 5

Time: 0402 H Date: 25 October 1944 Lat. 17° 34' N
Long. 120° 02' E

Target Data - Damage Inflicted

Description: Asama Maru - ONI 208 J Revised, p. 1.

Ships Damaged: None.

Damage Determined by: Observation.

Target Draft: 28' Course: 170°T Speed: 15.2 Range: 4300
(at firing)

Own Ship Data

Speed: 5 Kts. Course: 260°T Depth: Surface Angle: ½ Up

Fire Control and Torpedo Data

Type Attack: Night surface radar.

CONFIDENTIAL

Subject: U.S.S. COD (SS224) - Report of Fifth War
Patrol

ATTACK NO. 5

	No. 7	No. 8	No. 9	No. 10
Tubes Fired				
Track Angle	81 3/4	81 1/2	79 1/4	83 1/2
Gyro Angle	171 3/4	171	169 1/4	173
Depth Set	6'	6'	6'	6'
Power	High Only			
Hit or Miss	Miss	Miss	Miss	Miss
Erratic	None Observed			
Mk. Torpedo	23	23	23	23
Serial No.	50254	61926	50331	49821
Mk. Exploder	6-5	6-5	6-5	6-5
Serial No.	1936	11552	25128	25238
Actuation Set	Contact Only			
Mark Warhead	16-1	16-1	16-1	16-1
Serial No.	16435	18013	17028	17940
Explosive	TPX	TPX	TPX	TPX
Firing Interval	0	9	11	7
Type Spread	Divergent with offset dial on TDC			
Sea Conditions	Calm			
Overhaul Activity	U.S.S. GRIFFIN			

CONFIDENTIAL

Subject: U.S.S. COD (SS224) - Report of Fifth War
Patrol.

(H) ATTACK DATA

U.S.S. COD (SS224) GUN ATTACK NO. 1 PATROL NO. 5

Time: 0819 H Date: 22 October 1944 Lat. 16° 30' N
Long. 119° 49.2' E

Target Data - Damage Inflicted

Ship Sunk: Not applicable.

Damaged: One motor propelled sea truck of about
100 tons. Sea truck had a sail rigged
on forward mast.

Detail of Action

Expended 60 rounds of 4" 50 cal. H. C. and 15
rounds of 4" 50 cal. common ammunition. Opening
range was about 3900 yards. Average range was
about 6,000 yards. Two hits were obtained. Tar-
get was hit forward on third round at which time
foot firing mechanism jammed temporarily. Resumed
fire in eight (8) minutes having opened range to
about 6,000 yards. Target returned fire with 30
cal. or 50 cal. machine gun. Broke off attack when
target entered shallow water.

CONFIDENTIAL

(I) MINES

No mines.

(J) ANTI-SUBMARINE MEASURES AND EVASION TACTICS

Nothing new in A/S measures was encountered, with the exception of the small explosions during depth-charging on 5 October, which may have been gunfire.

Patrol craft were encountered as much as forty-five miles from the coast.

Evasive tactics submerged were conducted at 50 r.p.m., or nearly so, with shaft speeds staggered. The slow progress through the water at this speed limited our tactics to maneuvers with the rudder to put the A/S vessels astern.

(K) MAJOR DEFECTS AND DAMAGE

1. Bow Plane Rigging Casualty:

On 25 September 1944, while making 11.5 knots on the surface, the bow planes, having been rigged out, failed to rig in completely. On attempting to rig them in a second time a fire broke out in the rigging panel caused by an overload. Investigation showed the overload to be mechanical and not electrical. The gear casing in the forward torpedo room was found to be unduly hot (about 135°) and the oil in the gear casing was emulsified. The oil was drained out and the gear casing flushed with new oil; on flushing, part of a six penny nail was found in the drain. The lower half of the gear casing was removed and one-fourth inch of bronze filings and sludge was found in the casing. The steel worm gear had cut about 1/32" on the bronze bull gear and the teeth on both gears were rough. The bull gear was ground smooth in place; the worm gear was smoothed in a lathe. All bearings in the casing showed excessive rust; the forward worm gear bearing was replaced; there were no replacements available for the others.

The gear casing was reassembled and the planes operated. The result was normal line amperage (64 amps), cool gear case and less noise.

The entire bow plane rigging system will require realignment and replacement of worm and bull gear in forward torpedo room gear casing next refit.

2. Casualty to Engine Air Induction Outboard Valve:

On 26 September 1944 on surfacing the engine air induction outboard valve failed to open.

The operating gear in the crew's mess was inspected, the moving parts of the operating mechanism were caked and nearly frozen with corrosion. The force required to shut the induction after once opened was beyond the strength of one man.

The present design of this induction valve inside the hull is of such a nature that only two of the pins holding the crosshead linkage can be inspected and worked on submerged. (In the shut position). It would be highly desirable to redesign the casting or install inspection plates on the casing to enable all three of the pins to be inspected and worked on while submerged.

The parts were freed with penetrating oil, cleaned and completely regreased. The induction then operated satisfactorily; however, the action is slightly sluggish.

Complete overhaul and replacement of parts will be required during next refit.

3. Bent Depth Setting Spindle:

Following depth charging on October 8, 1944, the depth setting spindle in No. 10 tube was found to be bent upon withdrawing torpedo from tube. The casualty is believed to have been caused by the spindle being only partially locked in the disengaged position, and upon depth charging the spindle was jarred into a partially engaged position. On attempting to withdraw the torpedo from the tube the spindle was bent. The bent spindle was replaced with spare and tested satisfactorily.

4. Bent Gyro Setting Spindle No. 9 Tube:

The spindle is believed to have been bent as a result of depth charging before the tube was secured on October 8, 1944. The spindle housing was removed from the tube, the spindle sleeve checked and replaced, the housing reassembled and tested satisfactorily.

5. Loss of Hydraulic Oil in Forward Torpedo Room:

The jarring during the depth charge attack on October 5, 1944, caused hydraulic oil to be blown out of the vent on both windlass - capstan vent and replenishing tank vent and out of the bow plane rigging gear case in the forward torpedo room.

No material damage other than the loss of oil has as yet been noticed.

6. Repeated Failure of the DRAI:

Several times during this patrol the longitude indicator of the DRAI has stuck and failed to register. The same defect was noted on the last patrol and the tender during the last refit failed to correct this defect. (It was removed to shop, tested and inspected, reinstalled and pronounced satisfactory).

The fault apparently is in the friction disc of the longitude input, and since the defect apparently cannot be remedied by tender force - a new DRAI is desired this coming refit.

7. Excessive Vibration of Stern Planes:

Early during this patrol a growl has developed in the stern planes. When moving the planes from dive to rise or vice versa in power, a growling noise is heard throughout the after torpedo room, and the movement of the planes causes the entire ship to vibrate. This vibration has become progressively more noticeable throughout the patrol.

It is desired that the ship be docked this refit, the planes inspected outside the hull, the shafting and gearing inspected in order to ascertain the cause and correct the noise and vibration. The planes were inspected in SAIPAN, but the trouble could not be located.

8. Cracked Liner No. 9 Cylinder No. 3 Main Engine:

On September 25, 1944, fresh water pressure on No. 3 Main Engine revealed presence of water in cylinder. The liner was found to be cracked, and was replaced with spare.

CONFIDENTIAL

9. Salt Water Pump Failure No. 2 Main Engine:

On September 29, 1944, excessive water leakage around the packing gland on No. 2 Main Engine salt water pump was noticed. The engine was secured and put out of commission while a spare pump was installed. The engine was out of commission for a period of 25 hours during the exchange of pumps.

Inspection of the old pump showed powdering of balls and broken ball race in the bearing, this causing the impellor to drop down against the suction pipe.

10. Bridge Talk Back Casualty:

On 13 October 1944, the key on the bridge for the talkback flooded out. At first it was believed that the cable packing was faulty but re-packing failed to keep water out of the box. Further investigation revealed that the flexible metal diaphragm was cracked at the point where the key lever goes through the diaphragm.

A new diaphragm was made from shim brass and to prevent this casualty from occurring again the diaphragm was not drilled to allow the key lever to pass through, but key lever was cut at this point and soldered to the diaphragm.

11. Bow Plane Casualty:

Following depth-charging on October 8, 1944, the bow planes failed in power and were shifted to hand power. Inspection showed a taper pin on the ("Rise-Dive" - "In-Out") handle in the control room switch box had worked its way loose and had fallen out. The pin was replaced and the bow planes were put back in the power position, necessitating hand power for about fifteen minutes.

12. Bow Plane Casualty:

On making a trim dive after leaving SAIPAN on the evening of the 8th of November the bow planes failed to tilt in power although the "out" light was showing. Investigation showed that the "out" limit switch in the forward torpedo room had tripped before the contact arm connecting the rigging circuit had closed. The planes were shifted to

CONFIDENTIAL

hand and rigged out the remaining distance by hand, they then operated satisfactorily in power. While still submerged the planes were rigged in and out several times and the contact arm adjusted.

Three days later on 11 November when making a trim dive the same casualty occurred. It is believed the sea slapping the planes as they were rigging out prevented the planes from going out all the way.

In order to properly adjust the cut-out limit switch and contact arm, it was necessary to lie to, send a man topside that night and check the clearances topside. The limits were then adjusted and tested satisfactorily.

13. No. 4 Main Generator:

On 11/11/44 while operating at 750 KW on propulsion No. 4 main generator was noticed to be smoking and sparking by the oiler on watch in the engine room.

Another generator was immediately started and the load shifted from No. 4, which was then secured.

Examination disclosed a "flash over" condition, with molten brush holder metal thrown around the end-bell and riding around on the commutator. Numerous brushes had heated to an extent where the pig tails were unsoldered. The commutator was dripping flake mica and mica binding varnish. The commutator was badly burned.

Molten brass and pieces of aluminum were laying in the bottom of the casing. One short brush was found thrown out of its holder and laying on a lower row of brushes.

It is believed that this brush wore down until the rivet and washer holding the pig tails rubbed on the commutator, bridging the slots and creating a short circuiting path with the resulting flash over.

Due to the extent of the damage to the commutator repairs were not attempted. A visual inspection was made and ground readings were taken on

CONFIDENTIAL

11/7/44 at which time no defects were found. The armature ground reading was $1\frac{1}{2}$ megohms.

On November 19 No. 3 Generator commenced sparking badly. Inspection by removal of the end-bell and rotating the brush rigging revealed uneven brush tension and one brush worn down to the edge of the rivet and washer. This is the same condition as was found in No. 4 generator and might have resulted in a "flash over" had not the condition been corrected in time.

(L) RADIO

Radio reception during this patrol was fair. The increased number of jammers on the VMC frequencies was noted with displeasure, but they are still only an annoyance. All messages were received from VMC with comparatively little trouble and very seldom badly garbled. We should express thanks to radio COCNA AIA and radio PELCONET for their excellent service to us during our transmissions to the shore bases. They enabled us to get the messages on the air in a minimum amount of time and with very few errors. No more efficient stations than these two have yet been contacted. While in TF 71, IIA rendered valuable help to us also. On one occasion the U.S.S. COUCAL attempted to call us on the Fort Wave frequency while we were approximately 60 miles from DARNII, where she was anchored. This transmission was not intercepted by us although we were guarding the Fort Wave frequency at the time. No explanation is offered for this as our receiver was functioning at the time, the watch was set, and frequency was checked with test transmissions in DARNII harbor after arrival.

Between 140922 Z and 140948 Z, while servicing COD 140 00 of November, NI sent us a series of three authenticators all of which appeared to us to be wrong. At 141308 Z we received a receipt for our message on the FCX schedule.

(L) RADAR

(1) The SJ-1 RADAR

The SJ-1 radar performance was again gratifying on this patrol. The set on board this vessel is very reliable and the casualties were few in number as well as minor in nature. The only item left to be desired is the elimination of the side lobes. Failure of the main power switch to operate

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properly was temporarily rectified by installing a jumper across the switch and permanently repaired by renewing the bakelite insulating members. Several fuses were replaced during this period, their cause of failure believed to have been surges in voltage in addition to the fact that we keep low amperage fuses in the equipment as added protection to the parts. One fuse failure was caused by an arc in the line when the power terminal joins the set. The screw holding the terminal on the terminal block was just loose enough for a small arc to develop.

The carbonization of the insulation on the line from the bias resistor (R-39) to the modulator network allowed this line to short out causing guse failure in one instance. This line was renewed.

During the trip from FREMANTLE to DARWIN, the radar did not perform as well as usual. No apparent cause could be determined while at sea. The equipment was tuned daily but maximum range on submarine was about 11,000 yards. At DARWIN the TR line was renewed and the ranges were again normal. Submarines could be tracked out to 15,500 - 16,000 yards.

The equipment was out of commission about three hours during the time we were north of the MALAY BARRIER.

The SJ was not overhauled during the last refit.

(2) SD-2 RADAR

The SD radar has been in operation almost continuously day and night since we left FREMANTLE. During this period of approximately 1500 hours this set has been out of commission only about two hours. The only casualty to the SD radar was the failure of condenser C 255 on two occasions. On each of these occasions the 2X2 had to be renewed as the trace on the scope had doubled in length. The SD was deliberately placed out of commission at one time to renew the 8014-A tubes which had given indication that their remaining life was short.

The outstanding performance of this radar during recent patrols is due largely to the care with which it is treated and operated. This radar was not overhauled during the last refit.

(3) IFF

This is the first patrol that IFF has been installed on the COD. Its performance was very good throughout the patrol with no material failures. In many cases ranges on negative pips were around 30-40 miles.

Unusual performance of Model BN radio identification equipment.

On 1 October 1944 at 0138 while operating the BN identification equipment in the near vicinity of some high land a series of irregular negative pips were observed. The ranges of the larger pips coincided with the ranges obtained on the high points of the land by normal SD operation. It is believed that the BN receiver was picking up echoes from its own transmitter pulse, and performing in the same manner as any conventional radar equipment.

(N) SOUND GEAR AND SOUND CONDITIONS

No casualties on the sound gear were experienced this patrol. The selsyn indicator on the port sound head did not operate as smoothly as it should have during the trip from SAIPAN to PEARL. Examination showed the bearings in the unit were wearing down slightly. One of the slip rings had been burned slightly which also caused jerky operation. This may have been caused by moisture or dust in the selsyn unit. The slip ring was renewed to ensure perfect operation although it would have served a short time longer. The selsyn will have to be renewed during the refit.

No unusual sound conditions were noted during this patrol.

(O) DENSITY LAYERS

The density layers observed were identical with those listed in COD's War Patrol No. 4.

<u>G. C. D.</u>	<u>G.C.T.</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Temp.</u> <u>Change</u>	<u>Depth of</u> <u>Layer From</u> <u>Surface</u>	
					<u>Top</u>	<u>Bottom</u>
9/20/44	0108	26 02 S	112 24.3 E	73-73	0	180
9/21/44	0319	20 20.3 S	112 12.6 E	77-78	-1	90
9/22/44	0223	18 01.6 S	116 14 E	80-83	-3	160
9/23/44	0238	15 40.8 S	120 07.3 E	82-85	-3	160

CONFIDENTIAL

G. C. D.	G.C.G.	Latitude		Longitude		Temp. Change	Depth of Layer From Surface		
							Top	Bottom	
9/24/44	0122	13	13 S	124	07 E	82-86	-4	40	160
9/28/44	2324	06	39 S	124	59 E	84-83	-1	160	270
9/29/44	2355	06	22 S	119	37 E	82-84	-2	150	
9/30/44	2241	02	09 S	118	25.7 E	86-89	-3	120	
10/ 3/44	2135	05	34 N	119	45 E	83-87	-4	140	
10/ 4/44	2130	12	54 N	120	28 E	87-89	-2	150	
10/ 5/44	0600	11	12.5 N	121	49 E	86-88	-2	140	
10/ 5/44	2115	13	16.2 N	120	20 E	85-88	-3	40	
10/ 6/44	1700	13	36.5 N	119	24.8 E	77-87	-10	200	
10/ 8/44	0328	13	42.1 N	119	41.5 E	79-88	-9	120	300
10/ 9/44	0115	13	08.9 N	118	47.9 E	77-87	-10	150	250
10/ 9/44	2010	14	08.8 N	119	35.9 E	84-89	-5	120	
10/10/44	2305	14	09.2 N	119	48.3 E	84-89	-5	140	
10/11/44	2154	13	27 N	119	50 E	82-88	-6	130	
10/12/44	1947	13	02 N	119	37.5 E	82-88	-6	140	
10/13/44	2119	13	32.1 N	120	08.3 E	84-87	-3	90	
10/14/44	2045	15	24 N	118	58 E	82-89	-7	100	
10/15/44	2000	14	43.8 N	120	02.4 E	82-89	-7	120	
10/16/44	2000	14	45.6 N	119	35 E	82-89	-7	110	
10/17/44	2000	14	47.3 N	119	36.3 E	82-90	-8	140	
10/18/44	0023	14	45.5 N	119	41.1 E	87-89	-2	40	
10/19/44	2000	14	46.5 N	119	40.3 E	84-89	-5	180	
10/20/44	2314	16	21 N	118	24.5 E	83-83	-5	180	
10/21/44	2000	16	27.4 N	119	40.6 E	80-89	-9	100	
10/22/44	2213	17	51 N	118	06 E	77-88	-11	120	
10/23/44	2133	18	30 N	120	30 E	79-89	-10	80	
10/24/44	2230	17	19.7 N	119	34 E	76-88	-12	130	
10/25/44	2112	16	34.6 N	119	44.8 E	82-89	-7	150	
10/26/44	2302	16	38.8 N	118	04 E	83-89	-6	200	
10/27/44	2110	15	23 N	119	07 E	84-89	-5	190	
10/28/44	2302	16	50.2 N	118	58 E	82-89	-7	160	
10/29/44	2300	20	31 N	118	03 E	80-86	-6	210	
10/30/44	2258	20	36 N	121	08 N	74-87	-13	100	
10/31/44	0752	20	10.2 N	121	45 E	84-88	-4	40	
11/ 1/44	2301	20	34 N	128	55 E	76-87	-11	140	
11/ 2/44	2300	19	50.7 N	133	32 E	86-87	-1	0	
11/ 3/44	0118	19	50.8 N	133	59.5 E	86-87	-1	0	
11/ 3/44	2049	18	54 N	137	47 E	82-86	-4	40	
11/ 4/44	2230	17	07 N	141	46 E	84-89	-5	160	
11/ 5/44	1446	15	14.8 N	144	0.9 E	89-89	0	0	170

(P) HEALTH, FOOD, AND HABITABILITY

(1) The health of the ship's company during this patrol was in general excellent; there were no serious cases of illness nor injury. The health of the six (6) prisoners received from the U.S.S. BREAM was very poor. The prisoners were covered with open ulcerated sores similar to the sores of syphilis, and chancres. They were treated with sulfa powder and

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ointment dressings. The prisoners were kept well isolated from the crew. The magazine was converted to a brig and when the prisoners left the ship the magazine was scrubbed with soap and water, and wiped down with torpedo alcohol.

(2) The food during the entire patrol was as it always has been in the U.S.S. COD, very good in quality and quantity and well prepared. The ice cream freezer obtained during the last refit is installed in the forward torpedo room, and is not satisfactory. A new smaller unit installed in the crew's mess is desired this refit.

(3) The habitability during the patrol was very good.

(Q) PERSONNEL

(a) Number of men on board during patrol	75
(b) Number of men qualified at start of patrol	52
(c) Number of men qualified at end of patrol	61
(d) Number of unqualified men making first patrol	8
(e) Number of men advanced in rating during patrol	3

Five men were transferred at SAIPAN and five new men were received.

(R) MILES STEAMED - FUEL USED

	<u>Miles</u>	<u>Fuel Gallons</u>
FREMANTLE to Area	2373.4	35,655
In Area	6368.4	57,970
Area to PEARL	4788.1	66,385

(S) DURATION

Days enroute to Area	10
Days in Area	33
Days enroute to base (PEARL), including 2 days in SAIPAN	21
Days submerged (dawn to dusk, or nearly so)	9

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(T) FACTORS OF ENDURANCE REMAINING

<u>Torpedoes</u>	<u>Fuel</u>	<u>Provisions</u>	<u>Personnel Factor</u>
0	44,000	30	20

Limiting factor this patrol - Torpedoes and orders.

(U) RADIO AND RADAR COUNTERMEASURES

INTERCEPTION OF ENEMY RADAR TRANSMISSIONS

1. Ship or Station - U.S.S. COD (SS224)
2. Area covered on this mission (give dates)
18 September 1944 - 5 November 1944-CAPE CALAVITE
3. Was enemy radar: Shipborne Airborne Landbased
Unknown XXX
(a) Describe enemy installation - Unknown
4. Intercept Equipment-APR 1
5. (a) Frequency-295-301 Dial Readings 295-301
(b) PRF-3000 How measured - Compared to
1000 cycle
note
(c) Was lobe switching used XX Rate XX How deter-
mined NOT
(d) Sweep Rate - 7 RPM Approx.
6. (a) Was radar used for surface or air search, GL,
SLC, GCI or AI. Now known - probably surface
search.
(b) Evidence for this conclusion - In enemy
territory. At sea late at night when air
attack improbable.
7. Action of enemy radar, including distances and
bearings at which he searched, tracked, faded, etc.
Heard only short time.
8. Narrative:

Date Heard: 5 October; 2245 m.e.

Posit: 12 45 N
119 41.5 E

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(U) RADIO AND RADAR COUNTERMEASURES (CONT'D)

RADIO COMMUNICATIONS - JAMMING BY THE ENEMY

1. Ship or Station - U.S.S. COD (SS224)
2. Position, bearing and altitude when enemy radio signals were observed - Lat. 13-29 N - Long. 119-18E.
3. Position of Transmitting Station - Unknown
4. Date of Jamming - 8 Oct. Time: From 1910 Z
To 1930 Z
5. Frequencies Jammed - 8470 Kcs.
6. Describe signal jammed (Freq., type of modulation, etc.) - 8470 CW
7. Use of circuit (tactical, administrative) - Tactical.
8. Was enemy jamming signal stable - Yes
9. What was ratio of strength of own signal to enemy jamming signal - Estimated 3/1; 3/2 Enemy / VIXO
10. What was power output of own transmitter at time of jamming - 6 amps.
11. Location of enemy jammer: Unknown XX
12. Type of jamming signals:
CW - Random keying XXXX
13. Effectiveness of jamming - Less than 1% of letters sent were missed.
14. Action taken to overcome jamming - Extreme care in tuning and good operator.
15. Bandwidth covered by enemy jamming signals - Approx. 5-8 Kcs.
16. Did jamming transmitter appear to be monitored by a look-in receiver - No.
17. If frequency was shifted, how long before enemy jammed new frequency - Not shifted.
18. Narrative - Jammer tuned to 8470 very well, sending series of VVV's at speed of approx. 18 words per minute. Probably landbased.

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(U) RADIO AND RADAR COUNTERMEASURES (CONT'D)

RADIO COMMUNICATIONS - JAMMING BY THE ENEMY

1. Ship or station - U.S.S. COD (SS224)
2. Position, bearing and altitude when enemy radio signals were observed - Lat. 13 27 N
Long. 120 24 E
3. Position of Transmitting Station - Unknown
4. Date of Jamming - 24 Oct. Time: From 2030 Z
To 2100 Z
5. Frequencies Jammed - 8470
6. Describe signal jammed (Frequency, type of modulation, etc.) - 8470 CW
7. Use of circuit (tactical, administrative) - Tactical.
8. Was enemy jamming signal stable - Yes
9. What was ratio of strength of own signal to enemy jamming signal - 2/1
10. What was power output of own transmitter at time of jamming - 7 amps.
11. Location of enemy jammer - Unknown XX
12. Type of jamming signals - CW-Random keying XX
13. Effectiveness of jamming - 100% ineffective.
14. Action taken to overcome jamming - Careful tuning to max. power.
15. Bandwidth covered by enemy jamming signals - Approx. 5-8 Kcs.
16. Did jamming transmitter appear to be monitored by a look in receiver - No
17. If frequency was shifted, how long before enemy jammed new frequency - Not shifted.
18. Narrative - _____

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(U) RADIO AND RADAR COUNTERMEASURES (CONT'D)

RADIO COMMUNICATIONS - JAMMING BY THE ENEMY

1. Ship or station - U.S.S. COD (SS224)
2. Position, bearing and altitude when enemy radio signals were observed - Lat. 17 17.8 N
Long. 119 23.8 E
3. Position of transmitting station - Unknown
4. Date of jamming 24-25 Oct. Time; From 2330 Z
To 0010 Z
5. Frequencies jammed - 12705
6. Describe signal jammed (Freq., type of modulation, etc.) - 12705 CW
7. Use of circuit (tactical, administrative)
Tactical.
8. Was enemy jamming stable - Yes
9. What was ratio of strength of own signal to enemy jamming signal - 2 or 3/1
10. What was power output of own transmitter at time of jamming - 5 amps.
11. Location of enemy jammer: Unknown XX
12. Type of jamming signals: CW - Random Keying XX
13. Effectiveness of jamming - Very ineffective
14. Action taken to overcome jamming - Careful tuning to max. power.
15. Bandwidth covered by enemy jamming signals
Approx. 5-8 Kcs.
16. Did jamming transmitter appear to be monitored by a look-in receiver - No
17. If frequency was shifted, how long before enemy jammed new frequency - Not shifted.
18. Narrative - Probably landbased.

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(U) RADIO AND RADAR COUNTERMEASURES (CONT'D)

RADIO COMMUNICATIONS -- JAMMING BY THE ENEMY

1. Ship or Station U.S.S. COD (SS224)
2. Position, bearing and altitude when enemy radio signals were observed 16-24 N 118-04 E
3. Position of Transmitting Station Unknown
4. Date of jamming 27 Oct. Time: From 0820 Z to 0920 Z
5. Frequencies jammed 8470
6. Describe signal jammed (Freq., type of modulation etc.) 8470 CW
7. Use of circuit (tactical, administrative)
Tactical
8. Was enemy jamming signal stable Yes
9. What was ratio of strength of own signal to enemy jamming signal 3/2
10. What was power of own transmitter at time of jamming 6.5 amps.
11. Location of enemy jammer: Unknown
12. Type of jamming signals: CW - Random keying XX
13. Effectiveness of jamming - Less than 5% letters missed
14. Action taken to overcome jamming _____
15. Bandwidth covered by enemy jamming signals -
Approx. 5-8 kcs.
16. Did jamming transmitter appear to be monitored by a lock-in receiver - Possibly
17. If frequency was shifted, how long before enemy jammed new frequency - Not Shifted
18. Narrative Probably landbased

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(U) RADIO AND RADAR COUNTERMEASURES (CONT'D)

RADIO COMMUNICATIONS - JAMMING BY THE ENEMY

1. Ship or station - U.S.S. COD (SS224)
2. Position, bearing and altitude when enemy radio signals were observed - 15-37N 118-32E
3. Position of Transmitting Station - Unknown
4. Date of jamming - 27 Oct. Time: From 1050Z to 1130Z
5. Frequencies jammed - 8470 Kcs.
6. Describe signal jammed (Freq., type of modulation, etc.) - 8470 CW
7. Use of circuit (tactical, administrative) - Tactical
8. Was enemy jamming signal stable - Yes
9. What was ratio of strength of own signal to enemy jamming signal - 2/1 or possible 3/1
10. What was power output of own transmitter at time of jamming - 6 amps. At base of antennae.
11. Location of enemy jammer: Unknown XX
12. Type of jamming signals: CW - Random Keying XX
13. Effectiveness of jamming - Completely ineffective.
14. Action taken to overcome jamming - None required.
15. Bandwidth covered by enemy jamming signals:
Approx. 5-8 Kcs.
16. Did jamming transmitter appear to be monitored by a lock-in receiver; No
17. If frequency was shifted, how long before enemy jammed new frequency - Not Shifted.
18. Narrative - Probably landbased.

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(U) RADIO AND RADAR COUNTERMEASURES (CONT'D)

RADIO COMMUNICATIONS - JAMMING BY THE ENEMY

1. Ship or station - U.S.S. COD (SS224)
2. Position, bearing and altitude when enemy radio signals were observed - 18-25 N 117-59 E
3. Position of Transmitting Station Unknown
4. Date of jamming 29 October Time: From 0920 Z to 1020 Z
5. Frequencies jammed - 16940 Kcs.
6. Describe signal jammed (Freq., type of modulation, etc.) 16940 CW
7. Use of circuit (tactical, administrative) Tactical
8. Was enemy jamming signal stable Yes
9. What was ratio of strength of own signal to enemy jamming signal - 2/1 estimated
10. What was power output of own transmitter at time of jamming - 4 amps. At antennae base.
11. Location of enemy jammer: Unknown XX
12. Type of jamming signals: MCW - HOWLER
13. Effectiveness of jamming - Less than 1% of letters sent was missed.
14. Action taken to overcome jamming - Waited for lull in jamming - careful tuning and good operator.
15. Bandwidth covered by enemy jamming signals - Approx. 5-8 Kcs.
16. Did jamming transmitter appear to be monitored by a look-in receiver - Possibly
17. If frequency was shifted, how long before enemy jammed new frequency Not shifted
18. Narrative - Probably landbased

9 is estimated from difficulty in sending and number of letters missee by shore station.

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(U) RADIO AND RADAR COUNTERMEASURES (CONT'D)

RADIO COMMUNICATIONS - JAMMING BY THE ENEMY

1. Ship or station - U.S.S. COD (SS224)
2. Position, bearing and altitude when enemy radio signals were observed - 18-46 N 118-08 E
3. Position of Transmitting Station Unknown
4. Date of jamming - 29 Oct. Time: From 1130 Z to 1230 Z
5. Frequencies jammed - 8470
6. Describe signal jammed (Freq., type of modulation, etc.) - 8470 CW
7. Use of circuit (tactical, administrative) Tactical
8. Was enemy jamming signal stable Yes
9. What was ratio of strength of own signal to enemy jamming signal - 2/1 estimated
10. What was power output of own transmitter at time of jamming - 6 amps.
11. Location of enemy jammer: Unknown XX
12. Type of jamming signals: CW-Random Keying XX
13. Effectiveness of jamming - Very ineffective
14. Action taken to overcome jamming - Careful tuning
Good operator and moderate speed in sending
15. Bandwidth covered by enemy jamming signals -
Approx. 5-8 Kcs.
16. Did jamming transmitter appear to be monitored by a look-in receiver - No
17. If frequency was shifted, how long before enemy jammed new frequency - Not shifted
18. Narrative - Probably landbased

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(U) RADIO AND RADAR COUNTERMEASURES (CONT'D)

RADIO COMMUNICATIONS - JAMMING BY THE ENEMY

1. Ship or station - U.S.S. COD (SS224)
2. Position, bearing and altitude when enemy radio signals were observed - 20 07.5 N - 130 40 E
3. Position of Transmitting Station - Unknown
4. Date of jamming - 2 November Time: From 1700 Z
To 1800 Z
5. Frequencies jammed - 8470 - 12705 - 16940 Kcs.
6. Describe signal jammed (Freq., type of modulation, etc.) - 16940 CW.
7. Use of circuit (tactical, administrative) - Tactical.
8. Was enemy jamming signal stable - Yes
9. What was ratio of strength of own signal to enemy signal - 2/1 estimated
10. What was power output of own transmitter at time of jamming - Current at base of antennae - 4 amps.
11. Location of enemy jammer: Unknown XX
12. Type of jamming signals: CW - Random Keying XXX
MCW - XXX
13. Effectiveness of jamming - 100% on the two lower frequencies.
14. Action taken to overcome jamming - Chose freq. least jammed - tuned carefully and used good operator.
15. Bandwidth covered by enemy jamming signals - 8-12 Kcs.
16. Did jamming transmitter appear to be monitored by a look-in receiver - No; appeared continuous.
17. If frequency was shifted, how long before enemy jammed new frequency - Not shifted.
18. Narrative - There appeared to be at least three jammers on each of the frequencies. It is harder to jam the highest frequency, therefore, we transmitted on this. X in 12 denotes number of jammers definitely heard using the type signal designated.

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(U) RADIO AND RADAR COUNTERMEASURES (CONT'D)

RADIO COMMUNICATIONS - JAMMING BY THE ENEMY

1. Ship or station - U.S.S. COD (SS224)
2. Position, bearing and altitude when enemy radio signals were observed - DEAI 2100 - 135 49'E
19 28'N
3. Position of transmitting station - Unknown
4. Date of jamming - 3 Nov. Time: From 1100 Z
To 1300 Z
5. Frequencies jammed - 4155 kcs. - 8470 kcs. -
12705 kcs.
6. Describe signal jammed (Freq., type of modulation, etc.) - CW
7. Use of circuit (tactical, administrative) -
Tactical.
8. Was enemy jamming signal stable - Yes
9. What was ratio of strength of own signal to enemy jamming signal - Estimated 1/2
10. What was power output of own transmitting at time of jamming - 7-5 amps at base of antennae.
11. Location of enemy jammer: Unknown XX
12. Type of jamming signals: CW-Random Keying XX
MCW XX
13. Effectiveness of jamming - 100% on two lower
frequencies. 20% on 12705.
14. Action taken to overcome jamming - Frequency
Shifting.
15. Bandwidth covered by enemy jamming signals -
5-10 kcs.
16. Did jamming transmitter appear to be monitored by a look-in receiver - Yes
17. If frequency was shifted, how long before enemy jammed new frequency - Constantly on all frequencies.
18. Narrative - Considerable difficulty experienced on all frequencies by strong signals. Worst jamming yet encountered. Estimate of relative strength based on difficulty experienced in sending and number of errors. Probably shorebased but no conclusive evidence.

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(V) REMARKS:

Hand-Keying of SJ Radar. Elsewhere I have given full credit to the RAY for his commendable use of the SJ radar for the purpose of transmitting important information at a time when his radio transmitter was out of commission. In the COD we have used the SJ for communication purposes rather frequently during the past two patrols. I wish to emphasize that while the SJ is being used for communication purposes, it can not be used for tracking. I look upon the use of the SJ for communication, or even for recognition, as an indication that we lack the proper tool for the job. I am always unwilling to sacrifice even a few seconds of valuable search by the SJ radar. Sooner or later a boat will be sunk by an enemy that he would have destroyed or avoided had he been searching at the time with his SJ. I believe that the TBS, controlled from Conning Tower or Bridge, would fill a definite need for submarines working on the same target. Why was it removed? Perhaps the VHF will do equally as well.

Voice Calls. I have experienced a desire more than once during this patrol, for a permanent system of voice calls for our submarines. As it stands now, submarines making up a wolf-pack are assigned voice calls by the pack commander. These calls are known to themselves and to no one else. When the occasion arises for impromptu coordination between boats assigned to different areas, the need for calls is felt. The name of the commanding officer may be used, but this is not always known. Frequently, the name of the other submarine itself is not known, until contact has been made. My suggested solution for this problem is: Let a central authority (ComSubPac or the Director of Naval Communications) make up a list of permanent voice calls for all boats built and building. Let these calls be phonetically correct for security purposes. Let there be two or more alternate calls for each boat. Let the list be widely disseminated to all submarines and to all fleet force and air commanders, so that the calls will not be duplicated in the communication plans for operations by other forces. Let there be included calls with the following meaning:

Any allied submarine. Example: RALSTON
Any allied submarine who is experiencing
radar interference. Example: RACHEL

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Any allied submarine who is experiencing radar interference on approximate bearing _____ true from him.

Example: LULU 150.

Any allied submarine in vicinity of area _____. Example: BULLDOG 49, or BULLDOG LUZON STRAIT, or BULLDOG BOVEYARD, or BULLDOG BOLINAC, etc.

I can see no necessity for having the calls change at frequent intervals. When frequent shifts of voice calls were adopted by the 3rd Fleet, it seemed to many of us that the resulting confusion outweighed any security factor that was attained.

Use of SD Radar. During the major portion of this patrol we keyed the SD radar for five (5) seconds out of every thirty (30), night and day. I am unable to point to any one plane contact and state that that plane was probably attracted to us by the SD. On the contrary, we watched some planes go by, on the surface, while the SD was being keyed. But neither am I able to state that any one plane was radar equipped or was on a definite anti-submarine search mission. (Except those planes actually accompanying ships.)

In SAIPAN I talked to at least three submarine commanders who did not use the SD at all in the area. Conditions are undoubtedly different in EMPIRE areas from those existing in the SOUTHWEST PACIFIC, but by use of the SD my watch officers and myself have felt a certain measure of security in surface patrolling, and have made ship contacts on the off-shore routes that we would not have made had we restricted our daytime operations to submerged patrol at the inshore focal points.

Personnel. The personnel of this submarine remain very aggressive. Many of them were anxious to ask for a reload of torpedoes even when it would have entailed a patrol of more than 100 days. This spirit is gratifying.

SUBMARINE DIVISION FORTY-FOUR

FB5-44/A16-3

Serial 0115

Care of Fleet Post Office,
San Francisco, California,
25 November 1944.

C-O-N-F-I-D-E-N-T-I-A-L

FIRST ENDORSEMENT to
U.S.S. COD Fifth War
Patrol.

From: The Commander Submarine Division FORTY-FOUR.
To : The Commander-in-Chief, U.S. Fleet.
Via : (1) The Commander Submarine Squadron FOUR.
(2) The Commander Submarine Force, Pacific Fleet.
(3) The Commander-in-Chief, U.S. Pacific Fleet.
Subject: U.S.S. COD Fifth War Patrol, comments on.

1. The fifth war patrol of the COD was conducted in waters west of Luzon and Mindoro under the command of Task Force SEVENTY-ONE. The patrol was of sixty-four days duration. The COD formed a coordinated search and attack group with the U.S.S. RAY, and as such the commanding officer of the COD was the task group commander.

2. The COD made five aggressive torpedo attacks and one gun attack; the COD carried only Mark 23 torpedoes and expended them all. A summary of torpedo and gun attacks follow

Attack No. 1 - 5 October 1944 - This was a day periscope attack made against a convoy of one large tanker, one large freighter, two small engines aft vessels, and a WAKATAKE destroyer escort. The two large targets were singled out and four torpedoes were fired at the large tanker and two at the freighter. Two hits were observed in the tanker and one hit was probably made in the freighter. This attack was followed by depth charging which kept the COD down for but a short time.

Attack No. 2 - 5 October 1944 - On coming back to periscope depth about an hour later the COD noticed that the convoy group was still in the vicinity so went in for its second attack. The tanker, now damaged, was again the target; four torpedoes were fired with a torpedo run of 1,750 yards. All four hit and the target was seen to disappear.

Attack No. 3 - 7 October 1944 - This was a night radar submerged attack on a very large tanker which had already been hit with one torpedo by the RAY. Four torpedoes were fired and two timed hits were made; the RAY observed these two hits. This attack was followed by an aggressive anti-submarine hunt by the escort vessels. These hits created severe damage to the tanker but did not sink it. The COD later surfaced at about daybreak and set chase for the damaged tanker but was unable to reach it before it found safety in shallow water.

SUBMARINE DIVISION FORTY-FOUR

FB5-44/A16-3

Serial 0115

Care of Fleet Post Office,
San Francisco, California
25 November 1944.

C-O-N-F-I-D-E-N-T-I-A-L

Subject: U.S.S. COD Fifth War Patrol, comments on.

Attack No. 4 - 8 October 1944 - This was another day periscope submerged attack made against a 1,500 ton minelayer. Six torpedoes were fired but the target saw the wakes and was able to take safe evasive action.

Attack No. 5 - 25 October 1944. - This was a night surface radar made on a convoy of four large ships heavily escorted by five escort vessels. The largest of the targets, which later proved to be of the ASAMA MARU Class, was singled out and the last four torpedoes were fired at this fast moving target from the best positions obtainable. Unfortunately, misses resulted even though the fire control problem had been checking perfectly.

Gun Attack No. 1 - 22 October 1944 - This was a day gun attack made against five enemy sea trucks. Various hits were made on one of them but the enemy escaped to safety by running into shallow water.

3. All of the above torpedo attacks were aggressively conducted. Good tenacity was exhibited in the COD's two attacks on the convoy hit on 5 October resulting in the sinking of that important ship. In addition to these fine attacks, the COD, out of torpedoes, performed a splendid job of tracking the important ASAMA MARU convoy for approximately thirty more hours sending out valuable contact reports during this period.

4. The COD also conducted lifeguard duty for about a week of Manila Bay during the carrier strikes on Luzon. The COD also picked up six Japanese soldiers from the BREEM and returned them to Saipan.

5. The COD returned from patrol in fair material condition and a good state of cleanliness. The COD will be overhauled. The state of morale in this ship is excellent.

6. The Commander Submarine Division FORTY-FOUR congratulates the commanding officer, officers, and crew for this fifth successive successful war patrol and for having inflicted severe damage upon the enemy.

E. W. Grenfell
E. W. GRENFELL,

SUBMARINE SQUADRON FOUR
Fleet Post Office
San Francisco, California.

FC5-4/A16-3

28 November 1944.

Serial: 0493

C-O-N-F-I-D-E-N-T-I-A-L

SECOND ENDORSEMENT to
USS COD (SS224) Report of
Fifth War Patrol.

From: The Commander Submarine Squadron FOUR.
To : The Commander-in-Chief, U.S. Fleet.
Via : (1) The Commander Submarine Force, Pacific Fleet.
(2) The Commander-in-Chief, U.S. Pacific Fleet.

Subject: U.S.S. COD (SS224) Fifth War Patrol, comments
on.

1. Forwarded, concurring in the remarks of Com-
mander Submarine Division FORTY-FOUR.

2. The Commander Submarine Squadron FOUR con-
gratulates the Commanding Officer, officers and crew of the
U.S.S. COD for their tenacity and aggressiveness and damage
inflicted upon the enemy.

3. It is recommended that the U.S.S. COD be
credited with the following:

<u>SUNK</u>	<u>DAMAGED</u>
1 - AO(EU), 10,000 tons	1 - AK(EU), 7,500 tons
	1 - AO(EU), 15,000 tons
	1 - MIS, <u>100 tons</u>
	Total Damaged 22,600 tons

Total Sunk of Damaged - 32,600 tons

W. V. O'Regan
W. V. O'REGAN.

Serial 02673

Care of Fleet Post Office;
San Francisco, California,
29 November 1944.CONFIDENTIAL

22 DEC 1944

THIRD ENDORSEMENT to
COD Report of
Fifth War Patrol.NOTE: THIS REPORT WILL BE
DESTROYED PRIOR TO
ENTERING PATROL AREA.COMSUBSPAC PATROL REPORT NO. 583
U.S.S. COD - FIFTH WAR PATROL.

From: The Commander Submarine Force, Pacific Fleet.
To : The Commander-in-Chief, United States Fleet.
Via : The Commander-in-Chief, U.S. Pacific Fleet.

Subject: U.S.S. COD (SS224) - Report of Fifth War Patrol.
(18 September to 20 November 1944).

1. The fifth war patrol of the COD was conducted in areas west of Luzon and Mindoro under the operational control of Commander Task Force Seventy-One. Upon completion of patrol the COD took passage to Pearl Harbor enroute to the Navy Yard for overhaul. The COD and RAY formed a coordinated attack group during part of the time of this patrol.

2. Five attacks were made during this patrol. The first and second were aggressive and tenacious attacks against a tanker and freighter which resulted in the sinking of the former in the second attack. This second attack on the damaged tanker was an excellent example of how a kill should be performed even though anti-submarine activities forced evasive action after the first attack. The COD succeeded in damaging another very large tanker which was also hit by the RAY, but the tanker succeeded in escaping to shallow water before it could be sunk.

3. In addition to the damage inflicted above, the COD, although out of torpedoes, performed an excellent job of tracking an important convoy, including an ASAMA MARU type transport, for about thirty hours. The COD also carried out lifeguard duty off the northwest coast of Luzon during the carrier strikes in the vicinity of Manila Bay.

4. Award of the submarine Combat Insignia for this patrol is authorized.

5. The Commander Submarine Force, Pacific Fleet, congratulates the commanding officer, officers, and crew for this successful war patrol. The COD is credited with having inflicted the following damage upon the enemy during this patrol:

S U N K

1 - Large Tanker (EU) - 10,000 tons (Attacks Nos. 1 & 2)

FF12-10/A16-3(15)

SUBMARINE FORCE, PACIFIC FLEET

Serial 02673

Care of Fleet Post Office,
San Francisco, California,
29 November 1944.

CONFIDENTIAL

THIRD ENDORSEMENT to
COD Report of
Fifth War Patrol.

NOTE: THIS REPORT WILL BE
DESTROYED PRIOR TO
ENTERING PATROL AREA.

COMSUBSPAC PATROL REPORT NO. 583
U.S.S. COD - FIFTH WAR PATROL.

Subject: U.S.S. COD (SS224) - Report of Fifth War Patrol.
(18 September to 20 November 1944).

D A M A G E D

1 - Large AK (EU)	-	7,500 tons (Attack No. 1)
1 - Very Large Tanker (EC)	-	15,000 tons (Attack No. 3)
1 - Sea Truck	-	<u>100</u> tons (Gun Attack No. 1)
TOTAL DAMAGED		22,600 tons
TOTAL SUNK & DAMAGED		32,600 tons*

*NOTE: Since the above damage was done in areas under the operational control of Commander Task Force Seventy-One, he is requested to assume credit accordingly.

DISTRIBUTION:

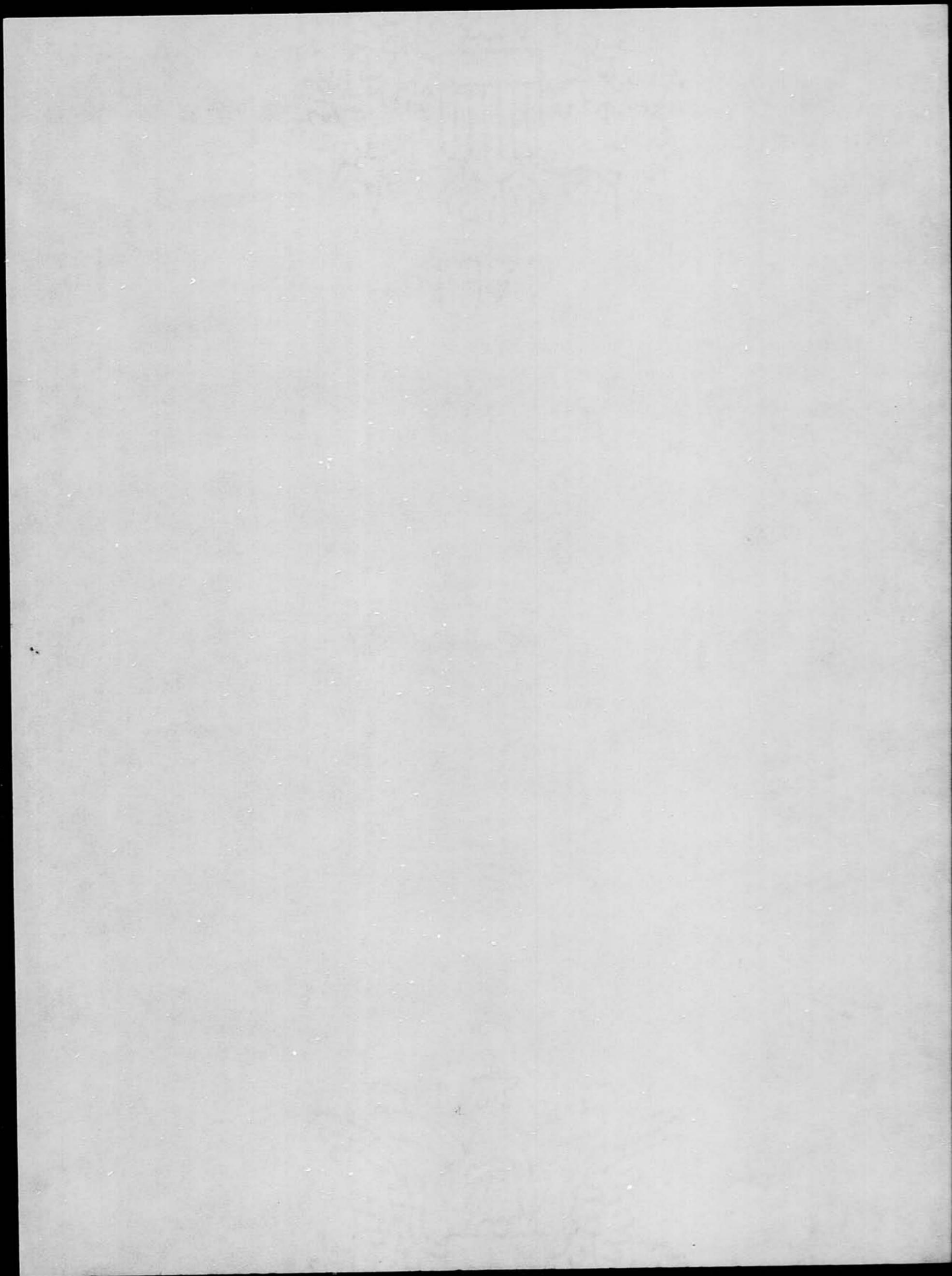
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Comsubowespac	(2)
CTG 71.9	(2)
Comnorpac	(1)
Comsubspac	(40)
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Comsubspac Subordcom	(3)
All Squadron and Div. Commanders, Pacific	(2)
Substrainpac	(2)
All Submarines, Pacific	(1)

C. A. LOCKWOOD, Jr.

E. L. Hynes 2nd

E. L. HYNES, 2nd,
Flag Secretary.



SS224/A16-3
Serial 014

U.S.S. COD (SS224)
Care of Fleet Post Office
San Francisco, Calif.

29 May 1945.

DECLASSIFIED

From: The Commanding Officer.
To: The Commander-in-Chief, United States
Fleet.
Via: Official Channels.
Subject: U.S.S. COD (SS224) - Report of War Patrol
Number Six.
Enclosure: (A) Subject Report.
(B) Track Chart (ComSubPac only).
(C) U.S.S. COD TOP SECRET Serial No.
0001 of 23 May 1945.

1. Enclosure (A) covering the Sixth War Patrol
of this vessel conducted in the EAST CHINA SEA during the
period 24 March 1945 to 29 May 1945 is forwarded herewith.


J. A. ADKINS.

DECLASSIFIED-ART. 0445, OPNAVINST 5510.1C
BY OP-09B9C DATE 5/25/72

DECLASSIFIED

127518

U.S.S. COD (SS224)

CONFIDENTIAL

(A) PROLOGUE

U.S.S. COD arrived Pearl Harbor, T.H. from War Patrol No. 5 on 20 November 1944. Departed Pearl Harbor, T.H. 23 November 1944. Arrived Navy Yard, Mare Island, California for overhaul 1 December 1944. Left Navy Yard, Mare Island 20 February 1945. Arrived San Diego, California 22 February 1945. Furnished daily services to West Coast Sound School. Left San Diego 28 February 1945. Arrived Submarine Base, Pearl Harbor, T.H., 7 March 1945. Received voyage repairs and training, fired 10 exercise torpedoes and several torpedoes in special exercises.

During overhaul period detached with great regret Lt.(jg) Samuel M. FAHR, USNR and Radio Elec. John K. LUDWIG, USN. Received on board Ens. John J. PARK, USNR and Lieut. John H. WICKERT, USN.

(B) NARRATIVE

Officers and Chief Petty Officers attached.

<u>NAME</u>	<u>RANK or RATE</u>	<u>NO. OF PATROLS (Including this Patrol)</u>
ADKINS, J. A.	Comdr.	6
LAWRENCE, W. H.	Comdr. (PCO)	5
BECKMAN, K. F.	Lieut.	10
PODOREAN, C.	Lieut.	5
HURST, T. C. III	Lieut.	4
WICKERT, J. H.	Lieut.	1
CLOUGH, R. H.	Lt.(jg)	2
KRUBEL, F. J.	Lt.(jg)	2
SMITH, W. K.	Lt.(jg)	3
KIMBALL, F. S.	Lt.(jg)	11
PARK, J. J.	Ens.	1
WALLACE, J.	Ens.	6
HOWARD, J. D.	CTM(AA)	9
HUSTER, R. E.	CMoMM(AA)	6
KING, B. L.	CMoMM(PA)	10
PURTILL, R. M.	CPhM(T)	6
RUNGE, C. E. H.	CEM(PA)	11
YARBER, P. J.	CQM(PA)	6

24 March

0635 VW Underway from PEARL in accordance with ComSubPac Operation Order No. 44-A-45. Conducted exercises with outgoing convoy and set course for GUAM. Conducted daily dives and

CONFIDENTIAL24 March (Cont.)

drills. Arrived GUAM 6 April 1945. Sailing delayed due to repairs to stills and trim pump controller panel.

9 April

1504 K

Underway from GUAM in accordance with ComSubPac Operation Order No. 75-45 to conduct coordinated patrol and lifeguard operations for 5th Air Force with U.S.S. POMPON in East China Sea.

1710 K

Trim dive, battle problem.

1738 K

Surfaced.

1951 K

Released escort.

10 April

0757 K

SD contact 20 miles, bogey. Made trim dive.

0822 K

Surfaced.

Noon Position

- Lat. 15-43.6 N, Long. 141-18.3 E.

11 April

1009 I

Made trim dive.

1036 I

Surfaced.

Noon Position

- Lat. 19-00.2 N, Long. 137-48.9 E.

1501 I

Sighted friendly submarine southbound. Could not establish communication by searchlight or SJ.

1545 I

Sighted friendly submarine southbound. Exchanged messages by searchlight with TENCH. Was informed that friendly search planes to the northward answered readily on VHF channel one.

1820 I

Lookout sighted ships bearing 316 T. Ship contact No. 1. Commenced tracking. Contact developed into convoy of about 16 ships in 4 columns with escorts on flanks and ahead. Base course 120 T, speed 13 knots. Numerous APR contacts on friendly shipborne air search radars. COD was directly ahead of formation, range 17,000 yards. In a Joint zone. Stood by with all recognition signals and pulled off target's track to northward. Nearest escort passed astern of COD at range 7,500 yards. Convoy's course was on direct route away from OKINAWA. No challenge of any sort received. Secured from tracking stations.

12 April

Noon Position - Lat. 24-05 N, Long. 137-32 E.

1424 I

Made trim dive.

1503 I

Surfaced.

13 April

0240 I

SD contact 12 miles, friendly. Plane closed to 3 miles, turned on running lights and opened out.

CONFIDENTIAL13 April (Cont.)

0939 I Made trim dive. Battle problem.
 1030 I Surfaced.
 Noon Position - Lat. 28-29.9 N, Long. 137-16.5 E.

14 April

0609 I Lookout sighted plane dead ahead, position angle $1\frac{1}{2}^{\circ}$, estimated range 5 miles, angle-on-bow zero, large 4-engine float type. Submerged. Lat. 29-16 N, Long. 133-42 E.
 0616 I One bomb. Jarred loose one electrical connection in after torpedo room.
 0728 I Surfaced.
 Noon Position - Lat. 29-16.1 N, Long. 132-28.9 E.
 1212 I Lookout sighted plane, land based type, position angle 1° , angle-on-bow zero, range not determined, closing fast. Submerged.
 1310 I Surfaced.
 1343 I Lookout sighted mine, our position Lat. 29-12.8 N Long. 132-13.2 E. Mine was round, no barnacles, floating about two-thirds submerged, four (4) horns visible. Appeared fairly new with only light coating of rust. Took pictures. .30 Cal. carbine shots bounced off the mine's case. Detonated mine with .50 Cal. fire. Range about 125 yards. Several pieces of spent shrapnel hit us.
 1438 I Struck submerged object, heard throughout boat, loudest in forward torpedo room. Pit log out of commission. Rod meter bent. We were unable to pull in the rod meter with a chain fall. Jettisoned rod meter and installed spare; completed repairs by 2012 I.
 1518 I SD contact 8 miles, bogey. Submerged.
 1608 I Surfaced in midst of much floating debris and oil slick. Apparently heavy diesel oil. Lat. 29-14 N, Long. 132-50.5 E.
 1941 I SJ contact, 3 pips, 22,830 yards, went to tracking stations. Contact developed into 8 pips, opening rapidly, obviously aircraft. Secured from tracking stations.
 2025 I Aircraft flare over horizon, astern, bearing 070T.
 2028 I Another flare.
 2034 I Airplane flare on same bearing, closer, estimated range 5 miles.
 2105 I SD contact 8 miles, bogey. Closed to 6. Submerged. SJ range 11,000 yards during submergence.
 2152 I Surfaced.
 2214 I First of many contacts by SJ on floating objects, birds and phantoms. Ranges of initial contact varied from 600 to 4500 yards. None could be

CONFIDENTIAL14 April (Cont.)

sighted in the starlight with slight haze. Some were obviously phantoms since they would disappear, others tracked as birds, and still others gave good solid echoes in the same position down to range 400. We maneuvered to avoid them all.]

15 April

- 0333 I Entered strait south of AKUSEKI JIMA.
 0425 I Airplane flare astern beyond horizon.
 0723 I SD contact 12 miles, bogey. Closed to 10. Submerged. Periscope patrol.
 1002 I Sighted mine, round horned type, many barnacles, took pictures through periscope. Lat. 29-58.5 N, Long. 128-47.2 E.
 Noon Position - Lat. 30-05.7 N, Long. 128-47.2 E.
 1500 I Held memorial service in after battery for the late FRANKLIN DELANO ROOSEVELT, President of the United States.
 1728 I Surfaced.
 1753 I Sighted tracer fire beyond horizon astern.
 1849 I SD contact 12 miles, bogey, closing fast. Submerged.
 1912 I Surfaced.
 2111 I SD contact 12 miles, bogey. Closed rapidly to 8 miles. Submerged. Picked up by SJ at 12,900 yards on way down.
 2135 I Surfaced.
 2136 I SD contact 10 miles, 18,000 yards by SJ. Closed to 7 miles. Submerged.
 2220 I At periscope depth picked up plane on ST radar, tracked him down port side, losing contact at 7,800 yards.
 2238 I Surfaced.
 2316 I SD contact 6 miles, closing. Submerged.

16 April

- 0013 I All clear by ST, surfaced.
 0022 I Observed flicker of light on bearing 230 T, believed from plane.
 0108 I SJ contact 030 T, 8,850 yards. SJ interference on same bearing. Thought he was keying us but 8 minutes later interference disappeared. When interference reappeared, exchanged challenge and calls with SPADEFISH. Many floating objects during night which we maneuvered to avoid.
 0135 I Sighted floating object which might have been a mine; our position Lat. 31-23.3 N, Long. 128-55.1 E.
 0210 I Interference on SJ. Not SPADEFISH. Later decided this was a possible 10 centimeter radar on TORI SHIMA.

CONFIDENTIAL16 April (Cont.)

- 0745 I Sighted floating mine. Our position Lat. 32-27 N, Long. 128-17 E. 3 horns and lifting hook. Commenced firing with .50 Cal. machine guns and .30 Cal. carbines; made several hits with no effect on mine. Gave up after expending 400 rounds of .50 Cal. ammunition. Decided we had better improve our mine shooting technique which we did by holding carbine target practice and by putting sights on our .50 Cal. aircraft guns. Also decided to try 40 MM and 5 inch on the next mine.
- 1000 I Lookout sighted 2 planes, probably MILYS, angle-on-bow zero. SD contact 9 miles, closing, at same time. Submerged.
- 1042 I Heard a loud explosion.
- 1145 I Heard a distant explosion.
- Noon Position - Lat. 32-33.5 N, Long. 127-36.7 E.
- 1208 I Surfaced.
- 1508 I Sighted object thought to be a mine. Investigation disclosed it as a bucket. Exercised rifle shots with .30 Cal. carbines at range of 150 yards.
- 2225 I Passed mine close aboard to starboard, plainly seen in moonstreak by lookout and OOD. Our position Lat. 32-22 N, Long. 125-27 E.
- 2226 I Stopped and commenced maneuvering to pick up mine with intention of sinking it. This maneuver in the darkness was not as foolhardy as it sounds. The SJ radar was very sensitive, and by coming to a course 170° to the left of the moon's azimuth, I knew that I had the mine on the port hand and could pull clear to the right with no danger if unable to locate the mine. It was my intention to silhouette the mine in the moon and sink it with gun fire. SJ radar picked up the mine at range 1000 yards, but as soon as I had maneuvered it into the moonstreak, the moon became obscured by low clouds on the horizon. Resumed course and speed, maneuvering to avoid floating objects.
- [2352 I SJ contact 2400 yards, closing rapidly, crossed astern, lost at 2250 yards. Believed to be a bird.]

17 April

- 0024 I Submerged to work on hydraulic plant.
- 0134 I Surfaced.
- 0614 I Sighted mine; our position Lat. 31-45 N, Long. 134-35 E. Fired at mine with .30 Cal. carbines and sub-machine guns. Hits bounced off with a noise like that of hitting the bulls-eye in a

CONFIDENTIAL17 April (Cont.)

shooting gallery. Manned 5 inch. Decided that the mine was worth 3 rounds. First round was on in deflection, but short 5 yards. Second round was on in deflection and about 4 yards short. The third round was on in deflection and about 2 feet short. This round was a dud and exploded when it hit the water after ricocheting. Secured the 5 inch, manned the 40 MM guns. Exploded mine with a direct 40 MM hit.

GUN ATTACK NO. 1

0748 I Lookout sighted two ships in haze, bearing 170 T. Ship contact #2. Our position Lat. 31-45 N, Long. 124-35.3... Set tracking stations. Could not get radar range on target. Maneuvered to keep them just in the haze and got up ahead. Course about 030 T from bearings and estimated ranges. Could hear no pinging; took a sounding; 17 fathoms. PCO and others looking through binoculars and high periscope were convinced that we had a large two-masted ship with one escort. The CO was unconvinced and submerged ahead of targets at 0909. Set section watch and waited for targets to show up.

0925 I JP picked up target's screws.

0935 I Sighted target through periscope. Set battle stations. Sea was glassy. Went to silent running. Made approach. Made ready the bow tubes. Due to the glassy condition of the sea I was too economical with the periscope exposures, and ST was unable to get a range. Sighted a cable extending between the two ships. One was 3 islands, MFM, the other one was an engines-aft vessel. I was undecided about shooting torpedoes at these targets. PCO took a look for the express purpose of helping me decide and so did the Executive Officer. They were both very positive in asserting that the targets were worth torpedoes. I was still unconvinced, and let the targets go by, not because of size, but for the following reasons: (1) Did not have a good speed solution and, in fact, had no range in which I felt any confidence, (not being at all sure of the mast head height), until the first ping range of 2900 yards. (2) I had not been able to see any gun larger than an estimated 20 MM on top of the bridge of the MFM. (3) I didn't feel that the targets had any chance of getting away from us. (4) I was still mystified by the cable between the ships. Actually the MFM was towing the engines-aft, but due to the yawing of the tow, at times through the periscope they appeared to be almost abreast of each other, and I

CONFIDENTIAL17 April (Cont.)

was not sure that they were not sweeping. JP reported two sets of screws, JK reported only one. Accordingly I had the 5 inch gun pointer take a look at the targets, got a good set-up by ST when abaft their beam, and set stations for battle surface, 5 inch and 40 MM guns.

1052 I Surfaced 3750 yards astern of targets. It was apparent that one was towing the other. Maneuvered to keep the towing vessel (with the gun), masked by the tow. Closed the range and opened fire at 3200 yards with the 5 inch gun. Intercepted radio transmission on 500 kcs, (see radio section). Opened fire with 40MM at range about 2000 yards. 5 inch hits set tow on fire. He obviously had a cargo of oil. Great clouds of black smoke poured out and flames roared forth as if from jets. Shifted 5 inch fire to towing vessel.

1108 I SD contact 15 miles, bogey. 2 planes. Closing slowly. An observer on the bridge thought he saw a torpedo. Towing vessel let go his tow and decided to shoot it out with us. SD contacts closed to 13½ miles. The great weakness of a battle surface as we conduct it with only 1 hatch open is in getting the gun crews back down below in a hurry. Sent 40 MM crews below and turned away from towing vessel. He was now headed directly for us, making about 10 knots and was on in range with his 20 MM gun. Opened range to 3700 yards, which left his fire falling about 50 yards short. SD contacts opened to 16 miles and were lost. Maneuvered around tug while shooting slow fire with the 5 inch. A very close over put his rudder, or screws, or both, out of commission. He abandoned ship. We closed him and before the 5 inch shells started pounding into him at every shot, we could see that shorts had riddled him with shrapnel. Closed range and sank the tug with 5 inch and 40 MM fire. Then went back to the oiler and sank it with three 5 inch hits along the waterline.

Noon Position - Lat. 31-52 N, Long. 124-55 E.

There were several survivors. Picked up one prisoner from each vessel, apparently both military. Picked up a second survivor from the tug, apparently a mercantile sailor. Picked up a life ring from tug with lettering CHOYO MARU. The identity is uncertain. We took pictures, both moving and still, and I would prefer to have the damage assessment made from them. However, the available

CONFIDENTIAL17 April (Cont.)

data is: The tug while transmitting used the call JUJV. This may be an indefinite call. The life ring was inscribed CHOYO MARU SHIMONOSEKI. I questioned the mercantile prisoner and he confirmed the name CHOYO MARU for his ship and also gave the name BAISHI MARU. One of the other prisoners drew a rough picture of a tug and tow for his guard later and in English wrote KARI MARU by the tug and BANSHI MARU by the tow. Until more accurate information is available from the photographs and from the prisoners the CO's estimate of the damage is:

SUNK:

One SMC. Tug. Wooden hull with steel deck house. Possibly CHOYO MARU (EU), 2000 tons.

One SMC. Oiler. Wooden hull. Possibly BAISHI or BANSHI MARU (EU), 2000 tons.

The mercantile marine prisoner was shown a chart and indicated that the vessels were out of KEELUNG for SHIMONOSEKI, without stop, and that their route was to the north of QUELPART ISLAND.

The prisoners were stripped and placed in the 5 inch magazine.

- 1300 I Resumed course and speed, enroute to area.
- 1319 I JOOD sighted 3 planes. Submerged.
- 1532 I Surfaced.
- 1551 I JOOD sighted plane. Submerged.
- 1646 I Surfaced.

18 April

0517 I Sighted mine. Lat. 29-05.4 N, Long. 123-32.2 E. Mine had 7 horns, 6 arranged around the outside and 1 sticking up vertically on top. Detonated mine with 40 MM fire. 34 rounds.

1137 I Submerged for trim.

Noon Position - Lat. 28-28.5 N, Long. 128-23.3 E.

1227 I Surfaced.

1808 I Sighted mine. Lat. 27-27.5 N, Long. 122-36.6 E. 4 horned type. Commenced firing with .30 Cal. carbines which rattled off the mine's case with loud pings as before. Fired 62 rounds of 40 MM with no hits. Finally exploded mine after expending 225 rounds of .50 Cal. ammunition.

1948 I Sighted a flash of light bearing 215 T. Headed over to investigate and sighted a flash again at 200 T, but could not find anything else.

19 April

0935 I Lookout sighted ship bearing 276 T. Set battle stations surface and closed to investigate. Turned out to be a fishing sampan.

CONFIDENTIAL19 April (Cont.)

- 1010 I_n Sighted a second sailboat with two masts, apparently a junk.
- 1019 I Fired one round of 40 MM across bow of sampan. Maneuvered in close and examined him. It was a typical Chinese fishing boat, eyes painted in the bow, oldest man at tiller, youngest and smallest at the sculling oar, one small boy hiding under deck boards, lots of yammering. Had the sampan come alongside. Chief of the Boat boarded her and found one sack of beans, a half-bushel of potatoes and one fish. Gave the occupants 5 packages of cigarettes with which they were highly pleased. Took pictures.
- Noon Position - Lat. 26-06 N, Long. 121-00.5 E.
- 1230 I Could not get to life uard station but raised covering plane by VHF, gave him our position and received receipt. No business.
- 2034 I Submerged to work on hydraulic plant.

20 April

- 0134 I Surfaced.
- Noon Position - Lat. 26-12.6 N, Long. 122-13.8 E.
- 1821 I SD contact 3 miles, bogey. Submerged.
- 1909 I Surfaced.

21 April

- 1034 I SD contact 12 miles, bogey. Closed to 8 miles. Submerged.
- Noon Position - Lat. 25-35.9 N, Long. 120-09.5 E.
- 1225 I Surfaced.
- 1333 I SD contact on land, closed. Sighted various fishing vessels. Headed north.
- 1822 I SD contact 11 miles, bogey. Closed to 8 miles, sighted by JOOD. Submerged.
- 1911 I Surfaced.

22 April

- 0426 I SJ contact 326 T, 7,450 yards. Our position Lat. 26-05 N, Long. 120-23.0 E. Showed two pips, course 230 T, speed 2 knots. Apparently sampans.
- 0443 I TONGSHA ISLAND bearing 375 T, 13,680 yards.
- 0620 I Several fishing boats sighted in vicinity of TUNGYUNG ISLAND.
- 0903 I SD contact 14 miles, bogey, closing. Sighted by lookout at 10 $\frac{1}{2}$ miles. Westerly course, headed for the coast. Looked like a TESS. Plane opened out and then started back in again. Submerged at 0913.
- 1025 I Surfaced.

CONFIDENTIAL22 April (Cont.)

- 1047 I Sighted fishing fleet off TUNGYUNG again - 8 sails in sight.
 Noon Position - (DR) Lat. 26-23 N, Long. 120-48.8 E.
 1709 I SD contact 11 miles; bogey. Closed to 8. Submerged.
 1740 I At radar depth SD contacts at 14 and 8 miles.
 1801 I All clear, surfaced.
 2101 I Suspicious trace on TDM bearing 345 relative. All ahead flank. Left full rudder. Nothing developed.
 2212 I Completed converting #4MBT. Flushed out by blowing and flooding several times on surface.

23 April

- 0617 I Submerged. Flooded and blew #4MBT several times at 80 feet.
 0728 I Sighted PB4-Y through periscope.
 0900 I Surfaced.
 0903 I Suspicious trace on TDM, relative bearing did not change with maneuvers.
 Noon Position - (DR) Lat. 25-32 N, Long. 121-04.5 E.
 1255 I Commenced circling on lifeguard station.
 1311 I SD contacts 30 and 52 miles, friendly. One sighted from bridge by OOD. Broken clouds, poor visibility. Worked planes by VHF. Numerous friendly planes. Sighted PBM with P-38 cover.
 1649 I SD contact 8 miles, bogey, closing. Submerged.
 1734 I Surfaced.
 1745 I SD contact 10 miles, bogey, closed to 7. Submerged.
 1851 I Surfaced. Headed over to investigate HAITAN HARBOR.

24 April

- 0105 I Secured SD radar while approaching harbor.
 0124 I Stopped. Searched HAITAN HARBOR with the SJ expanded sweep in a dense fog. All clear. Then ran north off HAITAN ISLAND about 3 miles off the beach.
 0230 I Resumed SD search.
 Noon Position - (DR) Lat. 25-16.3 N, Long. 120-47.1 E.
 Inside restricted area.
 1217 I Circling on lifeguard station.
 1219 I SD contacts 12 and 16 miles, friendly. Heavy overcast. We made this rendezvous with the lifeguard plane by telling the plane when we could hear him pass overhead.
 1250 I Sighted mine. A new and larger type. Four (4) horns with a hand hole on top. Told lifeguard plane what we were going to do and fired 43 rounds of 40 MM. The mine took two 40 MM hits before exploding. The second hit caused a puff of black smoke and a flat burst of yellow flame near the

CONFIDENTIAL24 April (Cont.)

- water with very little noise. Possibly one of those "second order" explosions. Our position Lat. 25-09.8 N, Long. 120-45.0 E.
- 1320 I Sighted an oil drum. Position Lat. 25-07.9 N, Long. 120-45.5 E.
- 1323 I Headed out of mine field.
- 1338 I Sighted lifeguard plane for first time.
- 1619 I Lookout sighted object on horizon bearing 339 T. Our position Lat. 25-20.7 N, Long. 120-48.5 E. Investigated. Turned out to be a bow of a sunken sampan. Opened range to 2800 yards and bore-sighted 5 inch gun.
- TORPEDO ATTACKS NOS. 1, 2 and 3.
- 2130 I TDM picked up pinging. Checked with JK. Bearing 110 T. Headed over to investigate. Ship contact No. 3.
- 2154 I SJ contacts - two ships, 115 T and 120 T, range 9,450 yards. Our position Lat. 25-42.4 N, Long. 121-15 E. Battle stations. Two sets of pinging, 15.6 kcs. Closed target. Base course 355 T, speed 11.75 knots. Larger ship was the nearer, with a smaller ship on his starboard quarter. Could make them out from the bridge at 4,000 yards range. Planned to shoot 4 torpedoes at the leading ship and 2 at the trailing ship. Set depths 2 feet. Opened outer doors, came to course for an 80° track and waited for favorable gyro angles, and about 3,000 yard torpedo runs. Accepted a sharper track in the early part of a zig toward. Just before firing, radar picked up a third ship in the formation on the starboard bow of the trailer. Tried to raise POMPON with contact report. Broadcast it.
- 2253 I Fired 4 torpedoes forward. COD speed 4.5 knots. Gyro angles 000.5 to 001.5, average track angles, 46 P, average torpedo run 3100 yards; shifted to trailing ship. Each torpedo jumped out of the water as soon as launched and then proceeded down the range like a porpoise, alternately breaching and plunging with a rhythmic tempo. Glassy, calm sea with haze. Decided against shooting any more torpedoes with this depth setting. Turned right and went to flank speed. Commenced reload. The target turned left shortly after the torpedoes were due to hit and gave chase. At 19 knots we opened him slowly. He commenced shooting with one gun at a range of about 3700 yards. Very small gun flash. At times I was unable to see the flash at all.

CONFIDENTIAL24 April (Cont.)

- Splashes were short in the main with the closest two falling about 40 yards from the bow and 20 yards to the starboard of the after engine room hatch. This one splashed water on us. The splashes were white and were accompanied by a deafening detonation. The COD has been used for a target by probable Japanese 3.15 inch guns previously but these splashes and accompanying bursts were many times stronger and louder. This leads me to believe that the guns were of about .4.7 inch calibre. No fuzed shrapnel was fired; all shells detonated on impact. Target ceased fire with his main battery and opened up with machine guns and tracers. At this time I felt that we would be able to outrun this chap and get in another attack on his convoy. The tracers that I saw were well to port (although on in range), so I was feeling very happy about their marksmanship. The following day, however, we dug a lead slug out of the bridge rail immediately in back of where I had been standing. The target next commenced yawing 30° at a time and giving us a broadside of 2 guns. These splashes were mostly ahead. He then came left to a steady course, showing us about 80° angle-on-bow and settled down to two-gun salvos. When he placed a salvo one hundred yards ahead of us with one splash on either bow, I decided that he was just playing with us and would soon be on. During this time tried to raise POMPON again.
- 2317 I Submerged. Tracked target by sound, periscope and ST. Maneuvered to get ahead of him and went deep - 150 feet. There was 270 feet of water.
- 2334 I Commenced receiving a close depth charging of 18 charges. All below us by the DCDI. Conducted evasive tactics, trying to maneuver away from two anti-submarine vessels.
- 2346 I When it appeared that one vessel was starting in for a good run, fired an NAE beacon. This was apparently a dud. At any rate, we could not hear it on any sound gear, and it was followed by 10 more close depth charges, laid up and down our port side, ahead and astern, but all fortunately below. No major damage was experienced. The boat was shaken, conning tower was banged about, cork knocked off, light bulbs shattered, overloads knocked loose, several of the crew were converted, two sea valves backed open, and one sea valve operating gear was sheared. After this run one of the anti-submarine vessels shoved off, leaving one who was milling about on our port quarter and pinging.

CONFIDENTIAL

25 April

- 0031 I Came up to periscope depth to look over the situation. The anti-submarine vessel was there on our port quarter, about 4,000 yards, apparently lying to. The depth charging had knocked out the tuning of the ST. Made ready 3 torpedoes forward and 3 aft, depth setting 3 feet and waited for the ST to get tuned before starting in on the target. The target saved us the trouble by commencing a sweep in our direction, zigging about 60° from side to side. Ensign WALLACE and THOMAS, W.H., RTlc got the ST back in commission when the range was down to 3500 yards, and there was enough light to estimate the angle on the bow when it was 15° or less. It looked for a minute or two as if we would get a nice stern shot from about 300 yards on his port beam, but the target kept swinging more and more to his left, toward us. We speeded up to 80 r.p.m. to get off his track. Target countered at once by reducing his pinging interval from the 7,000 yard scale to the 3,000 yard scale and by showing a steady 5° port angle-on-bow. We slowed to 50 r.p.m. and steadied up. Lt. PODOREAN on the TDC, did not like the gyro angles, and neither did I, but with the torpedo run down to 400 yards there wasn't much to be done about it except hold her steady and use a spread.
- 0056 I Fired 3 stern torpedoes, gyro angles 235 to 228, average track angle 15° S (due to curved run of torpedo), average torpedo run 310, with target swinging slowly to his left to head directly at the periscope. I assumed that the torpedoes would make a wider and slower curve than the one set up in the TDC and spread them accordingly by periscope, the first one a full target width (as foreshortened to view) to the right, the second at the right tangent, and the third at the bull nose. With ST range 490, pulled down the scope and went to 150 feet.
- 0056-44 I One explosion. Pinging and screws from target stopped. Sound tracked two torpedoes running. Commenced to come up to periscope depth. Loud noise from our own screws.
- 0104 I Loud explosion from target.
- 0105 I Breaking up noises in direction of target. Sound could still track two torpedoes running.
- 0126 I Surfaced. Ran through oil slick. Heard the breaking up noises beneath us. Sighted many men in the water. Our position as rectified by next

CONFIDENTIAL25 April (Cont.)

fix - Lat. 26-02 N, Long. 121-11.7 E. 78 heads were counted in the water on one side only as we passed through the oil slick. There were more than this swimming. Most of them were shouting and moaning in a melancholy manner. Picked up one prisoner. I was in a hurry to get off after the rest of the convoy, so did not investigate his condition before sending him below. He was badly injured internally and had no will to live. On the afternoon of his being brought aboard he was questioned by the CO and he was later questioned by the Executive Officer and gave out the following information: Name - ALYEEMA, 1st class petty officer, engineering branch. (KI-KAN). His ship had no name, but was "So-kai'-te yo-en-ju-itsi, gol'", This appears with very little doubt to be minesweeper No. 41, although the "gol" remains unexplained. The prisoner wrote the number 41 along with several Japanese chops which will be given to the first available language officer. He was very insistent about pointing to the paravanes in the pictures of minesweepers in the Recognition Manual, although his exact ship could not be found. Prisoner indicated on a chart that his route had been from KEELUNG to NINGPO. The CO's best estimate of damage inflicted is:

- SUNK: AM No. 41 (EC). Approximately 1000 T.
- 0155 I Tried to raise POMPON again. Broadcast contact report.
- 0200 I Set out after remainder of convoy on their base course.
- 0240 I Tried to raise POMPON to tell him to patrol across southeast approaches to NAMKWAN and that we would run search curve to northeast. Broadcast it.
- 0255 I SJ interference.
- 0318 I APR contact 118 mcs. Indications were that this was the POMPON. Tried to raise him. Broadcast a signal to shift to SCR 610-A. Then tried to raise him on the assigned frequency with this equipment.
- 0407 I Slowed to 10 knots to listen on JK.
- 0410 I SJ contact 027 T, 11,920 yards. Two pips. Battle stations. Targets were tracking on the same base course, 355 T. Heard echo ranging from one source only. Set depth 3 feet and commenced end-around to port. Target was zigging on 5 minute legs. Pinging on 15.3 kcs, shifting between 5,000 and 7,000 yard scale. At range 3600 could make out targets from bridge. The leading target was the largest, both by radar and visually. Could get TBT bearings out to about 4,000 yards, but could not make out types of ships until just before firing.

CONFIDENTIAL25 April (Cont.)

The trailing target was about 1,000 yards on the starboard quarter of the leader. Tentatively decided upon surface attack, shooting 3 torpedoes at each target. Perhaps I was too optimistic in thinking that because the last submerged attack with a 3 foot depth setting had been successful, that the torpedoes would run properly with the 3 foot setting when fired from the surface. Asked fire control party and PCO if they had any better plan, and none was forthcoming. Perhaps the recent close depth charging, the failure of the NAE beacon, etc., had influenced me against a submerged attack. But the surface attack did appear to give the best chance of getting both targets. The targets' speed was unchanged - 11 3/4 knots. They were still zigging on 4 to 5 minute legs. Ran up their port side to get a firing position near the beam.

- 0512 I Lookout picked up a sailboat on the port hand. Ran by it.
- 0519 I Slowed to 5 knots.
- 0521 I Fired 3 bow tubes at leading ship. Average gyro 352. Average track 122 P. Torpedo run 3470 yards.
- 0522 I Fired 3 bow tubes at second ship. Average gyro 009. Average track 116 P. Torpedo run 2900 yards. Turned right and went around stern of formation. Each torpedo jumped out of the water once, right after firing. The propellers made a loud whirring sound while they were in the air, similar to a high speed sewing machine. Two of the torpedoes made wide hooks to the left. One observer on the bridge thought we had a circular run from this. I watched them, however, and they all settled down eventually on a straight course, although the initial hooks had dispersed them somewhat. Both targets continued on their previous course and speed. At about the time the torpedoes were due to hit the leader, a large cloud of black smoke came from his direction which totally obscured him from view for a time. There was no appreciable difference in his radar pip however. The second target followed his regular zig plan. The second target could be seen at the time of firing to be an engine-air ship of about SB size or smaller. The PM which we had previously sunk was the largest ship in this convoy. Dawn was beginning to break but there were scattered low rain clouds. Commenced end-around on starboard

CONFIDENTIAL25 April (Cont.)

- side of target. Got a look at the leading ship through high periscope. It appeared to be a PC. The targets were headed for the inland route up the coast and we could not head them off.
- 0648 I Abandoned chase.
- 0712 I Having been unable to work POMPON directly after many attempts, cleared message to POMPON through NPN telling him to take lifeguard station until we got back.
- 0714 I Submerged. Periscope patrol.
- Noon position - (DR) Lat. 26-01.7 N, Long. 121-52.7 E.
- 1233 I Surfaced.
- 1357 I Sighted overturned sampan.
- 1431 I Sighted mine. Our position - Lat. 26-35.2 N, Long. 121-51.8 E. Usual four (4) horned type. Exploded after expending 8 rounds of .50 Cal.
- 1507 I Sighted floating object, proved to be a crate trussed up heavily with line.
- 1535 I Sighted floating object, proved to be a rusty oil drum without any barnacles.
- 1639 I Sighted floating object, a mine. Our position - Lat. 26-19.5 N, Long. 121-56.1 E. Commenced firing 40 MM's at mine.
- 1658 I A 40 MM hit blew a large jagged hole in the top of the mine. This hole was 10 inches in diameter. Commenced firing with .50 Cal. which splashed water into the hole. The mine slowly sank.
- 1717 I TDM trace. Bearing remained constant as we swung ship.
- 1807 I Sighted mine. Our position - Lat. 26-08.5 N, Long. 121-57.2 E.
- 1814 I SD contact 10 miles, bogey. Closed. Lost contact. Regained at 14. Opened to 26 miles. Lost at 23. Regained at 24, faded. During this time opened fire with .50 Cal. on mine. One hit made a hole in the mine from which thin smoke came out. It is believed that other hits made holes. The mine slowly sank from view.
- 1921 I Sighted what was thought to be a mine. Proved to be another crate.

26 April

- 0050 I Heavy traces on TDM. Checked with JK - nothing but fish noises.
- 0143 I SD contact 10 miles, bogey. Closed to 8. Submerged. Picked up by SJ on way down.
- 0303 I Surfaced.
- 0803 I Sighted POMPON by high periscope. Closed him. Passed over patrol instructions. Assigned patrol stations and parted company.

CONFIDENTIAL26 April (Cont.)

Noon Position - (LR) Lat. 26-00 N, Long. 121-47.2 E.

- 1554 I Sighted mine. Our position - Lat. 26-15 N, Long. 121-24.9 E. Four (4) horns. Usual type. Exploded mine with 25 rounds of .50 Cal.
- 1745 I SD contact 25 miles, bogey. Closed to 12. Submerged.
- 1822 I Squeak in shaft again noted on JP. This may have been started by the depth charging, but became progressively worse throughout the patrol and reached the point where it could be heard through the hull in the after torpedo room at 65 turns. At 80 turns at periscope depth the noises by JP grew to alarming proportions. Both shafts were bad, with the starboard being markedly the worse. The noise sounds like a bearing squeal, and will, I think, be tracked down to unseasoned lignum vitae. However, I don't know of any treatment for this in the area except to run at slow speed during the attack and evasion. Made mental note to do so on next submerged approach.
- 1920 I Surfaced.
- 2041 I Flash of SJ interference bearing 000 T. This phenomenon occurred several times during patrol and could not be traced to friendly SJ, nor to an enemy radar, nor to any other source.
- 2135 I Fire in after torpedo room. Went to fire quarters. Stopped. Secured battery charge. Readings were being taken after the completion of the charge on the Mk. 18 torpedoes which were partially withdrawn from tubes 8 and 10. An explosion occurred in torpedo No. 99264 in tube No. 8. The battery of this torpedo burned with a very hot fire which could not be extinguished with the CO₂ extinguishers. The after torpedo room was filled with a dense, suffocating smoke. The smoke lungs were totally inadequate. This left our two rescue breathing apparatus and one shallow water diving mask which could be used and which thus permitted only 3 men to enter the torpedo room to fight the fire. The torpedo itself was too hot to touch. The battery was burning fiercely. The torpedo tube was warm. The Executive Officer at the scene of the fire requested permission to open the after torpedo room hatch in order to fight the fire. This was granted. An engine was loaded up on propulsion to try to clear the smoke. I was in the conning tower with a hand telephone getting my information from the maneuvering room.

CONFIDENTIAL26 April (Cont.)

FOLEY, L.E., QM2c, was in the conning tower and had just been relieved as Quartermaster-of-the-Watch. He immediately asked my permission to go down on deck and assist in opening the after torpedo room hatch. Granted. He took the lifejacket from the conning tower, told the OOD, and went aft. After FOLEY had gone down on deck the Executive Officer asked for help from the outside in opening the hatch. The OOD was watching FOLEY and saw him having difficulty with the hatch. JOHNSON, A.G., Slc had come to the bridge to warm up for lookout. The OOD had a wrench passed up, gave this to JOHNSON and sent him aft to help FOLEY. JOHNSON carried the wrench aft, returned to the vicinity of the conning tower, told the OOD that the hatch was clear except for the depth charge dogs and then went back aft to further assist FOLEY. A wave washed both men over the side. JOHNSON had no lifejacket. I went up to the bridge at this point, marked ship's head, made a complete circle to the left and stopped. The fire, meanwhile was blazing with increasing intensity and was leading to thoughts of grave danger with respect to the warhead. I was fully prepared to flood the after torpedo room, even by bottoming with the hatch open if necessary. The Executive Officer requested permission to fire the torpedo. This was granted and the torpedo was fired with a propeller lock, after the handhole plate, warped by the explosion, had been torn loose, and through efforts which were no less than heroic on the part of Lt. K.F. BECKMAN, KRUSENKLAUS, D.H., TM2c and GREYNER, J.A., Slc. These efforts included working in intense heat and smoke, rigging jiggers to the torpedo which was too hot to touch, and holding their thumbs over the hydrogen burner hole in the torpedo tube door during firing. It is truly impossible to express my feelings in regard to the actions of these men. It is a privilege to have been their shipmate. Meanwhile on the bridge, I had two life rings tied together with an automatic floating electric lantern and tossed over the side. After the torpedo was fired, I sent the OOD down to shut the after torpedo room hatch. Resumed power steering and commenced searching in the vicinity of the life rings. We would make circles in all directions from the life rings and return to the rings for another departure. The sky was overcast, mattress about 1000 feet, obscuring the moon. There were only a few scattered whitecaps

CONFIDENTIAL26 April (Cont.)

but there were many small waves which showed up black with no white crest. We had many volunteers on the bridge, listening and searching. All binoculars were in use.

2300 I SD contact 10 miles, closing. I decided to give this plane one free pass at us. He showed friendly, however, and replied to us on VHF. He was a PBM from OKINAWA, using the call 55V464. We told him we were looking for two of our men in the water and he offered to help. He dropped flares which illuminated well but only when they were very close to us. He also dropped a life raft. He said that he thought his base could send another plane out in the morning, (in reply to my question), and took our message giving the number of men and position in accordance with the standard operating procedure. This plane was very helpful. The pilot was worried for fear he had been the cause of the men going overboard. In reply to our thanks he said that it was a pleasure to help the submarines out. After the departure of the plane at 2344, I returned to the life rings and commenced a systematic search, using the DRT. Injection temperature was 74° and I refused to give up hope of recovering these men. Our searchlight did not improve our visibility, but we kept it on, sweeping abaft the beam as a beacon for the men in the water.

27 April

0034 I Skies cleared, giving us bright moonlight. Decided we would not be able to see a man at more than 250 yards, and altered search accordingly. The life rings were drifting faster than us from our DRT positions. When passing by the liferings on one occasion, there was a dark shape in one of the rings. This turned out to be a bird.

0114 I Sighted object in the water. Turned out to be a wave.

0214 I An elusive TDM trace faded out.

0520 I Heard FOLEY calling us. He was utterly exhausted, and remembered nothing from this point on. Lt. (jg) W. K. SMITH did an excellent job of keeping FOLEY in sight while we maneuvered to pick him up.

0540 I Took FOLEY on board. He reported that JOHNSON and he had been together when they went over the side, that he had helped JOHNSON take off his heavy clothing and had supported him in the water

CONFIDENTIAL27 April (Cont.)

until about two hours before we picked him up. He and JOHNSON together had seen the ship go by twice, one time very close aboard. About two hours ago, JOHNSON had said good-bye, had slipped down off FOLEY's back and FOLEY had not seen him come up. I decided to lie to until daylight and then continue the search for JOHNSON. Had already told POMPON to rendezvous at daylight to assist in search.

0602 I SD contact 16 miles, faded; regained at 10 miles, closing. Submerged.

0649 I Surfaced. Resumed search using DRT.

0729 I SD contact 9 miles, opening.

0731 I SJ interference bearing 000 T. POMPON coming to the rendezvous. Assigned him area to search.

0811 I Sighted POMPON. Had him take departure on us to orient his search.

0830 I SD contact 10 miles, closing. Bogey.

0835 I Sighted plane coming out of clouds. "SALLY". Angle on the bow, about 80 port. Passed us at 3 miles and continued on his way. POMPON confirmed that it was a "SALLY" but did not submerge either. Told POMPON to patrol at discretion after completing search at dark.

Noon Position - (DR) Lat. 26-00 N, Long. 121-33 E.

1217 I SD contact 8 miles, friendly. Picked up planes on SJ, worked them by VHF. This was a PBM using call "RODEO 4" and four fighters using call "PONTIAC". These planes came down under the overcast which was 500 feet from the water and took up the search. The fighters told the PBM that they were reaching the limit of fuel, but offered to stay on and search. PBM told the fighters to return and that he would stay on and search without them. The fighters replied that they needed PBM for navigation, but that they would be very glad to stay beyond their limit of fuel. The PBM apparently had bogies on his radar when he was trying to send his fighters home without him. The weather at this time was getting worse, ceiling was closing in, and the wind was gusty. It appeared to me that the planes were taking considerable risk to even attempt to fly under the overcast. In view of the weather I thanked them and told them to leave. They searched for an hour anyway and said they were only too glad to be of any assistance. We felt that we were being backed up by a pretty fine organization when these fliers came out in this stinking weather to help us.

CONFIDENTIAL27 April (Cont.)

- 1317 I Investigated floating object.
 1416 I Investigated floating object.
 1720 I SD contact 10 miles, bogey. Closed to 8.
 Submerged.
 1759 I Surfaced.
 1856 I SD contact 6 miles, bogey, closing. Submerged.
 Discontinued search. We did not sight the life
 rings nor the plane's liferaft.
 2038 I Surfaced.

28 April

- 0143 I Transmitted message to ComSubPac reporting
 casualty and sent message of appreciation to
 OKINAWA planes.
 0645 I SD contact 12 miles. Closed to 6, bogey. SD
 contact 25 miles, friendly. Submerged. Con-
 ducted investigation as to source of torpedo
 explosion. Could not determine cause of spark.
 The charge had been already secured and gravity
 and temperature readings had already been taken
 when the torpedo battery exploded. PhM reported
 that the Jap prisoner, now in the forward torpedo
 room, was in a very serious condition.
 0941 I Surfaced.
 1145 I Prisoner died. Diagnosis: Peritonitis, general,
 acute, originating from explosion on board his
 ship, probably due to depth charge not having
 been set on safe.
 Noon Position - Lat. 26-17 N, Long. 121-24.5 E.
 1330 I Completed overhaul of torpedo which had been
 in tube #10 during the fire and placed it back
 in commission.
 1500 I Held funeral services for the deceased prisoner
 and committed his remains to the deep.
 1851 I SD contact 2 miles. Submerged.
 2026 I Surfaced.
 2234 I Fire in forward torpedo room. This was in the
 safety relay in the WCA motor generator panel
 and was quickly cleared by the Executive Officer.

29 April

- 0028 I OOD sighted what appeared to be a green flare
 beyond horizon, bearing 090 T. Our position Lat.
 25-54.2 N, Long. 121-15.8 E. He just caught this
 in the corner of his eye, but the flare had a
 rise and a fall, more like a Very star than a
 meteor. Headed over and commenced searching in
 a gradually increasing square. I reasoned that
 any one shooting such a flare would be in a
 rubber boat, so continued the search until the

CONFIDENTIAL29 April (Cont.)

- following sunset, gradually moving the square down-wind.
- 0452 I SD contact 10 miles. Closed to 8. Submerged. Made repairs to pit log and BN. Completed repairs to WCA.
- 1156 I Surfaced. Resumed search from where we had left off.
- Noon Position - Lat. 26-09.5 N, Long. 121-30.5 E.
- 1500 I Conducted burial services for Andrew Gordon JOHNSON, Slc.

30 April

- 0639 I SD contact 7 miles, showed bogey. Closed to 6. Submerged. Sighted while clearing bridge; it appeared to be a B-24.
- 0832 I Surfaced.
- Noon Position - Lat. 26-11 N, Long. 121-33 E. Overcast and rain.
- 2137 I APR contact 100 mcs.
- 2339 I SD contact 3 miles, bogey. Submerged.

1 May

- 0025 I Surfaced.
- 0205 I SJ contact on plane, 5750 yards. Submerged. SD contact at 2 miles while submerging.
- 0330 I Surfaced.
- Noon Position - (DR) Lat. 25-58.3 N, Long. 121-07.8 E.
- 1831 I SD contact 8 miles, bogey, closed to 7 miles. Submerged. Sighted on way down, possibly a SALLY.
- 1918 I Broached in heavy seas.
- 1921 I Surfaced.
- 2219 I Land on SD at 31 miles. Tried to get fix in FORMOSA Channel off HAITAN ISLAND.
- 2220 I SD contact 11 miles, closing. Bogey. Submerged.
- 2259 I Surfaced. Heavy seas.

2 May

- 0624 I SJ interference bearing 045 T. Followed by brief contact at 4500 yards. Attempted to challenge unsuccessfully.
- Noon Position - Lat. 26-25 N, Long. 121-28.6 E.
- 1523 I High periscope sighted two sampans or junks bearing 212 T. Opened out.
- 1654 I SD contact 9 miles, bogey. Closed to 7. Submerged.
- 1819 I Surfaced.
- 1932 I High periscope sighted two junks bearing 047 T. Opened out.

CONFIDENTIAL2 May (Cont.)

2040 I SJ contact bearing 035 T, 9300 yards. Our posit. Lat. 26-10.4 N, Long. 121-11.2 E. Set battle stations and commenced tracking. Two targets. Six knots. Course varying between 170 T and 200 T. Very dark night. Overcast. Rain. One target smaller than other by SJ. Range difference about 100 yards. Maneuvered to a position 2300 yards off track and let targets go by. Listened. Could hear no screws nor pinging. Could not see targets in darkness. Fell in astern and closed range to 1500 yards. Could make out the sails of a large junk and a smaller one. No pinging, no screws. Finally removed doubt from all hands that these were the same junks which had been sighted at 1922 and ceased tracking.

2241 I SJ contact on POMPON. Exchanged challenge and calls. Attempted to communicate by SCR and VHF with no success.

2329 I SD contact 10 miles, closing. Friendly. Raised PBM from OKINAWA on VHF. Told him that his other pip was the POMPON. Ascertained that he had seen no targets. Told him of the two junks to the south of us. PBM flew off and illuminated junks with flares, came back and reported that he could not identify them as anything but friendly. This plane also said that he would be in the area most of the night and to call on him if needed.

3 May

0050 I Sent message to POMPON giving instructions for forming a scouting line across the middle of the EAST CHINA SEA, retiring the line each day.

0200 I Sighted another flare from PBM.

0510 I Lookout sighted light thought to be a star until SD made contact at 3 miles. Plane had running lights on and appeared to be circling. Showed bogey. Picked up by SJ. Watched him out of sight from bridge, at estimated range of nine miles. This plane was very low, SD making and losing contact at 3 miles.

0652 I High periscope sighted what he thought was another sampan bearing 215 T. This rapidly developed into a properly marked hospital ship on northerly course at about 14 knots. Ship contact No. 4. Our position Lat. 26-44 N, Long. 121-27 E. Composite superstructure, 4 goalposts. KMFMK. Very similar to TATUHARU MARU. Pulled off his track into the sun and watched him go by.

CONFIDENTIAL3 May (Cont.)

- 1140 I Sighted two junks bearing 316 T. Our posit. Lat. 27-06.4 N, Long. 121-09.1 E. Avoided.
- Noon Position - (DR) Lat. 27-08.3 N, Long. 122-09.5 E.
- 1640 I Sighted sampan bearing 296 T. Avoided.
- 1647 I Sighted three sampans bearing 293 T. Avoided.
- 1845 I Sighted sampan bearing 268 T. Avoided.
- 2025 I SJ interference bearing 043 T.
- 2106 T SD contact 7 miles, bogey. Closed to 6. Submerged.
- 2206 I Surfaced. More flashes of SJ interference from 043 T, to 075 T. Headed over to investigate.
- 2212 I APR contact 161 mcs. Swung ship on this one to try and get a minimum. No success.

4 May

- 1159 I Sighted mine. 4 horns, 2 lifting pads. Apparently new. Low in water.
- Noon Position - Lat. 28-43.5 N, Long. 123-57 E.
- 1223 I Detonated mine with .50 Cal. fire. The JOOD claims to have heard a .50 Cal. hit bounce from the mine prior to the hit which detonated it. No one else observed this but all observers did report a delay between the activating .50 Cal. hit and the detonation. This delay was variously estimated as being up to 3 seconds and so was probably of about one second's duration. The explosion, when it occurred, was strong and scattered shrapnel well beyond us.
- 1530 I Sighted small lifering in water near a piece of wood. Picked up lifering. Painted light green, no marking. Our position - Lat. 28-57.9 N, Long. 123-48.9 E.
- 2314 I APR contact 162 mcs. Swung ship. No difference in signal strength.

5 May

- 0401 I Submerged.
- Noon Position - Lat. 28-55.5 N, Long. 124-02.3 E.
- 1243 I Surfaced.
- 1553 I Sighted 2 sailboats.
- 2000 I Formed scouting line with POMPON.

6 May

- 0624 I Sighted sailboat. In order to retire our scouting line we had to run through a Chinese fishing fleet today. Decided to investigate some of them and see if we could pick up some fish.
- 0722 I Fired one 40 MM across bow of junk. Went close aboard, looked them over, took pictures. This

CONFIDENTIAL6 May (Cont.)

- was a good sized, three-masted junk with license number 5797. Nothing suspicious. Passed over a bag of food and some cigarettes.
- 0907 I Called sampan alongside, exchanged bread and canned goods for a batch of fresh fish. Apparently salt water eels. Very good.
- 0955 I Sighted many sailboats. A large junk with sampans working out from it.
- 1042 I Fired one round of 40 MM across bow of junk, went alongside. Exchanged a bag of food for fish. They must have started a process of drying these fish in the sun as we had to throw them over the side.
- Noon Position - Lat. 27-50 N, Long. 121-49.2 E.
- 2000 I Formed scouting line with POMPON.

7 May

- Noon Position - Lat. 26-11 N, Long. 120-34.5 E.
- 1627 I Made trim dive.
- 1726 I Surfaced.
- 1854 I OOD and lookout, in fog, heard what sounded like two explosions, apparently coming from 250 T, the direction of HAITAN ISLAND. Nothing whatever was heard below decks in any compartment. Stopped, listened on JK. Headed over on that bearing for one-half hour. No recurrence. Resumed course and speed.
- 2000 I In scouting line with POMPON.
- 2124 I TDM commenced acting jittery. Straight line traces would show up but would remain on the same bearing as we swung ship. We could not verify any of the TDM phenomena with the JK.
- 2135 I SD contact 14 miles, bogey. Closed to 8. Submerged.
- 2200 I Surfaced.
- 2317 I APR contact 160 mcs.
- 2350 I Commenced swinging ship at one-third speed, steadying up at every 45° change of head. Checked APR signal and found no appreciable difference in signal strength.

8 May

- 0225 I SJ operator had a momentary pip as he swept by bearing 000 T at a range of 8 to 10,000 yards. Swept carefully on same bearing and could not regain contact. Changed course to 000 T, ran for 2 miles and then searched in a small parallelogram. No contact by sound, radar, or APR.

CONFIDENTIAL8 May (Cont.)

- 0330 I Swing ship to investigate 150 mc. APR contact.
No results.
- 0636 I Submerged for periscope patrol off HAITAN ISLAND,
north of TURNABOUT ISLAND. Sighted numerous
fishing sampans and nothing else. Two of these
fishing boats sighted the periscope when they
passed close aboard; one of them decided to re-
trieve it from the water and made two passes at
the scope, one with a boat hook and one by a man
leaning out of the bow of the sampan. Our pink
periscope camouflage is apparently better than I
had thought.
- Noon Position - (DR) Lat. 26-36.5 N, Long. 119-59.3 E.
- 1926 I Surfaced. Formed scouting line with POMPON.
- 2028 I Sighted searchlight beams on clouds from direction
of FORMOSA. This continued for over an hour.

9 May

- 0032 I SD contact 19 miles, bogey. Closed to 8 miles.
Submerged.
- 0119 I Surfaced.
- 0500 I SD contact 17 miles. Friendly. Did not reply
to VHF. Closed to 5 miles, submerged.
- 0535 I Surfaced.
- 0758 I Submerged for patrol off HAITAN ISLAND. Numerous
fishing boats but none so close as yesterday.
Had a good look in HAITAN BAY and along the beach.
All clear.
- Noon Position - Lat. 25-30 N, Long. 120-00 E.
- 1900 I Surfaced. Found fish net and line draped over
boat. Made them up into a bundle.
- 1935 I Closed nearest fishing sampan and called him
alongside. Passed over net and line. Hoped he
would return them to the owner, but it was apparent
that our contribution was accepted as a gift.
This was also the best gift we had made to any
Chinaman yet. The fishermen were all smiles and
chased us for several minutes when we shoved off,
attempting to give us their fish.
- 1946 I Circling a fishing sampan without sails. This
was a good example of how imagination lends
color to reports. While we had been returning
the fish net, the high periscope had picked up
this sampan and had reported it as a power boat.
One officer, the COM and a QM2c had agreed that
the boat was "definitely under power". It had
even been reported as similar in appearance to a
Navy motor launch. Upon closing to investigate,
of course, it turned out to be the typical fishing

CONFIDENTIAL9 May (Cont.)

- sampan, mast not stepped, sculling oars, eyes in bow, and all. Returned to scouting line in FORMOSA STRAIT.
- 2255 I Swung ship to investigate APR contact at 220 mcs. No results. This interference disappeared. Believed to have been airborne.

10 May

- 0206 I Challenged by POMPON on SJ.
- 0339 I SD contact 8 miles, bogey, closing. Submerged.
- 0446 I Surfaced.
- 0520 I SD contact 6 miles, closing, bogey. Submerged. Periscope patrol.
- Noon Position - (DR) Lat. 25-08.5 N, Long. 120-24.5 E.
- 1552 I Surfaced.
- 2152 I SD contact 7 miles, closing, bogey. Submerged.
- 2258 I Surfaced.

11 May

- 0040 I First of several floating objects on SJ radar.
- 0610 I Set course into blind bombing zone for lifeguard station.
- 0735 I On lifeguard station. Heavy overcast.
- 1025 I SD contact 22 miles, friendly. Raised lifeguard plane on VHF and directed him to our position at the edge of the overcast.
- 1042 I Sight contact with PBY. No business.
- 1158 I Submerged to clear blind bombing zone. Periscope patrol.
- Noon Position - Lat. 24-52.5 N, Long. 120-20.5 E.
- 1519 I Broached in heavy sea.
- 1530 I Surfaced.

12 May

- 0159 I Took over POMPON's lifeguard station for remainder of patrol, telling him to work the area at discretion.
- 0643 I Submerged. Periscope patrol. Depth control difficult due to swells.
- Noon Position - (DR) Lat. 25-47.9 N, Long. 121-01.9 E.
- 1850 I Surfaced. Mountains of northern FORMOSA visible at 40 miles. The clearest weather we have had in the area.
- 2111 I Observed searchlight drill on FORMOSA.
- 2259 I OOD, JOOD and lookout sighted green flare with orange tail, bearing 090 T. Headed over to investigate. Listened on JK.
- 2321 I SD contact 8 miles, closing. Bogey. Submerged. This flare was explained.

CONFIDENTIAL13 May

0029 I Surfaced.
 0549 I SD contact 7 miles, bogey. Submerged. Periscope patrol.
 0930 I Heard possible explosion.
 0940 I 2 more possible explosions.
 0945 I Another possible explosion.
 Noon Position - (DR) Lat. 25-49.5 N, Long. 121-36.5 E.
 1851 I Surfaced.
 1951 I JOOD heard 2 explosions from bridge - nothing heard below decks, nor by anyone else.

14 May

0435 I SD contact 8 miles, bogey. Submerged.
 0524 I Surfaced.
 0607 I SD contact 9 miles, bogey. Closed to 8. Submerged. Periscope patrol.
 Noon Position - (DR) Lat. 25-43.2 N, Long. 121-31.8 E.
 1727 I At 55 feet OOD sighted object which he thought was a periscope, bearing 132 T. This was allegedly complete with feather.
 1733 I I sighted the alleged periscope but with a more judicious length of own periscope exposed. The alleged feather was on the opposite side from that originally reported. This object did not form a silhouette against the sky as a submerged periscope should and does, with the proper amount of own periscope exposed. The sea was calm with an easy swell and an occasional whitecap. All clear by sound. Headed over to investigate on last bearing.
 1842 I Reversed course.
 1845 I OOD (a new one), sighted what he thought was a piece of wood with a bird sitting on it.
 1925 I Surfaced. Went close aboard of object with bird on it. This was a pear shaped object similar to an airplane belly tank or wing-tip float. It was probably the "periscope".
 2120 I Forward torpedo room and conning tower heard what sounded like distant explosions. These are believed to have come from misalignment or other disarrangement of the QB-TDM head.
 2130 I Set course for lifeguard station.

15 May

0112 I Observed searchlight drill on FORMOSA.
 0259 I Searchlight display.
 0810 I SD contact 11 miles, bogey, closing to 8. Submerged. Set course in the blind bombing zone for lifeguard station.
 1017 I Surfaced.

CONFIDENTIAL15 May (Cont.)

- 1150 I Heard first of several rumbling explosions from direction of FORMOSA, 20 miles away. Probably due to our strikes.
- 1151 I On lifeguard station. SD contacts, 28 and 32 miles, friendly. Faded.
- Noon Position - Lat. 24-58.9 N, Long. 120-27.3 E.
- 1422 I Submerged. Headed out of blind bombing zone.
- 1552 I Surfaced. Headed over for western side of FORMOSA STRAIT.
- 2023 I SD contact 7 miles, bogey. Submerged.
- 2109 I Surfaced.
- 2203 I Observed strange pip on "A" scope of SJ. At a range of about 6000 yards there was a persistent pip on a steady true bearing, which stayed on the screen no matter what our heading. The pip for the most part remained at a constant height of about $\frac{1}{4}$ inch. Occasionally, however, it would rise to saturation. It was 900 yards wide and plotted by rough check as stationary. The most peculiar feature was that the pip was fuzzy at all times on both sides and on the top. The sky was absolutely clear with no clouds, and with a quarter-moon at about 170 degrees from the bearing of the pip.
- 2215 I After everyone had a look at the pip and couldn't make anything out of it, we went to tracking stations and started an end-around on the pip, intending to get it up-moon and look at its source. The pip immediately disappeared. We ran through its former position and found nothing.
- 2300 I SD contact 6 miles, closing. Bogey. Submerged.

16 May

- 0013 I Surfaced.
- 0659 I Submerged. Periscope patrol off LAMYIT, working up toward TURNABOUT.
- Noon Position - (DR) Lat. 25-00.9 N, Long. 119-32.5 E.
- 1530 I Observed object through periscope, was not well seen, might possibly have been a mine. Attempted to copy 8KC lifeguard sked on SD antenna. Could hear NPN and other stations but was unable to hear 8KC.
- 1917 I Surfaced.
- 2000 I SJ interference bearing 078 T. The radar officer was sure that we had a Japanese 10 centimeter radar at this point. We had built up a little reserve of fuel so I decided to chase this will-o-the-wisp. We maintained a search on the ST radar, and would break off from this and listen on the SJ at frequent intervals. The interference

CONFIDENTIAL16 May (Cont.)

remained on the same true bearing and kept growing weaker as we drew closer. There was no land on this bearing. After remaining steady for 2 hours the bearing of the interference drifted to the right to 100 T, where it remained for the rest of the night. At 0145 SJ interference was picked up from another source, bearing 260 T. This bearing too, remained constant for the remainder of the night despite our maneuvers of steaming in a square in the middle of FORMOSA STRAIT. My conclusion is that interference on the SJ radar does not necessarily indicate another SJ, nor even another 10 centimeter radar. I believe that we have quite a bit to learn about skip distances, harmonics, refraction, reflections, side lobes, back lobes, and general atmospheric conditions in connection with this radar. During the night, APR contacts were noted on the following frequencies: 200, 203, 222, 230, 226, 160, 164 mcs.

17 May

- 0049 I Brief searchlight display from FORMOSA.
 0704 I SD contact 6 miles, submerged.
 0854 I Sighted three-masted junk bearing 180 T. He was right on our lifeguard station.
 0908 I Surfaced. Manned 40 MM and .50 Cal. guns and started in to investigate junk. It was a fairly large three-master with no markings nor pennants nor paint of any kind except for the eyes in the bow. Circled him and looked him over. He was making 4 knots with the wind headed for FORMOSA. Position: Lat. 25-09.5 N, Long. 120-40.3 E, which is a point 20 miles off the FORMOSAN west coast. His course and speed thus aroused my suspicions. In over a month in the area this was the first time that we had seen a junk of this size, this far from the CHINA coast.
 0952 I Fired two 40 MM shells across bow of junk. The junk made no attempt to lower his sails, but maintained his course and speed.
 0957 I Shot down mainsail. He still made no attempt to lower his other sails. Shot down all sails. No other damage was done. Went close aboard junk, told the occupants to get into the sampan. They launched the sampan readily enough, but only half the crew of 14 threw in a few personal belongings and jumped in. They sculled over and came alongside of us and swarmed aboard like flies. They were happy to be aboard. We managed to keep them all from getting out of the sampan and to put some

CONFIDENTIAL17 May (Cont.)

back in and sent it back to the junk. This left about 3 Chinamen on board. Went alongside junk. About 4 more Chinamen jumped right aboard the submarine. Pulled clear from junk and directed rest of crew by megaphone to man the sampan. They thought they were all being invited over to the submarine so they climbed into the sampan without delay and came alongside. We had the boarding party down on deck waiting for them this time. Took their painter and secured it, and by threats with guns and main force, prevented the occupants from boarding us. We then forced all 14 Chinamen to get into the sampan with their bags and baggage. This was a feat of no mean suasion on the part of the Chief of the Boat. Those who were on board went to their knees and protested while those who were in the sampan joined them in moaning and sighing. We finally got them all loaded. The sampan, although it was taking water over the gunnels from time to time, was in no danger of sinking. The occupants protested, however. While we kept the sampan secured alongside to starboard with a guard with a carbine keeping the occupants in their places, we went alongside the junk and secured it alongside to port. Boarding party examined it thoroughly. It had a small amount of fish, very little fishing tackle, about 3 bags of rice, a few papers, one suitcase of fairly good civilian clothes, but nothing more suspicious. The papers will be turned over to the language officer. It now appeared that the junk might be actually engaged in the fishing trade. His movements were still unexplained but it was obvious that he was not carrying cargo for the enemy. Decided not to sink the junk. Cast loose both junk and sampan. Told the middle-aged leader of the group to head west, not east, and backed clear. Gave them a gunny sack full of canned food and a whole carton of cigarettes, which should more than make up for the holes in their sails and the damage to their halyards.

- 1121 I SD contact 20 miles, friendly. Never sighted this plane but talked to him on VHF. He was not our cover.
- 1137 I SD contact 19 miles, bogey, closing, and by the rate of closing, apparently headed right for us. SD contact 27 miles, friendly, closing, at the same time. We were working one plane

CONFIDENTIAL17 May (Cont.)

- on the VHF at this time but did not know whether it was the bogey or the friendly. The bogey kept coming right in.
- 1142 I Sighted plane, position angle 40, nearly up-sun, angle on bow about 10. Range 4 miles. This plane had 4 engines but neither the OOD nor myself could see any other friendly characteristics. Tail and fuselage were not visible. Submerged. On the way down "JUKEBOX ONE" informed us that he should now be about 3 miles southeast of us. Assumed that "JUKEBOX ONE", (who was our B-17 cover) was the bogey that we had just sighted. Went to periscope depth and searched for him. He was not visible. This was the only ill-mannered plane that we had yet encountered. All the time we were down he hovered overhead so that we were not able to see him. I finally realized that this was what he was doing. Raised the SD mast and immediately got the plane at 4 miles. Came up to 46 feet and raised him on the VHF. Asked him to make his cockerel crow and to keep it crowing while he was near us. He did. We surfaced. The plane said that he had a report that a B-25 was in trouble at 34 GOLDEN GATE 21(sic). We finally got settled that 34 GOLDEN GATE 021 was the place to search. "JUKEBOX ONE" said that he would make a brief search and come back and let us know. We set course for the spot in question.
- Noon Position - Lat. 25-23.5 N, Long. 120-48 E.
- 1305 I Sighted plane, 4 engines, position angle 5°, about 10 miles, headed directly for us. Called "JUKEBOX ONE" on VHF and asked him to turn on his IFF again. He did. He was the plane in sight. He reported negative results of his search. We continued on to the spot and on the afternoon sked received word that no plane was down.
- 1819 I SD contact 15 miles, bogey. Closed to 10. Sighted from bridge a formation of one bomber and about seven fighters headed south for FORMOSA. Submerged.
- 1915 I Surfaced. Sighted floating object. Headed over to investigate.
- 1926 I Lookout sighted "BETTY" about 15 miles, headed south for FORMOSA.
- 1934 I Lookout sighted second "BETTY" about 10 miles, headed south for FORMOSA.
- 1938 I Floating object identified as metallic object almost a cube in shape, about 4 feet on a side. Very similar in appearance to a pontoon of type used in making up our pontoon barges.

CONFIDENTIAL17 May (Cont.)

- 1930 I Copied LUZON sked which included no lifeguard for us for tomorrow. Had tried to raise MUSKALLUNGE unsuccessfully to determine his ETA at the lifeguard station, but now decided that since he was due on the 18th and there was no business scheduled for that day, that, even if he were delayed 24 hours he would be in plenty of time. There was very little prospect of the lifeguard station being left unguarded. Set course out of area in accordance with orders already received from ComSubPac.
- 2000 I SD contact 15 miles, bogey. Closed to 10, sighted from bridge. Angle on bow 10. Submerged.

18 May

- 0515 I SD contact 5 miles, closing. Submerged. Lost power on stern planes.
- 0612 I Surfaced. Set course north along China coast for search by daylight of the area which has now become blind bombing by night. Sighted many junks.
- 0730 I Circled close aboard junk #11704. He doused his sails at our approach. All hands showed considerable alarm until we broke out the colors, at which the occupants smiled and waved at us.
- 0740 I Flying flag for junk #9407. Sighted more junks during morning but did not investigate any more of them closely.
- 1150 I Decoded orders from ComSubPac, directing COD and MUSKALLUNGE to rendezvous in vicinity of 32 N - 126 E to transfer PCO from COD to MUSKALLUNGE to assume command and to transfer CO of MUSKALLUNGE, who was ill, to COD, for further transfer to GUAM.
- Noon Position - (DR) Lat. 27-38:8 N, Long. 121-35.8 E.
- 1215 I Commenced first of several attempts to raise MUSKALLUNGE on area frequency to arrange time of rendezvous.
- 2114 I Decoded 5th Air Force request for lifeguard submarine on 19 May. There was nothing we could do about this and the information was available to ComSubPac.
- 2130 I Worked MUSKALLUNGE. From his reply it was apparent that he had not received the orders to the rendezvous. Referred him to the message. In reply received request for rendezvous closer to base. Assigned new rendezvous at Lat. 32-23 N, Long. 127-30 E. This rendezvous was as far east as I thought it advisable to prescribe

CONFIDENTIAL18 May (Cont.)

and still be in the open sea west of DANJO GUNTO. Asked MUSKALLUNGE whether he was proceeding on surface, and held in abeyance the matter of shifting the rendezvous to the south of DANJO GUNTO. MUSKALLUNGE replied that he was proceeding submerged on the 20th but would try to run surface thereafter.

19 May

0405 I

Immediately upon changing the location of the rendezvous which had been designated by ComSubPac, I sent a message to ComSubPac informing him of the new location and of my estimated time of arrival. I did this because the MUSKALLUNGE was in communication with ComSubPac and was sending him information without making it available to me. Communications between the MUSKALLUNGE and COD had not been reliable. My experience with rendezvous has shown that it is best to keep all parties concerned fully informed.

0430 I

Decoded message from ComAir OKINAWA telling submarines in vicinity of Lat. 32, Long. 127 to be alert for planes in trouble during the afternoon of the 19th. Apparently a strike at the KOREAN coast. Sent message to OKINAWA telling them our estimated noon position, course, and speed, and volunteering to serve as lifeguard.

0806 I

Sent message to ComSubPac telling him all available information that I had obtained from the MUSKALLUNGE with my plans for rendezvous.

0910 I

SD contact 7 miles, bogey. Submerged. Rain and general poor visibility all day today.

0935 I

Surfaced.

Noon Position - (DR) Lat. 31-14.8 N, Long. 125-13.1 E.

1254 I

SD contact 23 miles, friendly. Worked him on VHF. No targets.

1934 I

Decoded message from radio OKINAWA saying the strike had been delayed until the 20th.

20 May

0034 I

Worked MUSKALLUNGE, getting his position, course, speed and estimated time of arrival at rendezvous of 0200 I on the 21st. A plot showed that he was intending to run submerged on the 20th. This factor ruled out a rendezvous south of DANJO GUNTO. Accordingly I did not change the rendezvous and sent a message to OKINAWA telling them we would be in the rendezvous position on 20 May and would like to lifeguard.

CONFIDENTIAL20 May (Cont.)

- 0245 I Exchanged calls with SEGUNDO by SJ.
 0804 I Arrived at rendezvous station. Ran a short line up towards QUELPART ISLAND during the day and returned.
 Noon Position - Lat. 32-41.1 N, Long. 127-26 E.
 1245 I Lookout sighted two planes, distance 4 miles, apparently Coronados. Submerged.
 1319 I Surfaced.
 2239 I Exchanged signals with MUSKALLUNGE by SJ radar.
 2329 I SJ contact on MUSKALLUNGE. Worked him by VHF. Ascertained that CO would be able to make trip in rubber boat. Fairly heavy seas. Had MUSKALLUNGE lie to and pump oil while we circled him, spreading oil.

21 May

- 0040 I Cast loose rubber boat containing Comdr. W. H. LAWRENCE, 73367, USN with SOP orders to assume command of MUSKALLUNGE and with Lt. HURST as Cox. Spread 5 more gallons of oil from the Forward Torpedo Room head, backed clear, and withdrew to leeward. Sent MUSKALLUNGE in to recover boat.
 0110 I MUSKALLUNGE received boat alongside.
 0116 I MUSKALLUNGE east loose boat and pulled clear to windward. Commenced maneuvering to recover boat. The oil slick proved reasonably effective in keeping the waves from breaking. Lt. HURST reported that his chief difficulty came from the fish nudging him through the bottom of the boat. He turned off his light for a short time when this happened but turned it on again as soon as we started playing the searchlight.
 0150 I Recovered boat and occupants, taking aboard Lt. Comdr. L. A. LAJAUNIE, Jr., 78819 USN., the former CO of the MUSKALLUNGE.
 0155 I MUSKALLUNGE departed on patrol. We set course for GUAM.
 Noon Position - Lat. 31-19.7 N, Long. 128-58 E.
 We had been experiencing squally weather all day with wind and sea from the northeast, gradually veering to eastward, and with a falling barometer. When the barometer dropped 0.30 inch in one hour, it was apparent that we were in the northeast quadrant of a cyclonic storm. At 1600 the barometer steadied at 29.60 inches. The winds decreased in intensity and rapidly veered to southwest, and for a short period we had an almost calm sea with a slight up and down movement and the sun shining overhead.

CONFIDENTIAL21 May (Cont.)

By 1700 wind and sea had commenced picking up again from the southwest as we passed the storm center.

2124 I Commenced uneventful transit of the NANSEI SHOTO using the passage south of AKUSEKI JIMA. Our control of the air was well demonstrated. I had judged that the weather was too poor for any plane contacts this night. In actuality we had no enemy plane contacts and had one contact with an OKINAWA-based search plane. After receiving his report of no targets we told him about the typhoon to the north-westward. He replied that he knew about it since he had been flying around in it for the past 3 hours. I doubt that the American public will ever fully realise the risk and hardships involved in the non-glamorous aspects of the air war.

22 May

0515 I Submerged. Unable to maintain depth control at periscope depth. Commenced watering batteries and making routine repairs.

1009 I Surfaced.

1141 I Passed floating oil drum.

Noon Position - Lat. 29-11 N, Long. 131-55 E.

23 May

0530 I Made trim dive.

0611 I Surfaced.

Noon Position - (DR) Lat. 29-16.9 N, Long. 136-56.5 E.

1421 K Sighted 2 mines. Our position - Lat. 29-18 N, Long. 137-15 E. Usual type. Reddish color, light rust; not many barnacles. Exploded 1 mine with 40 MM. Holed second mine with .50 Cal. A small amount of smoke came out of the hole in the mine. It sank very slowly and was watched out of sight.

24 May

0051 K SD contact 23 miles, bogey. Closed steadily to 8. Submerged.

0154 K Surfaced. Had SD contact shortly after surfacing, but this time it showed friendly.

0524 K Friendly planes passed overhead.

0853 K SD contact 7 miles, bogey. Submerged.

1007 K Surfaced.

Noon Position - Lat. 27-20.8 N, Long. 139-16.8 E.

1351 K SD contact 10 miles, bogey. Closed to 8. Submerged.

1437 K Surfaced.

CONFIDENTIAL24 May (Cont.)

- 1655 K Intercepted message from a plane to AGATE BASE telling of 3 Corsairs last seen 75 miles from our position. Raised AGATE BASE and offered to help in the search. AGATE BASE did not understand our Victor call, so we had to explain to him that we were a submarine. He replied that he could use us the next day, told us to stay in the joint zone and that the Dumbo planes would contact us in the morning. Sent message to ComSubPac advising him that we were doing this.
- 2041 K Conducted battery discharge at 6-hour rate.

25 May

- 0155 K Received messages from ComSubPac and ComTask Group 17.7 permitting us to search a 90-mile square surrounding the reported position, and informing us that an emergency submarine notice had been issued to cover us. Entered air-surface zone and commenced search. Reported our movements to AGATE BASE as soon as he came up on the lifeguard frequency in the morning. Sighted Dumbos. Worked them by VHF and on lifeguard frequency.

Noon Position - Lat. 25-47.3 N, Long. 138-30.3 E.

- 1932 K Sunset. Discontinued search. Returned to Joint zone and resumed course for GUAM.

26 May

- 0758 K Made trim dive. Routine tests prior to refit. Indications that excessive cavitation as well as bearing squeal exists in propellers.
- 0929 K Surfaced.
- Noon Position - Lat. 23-21 N, Long. 139-47 E.

27 May

- Noon Position - Lat. 18-53.8 N, Long. 139-42.2 E.
- 1232 K Submerged. Battle problem.
- 1329 K Surfaced.

28 May

- 0927 K Sighted two friendly submarines. Exchanged messages with CREVALLE.
- Noon Position - Lat. 15-29.9 N, Long. 141-43.5 E.
- 1403 K Sighted friendly submarine. Exchanged challenge.

29 May

- Arrived GUAM.

CONFIDENTIAL(C) WEATHER

No extreme weather conditions were encountered during the patrol. The weather, in general, agreed with the predictions of the H.O. publications for this time of year (overcast and misty). One typhoon was encountered, with a barometer of 29.60 at the center.

(D) TIDAL INFORMATION

The tides and currents encountered during this patrol conformed to those indicated on the current charts and in the H.O. publications for this area and time of year. A set of about 0.6 knots to the northeast was experienced in the middle of FORMOSA STRAIT, and a set of 0.5 knots to the south within twenty miles north of KEELUNG, FORMOSA.

(E) NAVIGATIONAL AIDS

No navigation lights were observed to be burning on the FORMOSA or CHINA coast. Navigation was accomplished mostly by sunsights, radar fixes and soundings. Soundings checked closely with H.O. Chart 5495.

(F) SHIP CONTACTS

No:	Date	Long.	Type(s)	Initial Range	Est. Course	How Con-	Remarks
1.	:1820 I :11 April	:20-32 N :137-29E	: :Convoy	: :17,000	: 120 : 13	:Look- : out	:Friendly :
2.	:0748 I :17 April	:31-32 N :124-33E	:Tug and : Tow	: :18,000	: 030 : 6	:Look- : out	:Gun Attack :No. 1
3*	:2130 I :24 April	:25-49N :121-24 E	:AM, PC, : SB	: :12,000	: 355 :11.75	: : TDM	:Torpedo :Attacks
4.	:0652 I :3 May	:26-38N :121-25E	: : AH	: :17,500	: 015 : 14	:High :Peris-	:Looked :more like
	:	:	:	:	:	:cope	:AK

* Additional information for Contact No. 3: Original contact was by traces on TDM bearing 020 relative, which were identified as echo-ranging signals on 15.6 kcs; depth of water then being about 48 fathoms. Submarine was surfaced, making 5.5 knots on auxiliary engine. No other sound gear was in use at time.

CONFIDENTIAL(G) AIRCRAFT CONTACTS

More than 170 contacts were made on planes or groups of planes. From an analysis of those which were believe to be enemy, the following sumises are made and are probably already out of date: In the area to the north and west of FORMOSA numerous air patrols are encountered with regularity, probably operating from the airfields at TAKHOKU and SHINCHIKU on northern FORMOSA. Contacts further indicate that the majority of the patrols to the north and some of those to the west emanate from TAIHOKU, with SHINCHIKU taking the remainder of the westerly patrols. In the area to the north early morning and early evening planes can be expected; those observed were either type SALLY or BETTY. On a line from TAIHOKU to FOOCHOW contacts were very regular at about two hour intervals from 1800 I to 1000 I, with the greatest number of contacts around 1800 I. The shuttle patrols from FOOCHOW and FORMOSA probably overlap considerably during the evening sweeps. On several occasions a transport was observed heading for TAIHOKU in the evening coming from the direction of the Chinese mainland. This plane is scheduled to arrive FORMOSA at about 1900 I. This plane was several times identified as a DOUGLAS DC-2 (TESS).

Close in to FORMOSA a great number of contacts were encountered in the morning at about 0600 I. On some occasions the planes were observed visually and were in the majority of cases BETTY bombers. Planes are numerous about 1700 I and 2100 I, type SALLY being observed on several occasions. The evening patrols are also carried out along the CHINA coast from 1700 I to 2000 I.

There was no evidence of seaplanes operating from the reported bases at TANSUI KO or FOOCHOW.

One evening at sunset, after a strike by our planes, we sighted a bomber accompanied by at least seven fighters, and several lone bombers, all headed south at a point 20 miles north of KEELUNG. The presence of the fighters was extraordinary; a report of their presence was included in a routine despatch to ComSubPac.

Prior to our westward passage through the NANSEI SHOTO, a four engine land plane with round fuselage and mid-wing bombed us. This plane was probably based on KYUSHU and searching the area to the east and south of TOKARA GUNTO. He was a little slow at his trade; we

CONFIDENTIAL

(G) AIRCRAFT CONTACTS (Cont.)

we were at 200 feet with the ventilation running when the bomb exploded. As we proceeded further westward we had more contacts the same day and throughout the transit.

No new tactics were encountered.

J
On only one occasion did we encounter bad manners on the part of a friendly plane. The difficulty arose, ironically enough, with a IJZON E-17 (call. JUKK BOX ONE) who was our air cover on a lifeguard mission. It was apparent that he just didn't know any better than to close right in on us from up-sun with his BK secured, and then, after driving us down, to hover directly overhead. (See narrative for 17 May.) This was in marked contrast to the behaviour of all other IJZON planes, OKINAWA planes, and MARIANAS planes encountered east of the NANSEI SHOTO. We found it very easy to exchange information with most of them by VHF.

↑
It is indeed a privilege and a pleasure to witness the feats of skill and airmanship which are apparently routine with the search squadrons based on OKINAWA.

U.S.S. COD (SS224)

CONFIDENTIAL

(H) TORPEDO ATTACKS

(SHIP CONTACT NO. 3)

U.S.S. COD (SS224) TORPEDO ATTACK NO. 1 PATROL NO. 6

Time 2156 I Date 24 April 1945 Lat. 25-50 N.
Long. 121-16.1 E.

Description: AM No. 41

Ship(s) Sunk: None

Ship(s) Damaged: None

Damage Determined by: None

Target Draft 6' Course 325 Speed 11 3/4 Range 3100 yds
(Torp. Run)

OWN SHIP DATA

Speed 4.5 Course 098 Depth Surface Angle 0

FIRE CONTROL AND TORPEDO DATA

Night surface attack using radar ranges and
TBT bearings. Divergent spread.

Tubes Fired	3	4	5	6
Track Angles	45 $\frac{1}{4}$ P	45 $\frac{1}{4}$ P	46P	47.3P
Gyro Angles	001 $\frac{1}{4}$	001 $\frac{1}{4}$	001 $\frac{1}{2}$	001 $\frac{1}{2}$
Depth Set	2'	2'	2'	2'
Hit or Miss	Miss	Miss	Miss	Miss
Erratic (yes or No)	Yes	Yes	Yes	Yes
Mk. Torpedo	18-2	18-2	18-2	18-2
Serial	99236	99357	99243	99365
Mk. Exploder	8-7	8-7	8-7	8-7
Serial	15929	15925	15832	15812
Actuation		CONTACT		
Mk. Warhead	18-2	18-2	18-2	18-2
Serial	5707	5631	5698	5648
Explosive	TPX	TPX	TPX	TPX
Firing Interval	0	12	12	13
Type Spread	0	0	$\frac{1}{4}$ ° R	$\frac{1}{4}$ ° L
Sea Conditions		FLAT SEA		
Overhaul Activity		U.S.S. ORION		
Power	27.15	27.15	27.20	27.20

U.S.S. COD (SS224).

CONFIDENTIAL

(H) TORPEDO ATTACKS (Cont.)

U.S.S. COD (SS224) TORPEDO ATTACK NO. 2 PATROL NO. 6

Time 0056 I Date 25 April 1945 Lat. 25-53.9 N.
Long. 121-08 E.

Description: AM No. 41
Ship(s) Sunk: One
Ship(s) Damaged: None
Damage Determined by: Prisoner of War.
Target Draft 6' Course 308 Speed 11 Range 490 yards
(at firing)

OWN SHIP DATA

Speed 3.6 Course 240 Depth 60' Angle 0

FIRE CONTROL AND TORPEDO DATA

Submerged attack using periscope radar ranges and periscope bearings.

Tubes Fired	8	9	10
Track Angles	7 S	16 S	22 S
Gyro Angles	235	232	228
Depth Set	3'	3'	3'
Hit or Miss	Miss	Miss	Hit
Erratic (Yes or No)	No	No	No
Mk. Torpedo	18-2	18-2	18-2
Serial	99218	99317	99375
Mk. Exploder	8-7	8-7	8-7
Serial	11602	15962	15918
Actuation	Contact	Contact	Contact
Mk. Warhead	18-2	18-2	18-2
Serial	5721	5709	5602
Explosive	TPX	TPX	TPX
Firing Interval	0	9	10
Type Spread	0	45 Ft.	61 Ft.
Sea Conditions		FLAT SEA	
Power	28.40	28.40	28.40
Overhaul Activity		U.S.S. ORION	

U.S.S. COD (SS224)

CONFIDENTIAL

(H) TORPEDO ATTACKS (Cont.)

(SHIP CONTACT #3)

U.S.S. COD (SS224) TORPEDO ATTACK NO. 3 PATROL NO. 6

Time 0522 I Date 25 April 1945 Lat. 26-54.7 N.
Long. 121-10.7 E.

Description: PC and engine aft vessel,
SB or smaller.

Ship(s) Sunk: None.

Ship(s) Damaged: None.

Damage Determined by: None.

Target Draft 6' Course 323 Speed 11 3/4 Range 3500
6' 335 11 3/4 2900
(Torp. Run)

OWN SHIP DATA

Speed 9.4 - 6.3 Course 030 Depth Surface Angle 0

FIRE CONTROL AND TORPEDO DATA

Night radar surface attack using radar ranges
and TBT bearings.

	3	4	5	6	1	2
Tubes Fired	3	4	5	6	1	2
Track Angles	121.5 P	121 1/4 P	124.5 P	115.6 P	115.8 P	117 P
Gyro Angles	353 1/2	353 1/4	349 1/2	009 1/2	010 1/4	008
Depth Set	3'	3'	3'	3'	3'	3'
Hit or Miss	Miss	Miss	Miss	Miss	Miss	Miss
Erratic (Yes or No)	Yes	Yes	Yes	Yes	Yes	Yes
Mk. Torpedo	18-2	18-2	18-2	18-2	18-2	18-2
Serial	99274	99262	99397	99215	99267	99260
Mk. Exploder	8-7	8-7	8-7	8-7	8-7	8-7
Serial	15849	15866	15854	15700	15911	15961
Actuation			CONTACT			
Mk. Warhead	18-2	18-2	18-2	18-2	18-2	18-2
Serial	5714	5712	5747	5682	5666	5726
Explosive	TPX	TPX	TPX	TPX	TPX	TPX
Firing Interval	0	12	13	0(50)	13	10
Type Spread	0	1/2° R	1/2° L	0	1/2° R	1/2° L
Sea Condition			FLAT SEA			
Power	27.50	27.50	27.50	27.70	27.70	27.70
Overhaul Activity			U.S.S. ORION			

U.S.S. COD (SS224)

CONFIDENTIAL

ATTACK DATA

U.S.S. COD (SS224) GUN ATTACK NO. 1 PATROL NO. 6

Time 1101 I Date 17 April 1945 Lat. 31-51.5 N.
Long. 124-51.5 E.

Target Data - DAMAGE INFLICTED

SHIPS SUNK: One tug, possibly CHUYO MARU
One loaded wooden oiler.

DAMAGED OR PROBABLY SUNK:

DAMAGE DETERMINED BY: Observed to sink.

DETAILS OF ACTION

USED: (1) 5"25 cal. gun; Expended 69 rounds, fuzed HC.
(2) 40 MM guns; 316 rounds expended.

Surfaced astern of tug with tow at range of 3750 yards. Closed range, maneuvering to keep tow between COD and tug, to 3200 yards and opened fire with 5" gun. Third round struck in waist of oiler and a great ball of flame enveloped the midship section of the ship, followed by dense clouds of black smoke rising immediately. About 17 more rounds were fired rapidly and approximately 90% were observed to hit the fore-castle, poop, and sides, sending new sheets of flame aloft and a pall of oil smoke several hundred feet high, enveloping the target. Tug had meanwhile cast loose the tow and placed herself in protected position with oiler between COD and herself, at the same time attempting to clear the area. COD speeded up, closed oiler, raking entire length with 40 MM fire, and opened fire on tug. Crews of tug and oiler were observed mounting and manning machine guns at this time, many splashes around COD.

First seven to ten rounds were observed to fall close aboard tug, who at this time was swerving wildly from side to side, finally presenting a zero angle on bow to COD. Tug was firing at COD with 20 MM or heavy Hotchkiss gun mounted on wheelhouse and two other guns, when a near miss on tug's starboard side caused her to lose steerage way and steering. Sharp turn to her port and marked reduction in speed indicated this as she presented 90 starboard angle on bow. Crew of tug abandoned ship. At this time target was observed to be completely riddled by fragments from H.E. shells.

CONFIDENTIAL

ATTACK DATA (Cont.)

The metal superstructure was shredded and from the vicinity of the engine room arose many small streamers of smoke. Several hits were observed on various parts of the vessel further rending the deck houses and hull. 40 MM opened up on tug at this time, raking hull and 5" put several rounds in the engine rooms starting additional fires and causing several violent explosions believed to be boilers. COD closed to 2000 yards putting several rounds in waterline which sent ship to the bottom.

Closed oiler to about 500 yards, firing into hull along waterline on side and stern, causing it to sink. During this firing several bright flashes were noticed amidships followed by sheets and jets of flame. As the oiler sank, drums which were on deck floated off into the water and the crackling and popping noises continued for some time.

While at MARE ISLAND we adopted the 5" fire control system which had been promulgated by Comdr. D. C. WHITE. This consists of telephone control from the conning tower, with control and spotting officer on a periscope. Target is kept set up on TDC, using gun as a range finder after initial salvo. Range spots are by SJ radar. Every 40-yard increment is sent to the gun. The system has many advantages. The control party is behind armor in the conning tower in relative quiet, yet in easy communication with C.O. on the bridge by 7 MC. The gunnery officer on the periscope shears is free to control all rapid fire guns by voice. The executive officer at the other periscope is free to watch all targets and pick up any item being overlooked by the commanding officer.

In an effort to simplify ammunition stowage and supply, this vessel mounted the following secondary guns for this patrol: Two 40 MM, four .50 cal., zero 20 MM. This decision was made against the advice of the force gunnery officer, who pointed out that the 20 MM is a more reliable gun than the 40 MM. It required most of our training period to learn about the 40, especially to find the best weight and amount of grease to be used. The guns during this patrol were thoroughly reliable and their performance is a fitting tribute to the industry and attention to duty of Lieut. Charles PODOREAN and ALDRIDGE, J. E., GM2c.

CONFIDENTIAL(I) MINES

Summary of mines sighted and results obtained.
For additional information see narrative and photographs.

14 April	Lat. 29-13 N	Long. 132-13 E	Exploded
15 April	Lat. 29-58 N	Long. 128-47 E	Sighted through periscope.
16 April	Lat. 31-23 N	Long. 128-55 E	Doubtful night contact.
16 April	Lat. 32-27 N	Long. 128-17 E	Failed to sink it.
16 April	Lat. 32-22 N	Long. 125-27 E	Night. Lost at moonset.
17 April	Lat. 31-45 N	Long. 134-35 E	Exploded.
18 April	Lat. 29-05 N	Long. 123-32 E	Exploded.
18 April	Lat. 27-27 N	Long. 122-37 E	Exploded.
24 April	Lat. 25-10 N	Long. 120-45 E	Large type mine. Low order explosion.
25 April	Lat. 26-35 N	Long. 121-52 E	Exploded.
25 April	Lat. 26-19 N	Long. 121-56 E	Holed with 40 MM. Sank.
25 April	Lat. 26-08 N	Long. 121-57 E	Holed with 50 Cal. . Smoked. Sank.
26 April	Lat. 26-15 N	Long. 121-25 E	Exploded.
4 May	Lat. 28-43 N	Long. 123-57 E	Delayed action explosion.
23 May	Lat. 29-15 N	Long. 137-15 E	Exploded.
23 May	Lat. 29-15 N	Long. 137-15 E	Holed with .50 Cal. Smoked. Sank.

No conclusions as to enemy mining operations have been drawn. It is my opinion that floating mines are apt to be encountered anywhere in the CHINA SEA or in the waters off JAPAN. All of them are potentially dangerous.

The paucity of mine contacts during the latter part of the patrol is attributed neither to the absence of mines in the locality nor to reduction in vigilance on our part. It is readily explained by increased submerged patrolling and by rougher weather, which made very difficult the sighting of mines or any other floating objects by lookouts.

CONFIDENTIAL(J) ANTISUBMARINE MEASURES AND EVASION TACTICS

During attack No. 2, (the submerged attack on AM #41), the target was using a modulated signal with automatic keying, shortening range scale as the range closed. He continuously shortened the keying interval as the range closed under 800 yards, indicating the use of equipment similar to the chemical range recorder of our own A/S vessels. The frequency of his equipment and that of the PC in company was 15.6 kcs. During attack No. 3 a zero beat was obtained on the same PC at 15.3 kcs.

Evasion tactics consisted of steering a continuously curving course at 50 r.p.m., running silent at 150 feet with depth of water 270 feet. Serious damage was avoided by reason of the depth setting of the charges, which were all too deep. We could have done a much better job of avoiding the first depth charge attack. When it was apparent that one A/S vessel was starting in for a good run on the second depth charge attack, we fired an NAE beacon and speeded up. The NAE beacon was a dud, as had been the one which we fired during the training period at PEARL.

(K) MAJOR DEFECTS AND DAMAGEHULL AND MACHINERY

QB The QB sound head installation as presently connected with the TDM is unsatisfactory. The high speed training of the QB head has caused noticeable wear on the shaft, which in turn, creates excessive vibration due to the increased clearances. The vibration keeps the hydraulic lines to the sound head loose.

There is present in the QB sound head installation a pounding noise, the cause of which is unknown. The fault may be with a loose spider and drum or the outer door.

SHAFTS The starboard shaft has a squeal when running at speeds of 65 r.p.m. or higher. The intensity of this squeal has progressively increased throughout the patrol. Investigation has revealed no abnormal high temperatures at the stern tube bearing. The squeal may originate in the strut or possibly the stern tube bearing and its frequency is one per revolution. A lesser noise is present in the port shaft.

HYDRAULIC SYSTEM The hydraulic plant acquired a pounding noise in the accumulator. This defect was traced to faulty packing. Upon disassembly the leather packing was found hard and dry despite proper maintenance. The oil side was repacked and the shaft stoned. This eliminated

CONFIDENTIAL(K) MAJOR DEFECTS AND DAMAGE (Cont.)HYDRAULIC SYSTEM (Cont.)

the noise for a period of about sixty hours' operation but it has since reappeared.

TRIM PUMP PANEL While charging batteries, an attempt was made to run the trim pump. This blew the line fuses and tripped the circuit breaker on the forward distribution panel.

Investigation showed that the first accelerating contactor "1A" was closing simultaneously with the line contactors, starting the dead motor with "1R" cutout. The resultant overload blew the fuses and tripped the circuit breaker. The panel overload relay dash pot was too full of oil causing too long a lag in the operation of this relay. The oil level was corrected, and adjustment made on contact "1SR" to slow down the operation of "1A". As this adjustment had no effect, the panel was taken to the tender and thoroughly checked, both electrically and mechanically by ship's force and tender repair force. No defect was found that could cause the above condition. A new "1SR" coil was wound using more turns and this coil upon pulling up the relay armature would not release it again. The number of turns was gradually reduced until the same number remained as were originally wound. As a result of this experiment it was found that "1A" operated regardless of the "1SR". The wiring was checked with the blueprint, new coils were installed and all moving parts renewed without effect. The panel was reinstalled and operated manually by holding "1SR" open until the line surge dropped off. It is desired that this panel be broken down completely during the forthcoming refit and if the faulty operation cannot be corrected a new panel be installed. It is to be noted that this panel previous to the installation of the Gould type trim pump operated satisfactorily. When the Gould type trim pump was installed at MARE ISLAND the pump motor was modified, but no modification was made in the starting panel.

#2 LIGHTING MOTOR GENERATOR SET. An excessive increase in D.C. voltage was caused by loss of speed control on this set. Automatic speed control failed due to "idler plate assembly" (Pc #45) becoming loose and allowing the V-belt to slip. The piece was tightened up in its proper position and normal operation of the set resumed.

CONFIDENTIAL(K) MAJOR DEFECTS AND DAMAGE (Cont.)

#1 EVAPORATOR Due to a leaky vapor seal, the complete compressor was replaced with a spare by the tender repair force. After 6 hours operation a leak developed on the pulley end and was renewed by parts from ship's spares.

MASTER GYRO COMPASS The follow-up system of the master gyro was out of commission twice during this patrol. On 18 April, the left hand vacuum tube failed causing all the repeaters to be out of commission. The faulty tube was replaced and the gyro was placed back in commission. On 12 May the bakelite drum holding the automatic speed correction slip rings short circuited due to carbon dust and dirt. The drum was removed, cleaned with alcohol, scraped, built up with sealing wax and replaced.

HEAD SEA VALVES During the depth charge attack on 24 April the first string of charges was of such intensity as to cause the discharge sea and stop valves in the officers' head to open violently; the sea valve operating handwheel was observed to spin rapidly and the stop valve operating lever was thrown to the open position with such force as to shear the pin joining the hand lever to the vertical operating shaft. Fortunately this was detected immediately by personnel in the forward torpedo room and the sea valve was shut after having taken enough water aboard to fill the bowl and run several inches on deck. The stop valve was shut with difficulty by using a wrench, and the sheared pin was removed and replaced.

During our overhaul at MARE ISLAND a job order had been issued to remove this opening in the hull by running the head discharge into the No. 1 Sanitary Tank. The job was cancelled by the yard without reference to the ship, but with the approval of certain administrative officers who have never been depth charged. At this stage of the war priority of submarines for overhaul is low. It is recommended, therefore, that the delays in overhaul schedules be accepted in order to accomplish all essential work.

TORPEDO AND GUNNERY

Four hydrogen burner casualties were experienced during this patrol, three being the result of voltage surge when I.C. motor generator speed regulator failed to function.

No grounds were noted on any of the torpedoes and no dead cells were located.

A major torpedo casualty occurred on the 26 of April. A hydrogen explosion in torpedo #99264 started a battery fire and also detonated hydrogen in torpedo #99218

CONFIDENTIAL(K) MAJOR DEFECTS AND DAMAGE (Cont.)TORPEDO AND GUNNERY (Cont.)

which resulted in damage or destruction of 75% of its cell caps. A careful check was made of #99218 but no further damage noted. Ruptured cell caps were replaced by rubber gloves.

Torpedo #99264 was fired from #8 tube with propeller lock in place and with stop valve shut. The great heat of battery fire and resulting smoke made this necessary for the safety of the ship.

At this point this ship would like to point out the inadequacy of the present submarine allowance of the rescue breathing apparatus. The old type smoke canister, as every one knows, is of no value whatsoever. At PEARL HARBOR this ship attempted to draw four of the Rescue Breathers but only two could be obtained. (The ship's allowance). Thus, when this fire occurred as a result of the torpedo battery explosion, only two rescue breathing apparatus were available (one at each end of the ship), and only two men could work in the compartment, plus one other wearing a shallow water diving mask.

At one time a smoke canister and lung was authorized for each compartment. It would seem to follow, therefore, that a rescue breathing apparatus should be authorized for each compartment on the ship. This change is recommended for submarine allowances.

Investigation indicates that the explosion occurred as a result of hydrogen accumulation during charge. The battery charge had been completed on #99264 and #99218 torpedoes, readings had been taken on #99264 and hand hole covers replaced. When the charging cable was removed from #99264, a spark resulted, flashing through to battery compartment and causing hydrogen explosion. Number 7 hand hole cover was blown off and an intense battery fire was started. The hydrogen in the room and in #99218 was detonated as the hand hole covers had not yet been replaced on this torpedo.

It is highly recommended that during charge, Mk. 18 torpedoes be ventilated continuously, using low pressure air through ventilation plug with at least two hand hole covers off. No exhaust lines in ship's ventilation system except at the torpedo room bulkheads makes for high concentration and accumulation of hydrogen gas in the torpedo rooms, especially around the torpedo tubes. This boat now has portable blowers rigged for exhausting this gas. Tests with portable hydrogen detector indicate that an explosive mixture exists at nearly all times in the torpedo

CONFIDENTIAL(K) MAJOR DEFECTS AND DAMAGE (Cont.)TORPEDO AND GUNNERY (Cont.)

during charge even if ventilated immediately before charge, and that concentration of hydrogen as high as 2% forms in torpedo room overhead during charge.

(L) RADIO

Radio reception was normal and satisfactory with a few exceptions. On several occasions NKN was blanked out completely by GKU4 or BAMS skeds. In the vicinity of Lat. 27 N, Long. 122 E, we were unable to copy Fox skeds on any frequency from NPM or 9090 kcs from GUAM as the signal gradually faded to zero for periods over an hour in length at times around 0300 - 0400 Item.

In clearing ship-shore traffic, NKN proved invaluable while we were in the area. On several occasions NPN could read us only strength 2 or 3, which is hardly adequate with so many Japs coming in strength 5, and NKN would break in to offer her reliable and helpful service.

Wolfpack communications left something to be desired. ComFairWing 2 (OOV4) in OKINAWA made every effort to assist submarine communications on Submarine Area Frequency Plans, by giving call-up, and, in fact, by rendering every service except relaying a message to a boat which he was unable to raise at the time. If he would offer delayed relay service in the form of an hourly broadcast schedule of those wolfpack messages which boats were unable to clear to the addressee it would speed up inter-submarine communications in the areas, and lighten the load on the ship-shore frequencies. This local SAFPLAN SKED could also include the aircraft contact reports which ComFairWing 2 sends to submarines, thus eliminating the need of NPM handling these reports. Use of SAFPLAN frequencies as a voice circuit by OKINAWA fighter director stations sometimes overloaded the circuit, but not seriously. The alternate SAFPLAN frequencies were comparatively free of enemy jamming and generally more satisfactory.

For its designed purpose, the VHF proved a completely satisfactory piece of gear. It was our primary circuit in lifeguarding, and many SD and sight contacts were identified as friendly by its use.

The SCR 610-A equipment was tried on several occasions and functioned successfully once. At that time the two submarines were within 50 yards of each other and the commanding officers were in communication by megaphone.

CONFIDENTIAL(L) RADIO (Cont.)

EXTRACT FROM RADIO LOG ON 17 APRIL DURING BATTLE SURFACE
500 Kcs.

0152 Z Battle surfaced.
 0200 Z Jap sending close.
 0202 Z CZ DE JUVJ UHP JUVJ ND CDJP OZL
 (A message was sent here; could not copy due to
 loudness of key clicks and unfamiliarity with
 Japanese code.)
 0205 Z CZ DE JUVJ.
 0206 Z Ceased sending on 500.
 0207 Z Sending again close.
 0208 Z Ceased sending.
 0220 Z Jap sending signal strength S2 not close.
 0223 Z TYBT TYBT DE TOWU TOWU QRK IMI K (not close.)
 0232 Z Sending again but not close.
 0245 Z No signals.
 0300 Z No signals.
 0315 Z No signals.
 0330 Z No signals.
 0400 Z No signals.
 0415 Z No signals. Secured watch on 500 as ordered.

(M) RADAR

COD carried a specially trained radar officer for the first time on this patrol. This came about at GUAM when JOHN WALLACE, CRT(AA) received his commission as Ensign. The performance of the radars during patrol, naturally, was commensurately improved. Less than one hour was lost on the SJ and about 3 hours were lost on the SD.

Troubles experienced were: Routine tube failures, fuse failures due to fluctuations of line voltage, a break in the flexible cable drive to the PPI unit of the SJ, and a short in the high voltage winding of the power supply transformer of the BN. The winding burned out and had to be removed. High voltage for the BN was then obtained from a spare SD radar high voltage transformer which had to be stepped down from 18,000 volts to 4,500 volts by means of a resistance net work. The BN gave satisfactory performance for the remainder of the patrol.

During this patrol, as in previous ones, the SD radar was keyed for a brief period every 30 seconds, day and night. It is my opinion that no planes were attracted by this.

(N) SONAR GEAR AND SOUND CONDITIONS

Sound conditions were average and performance of material normal except as noted.

CONFIDENTIAL(N) SONAR GEAR AND SOUND CONDITIONS (Cont.)

TDM The Torpedo Detection Modification to the QB gear is a significant step forward both offensively and defensively. In tests at PEARL all of our conning tower watch standers had opportunity to observe its ability to detect torpedoes, and on patrol initial contact on one-half of our enemy contacts was made by TDM. During evasive tactics it gives a graphic picture of the bearing change of all A/S craft (except creepers). But considerable work remains to be done on the design of the equipment. I have seen more rugged contraptions made from a meccano set. Breakdowns averaged about three a day, and no attempt is made to list them here. The gold braid contactors on the QB head slip rings were completely unsatisfactory and had to be replaced after two weeks by scalloped rings of heavy brass wire designed by Ensign WALLACE. None of the gear was designed for continuous high speed operation. It is suggested that two double pole double throw switches be installed to enable either training motor generator set to be used with either sound head. The QB training motor generator could be shifted to a different training motor generator set each day, letting the other cool down.

Excessive vibration of the QB training motor and a burned out bearing in the training motor generator set occurred. The vibration once caused the forward torpedo room watch to report that we were aground, and led to several reports of distant depth charging. The training motor overheats. The Sangamo chemical recorder is apparently not designed for continuous operation. The transparent plastic became opaque. Many failures occurred in the springs and cord of the stylus fly-back system. From the large number of spares which were supplied us with the equipment, this would appear to be a weakness of long-standing.

(O) DENSITY LAYERS

Density layers in this area were found to conform with the information given in the Submarine Supplement to the Sailing Directions for the Japanese Empire Area. They consisted mostly of small positive gradients of approximately 0.5 degrees between thirty and forty feet and larger positive gradients of approximately two degrees between sixty and eighty feet. Few negative gradients were obtained and then only in deep water of forty-five fathoms.

DATE	TIME GCT	LAT. NORTH	LONG. E./ST	SOUNDING FATHOMS	TEMPERATURE AIR	SURFACE TEMP	DEPTH TEMP	GR. DEPTH Start	DEPTH End	KEEL DEPTH	REMARKS
4/13/45	0039	28-07	137-18.2	--	82	67	-0.5	38	40	300	Flooded in 2000# at 60 ft.
4/14/45	0312	29-13.1	132-24	--	74	72	-0.5	38	40	220	
4/15/45	2110	29-16	133-42	--	79	72.5	--	--	--	280	
4/17/45	0300	31-52.5	124-51	27	75	52	-2	20	25	90	
4/19/45	1124	35-40	121-16	40	85	72	--	--	--	100	
4/20/45	0921	25-49.4	121-28.1	45	80	72	+0.5	20	25	200	
4/21/45	0136	25-32.4	120-21.5	32	77	72	+2	60	80	100	Flooded in 1500# from 80 to 70 ft.
4/21/45	0923	25-34.7	120-05	24	76	65	+2	50	80	100	
4/22/45	0003	26-21.2	120-48.2	35	75	64	--	--	--	100	
4/22/45	0810	26-14.5	121-23	35	73	64	-1	20	25	100	
4/23/45	0841	25-23.2	120-49.8	46	81	73	-0.5	40	50	150	
4/24/45	2214	27-02.9	121-25.2	30	80	60	+1	20	30	150	
4/25/45	1646	26-03.2	121-35.5	42	80	72	+3	40	50	80	
4/27/45	2155	26-42.2	122-00.2	50	84	68	-0.5	38	40	140	
4/28/45	1000	25-36.5	120-50	40	83	76	+2.5	5	75	150	
4/29/45	0300	25-26	121-18.6	45	77	76	-4	75	180	200	
4/29/45	2240	25-48.5	120-51	42	82	74	-3	50	110	100	
4/30/45	1706	25-50	131-13.2	--	83	77	-2	30	80	150	
5/1/45	0931	25-42.6	120-54	48	81	75	-1	40	42	100	
5/2/45	0755	26-15.3	120-53.1	45	76	70	-2	40	42	100	
5/5/45	0300	28-55.5	124-02.3	45	73	62	+1.0	110	140	160	
5/7/45	0727	25-34	120-15.5	27	83	67	-2.5	10	50	200	
5/9/45	2020	25-09	120-25.7	--	80	74	+4.5	95	95	80	
5/10/45	1840	25-14.2	120-28	45	80	74	+0.5	40	60	80	
5/11/45	0258	24-47.6	120-12	35	82	71	-0.5	38	42	170	
5/12/45	2049	25-50	121-22.3	43	81	76	+0.5	30	32	65	
5/13/45	2107	25-55.8	121-34.8	55	81	74	--	50	55	80	Flooded in 3500# coming to 65 Ft. Flooded in 3000# coming to 65 Ft.

DATE	TIME GCT	L. T. NORTH	LONG. EAST	SOUNDING FATHOMS	TEMPERATURE (°F)		GRADIENT Depth Ft.	KEEL DEPTH	REMARKS
					Air	Surface Intake			
5/15/45	0700	24-59.0	120-20.4	30	78	74	+0.5 18 21	120	Flooded in 1500# coming to 60 Ft.
5/15/45	1500	25-23.9	120-15.9	25	78	74	+0.5 35 45	100	
5/16/45	2204	25-20.5	120-38.1	45	79	76	-1.0 100 120	140	
5/17/45	0244	25-09.3	120-38.9	45	79	75	-1.0 0 30	100	
5/17/45	1100	25-41.1	121-23.0	43	82	78	-0.5 0 25	25	Flooded in 1000# coming to 65 Ft.
5/17/45	2015	26-40.4	120-59.2	35	80	70	-1.0 25 85	150	
5/19/45	0038	30-58	124-43	23	80	61	+2.0 75 85	110	
5/20/45	0346	32-34.4	127-26.7	70	78	68	-7.0 5 60	90	Pumped out 2000# coming to 60 Ft.
5/21/45	2015	29-17.5	130-51.2	2200	86	77	-- -- --	120	Flooded in 2500# coming to 60 Ft.
5/22/45	2030	29-21	135-22	--	80	69	-2 100 130	120	Flooded in 1500# coming to 65 Ft.
5/23/45	1451	29-11.2	139-07	--	76	70	+1 10 60	150	
5/24/45	0352	26-58.1	139-17.7	--	80	71	-1 60 130	150	
5/25/45	2158	25-57.5	138-07.1	--	80	82	-3 90 130	150	
							120 280	300	No change in trim coming to 65 Ft.

CONFIDENTIAL(P) HEALTH, FOOD, AND HABITABILITY

Health of the crew was below par, eleven sick days being noted. FOLEY required a few days of rest after spending eight hours in the water, but was soon back on the watch list. Days were lost from calculus, right kidney; urethritis acute, non-venereal; and second degree burn, resulting from the torpedo battery explosion. Treatment was given for cellulitis; chronic appendicitis; scabies; a possible fracture of the wrist; fungus infection; constipation; heat rash; eye strain; and gingivitis.

Health of the first three prisoners was good. One case of otitis media responded to treatment by sulfa drugs. The prisoner from the AM showed no desire to live, and on one occasion, by signs, asked his guard to shoot him. The day after he was received he was placed in the forward torpedo room and the Pharmacist's Mate was removed from the watch list in order to be in almost constant attendance upon him. Every effort was made to save him. A diagnosis was made of peritonitis, general, acute, resulting from underwater explosion. He showed evidence of being syphilitic. He expressed tenderness in the abdomen. He refused food. He was treated with sodium pentobarbital and morphine sulfate. He was fed intravenously. Penicillin therapy was given, a total of 180,000 Oxford units being administered by intramuscular injection. The prisoner kept spitting and passing blood and slowly failing, finally expiring three days after being received on board. Adrenalin was administered with no reaction. Burial services were conducted.

Food was excellent and well-prepared. Too much credit cannot be given to SACCO, G.J., SC1c, WERRBACH, G.A., Jr., SC2c and HORAN, G.J., SC2c.

Habitability normal.

(Q) PERSONNEL

(a) Number of men detached after previous patrol.	22
(b) Number of men on board during patrol.	80
(c) Number of men qualified at start of patrol.	55
(d) Number of men qualified at end of patrol.	63
(e) Number of unqualified men making their first patrol.	18

I was unable to detect any difference in performance on the part of personnel that could be attributed to the effects of our visit to the United States. Everyone seemed just as aggressive and the commanding officer was just as stupidly willing as ever to let the Japanese use us for a target.

CONFIDENTIAL(Q) PERSONNEL (Cont.)

STUART, D.J., Slc, USNR was received at MARE ISLAND. He is a recent graduate of the West Coast Sound School, without previous experience at sea. He was given a battle station on the JK. His performance was worthy of a veteran and reflects great credit on the Sound School. He was absolutely reliable and unperturbed during the most trying conditions. Most striking to me was his ability to give accurate range estimates from the sound of the target screws alone. All hands received a great deal of benefit from the ship's week of services to the same school. Instruction was given us both on shore and on board. I believe that all prospective submarine commanding officers would profit from a course of instruction in the surface ASW school.

During this patrol, for the first time, I encountered a Naval Academy graduate whose goal was to attain a 2.5 in the theatre of war. 2.5 is not passing with me. This is a game for experts. To raise a man's sights from 2.5 to 4.0 entails a shift of 60% in his point of aim. Making that shift is tantamount to acquiring a new philosophy of life. The process is painful.

I would like to recommend that the Executive Officer of a fleet submarine on war patrol, if he be in the grade of lieutenant, be issued a spot promotion to lieutenant commander. The billet is one of considerable responsibility; the officer holding it is in training for command.

(R) MILES STEAMED - FUEL USED

PEARL to GUAM	3,096.2 miles	42,665 gals.
GUAM to AREA	2,505.2 miles	32,120 gals.
In AREA	4,509.3 miles	41,350 gals.
AREA to GUAM	2,651.6 miles	37,885 gals.

(S) DURATION

Days enroute PEARL to GUAM	12
Days in GUAM	3
Days enroute to AREA	9
Days in AREA	30
Days enroute to GUAM	11
Days submerged	8

(T) FACTORS OF ENDURANCE REMAINING

<u>Torpedoes</u>	<u>Fuel</u>	<u>Provisions</u>	<u>Personnel Factor</u>
7	5,000 gals.	10	Unknown

CONFIDENTIAL(U) COMMUNICATIONS, RADAR AND SONAR COUNTERMEASURES

1. Radio: The usual enemy countermeasures, keyed and unkeyed CW and "howler" jamming, were heard on all circuits continuously, but, with a few exceptions, were more bothersome than effective. On at least three occasions 8KC (LUZON) was completely blocked out by unkeyed CW jamming. Jamming on the fundamental and secondary harmonic of the ship-shore primary frequency series made it very difficult to work NPN, but NKN was very helpful on most of these occasions and was able to read us well above the intensive keyed CW used by the Japs. On one occasion while lifeguarding, channel one of the VHF was jammed with fair effectiveness by an intermittent unkeyed CW tone. There is the possibility, however, that this was interference from an enemy radar in the 140 mc band rather than intentional jamming.

2. Radar: The APR performed reliably, though no information from it was usable. Several careful attempts were made to get a directional indication from the APR by swinging ship, without success. A simple directional antenna would make the APR more useful. No attempt is made to list all of the APR contacts made on this patrol. Instead, the following list shows those contacts which we were unable to identify by means of the information furnished us. There may be some previously unrecorded signals in the lot.

CONFIDENTIAL

LOCATION		Freq.	Pulse Rate	Pulse Width	Remarks
Lat.	Long.	Mcs.	(Pulses/sec)	(Microseconds)	
15-40 N	141-22 E	230	75	8	Probably Shipborne
29-15 N	132-52 E	92	400	20-25	Possibly British Shipborne
29-14 N	132-36 E	138	500	7	Possibly Jap Airborne
29-12 N	131-07 E	220	800	15	Probably Jap Shore Based
29-18 N	131-04 E	150	600	15	Probably Jap Shore Based
29-15 N	129-45 E	580	1400	2.5	Possibly U.S. Air Search
29-16 N	130-47 E	205	1000	5-6	Possibly Jap Airborne
31-43 N	124-59 E	43	25	30	Probably Jap Land Based
25-39 N	121-24 E	68	500	50-60	Probably Jap Land Based
26-01 N	121-28 E	100	500	22	Probably Jap Land Based
25-16 N	120-22 E	155	500	5	Probably Jap Airborne
25-16 N	120-22 E	265	1250	--	Possibly Jap Land Based
25-16 N	120-22 E	127	1000	4	Possibly Jap Land Based
25-02 N	120-15 E	157	500	8	Possibly Jap Airborne
25-24 N	120-20 E	220	300	3	Possibly Jap Airborne
25-24 N	120-20 E	128	1250	2	Possibly Jap Airborne
25-25 N	120-28 E	65	250	27	Probably Jap Land Based
25-25 N	120-28 E	157	500	5 & 2.5 (Double Pulse)	Possibly Jap Airborne
25-26 N	120-16 E	97	500	25	Probably Jap Land Based
25-26 N	120-16 E	220	300	3	Possibly Jap Airborne

3. Sonar: No sonar countermeasures were encountered. A zero beat was obtained on two enemy sonar equipments at 15.6 kcs. One of them later was on 15.3 kcs. See section (J).

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(V) REMARKS

ANDREW GORDON JOHNSON, 812 17 02, Seaman 1c, V6, USNR, was my lookout, shipmate and friend. He died heroically in the line of duty, in order to save his ship. The commanding officer derives no satisfaction from recording the events of the patrol, nor from the meagre damage inflicted on the enemy. The only satisfaction lies in recording the acts of heroism that were performed by JOHNSON, and by his shipmates at the time of the casualty which led to JOHNSON's loss.

SUBMARINE DIVISION TWO HUNDRED ONE

jrw

FB5-201/A16-3

Fleet Post Office,
San Francisco, California
30 May, 1945.

Serial (020)

CONFIDENTIAL

FIRST ENDORSEMENT to
CO COD Report of 6th
War Patrol dated 5/29/45.

From: The Commander Submarine Division TWO HUNDRED ONE.
To: The Commander-in-Chief, United States Fleet.
Via: (1) The Commander Submarine Squadron TWENTY.
(2) The Commander Submarine Force, U.S. Pacific Fleet.

Subject: U.S.S. COD (SS224) - Report of War Patrol Number Six.

1. The sixth war patrol of the U.S.S. COD, under the command of Commander J. A. ADKINS, U.S. Navy, was conducted in the East China Sea, in company with the U.S.S. POMPON; both vessels participating in coordinated patrol and lifeguard operations.

2. The patrol was of sixty six (66) days duration, of which, thirty (30) days were spent on station. Thorough area coverage was maintained. The patrol was terminated by a dispatch from Comsubpac. Four ship contacts were made. The first contact was on a friendly convoy while enroute from Pearl to Guam. Contact number two, a tug and tow, was developed into a successful gun attack. Contact number three on 24 April, was developed into three torpedo attacks. A properly marked enemy hospital ship was the fourth contact, and it was avoided.

3. A summary of the attacks follows:

GUN ATTACK NUMBER ONE - 17 April, 1945.

In the late morning of 17 April 1945, two ships were sighted and after carefully inspecting them, it was decided to battle surface and engage them with the deck guns. Upon surfacing, it was apparent that one vessel was towing the other. The tow was engaged with 5" gunfire at a range of 3,200 yards, and with the 40 mm at a range of about 2,000 yards. 5" hits set the tow on fire. The tow obviously had a cargo of oil as great clouds of black smoke poured out and flames engulfed the vessel. The towing vessel let go his tow, and decided to shoot it out. The 40 mm crews were secured due to aircraft contacts and the towing vessel was taken under fire at a range of about 3,700 yards, and was sunk with 5" and 40 mm fire. The COD then returned to the oiler and sank it with three five inch hits along the waterline. Three prisoners were picked up. It is estimated that the following damage was inflicted. SUNK: One (1) SMC Tug; Possibly CHOYO MARU (EU), 2,000 tons; and One (1) SMC Oiler; Possibly BAISHI or BANSHI MARU (EU), 2,000 tons.

FB5-201/A16-3

Serial (020)

SUBMARINE DIVISION TWO HUNDRED ONE jrw
Fleet Post Office,
San Francisco, California
30 May, 1945.

CONFIDENTIAL

Subject: U.S.S. COD (SS224) - Report of War Patrol Number Six.

TORPEDO ATTACK NUMBER ONE - 24 April, 1945.

On the evening of 24 April, 1945, SJ contacts were made on two ships at a range of 9,450 yards, base course 355 T. Upon closing, four Mk 18-2 torpedoes were fired from the bow tubes at the leading ship, with depth settings at two feet, gyro angles 000.5 to 000.1, average track angles 46 P, torpedo run 3,100 yards. Just before firing, radar picked up a third ship in this convoy. Each torpedo jumped out of the water as soon as launched and then proceeded down the range like a porpoise, alternately breaching and plunging. No hits were obtained. The trailing ship was not fired upon considering the performance of the torpedoes at a depth setting of two feet. The target detected the COD and gave chase. The increasing accuracy of the target's gunfire forced the COD to submerge and a severe depth charging followed.

TORPEDO ATTACK NUMBER TWO - 25 April, 1945.

Upon coming to periscope depth after torpedo attack number one, the same target was observed on the port quarter, range about 4,000 yards, apparently lying to. The previous depth charging had knocked out the tuning of the ST. The target commenced a sweep in the direction of the COD, which terminated when COD fired three stern tubes with gyro angles 235 to 228, average track angle 150 S, depth setting three feet, average torpedo run 310 yards. With range 490, COD submerged to 150 feet. One explosion was heard which stopped pinging and target screws. Upon surfacing, COD passed through an oil slick and heard breaking up noises beneath her. Over 70 men were observed in the water and one prisoner was picked up. The internal injuries sustained by the prisoner resulted in his death three days later. However, from interrogation of the prisoner, it is estimated that the following damage was inflicted by this attack. SUNK: One (1) AM No. 41 (EC), approximately 1,000 tons.

TORPEDO ATTACK NUMBER THREE - 25 April, 1945.

At 0410 I, on the morning of 25 April, 1945, the remaining two ships of the convoy were contacted by SJ on the same base course of 355 T, after a three hour chase. Three bow tubes were fired at the leading ship, which was the larger of the two, with average gyro 352, average track 122 P, torpedo run 3,470 yards, and three bow tubes were fired at the second ship with average gyro 009, average track 166 P, torpedo run 2,900 yards. Each torpedo breached once immediately after firing and two of the torpedoes made wide hooks to the left. All torpedoes eventually settled down on a straight course, although the initial hooks had dispersed them. No hits were obtained. The leading ship appeared to be a PC and the trailing ship an engine aft ship of about SB size or smaller.

FB5-201/A16-3

Serial (020)

SUBMARINE DIVISION TWO HUNDRED ONE
Fleet Post Office,
San Francisco, California
30 May, 1945.

CONFIDENTIAL

Subject: U.S.S. COD (SS224) - Report of War Patrol Number Six.

4. The major torpedo casualty which occurred on the 26th of April was indeed unfortunate and the Commander Submarine Division 201 regrets exceedingly with the commanding officer, officers and crew of the U.S.S. COD, the loss of their shipmate and friend Andrew G. JOHNSON, Slc, USNR, who was washed overboard while assisting in opening the after torpedo room hatch to alleviate the serious condition caused by the torpedo casualty. The commendable manner in which the torpedo casualty was handled by all hands is deserving of the highest praise.

5. Many floating mines were sighted. Eleven were sunk by gunfire.

6. The U.S.S. COD returned from her patrol in an excellent state of cleanliness. There are no major material defects which will necessitate extending the refit period, and the COD will be refitted in the normal refit period.

7. The Commander Submarine Division 201 congratulates the commanding officer, officers and crew of the U.S.S. COD upon their return from the long, tenacious and well conducted patrol. It is recommended that the COD be credited with inflicting the following damage upon the enemy:

SUNK

One SMC Tug (Possibly CHOYO MARU (EU), Gun Attack No. 1	2,000 tons.
One SMC Oiler (Possibly BAISHI or BANSHI MARU (EU), Gun Attack No. 1	2,000 tons.
One AM No. 41 (EC), Torpedo Attack No. 2.	1,000 tons.
TOTAL SUNK.....	5,000 tons.

E. T. Sands
E. T. SANDS.

FC5-20/A16-3

SUBMARINE SQUADRON TWENTY

Serial: 0130

Care of Fleet Post Office,
San Francisco, California.

5 June 1945

SECOND ENDORSEMENT to
CO COD ltr. A16-3
Ser: 014, Rept of 6th
War Patrol.

From: The Commander Submarine Squadron TWENTY.
To : The Commander-in-Chief, United States Fleet.
Via : (1) The Commander Submarine Force, U.S. Pacific Fleet.

Subject: U.S.S. COD (SS224) - Report of War Patrol Number SIX.

1. Forwarded, concurring in the remarks and recommendations of damage assessment by Commander Submarine Division TWO HUNDRED ONE.

2. It is of interest to note that on 24 April the TDM picked up pinging twenty-four minutes before the SJ radar made contact with the targets. Under section (N) the commanding officer states that "...on patrol initial contact on one-half of our enemy contacts was made by TDM".

3. The Commander Submarine Squadron TWENTY congratulates the Commanding Officer, officers and men of the U.S.S. COD upon this boldly prosecuted and extremely active patrol.

L. S. PARKS.

Serial 01472

Care of Fleet Post Office,
San Francisco, California,
16 June 1945.CONFIDENTIAL

6 04571

THIRD ENDORSEMENT to
COD Report of Sixth
War Patrol.NOTE: THIS REPORT WILL BE
DESTROYED PRIOR TO
ENTERING PATROL AREA.COMSUBSPAC PATROL REPORT NO. 779
U.S.S. COD - SIXTH WAR PATROL.From: The Commander Submarine Force, Pacific Fleet.
To : The Commander in Chief, United States Fleet.
Via : The Commander in Chief, U. S. Pacific Fleet.Subject: U.S.S. COD (SS224) - Report of Sixth War Patrol
(24 March to 29 May 1945).

1. The sixth war patrol of the COD, under the command of Commander J. A. Adkins, U. S. Navy, was conducted in the East China Sea off the northwest coast of Formosa. The POMFON and COD operated as a coordinated attack group with the commanding officer of the COD as task group commander.

2. This long, arduous, and well conducted patrol resulted in the sinking of a minesweeper by torpedo attack and in the sinking of a tug and an oiler, which was being towed, by gunfire. Three prisoners were taken, one of whom subsequently died. In addition to offensive patrol, the COD was engaged in lifeguard duties.

3. The Force Commander sympathizes with the commanding officer, officers, and crew of the COD in the loss at sea of Andrew Gordon Johnson, seaman first class.

4. Award of Submarine Combat Insignia for this patrol is authorized.

5. The Commander Submarine Force, Pacific Fleet, congratulates the commanding officer, officers, and crew of the COD upon the completion of this aggressive, well planned, and productive patrol. The COD is credited with having inflicted the following damage upon the enemy during this patrol:

S U N K

1 - Minesweeper (AM-41 Class) (EC)	-	1,000 tons	(Attack No. 2)
1 - Tug (EC)	-	2,000 tons	(Gun Attack No. 1)
1 - Oiler (EC)	-	<u>2,000</u> tons	(Gun Attack No. 1)

TOTAL SUNK	-	5,000 tons	EXTRA - ORIGINAL
------------	---	------------	------------------

SORG. _____ MICRO _____

PHOTO-LAB _____ OP-16 _____

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E. E. YEOMANS.

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Care of Fleet Post Office,
San Francisco, California,
16 June 1945.

CONFIDENTIAL

THIRD ENDORSEMENT to
COD Report of Sixth
War Patrol.

NOTE: THIS REPORT WILL BE
DESTROYED PRIOR TO
ENTERING PATROL AREA.

COMSUBSPAC PATROL REPORT NO. 779
U.S.S. COD - SIXTH WAR PATROL.

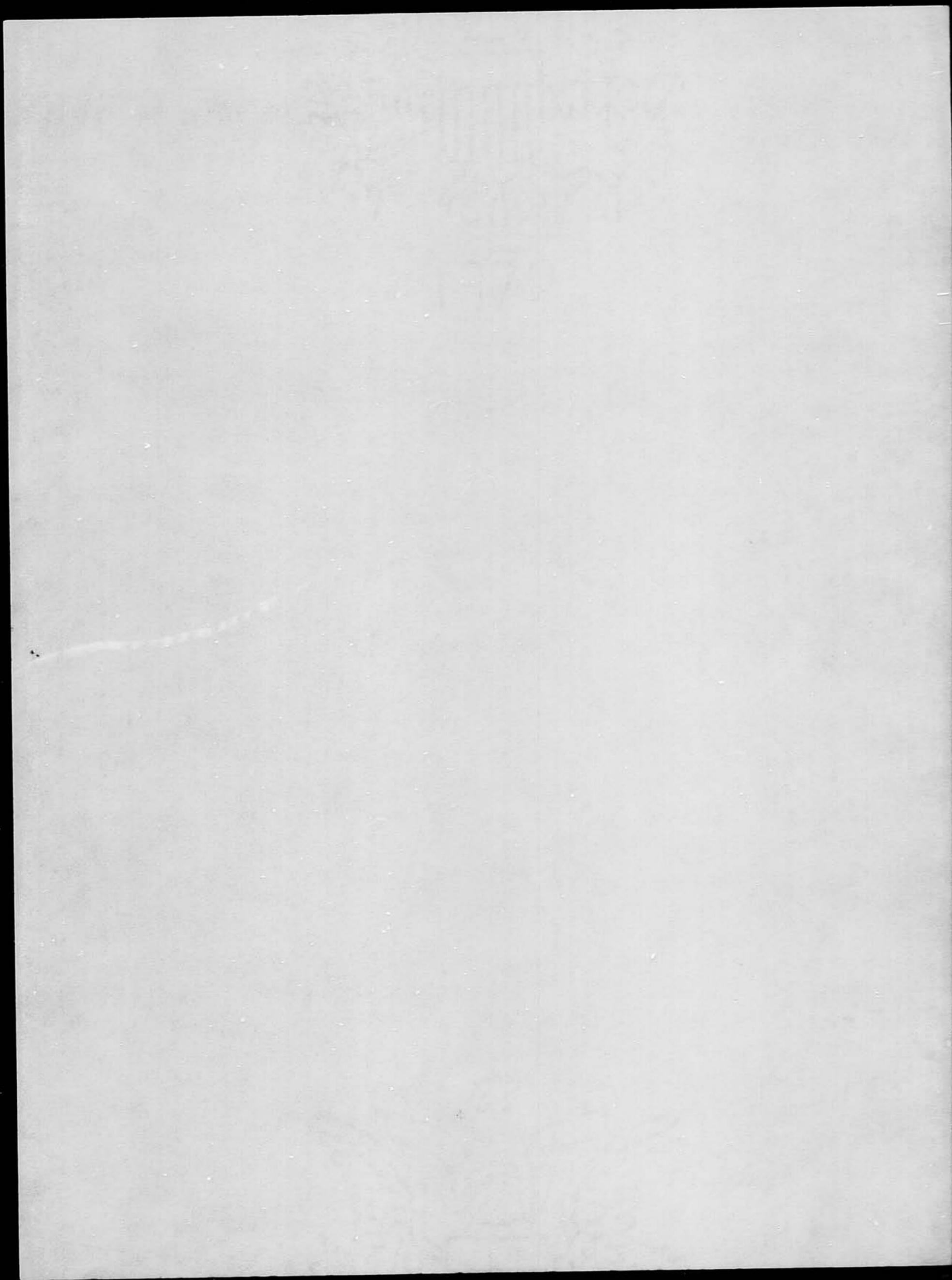
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W. S. Langley
W. S. LANGLEY,
Asst. Flag Secretary.



U.S.S. COD (SS224)

SS224/A16-3
Serial (021)

13 August 1945.

DECLASSIFIED

From: The Commanding Officer.
To: The Commander-in-Chief, United States Fleet.
Via: Official Channels.
Subject: U.S.S. COD (SS224) - Report of War Patrol
Number Seven.
Enclosure: (A) Subject Report.
(B) Track Chart (Commander Task Force
SECURITY-COM only).

1. Enclosure (A) covering the Seventh War
Patrol of this vessel conducted off the coast of INDON-
ONESIA and in the GULF of SIAM during the period 26 June
1945 to 13 August 1945 is forwarded herewith.

E. A. Westbrock, Jr.
E. A. WESTBROCK, Jr.

DECLASSIFIED-ART. 0445, OPNAVINST 5510.1C

BY OP-09B9C DATE 5/25/72

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139374

CONFIDENTIAL(A) PROLOGUE

Arrived GUAM from Sixth War Patrol on 29 May 1945. Completed an excellent two week's refit by Submarine Division 201 and U.S.S. PROTEUS on 13 June 1945.

Lieut. Comdr. E. M. WESTBROOK, Jr., USN relieved Comdr. J. A. ADKINS, USN as Commanding Officer. Transferred Lt(jg) F. H. CLOUGH, USNR and Lt. J. H. WICKERT, USN; received aboard Lt(jg) G. N. BRADLEY, Jr., USNR.

Conducted eight day training period under Comdr. E. T. SANDS, USN, Commander Submarine Division 201, whose suggestions were greatly appreciated. Fired seven exercise torpedoes and conducted air-sea rescue training with aircraft.

Ready for sea 26 June 1945.

(B) NARRATIVE

Officers and Chief Petty Officers on board:

<u>Name</u>	<u>Rank/Rate</u>	<u>Previous Patrols</u>
WESTBROOK, E.M., Jr.	Lt.Cdr.	7
BECKMAN, K. F.	Lieut.	10
PODOREAN, C. (n)	Lieut.	5
HURST, T. C., III	Lieut.	4
SMITH, W. K.	Lt(jg)	3
KRUBEL, F. J.	Lt(jg)	2
KIMBALL, F. S.	Lt(jg)	11
BRADLEY, G. N., Jr.	Lt(jg)	0
PARK, J. J.	Ensign	1
WALLACE, J. (n)	Ensign	6
YARBUR, P. J.	CQM(PA)	6
HOWARD, J. D.	CTM(AA)	9
HUSTER, R. E.	CMoMM(AA)	6
PURTILL, R. M.	CPhM(T)	6
BABICK, J. (n)	CEM(PA)	6
COX, W. B., Jr.	CMoMM(AA)	5

26 June 1945

1510 K Underway from APRA HARBOR, GUAM for seventh war patrol in accordance with ComSubPac Operation Order 142-45

1700 K Made trim dive.

1723 K Surfaced.

27 June

Enroute patrol area.

Conducted section dives, fire-control and emergency drills.

U.S.S. COD (SS224)

27 June (Cont.)

1200 K Posit: Lat. 16°-54' N, Long. 144°-17' E.

1912 K Exchanged recognition and calls via SJ with USS BERGALL, on parallel and opposite course. Had numerous SD and sight contacts with friendly planes throughout day.

28 June

Enroute patrol area.

Conducted section dives, fire-control and emergency drills.

1200 K Posit: Lat. 20°-14' N, Long. 140°-12' E.

29 June

Enroute patrol area.

Conducted section dives, fire-control and emergency drills.

1000 K Set all clocks to Item (-9) time.

1200 ~~K~~ Posit: Lat. 20°-50' N, Long. 134°-27' E.

30 June

Enroute patrol area.

Conducted section dives, fire-control and emergency drills.

1200 I Posit: Lat. 20°-53' N, Long. 129°-43' E.

1226 I Made SD and sight contact with PBM. Exchanged calls by VHF and asked if he had any business for us. Negative.

1641 I Sank floating oil drum by .50 Cal. fire.

2121 I Made SJ contact, bearing 026°T, range 26,000 yards, (SC#1). Commenced tracking and determined course of convoy to be 170°T. APR indicated U.S. shipborne radar search. Friendly forces mentioned in my briefing. Secured tracking party.

1 July

Enroute patrol area.

Conducted section dives, fire-control and emergency drills.

0841 I Sank floating oil drum with 40MM fire. Sighted several C-47's during morning.

1200 I Posit: Lat. 20°-44' N, Long. 123°-38' E.

1608 I Sighted BATAN ISLAND.

1821 I APR contact 70 mcs.

1908 I SD contact, 32 miles, gave IFF.

1957 I Sent COD FIRST to CTF 71, reporting for duty and requesting patrol instructions.

2200 I Completed transit BATAN ISLAND Group.

2233 I Received CTF 71 serial Dog, assigning us area off southeast INDO-CHINA coast.

2 July

Enroute patrol area.

0400 I Set all clocks to How (-8) time.

U.S.S. COD (SS224)

2 July (Cont.)

0626 H SD contact, 20 miles; gave IFF.
0713 H SD contact, 17 miles, gave IFF. Both planes
sighted from bridge and appeared to be B-24's.
0917 H APR contacts at 75 and 82 mcs.
1200 H Posit: Lat. $20^{\circ}-48'$ N, Long. $118^{\circ}-38'$ E.
HEMPHILL, J.N., 889 81 62, F2c, USNR admitted
to sick list this date, suffering from acute
nausea, constipation, and bloated feeling.
Examination revealed tenderness in right lum-
bar region.

3 July

Enroute patrol area.
0842 H APR contact, 80 mcs.
1027 H APR contact, 70 mcs.
1200 H Posit: Lat. $18^{\circ}-53'$ N, Long. $114^{\circ}-09'$ E.
1451 H SD contact, 18 miles, no IFF. Sighted from
bridge--appears to be B-25.
1500 H Lost SD and visual contact on plane.

4 July

Enroute patrol area.
0853 H SD contact, 24 miles, gave IFF.
0855 H Sighted plane from bridge, a B-24. Asked him
by VHF if he had any business for us. Negative.
0908 H Lost contact.
0912 H SD contact, 22 miles, no IFF.
0914 H Sighted plane from bridge, a B-24. Also asked
him by VHF same question - received same answer.
0920 H Lost contact.
1200 H Posit: Lat. $13^{\circ}-42'$ N, Long. $111^{\circ}-51'$ E.
1511 H Sighted plane from bridge, a B-24, did not
close.
1638 H Sighted plane from bridge, a B-24, did not
close. Exchanged calls by VHF.
2010 H Commenced converting #4 MBT.
2120 H Completed conversion.
2212 H Dived to flush out #4 MBT.
2230 H Surfaced.
Patient apparently improved today.

5 July

Enroute patrol area.
0308 H Gyro out, steering by magnetic compass.
0724 H Sighted coast of INDO-CHINA.
1032 H SD contact, 25 miles, no IFF.
1033 H Sighted plane from bridge, a B-24.
1036 H Sighted second B-24 from bridge. Second plane
made wide circle and headed for the beach.
Could not contact on VHF.
1047 H Lost plane contacts.

U.S.S. COD (SS224)

5 July (Cont.)

- 1149 H Gyro back in commission.
 1200 H Posit: Lat. 12°-02' N, Long. 109°-44' E.
 1328 H Sighted two sailboats near coast. (SC#2)
 1400 H Entered area.
 1419 H Dove for submerged patrol. Closed beach to four miles to have a look at the many sailboats in sight. All appear to be innocent native fishermen. Nothing else in BADAI BAY.
 2000 H Surfaced.
 2006 H Established communication with USS BESUGO by Wopaco. Were asked and gave our position.
 2100 H Exchanged recognition calls with USS BESUGO by SJ.
 2127 H Received by VHF what scant dope BESUGO could give us regarding the area. Learned she had been here three weeks and that the area was dead. Encouraging news! Bid her farewell and took up our lonely vigil.

6 July

- Patrolling off CAPE PADORAN.
 0600 H Dove for submerged patrol. Will look into BAIE de NAIAN, just north of CAPE PADORAN.
 0635 H Sighted first of many sailboats. (SC#3).
 1050 H Sighted a B-24 through periscope, heading west.
 1200 H Posit: Lat. 11°-22' N, Long. 109°-05' E.
 1400 H Having passed three miles off nice, sandy beach and within 100 feet of a sailboat, could see there was nothing but some twenty other small sailboats in the bay.
 1430 H Commenced withdrawal.
 2002 H Surfaced.
 2030 H Patient, HEMPHILL, is worse tonight. Has swelling in right lumbar region.

7 July

- Patrolling off CAMRANH BAY.
 0013 H Sent COD SECOND to CTF 71, requesting instructions on our sick man.
 0549 H APR contact, 168 mcs.
 0600 H Dove for submerged patrol. Will patrol off entrance CAMRANH BAY today, remaining three miles east of plotted mine field boundary.
 0616 H Have fourteen degree negative gradient to 250 feet.
 1200 H Posit: Lat. 11°-43' N, Long. 109°-20' E.
 2005 H Surfaced.
 2026 H Set course for SUBIC, on receipt of CTF 71 serial 57, directing us to proceed there, leave patient and refuel.
 2220 H Sent COD THIRD giving ETA rendezvous.

U.S.S. COD (SS224)

8 July

- Enroute SUBIC BAY.
- 0646 H Set course for LADD REEF at four-engine speed in accordance with CTF 71 serial 61.
- 0834 H Sent COD FOURTH as acknowledgment.
- 0909 H SD contact at 32 miles - no IFF.
- 0915 H Lost SD contact.
- 0930 H SD contact at 25 miles - gave IFF.
- 0934 H Exchanged calls with plane by VHF.
- 0935 H Lost SD contact.
- 1200 H Posit: Lat. 11°-01' N, Long. 111°-34' E.
- 2035 H Exchanged calls with Dutch submarine, O-19. (SC#4). Until this time did not know the condition of the grounded boat or of its personnel. Accordingly, had made preparations for bringing all hands aboard. Had two rubber boats, heaving lines, life rings and rescue party topside; dry clothes, empty bunks, hot soup and coffee below.
- 2048 H Received message from O-19 giving exact location on reef and asking us to approach at dawn to take toelines. As we left we said we would see him at dawn. Indicating the captain had not lost his sense of humor along with his boat, he replied "We will certainly be here".

9 July

- Lying off LADD REEF.
- 0606 H Commenced approach on O-19, flooded down, with sound heads and pit log raised.
- 0615 H Terrific rain squall has reduced visibility to 200 yards.
- 0721 H Rain has abated, allowing us to see grounded boat. Looks to be hopelessly stuck, but will try.
- 0806 H Received first line from line-throwing gun.
- 0830 H Have wire cable secured through our hull nose in bow.
- 0835 H We are backing and O-19 is backing, firing her forward gun and making lots of smoke. Current has carried us so that it is impossible to tow directly astern.
- 0840 H Wire cable parts aboard O-19. This was 1½" new, stainless steel wire, belonging to O-19.
- 0845 H SD contact, 20 miles - no IFF.
- 0850 H Sighted plane, B-24.
- 0906 H Exchanged calls by VHF with plane.
- 0919 H SD contacts at 18 and 20 miles - gave IFF.
- 0925 H Planes in sight, Liberator and Privateer. Meanwhile we have been hauling the broken line aboard.

9 July (Cont.)

- 1035 H Maneuvering to come close enough, but not too close, to send line over. Set is easterly here and is really something. Checked it by TDC, with 0-19 as target and got one and a half knots.
- 1155 H Having secured line, we are both backing.
- 1156 H Second cable snapped.
- 1200 H Posit: Lat. 8°-40' N, Long. 111°-40' E. (LADD REEF).
- 1225 H Sent over rubber boat with my First Lieutenant for consultation. Meanwhile, have been bringing tackle remnants of last towing effort aboard, using both capstans.
- 1416 H Commanding Officer of HNMS 0-19, Lt. Comdr. J.F.D. VAN HOOFF, RNN, came aboard.
- 1520 H Now have 80 fathoms chain aboard, taken from 0-19. Have lashed ten fathoms of it to mooring line with marlin. Will send him line from throwing gun, 21-thread, mooring line and chain, in that order.
- 1530 H Maneuvering to close. This is ticklish cruising. Allowing for current, try to put my bow within ten feet of his stern, fathometer reading 3 and 4 fathoms with bottom jagged and appearing to be extremely near. Can remain close to him for only fifteen or twenty minutes, twisting all the time, before I am set so close to reef that it's necessary to back clear, and come in again.
- 1605 H Lt. Comdr. VAN HOOFF left the ship.
- 1615 H 0-19 has both ends of chain. He will secure one end around conning tower tonight, and at dawn tomorrow we will take other end aboard for final tug at high tide.
- 1900 H Received message from 0-19 telling us he could not lift chain with his capstan and requesting us to lift it for him. Do not want to maneuver around reef after dark, at low tide and with the unpredictable current. Told 0-19 we would return at dawn.
- 1920 H Sent COD's SIXTH giving results and plans, and requesting instructions. Our patient, HEMPHILL, is greatly improved tonight, up and about a bit.

10 July

- Lying off LADD REEF.
- 0005 H Received CTF 71, serial 69, giving instructions.
- 0547 H Have 0-19 in sight, commencing approach. Hope we can do him some good today, but doubt it. He is setting on two rocks, one aft of the longitudinal center, and has rock projections into his outboard mine tanks.

CONFIDENTIAL10 July (Cont.)

- 0715 H Have manila line from O-19. He was unable to heave in chain with his capstan. Will have to lift both ends with our capstans.
- 0725 H One end of chain on deck of O-19.
- 0815 H End of chain secured on O-19. Now for our end.
- 0915 H First two attempts to heave in chain unsuccessful. Current seems to be stronger than yesterday. Also, bitter end of chain, manila mooring line and at least twenty fathoms of 21-thread are on bottom. Have life jackets on end of line as marker. At each new approach, we pick up end of line and heave in until line snags or until current sets us away toward the reef and we are forced to back clear.
- 0950 H SD contact, 13 miles - gave IFF.
- 0958 H Plane in sight, PBY, circling.
- 1010 H Lost SD contact.
- 1025 H Line appears to be hopelessly fouled on coral bottom. Putting over rubber boat to assist in freeing line.
- 1100 H Will make one more approach, pick up manila line and try to clear mess on bottom. This is wearing on nerves.
- 1145 H Last line has parted. Sent message to O-19 that we will stand by to take off personnel. Felt almost as bad as the O-19 skipper at his having to abandon his ship. However, did not see what more we could do. Had worked eight hours yesterday and six today with no progress. Had touched bottom forward ourselves at least once in our many approaches, and did not desire to have two submarines aground. Our towing gear was makeshift, and our personnel, though willing and resourceful, were inexperienced at rigging for a tow. Also, Jap planes and/or subs might have appeared at any embarrassing moment.
- 1200 H Posit: Lat. 8°-40' N, Long. 111°-40' E. (LADD REEF).
- 1255 H First boatload aboard. Am using two rubber boats, lashed together with line from each submarine to rubber boats. Have to back clear and come in again after every two or three trips of lifeboats because of current.
- 1330 H Sent over two demolition charges with Gunnery Officer.
- 1455 H Last boatload aboard. Total personnel: 47 men, 8 officers. Backed clear! Demolition charges set for one and a half hours.
- 1536 H Made trim dive.
- 1545 H Surfaced.

11 0227

CONFIDENTIAL10 July (Cont.)

- 1610 H Closing 0-19.
- 1627 H Demolition charges went off with muffled explosion and smoke from conning tower and forward hatch.
- 1628 H Maneuvering to fire torpedo from bow tubes.
- 1636 H Heard and saw second internal explosion, possibly second demolition charge.
- 1637 H Fired #5 tube, aimed by TBT bearings just abaft conning tower, depth set, 0 feet. Hit as aimed 34 seconds later. Left large hole, but submarine has not budged.
- 1643 H Fired #4 tube, aimed by TBT bearings at after torpedo room, which contains two war heads, depth set, 2 feet. Hit as aimed 43 seconds later with terrific explosion. Stern gone, after part completely wrecked and boat is smoking.
- 1650 H Commenced firing 5-inch gun, range 1500 yards.
- 1700 H Ceased firing, having expended 16 rounds, for 16 hits. Remainder of 0-19 is still on reef, though it has a slightly greater list. She has a dozen holes in her hull from the 5-inch gun, her entire stern is wreckage and she was left smoking heavily. Wish my first torpedo fired had been at a slant-eye instead of this. Could appreciate the captain's feelings as he silently watched his boat being destroyed.
- 1702 H Set course for SUBIC BAY at two-engine speed.
- 2228 H Sent COD's SEVENTH.
Patient, HEMPHILL, almost fully recovered. Will return to duty in a day or two. He has received 100,000 units penicillin.

11 July

- Enroute SUBIC BAY.
Conducted section dives.
- 1200 H Posit: Lat. 11°-30' N, Long. 112°-56' E.
- 1250 H SD contact at 20 miles - no IFF.
- 1253 H Contact closed to 6 miles - no IFF, not in sight from bridge, unable to raise on VHF. Dove.
- 1324 H Surfaced. All clear.

12 July

- Enroute SUBIC BAY.
Conducted section dives.
- 0736 H SD contact at 19 miles - no IFF.
- 0738 H Plane in sight from bridge, B-24.
- 0741 H Lost sight contact.
- 0744 H Lost SD contact.
- 1200 H Posit: Lat. 14°-11' N, Long. 116°-24' E.

CONFIDENTIAL12 July (Cont.)

- 1507 H SD contact at 13 miles - gave IFF.
 1510 H Plane in sight from bridge, PBY.
 1517 H Lost sight and SD contact.
 1746 H Sighted two ships bearing 104°T, distance about 15 miles. (SC#5). Changed course to intercept. Believed ships friendly and desired to identify ourselves before dark.
 1810 H Contacts identified as two British submarines, probably SLEUTH and SOLENT, who are entering SUBIC at same time with us tomorrow.
 1832 H Exchanged recognition signals and calls by signal light with HMS SLEUTH and SOLENT.
 1837 H APR contact - British submarine radar.
 1945 H Lost SJ contact on British submarines at 13,350 yards.
 2151 H APR contact, 117 mcs.

13 July

- Enroute SUBIC BAY.
 0117 H SJ contact, bearing 100°T, distance 14,900 yards.
 0133 H Exchanged recognition signals and calls with escort, USS ROMBACH (DE364). Took position astern of escort and set course for SUBIC.
 0837 H Moored alongside USS ANTHEDON, SUBIC BAY, P.I. Transferred personnel from O-19. Received fuel and effected minor voyage repairs.

14 July

- All following times are Item.
 1459 Underway in accordance with CTF 71 Operation Order 94-45. Will give training to USS HUTCHINS (DE360) this afternoon enroute patrol area.
 1642 Dove.
 1756 Surfaced. USS HUTCHINS returned SUBIC BAY.
 1817 Made rendezvous with USS BUGARA and escort, USS WOODSON (DE359). Proceeding in company.
 2000 - 2100 Held radar tracking drill on escort.
 2131 Escort released. Proceeding patrol area in company with USS BUGARA.

15 July

- Enroute patrol area.
 0807 SD contact at 28 miles - no IFF.
 0813 Plane in sight from bridge, B-24.
 0820 Lost sight and SD contact.
 1200 Posit: Lat. 14°-03' N, Long. 116°-24' E.

CONFIDENTIAL15 July (Cont.)

- 1441 Made trim dive.
- 1453 Surfaced.
- 1547 SD contact at 13 miles - no IFF.
- 1550 Sighted plane from bridge, PBM.
- 1557 Lost sight and SD contact.

16 July

- Enroute patrol area.
- 1200 Posit: Lat. 12°-00' N, Long. 112°-35' E.
- 1302 SD contact at 13 miles - no IFF.
- 1305 Contact closed to 6 miles. Still no IFF. Dove.
- 1319³ Surfaced. All clear.
- 1341 SD contact at 24 miles - no IFF, no answer on VHF.
- 1346 Sighted plane from bridge, PBM.
- 1352 Lost sight and SD contact.
- 2359 Can hear HAWKBILL trying to call us on Wopaco frequency. She apparently cannot hear us.

17 July

- Enroute patrol area.
- 0031 Our transmitter out. Requested BUGARA to relay any traffic to us by VHF.
- 0326 Received rendezvous instructions from HAWKBILL.
- 0445 Requested and obtained permission from BUGARA to proceed independently to rendezvous. Proceeding at four-engine speed.
- 1200 Posit: Lat. 9°-11' N, Long. 109°-20' E.
- 1222 SD contact at 22 miles - gave IFF and VHF response.
- 1226 Sighted plane from bridge, PBM.
- 1235 Lost sight and SD contact.
- 2251 Transmitter back in commission.

18 July

- Enroute patrol area.
- 1200 Posit: Lat. 6°-13' N, Long. 103°-12' E.
- 1456 On patrol station assigned by HAWKBILL.
- 1459 Sighted first of many sailboats. At one time counted 42 in sight. (SC#5).
- 1608 Sighted U.S. submarine surfacing, distance 4,000 yards - possibly HAWKBILL. Attempted to exchange signals by light.
- 1610 U.S. submarine submerged.
- 1611 Dove for submerged patrol.
- 2019 Surfaced. Proceeding to rendezvous.

19 July

- Enroute rendezvous with HAWKBILL.
- 0311 Received contact report from HAMMERHEAD on convoy. Proceeded at four-engine speed to attempt intercept.

CONFIDENTIAL

19 July (Cont.)

- 0334 Received HAWKBILL instruction to COD and HAMMER-HEAD for scouting line. Set course for assigned position.
- 0722 Ship sighted 040°T. U.S. submarine. Confirmed to be HAWKBILL by asking for and receiving her position.
- 0733 In assigned position.
- 0742 HAWKBILL dove.
- 0820 Dove.
- 0910 Sighted three float planes (Jake or Rufe) circling, bearing 239°T, distance about 8 miles.
- 0922 Sighted smoke, bearing 233°T. (SC#6).
- 0935 Sighted three land-based planes on same bearing. Now have at least five planes giving air cover to this convoy.
- 0940 Now have masts in sight.
- 0955 Battle stations.
- 0958 Masts belong to Jap destroyer - KATIKAZE class. He is radically changing course, patrolling up and down flank of convoy, giving first a 90 starboard, then a 90 port angle on bow. Am running at standard speed between looks.
- 1031 Destroyer angle on bow is now 170 starboard.
- 1037 Have convoy in sight. Appears to be five ships consisting of one trawler escort, one oiler and three AKs.
- 1045 Destroyer is over the hill.
- 1104 Made ready all tubes. Ships appear to be in column with small escort echo-ranging up and down convoy's starboard flank. Intend to fire three at third ship and three at fourth ship. Sea is glassy smooth.
- 1110 Range to target now 2800 yards, angle on bow 50 starboard - looks good. Escort has small port angle and will cross astern close.
1112. First depth charge - scope went under. Put in sound bearing on TDC and commenced firing three forward at AK. Track angle 60 starboard, average run 2,000 yards, gyros near zero, depth set 4 feet. All missed. Target undoubtedly was alerted and maneuvered to avoid.
- 1113 Rigged for depth charge. Went deep to 150 feet. We are in about 27 fathoms.
- 1116 - 1140 Evasive tactics, including firing of two beacons.
- 1145 Last of eighteen depth charges. None too close.
- 1150 At periscope depth. Destroyer and trawler astern milling around, range 8,000 yards. Commenced reload and checking torpedoes.
- 1200 Posit: Lat. 6°-13' N, Long. 103°-12' E.

CONFIDENTIAL19 July (Cont.)

- 1231 Target's course 057⁰T, speed 16 knots.
 1256 Secured from battle stations.
 1322 Lost sight of masts going away.
 1410 Surfaced. Set course to close convoy.
 1428 Dove for aircraft sight contact heading in. Came to SD depth periodically and would immediately obtain contact at 1 - 5 miles.
 1735 Surfaced. All clear. Began search for convoy.
 1757 SD contact at 17 miles, closing.
 1800 Sighted two land-based planes.
 1808 Lost sight of planes.
 1849 Sighted plane in high periscope (Jake).
 1851 Received Serial William from CTF 71, giving us the zoomie's course, speed and position of convoy.
 1858 Lost sight of plane.
 1906 Sighted plane about 12 miles going away.
 2127 BRILL sent contact report. Zoomie's dope was apparently right on.
 2128 Gave HAWKBILL our position and requested to attempt intercept convoy.
 2159 Sent our position, course and speed to BRILL.
 2316 BUMPER sent contact report.

20 July

- Proceeding after convoy.
 0004 SJ contact, bearing 042⁰T, range 20,500 yards. (SC#6A). Sent contact report to BRILL and BUMPER and told them we would act as trailer until their attacks were completed.
 0031 Ships in sight from bridge as blobs on horizon.
 0053 BUMPER sent "commencing submerged radar approach".
 0122 BRILL sent "missed destroyer with four".
 0146 Commencing end-around starboard flank of convoy. This will put it between the moon and us. Have convoy on base course 000⁰T, speed 8 knots.
 0218 Sent position and intention to attack to BRILL and BUMPER.
 0302 In midst of heavy rain squall. Visibility is about 1,000 yards.
 0303 BUMPER sent "attack completed, missed".
 0310 In position ahead of convoy which is roughly disposed as follows:
 2 small ships ahead on either bow of destroyer.
 2 ships on either beam of destroyer.
 1 ship astern of destroyer.
 Intend to submerge ahead, on track, use ST and fire bow tubes at close range on destroyer, then shift to one of the ships on his beam for stern tubes.

CONFIDENTIAL20 July (Cont.)

- 0312 Reversing course to head in, radar range 10,000 yards. Visibility very poor.
- 0313 A wonderful thing has happened! Our radar just went out! Couldn't possibly have picked a more critical moment. (See section M).
- 0314 On same course as convoy, 5 miles ahead, attempting repairs to radar.
- 0333 Sent position and news of dilemma to other boats in vicinity.
- 0354 Secured from battle stations. SJ will be out for at least several hours. This was most discouraging, especially after having a second chance at this Jap. That KAMIKAZE must carry a good luck charm or pray to his gods regularly. Today he has dodged torpedoes fired by three submarines, requested and received a rain squall, and has cast a spell over our radar. He hasn't been touched!
- 0356 Set course for point south of PULO PANJANG. Should be able to see the outfit after daylight if it remains on a northerly course.
- 0406 Informed BRILL of intentions and retirement course.
- 0933 Asked HAWKBILL for, and received, permission to remain here today for another try.
- 1021 Dove on sighting two planes from bridge, closing.
- 1200 Posit: Lat. 9°-09' N, Long. 103°-45' E.
- 1314 Surfaced. Sighted total of five planes at various times during afternoon - none close.
- 1548 SJ back in commission.
- 1600 Have covered area for convoy's assumed northerly course. Now inside 10-fathom curve. Commenced the old naval maneuver.

21 July

- Proceeding to rendezvous with HAWKBILL.
- 1200 Posit: Lat. 5°-48' N, Long. 103°-25' E.
- 1311 Sighted first of many sailboats.
- 1348 U.S. submarine surfaced 2,000 yards distance.
- 1351 Exchanged calls with HAMMERHEAD.
- 1405 Sighted large junk bearing 234°T, distance about 15 miles, *(J#1). Headed toward.
*(J#_) signifies sailing-junk contact.
- 1442 Manned 5-inch gun and both 40MM.
- 1458 Fired one round 40MM forward of junk which lowered her sails and hove to. Looks to be about 100 tons.
- 1506 Crew of 12 is abandoning ship, crawling over the stern fast, into their lifeboat.

CONFIDENTIAL21 July (Cont.)

- 1509 Came alongside and put over board ~~the~~ ~~to~~ ~~take~~ ~~the~~ ~~the~~ cargo. Motioned lifeboat to come alongside, but the occupants either did not understand or didn't want to.
- 1510 - 1524 Cargo consists of rice. Examined confiscated papers and charts. Learned that ship has apparently been in upkeep at SINGAPORE recently and that her official tonnage is 131 tons. Decided to sink her. Crew is now well clear, rowing toward the beach which is 4 miles away.
- 1525 Backed clear.
- 1530 Commenced firing with 5-inch and 40MM guns at 500 yards.
- 1534 Ceased firing, having fired 7 rounds 5-inch and 40 rounds 40MM. Junk is sinking.
- 1537 One wooden junk sunk. (J#1).
- 1545 Secured all guns. Junk or sampan was exactly on 10-fathom curve. Executed our familiar naval maneuver.
- 1623 SD contact at 6 miles, closing - no IFF.
- 1625 Dove. Plane sighted just prior to diving. (Rufe).
- 1626 One bomb - not close.
- 1627 Second bomb - a bit closer. Went to 150 feet. Now in 30 fathoms of water.
- 1908 Surfaced. SD contact at 10 miles, constant range - no IFF.
- 1912 Closed to 8 miles.
- 1913 Dove as plane was sighted presenting a zero angle and swooping down.
- 1915 One bomb.
- 1917 Second bomb. Both of these seemed to be larger and/or closer than the other two earlier. Nips apparently know we are here.
- 2031 Surfaced. All clear. Set course for rendezvous with HAWKBILL.
- 2232 Stopped. Lying to, waiting for HAWKBILL to come alongside.
- 2234 HAWKBILL alongside. Transferred Loran charts to him, obtained his wolf pack info and exchanged movies.
- 2250 Parted company.

22 July

- Patrolling south of PULO TENGGOL.
- 0847 Dove for submerged patrol south of PULO TENGGOL, inshore, in accordance with HAMMERHEAD directive.
- 1200 Posit: Lat. $4^{\circ}-37'$ N, Long. $103^{\circ}-42'$ E.
- 1420 Surfaced.
- 2140 Completed converting #4 FET to MBT.
- 2240 Dove to flush out #4 MBT.
- 2304 Surfaced.

CONFIDENTIAL23 July

- Patrolling south of PULO TENGGOL.
- 0710 Exchanged recognition signals and ship's call by SJ with BLENNY.
- 0907 Dove for submerged patrol in accordance with HAMMERHEAD directive. Will close beach on a westerly course to 20-fathom curve passing 7 miles north of PULO TENGGOL.
- 1200 Posit: Lat. $5^{\circ}-02'$ N, Long. $103^{\circ}-56'$ E.
- 1415 Sighted plane through periscope (Sally), distance about 8 miles.
- 1424 Two planes in sight through periscope (land-based bomber and fighter).
- 1436 Lost sight of planes.
- 1657 Surfaced.
- 1847 Closed two small sampans (10 tons) to investigate cargo. Obtained papers. Cargo was few bags of rice.

24 July

- Patrolling between PULO TENGGOL and PULO KAPAS.
- 0853 Dove for submerged patrol. Will investigate what appears to be an anchorage for large sailing vessels between PULO KAPAS, and the mainland.
- 0900 Counted at least twelve large junks, sampans or schooners at anchor west of PULO KAPAS. All are two or three mast jobs.
- 1200 Posit: Lat. $5^{\circ}-18'$ N, Long. $103^{\circ}-41'$ E.
- 1205 Surfaced.
- 1832 SD contact at 2 miles - no IFF. Dove.
- 1937 Surfaced.

25 July

- Enroute to patrol south of PULO TENGGOL.
- 0921 Dove for submerged patrol. Will close beach to 6 miles, parallel it and watch for freight-laden junks.
- 1200 Posit: Lat. $4^{\circ}-37'$ N, Long. $103^{\circ}-34'$ E.
- 1836 Surfaced.
- 1837 Commenced closing large junk. (J#2). Manned 40MM guns.
- 1911 Put armed boarding party aboard junk with instructions to investigate cargo and to set course to open from beach. We are now on 10-fathom curve, 3 miles from shore with sunset more than an hour away.
- 1921 Dove.
- 2019 Surfaced. Commenced closing aforementioned junk who was now 5 miles from the beach.
- 2051 Alongside junk. Boarding party returned aboard. Crew abandoned ship in own rowboat. Cargo consists of crude rubber. Bound from SINGAPORE to BANGKOK.

11 0227

CONFIDENTIAL

I

25 July (Cont.)

- 2057 Commenced firing 5-inch gun and 40MM.
 2059 Ceased firing. Expended 4 rounds of 5-inch and 20 rounds 40MM, at 600 yards. Junk, sunk. (J#2).

26 July

- Patrolling south of FULO TENGGOL.
 0813 Dove for submerged patrol.
 1200 Posit: Lat. 4°-33' N, Long. 103°-35' E.
 1300 Surfaced. Commenced closing large junk. (J#3). Manned 40MM.
 1312 Alongside junk. Boarding party put aboard.
 1327 Boarding party back aboard having obtained papers and determined cargo to be rice. Shoved off native crew in rowboat.
 1332 Commenced firing 40MM and 5-inch.
 1335 Junk sunk. (J#3). 4 rounds 5-inch and 50 rounds 40MM expended.
 1348 Dove.
 1513 Surfaced. Commenced closing small junk. Manned 40MM.
 1516 Sighted two-engine plane, low, headed in. Dove.
 2007 Surfaced.
 2030 Commenced closing motor sampan. *(MS#1). *(MS#) signifies motor sampan contact.
 2045 Alongside. Put boarding party aboard with instructions to open out from beach which is 3 miles away.
 2100 Commenced closing motor sampan which appeared to be anchored. (MS#2).
 2106 Alongside. Second string boarding party went aboard. Ship was deserted but had drums of oil and grease aboard. Had motor in addition to sails.
 2121 Boarding party back aboard, having confiscated a Jap flag in addition to papers.
 2130 Commenced firing 40MM.
 2132 Target commenced burning. (MS#2).
 2134 Ceased firing. Expended 1 round 5-inch and 40 rounds 40MM. Made blazing fire for one hour.
 2135 Commenced closing junk that had our boarding party aboard.
 2200 Alongside. Boarding party back aboard. Took one volunteer Chinese crew member aboard, Thomas SEE. He speaks English and lives in SINGAPORE. Junk is motor-sail driven and has cargo of fuel oil, lub oil and gasoline.
 2210 Native crew shoved off in rowboat.
 2218 Commenced firing 40MM.
 2220 Left target burning merrily. (MS#1). Expended 1 round 5-inch, 30 rounds 40MM.
 2222 Clearing area.

CONFIDENTIAL27 July

- Enroute rendezvous with BLENNY.
- 0100 Establish communications with BLENNY by VHF. Exchanged pleasantries, dope and plans for a coordinated attack on the "fishing" fleet anchored west of PULO KAPAS.
- 0134 Underway for PULO KAPAS in company with BLENNY.
- 0436 Manned 5-inch, 40MM and .50 Cal. guns. Flooded down and assumed position 800 yards astern BLENNY. We will approach from the south in column, lie off about 600 yards abeam of targets, BLENNY firing at northern half of group, COD at southern half. Moon is full, but ships against background of island are difficult to distinguish clearly.
- 0500 Fired several bursts of .50 Cal. to waken native crews and allow them to abandon ship.
- 0518 Commenced firing 40MM and 5-inch guns.
- 0536 Ceased firing. Expended 31 rounds 5-inch and 250 rounds 40MM. There were at least twelve targets at anchor, several appearing to be 150-200 tons. Exec., Gunnery Officer and COD counted seven resting on the bottom. Accordingly, BLENNY and COD each claim credit for three sunk. (J#4,5,6).
- 0541 Clearing strait.
- 0606 Sighted medium junk bearing 031°T, distance about 7,000 yards. Commenced closing to investigate. (MS#3).
- 0630 Alongside junk. Boarding party aboard.
- 0632 Junk has new motor and sails, carrying ~~sagar~~.
- 0635 Shoved off native crew in rowboat. Boarding party back aboard. Our Chinese passenger is useful as interpreter, although our Gunnery Officer had begun to pride himself on his dictionary-acquired linguistic ability.
- 0648 Commenced firing 40MM and 5-inch gun.
- 0653 Ceased firing. Expended 3 rounds 5-inch and 55 rounds 40MM.
- 0654 Target sunk. (MS#3).
- 0655 Set course for patrol station east of PULO TEN* GGOL.
- 0931 SD contact at 15 miles - no IFF.
- 0933 Contact closed to 9 miles. Dove.
- 1008 Surfaced. All clear.
- 1200 Posit: Lat. 4°-50' N, Long. 104°-19' E.
- 1600 Sighted BLENNY bearing 090°T, distance 6 miles.
- 1710 SD contact at 15 miles - no IFF.
- 1713 Contact closed to 11½ miles, then opened.
- 1716 Lost SD contact at 16 miles.

CONFIDENTIAL28 July

- Patrolling station 25 miles east of PULO TENGGOL.
- 0300 Commenced four-engine speed, retiring search to north for enemy destroyer reported yesterday by friendly search planes headed north.
- 1021 SD contact at 15 miles - no IFF.
- 1023 Contact closed to 10 miles. Dove.
- 1109 Surfaced. All clear.
- 1200 Posit: Lat. 6°-04' N, Long. 103°-58' E.
- 1400 Abandoned search. Set course for PULO TENGGOL.

29 July

- Patrolling south of PULO TENGGOL.
- 0900 Noticed tall masts behind point of land at TELOR MOKUAN, apparently large cargo-carrying junks anchored in mouth of river there.
- 0925 Dove for submerged patrol. Will head north in 10-15 fathoms near beach and wait for north-south traffic.
- 0956 Surfaced near motor sampan. Intend to put well-armed boarding party aboard and have it round up at least three other good-sized junks which are too close to shore for COD personally to approach. These will be sailed out to deeper water to be disposed of later.
- 1008 Lookout sighted two planes just as boarding party was preparing to leave. Dove in 10 fathoms.
- 1041 Surfaced. All clear. Commenced approach again.
- 1047 Put over boarding party. Backed clear.
- 1120 Sighted large-sized junk. (J#7). Commenced closing.
- 1130 Alongside junk. Put inspection party aboard. Cargo - rice. Shoved off native crew in rowboat.
- 1135 Inspection party back aboard.
- 1148 Commenced firing 40MM and 5-inch.
- 1152 Ceased firing.
- 1153 Junk sunk. (J#7).
- 1200 Posit: Lat. 4°-28' N, Long. 103°-34' E.
- 1245 Commenced closing motor sampan. (MS#4). One of our own crew members came aboard - member of original boarding party. Cargo - rice.
- 1312 Commenced firing 40MM.
- 1313 Left sampan burning. (MS#4). Commenced closing original sampan (MS#5) with boarding party which had another in tow. (MS#6).
- 1322 Alongside. Brought own crew aboard.
- 1329 COD sighted plane, distance about 12 miles. Cleared topside and dove.
- 1350 Surfaced. All clear.

CONFIDENTIAL29 July (Cont.)

- 1352 Alongside fourth motor sampan (MS#7), with one member of own "prize crew" aboard. Cargo - rice.
- 1357 Commenced firing 40MM at fourth motor sampan. Set afire on second round.
- 1359 Sampan sank. (MS#7).
- 1403 Commenced firing 40MM at MS#5 and MS#6. Both set afire.
- 1411 Motor sampan sunk. (MS#5 and #6).
- 1415 Alongside large junk. (J#9). Took aboard last member of own prize crew. Cargo - rice.
- 1423 Commenced firing 40MM and 5-inch at J#9)
- 1430 Ceased firing.
- 1433 Junk sunk. (J#9). Clearing area. Boarding party on confiscated motor sampan had:
- (1) Boarded and sailed, or towed, a total of four motor sampans and one junk from shallow water out away from the beach.
 - (2) Inspected each individual cargo.
 - (3) Confiscated papers from each.
 - (4) Sent all native crews ashore in their rowboats.
 - (5) Boarded and fired a second junk, (J#8) carrying rice, that was anchored one-half mile from shore.
- 1519 Dove for submerged patrol.
- 2040 Surfaced.

30 July

- Patrolling south of PULO TENGGOL.
- 0512 Rendezvous with BLENNY. Exchanged dope and plans by VHF.
- 0528 Set course to close beach.
- 0633 Sighted large junk. (J#10). Trailing until dawn.
- 0731 Commenced closing junk.
- 0745 Alongside. Put inspection party aboard. Cargo - rice. Shoved off native crew in rowboat.
- 0804 Commenced firing 40MM.
- 0809 Ceased firing. Junk sunk. (J#10).
- 1010 Dove for submerged patrol.
- 1200 Posit: Lat. 4°-28' N, Long. 103°-33' E.
- 1929 Surfaced.
- 2006 Sighted BLENNY, bearing 178°T, distance about 10 miles.
- 2120 Commenced closing junk. (J#11).
- 2150 Alongside junk. Boarding party aboard. Cargo - Sugar.
- 2203 Taking crew of junk aboard. There are 20 natives aboard. Will transfer them to a medium-sized craft.

CONFIDENTIAL30 July (Cont.)

- 2209 Commenced firing 40MM and 5-inch at junk.
 2221 Junk sunk. (J#11).
 2232 Alongside small fishing sailboat. Transferred natives from COD to fisherman.

31 July

- Patrolling south of PULO TENGGOL.
 0811 Commenced closing junk. (J#12).
 0821 Alongside junk. Boarding party aboard. Cargo - oil. Native crew shoved off in own rowboat.
 0832 Commenced firing on junk.
 0836 Junk sunk. (J#12).
 0855 Commenced closing junk. (J#13).
 0910 Took native crew aboard after their rowboat swamped. Cargo - sugar.
 0921 Commenced firing .50 Cal. at junk.
 0922 Junk left burning. (J#13).
 0930 Commenced closing large barge in tow of small motor boat.
 0935 Commenced firing 40MM at barge.
 0936 Barge began burning. Great burst of flames and black smoke, visible eight hours later, left little doubt as to the nature of the cargo of this deliciously blazing tidbit.
 0937 Persuaded small motor tug to come alongside by waving and shouting of our self-important Chinese passenger.
 0939 Transferred native crew from J#13 to motor boat.
 1037 Commenced closing large junk. (J#14).
 1043 Alongside junk. Native crew has already abandoned ship. Cargo - rice.
 1054 Commenced firing 40MM at junk.
 1056 Junk left sinking. (J#14).
 1200 Posit: Lat: 4°-44' N, Long. 103°-37' E.
 1310 Dove for submerged patrol.
 1903 Surfaced.
 2108 Commenced closing motor sampan. (MS#8).
 2112 Alongside motor sampan. Cargo - oil. Native crew had abandoned ship.
 2129 Commenced firing 40MM.
 2130 Motor sampan left burning. (MS#8).
 2230 Commenced closing motor sampan. (MS#9).
 2241 Alongside motor sampan. Cargo - oil. Native crew had abandoned ship.
 2250 Commenced firing 40MM.
 2251 Motor sampan left burning fiercely. (MS#9).
 2255 Secured from gun stations.

1 August

- Patrolling south of PULO TENGGOL.
 0807 Commenced closing large junk.

CONFIDENTIAL

1 August (Cont.)

- 0830 Alongside junk. Boarding party aboard. Cargo - army blankets, knapsacks, canvas tarpaulins.
- 0844 Sighted fighter plane, headed toward. Dove as soon as topside was cleared. One officer, four men and our Chinese passenger were left aboard the junk. Before the C.O. started down the hatch a burst of machine gun fire was heard by all hands in the conning tower (as well as by the COD and the C.O. on the bridge!). Noise of bullets from a second strafing run hitting the water was heard in conning tower as we passed fifty feet. Levelled off at sixty feet, which is the charted depth here, and headed east away from beach to try for fifteen fathoms.
- 0940 Sighted float-type plane through periscope, distance about 8 miles.
- 0946 Sighted second plane (land-based fighter).
- 1000 Sighted two more land-based fighters.
- 1017 Sighted mast bearing $310^{\circ}T$, believed to be fishing boat or junk at first, as it looked to be so close to shore. (SC#7).
- 1030 Set battle stations submerged when enemy ship contact realized. Am between 10-fathom spot to north and HOWARD SHOAL ($2\frac{1}{2}$ fathoms) to the south.
- 1048 Can make out Kamikaze-type destroyer now, bearing $363^{\circ}T$, range approximately 11,500 yards, angle-on-bow, 80 port.
- 1102 Destroyer base course appears to be $200^{\circ}T$, speed 15 knots. Can see tops of masts and funnels of three ships in convoy. All are very close to the beach. Can see the hull of the destroyer now - range 10,000 yards.
- 1130 DD now has 110 port angle, range 14,500 yards. Have not seen more than tops of masts and funnels of other ships.
- 1200 Posit: Lat. $4^{\circ}-19'$ N, Long. $103^{\circ}-37'$ E.
- 1226 Secured from battle stations submerged.
- 1435 Surfaced. Set course on last true bearing of junk with our boarding party aboard.
- 1500 Sighted plane headed toward us from bridge. Dove.
- 1619 Surfaced. All clear.
- 1635 Sighted BLENNY surfacing, 4,000 yards on starboard beam.
- 1727 Sighted plane headed toward us from bridge. Dove.
- 1758 Surfaced.
- 1800 Sighted plane. Dove.
- 1809 Surfaced. All clear. Continued search for our outfit on junk.

CONFIDENTIAL1 August (Cont.)

- 1830 Gunnery Officer has dug a Jap 20MM slug out of superstructure. Evidence of 10 or 12 hits in superstructure.
- 1848 Sighted plane from bridge, distance about 12 miles.
- 1855 Lost sight of plane.
- 2003 Closed beach to investigate anchored junk. (J#15). Flooded down.
- 2010 Determined not to be our junk.
- 2018 Fired one round 40MM to chase off native crew. Junk is abandoned, but has large cargo space amidships and is low in water.
- 2019 Commenced firing 40MM at junk.
- 2022 Junk sunk. (J#15) Continued search.
- 2110 Commenced firing Very stars every ten minutes. Boarding party has flashlights, and one signalman -striker is aboard. Have notified BLENNY and CTF 71 of situation.

2 August

- Searching for junk with COD boarding party aboard.
- 0800 Commenced search close inshore. Have been assigned western-most sector by BLENNY who is coordinating search.
- 1200 Posit: Lat. 4°-24' N, Long. 103°-32' E.
- 1456 Sent COD's TENTH to CTF 71 correcting the impression that we had party aboard.
- 1930 Intend to find an English-speaking native, put him ashore at the fishing village here to ask for dope on our missing party. Will hold junk as insurance of his compliance.
- 1955 Alongside junk near scene of strafing attack.
- 1956 One of the native crew speaks a little English.
- 2024 Have man aboard. Laboriously explained what we wanted. Flooded down, heading for beach.
- 2130 At 800 yards from beach put man over in junk's lifeboat, which promptly swamped.
- 2240 Replaced native aboard junk and headed for rendezvous with BLENNY and BOARFISH.
- Until dark tonight there seemed to be little doubt that we would at any moment find our missing shipmates. They were, individually, and as a group, experienced, capable and full of common sense. They were well-armed with one Thompson, one carbine and four pistols. They carried a total of three flashlights. Each man had a sheath knife. A pre-arranged rendezvous point 5 miles south of PULO TENGGOL had been understood in case of just such an occurrence. We had returned to this point after each search along the beach. Am now beginning to be apprehensive and will try to calmly write down an "estimate of the situation".

CONFIDENTIAL2 August (Cont.)

1. Party are ashore.

a. Free to move about.

Do not believe this likely, as we would surely have noticed any attempt to attract our attention from shore, which they would be certain to do.

b. Prisoners.

Do not think this is probable because from all the available information it appears there are few Japs in this immediate vicinity.

2. Party are at sea.

a. In another junk or sampan.

If this were the case, feel we would have had some sign from them before now, as we have closed all the boats, big and small. If any turn away from us on our approach, we abandon pursuit.

b. Prisoners on a junk or sampan.

Very unlikely. Party is too well-armed; prisoners would be put ashore; there have been no hostile crews encountered.

c. Still in original junk.

This is the most logical assumption. Wind and current have been from south southwest and could carry them far. It would be difficult, tedious and slow work to beat back south.

3. Foul Play.

a. All or part wounded by strafing attack.

Junk was seen to have made sail after we submerged, so the possibility of at least some of our group being okay is good. At any rate, getting any wounded men back aboard COD would be the best policy.

b. Plane suspicious and notified convoy.

This is the worst possibility and, unhappily, the second most logical. Plane may have seen one or more of our men aboard junk and sent a smaller escort vessel to investigate, in which case our shipmates would have been taken aboard, and the native crew and boat sent on its way. Although we did not see this happen through the periscope, junk was not in sight at all times.

3 August

Heading for rendezvous with BLENNY and BOARFISH.

CONFIDENTIAL3 August (cont.)

- 0137 In communication with BLENNY by VHF. Exchanged meager dope and ideas. Received instructions on tomorrow's search. BLENNY will search sector to north and west of PULO TENGGOL; BOARFISH to north and east; COD to south.
- 0600 Received Lieutenant F.B.K. DRAKE, R.A.N.V.R. as passenger, and 40 rounds of 40MM ammunition from BOARFISH.
- 0601 Set course for assigned search area.
- 1200 Posit: Lat. 4°-21' N, Long. 103°-49' E.
- 1239 Received blessed BLENNY's Wopac message saying she had recovered all our party which was okay. Went to four-engine speed. Everyone's spirits have been wonderfully lifted.
- 1450 Alongside BLENNY, rigging breeches buoy.
- 1505 Have all members of junk-raiding party back aboard. They were as happy to see us as we were to welcome them home.
- 1507 Thanked BLENNY and set course for FREMANTLE. It has been a pleasure to work for and with the BLENNY, not only during the recent search, but throughout.
- 1732 Sent COD's ELEVENTH to CTF 71, confirming good news of recovery.

4 August

- Enroute FREMANTLE.
- 1134 Sighted plane from bridge, distance about 15 miles, going away.
- 1153 Lost sight of plane.
- 1155 Sighted same plane, closing. Dove.
- 1200 Posit: Lat. 2°-36' N, Long. 105°-16' E.
- 1237 Surfaced.
- 1241 SD contact at 10 miles, closing. Dove.
- 1300 Have plane in sight through periscope. (Jake).
- 1406 Heard distant explosion.
- 1430 Lost sight of plane in periscope.
- 1443 Surfaced. All clear.

5 August

- Enroute FREMANTLE.
- 1200 Posit: Lat. 1°-33' S, Long. 108°-16' E.
- 1224 Sighted KARIMATA ISLAND Group. Commenced transit. KARIMATA STRAIT.
- 0400 Completed transit KARIMATA STRAIT.

6 August

- Enroute FREMANTLE.
- 0206 Exchanged recognition signals by SJ with USS HAMMER-HEAD (SS365).
- 1200 Posit: Lat. 4°-33' S, Long. 110°-57' E.
- 1300 Exchanged calls with USS ICEFISH (SS367).

CONFIDENTIAL7 August

- Enroute FREMANTLE.
- 1200 Posit: Lat. 6°-53' S, Long. 115°-00' E.
- 1927 Sighted U.S. submarine through high periscope. Exchanged recognition signals and calls with USS CHUB (SS329).
- 2100 CHUB commencing approach to receive line from us for breeches buoy. We had rigged a buoy tonight for transfer of ammunition requested by CHUB. It is strictly a ship's force job. Am heading into a force 3 sea, steering steady course at one-
- 2130 CHUB chased and attacked and is keeping 40-60 yards abeam to starboard.
- 2135 Commencing transfer of ammunition.
- 2232 Completed transfer of 35 rounds 5-inch, 48 rounds 40MM, movies and mail. Our jury-rig has worked fine.
- 2235 Bid CHUB goodbye and set course for LOMBCK.
- 2331 Commenced transit LOMBCK STRAIT.
- 0240 Completed transit LOMBCK STRAIT.

8 August

- Enroute FREMANTLE.
- 0313 Dove.
- 1047 Surfaced.
- 1200 Posit: Lat. 10°-30' S, Long. 115°-29' E.
- 2330 Sent COD T WELPTH giving ETA rendezvous.

9 August

- Enroute FREMANTLE.
- 1105 Dove.
- 1123 Surfaced.
- 1200 Posit Lat. 15°-15' S, Long. 114°-36' E.
- 1544 Sighted U.S. tanker (SS33) on easterly course - bearing 205°T, distance about 6 miles.

10 August

- 1200 Posit: Lat. 19°-32' S, Long. 113°-16' E.
- 1232 Received CAPITAINE request for rendezvous.
- 1433 Sighted and exchanged recognition signals and calls with USS CAPITAINE (SS336) and USS PUFFER (SS263).
- 1455 Received outgoing mail from PUFFER (SS263), and gave information by VHF to CAPITAINE and PUFFER on area we left.
- 1522 Departed rendezvous.

11 August

- 1200 Posit: Lat. 24°-04' S, Long. 112°-38' E.

U.S.S. CCD (SS224)

CONFIDENTIAL

12 August

1200 Posit: Lat. $24^{\circ}-09'$ S, Long. $113^{\circ}-06'$ E.

1424 Dove for sound and tightness tests.

1555 Surfaced.

13 August

0457 Sighted ROYALTY LIGHT bearing 142° T.

0733 Sighted escort, M.L. 815 (R.A.N.).

Moored FREMANTLE HARBOUR, WESTERN AUSTRALIA.

CONFIDENTIAL

(C) WEATHER

The weather throughout the entire patrol was mild and calm. No rough weather was experienced. The wind and sea in the area were at all times from a southerly direction.

(D) TIDAL INFORMATION

The tides and currents encountered were in complete agreement with the Hydrographic Office publications and current charts for this locality and season. A northerly set of 1.6 knots was experienced in the vicinity of PULO TENGGOL.

(E) NAVIGATIONAL AIDS

No unusual navigational aids were noted during this patrol and no navigational lights were observed to be lighted.

CONFIDENTIAL

(F) SHIP CONTACTS

No.	Date	Time (T)	Posit.	Cargo	Course	Remarks
1. (SC#1)	6/30	2121	20°-32'N 137°-20'E	—	170°T	1. SJ contact 2. Friendly forces
2. (SC#2)	7/5	1228	12°-02'N 109°-46'E	—	—	1. High periscope. 2. Fishing boats
3. (SC#3)	7/6	0535	11°-17'N 109°-10'E	—	—	1. Bridge sighted 2. Fishing boats
4. (SC#4)	7/8	1935	08°-40'N 111°-40'E	—	—	1. SJ contact 2. 0-19
5. (SC#5)	7/12	1645	14°-30'N 117°-40'E	—	—	1. High periscope 2. HMS SLEUTH and HMS SOLINT
6. (SC#6)	7/19	0922	06°-08'N 103°-13'E	—	—	1. Smoke, peris. submerged 2. Kamikaze-type DD & convoy
6A. (SC#6a)	7/20	0004	07°-15'N 103°-44'E	—	—	1. SJ contact 2. Same convoy
7. *(J#1)	7/21	1405	05°-22'N 103°-16'E	Rice	Southerly	1. No motor 2. Tonnage 100 tons
8. (J#2)	7/25	1837	04°-42.7'N 103°-32.9'E	Rubber	Northerly	1. No motor 2. Tonnage 100 tons
9. (J#3)	7/26	1300	05°-08.4'N 103°-34.9'E	Rice	Southerly	1. No motor 2. Tonnage 100 tons
10. ** (J#1)	7/26	2090	04°-30.5'N 103°-32'E	Cil, grease sugar	Anchored	1. Motor 2. Tonnage 50 tons
11. (MS#2)	7/26	2100	04°-32.5'N 103°-33.0'E	Gasoline, fuel oil, lube oil	Northerly	1. Motor 2. Took English speaking Chinese aboard 3. Tonnage 50 tons

CONFIDENTIAL

(F) SHIP CONTACTS (cont.)

No.	Date	Time (I)	Posit:	Cargo	Course	Remarks
12.	(J#4)	7/27	050-15'N	Unknown	Anchored	1. Joint gun battle with USS BLEMNY
13.	(J#5)	7/27	050-15'N			2. Tonnage 100 tons each
14.	(J#6)	7/27	1030-16'E			
15.	(MS#3)	7/27	050-18.5'N 1030-30.3'E	Sugar and coffee	Northerly	1. New diesel motor 2. Tonnage 50 tons
16.	(J#7)	7/29	040-29.2'N 1030-34.0'E	Rice	Southerly	1. No motor 2. Tonnage 100 tons
17.	(MS#4)	7/29	040-29.2'N 1030-34.0'E	Rice	Southerly	1. Motor 2. Tonnage 50 tons
18.	(J#8)	7/29	040-29.2'N 1030-30.0'E	Rice	Anchored 200 yds. off beach	1. No motor 2. Tonnage 100 tons
19.	(MS#5)	7/29	040-29.2'N 1030-34.0'E	Rice and sugar	Southerly	1. Motor 2. Tonnage 50 tons
20.	(MS#6)	7/29	040-29.2'N 1030-34.0'E	Rice	Southerly	1. Motor 2. Tonnage 50 tons
21.	(MS#7)	7/29	040-29.0'N 1030-34.0'E	Rice	Anchored	1. Motor 2. Tonnage 50 tons
22.	(J#9)	7/29	040-29.0'N 1030-34.0'E	Rice	Southerly	1. No motor 2. Tonnage 100 tons
23.	(J#10)	7/30	040-43'N 1030-31.3'E	Rice, cotton Duck cloth	Northerly	1. No motor 2. Tonnage 100 tons
24.	(J#11)	7/30	040-35.2'N 1030-31.0'E	Soap, sugar	Northerly	1. No motor 2. Tonnage 100 tons
25.	(J#12)	7/31	040-30'N 1030-30'E	15 drums of oil; sugar	Northerly	1. No motor 2. Tonnage 100 tons

(29)

(CONFIDENTIAL)

(F) SHIP CONTACTS (Cont.)

No.	Date	Time(I)	Posit:	Cargo	Course	Remarks
26.	(J#13)	7/31 0855	04°-30'N 103°-31'E	Sugar	Northerly	1. No motor 2. Tonnage 100 tons
27.	(NIS)	7/31 0930	04°-30'N 103°-31'E	Oil	Northerly	1. Towed by motor barge 2. Tonnage 350 tons
28.	(J#14)	7/31 1037	04°-45'N 103°-41'E	Rice, paper	Northerly	1. No motor 2. Tonnage 100 tons
29.	(MS#8)	7/31 2108	04°-46'N 103°-31'E	Oil	Northerly	1. Motor 2. Tonnage 50 tons
30.	(IS#9)	7/31 2230	04°-46'N 103°-31'E	Oil	Northerly	1. Motor 2. Tonnage 50 tons
31.	(SC#7)	8/1 1017	04°-21'N 103°-31'E	Oil	200°T	1. Peris., submerged 2. Kamikaze-type DD and 3 ship convoy
32.	(J#15)	8/1 2003	04°-21'N 103°-31'E	Unknown	Anchored near beach	1. No motor 2. Tonnage 100 tons
33.	(SC#8)	8/9 1544	15°-57.0'S 114°-26.0'E	Oil	Easterly	1. High periscope 2. Tanker, U.S.

* (J#) signifies sailing junk contact.
** (MS#) signifies motor sampán contact.

CONFIDENTIAL(H) ATTACK DATA (Cont.)

U.S.S. COD

GUN ATTACK NO. 2

PATROL NO. 7

Time 1530Date 21 July 1945Lat. 05°-22'NLong. 103°-16'ETarget Data - DAMAGE INFLICTED

SHIPS SUNK:

One 100 ton cargo junk.*

DAMAGE DETERMINED BY: Observed to sink.

DETAILS OF ACTION

USED: (1) 5"25 cal. gun; 8 rounds expended.

(2) 40MM gun; 40 rounds expended.

8 hits with 5-inch gun and many hits with 40MM gun sank the target immediately.

* All large sailing junks are estimated to average 100 tons, motor sampans, 50 tons.

GUN ATTACK NO. 3

Time 2056Date 25 July 1945Lat. 04°-42.7'NLong. 103°-32.9'ETarget Data - DAMAGE INFLICTED

SHIPS SUNK:

One 100 tons cargo junk.

DAMAGE DETERMINED BY: Observed to sink.

DETAILS OF ACTION

USED: (1) 5"25 cal. gun; 4 rounds expended.

(2) 40MM gun; 22 rounds expended.

Average range 625 yards. 4 hits with 5-inch gun and numerous hits with 40MM guns sank target immediately.

GUN ATTACK NO. 4

Time 1333Date 26 July 1945Lat. 05°-08.4'NLong. 103°-34.9'ETarget Data - DAMAGE INFLICTED

SHIPS SUNK:

One 100 ton cargo junk.

DAMAGE DETERMINED BY: Observed to sink.

DETAILS OF ACTION

USED: (1) 5"25 cal. gun; 5 rounds expended.

(2) 40MM guns; 28 rounds expended.

Average range 400 yards. Numerous hits with 40MM and 5 hits with 5-inch sank the target immediately.

CONFIDENTIAL(H) ATTACK DATA (Cont.)GUN ATTACK NO. 7 (Cont.)

Average range was 1000 yards. This was a night attack on a large group of anchored junks and schooners in conjunction with USS BLENNY. BLENNY and COD opened fire with .50 Cal. guns over targets as warning to personnel. Shortly thereafter both submarines commenced concentrated fire with 40MM and 5-inch guns. Five-inch gun fired on selected targets. Two hits were registered on each of six targets by COD 5-inch and 40MM guns. Additional hits by BLENNY leaves these six as definitely sunk. At least 8 other hits were scored with 5-inch gun and numerous other hits with 40MM guns, but darkness prevented further accurate evaluation of target damage.

It is believed that several other junks were severely damaged, but shallowness of water made a speedy departure imperative.

GUN ATTACK NO. 8

Time 0650 Date 27 July 1945 Lat. 05°-18.5'E
Long. 103°-39.3'E

Target Data - DAMAGE INFLICTED

SHIPS SUNK: One 50 ton diesel cargo junk.
DAMAGE DETERMINED BY: Observed to sink.

DETAILS OF ACTION

USED: (1) 5"25 cal. gun; 3 rounds expended.
(2) 40MM guns; 55 rounds expended.

Average range 800 yards. Numerous hits with 40MM shattered hull and started a temporary fire on the diesel-sail sampan. One hit with 5-inch gun put the target under.

GUN ATTACK NO. 9

Time 1150 Date 29 July 1945 Lat. 04°-29.2'E
Long. 103°-34.0'E

Target Data - DAMAGE INFLICTED

SHIPS SUNK: One 100 ton cargo junk.
DAMAGE DETERMINED BY: Observed to sink.

DETAILS OF ACTION

USED: (1) 5"25 cal. gun; 5 rounds expended.
(2) 40MM guns; 50 rounds expended.

Five hits with 5-inch gun and 75% hits with 40MM guns sank target. Average range 300 yards.

CONFIDENTIAL(H) ATTACK DATA (cont.)

GUN ATTACK NO. 13

Time 0810 Date 30 July 1945 Lat. 04°-43'N
 Long. 103°-31.3'E

Target Data - DAMAGE INFLICTED

SHIPS SUNK: One 100 ton cargo sailing junk.
 DAMAGE DETERMINED BY: Observed to sink.

DETAILS OF ACTION

USED: (1) 40MM guns; 58 rounds expended.
 Sunk target with 60% hits with 40MM; average range
 500 yards.

GUN ATTACK NO. 14

Time 2210 Date 30 July 1945 Lat. 04°-35.2'N
 Long. 103°-31.0'E

Target Data - DAMAGE INFLICTED

SHIPS SUNK: One 100 tons cargo sailing junk.
 DAMAGE DETERMINED BY: Observed to sink.

DETAILS OF ACTION

USED: (1) 5"25 cal. gun; 3 rounds expended.
 (2) 40MM gun; 38 rounds expended.

Target sank after 3 hits with 5-inch gun and 40%
 hits with 40MM guns. Average range 350 yards.

GUN ATTACK NO. 15

Time 0832 Date 31 July 1945 Lat. 04°-30'N
 Long. 103°-31'E

Target Data - DAMAGE INFLICTED

SHIPS SUNK: One cargo sailing junk of 100 tons.
 DAMAGE DETERMINED BY: Observed to sink.

DETAILS OF ACTION

USED: (1) .50 Cal. guns; 900 rounds expended.
 (2) 40MM guns; 26 rounds expended.

Target sank after 30% hits with .50 Cal. and 70%
 hits with 40MM guns. Average range 300 yards.

CONFIDENTIAL(H) ATTACK DATA (Cont.)GUN ATTACK NO. 16

Time 0922 Date 31 July 1945 Lat. 04°-30'N
 Long. 103°-31'E

Target Data - DAMAGE INFLICTED

SHIPS SUNK: One cargo sailing junk of
 100 tons.

DAMAGE DETERMINED BY: Observed to sink.

DETAILS OF ACTION

USED: (1) .50 Cal. guns; 500 rounds expended.
 (2) 40MM guns; 25 rounds expended.

Target burned and sank after 50% hits with
 .50 Cal. machine guns and 90% hits with 40MM guns.
 Average range 300 yards.

GUN ATTACK NO. 17

Time 0936 Date 31 July 1945 Lat. 04°-30'N
 Long. 103°-31'E

Target Data - DAMAGE INFLICTED

SHIPS SUNK: One oil barge in tow; 350 tons.

DAMAGE DETERMINED BY: Burning fiercely for 8 hours.

DETAILS OF ACTION

USED: (1) 40MM guns; 47 rounds expended.

Target burned fiercely after 75% hits with 40MM
 rounds; average range 1000 yards.

GUN ATTACK NO. 18

Time 1056 Date 31 July 1945 Lat. 04°-45'N
 Long. 103°-41'E

Target Data - DAMAGE INFLICTED

SHIPS SUNK: One cargo sailing junk, 100
 tons (paper).

DAMAGE DETERMINED BY: Observed to sink.

CONFIDENTIAL(H) ATTACK DATA (Cont.)GUN ATTACK NO. 18 (Cont.)DETAILS OF ACTION

USED: (1) 40MM guns; 55 rounds expended.

Target sank after 70% hits with 40MM guns; average range 400 yards.

GUN ATTACK NO. 19

Time 2129 Date 31 July 1945 Lat. 04°-46'N
Long. 103°-31'E

Target Data - DAMAGE INFLICTED

SHIPS SUNK: One motor sail junk of 50 tons.

DAMAGE DETERMINED BY: Observed to sink.

DETAILS OF ACTION

USED: (1) 40MM guns; 33 rounds expended.

Target burned and sank after 50% hits with 40MM guns. Average range 350 yards.

GUN ATTACK NO. 20

Time 2250 Date 31 July 1945 Lat. 04°-46'N
Long. 103°-31'E

Target Data - DAMAGE INFLICTED

SHIPS SUNK: One motor sail junk of 50 tons.

DAMAGE DETERMINED BY: Observed to sink.

DETAILS OF ACTION

USED: (1) 40MM guns; 18 rounds expended.

Target burned and sank; 90% hits with 40MM guns. Average range 400 yards.

CONFIDENTIAL

(H) ATTACK DATA (Cont.)

GUN ATTACK NO. 21

Time 2025 Date 1 August 1945 Lat. 04°-20.9'N
Long. 103°-31.7'E

Target Data - DAMAGE INFLICTED

SHIPS SUNK: One sail cargo junk of 100 tons.

DAMAGE DETERMINED BY: Observed to sink.

DETAILS OF ACTION

USED: (1) 40MM gun; 53 rounds expended.

Target anchored close to beach, about 70% hits were obtained with the 40MM; the target slowly sank.

(I) MINES

No mines, moored or drifting, were observed and no mining or sweeping operations were noted.

(J) ANTI-SUBMARINE MEASURES AND EVASION TACTICS

Both convoys had extensive air cover, ranging from 8 - 10 miles in advance of convoy, 4 - 5 miles astern. These planes were both float planes and land-based fighters. On morning of 1 August, we were strafed by a Tony which was at least 15 miles ahead of convoy.

Convoy on 19 July had one KAMIKAZE-type destroyer and one trawler as escorts. DD patrolled ahead and along forward outboard flank of convoy, trawler along after outboard flank and astern. We were not close enough to convoy on 1 August to see more than one KAMIKAZE-type DD as escort, although two bearings of pingers were obtained by sound. DD patrolled as before. Convoy could not have been more than a mile from the beach.

On 19 July, contact was made on COD and first depth charge dropped by trawler escort or by plane before torpedoes were fired. After firing, began fishtailing and working toward deeper water. Fired NAC beacon set on 3 minutes and 17.5 - 22.5 kcs, and when it was believed escort had contact, fired another NAC beacon 10 minutes later at same setting. Believe that one or both of these did the trick, because when we came to periscope depth, both the DD and trawler were milling around astern on the bearing of our NAC

CONFIDENTIAL(J) ANTI-SUBMARINE MEASURES AND EVASION TACTICS (Cont.)

which we could still hear. Had only 20 - 27 fathoms during this time, and hit bottom once.

Escorts used cross-bearings of echo-ranging. Frequencies used on 19 July and 1 August were 15 - 18 kcs.

On afternoon of 21 July had two bombs dropped near us, and three hours later, two more bombs. First plane appeared to be a Rufe. All were dropped on our way down. Our standard procedure is to change course during dive for plane contacts to a 90° or 270° course.

(K) MAJOR DEFECTS AND DAMAGEHULL AND MACHINERY#3 Main Engine - 7 July 1945

Pulled #11 unit to determine cause of wrist pin being frozen to the bushing. The bearing surfaces were found to be worn excessively on one end. The following pieces were removed:

Piston Pin, (N9709 - Pc. #7); Bushing, piston pin, (N-9707 - Pc. #3); Bushing, con-rod, (N-9709 - Pc. #9).

No reason for this failure is offered other than possible defective workmanship when installed in Mare Island Navy Yard.

Subsequent inspections revealed all except six wrist pins were frozen to the bushing on #3M.E. Six on #4M.E. were in the same condition. These will be renewed during the regular 1500 hour overhaul during the next refit.

#1 Evaporator Compressor - 16 July 1945

While operating #1 evaporator the compressor froze and would not turn. The compressor was dismantled and the bushing was found frozen to the casing having worn a $\frac{1}{4}$ " groove in the casing before freezing. The casing was smoothed down with a file and the compressor assembled with a leather seal and placed in operation.

The two evaporators operate at approximately 67% capacity due to leaky seals and worn compressors. Two new compressors are required during the next refit.

CONFIDENTIAL(K) MAJOR DEFECTS AND DAMAGE (Cont.)#3 Main Engine - 15 July 1945

During the one day of voyage repairs at SUBIC BAY, Relief Crew 261 installed a tender rebuilt salt water circulating water pump on #3 Main Engine. When the ship's force tested the engine only 12 lb. pressure could be built up at the pump. Inspection revealed that the tender had installed a left hand impeller in a right hand pump. The spare pump was then installed on the engine by the ship's force, leaving the ship with no spare on hand.

A spare pump is desired during the forthcoming refit.

#3 Main Generator - 19 July 1945

Routine inspection revealed a ring worn entirely around the commutator and a groove 1/16" by 1/4" worn in the third brush from the after end in each brush holder. One section of the end bell was removed and a small piece of foreign material was found lodged between two commutator bars. This was removed, twenty brushes replaced and the commutator stoned with a brush seating stone and buffed. The generator was cleaned and placed in operation after being out of commission a total of 11 hours.

Master Gyro Compass - 22 July 1945

Failure of the follow-up system of the master compass was traced to an open potentiometer, and condenser #C-11. Both parts were replaced from ship's spares.

Noise - Vibration

Throughout the patrol vibration has been experienced; particularly noticed from the bridge while running at high speeds and while accelerating. The vibration has grown progressively worse with time and at present is experienced at practically all speeds above 10 knots. Inspection of shafts and propellers at sea showed nothing apparently wrong or fouled. High cavitation noises from both screws is serious and possible bearing squeals are present with the cavitation noise.

CONFIDENTIAL(K) MAJOR DEFECTS AND DAMAGE (Cont.)Sound Heads

QB and JK-QC have excessive clearances and rumble noisily. Believe both shafts may be sprung due to difficulty experienced at times while raising them. Excessive noise coming from superstructure reduces materially the effect of JP-1 sound gear. Parties at sea checked topside regularly, but cannot locate any loose gear; should be checked thoroughly during refit.

ORDNANCE AND GUNNERY

During exercise torpedo firing conducted in training area GUAM, attempt was made to fire torpedoes from tubes #6 and #7. Both torpedoes failed to leave the tubes. Investigation made subsequent to the attempts to fire indicates that possibly the tail buffers were excessively tight. It is difficult to explain why this casualty should occur in both rooms at nearly the same time and it is surmised that at the time of firing, pressure on the 200 lb. air system was down due to improper operation of reducer. No further indications of reducer malfunction were found however.

Both torpedoes were fired on the next exercise and ran hot, straight and normal for hits.

Pointer's telescope on 5-inch gun flooded out and was replaced by spare at sea.

(L) RADIO

Radio reception of the Baker Skeds was satisfactory, in that no serial messages were missed nor was there any great difficulty in copying them. Best results were obtained on 4370 kcs. from 2000 to 0400, and 9250 kcs. during the rest of the day.

Ship to shore transmissions were effectively handled on 8470 kcs. except for a few exceptions. It was necessary to shift to 4235 kcs. once, and to a very high frequency, 12705 kcs. twice, when 8470 kcs. was overcrowded with transmissions. Point to point communication with NVB was not always obtainable; on three occasions it was necessary to have our messages relayed by other shore stations, namely, NPM, NPI and VHM. Unlike most relayed messages, rebroadcasts of our transmissions over the Baker Skeds indicated very few errors. Effective Jap jamming, (random CW keying), was only experienced once and was overcome by shifting frequencies.

CONFIDENTIAL(L) RADIO (Cont.)

Communication between the submarines in our area using the SAFPLAN frequencies left little to be desired. Jamming was light and never offered any great hindrance in clearing our traffic. On one occasion we could not load our horizontal antennae sufficiently to transmit over the effective SAFPLAN frequency. To overcome this we shortened the centerline antenna by 15 feet. The whole alteration took all of five hours but we were amply rewarded for the time spent by the highly satisfactory results obtained using the shorter antenna for wolf pack work. The SD mast was used while the horizontal antenna was being shortened. The results were so gratifying that we intend to ask for a vertical antenna during our next refit to facilitate wolf pack transmissions.

The VHF again proved to be a highly satisfactory piece of equipment. Although ranges of over two miles are something to be desired, reception within 2 miles between subs was good. The conning tower microphone and speaker were helpful on several occasions to enable the commanding officer to communicate with the pack commander to effect rendezvous and attacks without giving up the conn of the ship.

(M) RADAR

The SJ radar performed satisfactorily throughout the patrol with one exception. At this time we were endeavoring to make a radar approach on a convoy and the failure of the radar forced us to discontinue the attack. The nature of the failure was an electrical fire in the main control unit of the SJ-ST radar. The fire damaged a large portion of the internal wiring of the main control unit, causing the radar to be out of commission for approximately fifteen hours. It is believed the trouble was caused by a surge in the equipment's A.C. supply voltage. The operators of other radar equipment operating from the same A.C. supply observed a rise of approximately 30 volts in the A.C. supply voltage at the time of the failure, which burned out the pilot lights in the APR and SD radar.

It is suggested that some type over-voltage cut-out system be installed in the A.C. supply for the radar equipment to prevent further failure of this type.

CONFIDENTIAL(M) RADAR (cont.)

The ST radar operated very erratically during most of the patrol. Poor ranges were obtained on both land and ship targets, several attempts were made to locate the trouble and retuning of the equipment, but with no success. The ringing time of the equipment was between 2700 and 3000 yards which has always been normal for our equipment.

SD, APR, BK, BN

The SD, APR, BK and BN radar equipment performed satisfactorily throughout the patrol, the only casualties were normal tube failures.

(N) SONAR GEAR AND SOUND CONDITIONS

Sound conditions were quite good at all times. Pinging detected from a destroyer and small escort was heard at over 15,000 yards.

The TDM offered us the usual minor casualties. In the absence of any specific instructions for use of TDM (limiting speed, etc.), this equipment was never used while making speeds of more than 15 knots, while submerged or at night with no moon. The most frequently occurring trouble arose from the breaking of the gut cord which pulls the stylus across the paper.

The JP was noted to pick up screws of a destroyer at 5,000 yards. However, interference caused by electrical machinery aboard ship decreased the effectiveness of the gear at closer ranges. A thorough investigation of the causes will be attempted during our next refit to eliminate the interference.

(O) DENSITY LAYERS

Few density layers were found in this area, the water maintaining usually a constant temperature with very slight negative gradients. One notable exception was a six degree negative gradient between 30 and 100 feet encountered July 19th and which proved very useful in evasion tactics that day.

DATE	TIME GCT	LAT. NORTH	LONG. EAST	TEMPERATURE (°F)		GR VDI Depth-ft	DEPTH FEET	REMARKS	
				Air	Surface Intake				
7/2/45	0041	20-48.3	119-24.1	85	86	103	105	150	Isothermal to 105 ft.
7/2/45	0514	20-30	118-35	83	85	115	120	150	Isothermal to 120 ft.
7/2/45	0912	20-15	117-55	83	86	90	140	170	Isothermal to 80 ft.
7/3/45	0118	18-59.9	114-31.8	87	84	80	125	150	Isothermal to 65 ft.
7/3/45	0500	14-29.3	112-38.2	86	83	10	130	150	Isoballast
7/3/45	0535	18-45.5	113-52.6	86	85	0	125	150	Isoballast to 100 ft.
7/3/45	0905	18-29.0	113-31	86	85	20	130	160	Isoballast to 100 ft.
7/4/45	0140	14-52.3	113-03.2	86	86	0	130	160	
7/5/45	1412	13-24.9	111-38.6	86	85	60	140	170	
7/5/45	0619	11-27	109-21.5	85	85	35	35	65	
7/5/45	2200	11-23	109-05.4	79	76	35	35	65	
7/7/45	1200	11-43.3	109-20	80	76	35	230	260	
7/10/45	0331	12-30	112-55.7	85	81	80	150	180	
7/10/45	0745	8-35.9	111-39.2	84	84	--	--	65	Isothermal
7/11/45	0450	12-39.4	113-00.1	85	83	115	125	160	Isothermal to 115 ft.
7/11/45	2357	10-55	112-34	85	83	--	--	160	Isothermal
7/12/45	0011	13-53.3	115-13.3	85	84	130	135	160	Isothermal to 130 ft.
7/12/45	0857	14-30	117-18	85	85	10	125	150	
7/15/45	0600	17-53.6	115-51	85	84	--	--	170	Isothermal
7/16/45	0402	11-50.8	112-17.2		81	80	125	150	Isothermal to 80 ft.
7/19/45	0300	06-12.9	103-11.6	85	85	80	150	180	
7/19/45	0500	06-17.1	103-09.5	85	85	80	80	100	Isothermal to 80 ft.
7/19/45	0528	06-27.5	103-6.4	85	84.5	80	100	130	Isothermal to 80 ft.
7/21/45	0600	04-50.2	103-42.2	84	83	140	145	170	Isothermal to 140 ft.
7/22/45	0500	04-31.9	103-45	85	83	--	--	130	Isothermal
7/23/45	2353	05-12	103-30	87	83	35	80	110	Isothermal to 35 ft.
7/24/45	0933	05-23	103-18	85	83	35	40	90	Isothermal to 35 ft.

(47)

Isothermal to 27 ft.

DATE	TIME GCT	LAT. NORTH	LONG. EAST	TEMPERATURE (°F)		TEMP. /°F -OF	GRADIENT Depth- Start End	WELL DEPTH FEET	REMARKS
				Air	Surface Intake				
7/25/45	1021	04-37.8	103-32.2	85	83	-1.5	30 35	65	Isothermal to 25 ft.
7/25/45	0300	04-36.5	103-34.2	85	82	0	-- --	80	Isothermal
7/26/45	0300	04-33	103-34.5	87	83	0	-- --	60	Isothermal
7/27/45	0033	05-11.7	103-38.3	85	83	0	-- --	110	Isothermal
7/28/45	0123	06-11.7	103-20	84	85	0	-- --	120	Isothermal
7/29/45	0108	04-22	103-32	87	85	0	-- --	60	Isothermal
7/29/45	0429	04-29.2	103-34	87	83	-1	0 40	60	Isoballast
7/29/45	0619	05-35	103-41.2	89	84	-2	20 30	60	Isoballast
8/1/45	0900	04-39.7	103-33.6	83	83	-2	20 30	60	Isoballast
7/30/45	0110	04-25	103-35	87	83	-3	0 40	60	
7/31/45	0335	04-44	103-37	86	83	-1	25 35	60	Isothermal
8/1/45	0300	04-18.8	103-36.9	85	83	0	-- --	60	Isothermal
8/4/45	0530	02-31	105-17	80	82	0	-- --	100	Isothermal

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CONFIDENTIAL(P) HEALTH, FOOD AND HABITABILITYHealth:

During the patrol, there was the usual number of colds, constipation, fungus of the feet, and many cases of heat rash. They responded readily to routine treatment. One man developed an urethral discharge, which was thought to be URETHRITIS ACUTE, NON-VENEREAL. Sulfadiazine helped to eliminate his ailment.

Two men were admitted to the sick list during the month of July, one for POISONING CUTL, LTD, believed to be a result of painting during the refit, and which accounted for nine sick days. This man failed to respond to sulfa treatment, and it was necessary to commence intravenous feeding. Finally as a last resort, penicillin was administered, the patient responding after the second injection and was shortly back to normal. Another, for FOOD INTOXICATION, BOTULISM, believed due to a bad can of Deviled Ham. This man was on the sick list for three days.

Five members of the boarding party spent about forty-eight hours on a native junk, and were forced to use the food and water present aboard. Only two men experienced ill feelings from the change of diet. They suffered in a mild form, abdominal cramps and diarrhoea, which did not incapacitate them from duty. The symptoms quickly left without any form of treatment.

Foods:

The food throughout the patrol was very good, the menus varied and well prepared.

Habitability:

The ship was kept clean and comfortable with daily "clean up's". The two days that the Dutch crew were aboard, the boat was crowded and hot; periodic suction through the boat were made by opening the forward torpedo room hatch which helped considerably.

(Q) PERSONNEL

(a) Number of men detached after previous patrol	<u>18*</u>
(b) Number of men on board during patrol	<u>81</u>
(c) Number of men qualified at start of patrol	<u>49</u>
(d) Number of men qualified at end of patrol	<u>63</u>
(e) Number of men unqualified making first patrol	<u>17*</u>

* Transferred one StM1c at SUBIC BAY, receiving on board one StM2c. Both men unqualified; first patrol for StM2c.

CONFIDENTIAL(R) MILES STEAMED - FUEL USED

GUAM to Area	2,601 miles	33,840 gals.
In Area	446 "	6,200 "
Area to SUBICU	821 "	13,075 "
SUBICU to Area	1,187 "	19,145 "
In Area	3,403 "	39,230 "
Area to FREMANTLE	2,712	32,800

(S) DURATION

Days enroute GUAM to Area	10
Days in Area	3
Days enroute Area to SUBICU	6
Days enroute SUBICU to Area	4
8 Days in Area	16
Days enroute Area to FREMANTLE	10
Days submerged	5

(T) FACTORS OF ENDURANCE REMAINING

<u>Torpedoes</u>	<u>Fuel</u>	<u>Provisions</u>	<u>Personnel Factor</u>
18		10 days	10 days

Limiting factor this patrol: Operation Order

(U) COMMUNICATIONS, RADAR and SONAR COUNTERMEASURES

Very little Jap jamming was experienced during this patrol. On one occasion it was necessary to shift frequencies from 4235 kes. to 12705 kes., to transmit to NVB because of random CW keying by the Japs. Our position at that time was Lat. 04°-53' N, Long. 103°-56' E.

RADAR COUNTERMEASURES

None noted.

SONAR COUNTERMEASURES

None noted.

Date	Time of Contact	Waveform	Mod. Freq. in P.I.	P.I. Freq.	P.I. Micro-secs.	Type	Type of Search	Ships Position
6-28-45	1310		80	300	20	LAND	Sweeping	20-25 131-58.3
6-28-45	1310		78	300	20	BASED	"	"
6-28-45	1310		68	300	30	AIR	"	"
6-28-45	1310		75	300	30	SEARCH	"	"
6-28-45	1930		70	500	30	"	Steady	20-31 131-15.2
6-28-45	1930		80	1000	20	"	"	"
6-29-45	0800		80	1000	10	?	"	20-38 130-20
6-29-45	0915		70	300	27	LAND	Sweeping	20-51 130-0.8
6-29-45	0915		80	300	30	BASED	"	"
6-29-45	0915		80	300	40	AIR	"	"
6-29-45	0915		82	300	45	SEARCH	"	"
6-29-45	1007		113	200	30	"	"	20-49.9 134-42
6-29-45	1235		98	150	15	"	"	20-49.5 134-13.1
6-29-45	1940		48	250	30	"	"	20-49.3 134-15.3
6-30-45	0900		42	2000	?	?	"	20-50.2 133-18.0
6-30-45	0920		47	250	20	?	"	"
6-30-45	0920		69	400	25	LAND	"	"
6-30-45	0950		74	400	25	BASED	"	20-53.4 129-21.7
6-30-45	0950		72	400	60	AIR	"	"
6-30-45	1000		81	300	52	SEARCH	"	"
6-30-45	1000		230	60	5	?	"	"
7-1-45	2010		70	1000	40	LAND	"	20-35.4 122-03.1
7-2-45	0915		72	400	35	AIR	Steady	20-47.5 119-7.8
7-2-45	0915		75	400	25	"	"	"
7-2-45	0915		82	400	15	L.B. A.S.	Sweeping	20-47.5 119-07.8
7-2-45	1000		72	350	46	?	"	20-43.5 119-01.0

Date	Time of Contact	Drawing of Contact	Draining Freq. in Mags.	P.L. Freq.	P.W. Micro-secs	Type	Type of Search	Ship's Position
7-3-45	1020		70	400	25	AND BASED AIR SEARCH	Sweeping	19-03 115-24.2
7-3-45	1020		71	400	60		"	"
7-3-45	1930		92	60	?	?	"	"
7-7-45	0645		169	400	10	?	"	12-49.0 110-28.8
7-13-45	0119		232	45	7	?	"	14-44.5 118-56.9
7-13-45	0140		218	60	21	?	"	14-45.6 110-50.5
7-13-45	0145		217	50	7	?	"	"
7-13-45	0253		171	50	5	?	Keying	14-40 119-09.8
7-13-45	0255		217	50	4	?	Sweeping	"
7-13-45	0258		530	50	8	?	Keying	"
3-5-45	0250		117	60	8	Possible "SD"	Keying	03-40.8 109-54.6

CONFIDENTIAL(V) REMARKS1. Sailing Routes and Ports:

All the sailing junks and motor sampans investigated were either enroute to or from SINGAPORE. The northern ports were SINGORA, BANGKOK and TRENGGANU, in that order of importance. Due to the northerly current and wind at this time of year, practically all the traffic was northbound. SINGORA was said to be filled with junks and sampans waiting to be helped by the current and wind back to SINGAPORE. Set is northerly from May to October; southerly remainder of year. All small craft hug the coast. In no instance was a cargo-filled boat encountered more than 4 miles offshore.

2. Cargoes:

In all except one or two cases, the cargo carried was some form of contraband believed to be essential, desirable or useful to the Nips. Cargoes were varied, rice, sugar and oil being the main commodities. Also found soap, crude rubber, coffee, paper, horseshoes and Army blankets. It is not too difficult to persuade one's self that practically all cargo is contraband. At any rate, all large junks or motor sampans were considered to be potential carriers of essential goods. Where possible, charts and papers were confiscated.

3. Natives:

All native crews appeared friendly, although some were badly frightened until they found they would not be harmed. Many crews abandoned their ship before we could reach them. All carry at least one small rowboat, often unseaworthy. Discovered at the last that it goes hard with any native in SINGAPORE or SINGORA who does not have his passport. Many of the crews had left their's behind them when abandoning ship. Several spoke English. Our Chinese volunteer proved useful, and it is recommended that any submarines on a "junk-sinking" expedition capture one of these interpreters early in the game.

4. Suggestions:

Enemy planes were our greatest worry. Although lookouts were alert, a plane coming from the direction of land does not give much warning.

Fifty caliber machine guns can often be used to start a small boat burning without expenditure of larger ammunition.

A small outboard motorboat would be most useful by a boarding party.

CONFIDENTIAL

(V) REMARKS (cont.)

Suggestions for the Nips would include:

- (a) Use of booby traps or machine guns in larger junks.
- (b) One or two Jap "do-or-die" boys in crew.
- (c) Airplane patrols.
- (d) Midget submarines.

FC5-30/.16-3

Care of Fleet Post Office,
San Francisco, California,
14 August 1945.

Serial: 0151

C-O-N-F-I-D-E-N-T-I-A-LFIRST ENDORSEMENT to
USE COD (SS224)
Report of Seventh
War Patrol.

From: The Commander Submarine Squadron THIRTY.
To : The Commander-in-Chief, UNITED STATES FLEET.
Via : (1) The Commander Submarines, SEVENTH FLEET.
(2) The Commander-in-Chief, PACIFIC FLEET.

Subject: U.S.S. COD (SS224) - Report of Seventh War Patrol.

1. The seventh war patrol of the U.S.S. COD under the command of Lieutenant Commander E.M. WESTBROOK, Jr., U.S. Navy, was conducted in two phases; the first off the coast of INDO-CHINA, and the second in the GULF of SIAM. The patrol was of 49 days duration with 19 days spent in patrol areas. It was highlighted by 12 successive days of profitable gun actions in the GULF of SIAM.

2. On 9 and 10 July the COD was skillfully maneuvered for 14 hours in close proximity to the grounded Dutch Submarine O-19 in a vain endeavor to tow her clear of LADD REEF. The crew of the O-19 was finally transferred to the COD and the O-19 was completely destroyed by two demolition charges, two torpedo hits, and sixteen hits from COD's 5-inch gun. The high speeds, 34 and 35 knots, of the Mk.18 torpedoes for the short runs is noted.

3. On 19 July, the COD made an unsuccessful submerged attack on a small convoy. Convoy had air cover and COD had to run at standard speed submerged in smooth sea to close. She was bombed or depth charged just prior to firing. Three torpedoes were fired on sound bearing immediately thereafter. No hits were obtained. The counter attack was not too close. That night, after the unsuccessful attacks on the same convoy by BRILL and BULPER, an end-around was made to attain position ahead of the convoy. On commencing approach the radar power supply burned out. Without radar, a submerged daylight attack appeared to be the logical choice and COD proceeded to a position to intercept the convoy after dawn. No further contact was made.

4. During the period 21 July - 1 August, the COD made twenty gun attacks on twenty-three junks and motor sampans, plus one towed oil barge, sinking them all for a total of 2200 tons. A total of sixty-five rounds of 5-inch and 1092 rounds of 40 MM ammunition were expended during these attacks. Her actions in regard to boarding, inspection, and thoughtfulness of the lives of native crews symbolize the type action which has made the United States respected the world over.

SUBMARINE SQUADRON THIRTY

Ce

FC5-30/A16-3

Serial: 0151

Care of Fleet Post Office,
San Francisco, California,
14 August 1945.C-O-N-F-I-D-E-N-T-I-A-LFIRST ENDORSEMENT to
USS COD (SS224)
Report of Seventh
War Patrol.Subject: U.S.S. COD (SS224) - Report of Seventh War Patrol.

5. The obvious objections to using a submarine as a gunboat were practically and thoroughly demonstrated during this aggressive series of ten day actions. On 21 July the COD was twice bombed while in the act of diving. On 1 August she was strafed by a fighter plane and forced to dive, leaving her boarding party unassisted on an enemy ship. Fortunately the boarding party was rescued by the BLENNY after 48 hours. They were in good health and suffered no ill effects from their junk cruise. At this stage of the war such tactics are essential, despite the obvious objections, if submarines are to continue to do a heavy share of damage to the enemy.

6. The practice of firing Mk.14 and Mk.18 torpedoes in the same salvo, as done by the COD, is not recommended. The inherent advantage of each type torpedo is lost. The wakeless feature of the Mk.18 is compromised by the Mk.14 in the salvo. The high speed advantage of the Mk.14 is not fully utilized with 30 knot torpedoes fired in the same salvo. An additional load is placed on the TDC operator at his busiest moment.

7. Spirit and morale aboard the COD were high when she arrived from this shooting patrol. Material condition is fair with extensive work indicated on the main engines, hydraulic system, master gyro and thrust bearings.

8. The Squadron Commander welcomes the COD back to this area and congratulates the Commanding Officer, officers and crew on their arduous, extended, and successful gunshoot in shallow enemy controlled waters.


C. C. SMITH.

~~CONFIDENTIAL~~
 Ref: A110518-A

10 September 1945

C-O-N-F-I-D-E-N-T-I-A-L

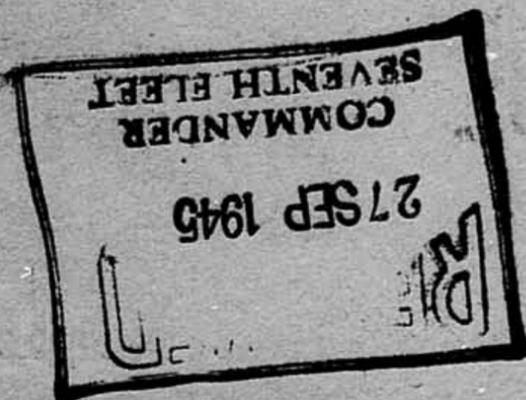
SECOND ENDORSEMENT to:
 USS COD Conf. Ltr. A16-3
 Serial (021), dated 13
 August 1945. Report of
 Seventh War Patrol.

From: The Commander Submarines SEVENTH FLEET.
 To : The Commander in Chief, UNITED STATES FLEET.
 Via : The Commander SEVENTH FLEET.
 Subject: U.S.S. COD (SS224) - Report of Seventh War Patrol
 (26 June to 13 August, 1945).

1. The Seventh War Patrol of the COD under the command of Lieutenant Commander E. M. WESTBROCK, Jr., U.S.N., was spent partially in lifeguard duties off the INDO-CHINA Coast and partially on offensive patrol in the GULF of SIAM.

2. COD was one of the first ships employed in attempting to break up the considerable small boat traffic in the GULF of SIAM which was transporting valuable enemy cargo in small lots to and from SINGAPORE. In twelve days she sank 23 junks and motor sampans and one oil barge destroying a total of 2200 tons of cargoes consisting of rice, sugar, oil, soap, crude rubber, coffee, paper, horseshoes and army blankets. The Commanding Officer was careful throughout to inspect and determine the nature of the cargoes and provide for the safety of friendly natives. In addition the COD made a valiant effort to pull a grounded Dutch submarine from a reef, but finally had to salvage the crew and destroy the ship. This episode and a later one of losing a boarding party eventually recovered by another submarine, are covered by the Squadron Commander's endorsement whose remarks are fully concurred in.

3. The award of the Submarine Combat Insignia for this patrol is authorized.



Serial 0558-A

10 September 1945

CONFIDENTIAL

SECOND ENDORSEMENT to:
 USS COD Conf. Ltr. A16-3
 Serial (021), dated 13
 August 1945. Report of
 Seventh War Patrol.

Subject: U.S.S. COD (SS224) - Report of Seventh War Patrol
 (26 June to 13 August, 1945).

4. The Force Commander congratulates the Commanding Officer, Officers and Crew of the COD on their safe return to port after some narrow escapes from enemy planes and on inflicting the following damage to the enemy:

S-U-N-K

23 Junks and Motor Sampans and
 1 Oil Barge

2200 Tons

James Fife
 JAMES FIFE.
ORIGINAL COPY.

DISTRIBUTION:

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Vice Opnav	(2) Direct	ComSubRon-22	(2) mail)
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Com7thFlt	(2)	DivComsSubRon-26	(1 ea)
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CTG-71.5	(2)	Subd, Mare Island	(2)
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J. B. Miller
 J. B. MILLER,
 Flag Secretary.

11 0227

UNITED STATES FLEET
COMMANDER SEVENTH FLEET

REG NO F522
11 0227
REG. SHEET NO 7

Al6-3(F-3-2/gtc)

Serial: 0338

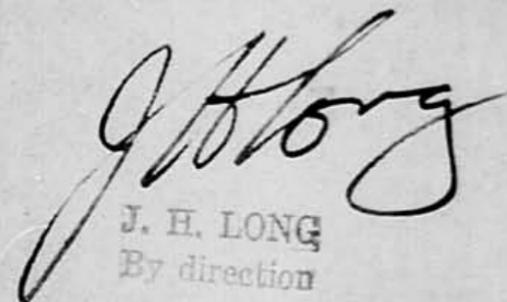
9 OCT 1945

C-O-N-F-I-D-E-N-T-I-A-L

THIRD ENDORSEMENT to:
CO USS COD (SS224) conf
ltr Al6-3, serial 021
dated 13 August 1945.

From: Commander Seventh Fleet.
To : Commander-in-Chief, United States Fleet.
Subject: U.S.S COD (SS224) - Report of Seventh War
Patrol.

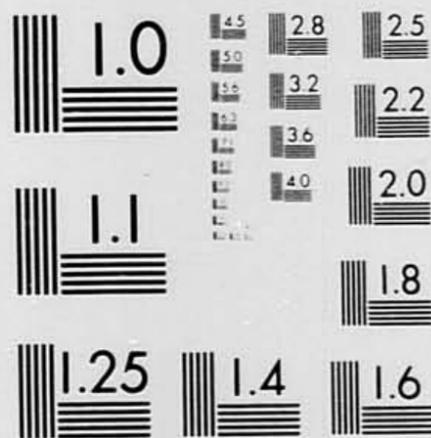
1. Forwarded.


J. H. LONG
By direction

END OF REEL

JOB NO. H108-AR-89-76

R#1



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