

SS224/A16-3
(06)

U.S.S. COD (SS224)
c/o Fleet Post Office
San Francisco, California.

20 November 1944

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From: The Commanding Officer, U.S.S. COD (SS224).
To : The Commander-in-Chief, United States
Fleet.
Via : Official Channels.
Subject: U.S.S. COD, Report of War Patrol
Number Five.
Enclosure: (A) Subject Report.
(B) Track Charts (for ComSubPac only).

1. Enclosure (A), covering the fifth war patrol of this vessel, conducted in waters west of LUZON and MINDORO during the period 18 September 1944 to 20 November 1944, is forwarded herewith.

2. Report of War Patrol of Coordinated Search and Attack Group consisting of U.S.S. COD and U.S.S. RAY has been submitted separately.

J. A. Atkiss

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DECLASSIFIED-ART. 0445, OPNAVINST 5510.1C

BY OP-0989C DATE 5/25/72

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(A) PROLOGUE

25 August returned to FREMANTLE, W. A. from War Patrol No. 4. Refitted by U.S.S. GRIFFIN and Second Crew of Sub. Div. 122. Sailing delayed one (1) day by docking to repair leak between No. 2D M. B. and 3 B F. B. tanks. Conducted two (2) days independent operations and three (3) days tactical exercises, including firing of three (3) torpedoes and one night of exercises against convoy with plane cover.

(B) NARRATIVE

03P122A1020

Officers and Chief Petty Officers attached.

<u>Name</u>	<u>Rank or Rate</u>	No. of Patrols (Prior to this Patrol)
ADKINS, J. A.	Comdr.	4
BECKMAN, K. F.	Lieut.	8
PODOREAN, C.	Lieut.	3
HURST, T. C., III	Lieut.	2
FAHR, S. M.	Lt. (jg)	4
SMITH, W. K.	Ensign	1
KIMBALL, F. S.	Ensign	9
CLOUGH, R. H.	Ensign	0
KRUBEL, F. J.	Ensign	0
YARBER, P. J.	CQM(PA)	4
HOWARD, J. D.	CTM(AA)	7
SCHRECK, W. R.	CMoMM(AA)	4
LUDWIG, J. K.	CRM(AA)	11
WALLACE, J.	CRT(AA)	4
LASKOWSKI, W. E.	CPhM(AA)	4

18 September

1400 H Underway for DARWIN, N. T., in company with BLUEGILL and ANGLER in accordance with CTG 71.1 Op. Ord. for patrol off western coast of LUZON. Conducted convoy training with ISABEL and MILDURA.

19 September

0613 H SD contact, 11 miles. A/C Contact No. 1. Search plane. On radar screen intermittently for an hour. Sighted at 0705. Conducted training with BLUEGILL and ANGLER.

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20 September

Training.

1740 H Released BLUEGILL and ANGLER to proceed to EXECUTIVE GULF.

2048 H SJ Radar contact bearing 000(T), 14,150 yards. Ship Contact No. 1. Tracked. Closed to look. Corvette size, southbound, speed 15, zigging. Avoided.

21 September

Training dives

22 September

Training dives.

1035 H High periscope sighted U.S. submarine bearing 333(T), distant about 20,000 yards. Ship Contact No. 2. Southwesterly course. Avoided.

1227 H High periscope sighted unidentified vessel bearing 258(T) about 24,000 yards. Ship Contact No. 3. Appeared to be submarine. Commenced tracking. Course 070, speed 13, not zigging, slight port angle on bow, astern of us. No pip on SJ.

1239 H Changed course to 250(T) to intercept. Slowed. 250 mc signal on APR. Slight interference on SJ. Sent challenge by SJ. No reply.

1252 H Submerged at estimated range 20,000. Closed target. Obtained two bearings of target by planing up to 55 ft.; only mast or periscope was visible. Obtained third bearing on target, noting what appeared to be a submarine superstructure, box-like in outline, no mast, periscope nor tapered shears visible.

1304 H No target in sight at observation. Planed up. Searched with periscope continuously for five (5) minutes, sweeping back and forth 20° on either side of estimated target bearing. No periscope visible. Horizon clear. All clear by sound.

1322 H Secured from battle stations. Opened target track to north.

1654 H Surfaced.

2100 H Sent COD ONE to CTF 71, giving ETA DAKIN, reporting two contacts of today and asking if last contact could be ANGLER.

2355 H Decoded ANGLER ONE, giving his 2200 position and ETA DAKIN. Contact could have definitely been he. This was confirmed by CTF 71.

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23 September

Training.

1255 H SD interference.

1350 H High periscope sighted ANGLER. Exchanged recognition signals and calls by SJ. Made approaches on each other. All lookouts observed periscope feather as ANGLER made battle surface. Ascertained by visual that Ship Contact No. 3 had not been ANGLER, to best of his knowledge.

24 September

Training. Made battle surface.

25 September

0058 H Numerous contacts with friendly planes.
1021 H Sighted channel buoy and entered DARWIN with escort. Moored alongside COUCAL. Commenced loading torpedoes, fueling and making voyage repairs. Ascertained from C. O. ANGLER his exact position, course and speed at time of Ship Contact No. 3, obtained information of allied subs in area from him, obtained information of allied merchant shipping from intelligence officer, R.A.N., at DARWIN. Sent report to CTF 71 via CCUCAL.

Received modification to OpCrd by despatch from C.C. COUCAL. New orders call for coordinated search and attack by RAY and COD in areas west of southern LUZON and PALAWAN. Sent time and place of desired rendezvous with RAY to CTF 71 via COUCAL.

26 September

0700 H Drills.

0800 H Underway from along side CCUCAL. Stood out of harbor. Bow plane's failed to rig in during test. Fire in rigging panel. Cleared electrical circuits but could not reduce heavy over-load.

1244 H Reversed course for return to DARWIN. Sent COD TWC to CTF 71, giving ETA at rendezvous off DARWIN.

CCUCAL decoded the message from the Baker schedule, informed the port authorities, and got underway immediately to meet us and escort us in. C.O. COUCAL attempted to raise us by

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voice on harbor frequency, informing us of his actions. COD was guarding this frequency but did not receive the message.

1836 H Was met by COUCAL in swept channel and entered harbor. Our bombing restriction was still effective from our outgoing passage, and we managed nicely in entering this defended port by the expedient of challenging all patrol craft and planes before they had an opportunity to challenge us.

2033 H Moored alongside COUCAL. Commenced disassembling bow plane rigging gear. Succeeded in freeing up mechanism, with help of COUCAL. Meanwhile, topped off in fuel, water and lub oil.

27 September

0838 H Repairs completed. Sent word to CTF 71 via COUCAL that COD did not desire change in time of rendezvous with RAY. Underway.

1131 H Submerged.

1202 H Surfaced. Numerous contacts with friendly planes.

28 September

0305 H SJ contact bearing 024(T), 19,300 yards. A/C Contact No. 2. This was not recognized as an aircraft until it had been lost at 19,600 yards on southeasterly bearing.

0324 H SJ contact bearing 221(T), 20,800 yards. A/C Contact No. 3. Southerly course. Lost contact at 22,800 yards.

0401 H SJ contact bearing 299(T), (port bow), 21,440 yards. A/C Contact No. 4. SD picked up this contact at 6 miles, closing fast. Plot showed 110 knots, course 130(T). Bearing was drawing aft very slowly.

0405 H Submerged.

0432 H At 200 feet could hear a squeal in port shaft at 120 RPM. Slowed to 80 RPM. Disappeared.

0450 H Surfaced. Engine air induction valve failed to open. Operated by hand. It was beyond the strength of one man to close this valve by hand. Linkage pins frozen.

0522 H Submerged. Working on induction valve.

0823 H Surfaced. Working on induction valve. Mechanism freed up by 0945.

1101 H SD contact 22 miles. A/C Contact No. 5. Lost contact at 24 miles but experienced strong interference on SD for 15 minutes.

1215 H Landfall on TIMOR. Had decided on as much surface

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running as possible in order to make rendezvous with RAY without undue fuel consumption. Accordingly attempted to run the passage east of TIMOR on the surface.

- 1316 H SD contact 20 miles. A/C Contact No. 6. BN signal. Faded.
1500 H Sighted plane, about 5 miles. A/C Contact No. 7. Submerged.
1815 H Surfaced.

29 September

- 0724 H Submerged.
0805 H Surfaced.
1624 H Sighted sailboat. Ship Contact No. 4. Avoided.
1918 H Sighted sailboat. Ship Contact No. 5. Avoided.

30 September

- 0755 H Submerged.
0828 H Surfaced.
1348 H Submarine submerged signal ejector cartridge came to surface about 1500 yards on starboard beam and exploded into a parachute smoke bomb of the proper color. Ship Contact No. 6. Left area on four (4) engines. (Had usual reaction of feeling very foolish when this happened; after shock had worn off, was beset by wonder as to who was getting better area coverage).
1444 H Sighted sailboat. Ship Contact No. 7. Avoided.
1724 H Sighted sailboat. Ship Contact No. 8. Avoided.
1934 H Weak SJ interference, apparently sweeping.
2346 H Sighted two (2) sailboats. Ship Contact No. 9. Avoided.

1 October

In MAKASSAR STRAIT, running along CELEBES shore during night.

- 0012 H SJ contact, 10,850 yards. Ship Contact No. 10. Thought it a sailboat, but on closing to investigate, identified as small patrol boat of SC type. Avoided.
0105, 0115, 0215, 0300 H Sighted sailboats. Ship Contacts Nos. 11, 12, 13, 14. Avoided.
0136 H Apparent BN interference on SD screen, followed by BN pips in an illegible code. Finally diagnosed as BN echoes returning from the CELEBES hills. See section (F) RADAR.

0204 H SJ interference bearing approximately 240(T).
Challenged. No reply.
0307 H SJ contact bearing 236(T), 25,400 yards. Ship
Contact No. 15. Strong interference from
same bearing. Challenged. No reply.
0357 H Sighted sailboat. Ship Contact No. 16. Avoided.
0442 H Challenged on SJ by Ship Contact No. 15. Re-
plied and exchanged calls with ANGLER.
0555 H Sighted mast or high periscope believed to be
ANGLER. Ship Contact No. 17.
0614 H Sighted two (2) sailboats. Ship Contact No. 18.
Avoided.
0638 H Sighted sailing trawler. Ship Contact No.
0641 H Submerged.
0805 H Surfaced.
0818 H Sighted three (3) sailboats. Ship Contact No.
19. Avoided.
0820 H Sighted first of numerous floating objects in
water, which included logs, palms, planks, and
one ship's life ring.
1041 H Sighted sailboat. Ship Contact No. 20. Avoided.
1155 H SD contact 20 miles. A/C Contact No. 8. Faded.
1420 H Decoded despatch to MINGO, lifeguarding off
BALIKPAPAN, telling of crew of nine (9) men from
a B-24 in water since yesterday, six miles from
COD's present position. Commenced parallelgram
search around point given in despatch, investi-
gating objects in water. Decided to question
all sailboats.
1540 H SD interference.
1544 H Sighted ANGLER, followed by SJ challenge and ex-
change of calls. Gave ANGLER courses to steer
until dark to increase area of search. Con-
tinued search.
1758 H Sunset.
1923 H SJ contact 11,650 yards. Ship Contact No. 21.
Proved to native schooner. Manned 20 men's
and went close aboard. English not understood.
No aviators. Continued up strait.
2342 H Transmitted COD TWR to CTF 71, giving negative
results of search by ANGLER and COD.

2 October

0159 H SJ contact 13,000 yards. Strong SJ interference
on same bearing. Challenged. No reply. Probably
ANGLER. Lost contact at 0323.
0523 H SJ contact 27,600 yards. Very sharp pip. Rain
squall.
0739 H Submerged.
0806 H Surfaced.

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0957 H SD contact 23 miles. A/C Contact No. 9.
Faded.
1820 H SJ interference bearing 102(T). Probably ANGLER.
2035 H Heavy rain. Pit log out of adjustment. No. sights for 24 hours. Poor landfall on SIBUTU PASSAGE. Resorted to fahrometer, sounding every 20 minutes.
2334 H SJ contact bearing 096(T), 12,850 yards. Strong interference on same bearing. Probably ANGLER. Challenged. No reply.

3 October

0105 H Entered SIBUTU PASSAGE.
0214 H SJ contact on ANGLER, astern, 10,150 yards. Could see him.
0335 H Exchanged recognition signals and plans for the day with ANGLER by SJ.
0533 H Sighted sailboat. Ship Contact No. 22. Submerged.
0915 H Surfaced.

4 October

0006 H Transmitted COD FCUR to CTF 71, giving plans for search to RAY.
0200 H SJ interference on port bow.
0315 H SJ contact 11,000 yards. Ship Contact No. 23. Exchanged recognition signals, calls and information with CERO by SJ.
0914 H Landfall on PANAY. Standing up through CUYO EAST PASS.
1352 H Submerged.
1747 H Surfaced. Standing over to APO EAST PASS.
2222 H Received voice message from RAY telling of his negative search results in area and suggesting patrol station for 5th. Sent him affirmative.

5 October

0004 H SJ contact 4,090 yards. Crossed bow from port to starboard, range decreased rapidly to 1500 yards, then opened. Tracked at more than 30 knots by TDC. Nothing in sight. Contact commenced steering various courses over land on starboard hand. Possibly a bird.
0527 H Submerged 15 miles north of APO REEF. Ran north and then west. Rain squalls and haze.
0852 H Sighted plane. A/C Contact No. 10.

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ATTACK NO. 1 AND ATTACK NO. 2

1250 H During one of the intermittent rain squalls which were present all day, and with visibility estimated at 7,000 yards, OOD sighted destroyer, brought ship to course for 90° track, and sounded the alert. (Ensign Franklin S. KIBBALL, USN). Ship Contact No. 24. During lulls in rain, C.O. made out formation of five (5) ships, consisting of WAKATAKE destroyer (identification not certain) followed by two small engines-aft vessels abreast, followed by a large tanker on the port near side, and a large AK on the starboard quarter of the tanker. Picked the tanker as primary target, and watched the WAKATAKE go by while closing track. (The control party wanted to shoot the WAKATAKE first). Could not identify target. It was a large, modern ship, engines aft, two masts with cross yards and booms topped up. Had raked bow and medium stack, both as to thickness and as to height. There was a small island forward of the gun. 80 turns gave 9.5 knots. The target resembled a U.S. Maritime Commission T-2 design more than any vessel in the Japanese recognition manuals. Used 100 ft. for height of mast and the ranges obtained thereby were checked to within three (3) seconds by torpedo. The AK on the tanker's quarter could not be identified in the visibility. It was fairly large. C.O.'s estimate:

1 Large Tanker (EU) 10,000 T.
1 Large AK (EU) 7,500 T.

Visibility very poor. Could barely make out masts at times. Target group zigged away. Waited for 90° angle on bow in order to check course.

1318 H Fired four (4) bow tubes at tanker, spread by periscope, 150% coverage, 6 ft. depth, average track 114°, average gyro 356°, average torpedo run 2400, and then fired two (2) at AK, spread by periscope at bow and stern, average track 101°, average gyro 009°, other data the same. Observed two hits on tanker, one forward and one aft, just about where aimed. Both hits were accompanied by large clouds of black smoke and fire. Great balls of fire billowed up from fore part of the vessel. Breaking up noises were heard, even through the hull. The tanker appeared to be done for. No hits were seen on

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the AK. Set depths 2 feet aft and commenced getting set up on WAKATAKE who had turned to his left and was headed for us. Turned right for a down-the-throat shot. Due to rain, could not see the WAKATAKE at every observation, usually could not see the top of his mast, but was getting a pretty good set-up with zero angle on the bow, and ranges did not matter much. Depth charges started going off 4.5 minutes after firing. Did not bother about them as long as I could see the WAKATAKE. Sound then picked up two vessels echo-ranging. One was apparently the WAKATAKE. Could not see the other. Depth charging noises changed from the old familiar bang to smaller, more frequent explosions with a sharp crack. These noises did not appear to be coming from the target. The control party, almost in unison, said "mousetraps." (Although I don't know what would be detonating them.) Took a look. WAKATAKE was showing 20° starboard angle on the bow. Chips started flying in front of the periscope. (Three. Solid Matter. Small). It may have been gunfire, but I was not sure. The situation was out of hand. Went deep. Ran silent. Fish-tailed. Could track one high speed set of screws and one slow speed set of screws, both echo-ranging.

When depth charging had ceased (only a few at this time), reloaded four (4) upper tubes forward.

- 1410 H Started up to periscope depth.
1420 H When passing 80 ft., depth charges started going off again. Large ones now. Estimated range to be 1500 yards and kept on coming up.
1424 H Up periscope. Visibility had improved. The WAKATAKE and one of the engines-aft ships were conducting a sweep and depth charging about 4000 yards ahead of us, crossing from port to starboard. Set depth 2 ft. forward and commenced approach on WAKATAKE. (The fire control party was now happy). From three observations plot showed WAKATAKE and escort to be steering in a circle of 2 miles radius. Their search would not bring them close to us for some time. Meanwhile two distinct fires were visible on the port hand, as well as smoke which appeared to be from a funnel. Rounds of bearings between looks at the WAKATAKE showed:

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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 ($\frac{1}{4}^{\circ}$), 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.

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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 CCCRIN 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.

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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 forecastle was unusually heavy with heavy booms not normally found on a tanker. It had a medium stack. Next day the largest escort

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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 set 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

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- 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

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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 kncts when first picked up, north of LUBANG. Assigned patrol stations and set off for ours, close to CABRA ISLAND, on a north-easterly heading.

ATTACK NO. 4

1100 H Lookout sighted mast astern, bearing 233° T, range about 18,000 yards. Ship Contact No. 28. This was a warship of about 1500 T, coming up from astern, zigging between 025° T and 065° T, 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, CABRA 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° , putting us well off the track. He was of about 1500 tons, had a tripod

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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.O.'s estimate:

1 CL (EU) 1500 tons

After his wide zig to the left, target zipped 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

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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 PALAWAN 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 PALAWAN 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) NEILS, headed south, A/C Contact No. 17.
- 1831 H Surfaced.

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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.O.D. sighted what he thought was a mast and headed for it. Disappeared.
1408 H O.O.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

Tried to run this one on the surface for a while.
0753 H SD contact, 12 miles. A/C Contact No. 23. Submerged.

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- 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 NUSKALLUPTE 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°T 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

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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 PALAWAN PASSAGE. Proceeded to station.

13 October

0347 H O.G.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.

-1123 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 BOLINAO.

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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 PALAUTIG REEF.
0638 H Sighted plane, RUFE. A/C Contact No. 38.
0720 H Sighted plane, RUFE. 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 PALAUTIG 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 MATALVI.
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.

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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, Rufe, 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 Contact No. 34. Avoided.
1819 H (Dark) C.C. and O.O.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 surface. 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 sunrise.
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.

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0735 H O.C.D. sighted large unidentified plane headed north along shore. A/C Contact No. 50.
0822 H J.O.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, search-light 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,

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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. Routined 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 HERMANA 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 O.C.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 CAPE 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.O.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 fore-sails 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.
0818 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 blazin'. 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.O.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 ECLIMAC on south-easterly 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

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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. Made 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, 4,283 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

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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 $0.^{\circ}5$, 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.

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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'sle; foremast located at break of foc'sle 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 (EU)	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 MANILA. 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

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they had made thier 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 220(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 BOJeadore.

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.

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- 1355 H SD contact 12 milcs, 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 unescorted 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 BREAM 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.O.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 VIKO, 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 ASALA 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 ASALA itself. Ensign KIMEALL, the C.O.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.

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Asked him if he had contact. Reply negative. Encoded a contact report and sent it. He replied that he could not attack. This was heartbreaking; 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 BOLINAO, 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 BOLINAO.

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) NELLS at 2 miles. A/C Contact No. 95. Heard echo-ranging. The planes presented a problem, as the NELLS 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 NELLS 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 ASAMA MARU. They were headed south and hugging the coast. We went

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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°T and 071°T.

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°T. Ship Contact No. 43. Commenced closing. Smoke disappeared then reappeared at 1325 on bearing 240°T. 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°T, 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 received for it but was never heard again.
- 2018 H SJ interference ahead. This was lost in an hour.
- 2026 H Received message from BREAK giving his probable time of interception. Sent BREAK 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 BREAK 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 BREAK.
- 2315 H SJ interference.

23 October

- 0012 H Working BREAK on area frequency in plain language.
- 0044 H BREAK 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. BREAK indicated submergence by not answering us on the radio.
- 0113 H Last shot from target.
- 0116 H SJ interference from BREAK, back on the surface. Sent latest course and speed. BREAK 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.

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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 chancers. 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 re-
questing a route to nearest base to unload the
prisoners.

30 October

0655 H Submerged.
0744 H Surfaced.

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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'sle (no gun nor other large item visible),
very low silhouette (about $\frac{1}{2}$ 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 abeam
of our beam, apparently without sighting us,
attempted to get astern of him to track.
Camo 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."

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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 BARREL.
1812 I O.O.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, closin'. 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. Transferred prisoners and papers. Commenced receiving fuel, water, torpedoes and voyage repairs 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 FEARL in accordance with despatch orders from ComSubPac.

1510 I Passed PIPEFISH in channel.

1530 I Cleared net and fell in with U.S.S. DIONNE (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 O.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 riving.
0900 V 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.
1502 L SJ interference on starboard bow.
2022 L Transmitted CCD FCUR, 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 N Submerged.
0940 N Surfaced.
1815 L Conducted battery discharge.

15 November

Uneventful.

16 November

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

17 November

- 0738 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 BM 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 Est.		Day		Remarks
				Range	Course - Speed	SD-Surface	SN-Surface Night	
1.	2048-H 20 Sept.	23 18 S 112 36 E	Corvette	14,150	215	15	R	Avoided
2.	22 Sept.	17 55 S 115 55 E	SS	20,000	225	--	SD	Friendly
3.	22 Sept.	18 07 S 116 21 E	SS	24,000	070	13	SD - P	Avoided
4.	29 Sept.	6 32 S 122 46 E	Sail	22,000	--	--	SD	See Narative
5.	1918-H 29 Sept.	6 37 S 122 19 E	Sail	9,000	185	6	SN	Avoided
6.	1348-H 30 Sept.	5 30 S 118 47 E	SS	1,500	--	--	SD	Avoided
7.	1444-H 30 Sept.	5 27 S 118 37 E	Sail	16,000	--	--	Bomb	Avoided
8.	1724-H 30 Sept.	5 08 S 118 42 E	Sail	20,000	--	--	SD	Avoided
9.	2346-H 30 Sept.	3 40 S 118 50 E	Sail	6,000	--	--	SD	Avoided
10.	0012-H 1 Oct.	3 33 S 118 47 E	SC	10,850	180	7	R	Avoided
11.	0105-H 1 Oct.	3 28 S 118 45 E	Sail	7,050	--	--	R	Avoided
12.	0115-H 1 Oct.	3 24 S 118 45 E	Sail	14,000	--	--	SN	Avoided
13.	0215-H 1 Oct.	3 04 S 118 39 E	Sail	9,050	--	--	SN	Avoided

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(F) SHIP CONTACTS (CONT'D)

14	0300-H 1 Oct.	2 118	55 S 35 E	Sail	6,200	---	---	SN	Avoided
15	0307-H 1 Oct.	2 118	52 S 35 E	SS	25,400	N	14	R	Exchanged Calls
16	0357-H 1 Oct.	2 118	41 S 31 E	Sail	5,000	---	---	SN	Avoided
17	0614-H 1 Oct.	2 118	10 S 26 E	2 Sail	20,000	---	---	SD - P	Avoided
18	0638-H 1 Oct.	2 118	07 S 26 E	Trawler	11,000	---	---	SD	Submerged
19	0818-H 1 Oct.	2 118	03 S 28 E	3 Sails	20,000	---	---	SD	Avoided
20	1041-H 1 Oct.	1 118	51 S 22 E	Sail	14,000	---	---	SD	Avoided
21	1923-H 1 Oct.	1 118	07 S 45 E	Sail	11,650	176	5	R	Spoke
22	0533-H 3 Oct.	5 119	34 N 46 E	Sail	14,000	---	---	SD	Avoided
23	0315-H 4 Oct.	9 120	27 N 28 E	SS	10,000	---	---	SD	Submerged
24	1250-H 5 Oct.	13 120	05 N 15 E	Convoy	7,000	210	9	R	Exchanged Calls
25	0410-H 6 Oct.	13 120	20 N 09 E	Convoy	30	11,600	180	P	Attacks No. 1 & 2
26	2342-H 6 Oct.	13 119	40 N 46 E	Convoy	20,250	215	8	R	Attacked No. 3
27	0515-H 8 Oct.	13 119	05 N 21 E	Convoy	30	8,750	210	R	Spoke
28	1100-H 8 Oct.	13 119	37 N 47 E	CM	18,000	050	18	SD No. 4	Attacked

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(F) SHIP CONTRACTS (CONT'D)

	2001-H	13	18	N	R	Tracked
29	12 Oct.	120	20	E	2 TBS	19,950
	0940-H	15	25	N	3	Watched
30	15 Oct.	119	47	E	Patrol	10,000
	1442-H	15	27	N	S	P
31	15 Oct.	119	47	E	2 Sails	10,000
	2202-H	14	36	N	---	---
32	16 Oct.	119	53	E	Sail	2,870
	2215-H	14	35	N	PC	4,700
33	16 Oct.	119	53	E	PC	4,700
	1350-H	14	46	N	---	---
34	17 Oct.	119	37	E	Sail	24,000
	2326-H	14	43	N	SD	Avoided
35	17 Oct.	119	14	E	Sail	3,950
	2340-H	14	44	N	SD	Avoided
36	17 Oct.	119	15	E	Sail	2,790
	0342-H	14	37	N	---	---
37	19 Oct.	119	18	E	PC	14,100
	2208-H	15	16	N	135	8
38	19 Oct.	119	47	E	Sail	5,650
	0200-H	16	30	N	N	---
39	22 Oct.	119	32	E	SC	20,000
	0652-H	16	34	N	6'30a	Sound
40	22 Oct.	119	50	E	Trucks	12,000
	0237-H	17	39	N	180	5
41	25 Oct.	120	05	E	Convoy	23,070
	1344-H	17	39	N	---	---
42	25 Oct.	119	31	E	iK	16,000
	1010-H	16	39	N	180	7
43	27 Oct.	118	04	E	AK	30,000
					SD	Tracked

CONFIDENTIAL

(F) SHIP CONTACTS (CONT'D)

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

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(G) AIRCRAFT CONTACTS

How Contacted:

P-Periscope

R(3D)-Radar SD

R(3J)-Radar SJ

SJ-Surface Day

SN-Surface Night

No.	Time & Date	Lat. & Long.	Type(s)	Initial Range	Course & Speed	Estimated	Remarks
1	Sept. 19 0613-H	30°-10'S 1130-36'E	Dive Bomber	11 mi. Unk.	Unk.	R(3D)-IFF	Friendly / S Search
2	Sept. 28 0305-H	10°-02'S 128°-17'E	Unk.	10 mi. Unk.	10 mi. Unk.	R(SJ)	Probably Friendly
3	Sept. 28 0324-H	9°-53.1'S 128°-13.0'E	Unk.	10 mi. Unk.	10 mi. Unk.	R(SJ)	Probably friendly Dived to avoid
4	Sept. 28 0401-H	9°-49.0'S 128°-11'E	Unk.	11 mi. Unk.	135(T)	R(SJ)	Faded
5	Sept. 28 1101-H	8°-02.5'S 127°-49.6'E	Unk.	22 mi. Unk.	Unk.	R(3D) - IFF	Faded
6	Sept. 28 1316-H	8°-16'S 127°-39'E	Unk.	20 mi. Unk.	SD	R(3D) - IFF	Sighted by lookout Elevation 50°
7	Sept. 28 1500-H	8°-28.4'E	NELL	5 mi. Unk.	Unk.	R(3D)	Faded
8	Oct. 1 1155-H	01°-39'S 118°-20'E	Unk.	20 mi. Unk.	Unk.	R(3D)	Faded
9	Oct. 2 0957-H	20°-49'S 119°-36.8'E	Unk.	23 mi. Unk.	Unk.	R(3D)	Elevation angle 1½°
10	Oct. 5 0852-H	13°-05'N 120°-27.9'E	Single Engine	6-7 mi. Unk.	Unk.	P-Submgd.	Elevation angle 2°
11	Oct. 6 1010-H	13°-25.9'N 120°-9'E	2 RUFES	5 mi. NE	1 BETTY	P-Submgd.	Elevation angle 1°
12	Oct. 6 1114-H	13°-29'N 120°-10'E	Bomber	10 mi. Unk.	Unk.	P-Submgd.	Elevation angle 1°

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(G) AIRCRAFT CONTACTS (CONT'D)

				Elevation Angle 1/8°
		P-Submgd.	Plane cover of con-	
Oct. 6	13°-34.5'N 120°-10'E	Unk.	voy. Dived to avoid.	
13	1306-H Oct. 7	13°-13.5'N 119°-25.3'E	Plane cover of con-	
14	0656-H Oct. 7	13°-53.2'N 119°-24.8'E	voy. 10 elevation.	
15	0907-H Oct. 10	14°-08.9'N 119°-35.9'E	Unk. Betty	3° 3° elevation from Manila.
16	0610-H Oct. 10	14°-08'N 14°-47.5'E	6 mi. 200(T)	Submerged.
17	0958-H Oct. 10	14°-01'N 120°-43'E	3 Nells 2 mi. 185(T)	R(3D) Submerged
18	2127-H Oct. 11	14°-09.2'N 119°-48.3'E	Unk. Unk.	R(3D) Submerged
19	0705-14 Oct. 11	14°-10.5'N 119°-50.2'E	VAL Sintle	10 elevation
20	0815-H Oct. 11	14°-09.5'N 119°-51'E	Eng. Mono. Two Eng.	P-Submgd. P-Submgd.
21	1030-H Oct. 11	14°-05.3'N 119°-50.8'E	Bomber	10 mi. 225(T) 1° elevation
22	1445-H Oct. 12	13°-27'N 119°-50'E	Unk.	R(3D) Convoy cover.
23	0753-H Oct. 12	13°-27'N 119°-58'E	Unk.	R(3D) Submgd. Went deep.
24	1356-H Oct. 12	13°-21'N 120°-05.3'E	Pote	Sighted by O.O.D. 70 elevation. Submgd.
25	1500-H Oct. 13	13°-03.5'N 119°-39.8'E	Pote	Sighted by O.O.D. 1½ elevation. Submgd.
26	0347-H	119°-39.8'E	Unk.	SI

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(G) AIRCRAFT CONTACTS (CONT'D)

Oct. 13	12°-35'N 119°-19'E	Unk.	19 mi.	Unk.	R (SD)	Closed to 18 miles. Faded at 20 miles.
Oct. 13	12°-55'.9'N 119°-20.2'E	Unk.	6 mi.	Unk.	R (SD)	Submerged
Oct. 13	13°-03.7'N 119°-39.4'E	Unk.	20 mi.	Unk.	R (SD)	Faded at 20 miles
Oct. 13	13°-07.3'N 119°-51.3'E	Unk.	10 mi.	Unk.	R (SD)	Submerged
Oct. 13	13°-11'N 119°-52'E	Unk.	23 mi.	Unk.	R (SD)	Faded at 24 miles
Oct. 13	13°-18.9'N 120°-04.3'E	Unk.	2½ mi.	Unk.	R (SJ)	Closed to 1 mi. while sub was diving
Oct. 14	13°-33'N 120°-15.7'E	Jake	6 mi.	Unk.	P-Submgd.	10° elevation
Oct. 14	13°-25.2'N 120°-14.2'E	Pete	5 mi.	Unk.	P-Submgd.	10° elevation
Oct. 14	13°-25.5'N 120°-15.3'E	2 Kates	6 mi.	Unk.	P-Submgd.	6° elevation
Oct. 14	13°-25.5'N 120°-15.3'E	Fighter	6 mi.	Unk.	P-Submgd.	6° elevation
Oct. 14	13°-28.8'N 120°-18.8'E	Val	7 mi.	Unk.	P-Submgd.	6° elevation
Oct. 15	15°-28'N 119°-45.1'E	Rufe	7 mi.	North	P-Submgd.	2° elevation
Oct. 15	15°-26'N 119°-46.3'E	Rufe	6 mi.	South	P-Submgd.	--
Oct. 15	15°-26.3'N 119°-46.1'E	Betty	6 mi.	South	P-Submgd.	2° elevation
Oct. 16	14°-49'N Unk. Pos.	Unk. Pos.	000	000	000	Sighted by O.O.D.
Oct. 16	119°-38.3'E	Betty	18-20 mi.	300 kts.	SD	Sighted by O.O.D.

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(G) AIRCRAFT CONTACTS (CONT'D)

Oct. 16	14°-45'N			Sighted by lookout
Oct. 16	14°-44.5'E	Ruf	12 mi.	about 7000 ft. elev.
Oct. 16	119°-44.9'E	Ruf	"7-8 mi.	Sighted by J.O.O.D.
Oct. 16	119°-44.5'E	Ruf	South.	20 elevation
Oct. 16	14°-46.5'N	3 Betty	SD	Sighted by J.O.O.D.
Oct. 17	119°-43.9'3'E	2 Unk.	20 mi.	Planes headed north over Mt. Bataan.
Oct. 17	14°-42.8'N	Koro than	SD	Using Code One
Oct. 17	119°-42.5'E	1. Unk.	35 mi.	R(3D)-IFF Lost contact at 40 mi.
Oct. 17-H	119°-42.5'E	2 planes	SD	Headed south toward MINDORO.
Oct. 17	14°-42.8'N	Rufe	20 mi.	
Oct. 17	14°-42.8'N	Unk.	SD	
Oct. 18	14°-41.7'N	6 Aven-	Unk.	R(3D)-IFF Using Code One
Oct. 18	119°-37.6'E	gers	40 mi.	Using Code One
Oct. 18	14°-41.8'N	2 small	Unk.	Sighted by lookout
Oct. 18	119°-37.6'E	planes	7 mi.	Headed north past Los Frailes
Oct. 18	119°-38.3'E	1 large	SD	
Oct. 18	119°-38.3'E	plane	12 mi.	
Oct. 18	14°-45.5'N	SD		
Oct. 18	119°-41.1'E	1 Dave	7 mi.	Sighted by O.O.D.
Oct. 18	14°-43.6'N	SD		Flying low over water. Submerged.
Oct. 18	119°-39.4'E	Unk.	8½ mi.	Not sighted. Paded at 10 miles.
Oct. 18	119°-26.9'E	Sally	10-14 mi.	-52-280(T)
Oct. 18	14°-53'N	SD		Dived to avoid
Oct. 18	119°-31'E	Unk.	16 mi.	Four planes sighted heading east.
Oct. 18	14°-53'N	E		R(3D)-IFF
Oct. 18	119°-32.7'E	Unk.	26 mi.	R(3D)-IFF
Oct. 18	14°-53'N	Unk.	26 mi.	Not sighted
Oct. 18	119°-33.5'E	Unk.	26 mi.	R(3D)-IFF Not sighted

CONFIDENTIAL

(G) AIRCRAFT CONTACTS (CONT'D)

Oct. 18	14°-53'N 119°-33.2'E	30 SB2Cs 22 - 26 & T6Fs mi.	050(T)	SD-All hands on bridge	Plans were in forma- tion. Watched them... Closing. Dived to avoid.
57	1545-H	14°-58.3'N 119°-51.8'E	Unk. 9 mi.	Unk.	R(SD)
58	0009-H	14°-43.2'N 119°-40.2'E	3 planes 20 mi.	SE SD	Sighted by O.O.D.
59	0545-H	119°-40.2'N	Unk. 8 mi.	Unk. R(3D)	Dived to avoid.
60	0551-H	119°-40'E	Unk. 11 mi.	Unk. R(SD)	Dived to avoid.
61	0942-H	119°-32.8'E	Unk. 1 at 13 mi. 1 at 7	Unk. R(SD)	Dived to avoid.
62	1606-H	14°-45.7'N 119°-35.2'E	Unk. 26 mi.	Unk. R(SD)	Faded at 28 mi.
63	0002-H	119°-04.5'E	Unk. 17 mi(R) Oct. 21 160°-41.5'N 118°-41.4'E 4 Eng. 12 mi(S)	R(SD)-SD	Position angle 50°. Dived to avoid.
64	1150-H	170°-00'N 118°-58.5'S	Unk. 14 mi.	Unk. R(SD)	Dived when contact closed to 12 miles.
65	1531-H	160°-27.4'N 119°-40.5'E	Unk. 7 mi.	Unk. R(SD)	Opened to 10 mi.
66	0405-H	160°-33.3'N 119°-50.2'E	Unk. 10 mi.	Unk. R(SD)	Closed. Conducting Battle surface. Dived.
67	0927-H	160°-37.1'N 119°-46.3'E	Unk. 21 mi. S	R(3D)-3D-P	A group of over 20 planes headed south.
68	1042-H	160°-40.1'N 119°-45.3'E	Unk. 9 mi.	Unk. R(SD)	Contact closed to 7.5 miles. Dived to avoid.
69	1056-H	160°-44.1'N 119°-45.3'E	Unk. 8 mi.	Unk. R(3D)	Closed to 7½ miles. Dived to avoid.
70	1206-H	119°-45.4'E	Unk. 8 mi.	Unk. R(3D)	

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(G) AIRCRAFT CONTACTS (CONT'D)

Oct. 22	16°-44.0'N 119°-42.9'E	Tess	2 mi.	310(T)	P-Submgd.	Position angle 5°
21 1312-H	119°-42.9'E	Tess	mi.	310(T)	P-Submgd.	Sighted by lookout
Oct. 22	16°-44'N 119°-40.9'E	Unk.	19 mi.	S	R(3D)	at 12 miles.
72 1348-H	119°-40.9'E	Unk.	2 Eng.			Closed to 7½ miles
Oct. 22	16°-44'N 119°-40.9'E	Bomber	16 mi.	S	R(3D)	Sighted. Dived to avoid
73 1349-H	119°-40.9'E	Bomber				
Oct. 22	15°-46'N					
24 1426-H	119°-37'E	Unk.	14 mi.	210(T)	P-Submgd.	Unidentified
Oct. 22	15°-46.8'N					
25 1518-H	119°-36.6'E	Unk.	10 mi.	310(T)	P-Submgd.	Large land plane.
Oct. 22	16°-48.3'N	Large				Very large plane,
76 1600-H	119°-35.1'E	2 Eng.	4 mi.	S	P-Submgd.	looked like transport.
Oct. 22	16°-48.3'N					
27 1608-H	119°-36.1'E	Unk.	2 mi.	120(T)	P-Submgd.	Topsy, Tess or Sally
Oct. 22	16°-48.4'N					
78 1623-H	119°-36.1'E	Tess (2)	5 mi.	170(T)	P-Submgd.	Disappeared from view to the south.
Oct. 23	17°-51.7'N					Faded at 18 mi.
79 0748-H	118°-06.3'E	Unk:	19 mi.	Unk.	R(3D)	after closing to 16 mi.
Oct. 23	18°-13.8'N					
80 1504-H	118°-44.2'E	Unk.	7 mi.	Unk.	R(3D)	Dived to avoid.
Oct. 24	18°-30.7'N	Possible				
81 0723-H	120°-30.7'E	Bomber	10 mi.		P-Submgd.	
Oct. 24	18°-32'N	Possible				
82 0751-H	120°-30.7'E	Val	8 mi.	NE	P-Submgd.	2° elevation
Oct. 25	13°-24.5'N					
83 0518-H	119°-49.9'E	Unk.	14 mi.	Unk.	R(3D)	
Oct. 25	17°-18'N					
84 0601-H	119°-42.7'E	Unk.	Unk.			Faded at 16 mi.
Oct. 25	17°-20.2'N					
85 0620-H	119°-38.4'E	Unk.	15 mi.	Unk.	R(3D)	Convoy cover
						Convoy cover

CONT'D ENTIAL

(G) AIRCRAFT CONTACTS (CONT'D)

				Sighted at 8 mi.
				Dived.
Oct. 25	17°-19.2'N 119°-34.3'	5 Pips on radar	10 & 11 mi.	R(SD)
36 0635-H	17°-17.7'N 119°-25.4'E	Mavis	9 mi.	SD.
Oct. 25	17°-21.4'N 119°-07.5'E	Bettys	15 mi.	SD-R(SD)
87 0754-H	17°-37'N 119°-20'E	Unk.	10 mi.	Faded at 10 miles.
Oct. 25	17°-39.9'N 119°-30'E	Unk.	12 mi.	Did not dive.
89 1308-H	17°-37.2'N 119°-37.2'E	Unk.	7 mi.	3 contacts. Dived when closed to 6 mi.
Oct. 25	17°-38.1'N 119°-37.2'E	Unk.	14 mi.	R(SD) - Submgd.
20 1355-H	17°-37.4'N 119°-37.2'E	Unk.	10½ mi.	Contact remaining steady at 14 mi. Faded
21 1632-H	17°-05'N 120°-09'3"	Unk.	10½ mi.	R(SD)
Oct. 25	17°-44.5'N 120°-05.5'E	Unk.	7 mi.	Taded at 14 mi. Contact faded at 6 miles, came in at 8 mi. last range 9 mi.
94 2215-H	16°-32.1'N 119°-46.0'E	1 float 2 Nells	8 mi. 2 mi.	R(SD)
Oct. 26	16°-31.0'N 119°-32.2'E	Unk.	135(T)	P-Submed.
95 0658-H	16°-33.3'N 119°-20.5'E	Unk.	11 mi.	Position angle 20 Faded at 16 miles.
96 1025-H	16°-24.7'N 119°-07.5'E	Unk.	21 mi.	Closed to 8 miles. Dived to avoid.
Oct. 26	15°-24.7'N 119°-07.5'E	Unk.	Unk.	R(SD)
97 1050-H	15°-24.7'N 119°-07.5'E	Unk.	Unk.	Faded at 24 miles.
98 0243-H	15°-24.7'N 119°-07.5'E	Unk.	Unk.	R(SD)

CONFIDENTIAL(G) AIRCRAFT CONTACTS (CONT'D)

Oct.	28	16°-30.5'N	21 mi.	R(3D)-IFF	Code 1.	Faded at
29	2315-H	118°-00.6'E	25 mi.	R(3J)	30 miles.	
Oct.	30	20°-36.4'N	Unk.			
100	2133-H	119°-49.4'E	Unk.	R(3D)	Closet range 16 mi.	
Oct.	31	20°-10.2'N	Pato	6 mi.	Dived. Plane also	sighted by OOD & TOOD
101	1552-H	121°-45.3'				
Nov.	3	19°-50.8'N	11 mi.	Unk.	R(3D)	Dived to avoid.
102	1918-T	133°-52.5'E	Unk.	R(3D)-IFF	Faded at 36 miles.	
Nov.	4	180°-50.8'N	Unk.	20 mi.	Unk.	
103	Nov. 2-T	138°-08.5'E		R(3D)	Dived to avoid.	
104	0740-L	141°-49.7'E	Unk.	12 mi.	Unk.	
Nov.	5	160°-24.5'N	Three	24-26-22	R(3D)	Faded at 26 mi.
105	1348-T	129°-25.3'E	Unk.	ml.	R(3D)	Faded at 30 mi. Other
Nov.	5	122°-25'N	Two	26 mi.		contact closed to 12
106	1521-I	113°-22'E	Unk.	32 mi.	Unk.	mi. Dived to avoid.
	No. 5	132°-31.7'N	11 mi.	R(3D)	Closed to 8 mi.	
107	2522	142°-10'E	10 mi.	R(3J)	then opened.	
108	Nov. 5	15°-46.3'N	Unk.	R(3D)-IFF	Code No. 1. Closed	
	No. 6	15°-09'E	10 mi.	R(3D)	to 6 mi. Dived.	
109	0144-I	15°-53.0'N	15 mi.	R(3J)	Closed to 8 mi. then	
	No. 6	14°-44.9'E	8 mi.	R(3J)	opened.	
110	0242-T	14°-49'N	Combat.	20 mi.	R(3D)-IFF	Faded at 26 mi.
	No. 6	14°-30'E	Pato			Closed to 9.5 miles
111	2326-T	12°-12'E	Unk.	21 mi.	R(3D)	Faded at 24 miles.
112	No. 5	13°-45.5'N	Float	24 mi.	Sighted by O.O.D. at	
	No. 5	14°-15.5'E	Type	Unk.	R(3D)	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. Two	34 mi. 1 at 19 mi.	Unk. Unk.	R(SD) R(SD)	Did not close. Lost contact at 23 miles.
114	Nov. 9 1358-I	17°-09.2'N 148°-22.2'E	Unk.	1 at 21 mi.	Unk.	R(SD)	Closed to 10 mi.
115	Nov. 11 0900-K	19°-16.5'N 157°-28.3'E	Unk.	24 mi.	Unk.	R(SD)	Dived to avoid.
116	Nov. 11 1013-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 110°-25.1'W	Unk.	#1-40 mi. #2-32 mi.	Unk.	R(SD) Code 1 Faded at 40 miles	Closed to 22 mi.

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 Determined by: Saw two hits on AO. Neither saw nor
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: 1° Up
(at firing)

Fire Control and Torpedo Data

Type Attack: Day periscope submerged.

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Subject: U.S.S. COD (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 $\frac{1}{2}$ 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:

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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 Determined by: Saw and heard four hits. Target observed 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.

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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:				

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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 A0 (EU) damaged.

Damage Deter:
mined by: Heard two timed explosions. Two hits 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.

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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	Swell's Condition Two			
Overhaul Activity	U. S. S. GRIFFIN			

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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 tripod 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 Determined by: Target combed wakes.

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 D

Fire Control and Torpedo Data

Type Attack: Day periscope submerged.

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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.					

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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.

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

ATTACK NO. 5

Tubes Fired No. 7 No. 8 No. 9 No. 10

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

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

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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. Target 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.

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(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 gun-fire.

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.

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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.

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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.

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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

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hand and rigged out the remaining distance by hand, they then operated satisfactorily in power. While still submerged the planes were rigged in and cut 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 officer 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

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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 VHF frequencies was noted with displeasure, but they are still only an annoyance. All messages were received from VIMO with comparatively little trouble and very seldom badly garbled. We should express thanks to radio COCNA AIA and radio PELCOMEN 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, H.M. rendered valuable help to us also. On one occasion the U.S.S. COUCAL attempted to call us on the Fort Mose frequency while we were approximately 60 miles from DARWIN, where she was anchored. This transmission was not intercepted by us although we were guarding the Fort Mose 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 DARWIN harbor after arrival.

Between 140922 Z and 140948 Z, while servicing COD 140 00 of November, H.M. 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 FCC 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 NALAY 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.

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(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.

G. C. D.	G.C.T.	Latitude	Longitude	Temp. Change	Depth of Layer From Surface		
					Top	Bottom	
9/20/44	0108	26 02 S	112 24.3 E	73-73	0	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	20	160
9/23/44	0238	15 40.8 S	120 07.3 E	82-85	-3	20	160

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<u>G. C. D.</u>	<u>G.C.G.</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Temp.</u>	<u>Change</u>	<u>Depth of Layer From Surface</u>	<u>Top Bottom</u>
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-CIPE 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
(c) Was lobe switching used XX Rate XX How determined NOT note
(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.c.

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 now frequency - Not shifted.
18. Narrative - Jammer tuned to 8470 very well, sending series of VVV's at speed of approx. 10 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 - HOTLER
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 missed 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) RADAR AND LIDAR COUNTERMEASURES (CONT'D)

RADAR COMMUNICATIONS - JAMMING BY THE ENEMY

1. Ship or station - U.S.S. COD (SS224)
2. Position, bearing and altitude when enemy radar 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
NCW - 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 isgnal 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 - DFAI 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 transmitter 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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(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

BOEYARD, 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 SOUTHEAST 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.

FB5-44/A16-3

SUBMARINE DIVISION FORTY-FOUR

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.

Gum 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 BREAN 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. GREENFELL
E. W. GREENFELL

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 Commander Submarine Division FORTY-FOUR.

2. The Commander Submarine Squadron FOUR congratulates 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:

SUNK

1 - AO(EU), 10,000 tons

DAMAGED

1 - AK(EU), 7,500 tons

1 - AO(EU), 15,000 tons

1 - MIS, 100 tons

Total Damaged 22,600 tons

Total Sunk of Damaged - 32,600 tons

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

0/16-3(15)

SUBMARINE FORCE, PACIFIC FLEET

MR

Serial 02673

CONFIDENTIAL

22 DEC 1944

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

THIRD ENDORSEMENT to
CCD 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:

SUNK

1 - Large Tanker (EU)

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

FF12-10/A16-3(15)

SUBMARINE FORCE, PACIFIC FLEET

Serial 02673

CONFIDENTIALCare of Fleet Post Office
San Francisco, California,
29 November 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.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 (Gum 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.

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C. A. LOCKWOOD, Jr.

*C. A. Lockwood, Jr.*E. L. HYNES, 2nd,
Flag Secretary.

