

U.S.S. RAZORBACK (SS394)
c/o Fleet Post Office
New York, New York

SS394/A16-1
Ser 025-51
17 May 1951

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

From: Commanding Officer, U.S.S. RAZORBACK (SS394)

To: Commander SECOND Fleet

Via: (1) Commander Task Group 45.9
(2) Commander Task Force 45

Subj: U.S.S. RAZORBACK (SS394), report of Simulated War Patrol Number 4
(Convex II)

Ref: (a) ComSubLant OpOrd 1-51, Appendix II, Annex X

Encl: (1) Subject report
(2) Track charts
(3) Exposure Log (CX-1)
(4) Submarine Action Reports (CX-2, CX-3, CX-4, and CX-5)
(5) Tabulated data (CX-6)

1. Enclosures (1) through (6), covering the 4th simulated war patrol of this vessel conducted in Convex II during the period 30 April 1951 to 16 May 1951, is forwarded herewith.

J. D. WORLEY

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Report of Simulated War Patrol Number Four in Convex II

(A) Prologue not required by reference (a).

(B) Narrative:

30 April 1951 (Monday)

Enroute Norfolk to Convex II operating area Jig as assigned by CTG 45.9 and operating under Convex II instructions issued by higher authority.

0905R - RAZORBACK underway from Pier 21, berth 211, Naval Base, Norfolk, Virginia.

1155R - Took departure on Chesapeake Lightship and set course 060°T. Making standard speed on four main engines. Plan to arrive in area Jig at about 0830R, 1 May 1951.

1155R to 0830R, 1 May 1951 - Passage was completed with no unusual incidents. Ship is now operating under modified war patrol conditions.

1723R - Received CTG 45.9 Serial 1.

1 May 1951 (Tuesday)

0830R - Entered operating area Jig at Lat. 39°-20' N, Long. 70°-00' W. Decided to remain on the surface until forced down by aircraft or to avoid detection by surface vessels. Desire to work north to take patrol station 15 miles due southeast of Nantucket Lightship. Operating "SS" and "SV" radars intermittently.

0913R - SS single ship contact bearing 142°T, range 13.6 miles. Submerged to work out tracking and approach parties and to identify the contact.

0945R - Secured the tracking and approach having identified contact as City Service Oil Tanker. Tanker was operating his fathometer constantly. Not knowing the frequency of air patrols or what to expect decided to remain submerged and work north, using SV radar and broaching for SS sweeps.

1610R - SV 2 planes contacted bearing 230°T, range 2 miles. Do not believe planes had definite contact but they remained in the area until about 1717R. Will cut down on SV radar transmission.

1756R - SS single ship contact bearing 301°T, range 14.1 miles. Commenced tracking and closing target.

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1 May 1951 (Tuesday) (Cont'd)

1756R to 2000R - had seven SV and SS radar contacts. These contacts were all single ship merchant vessels. It is apparent now that it will be impossible to investigate all single ship contacts.

1903R - Surfaced - area all clear.

2001R - SS single ship contact bearing 042°T, range 27.2 miles.

2006R - SS single ship contact bearing 090°T, range 18 miles. Closed range on this contact and identified as a merchant vessel. Commenced on end-around on 2001R contact. The 2001R contact as well as seven other contacts established till 2330R were identified as merchant vessels.

2303R - Received CTG 45.9 Serial 2.

2331R - Visual and radar contact on two planes bearing 260°T, range 10 miles. Avoided planes on the surface - bow to.

2 May 1951 (Wednesday)

Plan to remain southeast of Nantucket Lightship Lat. 40°-20' N, Long. 69°-10' W, and patrol the traffic lanes surfaced and submerged.

0000R - SV single ship contact bearing 036°T, range 36.5 miles. Commenced closing target.

0035R - SV single ship contact bearing 045°T, range 43 miles.

0102R - SV aircraft contact on two planes bearing 107°T, range 7 miles.

0107R - Planes started closing range, submerged to avoid. No attack was heard.

0141R - Surfaced, area all clear.

0149R - SV aircraft contact on planes bearing 025°T, range 30 miles. Maneuvered to avoid.

0159R - Submerged for aircraft contacted at 0149R. Closing but no attack was made.

0252R - JT sonar contact bearing 210°T, identified as a merchant vessel.

0332R - Surfaced - area all clear.

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2 May 1951 (Wednesday) (Cont'd)

0340R - SV aircraft contact on plane bearing 343°T, range 19 miles. Evaded detection till 0352R, then submerged, as plane closed. No attack was made.

0433R - SV single ship contact bearing 283°T, range 8.2 miles.

0439R - SV contact of 0433R identified as merchant vessel.

0525R - SV ship contacts bearing 257°T, range 16.1 miles and 084°T, range 16.3 miles. Ships not in company.

0551R - SV single ship contact bearing 120°T, range 11 miles.

0556R - Ship contacts of 0525R and 0551R identified as merchant vessels.

0653R - SV aircraft contact bearing 199°T, range 19 miles.

1028R - SV single ship contact bearing 270°T, range 29 miles. Later identified as a merchant vessel.

1112R - SV aircraft contact on plane bearing 005°T, range 35 miles.

1212R - SV single ship contact bearing 230°T, range 13.5 miles. Commenced closing target.

1223R - SV single ship contact bearing 243°T, range 13.1 miles. There is a possibility that contacts at 1212R and 1223R are Naval vessels. Decided to surface and close the track.

1230R - Surfaced - area all clear, except for targets above.

1252R - Identified closer target as merchant vessel.

1314R - SS aircraft contact on plane bearing 025°T, range 34 miles.

1315R - SS aircraft contact on plane bearing 255°T, range 10 miles, closing.

1320R - Plane was passing by but decided to investigate us - turned toward - submerged. No attack was made.

1406R - SV aircraft contact bearing 105°T, range 10 miles.

1459R - SV aircraft contact bearing 282°T, range 25 miles.

1515R - SV single ship contact bearing 317°T, range 11 miles. Unable to close contact submerged and aircraft too numerous to surface.

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2 May 1951 (Wednesday) (Cont'd)

1517R - SV aircraft contact bearing 252°T, range 31 miles.

1543R - SV aircraft contact bearing 155°T, range 8.3 miles.

1604R - SV aircraft contact bearing 055°T, range 11.7 miles.

1708R - SV aircraft contact two planes bearing 065°T, range 6 miles and single ship contact bearing 065°T, range 7 miles. Identified ship contact as a merchant vessel and planes were P2V's.

1837R - SV contact on single merchant ship bearing 132°T, range 5.3 miles.

1850R - Surfaced - area all clear of aircraft. Decided to run south and attempt to charge batteries.

1856R - SS contact on two ships bearing 340°T, and 346°T, range 30 miles and 25 miles. Appear to be merchant vessels.

1907R - SS single ship contact bearing 280°T, range 27 miles. Later identified as a merchant vessel.

1915R - Ship's whip antenna is badly bent and the insulator at the base is broken. (See material report). The antenna is still operating.

2015R - SV aircraft contact bearing 300°T, range 3 miles. Submerged. Did not gain visual contact on this plane nor did he attack but he remained in the vicinity of our diving point until 2205R.

2210R - Surfaced - area clear of aircraft.

2212R - SV gained contact on the following single ships; bearing 352°T, range 30 miles, 270°T, range 12 miles, 302°T, range 50 miles, 318°T, range 55 miles and 332°T, range 60 miles. These contacts are not in formation.

2215R - Received CTG 45.9 Serial 3.

2217R - SV aircraft contact bearing 205°T, range 40 miles.

2219R - SV aircraft contact bearing 240°T, range 60 miles.

2221R - SV and visual aircraft contact bearing 270°T, range 7 miles. This plane is investigating merchant vessels in the area. He has not bothered us so far.

2242R - Visual aircraft contact bearing 210°T, range about 15 miles.

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2 May 1951 (Wednesday) (Cont'd)

2246R - SV aircraft contact bearing 010°T, range 40 miles.

2323R - SS aircraft contact bearing 240°T, range 10 miles, opening.

2345R - SS single ship contact bearing 225°T, range 7.7 miles.

Identified as merchant vessel.

2352R - SS aircraft contact bearing 260°T, range 9.5 miles. Bearing changing fast, plane passed by.

3 May 1951 (Thursday)

Will patrol again southeast of the Nantucket Lightship running perpendicular to the traffic lanes at about Lat. 40°-25' N, Long. 69°-15' W.

0034R - SS single ship contact bearing 317°T, range 21 miles.

0207R - Visual aircraft contact bearing 240°T, range 7 miles closing. Submerged. No attack was made.

0311R - SV single ship contact bearing 345°T, range 5 miles, identified as a merchant vessel.

- SV ship contact bearing 355°T, range 40 miles. This was believed to be a group of ships but proved to be several merchant ships passing close aboard south of the lightship.

0315R - SV aircraft contact bearing 042°T, range 30 miles.

0321R - Surfaced - area clear of aircraft.

0419R - Submerged - visual contact on aircraft close on the starboard beam. No attack was made.

0444R - SV single ship contact bearing 007°T, range 31 miles.

0447R - Surfaced - area clear of aircraft.

0500R - SS single ship contact bearing 052°T, range 15 miles, identified as a merchant vessel.

0513R - SS single ship contact bearing 068°T, range 20 miles, identified as a merchant vessel.

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3 May 1951 (Thursday) (Cont'd)

0540R - Visual aircraft contact bearing 349° T, range about 10 miles, drawing aft on the port side. Passed clear.

0545R - Visual aircraft contact on two PBM planes ahead - contact lost.

0614R - Visual aircraft contact bearing 037° T, range 7 miles, turning toward - Submerged.

0655R - JT sonar contact bearing 142° T, distant, no echo ranging.

0705R - SV single ship contact bearing 243° T, range 12.7 miles. No echo ranging.

0707R - Received CTG 45.9 Serial 4.

0712R - JT sonar contact bearing 240° T, estimated range by periscope 11 miles. Identified as a merchant vessel.

0738R - SV single ship contact bearing 184° T, range 6.5 miles identified as a merchant vessel.

0741R - SV possible multiple ship contact bearing 052° T, range 50 miles. Commenced tracking this target.

0743R - SV aircraft contact bearing 290° T, range 2.3 miles. No attack was made.

0755R - SV now has the possible multiple ship contact bearing 295° T, range 50 miles, with possible aircraft in that vicinity. Tracking is poor because of poor ranges and bearings and fading contacts. Course 075° T, speed 20 knots is the best we can get. It is my opinion that this is not an enemy convoy because of its position and attitude of PPI presentation.

0836R - SV aircraft contact bearing 294° T, range 28.5 miles.

0856R - SV single ship contact bearing 342° T, range 29 miles.

0858R - SV lost all trace of the possible multiple contact of 0741R. Echoes or pips broke up and faded completely at 66 miles. No contact report was sent because of probability.

0915R - SV single ship contact bearing 295° T, range 36 miles.

0950R - SV contact on another possible group of ships bearing 237° T, range 51 miles.

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1014R - SV aircraft contact bearing 328°T, range 3 miles. Not sighted in the periscope, must have gone away.

1035R - SV aircraft contact bearing 085°T, range 12.8 miles.

1037R - SV contacts as follows: two single ship contacts bearing 068°T, range 25 miles and bearing 290°T, range 34.7 miles. Group contact of 0951R is now bearing 235°T, range 54.3 miles. Tracking is impossible and it appears less and less like a convoy. Range and bearings have changed very little in nearly an hour.

1136R - JT contact bearing 070°T, no echo ranging. No visual or SV contact.

1238R - SV contact bearing 085°T, range 8.4 miles. Identified as a merchant vessel. Possibly JT contact of 1136R. Sound conditions are excellent.

1405R - Visual contact on what appeared to be lighter-than-aircraft, bearing 242°T, range extreme.

1409R - JT reports contacts on various bearings and possible distant echo ranging. SV reports contacts on two ships bearing 295°T, range 7.5 miles. Commenced tracking.

1425R - SV aircraft contact bearing 158°T, range 5 miles.

1534R - Tracking target by JT sonar and now identified as a merchant vessel.

1539R - Battle Stations Torpedo. Visual contact on what is believed to be a large baker flag on a mast over the horizon. No SV contact. Commenced approach. Target soon identified as a fishermans marker consisting of a float with a 15' mast and a 4 ft square flag with an oil drum attached by line. Secured from attack.

1815R - SV single ship contacts bearing 017°T, range 8.3 miles and 080°T, range 10 miles.

1817R - Visual contact on 1815R SV 017°T contact identified as a merchant vessel.

1845R - Surfaced - area clear of aircraft.

1850R - In sight of Nantucket Lightship.

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3 May 1951 (Thursday) (Cont'd)

1957R - Visual contact on SV previous 080°T contact identified as a merchant vessel.

2120R - Visual aircraft contact bearing 050°T, range 15 miles.

2124R - Received CTG 45.9 Serial 5.

2200R - SV aircraft contact bearing 030°T, range 16 miles, opening.

2317R - SS single ship contact bearing 276°T, range 16.2 miles, identified as a merchant vessel.

2327R - Visual aircraft contact who is investigating the merchant vessel bearing 276°T.

4 May 1951 (Friday)

On the surface atrolling the traffic lanes southeast of Nantucket Lightship. Will dive at daylight at about Lat. 40°-25' N, Long. 69°-00' W, for submerged patrol east and west across the lanes coming out of Boston and still be in the New York - Argentinia traffic lanes.

0013R - SV single ship contact bearing 275°T, range 62 miles.

0015R - SV single ship contact bearing 325°T, range 40 miles.

0018R - SV single ship contact bearing 270°T, range 30 miles.

0030R - Visual aircraft contact bearing 000°T, about 30 miles.

0148R - SV single ship contact bearing 008°T, range 17 miles, identified as a merchant vessel.

0225R - Identified 0018R contact as a merchant vessel.

0310R - SS single ship contact bearing 232°T, range 17.5 miles, identified as a merchant vessel.

0313R - SV single ship contact bearing 317°T, range 16.9 miles, probably 0015R contact identified as the Nantucket Lightship.

0401R - SV aircraft contact bearing 289°T, range 16.5 miles, opening.

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3 May 1951 (Friday) (Cont'd)

0411R - 36 intermittent aircraft contacts on two planes bearing 339°T, range 15.6 miles.

0435R - SV single ship contact bearing 291°T, range 42 miles.

0450R - In sight of the Mantoloking Lightship. SV aircraft contact bearing 209°T, range 45 miles.

0510R - Visual aircraft contact bearing 051°T, range 10 miles.

0514R - Submerged - aircraft closing.

0545R - Visual contact on aircraft bearing 270°T, range 3 miles. Have attempted to pin down aircraft contacts on us as to radar contact, visual contacts or fixes by IRL gear. Have no solution at this time.

0705R - Visual aircraft contact on plane circling astern about 5 miles. No attack was made.

0737R - Visual aircraft contact going by. They must have had a definite contact on us this morning and after 3 days are hungry for a kill.

0923R - SV single ship contact bearing 321°T, range 10 miles and bearing 007°T, range 10 miles.

0924R - Sighted fishermen's float marker exactly like the one sighted on 3 May 1951, and in about the same position.

1040R - SV single ship contact bearing 254°T, range 10 miles. No echo ranging.

1151R - SV aircraft contact bearing 025°T, range 11 miles.

1232R - SV aircraft contact on two planes bearing 305°T, range 10 miles and 340°T, range 8 miles.

1257R - SV aircraft contact bearing 315°T, range 16.5 miles and single ship contact bearing 050°T, range 16 miles.

1322R - SV contact of 1257R identified as small merchant vessel.

1331R - SV single ship contact bearing 015°T, range 9.5 miles. Identified as a merchant vessel.

1431R - SV aircraft contact bearing 295°T, range 6.5 miles and single ship contact bearing 010°T, range 8.5 miles, identified as a merchant vessel.

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4 May 1951 (Friday) (Cont'd)

1526R - SV aircraft contact on two planes bearing 055°T, range 13.5 miles, closing.

1550R - SV aircraft contact bearing 230°T, range 24 miles. These aircraft contacts have all been P2V's or PBM's, land based planes.

1603R - Received CTG 45.9 Serial 6.

1613R - SV and visual contact on one P2V aircraft circling at 270°T, range about 5 miles.

1740R - SV aircraft contact bearing 235°T, range 9 miles. Aircraft have been so thick today that we are looking for a convoy sure.

1759R - SV single ship contact bearing 130°T, range 16.8 miles. No echo ranging.

1822R - SV single ship contacts bearing 250°T, range 13.7 miles and 015°T, range 5 miles, both merchant shipping.

1830R - SV single ship contact bearing 084°T, range 17 miles, identified as a merchant vessel.

1855R - Surfaced - area clear of aircraft. Maneuvering to identify all surface contacts.

2014R - Visual aircraft contact bearing 025°T, range about 15 miles, circling.

2017R - Visual aircraft contact bearing 180°T, range indefinite, circling. These planes appear to be investigating merchant ship contacts.

2034R - Submerged to avoid aircraft closing fast. No attack was made.

2050R - JT sonar contact bearing 323°T, turn count 70, no echo ranging.

2105R - SV single ship contact bearing 243°T, range 10.6 miles and single ship contact bearing 070°T, range 60 miles.

2116R - Visual aircraft contact on a plane bearing 300°T, about 7 miles, illuminating that area.

2135R - JT contact of 2050R is a merchant vessel.

2148R - Visual contact on aircraft still searching our area. These aircraft are making it tough to charge batteries at night.

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4 May 1951 (Friday) (Cont'd)

- 2200R - Surfaced - area clear of aircraft.
- 2206R - SS single ship contact bearing 338°T, range 16 miles.
- 2225R - SV aircraft contact bearing 260°T, range 15 miles.
- 2233R - Submerged to avoid detection by aircraft.
- 2307R - Surfaced - area clear of aircraft.
- 2317R - SS single ship contact bearing 150°T, range 16.5 miles, identified as a merchant vessel.
- 2327R - SV aircraft contact bearing 231°T, range 35 miles, closing.
- 2342R - Submerged to avoid detection by 2327R aircraft contact.

5 May 1951 (Saturday)

The area from south of Nantucket Lightship to Longitude 69°W has been non-productive. I will head south to patrol the 100 fathom curve about Lat. 39°-55' N, Long. 69°-43' W, tonight and submerged tomorrow. The enemy may be going south of me; however, there are no definite indications that they are. The sea has been state 2 or less since we have been in area Jig. Flying weather has been excellent and they are taking every advantage of it.

0015R - Surfaced - area clear of aircraft and headed south.

0020R - Released two radar reflector buoys at Lat. 40°-04.3' N, Long. 69°-17.5' W, to try to draw the planes away from us. Received no return echo from the buoys on our own radar.

0107R - SS single ship contact bearing 165°T, range 21.8 miles, identified as a merchant vessel previously contacted.

0130R - SS has two single ship contacts bearing 000°T, range 43 miles. Believed to be the Lightship and a merchant vessel.

0132R - SS single ship contact bearing 342°T, range 43 miles.

0138R - SS single ship contact bearing 312°T, range 55 miles.

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5 May 1951 (Saturday) (Cont'd)

0157R - SS possible double ship contact bearing 000°T, range 46 miles, maneuvering to investigate and tracking targets.

0205R - SS single ship contact bearing 010°T, range 30 miles.

0225R - SS possible double ship contact bearing 330°T, range 53 miles.

0309R - SS reported contact bearing 358°T, range 14.1 miles, identified as a merchant vessel.

0324R - SS contact reported at 0225R now appears as a single ship contact.

0430R - Visual aircraft contact on P2V bearing 300°T, range 10 miles.

0447R - Sighted third fishermen's marker as previously described on 2 May 1951.

0449R - SS ship contact 306°T, range 8 miles, identified as fishing vessel. Appears to be several small fishing vessels here which accounts for the double ship contact reported at 0157R.

0618R - Visual aircraft contact bearing 110°T, range 18 miles, opening.

0633R - Visual aircraft contact bearing 085°T, range 18 miles, opening.

0718R - SS single ship contact bearing 307°T, range 47.4 miles.

0745R - Submerged to avoid detection by aircraft.

0902R - SV single ship contacts bearing 315°T, range 50 miles and 014°T, range 30 miles.

0914R - SV single ship contacts bearing 035°T, range 9 miles and 134°T, range 7 miles. Identified as merchant vessels.

0932R - JT sonar contact bearing 326°T, identified as a fishing vessel, range 5 miles.

0952R - SV single ship contact bearing 020°T, range 40 miles.

1038R - Visual and JT contact on five fishing vessels to the north of us.

1206R - Visual aircraft contact bearing 000°T, range 4 miles, investigating the fishing fleet.

1220R - SV aircraft contact bearing 250°T, range 30 miles.

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5 May 1951 (Saturday) (Cont'd)

1239R - SV single ship contacts at 050°T, range 50 miles, 035°T, range 30 miles, 090°T, range 50 miles, and 245°T, range 40 miles.

1345R - Visual and JT contact bearing 113°T, range 7 miles. Identified as merchant vessel.

1348R - Visual contact bearing 100°T, range 5 miles, identified as a trawler.

1220R to 1600R we had various SV radar contacts on single ships which were not identified as all ranges were over 30 miles.

1411R - Received CTG 45.9 Serial 7.

1603R - Visual aircraft contact on P2V bearing 060°T, range 6 miles.

1752R - Visual aircraft contact on 2 P2V planes bearing 170°T, range 6 miles.

1819R - SV aircraft contact bearing 285°T, range 40 miles.

1825R - Visual contact on aircraft (P2V) bearing 330°T, range 4 miles.

1841R - SV single ship contact bearing 020°T, range 40 miles.

1854R - Surfaced - area clear of aircraft.

2050R - SS radar temporarily out of commission.

2116R - SV multiple contact bearing 330°T to 030°T, range 50 miles. Appears to be rain, but it is a possibility. Commenced tracking and closing.

2116R - SV single ship contacts bearing 290°T, range 10 miles, 070°T, range 20 miles, and 335°T, range 35 miles. Contact at 290°T is a merchant vessel.

2117a - Visual aircraft contact bearing 342°T, range 15 miles.

2215R - The contact of 2116R is now at 355°T, range 66 miles. I am convinced that it is rain, but if not it is impossible for me to close.

2259R - Visual aircraft contact bearing 020°T, range 6 miles.

2303R - Submerged as plane turned toward us - periscope observation while going down revealed the plane searching with his light but he was off his target. No attack was made.

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5 May 1951 (Saturday) (Cont'd)

2324R - JT screw contacts around the dial. We moved north and the fishing fleet moved south. We are now in the center of this fishing fleet.

~~2344R~~ - Put up SV who reports contacts (five) around us about 2 miles distant. Went deep to avoid nets and to pull clear.

6 May 1951 (Sunday)

If we can get to the surface and run I hope to patrol again southeast of Nantucket Lightship at about Lat. $40^{\circ}-20'$ N, Long. $69^{\circ}-25'$ W.

0030R - SS radar back in commission.

0037R - Still attempting to outrun the fishing fleet. When I change course they go with me.

0204R - Clear of the fishing fleet.

0206R - SV single ship contacts bearing 005° T, 335° T and 030° T, range about 15 miles.

0208R - Surfaced - area clear of aircraft.

0300R - SS and visual aircraft bearing 330° T, range 5.5 miles, investigating the fishing fleet.

0338R - SS single ship contact bearing 346° T, range 43 miles.

0350R - Visual aircraft contact bearing 220° T, range 6.5 miles.

0351R - Submerged to avoid aircraft. The plane remained in this area until 0456R.

0505R - SV single ship contacts bearing 085° T, range 60 miles, and 340° T, range 15 miles. JT has screws at 340° T. Sound conditions continue to be excellent - No echo ranging heard.

0524R - Visual aircraft contact bearing 090° T, range 10 miles.

0745R - SV single ship contact bearing 036° T, range 18.7 miles. No echo ranging.

0837R - JT sonar contact bearing 232° T, no echo ranging. Visual observation has contact on aircraft that bearing - no screws.

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6 May 1951 (Sunday) (Cont'd)

0905R - SV aircraft contact bearing 050°T, range 16.8 miles.

1032R - Visual aircraft contact. Air activity increases and is most severe around the Nantucket Lightship area and southeast of there.

1120R - Visual observation show P2V aircraft to have been relieved by PEM's.

1135R - Visual contact on a merchant vessel bearing 280°T, range 10 miles.

1138R - SV single ship contacts bearing 285°T, range 20 miles and 320°T, range 16 miles. Aircraft bearing 280°T, range 20 miles and 175°T, range 19 miles.

1205R - Visual aircraft contact bearing 305°T, range 6 miles.

1315R - Visual contact on what looks like a destroyer through the surface haze bearing 182°T, range 11 miles. Aircraft is in that area. No echo ranging.

1320R - JT and WFA sonar report echo ranging. Battle Stations Torpedo and Rig for Silent Running. Commenced approach.

1339R - Sighted second DD and shifted targets. First target angle on the bow 90° starboard. After tracking it is apparent that these two destroyers will get by me. They appear to be running on a wide arc of a circle with me as center. Closest range 5800 yards going away. (See attack data).

1426R - Targets passed out of sight to the northeast. Secured from Battle Stations and Silent Running. I am disappointed in missing this opportunity, but at least we do know there is an enemy besides planes.

1503R - Visual aircraft contact on P2V bearing 200°T, range 10 miles.

1505R - SV single ship contact bearing 130°T, range 15 miles.

1515R - Visual aircraft contact on two planes astern on bearing 183°T, about 3 miles.

1538R - SV single ship contact bearing 320°T, range 30 miles and 2 aircraft bearing 290°T, range 25 miles.

1613R - SV single ship contacts bearing 270°T, range 15 miles and 215°T, range 30 miles.

1627R - SV double ship contact bearing 275°T, range 20 miles. No echo ranging.

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6 May 1951 (Sunday) (Cont'd)

1646R - Visual ship contact bearing 026°T, range 7.5 miles. Identified as a merchant vessel.

1735R - SV aircraft contact bearing 290°T, range 15 miles. Received CTG 45.9 Serial 9.

1756R - SV contact on several ships in the near vicinity of each other bearing 000°T, range about 30 miles, commenced closing and tracking.

1822R - Visual ship contact bearing 270°T, in surface haze appears to be a PCE. No echo ranging heard. Battle Stations Torpedo.

1849R - Contacts at 1756R are identified as fishing boats as well as the contact at 1822R. Secured tracking.

1952R - Surfaced - area clear of aircraft. SV has merchant ship bearing 019°T, range 7.2 miles. Have been submerged 16 hours today, so far.

2025R - SV single ship contacts bearing 190°T, range 30 miles, 150°T, range 40 miles, 180°T, range 25 miles, 305°T, range 60 miles (land), and 275°T, range 40 miles.

2050R - Visual aircraft contact bearing 050°T, range 10 miles.

2052R - Submerged - aircraft closing. Periscope observation during the dive showed this plane use his light to illuminate the area, but he was a good five miles off. No attack was made.

2113R - JT sonar contact bearing 190°T. No echo ranging.

2114R - Received CTG 45.9 Serial 8.

2124R - Surfaced - area clear of aircraft.

2125R - SV single ship contacts bearing 215°T, range 15 miles, 225°T, range 17 miles and 225°T, range 10 miles. Identified as merchant vessels.

2235R - Visual aircraft contact bearing 215°T, about 10 miles drawing left, opening.

2400R - Have been submerged 18 hours and 41 minutes today.

7 May 1951 (Monday)

Although the aircraft know we are in this vicinity I still think it wise

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7 May 1951 (Monday) (Cont'd)

to patrol southeast of the Nantucket Lightship during the day. Plan to pull out to the south at night and attempt to complete a battery charge.

0011R - Visibility has closed to 3000 yards. Turned on running lights as a safety precaution only.

0100R - Visibility improving turned off running lights.

0157R - SV single ship contact bearing 345°T, range 17 miles, identified as a merchant vessel.

0410R - SS contact bearing 055°T, range 8.3 miles, identified as a fishing vessel.

0433R - Submerged for patrol.

0555R - SV aircraft contact bearing 225°T, range 30 miles.

0711R - SV aircraft contact bearing 195°T, range 20 miles.

1027R - SV single ship contacts bearing 335°T, range 40 miles and 015°T, range 50 miles.

1302R - SV single ship contact bearing 310°T, range 25 miles.

1331R - SV single ship contact bearing 205°T, range 23 miles.

1432R - SV aircraft contact on 2 planes bearing 124°T, range 35 miles.

1447R - From intelligence given by CTG 45.9, I decided to surface to gain a better position to intercept a convoy reported northeast of us and which was due in our area some time this afternoon. Surfaced.

1454R - SV single ship contacts bearing 000°T, range 46 miles and 060°T, range 65 miles.

1515R - Visual aircraft contact close aboard bearing 225°T. This was a surprise. Submerged.

1521R - Heard 2 explosions not close aboard but indicating a successful attack signal. (Plane was P2V-MC9) Posit. Lat. 40°-12' N, Long. 68°-56' W.

1528R - Surfaced, much to my regret, in an Out of Action status. Upon surfacing we noticed that we submerged close to a fishermans float marker. I wonder if he really got us? Set course to clear the action area. Sent OA message to ComSECONDFlt.

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7 May 1951 (Monday) (Cont'd)

1624R - Assumed a damaged status and set course 090°T for the repair point. Had no aircraft contacts at this time.

1707R - Received CTG 45.9 Serial 10.

1929R - SV aircraft contact on 2 planes bearing 090°T , range 18 miles and 180°T , range 12 miles.

1933R - Submerged as planes were closing.

1936R - Planes made an attack and these explosions were faintly heard. Definitely not close aboard. Again assumed OA status which means an additional 24 hours out of action. Posit. Lat. $40^{\circ}-00'$ N, Long. $67^{\circ}-25'$ W.

1942R - Surfaced in accordance with umpire rules. Smoke flares were sighted on the water about 3000 yards bearing 000°T . Plane was a P2V. Sent OA message to ComSECONDFlt.

1945R - Set course 180°T to clear the area.

2057R - SV aircraft contact bearing 065°T , range 15 miles coming in.

2102R - Sent aircraft OA by light. We were still in an OA status, our message had not been receipted for at this time. (Running lights were on).

2127R - Received message from ComSECONDFlt. Keep clear area How - report new repair point.

2233R - SV aircraft contact closing bearing 015°T , range 21 miles. Sent OA by light (Running lights were on).

2350R - Messages have been cleared, aircraft are clear, set course 100°T for new repair point assigned by ComSECONDFlt. Turned off running lights and assumed damaged status.

2359R - SS contact bearing 238°T , range 28 miles.

8 May 1951 (Tuesday)

Enroute to repair point Lat. $39^{\circ}-00'$ N, Long. $63^{\circ}-00'$ W, in damaged status. My best estimate is that we will be back in the area in action by 2400R, 10 May 1951.

0440R - SS single ship contact bearing 052°T , range 26.5 miles.

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ENCLOSURE (1) to
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9 May 1951 (Wednesday) (Cont'd)

- 1150R - ComSECONDFlt wants a clarification of OA status of 7 May 1951.
- 1208R - Visual contact on merchant vessel reported at 1028R.
- 1300R - Whip antenna repaired and mounted. Operating satisfactorily.
- 1401R - Sent message to ComSECONDFlt to clarify status as requested.
- 1424R - Received CTG 45.9 Serial 13.
- 1430R - Changed status to action status.
- 1458R - SV single ship contact bearing 260° T, range 28 miles. Course 060° T, speed 12 knots.
- 1540R - SS contact bearing 024° T, range 16.4 miles, identified as a merchant vessel.
- 1602R - Reported for duty to CTG 45.9.
- 1631R - SV single ship contact bearing 274° T, range 46 miles.
- 1740R - Received CTG 45.9 Serial 14 assigning RAZORBACK area How.
- 1757R - SS single ship contact bearing 323° T, range 33 miles.
- 1857R - SV single ship contact bearing 233° T, range 31 miles.
- 2039R - SS single ship contact bearing 314° T, range 27.4 miles.
- 2151R - Received CTG 45.9 Serial 15.
- 2327R - SV single ship contact bearing 248° T, range 20.5 miles.

10 May 1951 (Thursday)

Heading for new operating area How on instructions from CTG 45.9 at best available speed. Hope to make position Lat. $41^{\circ}-05'$ N, Long. $66^{\circ}-40'$ W, to patrol traffic lanes to Argentina.

- 0002R - SS single ship contact bearing 094° T, range 24.5 miles.
- 0038R - SV single ship contact bearing 008° T, range 21.6 miles.
- 0435R - SV single ship contact bearing 263° T, range 38 miles. Tracked on course 098° T, speed 15 knots. Identified later as a merchant vessel.

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10 May 1951 (Thursday) (Cont'd)

1233R - SS single ship contact bearing 082°T, range 18.4 miles. Identified as a merchant vessel.

1303R - Submerged at the patrol point in area How. Plane contacts are slight in comparison to area Jig. There were no contacts in this area from 1303R until 2127R.

1609R - Received CTG 45.9 Serial 16.

1854R - Surfaced to continue patrol on the surface, no contacts in the area.

2127R - SS single ship contact bearing 283°T, range 45.8 miles. Tracked at 12 knots. Believed to be merchant vessel.

2224R - SS single ship contact bearing 270°T, range 60.4 miles. Commenced tracking.

2258R - SS single ship contact bearing 339°T, range 26 miles. Commenced tracking.

2315R - SS radar single ship contact bearing 339°T, range 67.7 miles. Target is north of the shoal water area. Now tracking three targets.

2349R - SV contact bearing 270°T, range 70 miles - will investigate this one later.

11 May 1951 (Friday)

Plan to patrol today in the same area, Lat. 41°-06' N, Long. 66°-39' W, as last night and yesterday PM, submerged. The aircraft contacts in this area continue to be negligible compared to area Jig. Also merchant shipping is considerably less.

0002R - Received CTG 45.9 Serial 17.

0021R - While tracking targets all targets faded from radar - both SS and SV. Must be an atmospheric condition as the machines are functioning properly. Continued on interception courses.

0033R - Contact previously reported at 2258R, identified as merchant ship.

0040R - Contact previously reported at 2224R, identified as a merchant vessel, course 070°T, speed 15 knots.

0223R - SS single ship contact bearing 266°T, range 32 miles.

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11 May 1951 (Friday) (Cont'd)

- 0229R - Visual contact on aircraft bearing 090^oT, close aboard (6 miles).
- 0230R - Submerged to avoid - No attack was made.
- 0259R - Surfaced - area clear of aircraft.
- 0345R - SV contact on single ship bearing 327^oT, range 71 miles.
- 0350R - SV contact on single ship bearing 208^oT, range 58 miles.
- 0351R - SV aircraft contact bearing 035^oT, range 10 miles - closing.
- 0352R - Submerged to avoid detection.
- 0513R - SV ship contact bearing 080^oT, range 28 miles.
- 0520R - JT reports screws at about 070^oT, intermittently. Same as 0513R contact.
- 0537R - Visual contact on carrier based plane - TBM. Commenced tracking last target by use of SV radar.
- 0603R - Battle Stations Torpedo. Commenced torpedo approach and attack.
- 0614R - JT sonar reports echo ranging on bearing 075^oT, search scale.
- 0616R - Visual contact on CVE top. Sea is state 0 and CVE is in the sun.
- 0622R - Sighted 3 DD's in CVE screen.
- 0626R - Visual contact on carrier planes in the air throughout the approach.
- 0635R - Penetrated the destroyer screen, and simulated firing six torpedoes at the CVE. Used umpire rules and attack was judged successful. Track 70 starboard, torpedo run 3000 yards, target course 240^oT, speed 15 knots, gyro angles from 2^oL to 3^oR. Posit Lat. 41^o-04' N, Long 66^o-40.5' W. Attempted to attack closest DD on port quarter with stern tubes, but thought he had us so commenced evasion.
- 0706R - Destroyer made attack - sent BBB but no explosions - he was not close.
- 0800R - Destroyers are still after RAZORBACK. They are consistent and non-tiring. Still evading using every effort possible with limited depth of water and a maximum of 2/3 on the screws.

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11 May 1951 (Friday) (Cont'd)

0834R - Two explosions fairly close aboard at Lat. $41^{\circ}03'$ N, Long. $66^{\circ}41.8'$ W. Assumed OA status. This was a sneak attack and a very effective procedure. The U.S.S. JOHNSTON (DD821) was responsible.

0845R - Surfaced. CVE acknowledged her OA status and congratulated RAZORBACK on a fine attack, undetected.

H/K group consisted of CVE USS PALAU (CVE 122), USS JOHNSTON (DD 821), two other DD's and one DE. Commenced clearing the area to head for repair point at Lat. $42^{\circ}42'$ N, Long. $58^{\circ}00'$ W. Did not see the DE during the approach as he was on the portside of the CVE.

0846R - Maneuvering to get well clear of the H/K group.

0858R - Heading south to clear the area before assuming a damaged status.

1007R - Sent OA report to ComSECONDFlt.

1209R - SS aircraft contact bearing 000° T, range 17 miles opening.

1235R - SV aircraft contact bearing 126° T, range 40 miles closing. Trying to get clear but it looks as if the aircraft are going to stay on me.

1350R - Changed course to 068° T heading for the repair point. Here we looked clear of all surface craft and aircraft. Assumed damaged status.

1355R - SS single ship contact bearing 102° T, range 32.2 miles.

1443R - Visual aircraft contact bearing 340° T, range 7.5 miles (P2V).

1444R - Submerged to avoid detection.

1535R - Surfaced - area clear of aircraft.

1541R - Submerged for aircraft sighted at 068° T.

1705R - Surfaced - area clear of aircraft. Received CTG 45.9 Serial 18.

2010R - SV single ship contact bearing 268° T, range 31.4 miles.

2018R - SV single ship contact bearing 038° T, range 26.1 miles.

2227R - Received CTG 45.9 Serial 19.

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11 May 1951 (Friday) (Cont'd)

2309R - Emergency - Fire quarters. Small electrical fire in power leads to vapor compressor stills in forward engine room. Quickly extinguished. Damage minor.

2310R - Secured from fire quarters.

12 May 1951 (Saturday)

In transit to repair point.

0003R - SS single ship contact bearing 166°T, range 37.7 miles.

0400R - SS single ship contact bearing 116°T, range 14.9 miles.

0401R - SS single ship contact bearing 060°T, range 16 miles.

1609R - Received CTG 45.9 Serial 20.

1730R - Arrived at the repair point. Reported to CTG 45.9. Commenced transit back to area How.

1856R - Assigned area Baker by CTG 45.9 Serial 21, commenced transit to new area course 050°T.

13 May 1951 (Sunday)

In transit to area Baker, northwest corner to patrol traffic lanes from Argentina to Bermuda convoy rendezvous point.

0051R - Intercepted IREX contact report 130245Z. Changed course to attempt to intercept this convoy as reported. Looks like a losing battle afraid we are too late. Sea is state 5 and makes standard on four main engines rough going.

0800R - Hit track of reported convoy and changed course to 040°T back toward area Baker in case we have overhauled the convoy and not made contact.

1153R - Submerged - trim dive.

1218R - Surfaced - area all clear. Sea is still rising and visibility is decreasing. Now about 5000 yards.

1255R - Received orders from CTG 45.9 to proceed area Peter for patrol station via Lat. 39° N, Long. 67°-30' W. CTG 45.9 Serial 22.

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13 May 1951 (Sunday) (Cont'd)

2037R - SV and SS aircraft contact bearing 170° T, range 7.5 miles.

2038R - Submerged - range closing to aircraft. WFA sonar in the conning tower shorted out due to salt water soakings. Out of commission indefinitely, but being worked on. Received CTG 45.9 Serial 23.

2106R - Surfaced - area all clear.

2116R - Received CTG 45.9 Serial 24.

2335R - OOD called the Captain to the Bridge. The entire area was lighted by the presence of phosphorus in the water. Captain ordered all stop and a sounding taken. Sounding was 2300 fathoms and our position was Lat. $41^{\circ}-50'$ N, Long. $61^{\circ}-15'$ W. This phenomenon continued for about one hour when the intensity of phosphorescence began to gradually return to normal.

14 May 1951 (Monday)

Enroute to area Peter. Sea and wind are decreasing in force.

0050R - SV aircraft contact bearing 115° T, range 10 miles, closing. Submerged.

0115R - Surfaced - area all clear.

0205R - SV and SS aircraft contact bearing 352° T, range 20 miles, closing. Submerged.

0240R - Surfaced - area all clear.

0947R - SV single ship contact bearing 190° T, range 25 miles. Tracked course 039° T, speed 12 knots.

1247R - SV single ship contact bearing 218° T, range 25 miles, identified as merchant vessel.

1313R - SV single ship contact bearing 262° T, range 22 miles, identified as merchant vessel.

1330R - WFA sonar in conning tower back in commission.

1441R - SS single ship contact bearing 264° T, range 40 miles.

1700R - Converted #4 FBT to MBT.

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14 May 1951 (Monday) (Cont'd)

- 1710R - Received CTG 45.9 Serial 25.
- 1714R - Submerged for trim and for flushing #4 MBT.
- 1732R - Surfaced - area all clear.
- 1736R - SS single ship contact bearing 176^oT, range 26 miles, intermittently.
- 2001R - Visual aircraft contact bearing 285^oT, range 10 miles. Submerged.
- 2031R - Surfaced - area all clear.
- 2051R - SS single ship contact bearing 304^oT, range 20.8 miles. Identified as merchant vessel.
- 2231R - SS single ship contact bearing 254^oT, range 15.1 miles. Identified as a merchant vessel.
- 2305R - Received CTG 45.9 Serial 26.

15 May 1951 (Tuesday)

In transit to area Peter. Plan to go to a point in the northwest corner of the area to patrol the point where traffic from Bermuda - New York and Norfolk - Argentina cross.

- 0115R - Received CTG 45.9 Serial 27. SS single ship contact bearing 266^oT, range 18.7 miles. Identified as a merchant vessel.
- 0712R - SS single ship contact bearing 225^oT, range 35.9 miles. Identified as a merchant vessel.
- 0800R - Identified ship contact at 0712R as a merchant vessel.
- 0812R - Received CTG 45.9 Serial 28.
- 1050R - SS two single ship contacts bearing 198^oT, range 15 miles, and 200^oT, range 20 miles. Contact bearing 198^oT is a merchant vessel.
- 1121R - SV multiple contact bearing 265^oT, range 65 miles.
- 1136R - SV contact of 1121R not confirmed. New single ship contact bearing 330^oT, range 16.6 miles.
- 1150R - SS single ship contact bearing 005^oT, range 44.5 miles, opening range.

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15 May 1951 (Tuesday) (Cont'd)

1233R - Visual contact on smoke bearing 135°T, Identified as a merchant vessel.

1236R - Received CTG 45.9 Serial 29.

1312R - SS single ship contact bearing 332°T, range 12.3 miles - Identified as a merchant tanker.

1327R - SS single ship contact bearing 286°T, range 24 miles.

1330R - Received CTG 45.9 Serial 30. Changed course and proceeding at best available speed to reach Lat. 38°-40' N, Long. 69°-40' W. Expect to be on track to intercept Newport detachment at 1900 earliest.

1344R - Visual contact on a merchant vessel bearing 222°T, range 12 miles. SS and SV radars are apparently picking targets up at excessive ranges and not at close ranges.

1352R - SS possible aircraft contact at 1347R, is identified as a merchant vessel.

1402R - SS single ship contact bearing 112°T, range 11.6 miles. Identified as a merchant vessel.

1629R - Received CTG 45.9 serial 31. CTG 45.9 directs RAZORBACK to continue the area Queen if not acting on his serial 30. Plan to continue acting on serial 30 and at its conclusion act on his serial 31.

1648R - SS single ship contact bearing 106°T, range 21 miles. 1718R - Identified contact as a merchant vessel.

1900R - Submerged - nearly made our 1330R entry but forced down by land based plane. No attack was made.

1920R - JT sonar screw contact bearing 200°T.

1925R - Visual contact on 1920R contact and identified as a merchant vessel.

1934R - SV single ship contact bearing 175°T, range 14 miles. Identified as a merchant vessel.

1944R - Surfaced - area clear of contacts. Decided to surface for better radar reception and more chance of closing a targets track before an attack.

1956R - Submerged. Driven down again by aircraft without running lights. Plane contact at 1900R did not have his lights on. They are making is tough.

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15 May 1951 (Tuesday) (Cont'd)

My SV radar PPI scope is out of commission and it is difficult to contact aircraft on the B scope. Need tender spares to put PPI back in commission.

2005R - Visual aircraft contact on plane that forced us down. He now has running lights on and has dropped a flare pattern. No attack was made.

2103R - Surfaced - area clear of contacts.

2110R - Submerged - Radar aircraft contact bearing 306°T, range 13 miles.

2135R - Commenced broaching the boat to get effective SS radar search every 15 minutes.

2228R - Surfaced - area all clear.

2232R - SS multiple contact bearing 263°T, range 21 miles. Commenced tracking.

2237R - SV aircraft contact bearing 310°T, range 9.3 miles - closing.

2238R - Submerged to avoid aircraft. No attack was made but they are keeping me down. Can not regain contact on 2232R contact and have insufficient data for a contact report.

2306R - Received CTG 45.9 Serial 32.

2339R - SS double ship contact bearing 020°T, range 19 miles. Commenced tracking. Target is on course 145°T, speed 21 knots. I am 15 miles off track but continue tracking in hopes something will develop.

16 May 1951 (Wednesday)

Tracking two targets contacted at 2339R. From their speed and course it looks like this is the Newport detachment. Their course is 145°T, and speed 21 knots. There is no possibility of closing unless these targets give us a large zig toward. Will track until clear of aircraft and send a contact report. Upon completion of this phase of the exercise I plan to head for area Queen as directed by CTG 45.9.

0038R - Surfaced - area all clear.

0055R - Targets are beyond hope - we cannot close. Sent contact report to CTG 45.9.

0116R - SV single ship contact bearing 352°T, range 23.3 miles, opening.

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16 May 1951 (Wednesday) (Cont'd)

0128R - SV single ship contact bearing 256°T, range 12.5 miles, identified as a merchant vessel.

0310R - Received CTG 45.9 Serial 33.

0533R - Received CTG 45.9 Serial 34.

0534R - SV single ship contact bearing 328°T, range 56 miles.

0726R - SV multiple target contact bearing 266°T, range 86 miles. (Doubtful at this range).

0800R - SV single ship contact bearing 235°T, range 83 miles (Doubtful).

1005R - SV single ship contacts bearing 309°T, range 36 miles, 309°T, range 54 miles, and 010°T, range 36.2 miles.

1045R - SS single ship contacts bearing 205°T, range 27.2 miles, and 230°T, range 42 miles.

1105R - SS single ship contact bearing 310°T, range 47 miles.

1203R - SS single ship contact bearing 250°T, range 55 miles.

1337R - Visual aircraft contact bearing 215°T, range 15 miles. Submerged to avoid detection.

1534R - SV single ship contact bearing 267°T, range 20.1 miles.

1607R - SV two single ship contacts bearing 140°T, range 49 miles and 057°T, range 43 miles.

1613R - Received CTG Serial 35.

1709R - JT sonar contact bearing 130°T. Visually identified as a merchant vessel.

1750R - SV aircraft contact bearing 074°T, range 12 miles, opening.

1820R - SV contacts six in number, all greater than 20 miles in range. No chance of closing before problem time is out.

1828R - Making aircraft sweep with SV radar as plane apparently overhead dropped his charges indicating a successful attack. He made his run on SV mast. Assumed OA status.

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16 May 1951 (Wednesday) (Cont'd)

1844R - Surfaced - area clear of surface contacts. Two aircraft in the area, one PBM, and one P2V(HC3).

1858R - Sent OA message to ComSECONDFlt.

1900R - End of problem. Sent Posit. report and sinking of U.S.S. PALAU (CVE 122) to CTG 45.9. Sent corrected movement report. Set course for Chesapeake Lightship.

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(C) WEATHER:

Weather experienced throughout the exercise was excellent for optimum flying conditions. Except for area Baker, visibility was generally unlimited. The state of sea in areas Jig, How and Peter was such that minimum periscope exposure was necessary, to prevent aircraft detection. However, the state of sea in area Baker during our stay would have prevented firing a torpedo.

An unusual amount of phosphorescence was observed enroute to area Peter from area Baker, the night of 13 May 1951, at Long. 61°-15' W, Lat. 41°-50' N. This phosphorescence caused a brilliant white glow over a large area which persisted for about an hour.

(D) TIDAL INFORMATION:

Currents experienced were in accordance with the Atlas of Surface Currents, North Atlantic Ocean, Fourth Edition - Reprinted 1947.

(E) NAVIGATIONAL AIDS:

Star sights, loran and sun lines were used to fix our position. Loran was excellent in areas Jig, How, Peter, and Queen. Four (4) stations, 1-H-0, 1-H-4, 1-H-3, and 1-H-2, gave excellent reception. While in area Jig and How, loran was used while submerged, using the split whip antenna. Being able to use loran submerged, creates a feeling of safety when operating in shallow water.

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(F) SHIP CONTACTS

No.	T/D	L/T	Type(s)	Bearing-Range	C&S	How	Remarks
1	010913R	39:26/69:48	City Service Tanker	142°T-13.6 mi	-	SS Radar	
2	011756R	39:53/69:39		301°T-14.1 mi	-	SS Radar	
3 - 9	1756-2000R	39:57/69:39	Merchant Vessels	Various	-	SV-SS Radar	
10	012001R	40:01/69:40	Merchant Vessels	042°T-27.2 mi	-	SS Radar	
11	012006R	40:01/69:40	Merchant Vessel	090°T-18 mi	-	SS Radar	
12-18	2006-2330	40:01/69:40	Merchant Vessel	Various	-	SV-SS Radar	
		40:17/69:31					
19	020000R	40:18/69:27		036°T-36.5 mi	-	SV Radar	
20	020035R	40:19/69:23		045°T-43 mi	-	SV Radar	
21	020252R	40:17/69:09		210°T-Unknown	-	JT Sonar	
22	020433R	40:14/69:01	Merchant Vessel	283°T-8.2 mi	-	SV Radar	
23-24	020525R	40:12/68:54	Merchant Vessel	257°T-16.1 mi	-	SV Radar	
25	020551R	40:11/69:18	Merchant Vessel	120°T-11 mi	-	SV Radar	
26	021028R	40:20/68:58	Merchant Vessel	270°T-29 mi	-	SV Radar	
27	021212R	40:23/68:54	Merchant Vessel	230°T-13.5 mi	-	SV Radar	
28	021223R	40:23/68:53	Merchant Vessel	243°T-13.1 mi	-	SV Radar	
29	021515R	40:30/69:03	Unknown	317°T-11 mi	-	SV Radar	
30	021708R	40:31/68:54	Merchant Vessel	065°T-7 mi	-	SV Radar	
31	021837	40:29/68:51	Merchant Vessel	132°T-5.3 mi	-	SV Radar	
32	021856R	40:28/68:50	2 Merchant Vessels	340°T-30 mi	-	SS Radar	
				340°T-25 mi		SS Radar	
33	021907R	40:28/68:50	Merchant Vessel	280°T-27 mi	-	SS Radar	
34	021212R	40:17/68:37.2		352°T-30 mi	-	SV Radar	
			UNKNOWN	270°T-12 mi	-	SV Radar	
				302°T-50 mi	-	SV Radar	
				318°T-55 mi			
				332°T-60 mi			
35	022345	39:41/69:24.9	Merchant Vessel	225°T-7.7 mi	-	SS Radar	
36	03004R	39:44.8/59:36.2	Merchant Vessel	317°T-21 Mi	-	SS Radar	
37	030311R	39:44.8/69:36.2	Merchant Vessel	345°T-5 mi	-	SV Radar	
38	030311R	39:44.8/69:36.2	Merchant Vessel	355°T-40mi	-	SV Radar	

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(F) SHIP CONTACTS

NO.	T/D	L/T	TYPE(S)	Bearing-Range	C&S	How	Remarks
39.	030444R	39:55.9/69:19	Merchant Vessel	007°T-31 mi		SV Radar	
40.	030500R	39:57/69:19	Merchant Vessel	052°T-15 mi		SS Radar	
41.	030513R	39:51/69:19	Merchant Vessel	068°T-20 mi		SS Radar	
42.	030655R	40:65/69:07.9	Merchant Vessel	142°T		JT Sonar	
43.	030705R	40:16.5/69:07.8	Merchant Vessel	243°T-12.7 mi		JT Sonar	
44.	030712R	40:16.5/69:07.8	Merchant Vessel	240°T-11 mi		JT Sonar	
45.	030738R	40:17.5/69:07.3	Merchant Vessel	184°T-6.5 mi		JT Sonar	
46.	030741R	40:18.8/69:07.8	Merchant Vessel	052°T-50 mi	075-20	SV Radar	Multiple
47.	030856R	40:20.9/69:07.8	Merchant Vessel	342°T-29 mi		SV Radar	Contact
48.	030915R	40:20.9/69:07.8	Merchant Vessel	295°T-36 mi		SV Radar	
49.	030950R	40:23/69:07.8	Merchant Vessel	237°T-51 mi		SV Radar	Group
50.	031037R	40:18.8/69:08	Merchant Vessel	068°T-25 mi		SV Radar	
51.	031238R	40:26.1/69:09.3	Merchant Vessel	290°T-34.7 mi		SV Radar	
52.	031409R	40:25.4/69:12	Merchant Vessel	085°T-8.4 mi		SV Radar	
53.	031815R	40:23.5/69:27.5	Merchant Vessel	295°T-7.5 mi		SV Radar	
54.	032317R	40:22/69:01	Merchant Vessel	017°T-8.3 mi		SV Radar	
				080°T-10 mi			
<u>4 May 51</u>							
55.	040013R	40:23.5/69:01.1	Merchant Vessel	276°T-16.2 mi		SV Radar	
56.	040015R	40:23.5/69:01.1	Merchant Vessel	325°T-40 mi		SV Radar	
57.	040018R	40:23.5/69:01.1	Merchant Vessel	270°T-30 mi		SV Radar	
58.	040148R	40:21.8/69:18.8	Merchant Vessel	008°T-17 mi		SS Radar	
59.	040310R	40:21.8/69:32.5	Merchant Vessel	232°T-17.5 mi		SV Radar	
60.	040313R	40:21.8/69:32.5	Merchant Vessel	317°T-16.9 mi		SV Radar	
61.	040425R	40:21.8/69:34.3	Merchant Vessel	291°T-42 mi		SV Radar	
62.	040723R	40:22.8/69:15.4	Merchant Vessel	007°T-10 mi		SV Radar	
63.	041040R	40:23.5/69:13	Merchant Vessel	311°T-10 mi		SV Radar	
64.	041257R	40:23.4/69:05.9	Merchant Vessel	254°T-10 mi		SV Radar	
65.	041331R	40:23.8/69:05.5	Merchant Vessel	050°T-16 mi		SV Radar	

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No.	T/D	L/T	Types(s)	B&H ²	C&S How	Remarks
65	041431R	40:24/69:01	Merchant vessel	010 ⁰ T - 8.5 mi	- SV radar	
67	041759R	40:35/68:55.8	Merchant vessel	130 ⁰ T - 16.8 mi	- SV radar	
68	041822R	40:24/68:57	Merchant vessel	250 ⁰ T - 13.7 mi	- SV radar	
69	041830R	40:24/48:57	Merchant vessel	084 ⁰ T - 17mi	- SV radar	
70	042105R	40:20.4/69:22	Merchant vessel	243 ⁰ T - 10.6 mi	- SV radar	
71	042206R	40:17.5/69:22.2		338 ⁰ T - 16 mi	- SS radar	
72	042317R	40:07/69:18.7	Merchant vessel	150 ⁰ T - 16 mi	- SS radar	

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73	050130R	39:54/69:14		000 ⁰ T - 43 mi	- SS radar	
74	05132R	39:54/69:14		342 ⁰ T - 43 mi	- SS radar	
75	050130R	39:54/69:14	Merchant Vessel	312 ⁰ T - 55 mi	- SS Radar	
76	050159R	39:50/69:20	Merchant Vessel	000 ⁰ T - 46 mi	- SS Radar	
77	050205R	39:50/69:21	Merchant Vessel	010 ⁰ T - 30 mi	- SS Radar	
78	050225R	39:52/69:21	Merchant Vessel	330 ⁰ T - 53 mi	- SS Radar	DOUBLE CONT
79	050309R	39:54/69:23	Fishing Vessel	358 ⁰ T - 14.1 mi	- SS Radar	
80	050449R	40:01/69:26.5		306 ⁰ T - 8 mi	- SS Radar	
81	050718R	39:58/69:23		307 ⁰ T - 47.4 mi	- SV Radar	
82	050902R	40:01/69:32.5		315 ⁰ T - 50 mi	- SV Radar	
83	050914R	40:01/69:32.5	Merchant Vessel	014 ⁰ T - 50 mi	- SV Radar	
84	050932R	40:02/69:33	Fishing Vessel	035 ⁰ T - 9 mi	- JT Sonar	
85	050952R	40:02/69:36		020 ⁰ T - 40 mi	- SV Radar	
86	051239R	40:06/69:41		035 ⁰ T - 30 mi	- SV Radar	
87	051345R	40:05/69:41	Merchant Vessel	113 ⁰ T - 7 mi	- PD	
88	051345R	40:05/69:41	Trawler	100 ⁰ T - 5 mi	- PD	
89	051841R	40:00/69:33.8		020 ⁰ T - 40 mi	- SV Radar	
90	052146R	39:45/69:44	Merchant Vessel	290 ⁰ T - 10 mi	- SV Radar	

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(F) SHIP CONTACTS

No.	T/D	L/T	Type(s)	Bearing-Range	C&S	How	Remarks
6 MAY 1951							
91.	060206R	39:47/69:44	Merchant vessel	005°(T) - 55 mi	-	SV radar	
92.	060330R	40:05.5/69:28.5		346°(T) - 43 mi	-	SS radar	
93	060505R	40:08.9/69:28.3		085°T - 60 mi	-	SV Radar	
				340°T - 15 mi			
94.	061135R	40:22.5/69:27.6	Merchant vessel	280°T - 10 mi	-	PD	
95.	061138R	40:22.8/69:27.6		285°T - 20 mi	-	SV radar	
96.	061315R	40:23.3/69:26.1	Destroyer	182°T - 11 mi	-	PD	
97.	061505R	40:25/69:24		130°T - 15 mi	-	SV radar	
98.	061538R	40:25/69:24		320°T - 30 mi	-	SV radar	
99.	061613R	40:25/69:21.5		270°T - 15 mi	-	SV radar	
100.	061627R	40:25/69:21		275°T - 20 mi	-	SV radar	Double contact
101.	061646R	40:25.5/69:20	Merchant	026°T - 7.5 mi	-	SD	
102.	061756R	40:25/69:17.5	fishing boat	000°T - 30 mi	-	SV radar	Multiple
103.	061822R	40:20.5/69:17	fishing boats	270°T - N.R.	-	SD	
104.	061952R	40:22.5/69:11.9	merchant vessel	019°T - 7.2 mi	-	SV radar	
105.	062025R	40:20/69:15.5		190°T - 30 mi	-	SV radar	
106.	062113R	40:17.2/40:15.8		190°T	-	JT Sonar	no echoranging
107.	062125R	40:15.8/69:19.1	Merchant vessel	215°T - 15 mi	-	SV radar	
				225°T - 17 mi			
				225°T - 10 mi			

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108.	070157R	40:19.7/69:19	Merchant	345°T - 17 mi	-	SV	
109.	070410R	40:27/69:07	Fishing Vessel	055°T - 8.3 mi	-	SS	
110.	071027R	40:9.4/68:55.4		335°T - 40 mi	-	SV	
111	071302R	40:15/68:52		015°T - 50 mi	-	SV	
112	071331R	40:14/68:51		205°T - 23 mi	-	SV	
113.	071454R	40:10/68:48		000°T - 46 mi	-	SV	
114.	072359R	39:11/67:42.8		060°T - 65 mi	-		
				238°T - 28 mi	-	SS	
115	080440R	38:53/65:55.1		052°T - 26.5 mi	SS		
116	080505R	38:53/65:55.1		353°T - 21.6 mi	-	SS	

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(F) SHIP CONTACTS

No.	T/D	L/T	Type(s)	Bearing-Range	C&S	How	Remarks
117.	080807R	38:00/64:52.9	Merchant	055°T - 15.7 mi	-	SV	
118.	090031R	38:49/63:09.5		225°T - 28 mi	-	SV	
119.	090342R	38:55/63:17		319°T - 41 mi	-	SV	
120.	090400R	39:55/63:17		127°T - 25 mi	-	SV	
121.	090955R	38:57/6/67:54		040°T - 70 mi	-	SV	
122.	09128R	39:58/53:05.1	Merchant Vessel	247°T - 45 mi	-	SV	
123.	091458	38:46/63:19		260°T - 28 mi	060-12-	SV	
124.	091540R	38:52/63:18	Merchant Vessel	025°T - 15.4 mi		SS	
125.	091631R	38:44/63:12.3		274°T - 46 mi		SV	
126.	091757R	38:55/63:23.6		323°T - 33 mi		SS	
127.	091857R			233°T - 31 mi		SV	
128.	092039R	37:42.9/63:55.9		314°T - 21.4 mi		SS	
129.	092327R	39:14.6/63:40.6		248°T - 20.5 mi		SV	
<u>10 May 51</u>							
130.	10002R	39:19.6/63:48		094°T - 24.5 mi	-	SS	
131.	100038R	39:25.6/63:57.1	Merchant vessel	263°T - 38.0 mi	098-15	SV	
132.	100435R	40:07.4/65:00	Merchant vessel	082°T - 18.4 mi	-	SS	
133.	101233R	41:19/68:49		082°T - 21.6 mi	-	SS	
134.	102127R	40:59.2/66:23	Merchant vessel	283°T - 45.8 mi	12 kts	SS	
135.	102224R	41:02/66:29	Merchant vessel	270°T - 60.4 mi	070-15	SS	
136.	102258R	41:03/66:31	Merchant vessel	339°T - 26 mi		SS	
137.	102315R	41:06/66:35.5		339°T - 67.7 mi	-	SS	
138.	102349R	41:06/66:35.5		270°T - 70 mi	-	SV	
<u>11 May 1951</u>							
139.	110223R	41:11/66:50		266°T - 32 mi	-	SS	
140.	110345R	41:10.3/66:43.4		327°T - 71 mi	-	SV	
141.	110350R	41:10.3/66:43.4		208°T - 58 mi	-	SV	
142.	110513R	41:54/66:40.5	DVE	080°T - 28 mi	-	SV	
143.	110622R	41:04/66:40.5	DD's (3)	i	-	PD	
144.	111355R	40:07/66:14		102°T - 33.2 mi	-	SS	
145.	112010R	40:23/64:58		268°T - 31.4 mi	-	SV	

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(F) SHIP CONTACTS

NO.	T/D	L/T	Types	Bearing-Range	C&S	How
<u>12 May 1951</u>						
147.	120003R	40:46/63:44.8		166°T - 37.7 mi		SS
148.	120400R	41:09/62:28.3		116°T - 14.9 mi		SS
149.	120401R	41:09/62:28.3		060°T - 16 mi		SS
<u>13 May 1951</u>						
<u>14 May 1951</u>						
150.	150947R	40:53/63:28-2		190°T - 25 mi	039-12	SV
151.	141247R	40:24/64:33	Merchant Vessel	218°T - 25 mi		SV
152.	141313	40:20/64:43	Merchant Vessel	262°T - 22 mi		SV
153.	141441	40:05/64:59		264°T - 40 mi		SS
154.	141736	39:48/65:37.4		176°T - 26 mi		SS
155.	142051	39:21/66:28	Merchant Vessel	304°T - 28.9 mi		SS
156.	142231R	39:17/66:38	Merchant Vessel	254°T - 15.1 mi		SS
<u>15 May 1951</u>						
157.	150712R	38:48/69:18	Merchant Vessel	225°T - 35.9 mi		SS
158.	151050R	38:40/70:45	Merchant	198°T - 15 mi		SS
				200°T - 20 mi		
159.	151121R	38:39/70:56.2		265°T - 65 mi		SV Multiple
160.	151136R	38:39/70:56.2		330°T - 16.6 mi		SV
161.	151150R	38:38/71:08.3		005°T - 44.5 mi		SS
162.	151233R	38:38/71:18	Merchant	135°T -		SD
163.	151312R	38:22/71:30	Merchant Tanker	302°T - 12.3 mi		SS
164.	151327R	38:30/71:30		286°T - 24 mi		SS
165.	151344R	38:28/71:41		222°T - 12 mi		SD
166.	151402R	38:28/71:41	Merchant	112°T - 11.6 mi		SS
167.	151648R	38:35/70:38.1	Merchant	106°T - 21 mi		SS
168.	151920R	38:28/69:54	Merchant	200°T -		ST sonar
169.	152232R	38:22.9/69:42.2		175°T - 14 mi		SV

(F) SHIP CONTACTS

No.	T/D	L/T	Type(s)	Bearing-Range	C&S	How
170.	152232R	38:22.9/69:42.2		263°T - 21 mi		SS Multiple
171.	152339R	38:21.2/69:47.5		020°T - 19 mi	145°T - 21 kts	SS
172.	160116R	38:15/69:58		352°T - 23.3 mi		SV
173.	160128R	38:15/69:58	Merchant	256°T - 12.5 mi		SV
174.	160534R	38:22/71:28.4		328°T - 56 mi		SV
175.	160726R	38:21.3/72:15		266°T - 86 mi		SV Multiple
176.	160800R	38:21/72:21		235°T - 82 mi		SV
177.	161005R	38:20/73:04		309°T - 36 mi		SV
				309°T - 54 mi		SV
				010°T - 36.2 mi		SV
178.	161045R	38:20/73:13.2				
179.	161105R	38:16/73:21		205°T - 27.2 mi		SS
				230°T - 42 mi		
180.	161203R	38:09/73:36		310°T - 47 mi		SS
181.	161534R	37:52/73:40		250°T - 55 miles		SS
182.	161607R	37:51/73:42		267°T - 21 mi		SV
183.	161709R	37:49/73:48		140°T - 49 mi		SV
				057°T - 43 mi		SV
184.	161820R	37:47/73:53	Merchant	130°T		JT sonar
				246°T - 55 mi		SV
				265°T - 43 mi		
				306°T - 32 mi		
				323°T - 48 mi		
				007°T - 21 mi		
				043°T - 13 mi		
				090°T - 36 mi		

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(G) AIRCRAFT CONTACTS

NO	T/D	L/T	TYPE	Bearing-Range	How	Remarks
1	0101601R	39:45/69:38	UNK	230°T - 2 mi	SV	
2	012331R	40:18/69:26		260°T - 10 mi	SN - SV	
3	020102R	40:20/69:19		107°T - 7 mi	SV	
4	020149R	40:17/69:14		025°T - 30 mi	SV	
5	020340R	40:14/69:05		343°T - 19 mi	SV	
6	020653R	40:12/69:16		199°T - 19 mi	SV	
7	021112R	40:21/68:58		005°T - 35 mi	SV	
8	021314R	40:24/68:55		025°T - 34 mi	SS	
9	021315R	40:24/68:55		285°T - 10 mi	SS	
10	021406R	40:27/69:03		105°T - 10 mi	SV	
11	021459R	40:27/69:03		282°T - 25 mi	SV	
12	021517R	40:30/69:03		252°T - 31 mi	SV	
13	021543R	40:32/69:00		155°T - 8.3 mi	SV	
14	021604R	40:32/69:00		055°T - 11.7 mi	SV	
15	021708R	40:32/68:56	2 P2V	065°T - 6 mi	SV	
16	022015R	46:21/68:36		300°T - 3 mi	SV	
17	022217R	39:59/69:00		205°T - 40 mi	SV	
18	022219R	39:59/69:00		240°T - 60 mi	SV	
19	022221R	39:58/69:02		270°T - 7 mi	SV - SN	
20	022242R	39:57/69:04		210°T - 15 mi	SN	
21	022246R	39:56/69:06		010°T - 40 mi	SV	
22	022323R	39:52/69:05		240°T - 10 mi	SS	
23	022352R	39:47/69:18		260°T - 9.5 mi	SS	
24	030207R	39:47/69:18		240°T - 7 mi	SN	
25	030315R	39:46/69:35		042°T - 30 mi	SV	
26	030419R	39:54/69:22			SN	
27	030540R	40:04/69:15		349°T - 10 mi	SD	
28	030545R	40:04/69:15	2 PBM		SD	
29	030614R	40:13/69:08		037°T - 7 mi	SD	
30	030742R	40:18/69:08		290°T - 2.3 mi	SV	
31	030836R	40:20/69:08		294°T - 28.5 mi	SV	
32	031014R	40:23/69:08		328°T - 3 mi	SV	
33	031035R	40:19/69:08		085°T - 12.8 mi	SV	
34	031425R	40:25/69:14		158°T - 5 mi	SV	
35	032120R	40:30/68:03		050°T - 15 mi	SN	

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(G) AIRCRAFT CONTACTS:

NO	T/D	L/T	TYPE	Bearing-Range	How	Remarks
36	032200R	40:30/69:04		030°T - 16 mi	SV	
37	040030R	40:22/69:03		000°T - 30 mi	SN	
38	040401R	40:22/69:31		289°T - 16.5 mi	SV	
39	040411R	40:22/69:32		330°T - 15.6 mi	SS	2 planes
40	040450R	40:22/69:38		209°T - 45 mi	SV	
41	040510R	40:22/69:34		051°T - 10 mi	SD	
42	040545R	40:21/69:32		270°T - 5 mi	SD	
43	041151R	40:23/69:04		025°T - 11 mi	SV	
44	041232R	40:23/69:07		305°T - 10 mi	SV	2 planes
				340°T - 8 mi		
45	041257R	40:23/69:06		315°T - 16.5 mi	SV	
46	041431R	40:24/69:01		295°T - 6.5 mi	SV	
47	041526R	40:24/68:59	P2V PBM	055°T - 13.5 mi	SV	2 planes
48	041550R	40:25/69:57		230°T - 24 mi	SV	
49	041613R	40:25/69:57	P2V	270°T - 5 mi	SV	
50	041740R	40:25/69:56		235°T - 9 mi	SV	
51	042014R	40:22/69:19		025°T - 15 mi	SV	
52	042017R	40:22/69:19		180°T	SN	
53	042116R	40:20/69:22		300°T - 7 mi	PN	
54	042225R	40:13/69:20		260°T - 15 mi	SV	
55	042327R	40:07/69:19		231°T - 35 mi	SV	
56	050430R	40:59/69:26	P2V	300°T - 10 mi	SD	
57	050618R	40:00/69:23		110°T - 18 mi	SD	
58	050633R	40:00/69:23		085°T - 18 mi	SD	
59	051206R	40:05/69:40		000°T - 4 mi	PD	
60	051220R	40:06/69:41		250°T - 30 mi	SV	
61	051603R	40:02/69:38	P2V	060°T - 6 mi	PD	
62	051752R	40:00/69:34	P2V(2)	170°T - 6 mi	PD	
63	051819R	40:00/69:33		285°T - 40 mi	SV	
64	051825R	39:59/69:33	P2V	330°T - 4 mi	PD	
65	052147R	39:46/69:28		342°T - 15 mi	SN	
66	052259R	39:52/69:45		020°T - 6 mi	SN	
67	060300R	39:57/69:33		330°T - 5.5 mi	SS	
68	060350R	40:03/69:29		220°T - 6.5 mi	SN	
69	060837R	40:15/69:28	P2V	232°T	SD	
70	060905R	40:16/69:28		050°T - 16.8 mi	SV	

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ENCLOSURE (1) to RAZORBACK Ser 025-51

(G) AIRCRAFT CONTACTS:

NO	T/D	L/T	TYPE	Bearing-Range	How	Remarks
71	061138R	40:27/69:28		280°T - 20 mi	SV	
72	061205R	40:22/69:28		175°T - 19 mi	SV	
73	061503R	40:25/69:24	P2V	305°T - 6 mi	PD	
74	061515R	40:25/69:23		200°T - 10 mi	PD	
75	061538R	40:25/69:22		183°T - 3 mi	PD	
76	061735R	40:24/69:08		290°T - 25 mi	SV	
77	062050R	40:18/69:18		050°T - 10 mi	SN	
78	062335R	40:14/69:36		215°T - 10 mi	SN	
79	070555R	40:28/69:02		225°T - 30 mi	SV	
80	070711R	40:26/69:09		195°T - 20 mi	SV	
81	071432R	40:12/68:49		124°T - 35 mi	SV	2 planes
82	071515R	40:12/68:56	P2V #MC-9	225°T -	SD	OA by this A/C
83	071929R	40:00/67:25	P2V	090°T - 18 mi	SV	
				180°T - 12 mi		
84	072057R			065°T - 15 mi	SV	
85	072233	39:22/67:43	P2V	015°T - 21 mi		
86	081723R	39:10/62:17		135°T - 5 mi	SD	
87	090138R	38:52/63:16		220°T - 8 mi	SN	
88	090551R	39:55/63:03		185°T - 9.5 mi	SN	
89	110229R	41:12/66:51		090°T - 6 mi	SN	
90	110351R	41:08/66:44		035°T - 10 mi	SV	
91	110537R	41:04/66:40.5	TBM		SD	
92	120912R	40:26/66:30				
93	111235R	40:18/66:27		000°T - 17 mi	SS	
94	111443R	40:04/66:07	P2V	126°T - 40 mi	SV	
95	132037R	42:08/60:35		170°T - 7.5 mi	SV - SS	
96	140050R	41:42/61:34		115°T - 10 mi	SV	
97	140205R	41:39/61:42		352°T - 20 mi	SV - SS	
98	142001R	39:33/66:07		285°T - 10 mi	SN	
99	151900R	38:31/69:57	P2V	180°T - 10 mi	SD	
100	152110R	38:23/69:51		306°T - 13 mi	SV	
101	152237R	38:22/69:42		310°T - 9.3 mi	SV	
102	161337R	37:58/73:59	PBM	215°T - 15 mi	Visual	
103	161750	37:47/73:13		074°T - 12 mi	SV	

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

- (H) ATTACK DATA: See forms CX2 and CX3.
- (I) MINES: No mines aboard or encountered this patrol.
- (J) ANTI SUBMARINE MEASURES AND EVASIVE TACTICS: See form CX4.
- (K) MAJOR DEFECTS AND DAMAGE: No major defects encountered or damage during this patrol.
- (L) RADIO:

The only radio failure encountered during the patrol was the breaking off of the split whip antenna at it's base. It was necessary to cut the antenna lead above the pressure proof insulator in order to move the antenna below decks. After the antenna was brought below the bottom section was found to be bent beyond repair and was removed. The center section was then built up with rubber tape until it fitted the foundation and was re-installed in this manner. Also it was found that the top section had about an inch gap between the antenna lead-in and the top section of the antenna. Ship was unable to pull lead through enough to make contact, so the void was filled in with 3/16" copper wire and a press fit was made.

After antenna was re-installed in the shears, megohm meter readings were taken and were found to be 20 megohms. This jury rig proved successful and no further trouble was encountered while transmitting and receiving on it the remainder of the patrol.

(M) RADAR:

(a) SS Radar. An old intermittent trouble of what appeared to be spurious oscillations in the linear time base of all sweeps on the "SS" re-appeared. It did not effect the output or operation of the radar system but was of a bothersome nature. Voltage, resistance and wave form readings were taken in the associated circuits but no unusual readings were found. By further study of the actual wiring it was found that field change #7 "SV" (IF Switching Amplifier for SV presentation into SS console) was tapped into this circuit. Disconnecting that amplifier returned all sweeps on the SS to normal. Due to the fact that this trouble was of an intermittent nature and time available to work was limited by ship's operations, about 36 hours was required to isolate the trouble. Further thorough investigation of this circuit will be required when equipment can be put out of commission. The only other trouble was a blown fuse on the gyro panel in the OSC input to SS radar.

(b) SV radar. Four troubles were encountered in this system: (A) A second transmitter pulse appeared. (B) Arcing in the magnetron tube, and (C) A drop in current from the high voltage rectifier. (A) was corrected by replacing a gassy "Clipper Diode". (B) was corrected by replacing the 4J38 with a 4J36 magnetron and (C) was corrected by replacing the 393A rectifier tubes. All associated

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U.S.S. RAZORBACK (SS394)

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

(M) (b) SV radar (Cont'd)

circuits were in the transmitter receiver.

On 10 May 1951, the secondary of the high voltage plate transformer in the PPI unit became open. This is an oil filled transformer which cannot be opened and is not carried in ship's spares. This placed the PPI scope out of commission for the remainder of the patrol and necessitated modifying the SV radar watch to using the "A" scope while on the surface and alternating between the SV "A" scope and SV presentation on the SS console PPI scope while submerged.

(N) SONAR

(a) JT Sonar. Only three minor difficulties were encountered: (A) NO deflection on RLI meter which was found to be due to a loose voltage regulator tube in that circuit. (B) Loss of all AC power to console due to a broken pin on power supply rectifier tube. (C) A bearing error between JT and optical due to the locking screw on the azimuth ring working loose. Realignment of synchros corrected this. All repairs were made in short order.

(b) WFA-1 Sonar. All audible gain was lost in 755 receiver in sonar #1 stack. Voltage, resistance and tube checks showed no apparent trouble. This receiver was switched with the 755 from sonar #2 and the cause of the trouble still remains undetermined.

On 12 May a water slug from the conning tower hatch flooded out the 755 receiver in the conning tower. It necessitated a thorough cleaning of the unit and the replacement of the power switch (S117) which had become shorted and burned out with the application of power. Operation was then returned to normal.

(O) DENSITY LAYERS:

No pronounced density layers were encountered at any time during the patrol.

(P) HEALTH, FOOD AND HABITABILITY:

HEALTH - The health of the crew was excellent. There was a fairly high incidence of common colds believed to be due to changes in climate and long submergence.

FOOD - The quality, preparation, and variety of the food met the usual high standards found in submarines. Multiple vitamins were used to supplement the regular diet. Frozen concentrated milk, a new item of food for this boat, proved to be highly satisfactory so far as palatability and stowage was concerned. However, after two (2) weeks it began to sour.

U.S.S. RAZORBACK (SS394)

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

HABITABILITY - Although eighteen (18) men were hot bunking, the habitability was generally satisfactory. The ship as a whole was in general comfortable.

Lookout contest, movies, and various games proved to help a great deal as a morale builder.

(C) PERSONNEL TRAINING:

Qualification school for all unqualified men was conducted daily except Sundays. During this time seven U.S.N.R. personnel were re-qualified in accordance with current requirements. No U.S.N. personnel were qualified during this exercise. However, many have advanced to the stage where it will be a matter of a few weeks before they do qualify.

Lectures on telephone talking, drills and showing of training films were conducted periodically.

All lookouts were rotated on VFA and JT sonar gear and are now qualified to stand those watches.

All chief petty officers were qualified as diving officers.

(F) MILES STEAMED - FUEL USED:

Base to area	343 miles	5570 gallons
In area	3450 miles	47390 gallons
Area to Base	125 miles	2300 gallons

(S) DURATION:

Days enroute to area		1
Days in area		10
Days enroute to Base		1
Days submerged	(131.3 hours)	5.4

(G) FACTORS OF ENDURANCE REMAINING:

FUEL 58,800 gallons

(U) RADIO & RADAR COUNTERMEASURES:

No radio or radar countermeasures were encountered during this patrol.