SUPPLEMENT TO
The London Gazette
Of TUESDAY, the 10th of FEBRUARY, 1948
Published by Authority

Registered as a newspaper

WEDNESDAY, 11 FEBRUARY, 1948

THE ATTACK ON THE TIRPITZ BY MIDGET SUBMARINES ON 22ND SEPTEMBER, 1943.

The following Despatch was submitted to the Lords Commissioners of the Admiralty on the 8th November, 1943, by Rear Admiral C. B. Barry, D.S.O., Admiral (Submarines).

8th November, 1943.

REPORT ON OPERATION "SOURCE".

Be pleased to lay before the Lords Commissioners of the Admiralty the following report on operations by X-craft in 1943 against the German main units in their protected anchorages on the Norwegian coast (Operation "Source").

Preliminary.

2. The X type of small submarine was evolved as a result of a study of the problem of how enemy main units could be attacked in their heavily defended and inaccessible anchorages.

3. On completion of the successful trials of the prototype X-craft (X.3), a contract was placed with Messrs. Vickers Armstrong, Limited, on 12th May, 1942, for the construction of six X-craft of a new and improved design, built for the purpose of attacking capital ships in harbour and surrounded by net defences.

4. At the same time, volunteers were called for for special and hazardous service and training commenced, using the prototype X-craft (X.3) and the second prototype (X.4).

5. The six operational X-craft (X.5-X.10) were delivered from Messrs. Vickers Armstrong between 31st December, 1942, and 16th January, 1943, and preliminary plans were put in hand and advanced training commenced with a view to attacking the German main units on the Norwegian coast in the Spring of 1943, before the hours of darkness became too short. The latest date for such an attack was considered to be the 9th March, 1943.

6. Unfortunately the time in hand proved insufficient to allow of the crews and craft being worked up to the high standard required for such an operation, and this was aggravated by a number of teething troubles in the craft themselves—troubles which were to be expected in a new design of weapon but which it had optimistically been hoped would not occur. Nor had the vital problem been solved of how to transport the X-craft to within striking distance of their target. Various methods had been tried before it was proved that the only profitable way was to tow them there by operational submarines. I was thus reluctantly compelled to inform the Vice Chief of Naval Staff on the 11th February, 1943, that the operation must be postponed until the Autumn.

7. The time gained proved invaluable, and that the decision to postpone the operation was the correct one, was proved beyond doubt by subsequent events: it ensured that, when the time came, both the crews and the craft were trained and perfected to that concert pitch so vital to such an operation.

8. On the 17th April, 1943, the 12th Submarine Flotilla was formed under the command of Captain W. E. Banks, D.S.C., R.N., to coordinate, under Admiral (Submarines), the training and material of the special weapons, including X-craft, and Actting Captain P. Q. Roberts, R.N., assumed command of H.M.S. BONAVENTURE, the depot ship for X-craft, under Captain (S), 12th Submarine Flotilla. The officer in charge of training was Commander D. C. Ingram, D.S.C., R.N.

9. On completion of preliminary trials and training, X.5-X.10 joined H.M.S. BONAVENTURE for advanced training and working up at Port HHZ (Loch Cairnbawn, close north of Loch Ewe), where from the 4th July until the commencement of the operation full scale
exercises and attacks against capital ships were carried out. This period was also devoted to perfecting the towing of X-craft by submarines.

I should like to place on record the great assistance given by the Commander-in-Chief, Home Fleet, in providing capital ships of his Fleet to act as target ships at Port HHZ during this period, and also to mention the part played by the Boom Defence organisation in surrounding these ships with nets and providing net defences and equipment for the necessary trials.

Planning.

10. In the meantime detailed plans for carrying out the operation were prepared by my Staff and operation orders were drawn up. The officer mainly responsible for this work was Commander G. P. S. Davies, R.N., of my Staff.

11. It was decided that the attack should take place at the earliest date the hours of darkness allowed, so as to complete the operation before the weather conditions deteriorated. It was also desirable to have a certain amount of moon, to assist the X-craft in their passage by night up the fiords. The period 20th-25th September, 1943, with the moon in the last quarter, was therefore selected, and Day D, the day on which the X-craft were if possible to be slipped from their towing submarines to proceed for the attack, was provisionally fixed for the 20th September, 1943.

12. To allow for the attack to be carried out at any of the protected anchorages used by German main units on the Norwegian coast it was necessary to provide operation orders for attacks on Alten Fiord, the Narvik area and the Trondheim, and Operation "Source" was divided into three operations, as follows:

<table>
<thead>
<tr>
<th>Operation</th>
<th>Details</th>
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<tr>
<td>Operations north of 70° N.</td>
<td>&quot;Funnel&quot;</td>
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<tr>
<td>Operations between 67° and 69° N.</td>
<td>&quot;Empire&quot;</td>
</tr>
<tr>
<td>Operations between 63° and 65° N.</td>
<td>&quot;Forced&quot;</td>
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13. It was thus possible to direct operations against the enemy in whichever of these three areas he might be detected.

Photographic Reconnaissance.

14. Preliminary photographic reconnaissance of the anchorages, with special reference to net defences, was considered most necessary for the success of the operation, and last minute reconnaissances, to give the disposition of targets, essential.

15. This presented difficulties for the Alten area, which was outside the range of home-based P.R. aircraft. In May, 1943, I discussed this question with the Commander-in-Chief, Home Fleet, who was fully in agreement with me on the importance of establishing reliable P.R. cover for the area. On 12th May, 1943, he addressed a signal to Admiralty and repeated to Admiral (Submarines) and Headquarters, Coastal Command, in which he proposed that the necessary British air crews and photographic personnel should be sent to North Russia for this most important duty.

16. Agreement was reached with the Air Ministry by 30th July, and Admiral Fisher (in Moscow) was asked for his views after consultation with the Russian authorities.

18. The weather was still to be reckoned with, however, and although the Mosquito aircraft for the preliminary reconnaissances had been ready to leave the United Kingdom from the 23rd August, weather conditions were never satisfactory for this aircraft to carry out her part of the plan.

19. The three Spitfires, however, arrived at Vaenga on the 3rd September, exactly eight days before Operation "Source" was due to sail from Port HHZ, and the first sortie was flown on the 7th September.

20. The subsequent reconnaissances flown by this unit were invaluable to the operation. Full details of the dispositions of the enemy units and net defences were signalled from Russia and given to all the personnel taking part before they left harbour. No actual photographs of the preliminary reconnaissances were available for the final briefing as, in spite of every effort to obtain them in time, the first photographs taken by this unit did not arrive until a few hours after the X-craft had sailed, but this did not in fact matter as the relevant information was complete in the signalled report.

Preliminary Movements.

21. For security reasons it was decided that the operation should sail from Port HHZ (Loch Cairstown), where the X-craft taking part had been working up from H.M.S. BONAVENTURE since the 4th July, 1943.

22. H.M.S. TITANIA was sailed for and arrived at Port HHZ on the 30th August to act as depot ship to the submarines taking part, and H.M Submarines THRASHER, TRUCULENT, STUBBORN, SYRTIS, SCEPTRE and SEANYMPH arrived between the 31st August and 1st September. These submarines had all been fitted with special towing equipment.

23. In addition, H.M. Submarines SATYR and SEADOG, also specially fitted for towing, were held at 24 hours’ notice at Scapa as reserves.

24. Towing trials, and trials of changing over passage and operational crews between X-craft and submarines at sea, were carried out between the 1st and 5th September; then, after final swinging for compasses, all X-craft were hoisted inboard of H.M.S. BONAVENTURE for the fitting of side charges, storing, final preparations and the full briefing of crews.
and the Commanding Officers of the submarines.

This briefing was carried out by the officer of my Staff (Commander Davies) who had been responsible for the planning.

Security.

25. Special security measures at Port HHZ were increased as from the 1st September. No leave was allowed, none but specially selected officers and ratings were permitted to leave the area, and all ships present were retained in the port until the completion of the operation. It is considered that the security of the operation was well maintained.

Departure for the Operation.

26. Soviet reconnaissance on the 3rd September had shown that TIRPITZ, SCHARNHORST and LUTZOW were present in the Alten area, and it appeared likely therefore that the operation would be carried out in that area (Operation "Funnel"). On the 7th September, however, the first Spitfire sortie showed only LUTZOW present, and the TIRPITZ and SCHARNHORST were later reported off Ice Fiord, Spitzbergen.

27. In order for Day D to be the 20th September in the case of Operation "Funnel," it was necessary for the X-craft to be sailed from Port HHZ on 11th-12th September. Furthermore it was not desirable to postpone Day D by more than two or three days owing to the waning moon. It was therefore vital to obtain the re-disposition of the main units as soon as possible.

28. However, visual reconnaissance at 1000A on the 10th September confirmed the return of the TIRPITZ and SCHARNHORST to Alten Fiord, and the S.B.N.O, North Russia that evening signalled the exact positions of both ships in their berth in Kaaford. LUTZOW was not seen.

29. I arrived at Port HHZ on the morning of the 10th September, to see the crews before they sailed and to witness the start of this great enterprise.

30. On the following morning I signalled to Admiralty, Commander-in-Chief, Home Fleet, and Admiral Commanding Orkney and Shetlands, my intention to carry out Operations "Source" and "Funnel". Day D being 20th September.

31. Submarines, each with an X-craft in tow, sailed from Port HHZ as follows:

- 1600Z, 11th September— TRUCULENT and X.6, SYRTIS and X.9.
- 1800Z, 11th September— THRASHER and X.5.
- 2130Z, 11th September— STUBBORN and X.7.
- 1300Z, 12th September— SECTRE and X.10.

The operational crews of the X-craft were embarked in the towing submarines and the X-craft were manned for the passage by passage crews.*

The Passage.

32. The passage was uneventful from the 11th to 14th September. Good weather was experienced and all submarines made good speed with their X-craft dived in tow. X-craft surfaced to ventilate three or four times every 24 hours for approximately 15 minutes during which time speed was reduced. The average speed made good over this period was approximately:

- "T" class submarines . . . 10 knots.
- "S" class submarines . . . 8½ knots.

33. With the arrival of photographs, flown to this country from Russia by Catalina, of the preliminary Spitfire sorties, a detailed interpretation of the net defences was carried out and on 15th September the results were signalled to the submarines taking part in the operation. The presence of LUTZOW in Langfjord was confirmed by P.R. on the 14th September which also showed TIRPITZ and SCHARNHORST in Kaaford, and the geographical positions of these ships were signalled to the submarines and Target Plan No. 4 ordered.

Target Plan No. 4 allocated X.5, X.6 and X.7 to attack TIRPITZ, X.9 and X.10 to attack SCHARNHORST, and X.8 LUTZOW.

15th September.

34. At 0400Z on the 15th September, when X.8 was being towed by SEANYMPH at 8 knots, the tow parted at X.8, who was dived at the time, surfaced five minutes later, but, although the visibility was estimated at 5 miles, there was no sign of the SEANYMPH X.8's estimated position at that time was latitude 69° 04' N. 08° 14' E. At 0430Z, X 8 set course 029°, speed 3 knots, on main engines.

35. The fact of the tow parting was not immediately apparent to the SEANYMPH, and it was not until 0600Z, when X.8 was due to surface to ventilate, that it became apparent.

Admiralty footnote —

* The Commanding Officers of the towing submarines, and of the operational and passage crews of the X-craft were—

<table>
<thead>
<tr>
<th>Ship</th>
<th>Officer</th>
</tr>
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<tbody>
<tr>
<td>TRUCULENT</td>
<td>Lieut. R. L. Alexander, D.S.O., R.N.</td>
</tr>
<tr>
<td>SYRTIS</td>
<td>Lieut. D. Cameron, R.N.R., Lieut. A. Wilson, R.N.V.R.</td>
</tr>
<tr>
<td>X.9</td>
<td>Lieut. T. L. Martin, R.N.; Sub-Lieut. E. Kearon, R.N.V.R.</td>
</tr>
<tr>
<td>THRASHER</td>
<td>Lieut. A. R. Hazlet, D.S.C., R.N.</td>
</tr>
<tr>
<td>SEANYMPH</td>
<td>Lieut. J. P. H. Oakley, D.S.C., R.N.</td>
</tr>
<tr>
<td>X.8</td>
<td>Lieut. B. M. McFaulan, R.A.N.</td>
</tr>
<tr>
<td>STUBBORN</td>
<td>Lieut. J. Smart, R.N.V.R.</td>
</tr>
<tr>
<td>X.7</td>
<td>Lieut. A. A. Duff, R.N.</td>
</tr>
<tr>
<td>SCEPTRE</td>
<td>Lieut. B. C. G. Place, D.S.C., R.N.</td>
</tr>
</tbody>
</table>
At 0907Z, three signals-underwater-exploding were fired to surface X.9. X.9 did not surface and at 0920Z the tow was hauled in and found to have parted. SYRTIS turned to the reciprocal course at 0955Z, to return as soon as possible to the vicinity of where it was thought X.9 might have broken adrift. From the log readings and fuel consumption this was estimated to have been between 0145 and 0300Z. However, no contact was made with X.9; but at 1545Z SYRTIS sighted a well defined oil track which it was considered might have come from an X-craft, running in a direction 088°-090°, which was the direct course for the slipping position, 200 miles distant.

44. Subsequent search revealed no sign of X.9 and no further news has been received of her. It can only be hoped that the Passage Commanding Officer (Sub-Lieutenant E. Kearon, R.N.V.R.) made the Norwegian coast, scuttled his craft, and made his way ashore with his crew. It is not considered that X.9 took any part in the attack. The passage crew were not trained for it, neither did they have sufficient information to carry it out.

17th September

45. The regrettable loss of X.9 was not known to Admiral (Submarines) until some days later, as at the time the loss was discovered, SYRTIS was in an area where, by the orders, it was forbidden to break W/T silence. At 0143Z therefore, having abandoned the search, SYRTIS proceeded north to pass a signal by W/T from north of 73° North.

46. Meanwhile the remaining five submarines were proceeding with their X-craft in tow, and STUBBORN and THRASHER, neither of which had had any difficulties, both made their landfalls from the vicinity of their ordered landfall positions during the day. At approximately 0600Z STUBBORN and SEANYMPH sighted each other in the vicinity of position 71° 04' N. 15° 56' E., and later, between 1447 and 1508Z, STUBBORN and SEANYMPH were again in contact and spoke to each other by W/T. It was comforting to STUBBORN to learn that X.8 had been met.

47. At 0725Z X.8 experienced some difficulty in maintaining trim. Trim became worse as the day went on, air could be heard escaping from the starboard side charge and the craft took up a list to starboard. It was apparent that the buoyancy chambers of the starboard charge were leaking. At 1650Z, with the compensating tank dry and No. 2 main ballast fully blown, and trim still difficult to hold, the Commanding Officer of X.8 (Lieutenant B. M. McFarlane, R.A.N.) decided to jettison the starboard charge, and this was set to "safe" and released at 1653Z in about 180 fathoms. In spite of the "safe" setting, however, the charge exploded at 1650Z, about 1,000 yards astern of X.8, in tow of SEANYMPH. Both vessels were dived at the time. The explosion was loud but caused no damage.
charge to fire 2 hours after release. It was released at 1655Z, as was verified by the Commanding Officer. At 1840Z—13 hours after release—by which time, from log readings and revolutions taken by SEANYMPH, X.8 was distant 3½ miles from the position of release, the charge detonated astern with tremendous force. This caused such damage to X.8 as to flood the "wet and dry" compartment, distorting the doors to this compartment, fracturing pipes, and generally causing such damage to the craft that she was no longer capable of diving. The explosion also caused a number of lights to be broken in SEANYMPH.

49. It is not clear why the second explosion caused such damage at an apparent range of 3½ miles while the first explosion, only 1,000 yards away, did none. Both charges had been dropped in approximately the same depth of water (180 fathoms). It may be that only partial detonation occurred in the first charge, which had been set to "safe." Whatever the reason the force of the second explosion would appear to have illustrated the efficiency of the charges. I find it hard to believe that the explosion was in fact 3½ miles away; but whatever the horizontal range was, there is no doubt about the depth of water, so that in any event the result of the explosion was indeed remarkable.

50. The 17th September was the first day (D—3) on which the transfer of crews was to take place if the weather permitted; but the weather had deteriorated and by the evening the wind was from the south-west, force 4, with a sea and swell of 4 to 5, and it was too rough to make the change-over.

51. The P.R. on the 15th September had shown no change in the disposition of the targets, and submarines were so informed by signal on 17th September, which also confirmed the Target Plan as No. 4. Further information on the position of LUTZOW and SCEPTRE across Langford was also passed by signal this day.

18th September.

52. X.8 informed SEANYMPH at daylight of the full particulars of her damage; and as she could now serve no useful purpose in the operation and, if sighted on the surface, might compromise it, the Commanding Officer, H.M.S. SEANYMPH, decided to embark her crew and scuttle her. In anticipation of the possibility of just such a situation, Admiral (Submarines) had transmitted a signal on 16th September, informing the Commanding Officer, H.M.S. SEANYMPH, that if he considered it necessary in the interests of the general security of the operation to do so might have had a slightly dampening effect, nor to alter the Target Plan though it meant that LUTZOW (who was the target for X.8) would not be attacked

53. By 0345Z the crew had been embarked from X.8 and the craft sunk in position 71° 41.5' N. 18° 11' E.

54. I consider that the Commanding Officer of X.8 acted correctly in releasing the side charges when it became apparent that they were flooded, and that the Commanding Officer. H.M.S. SEANYMPH's decision to sink X.8, to avoid compromising the operation, was the correct one.

55. After sinking X.8, SEANYMPH proceeded to the north of 73° North to report by W/T.

56. At 0555 SYRTIS, having transmitted the signal reporting the loss of X.8, set course for her patrol area. SYRTIS's signal was never received, and it was not until the 3rd October, when Admiral (Submarines) received SYRTIS's signal timed 2001A/2nd, that it was known that X.9 had broken adrift from her tow and had not been seen since 16th September, and therefore had not taken part in the attack.

57. Weather conditions had improved slightly by dusk on the 18th, and at 2015Z STUBBORN, in position 70° 57' N. 20° 35' E., decided to transfer the operational crew to X.7. The change-over was successfully completed by 2145Z. The remaining submarines with X-craft in tow—TRUCULENT with X.6, THRASHER with X.5 and SCEPTRE with X.10—decided that the weather was still too bad to effect the transfer.

58. At 2128Z STUBBORN, on going ahead after changing over the crews, parted her tow. The main tow had already parted, on the 13th September, and with the auxiliary tow also parted, it was necessary to use a 24-lb wire to spring. Some difficulty was experienced in passing this, but at 2345Z STUBBORN went ahead, only to find that the pin of the screw shackle of X.7's end of the tow had come adrift and the tow had to be passed afresh. It was not until 0152Z on 19th September that STUBBORN was able to go ahead with X.7 in tow.

19th September.

59. At 0855 on 19th September, Admiral (Submarines) received SEANYMPH's signal reporting the scuttling of X.8 and that she herself was being delayed by parting to Leith. Admiral (Submarines) now had no X-craft to recover. I decided she could still assist in the recovery of other craft or might be required to proceed on patrol to intercept enemy forces should they be "flushed" by the X-craft attack and try to escape to the southward. SEANYMPH was therefore ordered to patrol in the vicinity of position 71° 25' N. 17° 16' E., until the 21st September, when she was to proceed to her patrol sector to assist in the recovery of X-craft. I decided not to inform the other submarines taking part that X.8 had been scuttled, as to do so might have had a slightly dampening effect, nor to alter the Target Plan though it meant that LUTZOW (who was the target for X.8) would not be attacked

60. SCEPTRE and SYRTIS made their landfalls from the vicinity of their ordered landfall positions during the day and THRASHER, TRUCULENT and SCEPTRE were ordered to proceed on patrol after having moderated since the previous evening) all successfully transferred their crews after dark.

61. At 1843Z SYRTIS from position 71° 03' 40" N. 22° 13' E. sighted a submarine bearing 308°, 2 to 3 miles, which dived five minutes later. From an analysis of track charts and other patrol reports, this was probably a U-boat.

20th September: Day D.

62. The position now was that the operational crews of the four X-craft still remaining had all been transferred successfully. TRUCULENT, THRASHER, SCEPTRE and SYRTIS—the latter with no X-craft—had all made successful landfalls and were in their patrol sectors. STUBBORN, who had been delayed by parting
tows but with X.7 still in tow with her operational crew on board, was closing the land to seaward with X-7 still in tow with her operational crew, while X-8, was on patrol some 60 miles to the westward of Alten Fiord.

59. At 0900Z, SYRTIS sighted a submarine on the surface bearing 030° and five minutes later this was identified as a U-boat: position 71° 00' N. 22° 10' E., course 235°, proceeding at about 9 knots at a range from SYRTIS of about 3,500 yards. In order not to compromise the operation in any way submarines had been forbidden to attack anything below capital ships while on passage out to or in their patrol areas off Alten, and the Commanding Officer of H.M.S. SYRTIS had no option but to let this tempting target pass by at safe distances and keeping a sharp lookout. The U-boat, which had originally appeared to be making for the entrance to Soroy Sound, altered to 105° at 0315Z and disappeared in the direction of Tarhalsen Point, presumably entering the Leads entrance to Soroy Sound. The submarines then withdrew and kept to the east of Soroy Island.

60. At 1830 and 2000Z the four X-craft—X-5, X-6, X-7 and X-10—were slipped from their exact positions and proceeded independently into Soroy Sound. The submarines then withdrew to seaward within their patrol sectors.

61. That four out of the six X-craft which set forth from Port HHZ should have made these passages, varying between 1,000 and 1,500 miles, in tow of submarines, without major incidents, to be slipped from their exact positions and proceed independently into Soroy Sound. The submarines then withdrew to seaward within their patrol sectors.

62. That these three very gallant Commanding Officers succeeded in carrying out their intentions and pressing home their attacks to the full, I have no doubt; but what difficulties and hazards they were called on to negotiate in the execution of the attack are not known; nor is it known how some of them (if believed) came to be taken prisoner. It is certain that outstanding devotion to duty and courage of the highest order were displayed. The full story of this gallant attack must remain untold for the time being.*

63. The Commanding Officer, H.M.S STUBBORN (Lieutenant A. A. Duff, R.N.) deserves special mention for his determination in the way he battled against the difficulties of parted tows and brought his X-craft to the right position at the right time in spite of everything.

64. At 0905Z STUBBORN was in position 70° 45' N 22° 03' E. when she sighted a floating mine. The mine itself passed clear of STUBBORN but the mooring wire caught in the tow stern and slid down the tow until it became impaled on the bows of X-7. This brought the Commanding Officer of X-7 (Lieutenant B. C. G. Place, D.S.C., R.N.) on to the casing, where by deft foot-work he was able to clear this unpleasant obstruction, remarking as he did so that this was the first time he had kicked a mine away by its horns.

65. The weather had by now improved considerably, the wind had dropped to a south-easterly breeze, the sea had gone right down and visibility was good, enabling all submarines to fix their positions accurately. All was now staged to slip for the attack, and between 1830 and 2000Z the four X-craft—X-5, X-6, X-7 and X-10—were slipped from THRASHER, TRUCULENT, STUBBORN and SCEPTRE respectively from their slipping positions and proceeded independently into Soroy Sound. The submarines then withdrew to seaward within their patrol sectors.

66. The passage crews of the X-craft deserve great credit for the way they stuck the long and weary passage and for the efficient state of the craft when they were turned over to the operational crews. The passage crews played a big part in the subsequent success of the operation.

67. At 0153Z the Commanding Officer, H.M.S STUBBORN (Lieutenant A. A. Duff, R.N.) deserves special mention for his determination in the way he battled against the difficulties of parted tows and brought his X-craft to the right position at the right time in spite of everything.

68. That these three very gallant Commanding Officers succeeded in carrying out their intentions and pressing home their attacks to the full, I have no doubt; but what difficulties and hazards they were called on to negotiate in the execution of the attack are not known; nor is it known how some of them (if believed) came to be taken prisoner. It is certain that outstanding devotion to duty and courage of the highest order were displayed. The full story of this gallant attack must remain untold for the time being.*

Admiralty footnote —

*For further information on the attacks by X.5, X.6 and X.7 see Admiral (Submarines) supplementary despatch dated 2nd February, 1944, compiled from information received from German prisoners subsequently taken and other sources.
Narrative of X.10

73. X.10 (Lieutenant K. R. Hudspeth, R.A.N.V.R.) was slipped from H.M.S. SCEPTRÉ from the slipping position—70° 40' N. 21° 07' E.—at 2000Z on 20th September, and after a trun dive proceeded on the surface at full speed across the declared mined area in the direction of Stjernsund. The entrance to Stjernsund was identified at 2300Z from a distance of 20 miles, and at daylight (0235Z) on 21st September, X.10 was in a position 5 miles from the west point of Stjernøy Island, when she dived.

74. Difficulty was experienced in trimming, and the defect to the periscope motor which was present on taking over from the passage crew had become worse. Further electrical defects also developed and the gyro compass failed. Lieutenant Hudspeth therefore decided to proceed into Smallfjord on the north coast of Stjernøy Island to remedy these defects. The choice of Smallfjord was made as it was considered there was less risk of detection there than in one of the small fiords in Stjernsund in which it had been the original intention to bottom during daylight on 21st September.

75. X.10 arrived in Smallfjord at 0700Z on 21st September, bottomed at the head of the fiord on a sandy bottom and spent the day making good defects. By 1700Z it had been sufficiently overcome to warrant proceeding—though they were by no means cured—and X.10 proceeded out of Smallfjord and at 2035Z entered and proceeded up Stjernsund, keeping close to the north shore. The only sign of activity was a small ship of fishing craft type which was sighted with navigation lights burning at 2135Z. She appeared to enter Storeløkker Fiord.

76. Alten Fiord was reached by 2300Z on 21st September, and intending to press on so as to be close to the entrance of Kaaford by daylight on 22nd September, course was shaped to the southward, keeping to the eastern side of the fiord.

77. At 0110Z on 22nd September it was realised that the gyro compass was wandering. At 0135Z, the steaming lights of a vessel were sighted ahead, approaching X.10; and at 0140Z, X.10 dived to avoid being sighted. On diving it was found that the damping bottles of the gyro compass were not working, and on raising the magnetic compass the light refused to function. As this light can only be raised position, would have made any chance of failure from the outset and would merely have been an unnecessary loss of valuable lives. 83.

82. I consider Lieutenant Hudspeth's decision to abandon the attack was in every way correct. To have made the attempt without a compass, and with a periscope which could not be operated and must remain in the fully raised position, would have made any chance of success remote indeed. With the attack already commenced, it would have been too late to fall from the outset and would merely have been an unnecessary loss of valuable lives. X.10 surfaced at 1800Z on 22nd September and made for deep water. At 1825Z both charges were jettisoned in 135 fathoms, set to "safe", X.10 then proceeded on main engines out of Alten Fiord. A darkened vessel was sighted at about 2100Z off the entrance to Langfjord but was lost to sight in a snow squall. The western end of Stjernsund was reached by 2350Z. As it was impossible to cross the declared mined area before daylight, X.10 proceeded into Smallfjord, where she arrived at 0215Z on 23rd September. As the fiord was completely deserted and snow...
squalls frequent, X.10 secured alongside the shore with her grapnel, considering the risk of detection negligible with shore and craft covered with snow. The opportunity was taken to get some rest and try to make good some of the defects.

84. At 1100Z on 23rd September after the light in the projector compass had been replaced and with the periscope lashed in the "up" position, X.10 proceeded out of Smalfiord and dived towards the southern end of the minefield. Surfacing at 1800Z, she crossed the declared area at full speed on the engines towards the recovery position, where it was hoped a submarine would be encountered.

85. Recovery position F.B. was reached about 2300Z on 23rd September and a search was carried out. X.10 patrolled in the vicinity of the recovery position all day 24th September, spending some time on the surface in the hope of being sighted; and that night she carried out a further search. At 0430Z on 25th September X.10 had been ordered to cover a further course for Sandoy Fiord, on the northern coast of Soroy Island. This was reached at 1200Z and by 1525Z X.10 was secured alongside the beach in Ytre Reppafjord, on the northwest of Sandoy Fiord. This bay was completely deserted and here the crew got some much needed rest.

86. X.10 remained in Ytre Reppafjord until the morning of 27th September, when Lieutenant Hudspeth decided to move to O Fiord, which it was expected a submarine would close that night. O Fiord was reached at 1550Z on 27th September and a search was carried out across the entrance after dark.

87. At 0100 on 28th September contact was made with STUBBORN, and at 0230 X.10 was in tow. It was by this time too late for her crew to be taken on board STUBBORN and the weather was none too good for the transfer, and it was not until 2200Z on the following day that the crew were taken off and the passage crew transferred. By this time the crew of X.10 had been on board their craft for almost exactly ten days. They had been subjected to much hardship and disappointment, but were none the worse for their experience.

88. Apart from the sighting of the three vessels mentioned, two of which (since they were burning navigation lights) may have been fishing vessels or small coasting craft, no patrol activity was encountered either on the inward passage up the fiords or, after the attack, on the outward one, nor, apparently, was there any A/S activity or contact made. At 0525Z, X.10 had proceeded out of O Fiord and proceeded to patrol in the vicinity of Sandoy Fiord. This bay was completely deserted and here the crew got some much needed rest.

89. X.10 also reports that all shore navigation lights were burning normally and showing normal characteristics, and that the weather on the 22nd September was ideal for X-craft attack, with the sky dull and overcast and a fresh breeze raising white horses to assist an unseen approach.

90. From these facts there appears to be no reason to doubt that other X-craft, free from defects, should have experienced no difficulty in making the passage to the entrance to Kaafjord.

91. X.10 also reports that before diving in the vicinity of Tommerholm Island at 0235Z on the 22nd September, and again on surfacing that evening at 1800Z, lights were observed in the entrance to Kaafjord which appeared to be of the nature of low powered flood lights, possibly for illuminating the net across the entrance to the fiord.

92. The Commanding Officer expresses the highest opinion of all his crew throughout the whole time they were on board. They worked long and arduously in the face of ever-growing disadvantage and at no time did their zeal or enthusiasm fail. I consider that the Commanding Officer himself showed determination and high qualities of leadership in a gallant attempt to reach his objective. He was frustrated by defects for which he was in no way responsible and which he made every endeavour to overcome. He showed good judgment in coming to his decision to abandon the attack, thereby enabling the craft to be recovered and bringing back valuable information.

 Movements of Submarines after Slipping X-craft.

20th September

93. After slipping X-craft to proceed to the attack, THRASHER, TRUCULENT, STUBBORN and SCEPTRE withdrew within their patrol sectors and assumed patrol. SYRTIS remained on patrol within her sector, and SEANYMPH was patrolling in the vicinity of 70° 25' N. 17° 16' E.

21st September

94. I had decided to order SEANYMPH to patrol off Andoy in order to intercept any main units endeavouring to escape to the southward, and in my signal at 1205—which could be read by all submarines taking part—I ordered SEANYMPH to control in the vicinity of position 69° 17' N. 15° 27' E., proceeding so as to arrive after dark on 22nd September, her object being to attack main units proceeding from Alten to Narvik. I also informed all submarines taking part that X.8 had had to be sunk.

SEANYMPH proceeded towards her patrol area at 1356Z, 22nd September.

22nd September

95. As no reports had been received, other than SEANYMPH's, to indicate that any X-craft apart from X.8 were out of the running, it was assumed that the remaining five had proceeded according to plan. It was therefore not likely to have been attacked in the early hours of the 22nd September and that the "bang" would occur about 0830Z.

96. Senior British Naval Officer, North Russia, had been asked to fly a P.R. over the area p.m. on 22nd September if possible. LUTZOW at least was not likely to have become a casualty: with the loss of X.8 she was not liable to attack: and it was possible that this reconnaissance might show signs of a move of main units southwards, having been "flushed" by the attack. In anticipation of such a movement I ordered SCEPTRE to leave her patrol sector and proceed to patrol in position 69° 44' N. 17° 43' E. to arrive as soon as possible after daylight on 23rd September.

97. I also decided that should sufficient information of a major movement be received in time I would send one of the "T" class submarines into Soroy Sound, accepting the risk of crossing the declared mined area. I therefore ordered TRUCULENT to proceed from Sector...
X-craft in the vicinity of Bondoy, and then proceeded into Finn Fiord. Sighting nothing, TRUCULENT, who was also searching Store Kamoy. At 2149Z she sighted and spoke Sector FDD. These submarines were then to make for one of the bays off the north coast of Soroy, which, circumstances permitting, they were to assume patrol as during daylight on the 27th September, and by 0052Z on the 28th had closed to within half a mile of the entrance to the Fiord. Here she sighted "X"s—the pre-arranged identification signal for X-craft—being made on a blue lamp. A few minutes later X.10 closed, and STUBBORN being short of fuel and out of the patrol area, an extemporised tow was passed. By 0205Z on the 28th September STUBBORN withdrew to return to base.

108. However, the recovery plans were fruitful in the case of STUBBORN. She had set course to close O Fiord at 2200Z on the 27th September, and by 0052Z on the 28th had closed to within half a mile of the entrance to the Fiord. Here she sighted "X"s—the pre-arranged identification signal for X-craft—being made on a blue lamp. A few minutes later X.10 closed, and STUBBORN being short of fuel and out of the patrol area, an extemporised tow was passed. By 0205Z on the 28th September STUBBORN withdrew to return to base.

109. STUBBORN had still not covered Sandfiord which was on her beat, and during the day she attempted to communicate with TRUCULENT, to request her to cover Sandfiord that night: but she failed to get in touch. However, the weather, wind force 6 from the west and sea and swell 5-6, decided STUBBORN against attempting to close the land once more: it might have meant losing X.10: and at 0600Z on the 27th September STUBBORN with X.10 in tow proceeded by the route ordered to return to base at slow speed.

110. It seems unlikely that any other X-craft were able to withdraw after the attack, and the recovery of the sole survivor must be regarded as a fine piece of seamanship on the part of the Commanding Officer, H.M.S. STUBBORN. The Commanding Officers of TRUCULENT and SYRTIS also made close approaches to an unknown coast in darkness and in bad weather to try to locate any missing X-craft. They withdrew their submarines safely to seaward in accordance with their orders when they had satisfied themselves that a proper search had been carried out.

111. As a further alternative should they not be recovered from the vicinity of Soroy, Commanding Officers of X-craft had the opportunity to proceed to Kola Inlet. Here the Senior British Naval Officer, North Russia, maintained a minesweeper on patrol off the entrance from the 25th September until the 3rd October to intercept any X-craft who had decided on this course. However, no X-craft arrived.

The Return Passage.

112. THRASHER, TRUCULENT, SYRTIS and STUBBORN—the latter with X.10 in tow—proceeded a.m. on the 29th September to...
return to base by the reverse of their outward routes. SCEPTRE and SEANYMPH remained on patrol off Andøy.

113. THRASHER, TRUCULENT and SYRTIS arrived without incident at Lerwick on 3rd and 5th October.

114. At about 1700 Z on the 3rd October a weather forecast was received from the Admiralty that weather was expected to deteriorate and liable to reach gale force 8* from the south-west in the vicinity of STUBBORN's position. Realising that darkness was approaching and that should STUBBORN, with X.10 in tow, meet this gale during the night it might be impossible to take off the crew, and that there would be little chance of regaining contact with X.10 if the tow parted, I decided that the passage crew should be embarked in STUBBORN while there was still time. I informed STUBBORN to this effect, instructing him to scuttle X.10 at his discretion, since the chances of being able to tow her the 400 miles to base without a crew on board were slight and should she break adrift she might drift into the enemy's hands.

115. STUBBORN was in fact already having trouble with her tow, for at 1230 Z on the 3rd October the tow had parted in a heavy astern swell and considerable difficulty had been experienced in getting X.10 in tow again. The last wire on board was already in use and the tow had had to be recovered and passed again, using the still serviceable portions; and it was not until 1700 Z that STUBBORN had been able to proceed, at dead slow speed as the swell showed fine seamanship, determination and endurance. The one exception was X.10, and her passage crew were in no way responsible for the defects which developed on passage. STUBBORN showed fine seamanship, determination and endurance. The one exception was X.10, and her passage crew were in no way responsible for the defects which developed on passage.

116. On receipt of my signal (see paragraph 114), STUBBORN decided to sink X.10 after the crew had been recovered. The crew were embarked by 2040 Z and at 2045 Z X.10 sank in position 66° 13' N. 04° 02' E. STUBBORN then proceeded and arrived at Lerwick at 1330 Z on the 5th October.

117. Whether X.10 could have been brought into port is doubtful. The expected gale did not materialise until the 6th October. Even so, at the slow speed at which X.10 had to be towed, STUBBORN could not have arrived at Lerwick by that time. The loss of X.10, after all she had done and all the efforts to bring her safely home, is very much regretted however.  

120. The success of this operation is the culmination of many months spent in developing and perfecting the new weapon, in intensive training of the crews for the hazardous enterprise, and in detailed and careful planning for the actual operation.

**Admiralty footnotes**

* Wind force 8—fresh gale (34-40 m.p.h.).
† The portion of this despatch in which consideration is given to the extent of success achieved on the information then available has been omitted in view of the Admiral (Submarines) later despatch, dated 2nd February, 1944, which is appended.  

121. The officers and men under my command who have been responsible for the technical development in its early stages and for the preparation of the craft immediately prior to the operation have shown skill and perseverance in overcoming the many difficulties which have arisen. That so many of the craft were able to reach their destination in such good condition after so long a passage is a credit to all those concerned with their material and equipment. In this they have received every assistance from the Admiralty Departments concerned.

122. The operation involved the strictest and most intensive training. By his leadership and ability, Commander D. C. Ingram, D.S.C., R.N., as officer in charge of training inspired all officers and ratings alike and achieved that high standard of training and fitness which was so essential. He was responsible that the crews were at the peak of their efficiency at the time the operation began.

123. The skill and seamanship shown by the Commanding Officers of the towing submarines played a most important part in the operation, and the safe and timely arrival at the slipping position of X-craft of the six which set out is in no small measure due to the skill with which these officers handled the submarines under their command. I would like to pay special tribute to the Commanding Officer of H.M.S. STUBBORN, Lieutenant A. A. Duff, R.N., for the determination and fine seamanship he displayed both on the outward passage with X.7 and in the recovery of X.10 and his later efforts to bring her safely home.

124. The part played by the passage crews of the X-craft contributed to a large extent to the final success of the operation. During the long arduous passage these crews kept their craft in a high state of efficiency by constant care and attention, so that with one exception when the time came for the operational crews to take over, the craft were in an efficient state for the final stages of the operation. They showed fine seamanship, determination and endurance. The one exception was X.10, and her passage crew were in no way responsible for the defects which developed on passage.

125. Finally, I cannot fully express my admiration for the three Commanding Officers, Lieutenants H. Henty-Creer, R.N.V.R., D. Cameron, R.N.R. and B. C. G. Place, D.S.C., R.N., and the crews of X.5, X.6 and X.7, who pressed home their attack and who failed to return. In the full knowledge of the hazards they were to encounter, these gallant crews penetrated into a heavily defended fleet anchorage. There, with cool courage and determination and in spite of all the modern devices that ingenuity could devise for their detection and destruction, they pressed home their attack to the full and some must have penetrated to inside A/T* net defences surrounding the TIRPITZ. It is clear that courage and enterprise of the very highest order in the close presence of the enemy were shown by these very gallant gentlemen, whose daring attack will surely go down to history as one of the most courageous acts of all time.

(Signed) C. B. BARRY.
Rear Admiral.
Admiral (Submarines).

**Admiralty footnotes**

* A/T*—anti-torpedo.
The following Despatch was submitted to the Lords Commissioners of the Admiralty on the 2nd February, 1944 by Rear Admiral C. B. Barry, D.S.O., Admiral (Submarines). 2nd February, 1944.

With reference to my submission of 8th November, 1943, be pleased to lay before the Lords Commissioners of the Admiralty the following further report on operations by X-craft against the German main units (Operation "Source").

2. It is now possible to reconstruct the attacks carried out by His Majesty's midget submarines on the battleship TIRPITZ on 22nd September, 1943, and to make some assessment of the damage sustained by this ship as the result of the attacks.

3. Three X-craft, X.5 (Lieutenant H. Henty-Creer, R.N.V.R.), X.6 (Lieutenant D. Cameron, R.N.R.), and X.7 (Lieutenant B. C. G. Place, D.S.C., R.N.), failed to return as a result of the operation, and, while it was known that one or more of these craft succeeded in carrying out a successful attack on TIRPITZ, at the time of my previous report no information was available as to which of the craft had succeeded in this daring attack, nor were there details of how it was accomplished.

4. It was the intention of each of the three Commanding Officers, all of whom had TIRPITZ as their target, to close the entrance to Kaaford at first light on the morning of the 22nd September, having fully charged up their batteries during the night. Having negotiated the A/S* net at the entrance to Kaaford they would then attack TIRPITZ by passing under the A/T† nets surrounding her, drop their charges set to detonate at approximately 0830 G.M.T., and then retire to seaward, hoping to be well clear of the fiord by the time of the explosion.

5. P.R.U. photographs had shown that the close A/T nets around TIRPITZ consisted of three lines of nets. The flotation indicated that the nets were for anti-torpedo protection, and it was considered unlikely that they would reach the bottom in the depth of water, twenty fathoms. In fact it was estimated they would only extend downwards about fifty feet.

6. The following is a reconstruction of the movements of these three X-craft in their attacks, as far as is known at present.

X 6 (Lieutenant D. Cameron, R.N.R.)

7. At some time unknown the periscope of X.6 became flooded. The Commanding Officer was therefore completely "blind" with no means of conning his craft when dived.

Having negotiated the A/S net at the entrance to Kaaford and entered the fleet anchorage, Lieutenant Cameron, with a complete disregard for danger, proceeded on the surface in broad daylight astern of a small coaster through the boat gate entrance in the nets, situated only two hundred yards away from TIRPITZ.

After passing safely through the entrance on the surface, X.6 dived, and steering straight for TIRPITZ, proceeded to attack.

8. X.6 had, however, been sighted from TIRPITZ off the port bow, as Lieutenant Cameron must have realised that he would be. The time of sighting is reported as 0800 G.M.T. The alarm was raised, and hand grenades thrown at him from the deck of TIRPITZ, and a pinnace started to drop depth charges.

9. Lieutenant Cameron continued to carry out his attack, and on passing under the bridge of TIRPITZ, he probably released one charge. Having passed under the ship, X.6 failed to turn to starboard in time and ran into the nets on the port side of TIRPITZ before he could carry out the second run of the attack.

Finding himself foul of the nets Cameron was obliged to go astern to clear himself, and in so doing went astern into TIRPITZ.

10. Lieutenant Cameron, realising that he had been sighted, released his second charge, and surfaced his ship almost alongside the TIRPITZ. Cameron then saw all his crew safely out of the craft before scuttling her.

Lieutenant Cameron and the crew of X.6 (Sub-Lieutenant J. T. Lovimer, R.N.V.R., Sub-Lieutenant R. H. Kendall, R.N.V.R., E.R.A.4 E. Goddard, C/MX 89063) were picked up and taken on board, the time being then approximately 0805.

X.7 (Lieutenant B. C. G. Place, D.S.C., R.N.)

11. In the meantime X.7 had also attacked.

Proceeding according to plan, X.7 penetrated safely past the A/S nets at the entrance to the fiord, and Lieutenant Place decided to attack by passing under the close A/T nets.

Here he met unexpected difficulties, for instead of the expected gap under the nets he found that they extended to 120 feet, which, with a depth of water of only twenty fathoms, meant that the nets were almost, if not quite, down to the bottom. Lieutenant Place was not to be deterred, and at the third attempt he managed to worm X.7 along the bottom under the nets to carry out a successful attack, dropping one charge under the funnel and one under the after turret.

12. In negotiating the A/T nets he was able to ascertain its details which were fine wire 4" mesh—a most formidable type of A/T net.

13. Having completed the attack undetected, Place was then faced with the difficulty of getting through under the nets again to make his escape. To add to his difficulties the tide was by then ebbing, which meant that the nets would be even nearer to the bottom than before. Once again X.7 found herself foul of the nets; and as they were only 170 feet from TIRPITZ and from the line on which the charges had been laid, and with the time for the explosion drawing nearer every minute, the situation for those on board while they were struggling to extricate themselves may well be imagined.

As it was, X.7 cleared the nets with only a few minutes to spare, as at 0830, when the explosion took place, X.7 was only some 400 yards to seaward of the nets.

Even at this distance the force of the explosion so damaged X.7 that she was put out of action, and Lieutenant Place decided to remain on the bottom for the next hour and await events.

Around about 0930, when depth charges were being dropped indiscriminately about the fiord, although they did no damage to the craft, Lieutenant Place realised that owing to damage

Admiralty footnotes —

* A/S—anti-submariné
† A/T—anti-torpedo
sustained nothing further could be done and that the operation was by now compromised. He therefore decided to surface the craft and give his crew the chance of escaping.

X-7 was brought to the surface, but was immediately hotly engaged by gunfire and sunk. Place was left swimming when she sank, and Lieutenant Aitken, the 3rd Officer, escaped by using D.S.E.A.*

Of the other two members of the crew nothing is known, nor, apparently, have their bodies been discovered.

X.5 (Lieutenant H. Henty-Creer, R.N.V.R.)

14. The information so far available is insufficient to show what part X.5 took in the attack.

Wreckage, presumably from this craft, was discovered by divers either on the day of or the day after the attack, about one mile to seaward of TIRPITZ’ berth, about halfway between TIRPITZ and the entrance to Kaafjord. Some of the wreckage from this craft was also found to the north of TIRPITZ.

No bodies or personal gear have been found, and there is no knowledge of any survivors from X.5.

15. X.5 may therefore already have attacked and laid her charges and been on the way out when depth-charged and destroyed, or she may have been waiting to attack at the next attacking period after 0900.

The Explosion

16. At 0830 a huge explosion took place, and TIRPITZ was heaved five or six feet out of the water before settling down again. The explosion extended from amidships to aft, and a large column of water was flung into the air on the port side. The explosion appeared to be caused by two or more simultaneous detonations.

Members of the ship’s company on deck aft were hurled into the air, and several casualties resulted. The ship took on an immediate list and was badly buckled and possibly holed the hull in two places, causing flooding and loss of oil fuel.

The harbour boiler and turbo generator rooms were affected, with consequent effect on the lighting system and forward turret machinery.

Damage to TIRPITZ

20. The explosive charges (of which at least two detonated, the others possibly being destroyed by their close proximity to each other) badly buckled and possibly holed the hull in two places, causing flooding and loss of oil fuel.

21. Several hundreds of workmen have been transported to Alten Fiord to effect temporary repairs with the aid of repair ships which have been discovered by divers either on the day of or the day after the attack, about one mile to seaward of TIRPITZ, but there was insufficient of the craft left to make salvage worth while.

The wreckage of, presumably, X.5 was found, as previously stated, about a mile to seaward from TIRPITZ, but was insufficient of the craft left to make salvage worth while.

Salvage of Craft

19. X.7 was salvaged eight days after the attack, being recovered from a position some 400 yards off the starboard bow of TIRPITZ, outside the nets. She was taken in tow and beached in Kaafjord. The whole of her bow was missing, probably caused either by the gunfire or depth charges.

Although divers made a thorough search, no signs of X.6 could be found inside the A/T nets, and it is presumed that she was totally destroyed by the explosion, which must have taken place very close to where she was scuttled.

22. It would appear conclusive that TIRPITZ has sustained considerable damage to the hull, machinery and armament as a result of the attack. Temporary repairs are still being carried out in Kaafjord which it is estimated will not be completed for a further one or two months, and the ship cannot be made effective for prolonged operations without docking at a German port.

23. With the full story of this very gallant attack now unfolded, my admiration for Lieutenant D. Cameron and Lieutenant Place and their crews is beyond words. I take special note of the complete disregard for danger in the immediate vicinity of the enemy shored by Lieutenant Cameron in taking X.6 through the net defences in broad daylight on the surface with the full knowledge that he must be...
sighted, and the cool and calculated way in which he carried out his attack and then ensured the safety of his crew.

Lieutenant Place, undaunted by encountering unexpected obstacles, carried on with cool determination to worm X.7 under the nets of those on board TIRPITZ to carry out his successful attack. Then, when again caught in the nets and with the time drawing close for the explosion to take place, rather than bring his craft to the surface and so compromise the operation and thereby jeopardize the chances of other craft who might be attacking, he proceeded coolly to extricate his craft and remained submerged after the explosion, although fully aware of the danger, for sufficient time to ensure that other craft who might be attacking were clear of the area.

The acts of these two officers speak for themselves. They can seldom have been surpassed in the history of the Royal Navy. The proceedings of the two Commanding Officers would have been of no avail had they not been supported by the undaunted spirit of their crews.

24. It is very much regretted that insufficient evidence is available to assess the part played by Lieutenant Henty-Creer and the crew of X.5, but, from the position in which their craft was found, it is clear that they too, showed courage of the highest order in penetrating the fleet anchorage, and that they lived up to the highest traditions of the Service.

(Signed) C. B. BARRY, Rear Admiral. Admiral (Submarines).

The following Despatch was submitted to the Lords Commissioners of the Admiralty on the 26th July, 1945 by Rear Admiral G. E. Creasy, C.B., C.B.E., D.S.O., M.V.O., Admiral (Submarines).

26th July, 1945.

Final Report on Operation "Source".

Be pleased to lay before Their Lordships the following final report on operations by X-craft against the German main units (Operation "Source").

2. The return from Germany of the Commanding Officers of X.6 (Lieutenant D. Cameron, V.C., R.N.R., and X.7 (Lieutenant B. C. G. Place, V.C., D.S.O., R.N.), and the receipt of their patrol reports, together with the release of certain information from captured German documents (notably the deck log of TIRPITZ and portions of the German High Command War Diary), have brought to light new facts which, as is to be expected, are in some cases different from those that had been inferred in my predecessor's submission of 2nd February, 1944.

The opinions expressed by my predecessor in paragraphs 23 and 24 of that report, however, remain unchanged.

3. Whilst further knowledge of the total damage inflicted on TIRPITZ by X.6 and X.7 may yet become available from German official documents, it is considered fit to forward this report in continuation of my predecessor's submission of 2nd February, 1944.

4. The following is the sequence of events from the time of slipping the X-craft from their parent submarines to the conclusion of the attack. No reference has been made to X.10, as her movements were fully covered in my predecessor's report of 8th November, 1943, and have no bearing on the approach and attack of the other three X-craft.

20th September, 1943 (All times are G.M.T.)

All three X-craft slipped from their towing submarines between 1845 and 2000, all being in good heart and trim. X.6's starboard charge had flooded since 11th September, but experiments with stores and spare gear had put the ship into a working trim, provided that the inland waters of the fiords were sufficiently saline.

The minefields reported off Soroey were negotiated on the surface successfully, although X.6 sighted a patrol vessel at 2200.

At 2315 X.7 sighted another X-craft and exchanged shouts of good luck and good hunting. Although not definitely identified, the other X-craft was certainly X.5. X.5 now, unfortunately, passes out of the picture until her sighted and destruction on 22nd September.

21st September

X.6 and X.7 both dived between 0145 and 0215, each finding trimming difficult.

During the passage through Stjernsund, X.7 had to dodge several vessels and X.6 started a defect on her periscope which was to prove a major handicap throughout, but a triumph of mind over matter to her crew.

The advance through the fiords toward the agreed waiting and charging positions in Alten Fjord went according to plan, neither X-craft experiencing any difficulty in the calm weather prevailing, and at 1245 X.7, taking advantage of a freshening breeze, was able to ventilate the boat through the induction trunk.

An occasional A/S patrol vessel, and a solitary aircraft had to be dodged, but at 1630 X.7 sighted a large vessel in the lee of Aaroy Island. This vessel is noted in X.7's report as "believed to be SCHARNHORST" and was thereafter disregarded. All thoughts were centred on TIRPITZ, which, under Plan No. 4, was the target for X.5, X.6 and X.7.

X.6 was first into her waiting billet, arriving at 1845 1 mile north of Bratholm where she spent the night charging and making good defects (particularly to her periscope) and dodging traffic. This traffic became so trying that the Commanding Officer surfaced at 1845, each finding trimming difficult.

During the passage through Stjernsund, X.7 had to dodge several vessels and X.6 started a defect on her periscope which was to prove a major handicap throughout, but a triumph of mind over matter to her crew.

Inspection of the clock settings of his fuzes at 2300, it was discovered that the port (unflooded charge) clock was defective. To guard against any hold up, both 10 point plugs were released and the charges set to fire at one hour after the explosion, although fully aware of the danger, for sufficient time to ensure that other craft who might be attacking were clear of the area.

On inspecting the clock settings of his fuzes at 2300, it was discovered that the port (unflooded charge) clock was defective. To guard against any hold up, both 10 point plugs were released and the charges set to fire at one hour after the explosion, although fully aware of the danger, for sufficient time to ensure that other craft who might be attacking were clear of the area.

X.7 had also reached her waiting position and spent the night charging and making good defects. Among this " making good defects" was the fitting of the spare exhaust pipe, the discovery that it did not fit, and its eventual " make do and mend " with the aid of tape,
canvas and chewing gum. X.7 also suffered some inconveniences due to small boats and minor war vessels.

22nd September
Phase I
X.7 left the lee of the Bratholm group of islands at 0045 to commence the penetration of the known and unknown defences of Kaaford, followed an hour later by X.6; neither boat had made contact during the night. Operationally such contact was not necessary and it had not been allowed for in the plan.

At 0340, X.7, first in the field, straightened up for the entrance through the A/S boom defence gap at the entrance to Kaaford. On nearing 0400 was through, only to be put deep by an M.L. outward bound. As a result of this temporary blindness X.7 got caught in the unoccupied square of A/T nets, once used to house LUTZOW but now empty. X.6 following later, and having increasing trouble with her periscope, dodged a small ferry boat and an A/S patrol vessel and at 0505 also passed through the A/S boom gap.

Meanwhile, life in Kaaford in general and TIRPITZ, in particular, pursued its normal course. Hands were called, normal A/A defence and anti-sabotage watch ashore and afloat were set, the boat-gate in the A/T nets was opened for boat and tug traffic, and the hydrophone listening office ceased work, all at 0500.

Phase II
X.6, suffering from a flooded periscope, went to 60 feet to strip and clean it, while proceeding by D.R.* towards the western end of the fiord. On coming to periscope depth again she found she was so close to NORDMARK that it had not been allowed for in the plan. She was therefore taken blindly in what was imagined to be the target's direction, hoping to fix her position by the shadow of the battleship.

After five minutes X.6 got caught in an obstruction which she took to be the A/T net on the far (starboard) side of TIRPITZ but which was probably something hanging down either from TIRPITZ or one of the craft alongside. Lieutenant Cameron straightened his craft up, manoeuvred clear of the obstruction, and surfaced close on the bow port of TIRPITZ when a brisk fire from small arms and hand grenades was opened on the submarine. The submarine was too close to the ship for any of the heavy A/A or main armament to bear.

Realising that escape was hopeless, Cameron destroyed the most secret equipment, backed his craft down until the stern was scraping TIRPITZ hull abreast 'B' turret, released his charges and scuttled the craft. X.6 started to sink as a power boat from TIRPITZ came alongside, picked off the crew of four and vainly attempted to take X.6 in tow, but X.6 followed her explosives to the bottom.

On board TIRPITZ and in Kaaford the alarm had now been properly raised, and it is clear from the entries in the battleship's log that complete surprise had been achieved by our forces.

Although the first sighting had been made at about 0707 (a note in the log states that times between 0705 and 0730 are inaccurate) it was not until 0720 that the order was given to close watertight doors, and the A/A guns' crews closed up. A power boat manned by one officer and equipped with hand grenades left the ship at about 0715, and was the one which took off the crew of X.6, having used her hand grenades, happily to no effect.

"Action stations" was sounded, steam raised and the ship was prepared for sea, in order to get out of sight of the nets. This order was apparently not given until 0736, when watertight doors were reported closed. Divers were ordered to go down to examine the hull for limpet mines* but it appears that some form of charge dropped under the ship was also expected, as the extract from the log recording the preparations for sea reads in order to leave the net enclosure if possible before the time-tuzed mines detonate.

Destroyers in the fiord had also raised steam, and were requesting depth charges.

While TIRPITZ was making up her mind how to deal with the situation, X.7, so far unseen but stuck in the nets ahead of TIRPITZ, was ordered to go down to examine the hull for limpet mines, but it appears that some form of charge dropped under the ship was also expected, as the extract from the log recording the preparations for sea reads in order to leave the net enclosure if possible before the time-tuzed mines detonate.

Admiralty footnote
* Limpet mines—explosives attached to the ship's side or bottom.
was trying to extricate herself. The following is taken from Lieutenant Place’s report:

**September 22nd**

“...0710. Set both charges to one hour and released ten pin plugs. Went to 75 feet and stuck in the net. Although we had still heard nothing it was thought essential to get out as soon as possible and blowing to full buoyancy and going full astern were immediately tried. X.7 came out but turned beam on to the net and broke surface close on to the buoys, going astern to the northward.

We went down again immediately but had to go ahead towards the net to avoid catching our stern and the boat stuck again by the bow at 95 feet. Here more difficulty in getting out was experienced, but after about 5 minutes of wriggling and blowing X.7 started to rise. The compass had, of course, gone wild on the previous surface and I was uncertain how close to the shore we were; so the motor was stopped and X.7 was allowed to come right up to the surface with very little way on. By some extraordinary lucky chance we must have either passed under the nets or worked our way through the boat passage, for on breaking surface the 5 minutes of wriggling and blowing X.7 getting out was experienced, but after about 20 minutes the motor was started to rise The compass had, of course, the weight of the charge was estimated at 2 tons. It is not clear from TIRPITZ being unaware that a second attack had been carried out.

TIRPITZ’ log records at 0812 “two heavy consecutive detonations to port at 1/10 sec. interval. Ship vibrates strongly in vertical direction and sways slightly between the anchors.” The first explosion abreast Section VII (“X” turret) about 6 to 8 yards away from the ship, the other 50-60 yards off the bow in the position where X.6 sank.

The weight of the charge was estimated at 900 lbs, whereas, in fact, each of the four charges weighed 2 tons. It is not clear from
this how many of the three charges laid off the port bow actually went off, although subsequent examination of the sea-bed failed to discover any of the charges, or even fragments.

It seems likely, therefore, that all four charges detonated completely and that only the action of the bow to move the bow of the ship bodily to starboard on her cables saved her from far worse damage and even, perhaps, from destruction.

Before dealing with the damage resulting from the attack it remains to be recorded that at 0843 a third X-craft was sighted some 500 yards outside the nets. TIRPITZ opened fire and claims to have hit and sunk this X-craft. Depth charges were also dropped in the position in which the craft disappeared. This was X.5 (Lieutenant H. Henty-Creer, R.N.V.R.) which had last been seen off Soroy on 21st September by X.7.

Nothing is known of her movements, nor was any member of her crew saved.

X.7 was salved, minus her bows, by 1st October, 1944, but there is nothing to substantiate a statement, made to Lieutenant Place by German interrogators, that the bodies of the two missing members of his crew had been recovered and buried with full military honours.

**Damage to TIRPITZ**

According to the first Damage Report—

- Port propulsion installation out of action, one generator room flooding and damage to the lower platform deck in Section VIII (Engine Room) and T.S.
- In the whole ship nearly all the lighting and electrical equipment as well as the W/T rooms and hydrophone station were put out of action, as well as two aircraft outside the hangar.
- By 0833 there were 300 tons of water in the ship, which had increased to 500 tons by 0942.
- At 0900, 50 minutes after explosion, pumping out of the middle and port turbine rooms was being successfully accomplished, and the hydrophone office was again in order, but there were oil fuel leaks and No. 2 Generator Room and Dynamo Control Room were still flooded with oil and water.
- At 1045 the following report was made on the condition of the TIRPITZ:

  "(1) Schiffssicherung (Ship's safety measures)
  Approx. 800 cubic m. water in ship. Probably hits on port side in Section VIII. Flooding under control. Ship-out of danger.
  (2) Propulsion installation
  So far, all three main engines out of action. Damage to condenser in port power installation. One boiler lit.
  (3) Electrical installation
  Generator room 2 flooded and dynamo control installation 2.50 cm. water, electricity out of action.
  Forward turbo-generators are brought into operation.

(4) Gunnery
  Turret A and C raised by blast, so far out of action.
  A/A control positions out of action. Considerable breakdown of range-finding gear including revolving hoods (Drehhauben), aft position and foretop.

(5) Communications Section
  Communication with W/T room C established. Breakdown of several transmitters, receivers, radar sets and echo-ranging equipment.

(6) Steering
  Rudder compartment 2 flooded. Port rudder installation out of action, cannot be examined yet.

In all sections breakdown (probably only temporary) of apparatus and electrical equipment through lack of current, as well as damage to casings and bedplate propellers.

1 killed, about 40 wounded, among them the First Lieutenant, slightly injured (concussion)."

**Final effect of the attack.**

According to an entry in the War Diary of the German Naval Staff for September, 1943, it was decided that the repair of TIRPITZ should be carried out in a northern port, and this decision was sanctioned by Hitler and the Commander-in-Chief, German Navy. It was, however, considered that the ship might never regain complete operational efficiency.

Repair ships, equipment and a large staff of dockyard workmen were transferred to Alten Fiord, and the services of a 100 ton crane were requested. The crane never arrived, however, being damaged by weather on passage, and only reaching the Namsos area.

Much time, personnel and work were expended on improving the defences of Kaaford, and LUTZOW was moved south to Germany. As this ship was overdue for refit in any case, it cannot be claimed that this weakening of the Northern Fleet was altogether due to the X-craft attack.

On 22nd November, 2 months after the attack, again according to the War Diary, MARINEGRUPPENKOMMANDO NORD reported to the German Naval Staff that "...as a result of the successful midget submarine attack on heavy units of the Battle Group, the battle cruiser TIRPITZ had been put out of action for months", and the truth of this is borne out by the fact that not until April, 1944, did the ship move out from her anchorage, only to be further damaged and finally destroyed, by air attack, from which she had been virtually immune in Kaaford.

(Signed) G. E. Creasy.

Rear Admiral.
Admiral (Submarines).