

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 TIRPITZ with no intervening nets, was sighted right ahead not more than 30 yards away. 40 ft. was ordered and X.7 at full speed, struck the TIRPITZ at 20 ft. on the port side approximately below 'B' turret and slid gently under the keel where the starboard charge was released in the full shadow of the ship. Here, at 60 ft., a quick stop trim was caught—at the collision X.7 had swung to port so we were now heading approximately down the keel of TIRPITZ. Going slowly astern the port charge was released about 150 to 200 ft. further aft—as I estimated, about under 'X' turret. I am uncertain as to the exact time of release, but the first depth charges were heard just after the collision, which, from Lieutenant Cameron's report would fix the time at 0722.

After releasing the port charge, 100 ft. was ordered and an alteration of course guessed to try and make the position where we had come in. At 60 ft. we were in the net again. Without a compass I had no exact idea of where we were; the difficulties we had experienced and the air trimming had used two air bottles and only 1200 lbs. were left in the third. X.7's charges were due to explode in an hour—not to mention others which might go up any time after 0800.

A new technique in getting out of nets had by this time been developed. The procedure was to go full ahead blowing economically and then go full astern, the idea being to get as much way on the boat as the slack of the nets would allow and thus have a certain impetus as well as the thrust of the screws when actually disengaging from the net. In about the next three quarters of an hour X.7 was in and out of several nets, the air in the last bottle was soon exhausted and the compressor had to be run.<sup>1</sup> When at about 40 ft., at 0740, X.7 came out while still going ahead and slid over the top of the net between the buoys on the surface. I did not look at the TIRPITZ at this time as this method of overcoming net defences was new

and absorbing, but I believe we were at the time on her starboard bow—we had certainly passed underneath her since the attack. We were too close, of course, for heavy fire but a large number of machine gun bullets were heard hitting the casing. Immediately after passing over the nets all main ballast tanks were vented and X.7 went to the bottom in 120 ft. The compressor was run again and we tried to come to the surface or periscope depth for a look so that the direction indicator could be started and as much distance as possible put between ourselves and the coming explosion. It was extremely annoying to run into another net at 60 ft. Shortly after this there was a tremendous explosion (0812). This evidently shook us out of the net and on surfacing it was tiresome to see the TIRPITZ still afloat—this made me uncertain as to whether the explosion we had just heard was our own charges or depth charges, so X.7 was taken to the bottom . . ."

This last excursion into the nets was apparently well on TIRPITZ' starboard bow and from outside. After getting clear X.7 sat on the bottom to survey the damage. Compasses and diving gauges were out of action but there appeared to be little structural damage. The boat was impossible to control, however, and broke surface on several occasions. On each occasion fire was opened on her from TIRPITZ causing damage to the hull, and finally it was decided to abandon the boat. X.7 was brought to the surface rather than use D.S.E.A., owing to the depth charging that was being experienced. The boat surfaced close to a target allowing Lieutenant Place to step on to it, but before the remainder of the crew could escape, X.7 sank at 0835. Sub-Lieutenant Aitken was able to get out by the use of D.S.E.A. at 1115, but no trace was discovered of the remaining two members of the crew. Both Lieutenant Place and Sub-Lieutenant Aitken were brought on board TIRPITZ and well treated, as had been the crew of X.6.

The first knowledge on board TIRPITZ that more than one midget submarine was attacking came at 0740, when X.7 was seen just outside the A/T nets, having made her escape after dropping her charges. Hand grenades were thrown, fire opened from the 2 cm. and 3.7 cm. armament, and aircraft made ready to take off and carry out a search.

As other craft were outside the nets in unknown numbers, it was decided not to take TIRPITZ out of the enclosure, so the gate was shut, and the ship moved as far away from the position in which X.6 had sunk by heaving in on the starboard cable and veering port. This brought the bows away from both of X.6's charges and the first of X.7's, but left X.7's second charge still under the engine room; those on board 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