

Magnetometers Locate Loaded Liberty Ship

Trying to find anything on the deep ocean floor is an immensely difficult task, complicated by man's abysmal ignorance of the ocean depths.

Nonetheless, on Sept. 14, the Navy pulled off its third such effort when it located an explosive-filled Liberty ship that had been scuttled, then lost, more than a month earlier (SN: 9/23).

In addition to the difficulties that had beset searchers for the submarine Thresher lost with all hands in 1963 and the H-bomb that fell near Palomares, Spain, 20 months ago, Navy experts this time also had to worry about the ship's delicately fused cargo—2,000 tons of obsolete bombs, mines and torpedo warheads.

The entire cargo had been set to go off when it reached a depth of 4,000 feet. The resulting blast—a tenth that of the Hiroshima A-bomb—was to help Defense Department scientists evaluate their worldwide nuclear test detection network. Records of the blast were to have been compared with those from a previous natural earthquake at the same site, just south of Amchitka Island in the Aleutians.

But the ship, the Robert Louis Stevenson, didn't sink as planned; she drifted off into a fog bank and eventually settled, but nowhere near deep enough to set off the fuses.

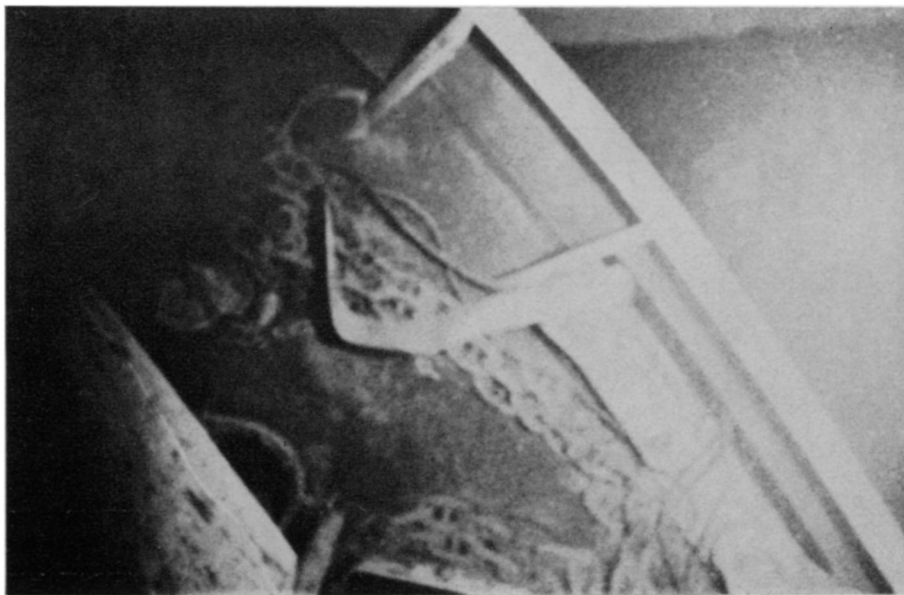
Long-range attempts to locate the hulk precisely with sonar proved of little value, as did attempts to pick up magnetic anomalies, caused by Stevenson's steel hull, from antisubmarine aircraft.

Precise location of the hulk defied all efforts until, partly in desperation, partly due to increasing confidence that Stevenson's cargo was not as delicately poised as had been thought, an oceanographic survey ship was sent into the area on Sept. 7.

Within a few days, the Silas Bent, the Navy's most modern ocean survey vessel, had pinpointed the hull on the bottom using a deep-towed magnetometer. Its crew then lowered a camera and came up with photographs of Stevenson's bow and the hatch beneath which the bombs were set.

The ship was sitting upright on the bottom in 2,800 feet of water exactly beneath the point at which she sank on Aug. 10. The site is 17 miles southwest of Amchitka and 11 miles from the originally intended detonation site.

The next step is up to Rear Admiral Donald M. White, commander of the Alaskan Sea Frontier, who has been in charge of the search operation. Navy planes last week made an attempt to bomb Stevenson with 24 2,000-pound,



U.S. Navy

Bow railing, deck and anchor chain identify Stevenson, 2,800 feet down.

Mark 84 bombs fused with Sofar charges. They exploded without creating sufficient extra pressure to set off its cargo.

A possible alternative would be to

lower explosives to Stevenson's deck, then set them off by remote control from a safe distance. If all fails, the Navy says, Stevenson will be abandoned to rust in peace. ♦

THE SMALE CASE

No NSF Cote for the Vietnam Dove

In the summer of 1966, Berkeley mathematician Stephen Smale stood on the steps of Moscow University and denounced United States policy in Vietnam. Soon after, Representative Richard Roudebush (R-Ind.)—a member both of the House Science and Un-American Activities committees—warned the National Science Foundation not to renew Dr. Smale's research grant when it expires in March 1968. NSF had helped finance Dr. Smale's trip to Moscow for the International Congress of Mathematics.

Now, a year later, NSF has rejected the University of California's request for a quarter of a million dollar grant to be administered by Dr. Smale, "in light of Prof. Smale's performance in the administration of the present grant." In an unprecedented move, NSF asks that the request be split into two grants, one for Dr. Smale and one for the other researchers involved. That way, NSF says, any decision on Dr. Smale's grant proposal will not adversely affect the other grantees whose administrative ability is not in question. NSF refuses to specify its objections to

Dr. Smale as an administrator, and insists that it has no quarrel with the scientific merit of his research.

Dr. Smale, who refuses to withdraw his name from the present grant request, is charging NSF with threatening to punish him for his outspoken anti-war views. He contends that if he applies separately for research funds he will be turned down. The Foundation answers that his proposal would be reviewed for its scientific value—keeping in mind of course the administrative problems, and that no one can fairly predict the outcome.

The American Mathematical Society, which sees the confrontation between Dr. Smale and the NSF as a potential threat to the freedom of speech of all researchers working under Government support, is prepared to go to bat for Dr. Smale. Although the Society will take no official position until its statement for its members is complete, director Gordon Walker claims mathematicians are so concerned that "there probably isn't a single bit of math going on in this country now."

Dr. Smale, while in Moscow where