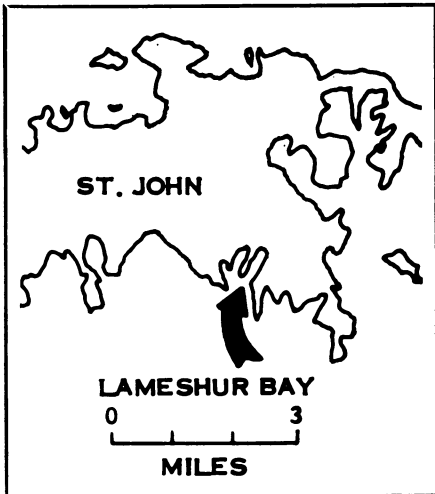


G.E.

*For two long months, a tiny home.*



G.E.

*Tektite 1 site: warm and shallow.*

cans, 18 feet high and 12 feet in diameter, connected by a tunnel and each divided into two levels. One can contains the environmental control system and storage area upstairs, and a so-called wet laboratory below with a hatch in the floor. The hatch is always open to the sea, which is kept out by the equalized air pressure. A dry lab is in the upper half of the other canister, with living quarters below.

General Electric, which built the habitat at an estimated cost of some \$750,000, says that it could be raised and transported to another spot for reuse if other organizations showed interest. The Smithsonian Institution reportedly intends to visit the Tektite 1 site with an eye toward using it in the future for such tasks as inventorying marine life around tropic reefs.

**The Navy** is particularly interested in Tektite as, among other things, an exercise in underwater construction technology. In addition, biomedical and physiological data gathered from the aquanauts are important to the Navy's Man In The Sea program, which includes Sealabs and other activities.

To the four scientist-aquanauts—Richard A. Waller, Conrad V. W. Mahnken, H. Edward Clifton and John G. Van Derwalker—who will live in Tektite, however, their own scientific researches will be the primary activity. This is opposed to the elaborate physical and psychological tests and trials of experimental equipment that are the main part of the Sealab program.

Plankton and other forms of marine flora and fauna will be studied intensively, with great care being given to preserve the natural conditions in which they live. At night, for example, the

portholes of the habitat will be covered, to prevent light from shining out and attracting abnormal amounts of plankton and fish—"as they do in Sealab," adds one of the aquanauts with evident disdain.

Despite their isolation, it is unlikely that any of the aquanauts will suffer from much boredom. Their habitat is equipped with television and AM and FM radio, but even those diversions are not deemed vital.

"At night, we can look out the window," says Aquanaut Van Derwalker. "That's better than any TV."

## FEDERAL LABORATORIES

### Keeping track of a national asset

Efficient use of Government research facilities has been a problem ever since the beginning of the era of big science and big Federal support. In the next budget year, for instance, despite both a holddown, and a March revision of his predecessor's budget by President Nixon, some \$200 million is expected to be invested in Federal research and development facilities, on top of some \$5 billion spent in the last decade alone. Despite the billions already invested in national laboratories, new research programs tend to lead to new construction instead of using available facilities.

A major barrier, says a report by the House Subcommittee on Science, Research and Development, is that few agencies needing research facilities actually know what is available elsewhere in the Government. There is no single office or official with information about the capabilities, the special proficiencies and the equipment and facilities of these national laboratories.

Some agencies do keep track: The Department of Defense and the National Aeronautics and Space Administration know what they have and what it can do. But their efficiency is not the rule.

The subcommittee finds it "curious that the Department of Defense with laboratories that operate at a level of \$0.9 billion and represent capital investment of about \$2.2 billion has information systems about them while the overall Federal Government with more than 100 major and countless smaller laboratories spending about \$3.5 billion annually and representing a capital investment of more than \$11.2 billion, does not."

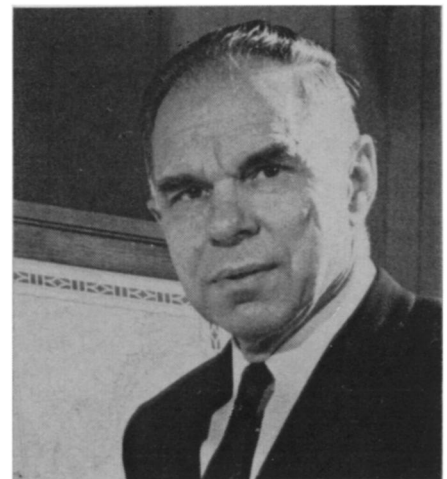
The committee, headed by Dr. Allen V. Astin, director of the National Bureau of Standards, has a task force working on proposals for making the inventory, but such a national stock-taking remains in the discussion stage.

The subcommittee report stresses that tighter budgets mean that greater

interagency use of Federal laboratories, instead of creating new institutions, has become essential. For example, the Department of Justice, in implementing the Omnibus Crime Control and Safe Streets Act of 1968, could save critical time and expedite establishing the new Crime Institute by using existing Federal laboratories for required research.

## APPOINTMENTS

### Seaborg to stay on



AEC

*AEC's Seaborg will stay on the job.*

Dr. Glenn T. Seaborg, who has served as Chairman of the Atomic Energy Commission under both the Kennedy and Johnson Administrations, will continue in that post under the Nixon Administration. Dr. Seaborg emerged from a White House conference on Jan. 28 to say that the President had asked him to stay on and that he had accepted. His term as AEC member is due to expire June 30, 1970.

Meanwhile other Government scientific posts are hanging fire. The National Aeronautics and Space Administration has been without a permanent administrator since October when Dr.

James E. Webb resigned the post.

Reports and rumors indicate that a prospective appointment to the Department of Health, Education and Welfare's post of assistant secretary for health and scientific affairs was being held up by opposition from the American Medical Association. The supposed appointee is Dr. John H. Knowles, general director of the Massachusetts General Hospital. He is allegedly disliked by the AMA because he is too "hospital oriented" rather than "physician oriented." He has advocated a thorough overhaul of the way in which health care is delivered to patients.

Officials of HEW will neither confirm nor deny that the appointment of Dr. Knowles is under consideration, and a spokesman says, "I do not know of any appointment or any announcement being imminent."

A representative of Massachusetts

General says Dr. Knowles refuses to comment on whether or not the job has been offered.

Washington circles also say that National Science Foundation Director Leland J. Haworth intends to retire when his term expires in June, but there is no official confirmation that this is his intention nor any word on the name of a possible successor.

Posts President Nixon will not have to fill include those of Dr. Herbert L. Ley Jr., who is staying on as director of the Food and Drug Administration; Dr. John S. Foster, also staying on as director of defense research and engineering; Dr. Robert Q. Marston, who will continue to head the National Institutes of Health; Dr. Allen V. Astin, director of the National Bureau of Standards, and Dr. Lee A. DuBridge, already appointed director of the Office of Science and Technology.

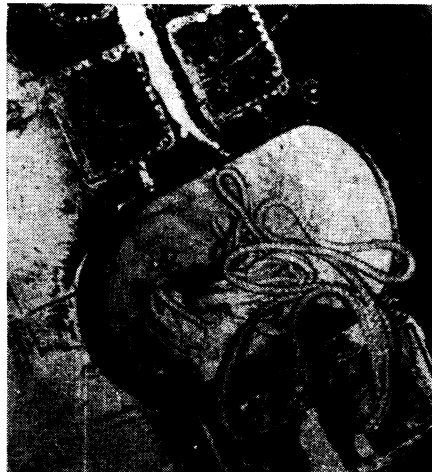
## SCORPION

### Fragments but no conclusion



U.S. Navy

*Bow structure of downed Scorpion.*



U.S. Navy

*Messenger buoy hatch never opened.*

The Navy court of inquiry that has been investigating the destruction of the submarine Scorpion (SN: 11/10, p. 432) since last summer has announced that it could not determine the cause of the submarine's loss from the evidence before it.

The court ended its inquiry inconclusively, and recommended further examination of the wreckage, which lies on the ocean bottom in more than 10,000 feet of water 400 miles southwest of the Azores. Sometime early this year the deep submersible Trieste II will go to the spot to see what more information it may be able to find.

The evidence before the court was enough, however, to rule out a few suggested causes of the accident. Scorpion did not hit a seamount since there are none in the area. Its nuclear power plant was ruled out as a cause of

disaster, and there was no evidence to suggest sabotage.

The court also concluded that "the loss of Scorpion is not attributable to the delayed completion of her full Subsafe (submarine safety) program." Allegations had been made that the submarine had not been sufficiently remodeled to be safe for extradeep diving, but the court found that "Scorpion's overall material condition was excellent and none of the outstanding ship alterations . . . were required for safe operation to her restricted depth."

The court took 1,334 pages of testimony and examined 232 exhibits, including charts, graphs, radio messages, diagrams, letters and other documents, while reaching its non-conclusion. Navy officials are reluctant to speculate on possible causes that haven't been ruled out by the evidence. ◇

# SAMS BOOKS

## on SPACE SCIENCE

### ROCKET & SPACE SCIENCE SERIES

Prepared under the guidance of the Amateur Rocket Association, this series is written for serious students of astronautics.

**Vol. 1. Propulsion.** Edited by Bruce Ketchum. Presents a brief history of rocketry and explores Newton's Laws. Discusses chemical, electrical, and nuclear energy sources, and describes the conversion of power from potential energy to actual thrust. 224 pages. Order 20386 . . . . . \$4.25

**Vol. 2. Propellants.** Reviews the fundamental principles connected with rocket propulsion. Explains types of propellants, chemical reactions involved, and techniques of manufacturing. Discusses present solid and liquid fuels, and exotic propellants of the future. 176 pages. Order 20528 . . . . . \$4.25

### SPACE TECHNOLOGY SERIES

Prepared under the guidance of Training and Retraining, Inc.

**Inertial Guidance Systems.** by Robert L. Gates. Fully describes the inertial guidance systems used in all U.S. ballistic missiles as well as in space projects. The basic theory and equipment techniques of these systems are also being applied to aircraft operation. Discusses coordinate systems and earth effects, inertial sensors, the inertial-measurement system, the guidance computer, and system operation. 176 pages. Order 20605 . . . . . \$4.95

**Controlled Guidance Systems.** by Hal Hellman. This programmed text covers the fundamentals of guidance systems, including ballistic trajectory, hyperbolic guidance, motion, translation, proportional navigation, celestial navigation, and stellar-inertial guidance. Explains principles, construction, and operation of various systems. 224 pages. Order 20573 . . . \$4.95

**Synchros and Servos.** by Robert J. Brite & Carlo H. Fiorenelli. A programmed text presenting the basic principles of synchro and servo motors and generators and their applications. Includes maintenance and troubleshooting methods. 192 pages. Order 20533 . . . . . \$4.95

**Lasers and Masers.** by Charles A. Pike. This programmed text describes in detail the basic operating principles of the laser and maser. Also covers the early history and development of atomic structure which provides the framework for the development of laser and maser devices. 176 pages. Order 20559 . . . . . \$4.95

**Microminiature Electronics.** by Israel Kalish. Presents the basics of this vital new field which is playing an increasingly important role in space, military, commercial, and industrial electronic equipment design. The text is programmed and supported by numerous illustrations. 304 pages. Order 20582 . . . \$5.75

### EXPERIMENTAL ASTRONAUTICS

by Morris Goran. Introduces the fundamentals of space science as derived from astronomy, physics, biology, engineering, and other sciences. Presents 79 simple, learn-by-doing experiments which show how to build units such as a periscope, ground-effect device, sundial, telescope, and others. 168 pages. Order 20509 . . . . . \$3.95

### EXPERIMENTAL EARTH SCIENCES

by Morris Goran. Explains the earth and its atmosphere through 60 fascinating experiments in the four basic fields of astronomy, meteorology, oceanography, and geology. Includes experiments in measurement as well as construction-type projects. 128 pages. Order 20601 . . . . . \$2.95

**ABC's of Telemetry.** 96 pages. Order 20051 . . . . . \$2.50

**Understanding Telemetry Circuits.** 160 pages. Order 20518 . . . . . \$3.95

**Howard W. Sams & Co., Inc.**

Order from any Sams Distributor or bookstore, or mail to Howard W. Sams & Co., Inc., Dept. SN-2, 4300 West 62nd St., Indianapolis, Ind. 46268

Send me the following books:  
 20386  20573  20582  20051  
 20528  20533  20509  20518  
 20605  20559  20601 \$\_\_\_\_\_encl.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_