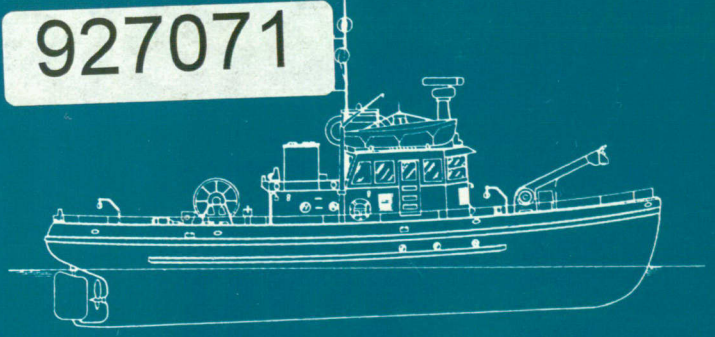
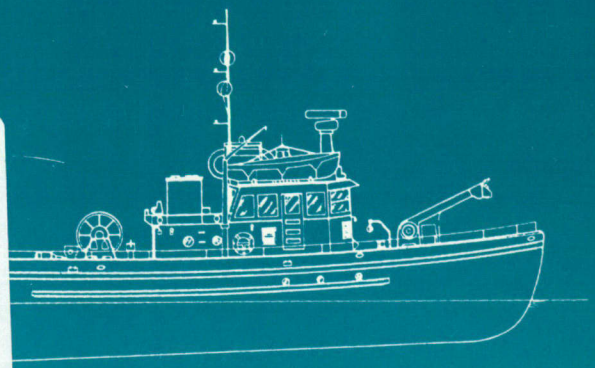
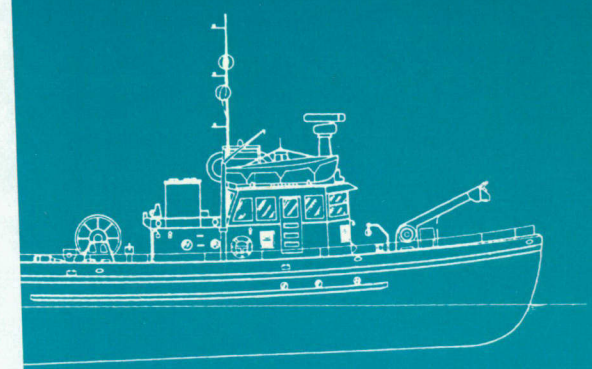


Fort Monroe Test Facility





Naval Surface Warfare Center

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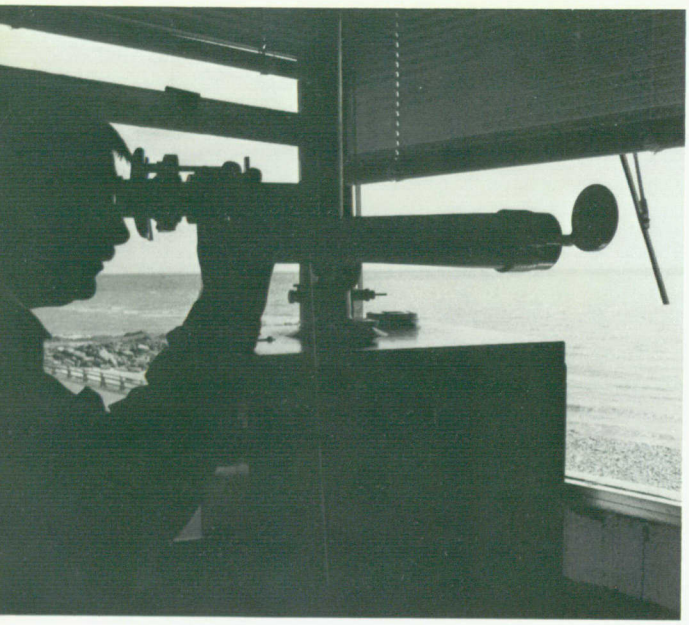
A Realistic Test Environment



The Naval Surface Warfare Center's Fort Monroe Test Facility conducts test and evaluation of a number of weapon systems, subsystems, and components. Located at Fort Monroe, Virginia, adjacent to the Hampton Roads ship channel and the Norfolk Harbor entrance, the Test Facility offers a sheltered, shallow-water harbor range suitable for testing a variety of devices. Originally established to support the Naval Surface Warfare Center's underwater mine development program, the Fort Monroe Test Facility is also available for use by Department of Defense activities, other government agencies, and their contractors.

The Naval Surface Warfare Center is the Navy's principal research, development, test and evaluation center for surface ship combat systems, ordnance, mines, and strategic systems support. As Center programs reflect increasingly complex modern technology, the Fort Monroe Facility has broadened the scope of its test and evaluation capabilities to include, for example, surface target sensors, in-water weapons for special forces, and devices associated with anti-submarine warfare, marine research, and oceanographic research.

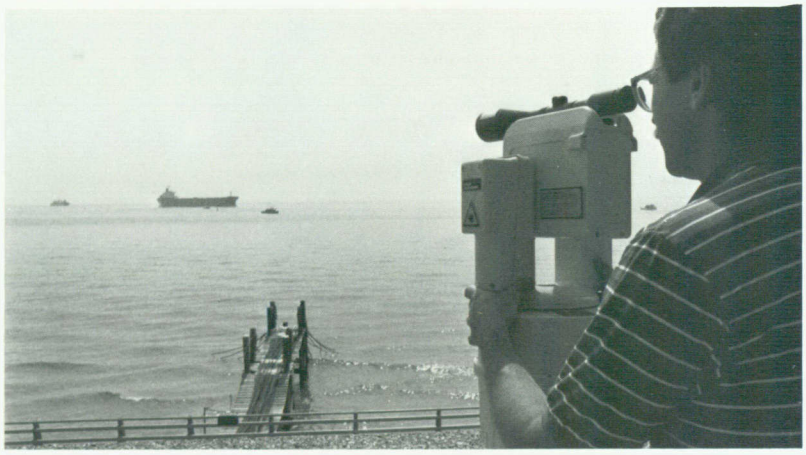
Today, the Fort Monroe Facility keeps pace with the technology employed in surface warfare systems and actively develops modern techniques for test and evaluation. We continue to operate a unique range in which bottom mines, mine sensor systems, and other devices may be tested in their intended environment. For test programs requiring an open-ocean environment, we conduct operations at our nearby Fort Story range on the Atlantic Ocean.

Ship traffic on the Fort Monroe range includes commercial as well as naval vessels, enabling us to collect real-time ship signature data, a valuable resource for the design of advanced underwater devices that must operate against increasingly sophisticated targets. Naval units from the Norfolk Naval Base and Port of Hampton Roads frequently provide test support and target vessels.

The Fort Monroe Facility offers a unique combination of technical, environmental, and logistic advantages. . .

- Sheltered harbor environment for test and evaluation
- Convenient location
- Climate suitable for year-round operation
- Experienced staff
- Excellent marine facilities
- Automated laser and optical tracking systems
- Technical shops and support services
- Secure facilities for classified documents and hardware

Shore Electronics



A modern system of shore electronics enables the Fort Monroe Test Facility to evaluate weapon performance and measure ship signatures. Our operations rely on highly accurate in-water test unit positioning and ship tracking by automated optical and laser tracking systems. Underwater cables conduct data from units planted in the ship channel to instrumentation housed on shore in the Range Building. From a vantage point overlooking the narrow ship channel, our computer-controlled optical and laser positioning systems take measurements as ships range over the cable field. The laser system, operating from the roof of the Range Building, will automatically track any ship equipped with a laser reflector while continuously feeding range and bearing data to the computers.

The optical scopes are mounted in two towers, one on the Range Building and the other on the beach. Angle-tracking position readers at the base of the scopes send angle readings to displays in the Range Building, where a computer converts them to tracking data. At the end of each test run, the recorded data displays the distances between the ship and each of the underwater units so that we can precisely determine relative positions.

Our shore electronics provide valuable information on how underwater mechanisms and sensors react to a wide variety of ships in a typical harbor setting with normal industrial and marine traffic background noise.

Other data, in the form of ship signature measurements, leads to improved techniques for detecting surface ships and submarines and, ultimately, to the development of weapons that perform more effectively against a variety of current ship targets. A multiple-influence sensor system, mounted on a platform and strategically placed in the ship channel, measures ship signatures for instantaneous relay to the collection instrumentation in the Range Building. The types of signatues we measure include acoustic, magnetic, seismic, pressure, and electric potential.

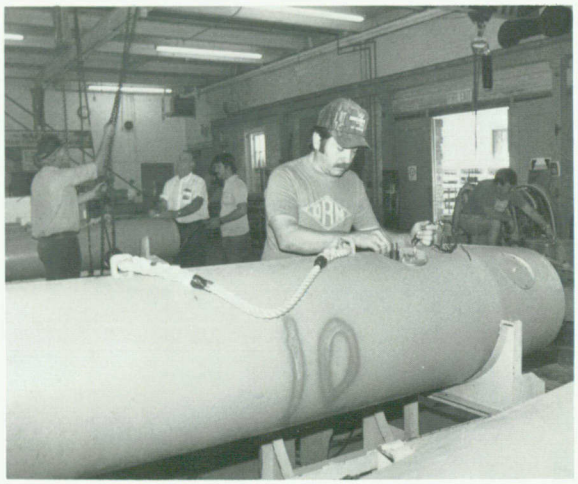
Marine Facilities

The Fort Monroe Test Facility's marine resources, combined with the specialized capabilities of our staff, offer excellent test and evaluation support for technical programs. Our marine facilities include two 64-foot Box-L work boats, a 26-foot launch, a large wharf, an assembly shop, and a workshop building. Because both shop buildings are located at the wharf, all fabrication, assembly, and repair operations may be concentrated in an area convenient for delivery of test units and loading aboard the work boats.

The boats, which frequently work in tandem, are manned by skilled boat captains, enginemen, and qualified deckhands. Both boats have modern navigational equipment and reflectors for laser tracking from the Range Building. Each craft is equipped with a large crane for planting and retrieving heavy units such as mines and sensor platforms. We use large, on-deck cable reelers for planting and recovering cable and maintaining the underwater range.

On shore, the 2700-square-foot assembly shop accommodates full-size hardware for assembly, check-out, and preparation for testing. The wharf area also provides ample work space. In the workshop building, which houses separate machine and welding shops, we fabricate and repair test hardware and components, upgrade our tracking system, and perform boat maintenance. Our marine facilities and staff provide a full range of on-site services to field engineering teams.

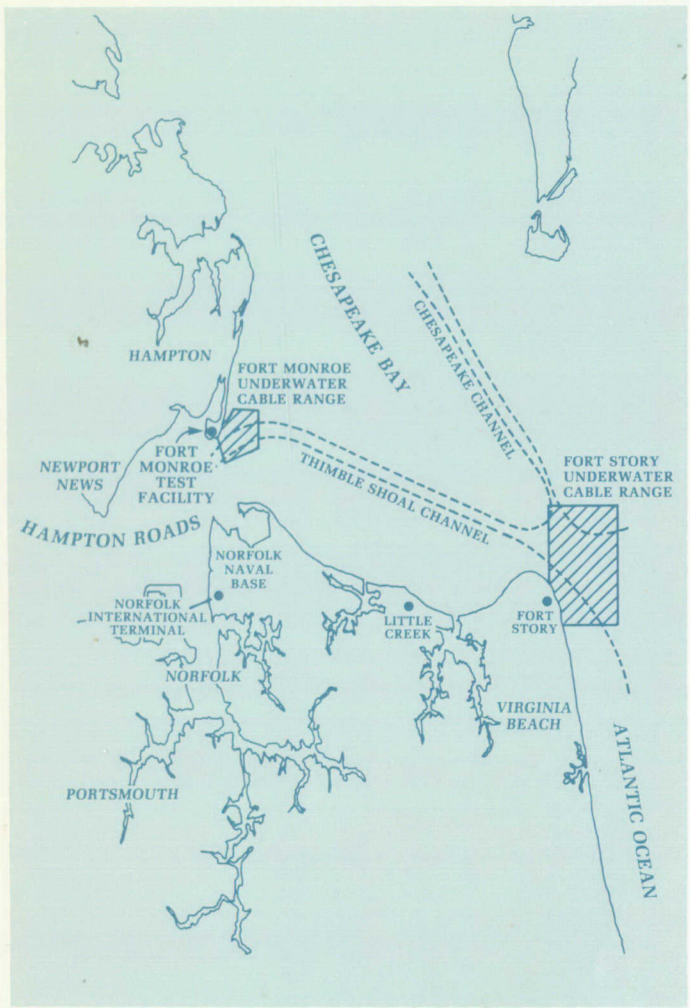
Obtaining Services

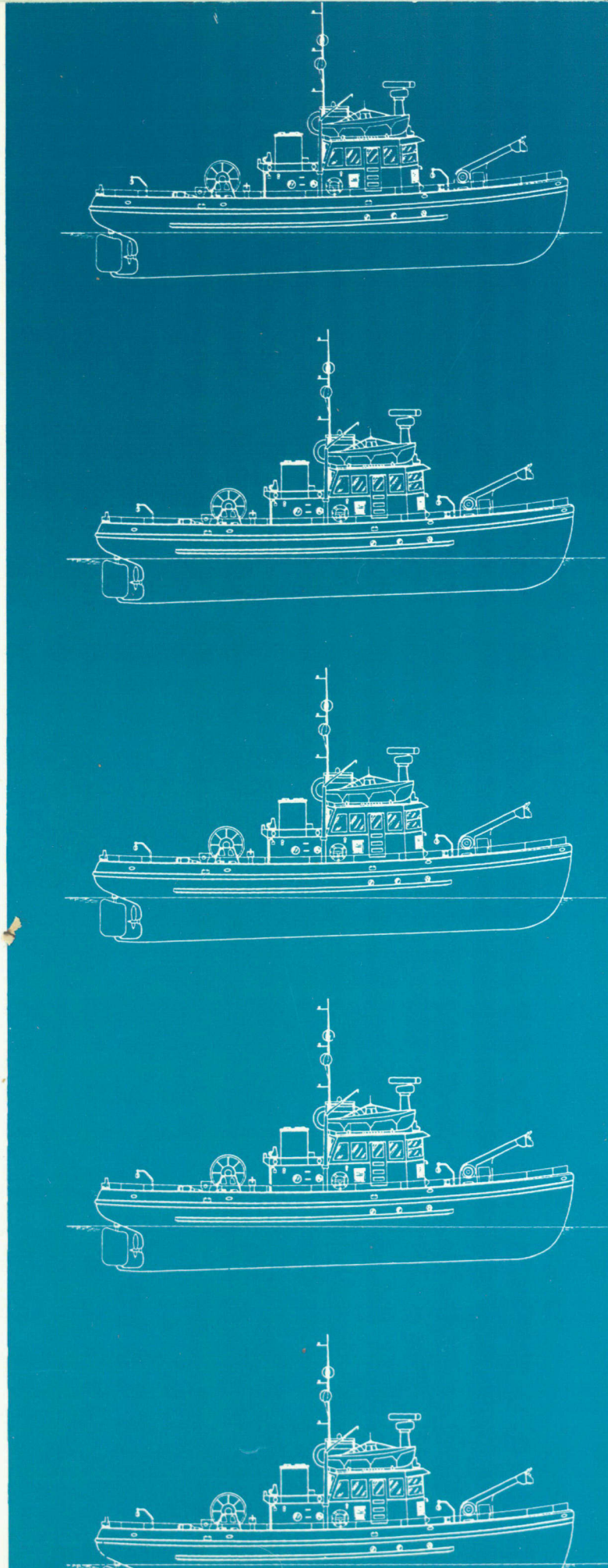


The marine and shore facilities of the Fort Monroe Test Facility are available to support test and evaluation programs for government agencies and their contractors. Prospective users are encouraged to schedule as far in advance as possible. For additional information on our resources, or for assistance in planning your test programs and instrumentation, contact...

Naval Surface Warfare Center
Fort Monroe Branch
P.O. Drawer 127
Fort Monroe, Virginia 23651-0127

Phone: (804) 727-4207
(Commercial)
680-4207 (Autovon)





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