



DEPARTMENT OF THE NAVY
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20350-1000

SECNAVINST 8500.1
SPAWAR 005T
23 October 1987

SECNAV INSTRUCTION 8500.1

From: Secretary of the Navy

Subj: UNDERWATER EXPLOSION TESTING IN NAVIGABLE WATERS OF THE CHESAPEAKE BAY REGION

Ref: (a) OPNAVINST 5090.1 (NOTAL)

Encl: (1) Designated Test Sites in the Chesapeake Bay Region

1. Purpose. To establish policy, procedures, and controls for the conduct of research and development activities involving underwater explosions (UNDEX) in navigable waters of the Chesapeake Bay Region.

2. Cancellation. NAVMATINST 8500.1.

3. Background

a. The Navy has a long-term requirement for underwater explosion test sites. The Navy Judge Advocate General has issued an opinion that the Navy has a legal right to conduct underwater explosion tests in U.S. navigable waters; however, this right must only be pursued with proper regard for public concerns. The Navy fully recognizes and accepts its responsibility to the public with regard to underwater explosion testing and reaffirms its commitments to preserve the marine environment in which tests are conducted and to ensure the public safety.

b. The Chesapeake Bay and its tributaries have been and continue to be a very important region for conducting underwater explosion tests. There are several technical reasons for the importance of this region. These include:

- (1) Existence of a wide variety of bottom conditions.
- (2) Relatively deep water.
- (3) Favorable year-around climate.
- (4) Existence of a large amount of sheltered waters.

Naval activities involved in underwater explosion tests in the Chesapeake Bay Region must continue to demonstrate extreme sensitivity to public concerns of environment and safety, as well as to perform the necessary job of developing test procedures to ensure public safety, preparing environmental impact assessments, coordinating with state fishery agencies, and providing advance notice to appropriate local, state, and federal officials.

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c. This instruction provides for specific charge weight limits for underwater explosion tests in designated test areas in the Chesapeake Bay Region. It establishes the Director of Navy Laboratories (DNL) (SPAWAR 005) (under the Commander, Space and Naval Warfare Systems Command (COMSPAWARSYSCOM)), as the central approval and control authority for this type of testing. It also establishes the requirement for annual test plans on the extent of underwater explosion tests in the region. These test plans will enable COMSPAWARSYSCOM to fulfill oversight responsibilities and to efficiently respond to Congress and to the general public regarding utilization of the Chesapeake Bay Region for underwater explosion tests.

4. Scope. This instruction applies to all underwater explosion tests in navigable waters of the Chesapeake Bay Region sponsored by and/or conducted by all components of the Navy.

5. Policy

a. Underwater explosion tests in navigable waters of the Chesapeake Bay Region shall be limited to the designated test sites listed below, and the charge weights shall not exceed the maximum listed for the various sites.

<u>TEST SITE</u>	<u>MAX. CHARGE WEIGHT (LB)</u>
Chesapeake Bay/Solomons	1,500
Chesapeake Bay/Cape Charles	1,500
Explosive Anchorage/Hampton Flats	150
Patuxent River/Solomons	150
Potomac River/Dahlgren Range	150
Norfolk Naval Shipyard/Turning Basin	150
Craney Island/Elizabeth River	150
Potomac River/Indian Head	80
Potomac River/Naval Explosive Ordnance Disposal Technology Center	5

These sites are defined and located by coordinates in enclosure (1); they are approved by the U.S. Army Corps of Engineers and are listed in either Notices to Navigation Interests or the Code of Federal Regulations, either for continuing usage or for specific test series on a per case basis. Each test shall be scheduled in advance under the requirements of this instruction.

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b. Prior DNL (SPAWAR 005) approval in the form of a written waiver is required for use of any test site not listed above or for use of charge weights that exceed the maximum limits for the designated sites.

c. Annual documentation will be compiled, provided to DNL (SPAWAR 005), and maintained on file for all underwater explosive tests in the Chesapeake Bay Region sponsored or conducted under the scope of this instruction.

d. Compliance with federal, state and local safety and environmental requirements and procedures shall be mandatory.

6. Action. The Chief of Naval Operations (CNO) assigns responsibilities as follows:

a. Commander, Space and Naval Warfare Systems Command (Director of Navy Laboratories (SPAWAR 005)).

(1) Function as the central control authority for all underwater explosion tests in the Chesapeake Bay Region conducted under the scope of this instruction.

(2) Ensure that appropriate Navy officials and public affairs offices are notified of all incidents which lead to or have the potential to lead to adverse environmental impact or public reaction, and that the requirements of reference (a) have been satisfied.

b. Systems Commanders/Major Components.

(1) Require compliance of subordinate commands with this instruction.

(2) Evaluate requests for waivers of the sites and limits defined in paragraph 5 and forward recommendations to the DNL (SPAWAR 005).

c. Commander, David Taylor Research Center (DTRCEN), and Commander, Naval Surface Warfare Center (NAVSWC).

The Commander, NAVSWC shall be responsible for scheduling of tests at the designated sites in Maryland waters of the Region (including the Patuxent and Potomac River tributaries), and the Commander, DTRCEN shall be responsible for the scheduling of tests at the designated sites in Virginia waters of the Chesapeake Bay Region. It is also the responsibility of the scheduling activity to: (1) maintain on file appropriate environmental impact assessments for the test sites; (2) ensure that proposed tests and test procedures adhere to environmental guidelines and protect the public safety; and (3) provide advance notice of tests to appropriate local, state, and federal officials.

(1) Document all planned underwater explosive tests in the Chesapeake Bay Region annually. This documentation should include:

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- (a) Name of sponsoring command and performing activity.
- (b) Number, type and size of explosive charges.
- (c) Location of test site.
- (d) Purpose of the tests.
- (e) Test schedules.
- (f) Environmental impact documentation.

Plans from test sponsors or activities performing the tests should be provided to NAVSWC or DTRCEN as appropriate, no later than 30 September for the next fiscal year. Plans will be amended as necessary for additional or significantly changed tests. These plans are to be maintained for inspection purposes, as required.

(2) Obtain prior approval from the DNL (SPAWAR 005) for all planned underwater explosion tests in the Chesapeake Bay Region which do not conform to the established sites and charge weight limits defined in paragraph 5. A request for waiver shall be forwarded to DNL (SPAWAR 005) via the sponsoring agency. Such DNL (SPAWAR 005) approved waivers will be granted only in exceptional cases where urgency and importance to the Navy or national security can be clearly demonstrated, and they will be considered as only temporary in nature. Any stated conditions shall be followed for the duration of the period covered by the waiver. Requests for waiver shall include:

- (a) Names of sponsoring command and performing activity.
- (b) Dates of the explosive tests.
- (c) Location.
- (d) Number and size of explosive charges.
- (e) Purpose of the test.
- (f) Description of environmental assessment and coordination with federal, state or local agencies accomplished or planned by the performing activity.
- (g) An assessment of the potential damage to environment and property and proposed special action to be taken to minimize any adverse environmental impact.
- (h) A description of public safety measures planned.
- (i) Discussion of alternative sites and any resultant cost, schedule and performance impacts.

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(j) Evidence of compliance with reference (a).

(3) The Commander, DTRCEN and Commander, NAVSWC will submit the current year test plans and the prior year test results to DNL (SPAWAR 005) by 31 December.

(4) Promptly notify DNL (SPAWAR 005) and test sponsor of all incidents which lead to or have the potential to lead to adverse environmental impact or public reaction. Indicate corrective action taken or planned.

(5) Continue to fulfill requirements for preparing environmental assessments, coordinating with state fishery agencies, and providing advance notice to appropriate local, state, and federal officials as required by reference (a). Copies of all environmental assessments and related correspondence shall be provided to the DNL (SPAWAR 005).

d. Commanders/Commanding Officers of all Other Shore Activities. Submit their UNDEX test plans and other documentation pertaining to those plans as required to Commander, DTRCEN (if tests are planned in Virginia waters), or to Commander, NAVSWC (if tests are planned in Maryland waters), as described in paragraph 5a. The data and documentation submitted should be sufficient so that the requirements described in paragraph 6c can be fulfilled. Upon completion of tests, resubmit the data requested in paragraph 6c(1) to reflect the actual test results not later than 30 days following the tests.



H. Lawrence Garrett, III
Under Secretary of the Navy

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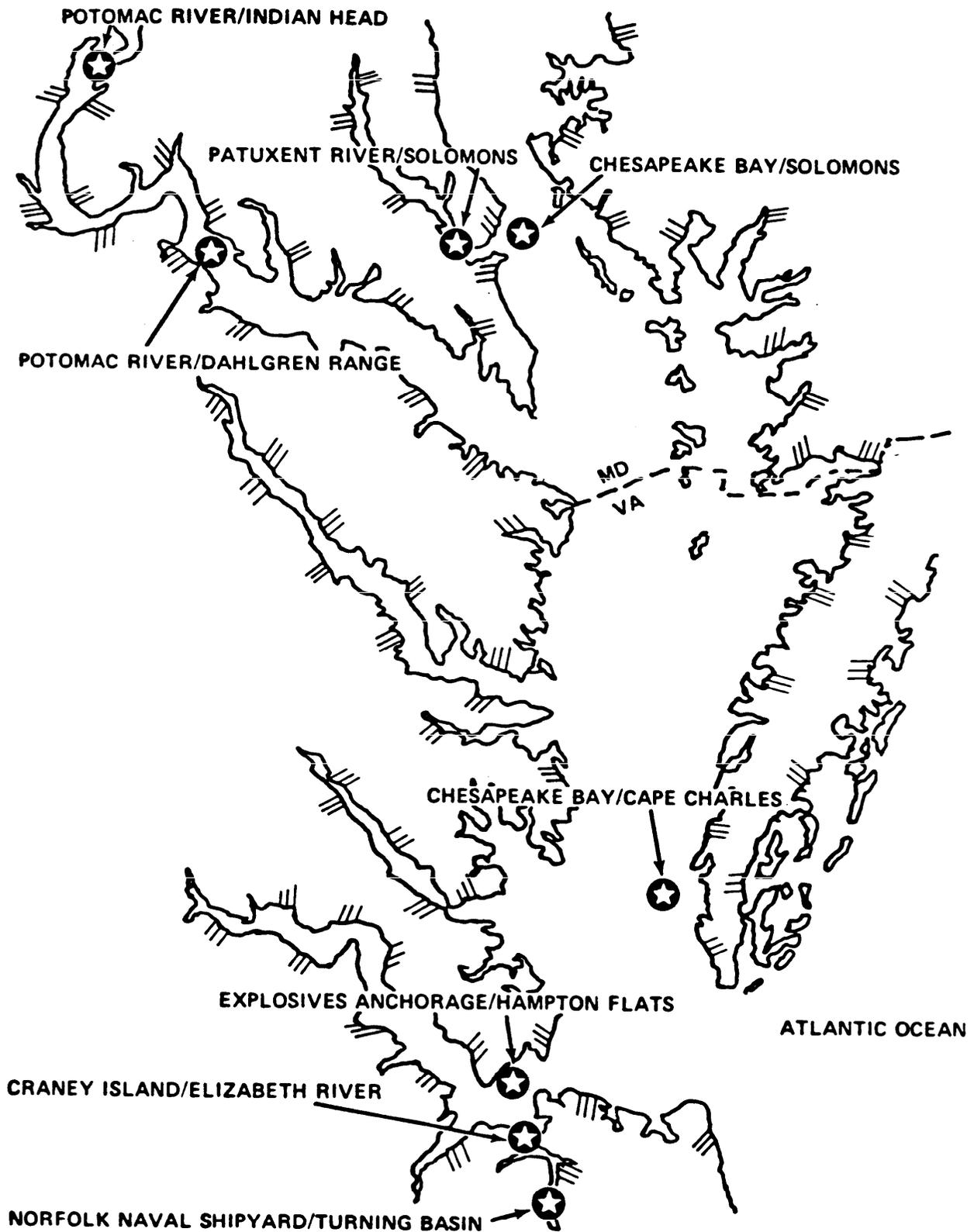
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DESIGNATED TEST SITES IN THE CHESAPEAKE BAY REGION



Enclosure (1)

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CHESAPEAKE BAY/SOLOMONS

Notice to Navigation Interests, Public Notice No. 450, 800.2121 NAWVG, dated 18 February 1954, issued by the Army Corps of Engineers permits underwater explosion testing by the Navy in the Chesapeake Bay near the mouth of the Patuxent River in an area bounded by the following coordinates:

38° 20' 00" N, 76° 24' 00" W
38° 18' 30" N, 76° 24' 00" W
38° 18' 30" N, 76° 17' 00" W
38° 22' 00" N, 76° 18' 30" W

This site is shown in Figure 1; the maximum DNL (SPAWAR 005) approved explosive charge weight for this site is 1,500 lbs. Within this site, the following three areas are used most frequently for testing.

A. Test area about 1,800 ft x 3,600 ft with an average water depth of 30 ft, located by the coordinates:

38° 19' 10" N, 76° 21' 31" W
38° 19' 10" N, 76° 21' 50" W
38° 19' 47" N, 76° 21' 31" W
38° 19' 47" N, 76° 21' 50" W

B. Test area about 2,550 ft x 8,100 ft with an average water depth of 55 ft, located by the coordinates:

38° 20' 18" N, 76° 20' 18" W
38° 20' 27" N, 76° 19' 54" W
38° 19' 07" N, 76° 19' 35" W
38° 19' 18" N, 76° 19' 08" W

C. Test area about 2,250 ft x 9,000 ft with water depths from 80 to 150 ft, located by the coordinates:

38° 20' 57" N, 76° 18' 43" W
38° 21' 06" N, 76° 18' 20" W
38° 19' 36" N, 76° 17' 57" W
38° 19' 45" N, 76° 17' 33" W

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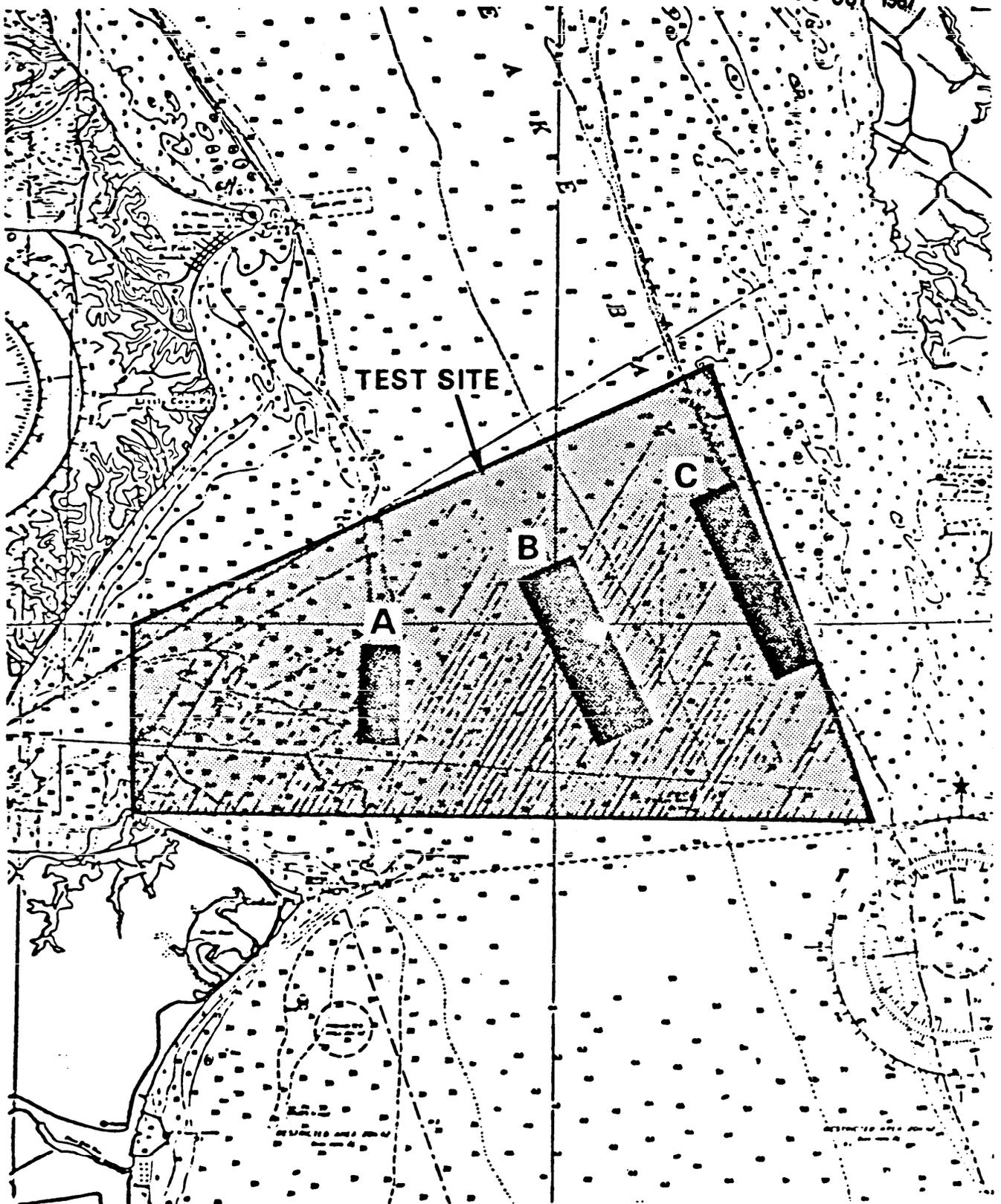


FIGURE 1 CHESAPEAKE BAY/SOLOMONS TEST SITE

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CHESAPEAKE BAY/CAPE CHARLES

Notice to Navigation Interests is issued by the Army Corps of Engineers to permit Navy underwater explosions testing at this site for a specific test series on a per case basis. The site is located in the Chesapeake Bay near Cape Charles and is defined by the following coordinates:

37° 17' 00" N, 76° 06' 00" W

37° 14' 00" N, 76° 06' 00" W

37° 14' 00" N, 76° 03' 30" W

37° 17' 00" N, 76° 03' 30" W

This site is shown in Figure 2; test area is about 15,000 ft x 15,000 ft with water depths from 87 to 142 ft. The maximum DNL (SPAWAR 005) approved explosive charge weight for this site is 1,500 lbs.

Enclosure (1)

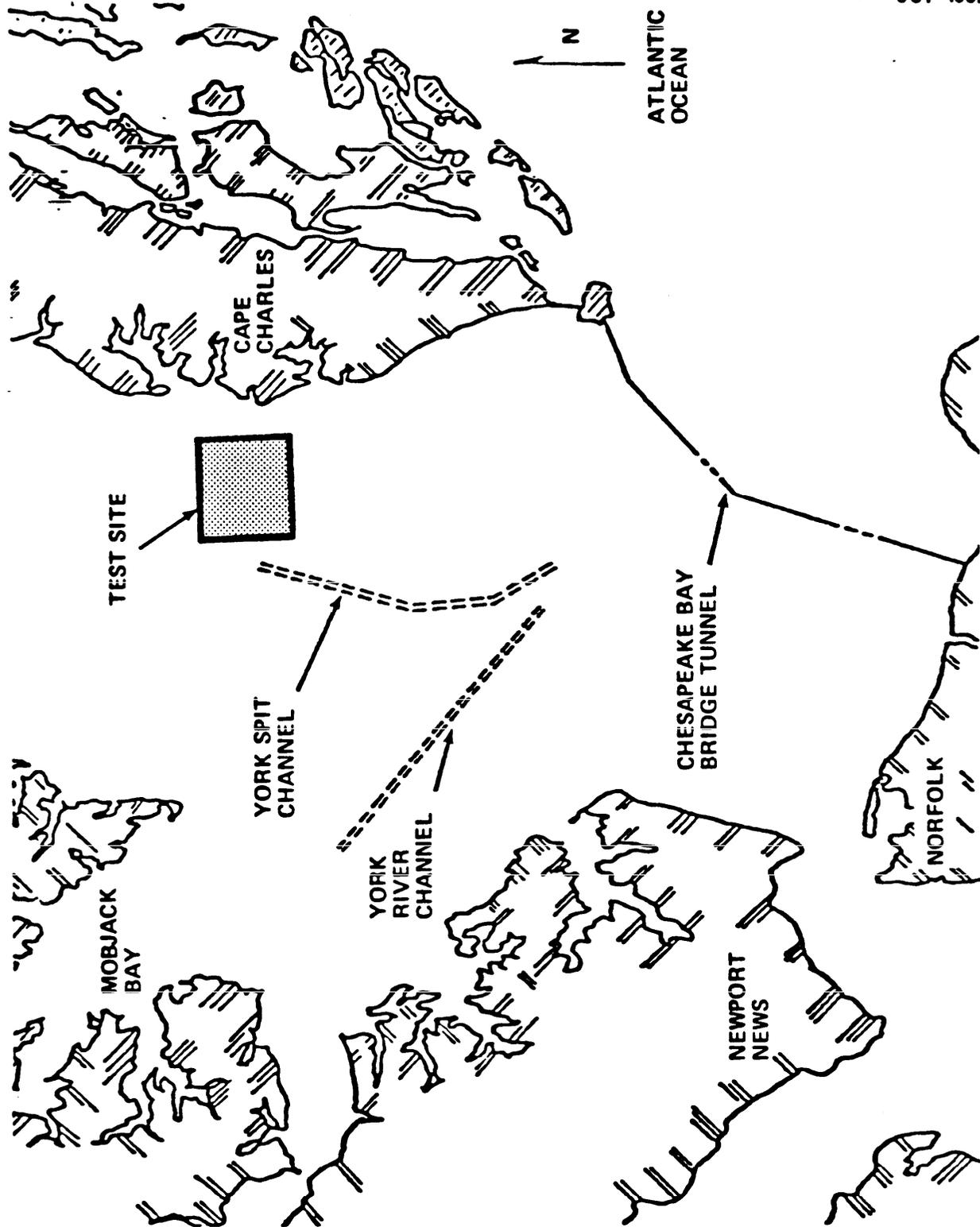


FIGURE 2 CHESAPEAKE BAY/CAPE CHARLES TEST SITE

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EXPLOSIVES ANCHORAGE/HAMPTON FLATS

Code of Federal Regulations, Volume 33, Navigation and Navigable Waters defines the Explosives Handling Berth W in Anchorage B, Hampton Flats as an area reserved for Navy vessels handling explosives. This area is under the control of the Commander, Norfolk Naval Shipyard. Permission to use this site for a specific underwater explosion test series is granted by the AMHAZ Officer, Norfolk Naval Shipyard on a per case basis. The site, shown in Figure 3, is defined as a circular area 1,200 yards in diameter with its center at 36° 58' 18" N, 76° 20' 51" W. Water depths range from 43 to 59 feet. The maximum DNL (SPAWAR 005) approved explosive charge weight for this site is 150 lbs.

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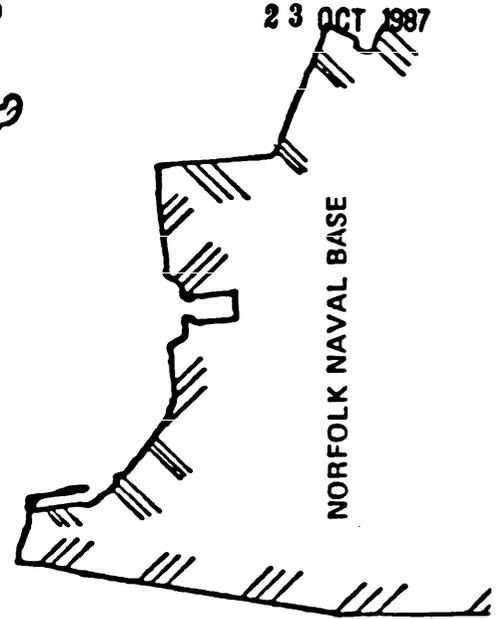
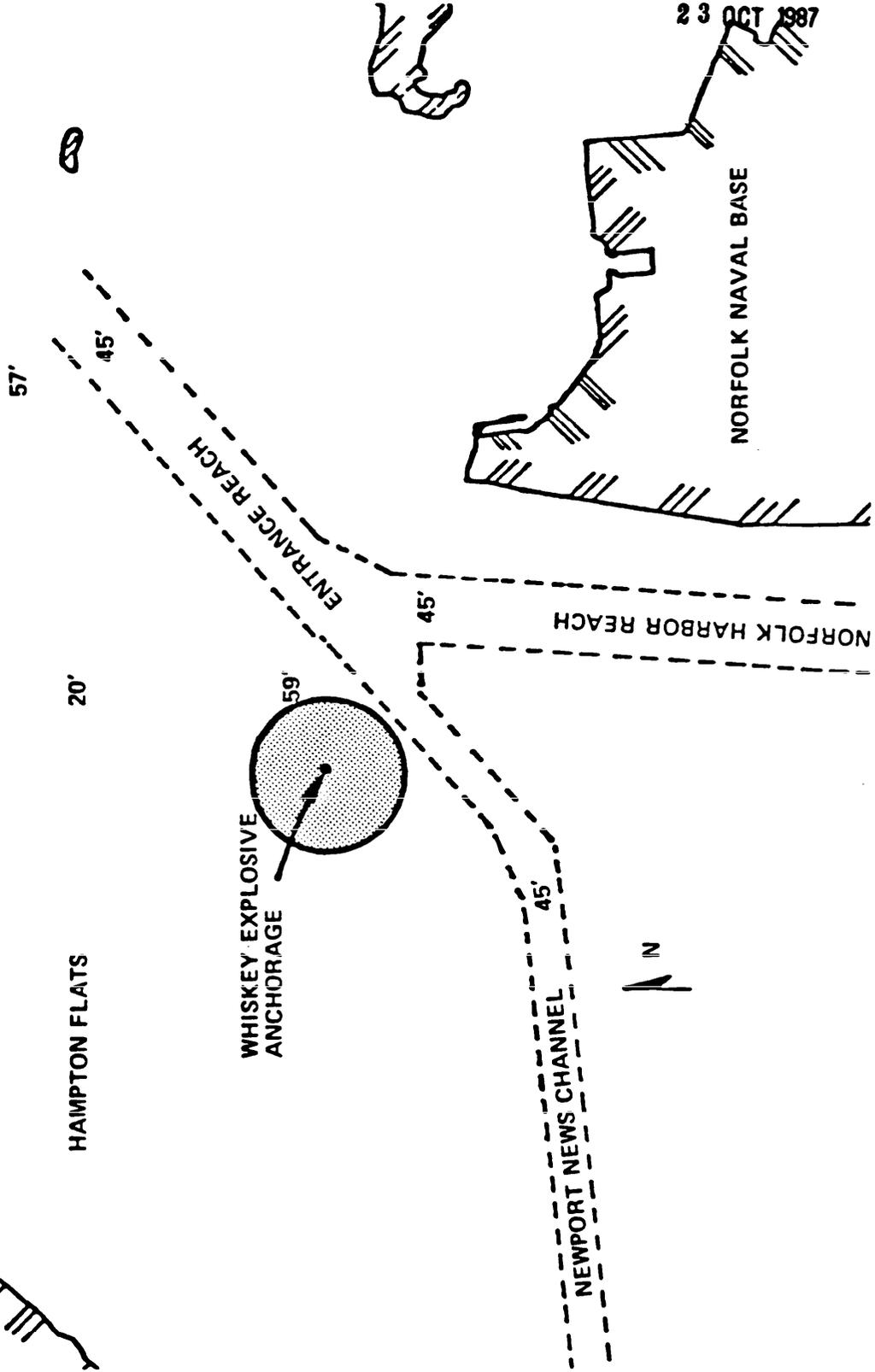
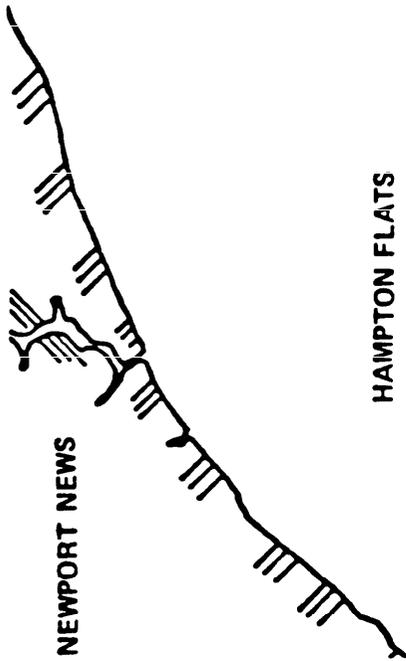


FIGURE 3 EXPLOSIVES ANCHORAGE/HAMPTON FLATS TEST SITE

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PATUXENT RIVER/SOLOMONS

Notice to Navigation Interests, Public Notice No. 519, 800.21 NAWGW, dated 29 May 1956, issued by the Army Corps of Engineers permits underwater testing by the Navy in the Patuxent River near Solomons between Broome Island and Point Patience. This site is shown in Figure 4; the maximum DNL (SPAWAR 005) approved explosive charge weight for this site is 150 lbs. Within this site, the following three areas are used most frequently for testing.

A. Test area about 750 ft x 1,350 ft with an average water depth of 26 ft, located by the coordinates:

38° 23' 48" N,	76° 32' 22" W
38° 23' 48" N,	76° 32' 10" W
38° 23' 34" N,	76° 32' 22" W
38° 23' 34" N,	76° 32' 10" W

B. Test area about 900 ft x 1,350 ft with an average water depth of 38 ft, located by the coordinates:

38° 23' 08" N,	76° 31' 26" W
38° 22' 59" N,	76° 31' 14" W
38° 23' 02" N,	76° 31' 34" W
38° 22' 53" N,	76° 31' 22" W

C. Test area about 750 ft x 3,750 ft with an average water depth of 80 ft, located by the coordinates:

38° 22' 44" N,	76° 30' 48" W
38° 22' 18" N,	76° 30' 17" W
38° 22' 36" N,	76° 30' 55" W
38° 22' 15" N,	76° 30' 24" W

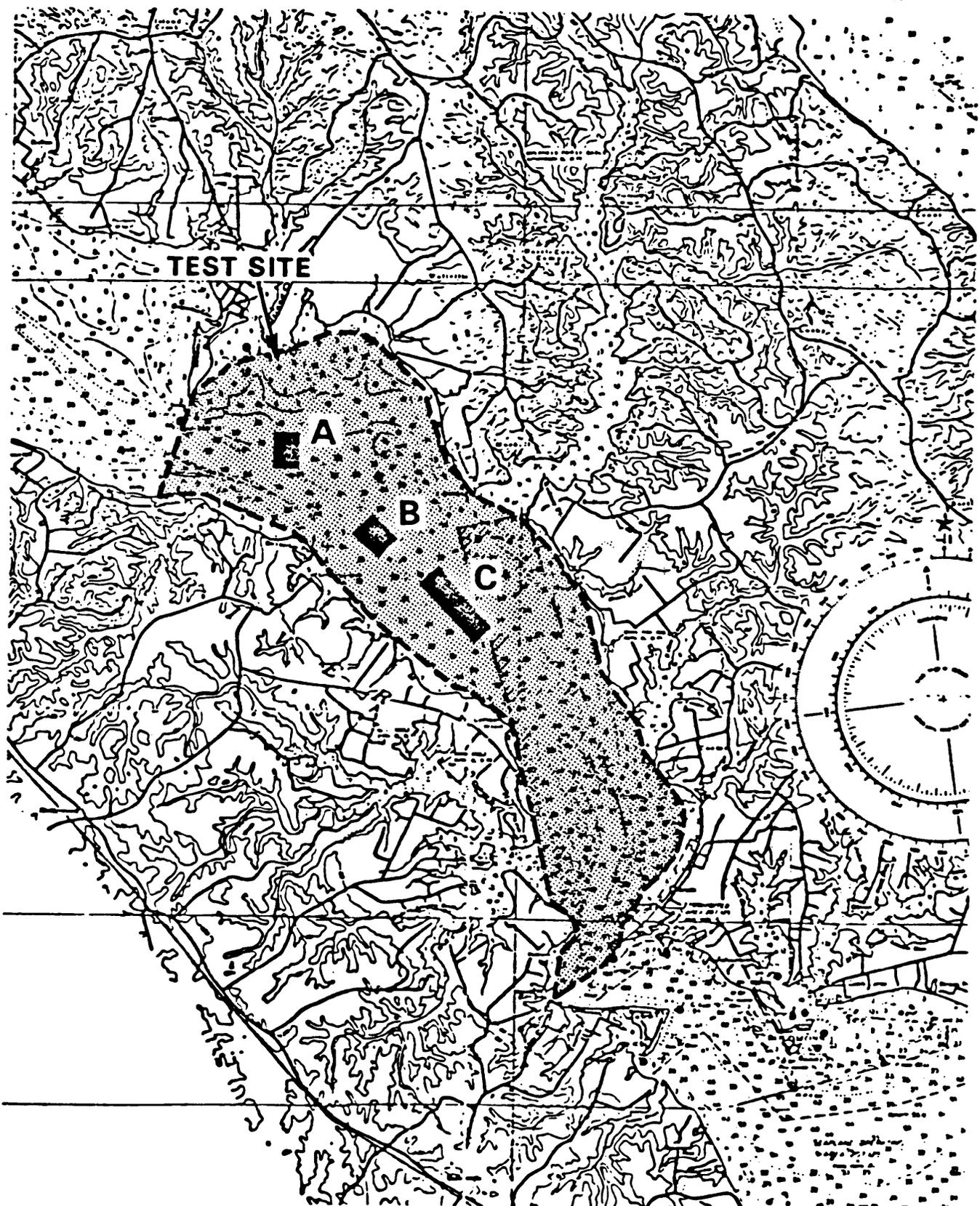


FIGURE 4 PATUXENT RIVER/SOLOMONS TEST SITE

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POTOMAC RIVER/DAHLGREN RANGE

Code of Federal Regulations, Volume 33, Navigation and Navigable Waters defines the restricted danger zones (upper, middle, and lower) for weapons testing in the Potomac River near Dahlgren, Virginia, controlled by the Naval Surface Warfare Center (NAVSWC). These zones extend from Mathias Point, Virginia (above the Potomac River Bridge), to the mouth of the Potomac River at Point Lookout, Maryland. This site is shown in Figure 5; the maximum DNL (SPAWAR 005) approved explosive charge weight for this site is 150 lbs. Within this site, the following four areas are used most frequently for underwater explosions testing.

A. Test area about 1,500 ft x 2,700 ft (near Dahlgren) with an average water depth of 80 ft, shown in detail in Figure 6 and located by the coordinates:

38° 19' 34" N,	76° 59' 17" W
38° 19' 28" N,	76° 59' 00" W
38° 19' 45" N,	76° 59' 32" W
38° 19' 52" N,	76° 59' 14" W

B. Test area about 1,500 ft x 3,300 ft (near Dahlgren) with an average water depth of 60 ft, shown in detail in Figure 6 and located by the coordinates:

38° 18' 10" N,	76° 58' 50" W
38° 18' 18" N,	76° 58' 35" W
38° 18' 38" N,	76° 59' 09" W
38° 18' 46" N,	76° 58' 56" W

C. Test area about 2,000 ft x 7,500 ft (near Piney Point) with an average water depth of 70 ft, shown in detail in Figure 7 and located by the coordinates:

38° 07' 52" N,	76° 33' 05" W
38° 08' 08" N,	76° 32' 44" W
38° 08' 51" N,	76° 34' 02" W
38° 09' 05" N,	76° 33' 39" W

D. Test area about 1,800 ft x 7,000 ft (near Popes Creek) with a water depth of 40 to 100 ft. This area is identified in Figure 5 as part of the

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Upper Danger Area, shown in detail in Figure 7A, and located by the coordinates:

38° 23' 48" N, 77° 00' 33" W

38° 23' 48" N, 77° 00' 10" W

38° 23' 30" N, 76° 59' 40" W

38° 23' 00" N, 76° 59' 25" W

38° 23' 00" N, 76° 59' 40" W

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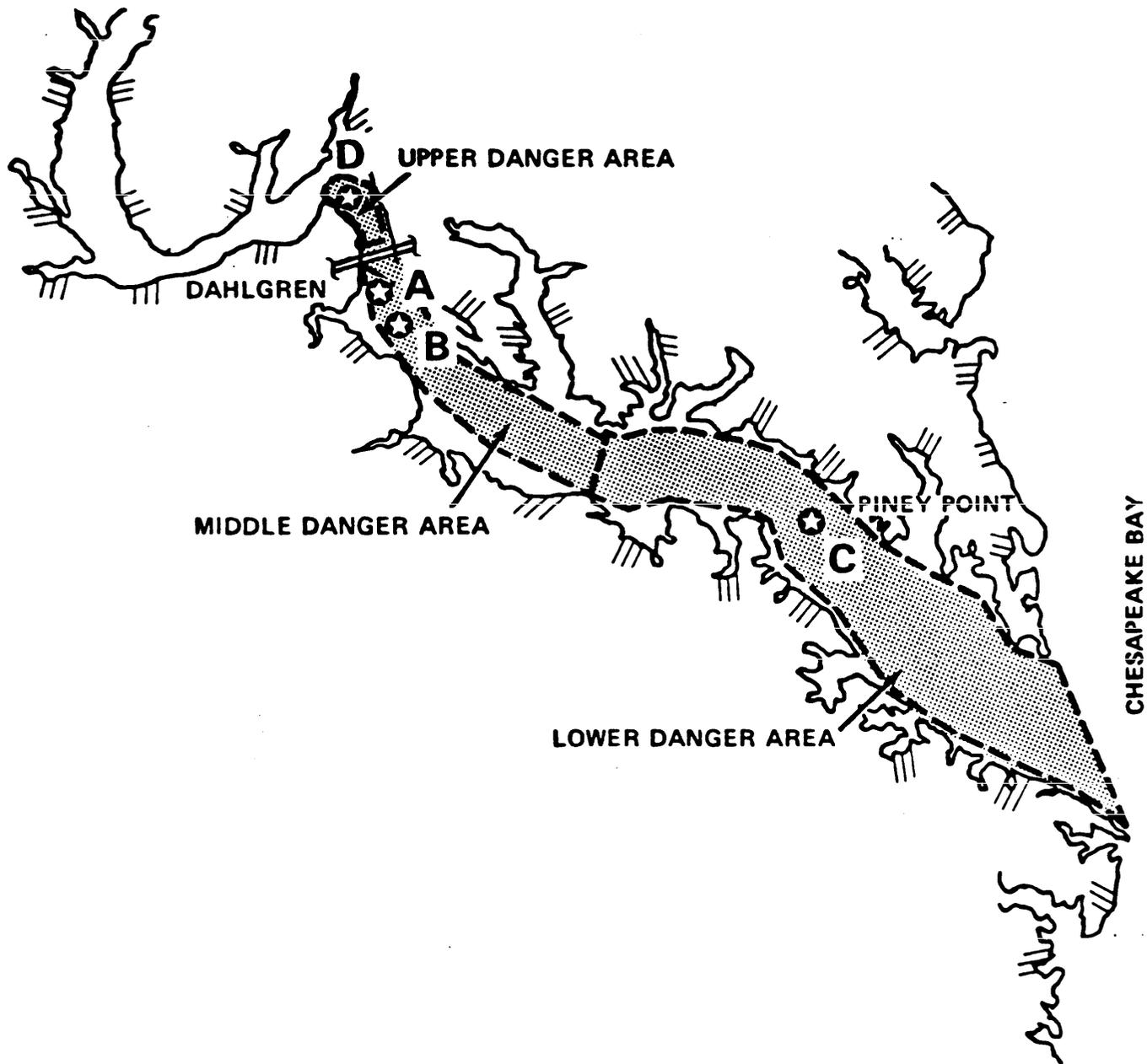


FIGURE 5 POTOMAC RIVER/DAHLGREN RANGE TEST SITE

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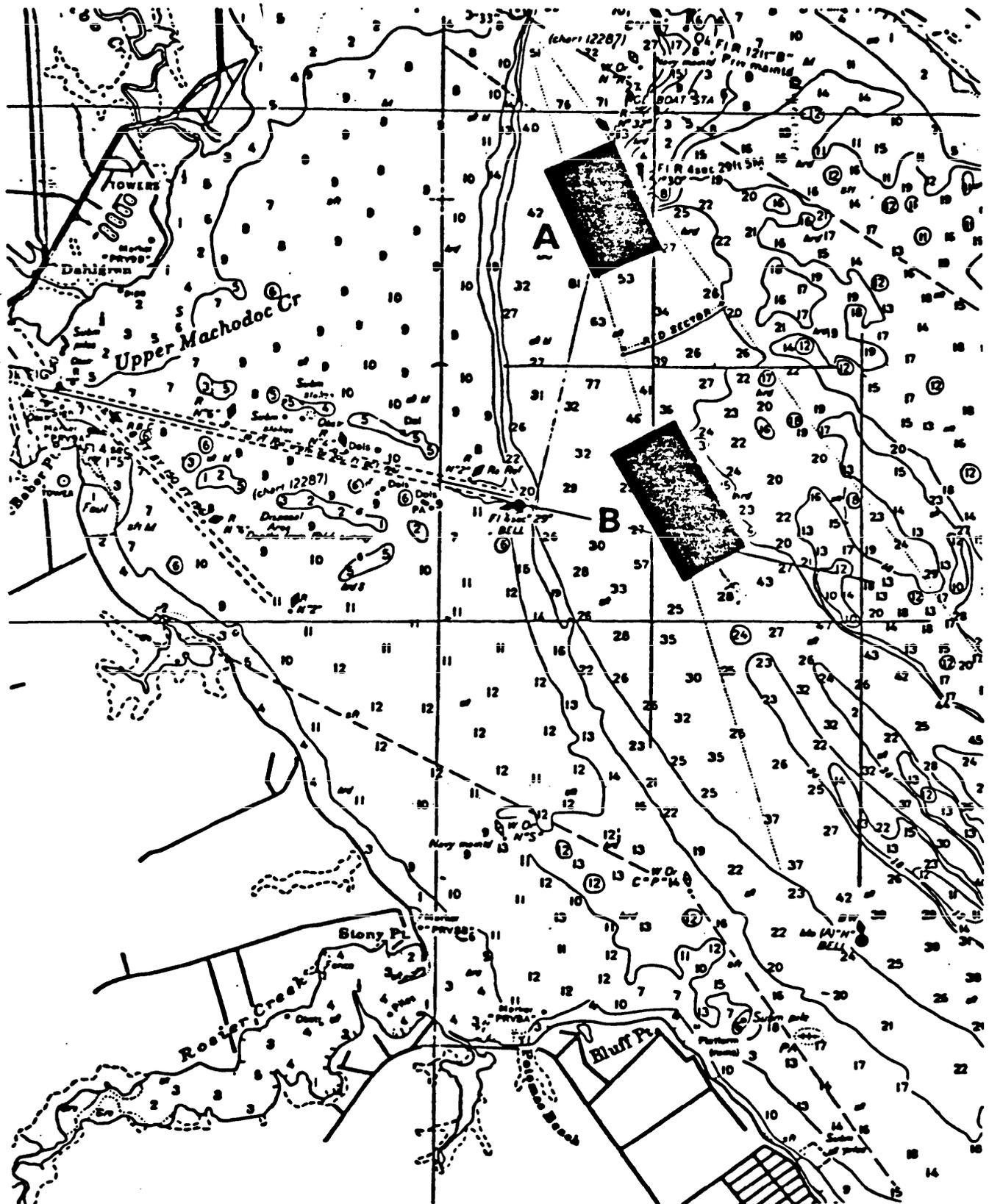


FIGURE 6 TEST AREAS A AND B IN POTOMAC RIVER/DAHLGREN RANGE TEST SITE

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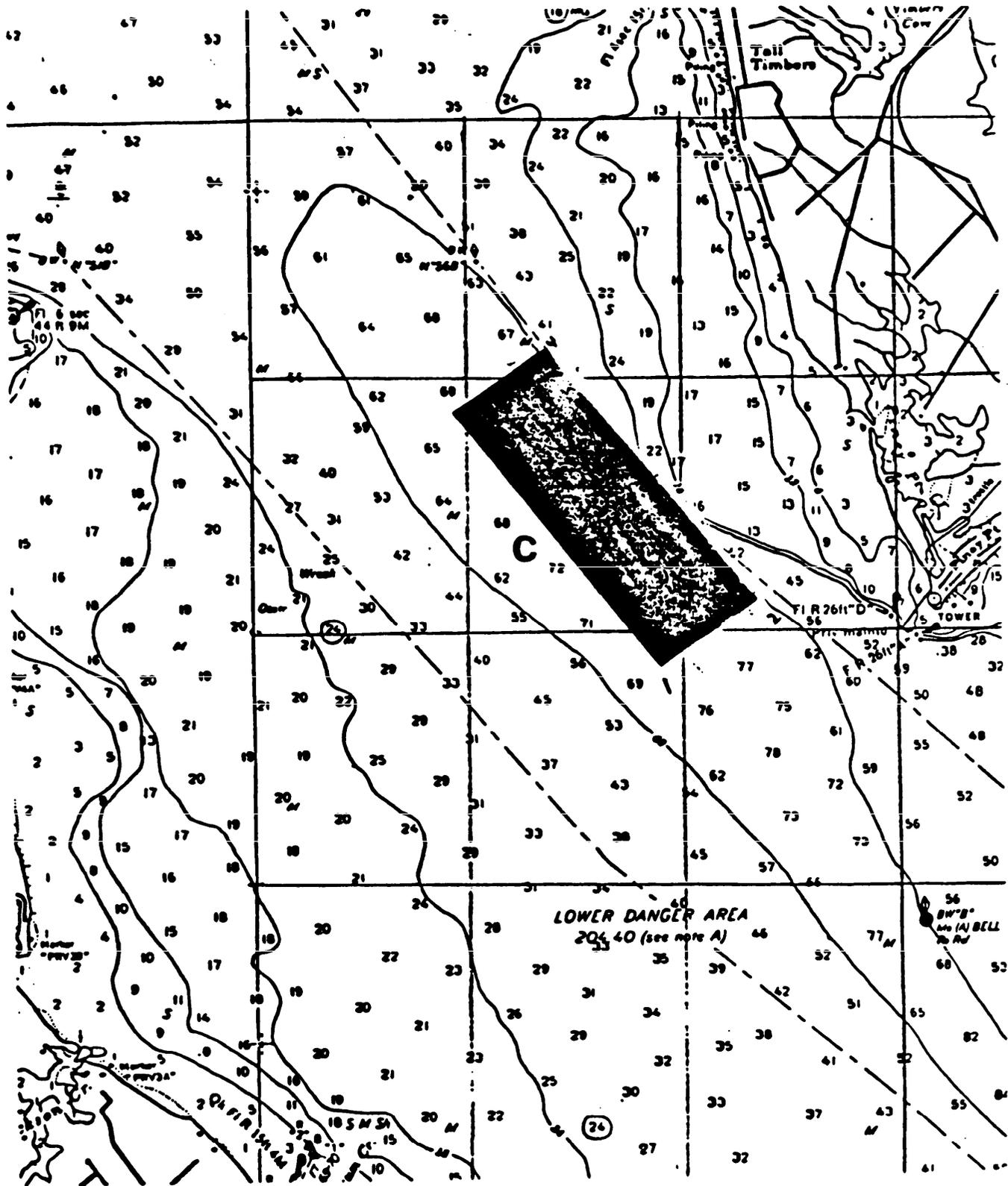


FIGURE 7 TEST AREA C IN THE POTOMAC RIVER/DAHLGREN RANGE TEST SITE

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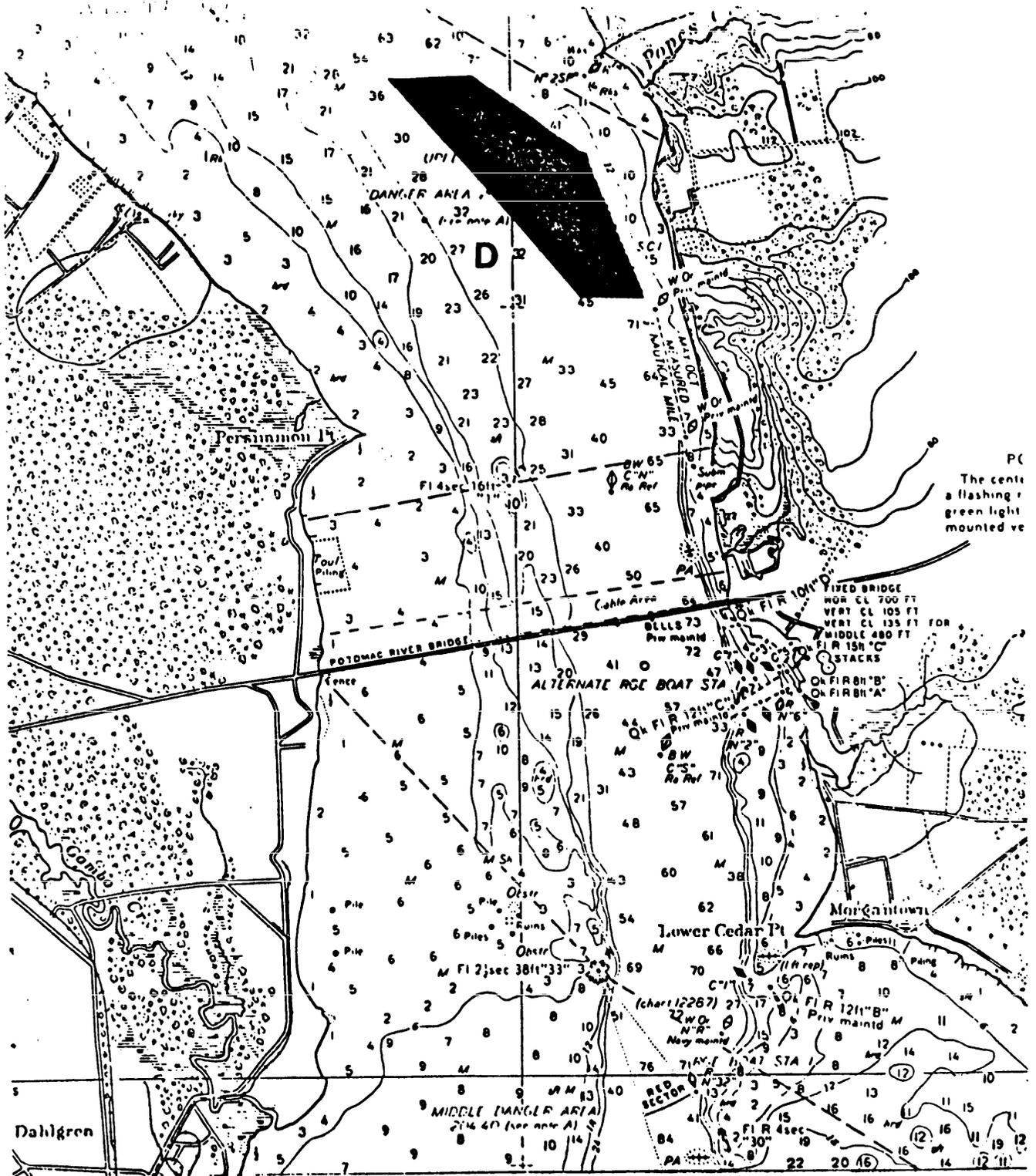


FIGURE 7A TEST AREA D IN THE POTOMAC RIVER/DAHLGREN RANGE TEST SITE

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NORFOLK NAVAL SHIPYARD/TURNING BASIN

Code of Federal Regulations, Volume 33, Navigation and Navigable Waters defines the Turning Basin at the Norfolk Naval Shipyard on the western boundary of the Southern Branch of the Elizabeth River Channel. This area is restricted to Navy vessels and personnel only and is under the control of the Commander, Norfolk Naval Shipyard. Within this area, shown in Figure 8, is a test site approximately 300 ft x 500 ft with an average water depth of 45 ft approved by the Commander, Norfolk Naval Shipyard, for underwater explosions testing. The maximum DNL (SPAWAR 005) approved explosives charge weight for this site is 150 lbs.

enclosure (1)

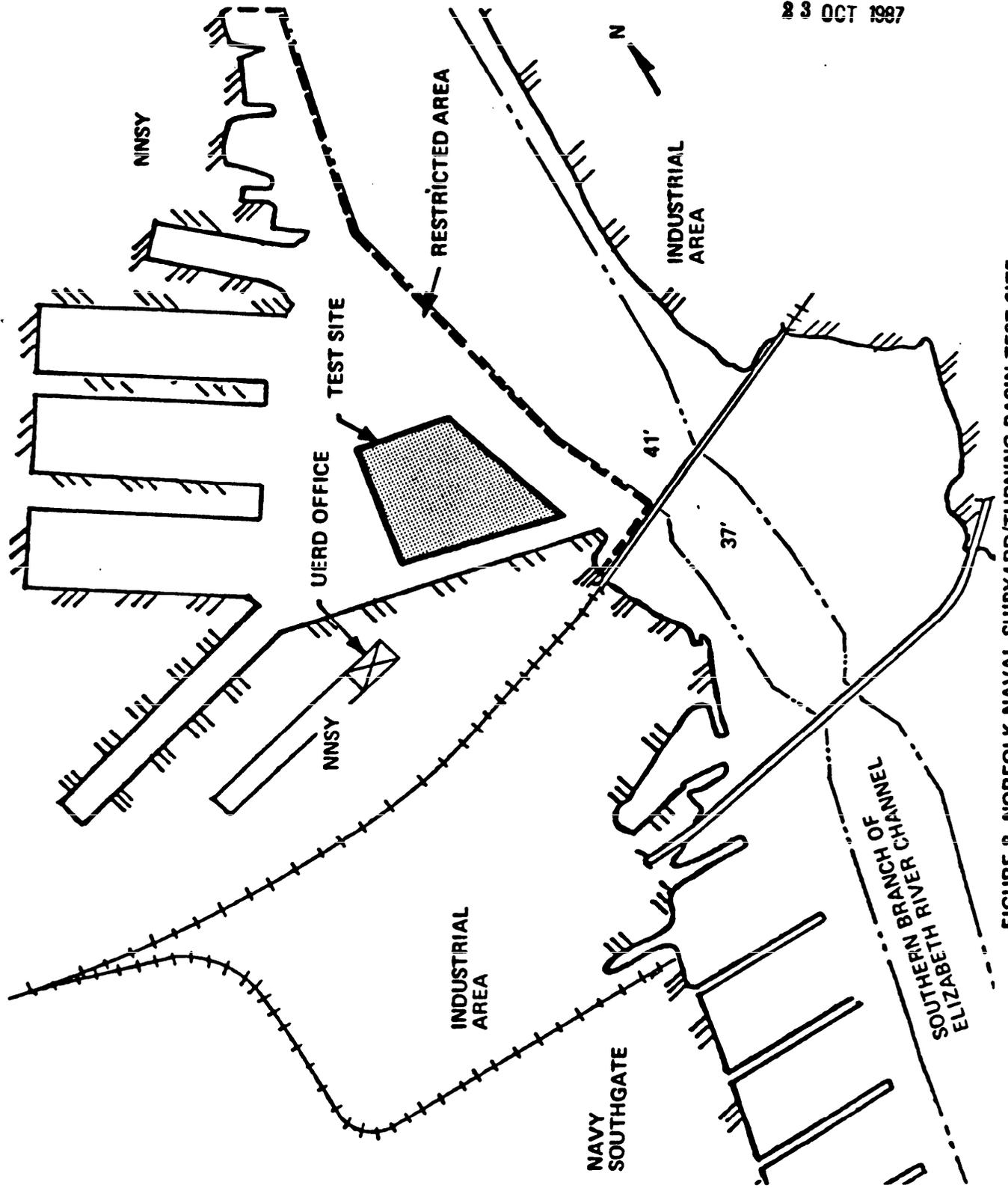


FIGURE 8 NORFOLK NAVAL SHIPYARD/TURNING BASIN TEST SITE

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CRANEY ISLAND/ELIZABETH RIVER

Notice to Navigation Interests is issued by the Army Corps of Engineers to permit Navy underwater explosions testing at this site for a specific test series on a per case basis. The site is located in the Elizabeth River adjacent to Craney Island and is defined by the following coordinates:

36° 54' 00" N,	76° 21' 10" W
36° 54' 00" N,	76° 20' 25" W
36° 55' 40" N,	76° 21' 10" W
36° 55' 40" N,	76° 20' 25" W

This site is shown in Figure 9, test area is about 4,000 ft x 10,000 ft with an average water depth of 12 ft. The maximum DNL (SPAWAR 005) approved explosive charge weight for this site is 150 lbs.

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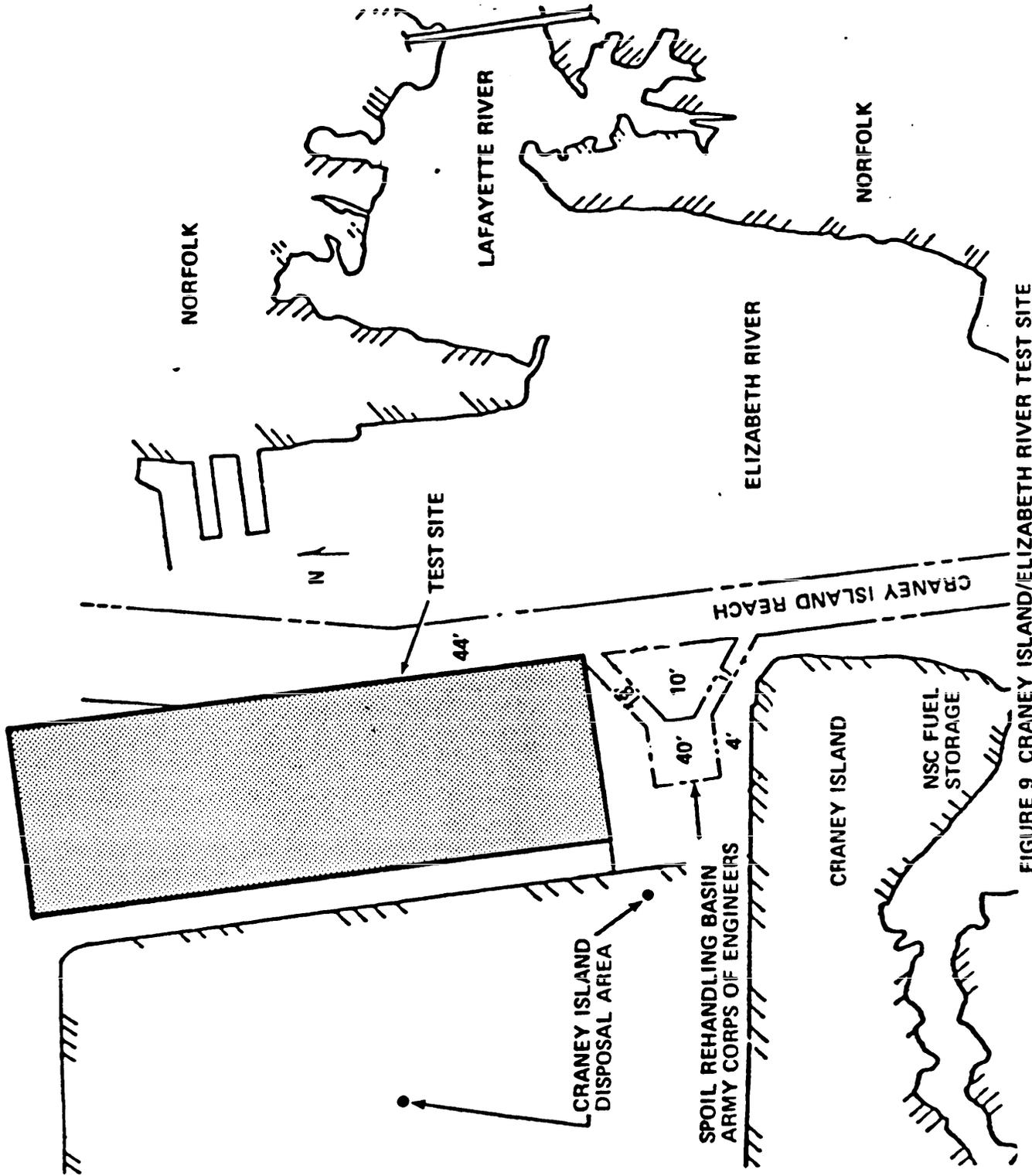


FIGURE 9 CRANEY ISLAND/ELIZABETH RIVER TEST SITE

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POTOMAC RIVER/INDIAN HEAD

Permit NABOP-F/4 (Naval Surface Warfare Center) 75-652, dated 12 May 1978, issued by the Army Corps of Engineers permits underwater explosions testing by the Navy at two specific sites in the Potomac River near Indian Head. These sites are defined by the following coordinates.

A. Test site about 600 ft x 1,200 ft with an average water depth of 80 ft:

38° 36' 43" N, 77° 08' 39" W

38° 36' 38" N, 77° 08' 35" W

38° 36' 48" N, 77° 08' 23" W

38° 36' 42" N, 77° 08' 20" W

B. Test site about 750 ft x 3,000 ft with an average water depth of 45 ft:

38° 36' 27" N, 77° 10' 29" W

38° 36' 35" N, 77° 10' 29" W

38° 36' 27" N, 77° 09' 51" W

38° 36' 35" N, 77° 09' 51" W

These sites are shown in Figure 10; the maximum DNL (SPAWAR 005) approved explosive charge weight for these sites is 80 lbs.

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POTOMAC RIVER/NAVAL EXPLOSIVE ORDNANCE DISPOSAL TECHNOLOGY CENTER PIER

Code of Federal Regulations, Volume 33, Navigation and Navigable Waters defines the restricted danger zone in the Potomac River, Mattawoman Creek and Chicamuxen Creek at the Naval Ordnance Station (NAVORDSTA), Indian Head, Maryland. This danger zone is designated to accommodate controlled explosions in the zone, controlled shore operations, and accidental explosions at NAVORDSTA, and is under the control of the Commanding Officer, NAVORDSTA, Indian Head. Within this zone, shown in Figure 10A, is a test site that includes the water area 500 feet from the centerline of the Naval Explosive Ordnance Disposal Technology Center (NAVEODTECHCEN) pier located at 38° 31' 12" N, 77° 14' 07" W with water depths from 0 to 20 feet. The maximum DNL (SPAWAR 005) approved explosives charge weight for this site is 5 lbs.

Enclosure (1)

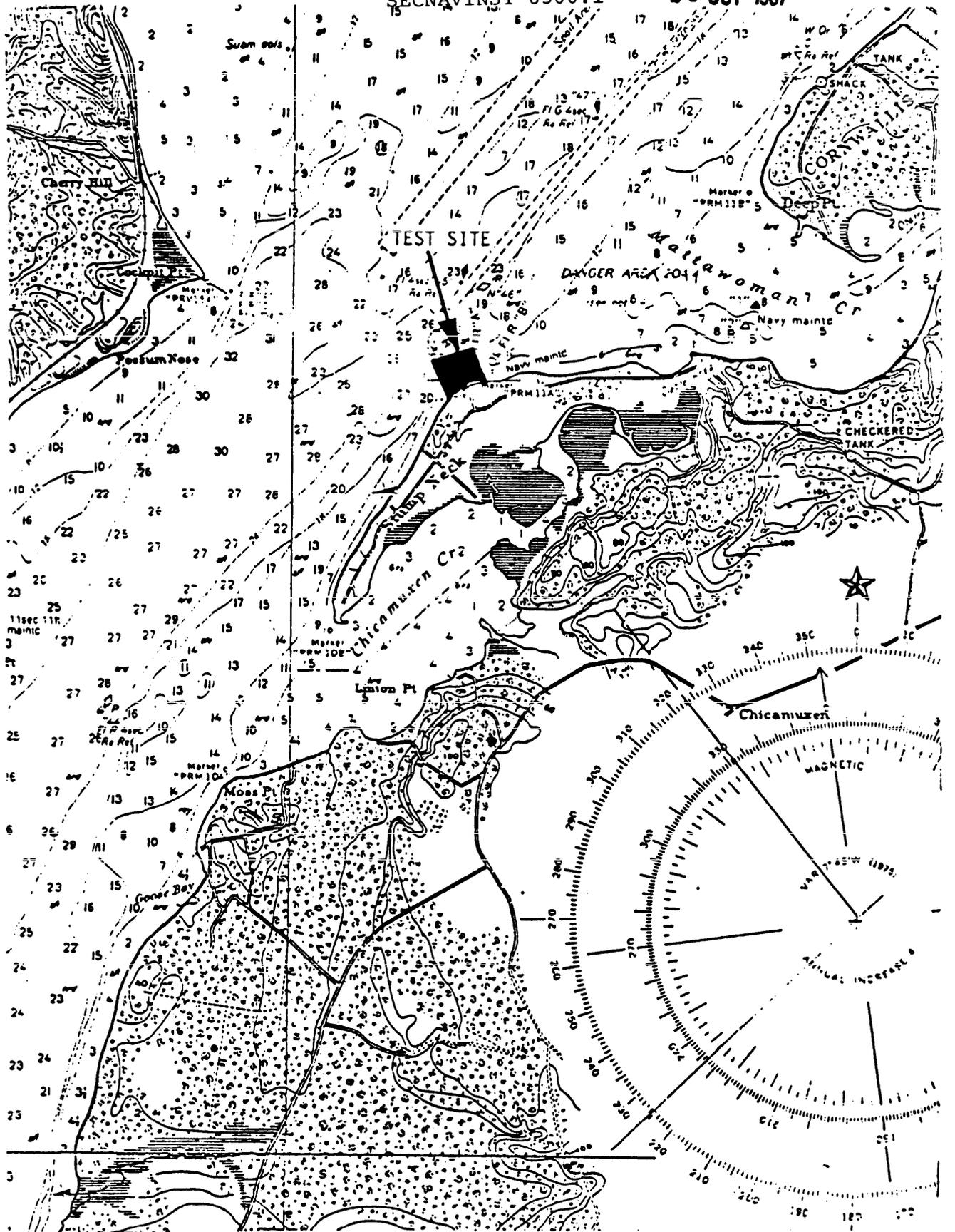


FIGURE 10A POTOMAC RIVER/NAVEODTEHCEN PIER TEST SITE