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INSHORE SURVEY PROGRAM RESEARCH. (U)  
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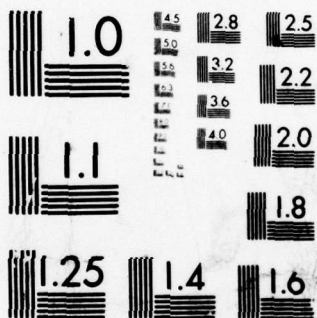
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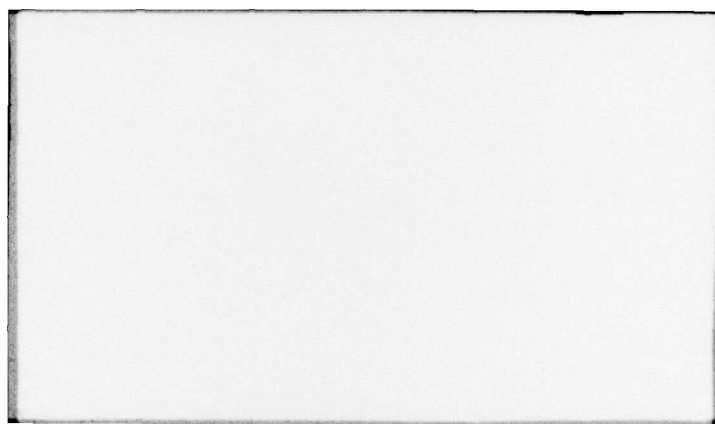
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Woods Hole, Massachusetts

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Reference No. 53-2

6 INSHORE SURVEY PROGRAM RESEARCH

conducted during the period

October 1, 1952 - December 31, 1952

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9 Periodic Status Report No. 7, 1 Oct-31 Dec 52.  
Submitted to Geophysics Branch, Office of Naval Research  
Under Contract N6onr-27712 (NR-084-008)

15  
11 January 1953

APPROVED FOR DISTRIBUTION

*[Signature]*  
Director

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The Contractor shall furnish the necessary personnel and facilities for and, in accordance with any instructions issued by the Scientific Officer or his authorized representative, shall conduct an oceanographic investigation of Boston Harbor.

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### Introduction

→ The objectives of this project have been to gather together all oceanographic material which might be contributory to the defense of Boston Harbor. This has included information already available in the literature and data on specific problems to be collected during the course of the two year project. ←

The project is now well embarked upon its final stage, i.e., the field work has been completed (except for wave studies); the laboratory analysis of field collections has been completed in some cases, is nearly completed in others; the collecting of data and synthesis for the final reports are well under way. We are confident that we shall complete the task (waves excepted) before the expiration date, 1 April 1953.

### Cruises

One cruise (ASTERIAS - B2, 19 - 22 Oct. 1952) accomplished the final gathering of field data for the flushing problem. That information, together with that previously gathered, has been combined with arbitrary runoff data to supply some general concepts about the flushing problem of Boston Inner Harbor. These results will be reported shortly.

### Bottom Sediments

The analysis of the bottom sediment samples has continued during the quarter. The mechanical analysis of the orange peel samples has been completed. The map and report on the surface sediments is in preparation. The organic analyses of sediments from the Kullenberg core samples have been completed. The results are being studied and attempts are being made to establish correlations with other Kullenberg data.

Mechanical analyses have been completed on 64 per cent of the Kullenberg core samples; clay fractions make each analysis a lengthy one. A detailed report, based on the laboratory examination of the Kullenberg core samples, is in preparation.

A report on a mineralogical examination of a suite of samples from Boston Harbor (Ref. No. 52-85) and a second report on bottom photographs (Ref. No. 52-91) have been submitted to the Hydrographer.

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Bathymetry

Bromide copies of the boat sheets covering the sounding survey in areas of special interest have been forwarded to us by the U. S. Coast and Geodetic Survey. Their data are being added to our chart mentioned on page 3 of WHOI Reference No. 52-54.

Magnetic Anomalies

Analysis of the magnetic anomaly survey made in HAZEL III in June is progressing slowly under the direction of Mr. Miller at Lamont Geological Observatory.

Wave Measurements

Numerical analysis of the wave measurements at Nahant are being undertaken by Dr. Pierson at New York University. This task is a lengthy one and will not be completed by the end of the contract period. Field data will be collected until June 1953. Dr. Pierson's group will not have the use of an electronic computer for this data until spring.

A casualty to the wave meter installed off Nahant occurred during a storm in late December. The nature of the trouble will not be manifest until further tests have been made. In all probability it will be necessary to raise the meter from its present location in order to effect repairs.

Bottom Current Measurements

The modification of the Roberts Radio Current Meter for use on the bottom, reported in WHOI Reference No. 52-69, and loaned to the U. S. Coast and Geodetic Survey for use in Chesapeake Bay, has been returned with a report of their experience with it. They made several recommendations which should improve the utility of the modified equipment.

Ambient Noise

A conference is being arranged with the Officer-in-Charge, Harbor Defense Unit, Boston, to consider the nature of the ambient noise as observed on equipment presently in operation.

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Reports

During the quarter the following reports were submitted under the contract:

Reference No. 52-85, Mineralogy of a Few Sediment Samples from Boston Harbor (Confidential), Interim Report No. 15.

Reference No. 52-89, Inshore Survey Program Research conducted during the period July 1, 1952 - September 30, 1952 (Restricted), Periodic Status Report No. 6.

Reference No. 52-91, Hydrographic Survey in the Boston Area, Bottom Photography (cont'd.) (Confidential), Interim Report No. 12.

Informal progress reports have been submitted each month to the Hydrographer.

Ten sections of the Final Harbor Report are now in rough draft.

Future Plans

We intend during the final quarter of this contract to complete reports on the following:

- a. Final oceanographic cruises;
- b. Surface sediments;
- c. Organic analysis of Kullenberg core samples;
- d. Detailed analysis of Kullenberg core samples;
- e. Magnetic anomalies;
- f. Final harbor report;
- g. Final report.

Liaison, Visitors

Messrs. Bumpus and Athearn assisted ComOne in a bottom sampling and current survey of a special area in Casco Bay on board U.S.S. TONAWANDA (AN-89).

Mrs. Madeline Berryman of the Hydrographic Office spent the month of November at this Institution for orientation in the flushing problems.

The following persons connected with the Inshore Survey Program and associated problems have visited this Institution during the quarter:

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Dr. W. L. Tressler	U.S. Navy Hydrographic Office
Lt. C. L. Gillis, USN	" " " "
Dr. Willard J. Pierson, Jr.	New York University
Dr. Parker D. Trask	University of California
Mr. A. R. Miller	Rutgers Group
Mr. L. Williams	Office of Naval Research, Boston

Personnel

Those listed below have been actively engaged on the project, either whole or part-time:

William D. Athearn	Research Assist. in Geology
Dean F. Bumpus	Oceanographer
Wm. S. Butcher	Geologist
John T. Conover	Research Assistant
C. Godfrey Day	Research Assistant
Carlyle Hayes	Research Assist. in Oceanography
Gale G. Pasley, Jr.	Draftsman
Geoffrey G. Whitney, Jr.	Research Assistant

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