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597 Piermont Road
Demarest, New Jersey 07627
February 27, 1980

Archaeological Survey
Contract W.P. 152
Red Hook Foundation
W.P.C.P.

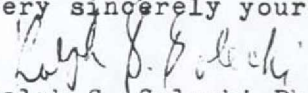
Mr. Mateo F. DeCardenas, P.E.
Resident Engineer
Department of Environmental Protection, New York City
Brooklyn Navy Yard
Sands and Navy Street
Brooklyn, New York

Dear Mr. DeCardenas,

I am enclosing my report entitled, "Preliminary Report on Two Cannons Dating from About the Civil War in the Brooklyn Navy Yard, New York." I have made 14 copies for distribution, including the copy for your office and the others for various agencies, etc., as required and necessary.

As I have indicated in my report, the guns should be cleaned with proper treatment in order that a thorough inspection of the identifying marks can be made on them. However, I am quite positive that we have narrowed the identification to guns of the Dahlgren 8 inch broad side type from the measurements. They are exactly like the one illustrated in the book named in my report.

You are to be congratulated for realizing the importance of these guns, which appear to be very rare (only 355 made), if we are correct in the identification. I am glad to have served your office, since it was an interesting problem.

Very sincerely yours,

Ralph S. Solecki, Phd.

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"Preliminary Report on Two Cannons Dating from About
the Civil War in the Brooklyn Navy Yard, New York"

Contract W.P. 152, Red Hook Foundation

W.P.C. P.

Steers-Buckley-Gates-Spearin

Joint Venture

17 Battery Place

New York, N.Y. 10004

by Ralph S. Solecki, Phd.

597 Fiermont Road

Demarest, N.J. 07627

Preliminary Report on Two Cannons Dating from About the Civil War
in the Brooklyn Navy Yard, New York.

Ralph S. Solecki, Phd.

Two cannons or guns, on the property of the City of New York in the old Brooklyn Navy Yard at the sewage treatment plant now under construction, are believed to be of the Civil War period. These guns were encountered in the course of demolition work of the navy docks as a part of the work on Contract 5 of the Red Hook Water Pollution Control Project. This report is a preliminary one because all of the examinations of the pieces could not be made at the time of inspection for physical reasons. One specimen was still firmly lodged in a concrete sea wall, and the other needed a good cleaning requiring more than the spit and rub kind. Credit for the recognition of the importance of these cannons must be given to the resident engineer of the sewage treatment project, Mr. Mateo S. DeCardenas, P.E.

I learned of the problem and the concern when Mr. DeCardenas, of the Department of Environmental Protection, New York City, telephoned me in November, 1979, to ask me to look at a couple cannons at the site. Accordingly, I made an appointment with him and went to Brooklyn for an inspection trip on November 23, 1979. Mr. DeCardenas took me to the side of the resident engineer's office, where I saw one specimen, and then we went to the sea wall where I saw the other cannon still in place. The first cannon had been taken out of another portion of the sea wall during the demolition work. When it was realized that these items were not ordinary debris, it was decided to have someone give a qualified opinion on them. I was called because of previous business there.

While at the site, I met Mr. J. Rich Steers of the joint

venture company working on the project, who expressed interest in the ~~cannon~~ and the local history. While making my examinations, which took nearly two hours, I was joined by one of my graduate students, Mr. Steven Sanders, who assisted me in making some measurements of the ~~cannons~~ and the in situ position of one of the ~~cannons~~. The latter was imbedded in the concrete sea wall (Plate 1, Fig. 1). I took a number of photographs of the ~~cannon~~ in place (Plates 2-5). It appears to have served as a bullard for docking ships. The ~~cannon~~ was emplaced vertically, muzzle up, in a rectangular kind of concrete protuberance about 18 m from the eastern end of the sea wall (Fig. 1, Plate 2). The emplacement measured 1.8 m wide and 2.5 m long. The ~~cannon~~ is situated 2.6 m from the sea wall edge, and protrudes 1.0 m from the concrete deck. The deck of the sea wall is about 1.8 m above sea level.

No map of the dock area was immediately available for my use and consultation for this preliminary report, although certainly this will be obtained for the final report. It is possible that details concerning the siting of the ~~cannon~~ in the sea wall are documented in the construction records of the Brooklyn Navy Yard. Indeed, it is even possible that within someone's living memory there may be a personal recollection of the event of the ~~cannon~~ emplacement and decisions concerning the occasion. We looked around in the immediate neighborhood of the demolition work in progress for the sewage treatment plant, but could see no other ~~cannons~~.

A close look at the ~~cannon~~ revealed that the muzzle was stopped up, and there was dirt to within 10 cm of the mouth. There is a spike or lug about 3.5 cm in diameter stuck through the ~~cannon~~ about 40 cm from the mouth. On the rusted side of the ~~cannon~~ is

a short streak of white paint on which the number 14¹ is lettered. The cannon bore measured 20 cm in diameter, and the muzzle measured 33 cm across. I could see no markings on the muzzle because of the heavy rust. This cannon was the only fixture of its kind that could be seen along the length of the sea wall in this section. Because of the state of the demolition work, I could not tell the original site of the other cannon, presently reposing at the side of the resident engineer's office. I do not recall if Mr. DeCardenas told me where it had come from either. However, it should be a simple matter to fix for the final report.

We next viewed and examined the ~~cannon~~ lying on the east side of the resident engineer's office, and measured and photographed it (Fig. 2, Plates 7-10). The tape I used happened to be in the metric scale. Like the cannon in the sea wall, this one had a bore of 20 cm, and a muzzle face diameter of 33 cm. Its length overall was 2.90 m, and the width of the cannon at its base was about 57 cm with a perimeter of 1.9 m. The diameter of the trunnion or the lug for the cannon mount was 18 cm. This specimen, like the one still in the sea wall, was heavily rusted, and in addition, it was coated with an adherence of patchy concrete. There should have been identifying marks on the muzzle, the trunnions and near the touch hole, but these areas were so crusted with dirt and rust that no marks could be seen. For identification, these marks should be made visible. According to Francis A. Lord's "Civil War Collector's Encyclopedia" (1965, Castle Books, New York), all cannons were required to be weighed and marked as follows. The number of the gun and the inspector's initials were to be put on the muzzle face (Lord,

1865, p. 34). The numbers were in a separate series for each kind and caliber of the gun at each foundry. There were five privately owned foundries at the start of the Civil War that made cannons. These numbers were marked on the end of the right trunnion. The year of fabrication was marked on the end of the left trunnion, and the foundry number was marked on the end of the right rim base above the trunnion. The weight of the piece in pounds was marked on the base of the breech, and the letters U.S. on the upper surface of the piece, near the end of the reinforce. We have been assuming all along that the cannons are not Confederate or of other origins than the U.S.

The basic publication on Civil War armament, "Artillery and Ammunition of the Civil War," by Warren Ripley, (Van Nostrand Reinhold Co., New York, 1970), has the clues to the identity of the Brooklyn Navy Yard cannons. These cannons, referred to as "guns" in this publication, appear to be very much like the Dahlgren shellgun, a type to which a whole chapter (Chapter 5) is devoted to in the Ripley book. On page 102 of this publication is an illustration (Figure V-21) of a gun whose measurements (in inches) match in every respect the measurements we have taken of the Brooklyn Navy Yard specimens. The gun in the publication, presently set up on a grassy lawn in Oakland, New Jersey, is a Dahlgren shellgun of 8 inch bore diameter. It is of iron, and weighs 6,500 pounds. It is a model 1864, a smoothbore. The length to the vent hole is 98 inches, and its overall length is 115.5 inches. The Trunnions have a diameter of 7.1 inches, and are 3 inches long. These measurements tally almost precisely with the cannon stationed at the side of the resident engineer's office. The markings on the left

trunnion are "P.T.A.H.", the markings on the right trunnion are "VIII-in., 1866." The breech is marked with "C.A. & Co., No. 172, 6460." The cascabel in the rear is marked "-2146." The common name of this gun is "8 inch of 6,500 lbs." The piece was evidently manufactured by Cyrus Alger and Co. of Boston. The model is included in Mrs. Dahlgren's (wife of Admiral Dahlgren) list of the admiral's weapons with 355 of this type having been produced. According to Dahlgren's statistics (in Ripley, 1970, p. 370), this gun had a "BS" carriage of iron, had a bore diameter of 8 inches, a bore length of 98 inches to the vent hole, length overall of 115.5 inches, trunnion diameter 7 inches, trunnion length 3 inches, weight 6,500 pounds, took a 7 pound charge, elevated 10 inches, and shot a shell 2,600 yards, or about a little under 1½ miles. The "BS" stood for broadside, hence this gun was meant for use in sailing ships, which provided long, unencumbered sides for a row of such cannons (Ripley, 1970, p. 217). The carriage type for this gun is illustrated in Ripley (1970, Figures X-53 and X-54).

I made a second trip to visit the site in company with Mr. Sanders, who is interested in ordnance equipment. We rechecked our measurements on the cannon lying next to the resident engineer's office, and conferred briefly with Mr. DeCardenas.

Concerning the cleaning of the specimens, it is advisable that expert opinion be obtained before any cleaning attempts are made on them. It has been suggested that kerosene and the use of a stiff wire brush of brass bristles would be effective in removing the rust. A communication should be made to Mr. Kenneth Morris of the Division for Historical Preservation,

New York State, Peebles Island, Waterford, New York (tel. no. 518 237-8090) before any cleaning of the guns is undertaken. He would like to see them.

Having ascertained the identifying serial nos, etc., we may be able to find out what part the guns played in the war between the states, and other facts concerning their history and disposition to their present resting places. Every precaution should be taken to ensure that the gun still in the sea wall is removed intact. The guns should be inspected and carefully photographed from end to end before any cleaning work is done on them.

Suitable mounts following original plans may be constructed for the guns, and the mounted guns may be installed at the gateway to the city property as a fitting monument. We have no way of determining their value. However, one of my gun collector colleagues asserts that any cannon of fair condition brings upwards of \$ 5,000 on the market. One would think however, that a specimen the weight of a light truck might give pause for second thoughts.

Plates (all photographs by Ralph Solecki)

1. Mr. M. DeCardenas standing next to the cannon still in place along the Brooklyn Navy Yard sea wall. Looking north toward the Williamsburg bridge. Taken November 23, 1979.
2. The cannon in place along the Brooklyn Navy Yard sea wall, looking north. The white patch on the cannon is a paint marker with the number 14' on it. Taken November 23, 1979.
3. Another view like the one above toward the northeast. Taken November 23, 1979.
4. Looking east along the sea wall showing the cannon in place. Taken November 23, 1979.
5. The 8 inch cannon in place in the rectangular abutment along the sea wall at the Brooklyn Navy Yard, looking approximately southwest. The spike driven into the bore is shown. Taken November 23, 1979.
6. Overall view of the area where the cannon in the sea wall is situated (just to the right of the man in the center of the photograph) looking north. Taken from a 35 mm Kodachrome November 23, 1979.
7. View of the cannon lying next to the resident engineer's office, full length. Taken November 23, 1979.
8. Oblique view of the cannon lying next to the resident engineer's office. Taken November 23, 1979.
9. Full view of the cannon next to the resident engineer's office. Mr. Steven Sanders, graduate student at Columbia University at the left. From 35 mm Kodachrome taken November , 1979.
10. Full view of the cannon next to the resident engineer's office. Dr. Ralph Solecki at the left, and Mr. Steven Sanders right. Taken from 35 mm Kodachrome November , 1979.

Figures

1. The emplacement of a cannon used as a bullard in the Brooklyn Navy Yard seawall. Sketch made November 23, 1979 by Ralph Solecki.
2. Diagram of the cannon lying next to the resident engineer's office at the construction site of the Red Hook sewage treatment plant. Sketch made November 23, 1979 by Ralph Solecki.

Appendix 1

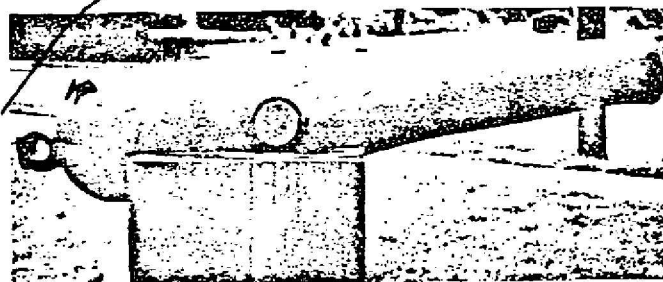
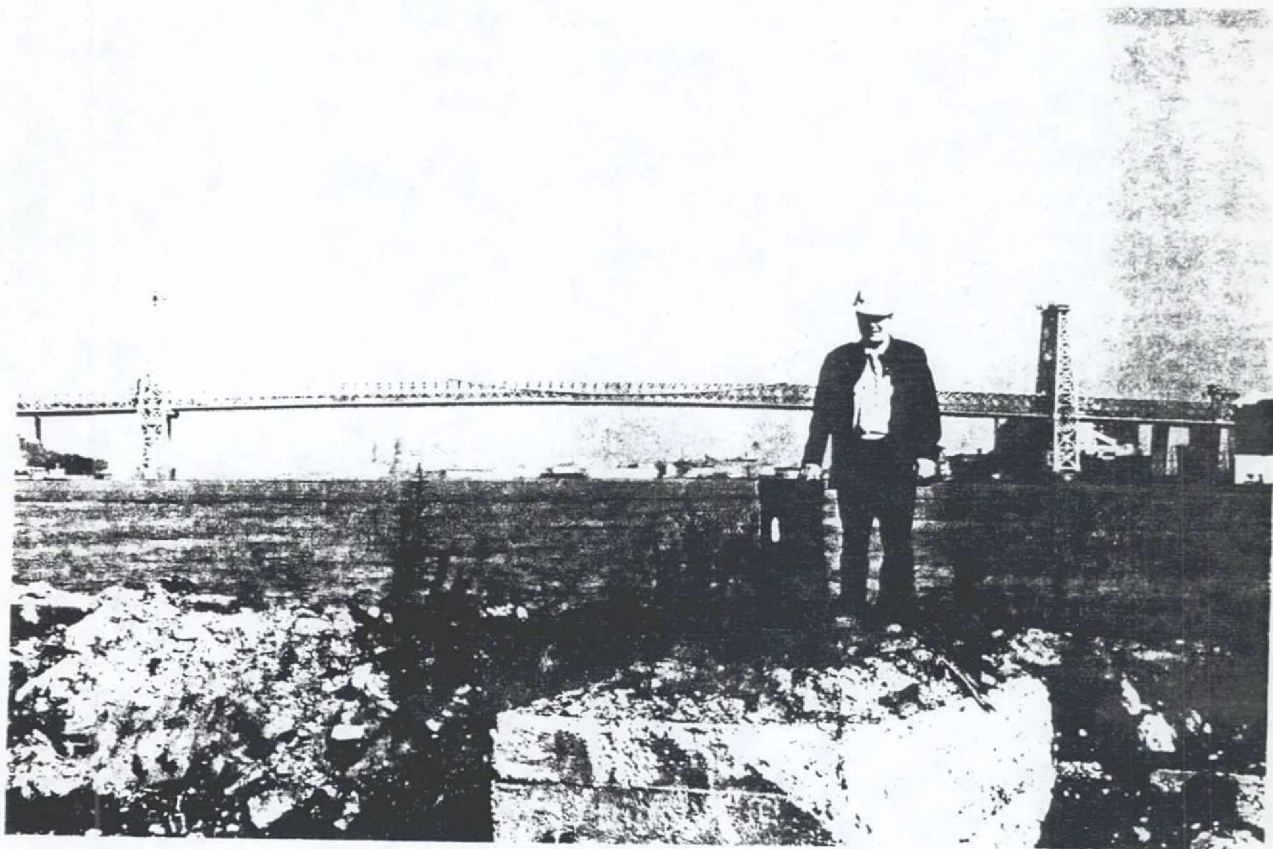
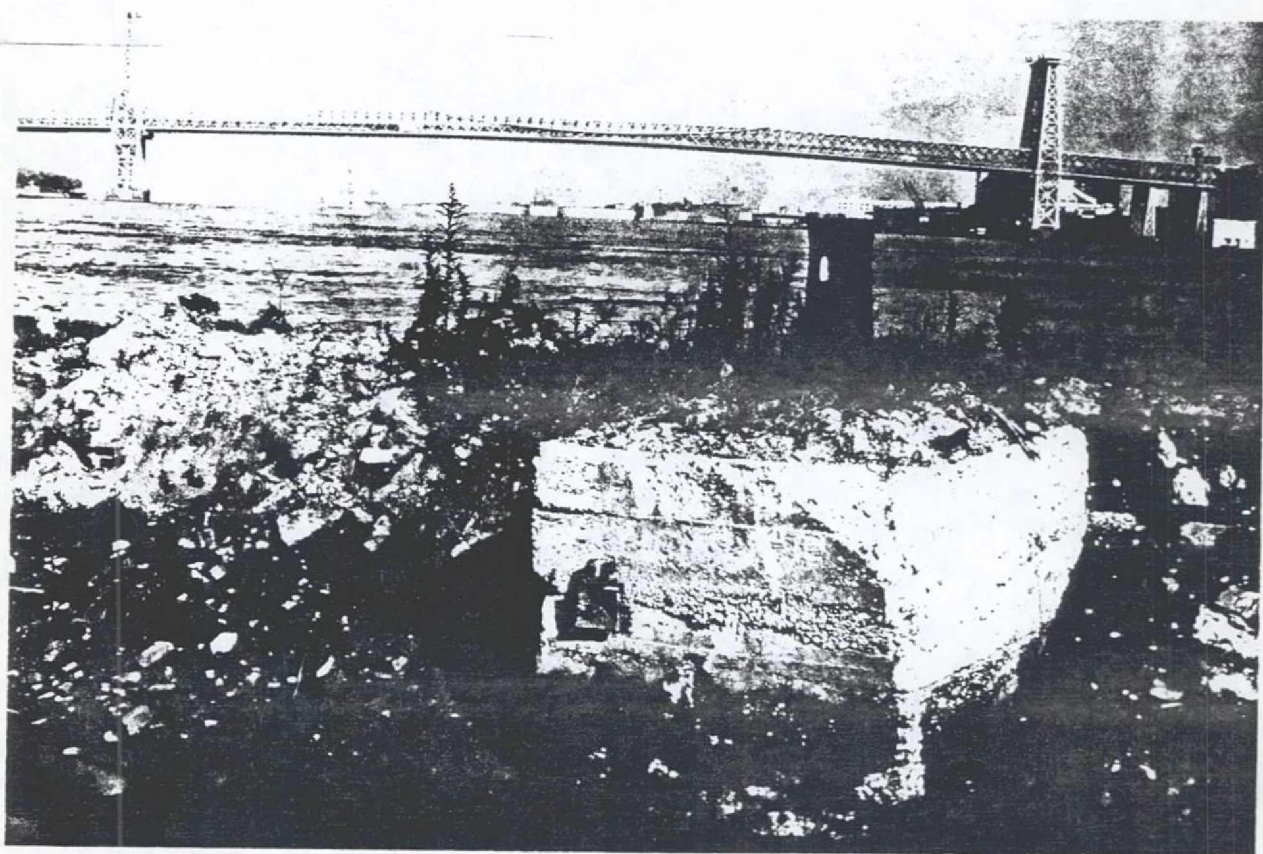


FIGURE: V-21 LOCATION: Oakland, N. J. IDENTIFICATION: Dahlgren, Shellgun, 8-Inch of 6,500 lbs., Model 1864, Iron. BORE: Diameter — 8. Smoothbore. Length — 98v. LENGTH O/A: 115.5. TRUNNIONS: Diameter — 7.1. Length — 3. MARKINGS: Left Trunnion — P. T.A.H. Right Trunnion — VIII-In., 1866. Breech — C.A. & Co., No. 172, 6460. Cascabel, rear — 2146. Cascabel Block — 2146. COMMON NAME: 8-Inch of 6,500 lbs.

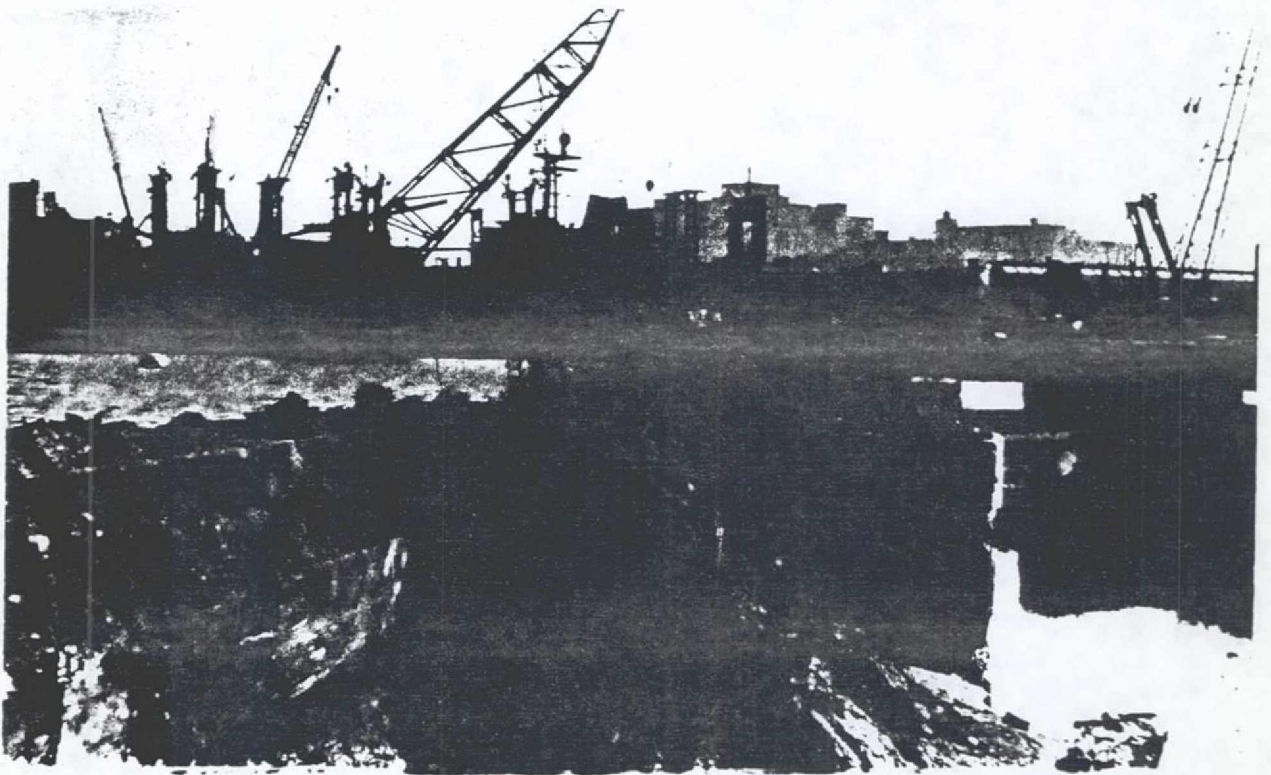
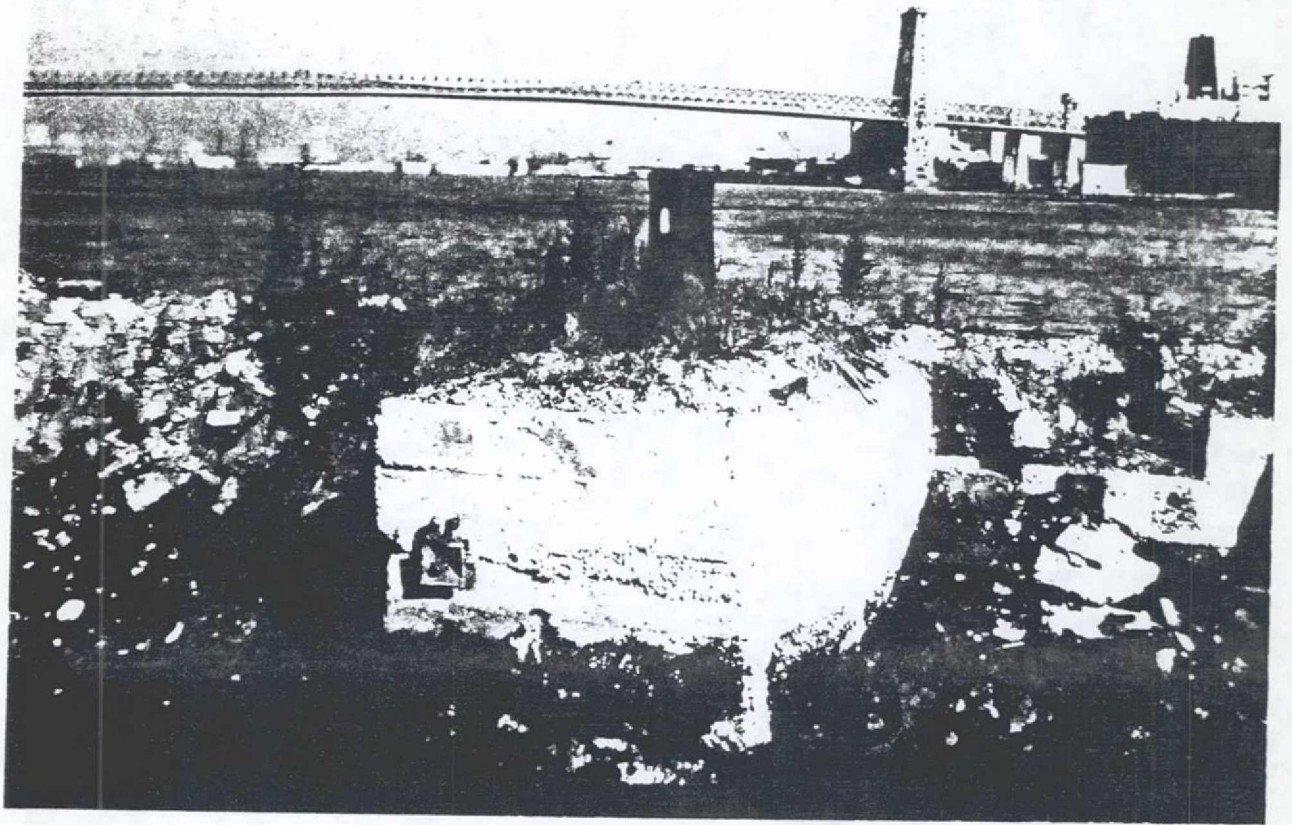
The Oakland, New Jersey 8 inch Dahlgren gun. From Warren Ripley, "Artillery and Ammunition of the Civil War," New York, 1970, p. 102. See page 4 of report.

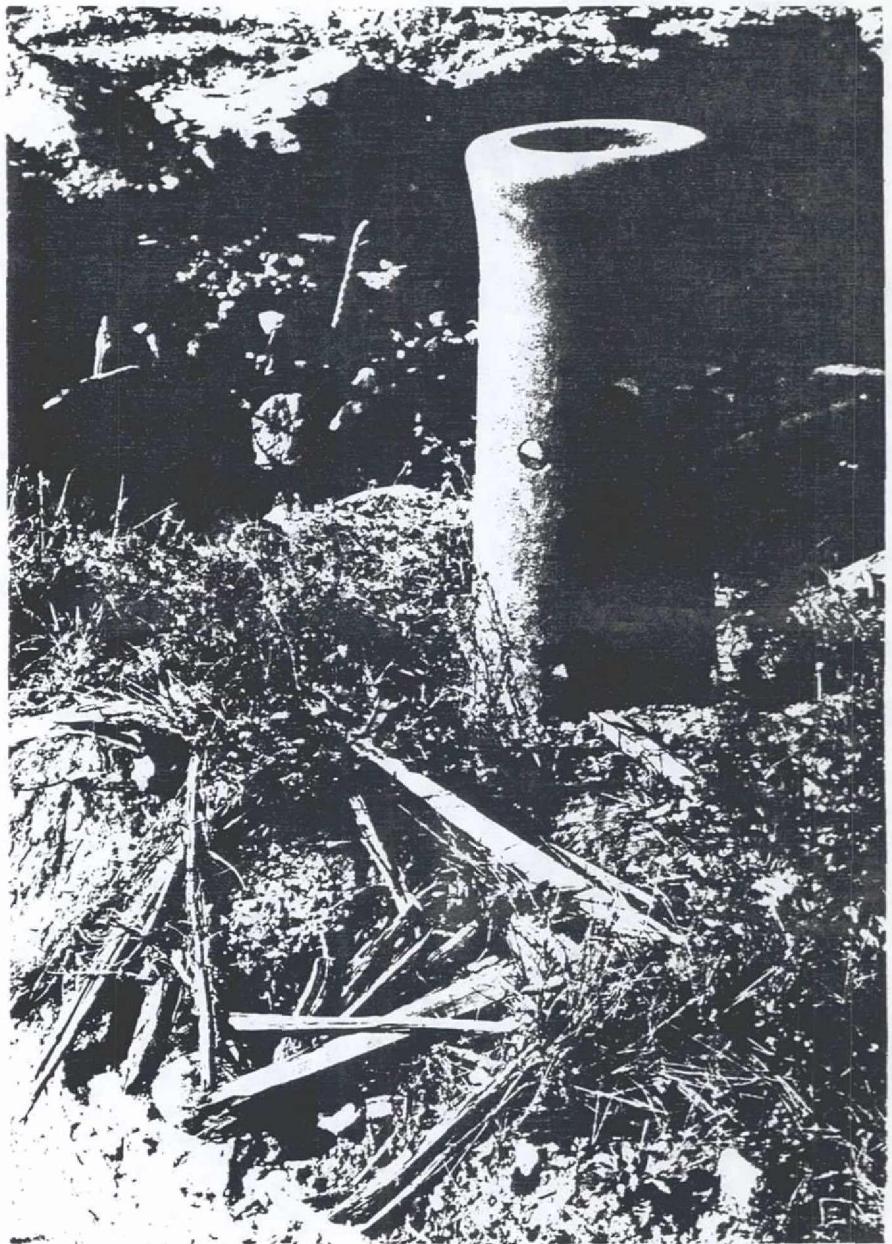


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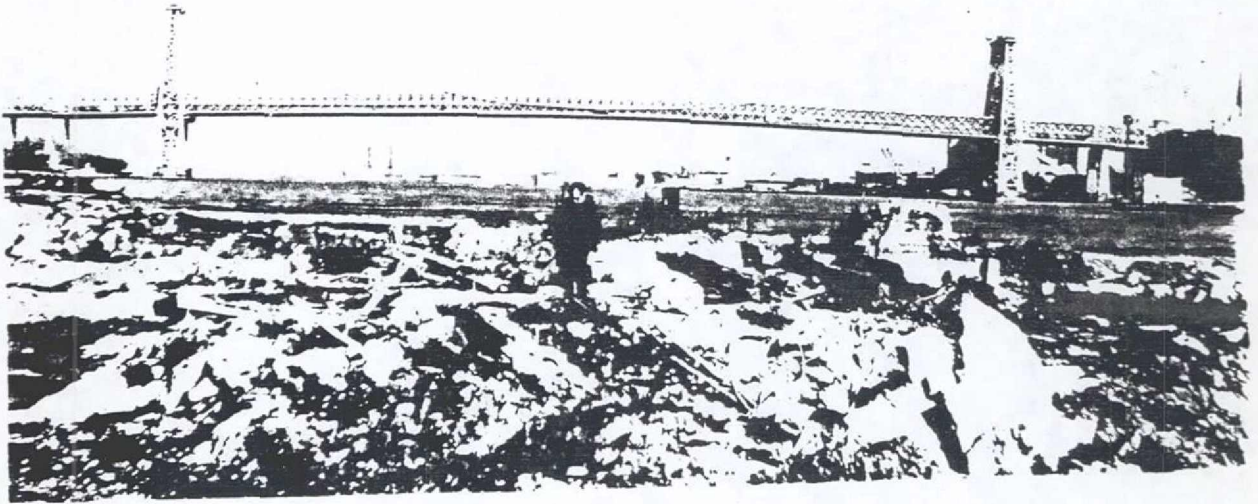


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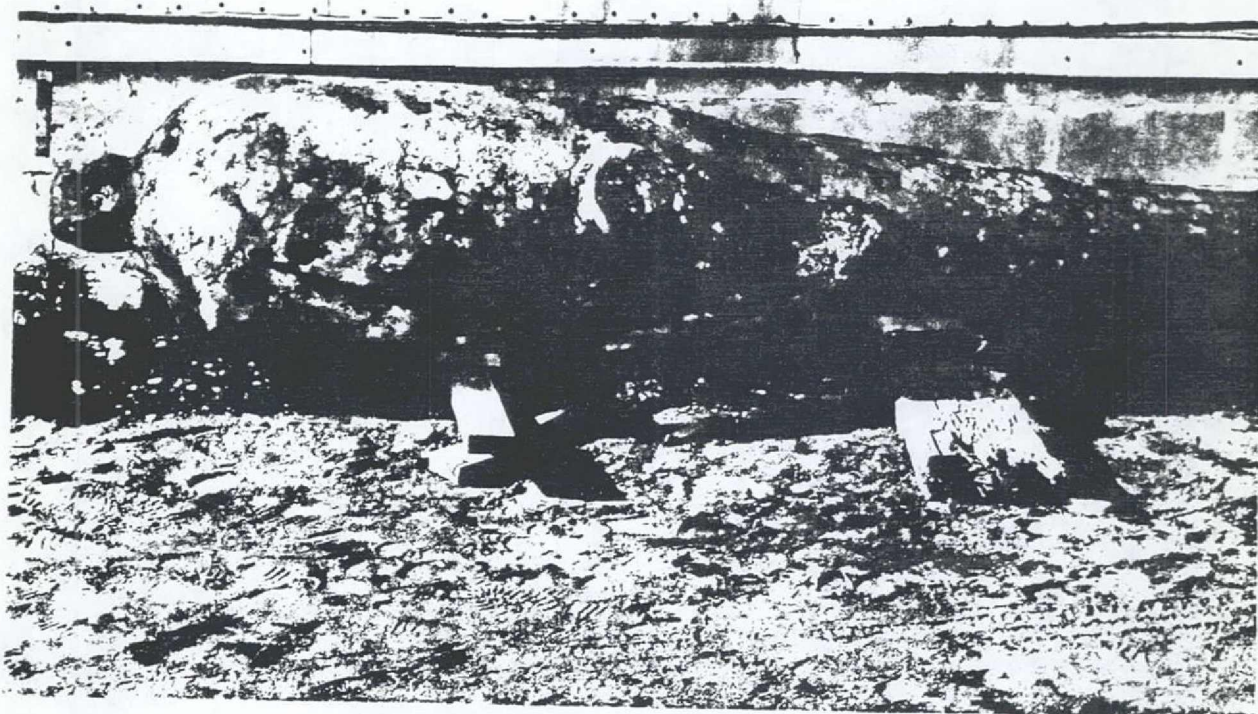




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6



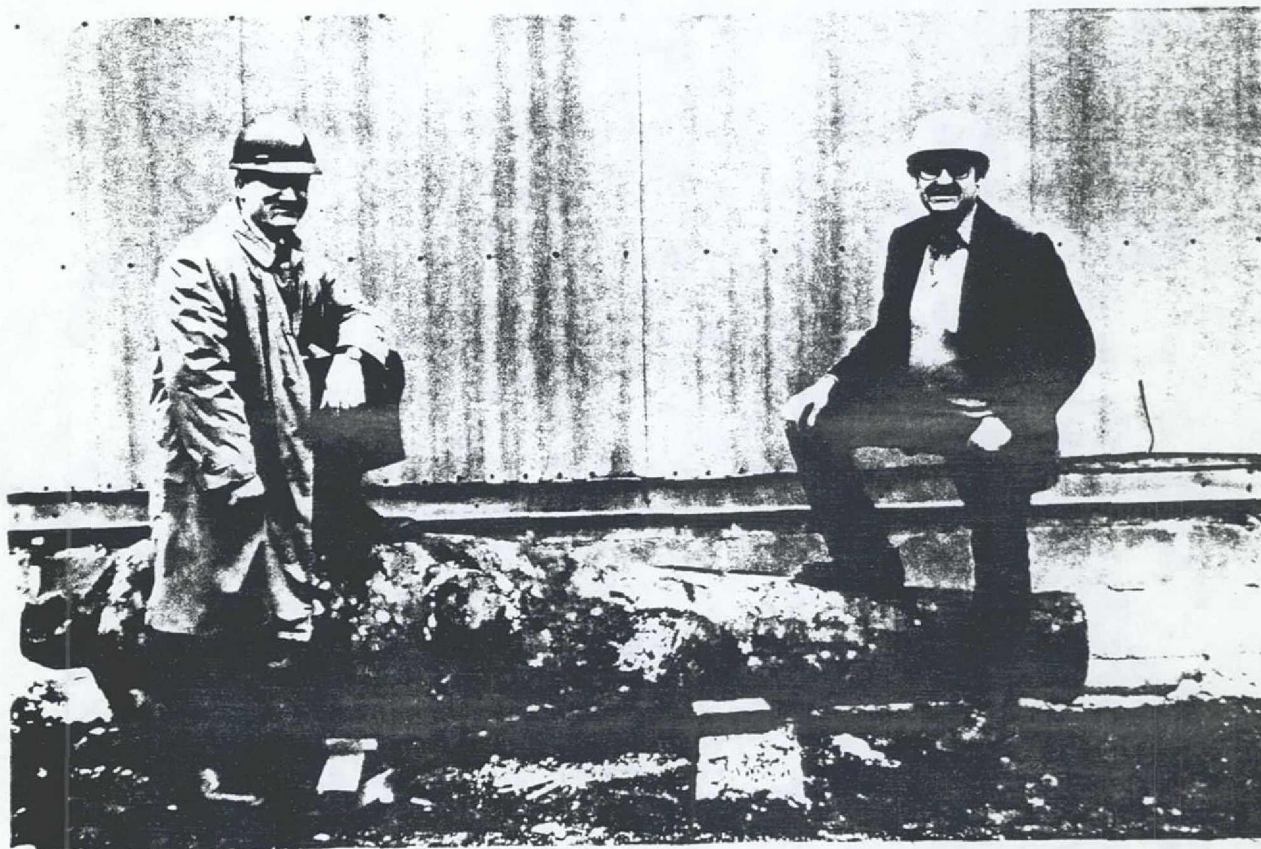
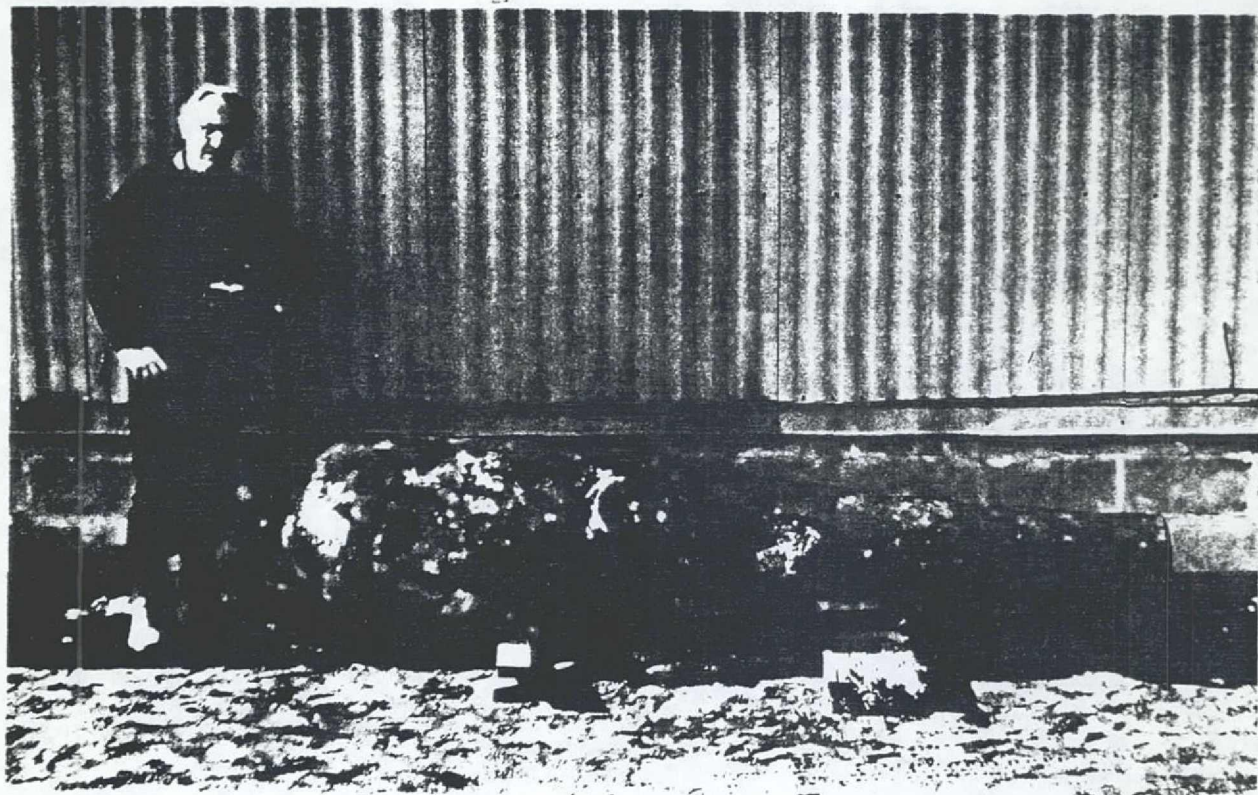
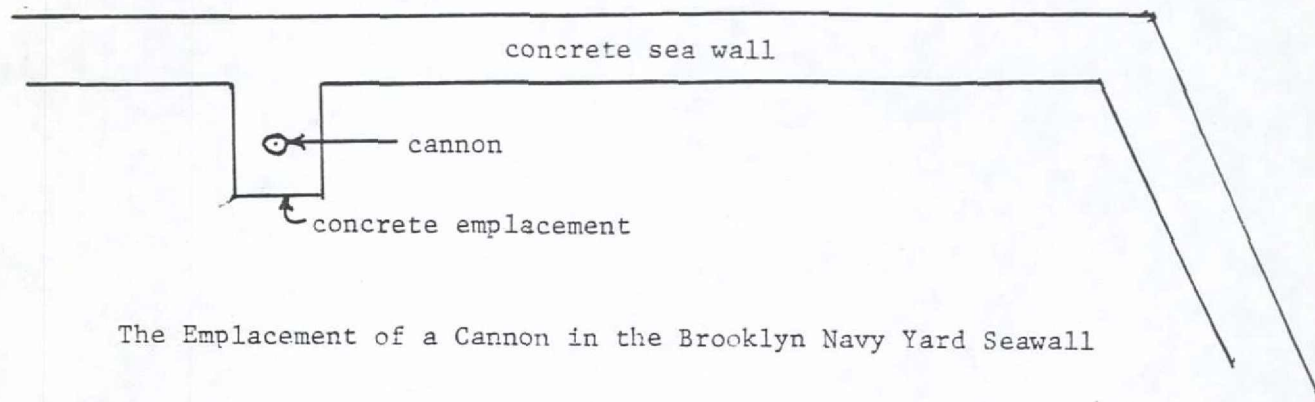


Fig. 1

bay

Approx. North



The Emplacement of a Cannon in the Brooklyn Navy Yard Seawall

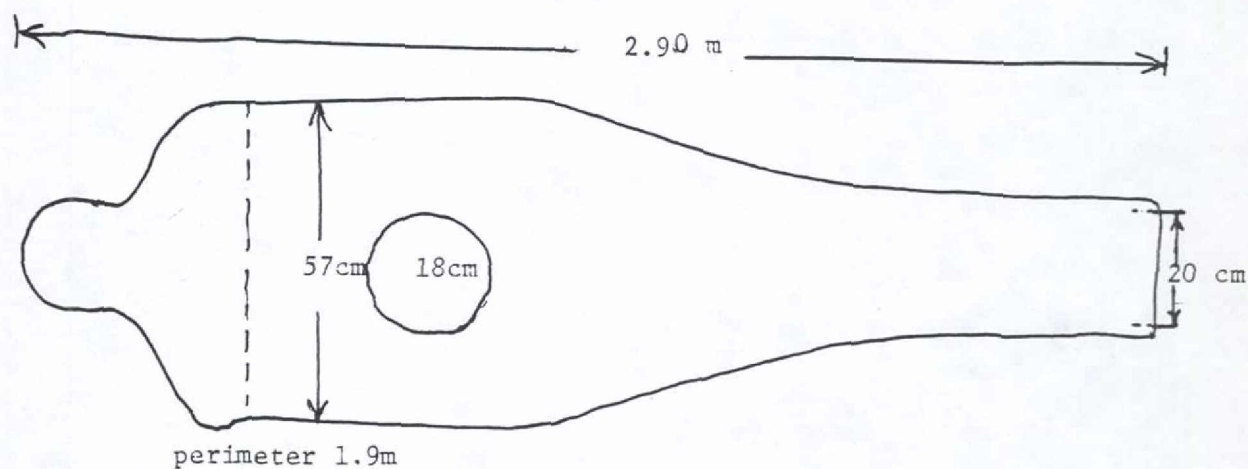


Fig. 2

Field measurements of the Brooklyn Navy Yard cannon.